2025 SENATE APPROPRIATIONS

SB 2021

DEPARTMENT 112 - INFORMATION TECHNOLOGY DEPARTMENT
2025-27 BASE-LEVEL BUDGET

Base Budget - Summary

	Base Level
Salaries and wages	$112,233,364
Operating expenses	119,115,018
Capital assets	3,443,909
Statewide longitudinal data system	4,625,661
Edutech	10,348,826
K-12 wide area network	5,915,668
Geographic information system	1,109,786
Health information technology office	5,822,725
Statewide interoperable radio network	18,449,852
Total all funds	$281,064,809
Less other funds	239,646,504
Total general fund	$41,418,305
Full-time equivalent (FTE) positions	507.00

Selected Base Budget Information

	General Fund	Other Funds	Total
1. Includes funding for salaries and wages of 507.00 FTE positions and temporary salaries of $1,424,016. Of the total FTE positions, 152 FTE positions were transferred from 11 state agencies to the department as part of the information technology (IT) unification initiative during the 2019-21, 2021-23, and 2023-25 bienniums.	$13,551,637	$98,681,727	$112,233,364
2. Includes funding for operating expenses, primarily related to IT software supplies, IT contractual services and repairs, professional fees and services, and IT data processing. Other funds are derived primarily from funding received from state agencies paying for IT services, which is deposited in the department's operating service fund.	$9,818,232	$109,296,786	$119,115,018
3. Includes funding for capital assets.	$131,034	$3,312,875	$3,443,909
4. Includes funding for the statewide longitudinal data system (SLDS), of which $500,000 is from derived from federal funds in the event funding becomes available for the program. The SLDS program is a data resource to support the research and evaluation of education and workforce employment and training programs. Information in SLDS includes K-12 student demographics, attendance and enrollment, state assessment, historical grades, graduation and dropout information, college and career readiness, postsecondary, and workforce data.	$4,125,661	$500,000	$4,625,661
5. Includes funding for the EduTech program, of which $6,785,100 is from the EduTech operating fund and PowerSchool fund and $500,000 is from federal funds in the event funding becomes available for the program. The EduTech program provides IT services and training for K-12 schools and teachers.	$3,063,726	$7,285,100	$10,348,826
6. Includes funding for the K-12 wide area network, of which $90,000 is from the department's operating service fund. Funding for the K-12 wide area network supports elementary and secondary education IT systems at the state level.	$5,825,668	$90,000	$5,915,668
7. Includes funding for the geographic information system (GIS) program, of which $65,679 is from federal funds. Funding for the program supports the GIS hub, which is an IT infrastructure system consisting of geospatial data storage, web services, and application interfaces that supports state agencies utilizing GIS technology.	$1,044,107	$65,679	$1,109,786
8. Includes funding for the Health Information Technology Office. Other funds of $3,822,725 are from the health information exchange fund, the funding for which is derived from premiums paid by providers participating in the North Dakota health information network. The Health Information Technology Office supports state health	$2,000,000	$3,822,725	$5,822,725

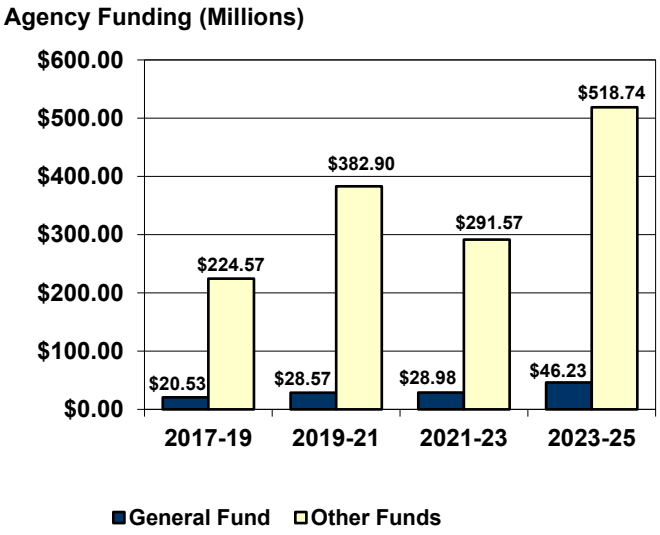
IT systems, including the North Dakota health information network, which is a public-private partnership health system that provides for the secure exchange of health information to enable providers to view patient electronic medical records.			
9. Includes ongoing funding for the statewide interoperable radio network (SIRN), of which $16,591,612 is from the SIRN fund. The SIRN fund receives funding from a $0.50 fee imposed by political subdivisions on assessed communication services that is reemitted to the State Treasurer for deposit in the SIRN fund. Funding from the general fund is for SIRN tower maintenance. The department anticipates the SIRN project will be completed in 2026, after which time the system will provide for a central radio communication system for first responders and public safety organizations in the state.	$1,858,240	$16,591,612	$18,449,852

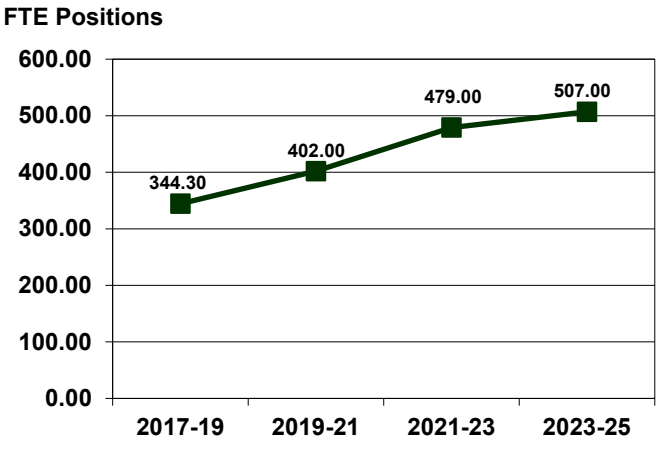
Continuing Appropriations

There are no continuing appropriations for this agency.

Historical Appropriations Information

Agency Appropriations and FTE Positions





Ongoing General Funds Appropriations

	2015-17	2017-19	2019-21	2021-23	2023-25
Ongoing general fund appropriations	$23,406,055	$20,532,334	$17,165,311	$28,975,953	$41,418,305
Increase (decrease) from previous biennium	N/A	($2,873,721)	($3,367,023)	$11,810,642	$12,442,352
Percentage increase (decrease) from previous biennium	N/A	(12.3%)	(16.4%)	68.8%	42.9%
Cumulative percentage increase (decrease) from 2015-17 biennium	N/A	(12.3%)	(26.7%)	23.8%	77.0%

Major Increases (Decreases) in Ongoing General Fund Appropriations

2017-19 Biennium

1. Removed $300,000 from the general fund for the EduTech director position	($300,000)
2. Adjusted the funding source from the general fund to the health information exchange fund for the Health Information Technology Office director position	($361,389)
3. Reduced funding for operating expenses, primarily related to contractor costs	($1,275,949)
4. Added funding for the Center for Distance Education to provide a total appropriation of $9,079,116	$300,000
5. Reduced funding for Educational Technology Council grants, to provide total funding of $1,121,472 for the Educational Technology Council, of which $85,000 was for grants	($545,000)
6. Reduced funding for the K-12 wide area network IT contract costs, to provide total funding of $4,534,278 for the K-12 wide area network, of which $2,688,785 was for the IT contract costs	($490,345)

2019-21 Biennium

1. Added 8 FTE cybersecurity positions	$2,322,680
2. Removed funding for the Center for Distance Education, including 29.80 FTE positions, and transferred the program to the Department of Career and Technical Education. Total funding removed was $9,079,116, including $3,050,000 from the independent study operating fund.	($6,029,116)
3. Removed funding for the Educational Technology Council, including a 0.50 FTE administrative assistant position	($180,122)
4. Reduced funding for EduTech IT software supplies	($295,980)
5. Adjusted funding for the K-12 wide area network to provide total funding of $5,167,970, of which $5,094,453 was from the general fund and $90,000 was from the department's service fund	$600,000

2021-23 Biennium

1. Added funding for 29 FTE cybersecurity positions and related operating expenses and capital assets, including $11,222,710 from the general fund and $1,763,515 from the department's service fund	$11,222,710
2. Reduced funding for statewide longitudinal data system operating expenses to provide total statewide longitudinal data system funding of $4,486,278, of which $3,986,278 was from the general fund and $500,000 was from federal funds	($456,277)
3. Reduced funding for EduTech operating expenses to provide total EduTech funding of $9,691,939, of which $2,824,878 was from the general fund and $6,867,062 was from other funds	($424,409)
4. Reduced funding for K-12 wide area network operating expenses ($223,661) and capital assets ($200,000) to provide total K-12 wide area network funding of $4,679,718, of which $4,589,718 was from the general fund and $90,000 was from the department's service fund	($423,661)
5. Transferred funding from the Department of Emergency Services Division of State Radio for SIRN tower maintenance operating expenses	$1,858,240

2023-25 Biennium

1. Added funding for 2 FTE customer success management program positions ($518,816) and adjusted funding for 6 existing FTE customer success management program positions from the department's operating service fund to the general fund ($2,050,884)	$2,569,700
2. Added funding for operating expenses of an enterprise digitization project to modernize state government technology	$2,000,000
3. Added ongoing funding of $298,868 for salaries and wages of 1 FTE position and $600,000 for software licensing fees for governance, risk, and compliance costs and the Department of Public Instruction lighthouse project	$898,868
4. Added funding for a business gateway enterprise customer relationship manager program, including $975,886 for 4 FTE positions and $1,364,000 for operating expenses, primarily software licensing fees	$2,339,886
5. Added funding for a universal vulnerability management project to address the backlog of cybersecurity risks and concerns in state IT systems	$500,000
6. Added funding for the K-12 ClassLink project for IT software and supplies to provide a single sign-on system for participating school districts	$1,200,000
7. Added funding for the North Dakota Health Information Network	$2,000,000

One-Time General Fund Appropriations

	2015-17	2017-19	2019-21	2021-23	2023-25
One-time general fund appropriations	$2,672,090	$0	$11,400,000	$0	$4,812,520

Major One-Time General Fund Appropriations

2017-19 Biennium

None	$0

2019-21 Biennium

1. Cybersecurity operating expenses	$11,400,000

2021-23 Biennium

None	$0

2023-25 Biennium

1. Governance, risk, and compliance costs and the lighthouse project	$600,000
2. Information technology inflationary costs	$2,350,000
3. Statewide longitudinal data system	$1,075,000
4. State and local cybersecurity grant program matching funds	$487,520
5. Grants to counties for an online property tax information portal	$300,000

Information Technology Department
Department No. 112
2025 Senate Bill No. 2021

EXECUTIVE BUDGET RECOMMENDATION
2025-27 BIENNIUM

Budget Summary

	FTE Positions	General Fund	Other Funds	Total
Executive budget recommendation	528.00	$123,294,308	$148,093,230	$271,387,538
Base level	507.00	41,418,305	239,646,504	281,064,809
Increase (decrease)	21.00	$81,876,003	($91,553,274)	($9,677,271)
Percentage increase (decrease)	4.1%	197.7%	(38.2%)	(3.4%)

NOTE:
More detailed information on the executive budget recommendation is attached as Appendix A.

A copy of the draft appropriations bill reflecting the executive budget recommendation is attached as Appendix B.

Selected Highlights

- Adds $3,204,581 for base payroll changes related to salary equity increases, positions reclassifications, and other staffing changes, including a $25,257 reduction from the general fund and a $3,229,838 increase from special funds
- Adds $2,465,716 for the cost to continue prior biennium salary increases, of which $418,501 is from the general fund and $2,047,215 is from special funds
- Adds $7,676,790, of which $1,741,655 is from the general fund and $5,935,135 is from special funds, for salary increases of up to 4 percent effective July 1, 2025, and 3 percent effective July 1, 2026
- Adds $3,423,009, of which $768,676 is from the general fund and $2,654,333 is from special funds, for a health insurance premium increase of $250 per month (15.2 percent), from $1,643 to $1,893, per employee
- Adds $13,886,120, of which $3,467,729 is from the general fund and $10,418,391 is from special funds, to replace the 2023-25 biennium new FTE pool ($4,966,686) and 2023-25 biennium vacant FTE pool ($8,919,434)
- Adds $13,492,349, of which $12,885,877 is from the general fund and $606,472 from the Information Technology Department (ITD) operating fund, for a statewide data strategy initiative. The total includes $668,675 from the general fund for 2 FTE positions, $569,839 from the ITD operating fund for 2 FTE positions, and $9,300,000 of **one-time funding** from the general fund for data processing and information technology (IT) contractual services.
- Adds $3,253,386 from the ITD operating fund for 11 FTE positions for state government IT projects
- Adjusts $20,250,795 from the ITD operating fund to the general fund, of which $14,029,321 is for salaries and wages and $6,221,474 is for operating expenses
- Adds $3,042,960 from the ITD operating fund, of which $2,892,960 is ongoing funding and $150,000 is **one-time funding**, for vulnerability management software
- Transfers $99,168,477 of special fund authority from the ITD operating fund to continuing appropriation authority, of which $95,855,602 is for operating expenses and $3,312,875 is **one-time funding** for capital assets. This funding would continue to be spent by ITD without specific legislative approval.
- Adds $411,793 from the PowerSchool fund ($344,793) and EduTech fund ($67,000) for an EduTech training application replacement project, of which $20,000 is **one-time funding** from the EduTech fund
- Adds $6,678,775 for the North Dakota Health Information Network (NDHIN), including a $1,356,779 reduction of ongoing funding from the general fund, an increase of $1,793,609 of **one-time funding** from the general fund, an increase of $3,241,945 from the electronic health information exchange fund, and a transfer of $3,000,000 from the health information technology planning loan fund to the electronic health information exchange fund
- Reduces $2,854,082 for the statewide interoperable radio network (SIRN) for SIRN equipment

- Adds $2,078,640 for SIRN, including $1,869,120 from the ITD operating fund for 6 FTE positions and $209,520 from the general fund for SIRN circuits
- Adds $10,842,242 of **one-time funding** to establish a modernization and innovation fund for IT projects, of which $10,800,000 is from the general fund and $42,242 is from the ITD operating fund
- Adds $8 million of **one-time funding** from the general fund for the digital experience business gateway portal project
- Adds $1,719,061 of **one-time funding** from the strategic investment and improvements fund (SIIF) to upgrade the state datacenter cooling system
- Adds $15 million of **one-time funding** from the general fund for an artificial intelligence strategy pilot program

Deficiency Appropriations

There are no deficiency appropriations recommended in the executive budget for this agency.

Significant Audit Findings

The operational audit of ITD conducted by the State Auditor's office for the period ending June 30, 2022, did not identify any significant audit findings.

Agency Fees

As reported to the Legislative Management, pursuant to North Dakota Century Code Section 54-35-27, this agency has 113 fees. The agency recommended the following changes to its fees:

- Decrease the amount charged for 8 fees, including technology fees, multi-factor authentication fees, active directory user fees, disk storage, and application broker fees.
- Increase the amount charged for 49 fees, including fees for IT analysts, developers, project management, desktop support services, service management services, network services, application hosting, and storage fees.

Major Related Legislation

As of the date of this report, there is no major related legislation for this agency.

NOTE:
Please see the Fiscal Impact Report for additional information regarding bills under consideration which contain either a state revenue impact, an appropriation, or a state fiscal impact.

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Executive Budget			
	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809
2025-27 Ongoing Funding Changes				
Base payroll changes		($25,257)	$3,229,838	$3,204,581
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716
Salary increase		1,741,655	5,935,135	7,676,790
Health insurance increase		768,676	2,654,333	3,423,009
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434
Adds funding for a statewide data strategy initiative	4.00	3,585,877	606,472	4,192,349
Adds funding for FTE positions for IT projects	11.00		3,253,386	3,253,386
Adjusts funding for agency administration to the general fund		20,250,795	(20,250,795)	0
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,357)	(10,939,356)
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311
Adds funding for cybersecurity contractual services increases		5,133,174	265,447	5,398,621
Adds funding for vulnerability management software license costs			2,892,960	2,892,960
Transfers special fund authority to continuing appropriation authority for operating expenses			(95,855,602)	(95,855,602)
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)
Reduces funding for EduTech			(553,869)	(553,869)
Adds funding for an EduTech training application replacement project			391,793	391,793
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501
Adjusts funding for the geographic information		89,176	(65,679)	23,497
Adjusts funding for NDHIN		(1,356,779)	6,241,945	4,885,166
Reduces funding for SIRN equipment			(2,854,082)	(2,854,082)
Adds funding for FTE SIRN positions	6.00		1,869,120	1,869,120
Adds funding for SIRN circuits		209,520		209,520
Total ongoing funding changes	**21.00**	**$36,982,394**	**($90,171,702)**	**($53,189,308)**
One-Time Funding Items				
Adds funding for a modernization and innovation fund		$10,800,000	$42,242	$10,842,242
Adds one-time funding for a statewide data strategy initiative		9,300,000		9,300,000
Adds funding for the digital experience business gateway portal project		8,000,000		8,000,000
Adds one-time funding for vulnerability management software license costs			150,000	150,000
Adds funding to upgrade the state datacenter cooling system			1,719,061	1,719,061
Transfers special fund authority to continuing appropriation authority for capital assets			(3,312,875)	(3,312,875)
Adds funding for an artificial intelligence strategy pilot program		15,000,000		15,000,000

Adds one-time funding for an Edutech training application replacement project			20,000	20,000
Adds one-time funding for phase 1 of the NDHIN health data utility project		1,793,609		1,793,609
Total one-time funding changes	**0.00**	**$44,893,609**	**($1,381,572)**	**$43,512,037**
Total Changes to Base Level Funding	**21.00**	**$81,876,003**	**($91,553,274)**	**($9,677,271)**
2025-27 Total Funding	**528.00**	**$123,294,308**	**$148,093,230**	**$271,387,538**
Federal funds included in other funds			*$0*	
Total ongoing changes - Percentage of base level	*4.1%*	*89.3%*	*(37.6%)*	*(18.9%)*
Total changes - Percentage of base level	*4.1%*	*197.7%*	*(38.2%)*	*(3.4%)*

Other Sections in Information Technology Department - Budget No. 112

Section Description	Executive Budget
Exemption - Line item transfers	Section 3 would allow the Director of the Office of Management and Budget to transfer funds between line items in Section 1 as requested by the Chief Information Officer of ITD for the development and implementation of technology projects.
Appropriation - Other funds	Section 4 would appropriate all federal or other funds received by ITD in excess of those funds appropriated in Section 1.
Exemption - Federal State Fiscal Recovery Fund	Section 5 would allow ITD to continue any remaining funding of the $401,000 appropriated from the State Fiscal Recovery Fund during the 2021-23 biennium and continued into the 2023-25 biennium for a grant to the North Dakota Stockmen's Association to convert a paper-based brand inspection program to an electronic system into the 2025-27 biennium.
SIIF	Section 6 would identify $1,719,061 of one-time funding from SIIF appropriated in Section 1 is for project to upgrade the state datacenter cooling system.
Amendment - ITD operating fund - Continuing appropriation	Section 7 would amend Section 54-59-14 to provide ITD a continuing appropriation from the ITD operating fund to allow ITD to provide IT, network services, and central microfilm unit services to state agencies without specific appropriations from the Legislative Assembly.
FTE position adjustments	Section 8 would allow ITD to increase or decrease authorized FTE positions as needed, subject to the availability of funds.
Exemption - SIIF	Section 9 would allow ITD to continue any remaining funding of the $15,000,000 appropriated from SIIF during the 2023-25 biennium for the enterprise digitization project ($7,000,000), call center software upgrade project ($3,000,000), and the business gateway enterprise customer relationship management program ($5,000,000) into the 2025-27 biennium.
Exemption - State Fiscal Recovery Fund	Section 10 would allow ITD to continue any remaining funding of the $2,499,467 appropriated from the State Fiscal Recovery Fund during the 2023-25 biennium for the Capitol security software upgrade and fiber replacement project into the 2025-27 biennium.

Sixty-ninth
Legislative Assembly
of North Dakota

SENATE BILL NO. 2021
(Governor's Recommendation)

Introduced by

Appropriations Committee

(At the request of the Governor)

A bill for an Act to provide an appropriation for defraying the expenses of the information technology department; to provide for an exemption; to amend and reenact section 54-59-14 of the North Dakota Century Code; to provide for a report to the legislature; and to provide for transfers.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from special funds derived from federal funds and other income, to the information technology department for the purpose of defraying the expenses of that agency, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
Salaries And Wages	$113,044,814	$34,811,407	$147,856,221
Operating Expenses	118,515,018	(62,527,256)	55,987,762
Capital Assets	3,443,909	(1,623,814)	1,820,095
ND AI Compute Grants	0	14,500,000	14,500,000
Statewide Longitudinal Data System	4,507,678	(303,033)	4,204,645
Edutech	9,839,308	783,707	10,623,015
K-12 Wide Area Network	6,362,610	564,549	6,927159
Geographic Information System	1,207,892	(20,817)	1,187,075
Health Information Technology Office	5,742,111	6,907,315	12,649,426
Statewide Interoperability Radio Network	18,401,469	(2,769,329)	15,632,140
Total All Funds	$281,064,809	($ 9,677,271)	$271,387,538
Less Estimated Income	239,646,504	91,553,274)	148,093,230
Total General Fund	$ 41,418,305	$ 81,876,003	$123,294,308
Full-Time Equivalent Positions	507.00	21.00	528.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SIXTY-NINTH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items approved by the sixty-eighth legislative assembly for the 2023-25 biennium and the 2025-27 one-time funding items included in the appropriation in section 1 of this Act:

One-Time Funding Description	2023-25	2025-27
State and local cybersecurity data system	$487,520	$0
Health information technology office	$3,000,000	1,793,609
Enterprise digitization project	7,000,000	0
Call center software upgrade project	3,000,000	0
Governance, risk, and compliance costs	5,456,876	0
Customer relationship management program	5,000,000	0
Universal vulnerability management project	1,000,000	150,000
Capitol security upgrade and fiber replacement project	2,499,467	0
Inflationary increases	7,325,000	0
Statewide longitudinal data system	1,075,000	0
Broadband, equity, access, and deployment program	147,762,480	0
Modernization and innovation fund	0	10,842,243
Statewide data strategy	0	9,300,000

Digital experience	0	8,000,000
Continuing appropriation operating fund	0	(3,312,875)
Edutec program funding	0	20,000
Data center infrastructure project	0	1,719,061
Total All Funds	$183,606,343	$ 28,512,038
Less Estimated Income	179,093,823	(1,381,571)
Total General Fund	$4,512,520	$29,893,609

The 2025-27 one-time funding amounts are not a part of the entity's base budget for the 2027-29 biennium. The information technology department shall report to the appropriations committees of the seventieth legislative assembly on the use of this one-time funding for the biennium beginning July 1, 2025 and ending June 30, 2027.

SECTION 3. EXEMPTION – LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects.

SECTION 4. APPROPRIATION. In addition to the amounts appropriated to the information technology department in section 1 of this Act, there is appropriated any additional income from federal or other funds which may become available to the agency for the biennium beginning July 1, 2025, and ending June 30, 2027.

SECTION 5. EXEMPTION – FEDERAL STATE FISCAL RECOVERY FUND. The amount of $401,000 appropriated from the federal funds derived from the state fiscal recovery fund for the purpose of providing a grant to the North Dakota stockmen's association for the conversion of a paper-based brand inspection program to an electronic system in subsection 23 of section 1 of chapter 550 of the 2021 Special Session Session Laws is not subject to Section 54-44.1-11 for the program during the biennium beginning July 1, 2025, and ending June 30, 2027.

SECTION 6. ESTIMATED INCOME – STRATEGIC INVESTMENT AND IMPROVEMENTS FUND – ONE TIME FUNDING. The estimated income line item in section 1 of this Act includes the sum of $1,719,061 from the strategic investment and improvements fund for the data center infrastructure project. This funding is considered a one-time funding item.

SECTION 7. AMENDMENT – Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating account.

The department shall establish a state information technology operating account in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology, network services, and central microfilm unit services to state entities and network services to users of the state network. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges as determined by the department. The department shall deposit the amounts received in the information technology operating account or the information technology development account, as appropriate. Funds in the information technology operating fund are appropriated on a continuing basis and may be spent by the information technology department for procuring and maintaining information technology and network services and for providing information technology, network services, and central microfilm unit services to state entities and network services to users of the state network as provided in this subsection.

SECTION 8. EXEMPTION - FULL-TIME EQUIVALENT POSITION ADJUSTMENTS. Notwithstanding any other provisions of law, the information technology department may increase or decrease authorized full-time equivalent positions as needed, subject to availability of funds, during the biennium beginning July 1, 2025, and ending June 30, 2027. The information technology department shall report to the office of management and budget and legislative council any adjustments made pursuant to this section.

SECTION 9. EXEMPTION – STRATEGIC INVESTMENT AND IMPROVEMENTS FUND. Section 54-44.1-11 does not apply to the appropriation in subsection 5 of section 1 of chapter 21 of the 2023 Session Laws, and any unexpended funds from this appropriation may be continued and used for the purpose of the enterprise

digitization project, and for the call center software upgrade project, and for the customer relationship management program during the biennium beginning July 1, 2025, ending June 30,2027.

SECTION 10. EXEMPTION – FEDERAL STATE FISCAL RECOVERY FUND. Section 54-44.1-11 does not apply to the appropriation in subsection 6 of section 1 of chapter 21 of the 2023 Session Laws, and any unexpended funds from this appropriation may be continued and used for the purpose of the capitol security software upgrade and fiber replacement project during the biennium beginning July 1, 2025, ending June 30,2027.

Information Technology Department
Department No. 112
2025 Senate Bill No. 2021

REVISED EXECUTIVE BUDGET RECOMMENDATION
2025-27 BIENNIUM

Budget Summary

	FTE Positions	General Fund	Other Funds	Total
Burgum budget recommendation	528.00	$123,294,308	$148,093,230	$271,387,538
Revisions - Increase (decrease)	(15.00)	(69,897,085)	16,836,203	(53,060,882)
Armstrong budget recommendation	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**
Base level	507.00	41,418,305	239,646,504	281,064,809
Increase (decrease)	6.00	$11,978,918	($74,717,071)	($62,738,153)
Percentage increase (decrease)	1.2%	28.9%	(31.2%)	(22.3%)

NOTE:
More detailed information on the revised executive budget recommendation is attached as an appendix.

Selected Highlights

- Adds $3,204,581 for base payroll changes related to salary equity increases, positions reclassifications, and other staffing changes, including a $25,257 reduction from the general fund and a $3,229,838 increase from special funds
- Adds $2,465,716 for the cost to continue prior biennium salary increases, of which $418,501 is from the general fund and $2,047,215 is from special funds
- Adds **$5,552,192**, of which **$845,089** is from the general fund and **$4,707,103** is from special funds, for salary increases of up to **3 percent** effective July 1, 2025, and 3 percent effective July 1, 2026
- Adds **$3,074,703**, of which **$498,438** is from the general fund and **$2,576,265** is from special funds, for a health insurance premium increase of $250 per month (15.2 percent), from $1,643 to $1,893, per employee
- Adds $13,886,120, of which $3,467,729 is from the general fund and $10,418,391 is from special funds, to replace the 2023-25 biennium new FTE pool ($4,966,686) and 2023-25 biennium vacant FTE pool ($8,919,434)
- Adds $3,042,960 from the ITD operating fund, of which $2,892,960 is ongoing funding and $150,000 is one-time funding, for vulnerability management software
- Transfers $99,168,477 of special fund authority from the ITD operating fund to continuing appropriation authority, of which $95,855,602 is for operating expenses and $3,312,875 is one-time funding for capital assets. This funding would continue to be spent by ITD without specific legislative approval.
- Adds $411,793 from the PowerSchool fund ($344,793) and EduTech fund ($67,000) for an EduTech training application replacement project, of which $20,000 is one-time funding from the EduTech fund
- Adds $6,678,775 for the North Dakota Health Information Network (NDHIN), including a $1,356,779 reduction of ongoing funding from the general fund, an increase of $1,793,609 of one-time funding from the **strategic investment and improvements fund (SIIF)**, an increase of $3,241,945 from the electronic health information exchange fund, and a transfer of $3,000,000 from the health information technology planning loan fund to the electronic health information exchange fund
- Reduces $2,854,082 for the statewide interoperable radio network (SIRN) for SIRN equipment
- Adds $2,078,640 for SIRN, including $1,869,120 from the ITD operating fund for 6 FTE positions and $209,520 from the general fund for SIRN circuits
- Adds $1,719,061 of one-time funding from SIIF to upgrade the state datacenter cooling system

Deficiency Appropriations

There are no deficiency appropriations recommended in the revised executive budget for this agency.

Significant Audit Findings

The operational audit of ITD conducted by the State Auditor's office for the period ending June 30, 2022, did not identify any significant audit findings.

Agency Fees

As reported to the Legislative Management, pursuant to North Dakota Century Code Section 54-35-27, this agency has 113 fees. The agency recommended the following changes to its fees:

- Decrease the amount charged for 8 fees, including technology fees, multi-factor authentication fees, active directory user fees, disk storage, and application broker fees.
- Increase the amount charged for 49 fees, including fees for IT analysts, developers, project management, desktop support services, service management services, network services, application hosting, and storage fees.

Major Related Legislation

House Bill No. 1265 - This bill creates a state information technology research center, an advanced technology review committee, a compute credits grant program, and an advanced technology grant fund, transfers $5 million from SIIF to the advanced technology grant fund, and appropriates $5 million from the advanced technology grant fund to the ITD for the purpose of the compute credits grant program. The Chief Information Officer is included as a member of the advanced technology review committee.

House Bill No. 1448 - This bill creates an advanced technology review committee, an advanced technology grant program, an advanced technology grant fund, transfers $5 million from SIIF to the advanced technology grant fund, appropriates $5 million from the advanced technology grant fund to the Department of Commerce for the purpose of the advanced technology grant program. The Chief Information Officer is included as a member of the advanced technology review committee.

NOTE:
Please see the Fiscal Impact Report for additional information regarding bills under consideration which contain either a state revenue impact, an appropriation, or a state fiscal impact.

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Armstrong Budget			
	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809
2025-27 Ongoing Funding Changes				
Base payroll changes		($25,257)	$3,229,838	$3,204,581
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716
Salary increase		845,089	4,707,103	5,552,192
Health insurance increase		498,438	2,576,265	3,074,703
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,358)	(10,939,357)
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311
Adds funding for cybersecurity contractual services increases		5,133,174	265,447	5,398,621
Adds funding for vulnerability management software license costs			2,892,960	2,892,960
Transfers special fund authority to continuing appropriation authority for operating expenses			(95,855,602)	(95,855,602)
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)
Reduces funding for EduTech			(553,869)	(553,869)
Adds funding for an EduTech training application replacement project			391,793	391,793
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501
Adjusts funding for the geographic information system		89,176	(65,679)	23,497
Adjusts funding for NDHIN		(1,356,779)	6,241,945	4,885,166
Reduces funding for SIRN equipment			(2,854,082)	(2,854,082)
Adds funding for FTE SIRN positions	6.00		1,869,120	1,869,120
Adds funding for SIRN circuits		209,520		209,520
Total ongoing funding changes	**6.00**	**$11,978,918**	**($75,086,866)**	**($63,107,948)**
One-Time Funding Items				
Adds one-time funding for vulnerability management software license costs			$150,000	$150,000
Adds funding to upgrade the state datacenter cooling system			1,719,061	1,719,061
Transfers special fund authority to continuing appropriation authority for capital assets			(3,312,875)	(3,312,875)
Adds one-time funding for an Edutech training application replacement project			20,000	20,000
Adds one-time funding for phase 1 of the NDHIN health data utility project			1,793,609	1,793,609
Total one-time funding changes	**0.00**	**$0**	**$369,795**	**$369,795**
Total Changes to Base Level Funding	**6.00**	**$11,978,918**	**($74,717,071)**	**($62,738,153)**
2025-27 Total Funding	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**
Federal funds included in other funds			*$0*	
Total ongoing changes - Percentage of base level	*1.2%*	*28.9%*	*(31.3%)*	*(22.5%)*
Total changes - Percentage of base level	*1.2%*	*28.9%*	*(31.2%)*	*(22.3%)*

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Human Resources Division
Harvest Room, State Capitol

SB 2021
1/17/2025

A Bill for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

8:32 a.m. Chairman Dever called the meeting to order.

Members Present: Chairman Dever, Senators Cleary, Davison, Magrum and Mathern

Discussion Topics:

- Mission & Vision Statement
- Operational Teams
- 5 Pillar Strategy
- IT Procurement
- Advisory Groups
- Incident Performance
- Major IT Focus Areas
- Program Objectives
- The Gateway
- Statewide Data Strategy
- Lighthouse Program
- State Data Hub
- AI in North Dakota
- Statewide Longitudinal Data System (SLDS)
- Geospatial Program
- Parcel Program
- North Dakota Health Information Network (NDHIN)
- EduTech
- Budget Breakdown

8:35 a.m. Chairman Dever introduced the bill.

8:36 a.m. Corey Mock, CIO, NDIT, testified in favor and submitted testimony # 29706.

9:03 a.m. Evonne Amundson, CBA, NDIT, testified in favor and continued testimony #29706.

9:36 a.m. Kim Weiss, CDO, NDIT, testified in favor and continued testimony #29706.

10:20 a.m. Tracy Korsmo, Enterprise Architect, NDIT, testified in favor and continued testimony #29706.

10:31 a.m. Bob Nutsch, Geospatial Program Manager, NDIT, testified in favor and continued testimony #29706.

10:48 a.m. Dr. Shila Blend, Director, NDHIN, NDIT, testified in favor and continued testimony #29706.

11:12 a.m. John Gieser, K12 IT Strategist, NDIT, testified in favor and continued testimony #29706.

11:40 a.m. Greg Hoffman, CIO, NDIT, testified in favor and continued testimony #29706.

12:10 p.m. Chairman Dever adjourned the meeting.

Joan Bares, Committee Clerk

SENATE APPROPRIATIONS COMMITTEE

JANUARY 17, 2025
HARVEST ROOM

NORTH Dakota | Information Technology

Be Legendary.

Introductions

Corey Mock
Chief Information Officer

Greg Hoffman
Deputy Chief Information Officer

Evonne Amundson
Chief Business Applications Officer

Kim Weis
Chief Data Officer

Craig Felchle
Chief Technology Officer

Shelly Miller
Chief of Staff

Michael Gregg
Chief Information Security Officer

NDIT Vision and Mission

NDIT enables partners to provide the ‘Best Government Experience’ and strives to be a trusted business partner through frictionless technology and proactive services

North Dakota Information Technology

Defends
252,000+
People every day from cyber attacks

Prevents
4.5 Billion+
Threats on STAGEnet per year

Provides
ND Citizen Skills for All Training
a pathway to a career in technology

Supports
ND companies to provide internet to unserved /underserved citizens by awarding **$37M grant funds**

WHAT WE DO

End to End Technology Services
Handling all technology, from supporting the tried and true, to finding innovative technology solutions for the future.

Whole-of-State Cybersecurity
Defending the data and services of all branches of government and the citizens they serve.

STAGEnet
Network backbone for governmental entities in the state.

PK20W
All North Dakota, Future Ready, Today. Every student. Every school. Cyber educated.

Education
Improve student and teacher outcomes in every North Dakota K12 school using SLDS and Learning Information Systems.

Program & Portfolios
Managing hundreds of millions of dollars of IT projects across government.

WHAT WE'RE PROUD OF

Strengthen Operational Rhythm – HB1398 (2023)
ND is the First State to require Cybersecurity and Computer Science credits for high school graduation.

Optimize Financial and Process Discipline - HHS MMIS Upgrade
Decreasing operational support costs, addressing security risk, and building more modern platforms that will support the MMIS system for the future.

Frictionless Experience - NDIT and ND Game and Fish win National Award
The Electronic posting project is a tool for landowners and hunters to identify posted lands digitally.

NDIT Teams

- **Applications Team-** The Applications Team at NDIT creates, supports, and improves the digital tools and programs—like health applications, websites, and document-sharing platforms—that help state employees get their work done. This team ensures these tools are reliable, user-friendly, and meet the needs of everyone who uses them.
- **Data Team-** The Data Team at NDIT helps make data useful and accessible for better decision-making across the state. They support tools like maps and geospatial data (GIS), analyze data for trends and insights, and use artificial intelligence to automate tasks and improve processes.
- **Technology Team-** The Technology Team at NDIT ensures the state's technology is innovative, secure, and efficient. They support public safety with tools like 911 system support and emergency communication, expand broadband access to connect communities, and manage the overall technology (hosting, computers, networks, collaboration products) that keep systems running smoothly. The Technology Team also leads the Enterprise Architecture practice, the solutioning and road-mapping team that strives to align business objectives with technology solutions.
- **Security Team-** The Security Team protects the state's data, systems, and critical services from cyber threats. They work closely with agencies to create security policies, identify risks, fix vulnerabilities, and monitor and respond to threats to ensure everything remains safe and secure.
- **Fiscal and Vendor Management Team-** The Fiscal and Vendor Management teams handle all the back-office support for procurement, budgeting, service fee creation and financial management of NDIT
- **Administrative Team-** The Administrative Team at NDIT is responsible for internal and external communications, human resource functions, training, education and outreach for technology solutions. They lead efforts on employee culture, engagement and succession planning.

NDIT FIVE PILLAR STRATEGY

Frictionless Experience

Personalized and intuitive employee and consumer experiences for businesses and citizens

•Deliver consistent, predictable, and seamless, secure user experiences across all IT systems and services within the state
•Enable highly personalized experiences for citizens and businesses by enabling the delivery of services to match user preferences and needs
•Collaborate with stakeholders to develop solutions that prioritize a seamless experience for users across all communication channels, ensuring effortless engagement in every interaction

Strengthen Operational Rhythm

Establishing efficient processes and workflows to optimize operational efficiency

•Elevate service excellence through a culture of continuous improvement and innovation, fostering an environment where operational excellence is the norm.
•Implement agile methodologies for rapid adaptation to changing requirements and priorities.
•Strengthen the security posture of the entire state by implementing comprehensive measures to protect critical infrastructure and sensitive data from cyber threats.

People First Culture

Fostering an environment where employees feel valued, supported, and empowered to thrive

•Develop a future-ready workforce, ensuring they are dynamic, adaptable, and diverse to meet the evolving talent needs
•Create pathways for career advancement and succession planning
•Promote behaviors that demonstrate curiosity, open communication, collaboration, and innovation to build strong relationships and a sense of belonging within the team

Provide Business Insights

Leveraging data analytics to enable a data-driven state

•Identify trends, patterns, and opportunities to unlock new business value and drive innovation
•Empower decision-makers with actionable data-driven insights to drive strategic initiatives and improve outcomes
•Foster a culture of data governance and literacy to drive informed decision-making throughout North Dakota

Optimize Financial and Process Discipline

Implementing efficient budgeting and resource allocation strategies

•Drive efficiency and cost-effectiveness through streamlined processes and optimized resource allocation
•Ensure transparency, accountability, and compliance with fiscal regulations and policies

IT Procurement

IT Solution Lifecycle for State Government

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Large IT Procurement >$500,000	Funding & Project Start Up	Preliminary Research	RFP Draft, Approval & Issue			Response Period	Evaluations, Demonstrations & Best & Final		Contract Negotiations			Award & Protest Period
IT RFP >$100,000	Funding/ Initiatative Intake	Preliminary Research	RFP Draft & Issue		Response Period	Evals, Demos, & Best & Final	Contract Negotiations			Award & Protest Period		
Invitation for Bid <$100,000	Funding & Project Start Up	Preliminary Research	Draft & Issue	Response Period	Eval	Award & Protest Period						

Things to Consider:

- It is known what is needed.
- Team Availability
- ESC Availability
- Number of Responses
- Demonstrations & Clarification results
- Best and Final Offer
- Protest
- Contract negotiations
  - State Law
  - Retainage
  - Liquidated Damages
  - Deliverables
  - Limitation of Liability
  - Indemnification

5 Months is a unicorn

Transparency and Governance

Advisory Groups

- Enterprise Architecture Group (current) – review of IT standards, policies, guidelines
  - Agency representation
  - Technology domain representation
  - Service Delivery representation
- Data Governance Council (current) – statewide data strategy
  - Agency representation
  - Technology domain representation
- Customer Advisory Group (upcoming) – service feedback, strategic guidance of services
  - Agency representation
  - Service Delivery representation
- Portfolio Steering Committee (upcoming) – work prioritization
  - Agency representation
  - Portfolio Manager
  - Chief Information Officer

Incident Performance

Agency: All | Priority: All | Breach: All | Underlying Cause: All | Assigned To Group: All | Contact Type: All

- Exclude Tickets Resolved by Solarwinds
- Exclude Child Tickets
- Include only tickets assigned to NDIT

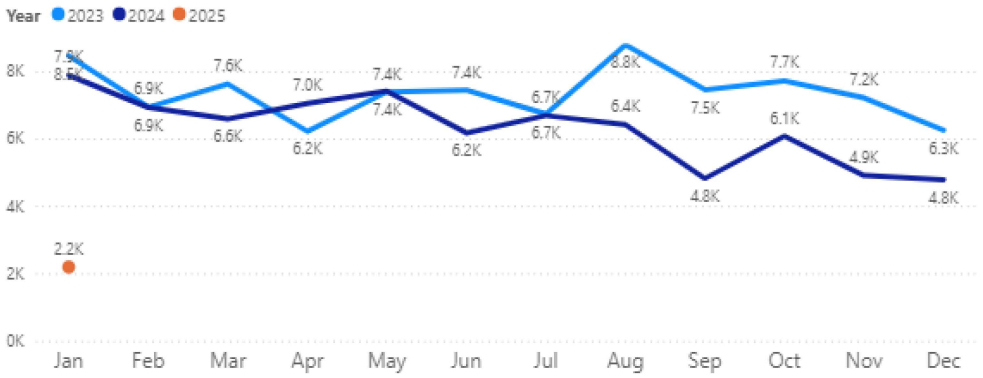
NORTH Dakota — Be Legendary.

Data last refreshed 1/12/25

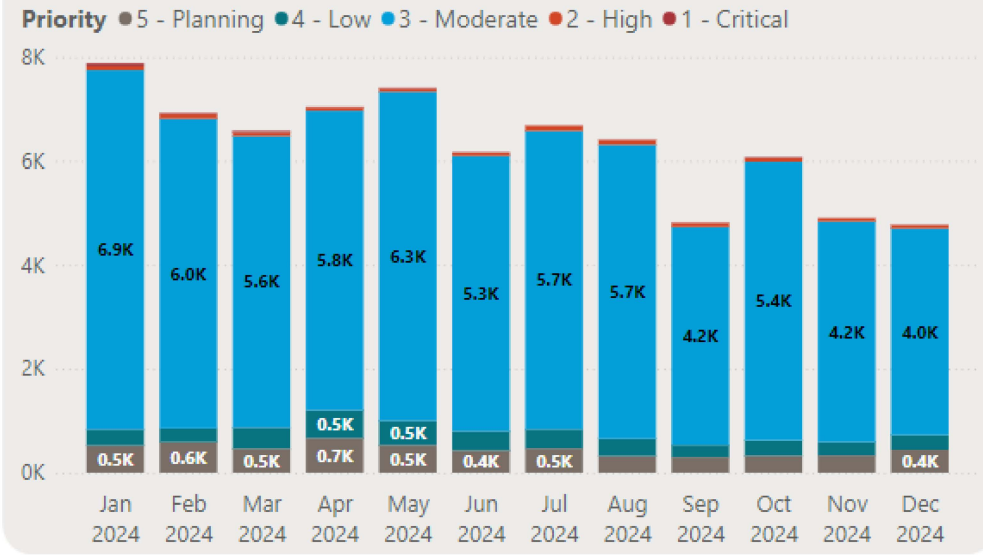
Select Metric: Incidents Created | Incidents Resolved | Incident Backlog | Avg Resolution Time(Mins)

Trend: Incidents Year over Year

Continuous | Year over Year | 3 Metrics



Trend: Incidents by Priority



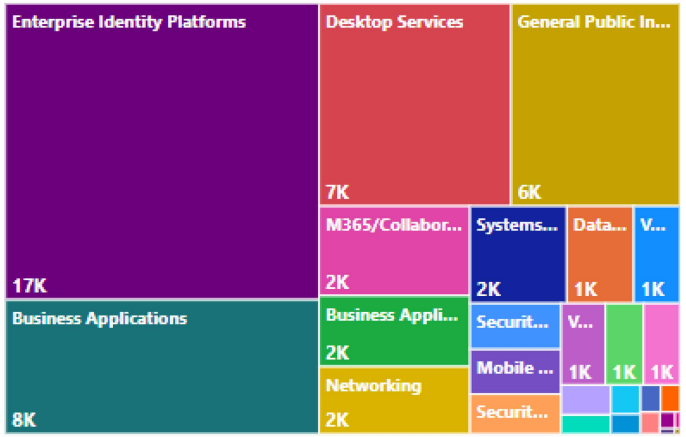
Summary Metrics for 1/1/2024 - 8/20/2024

Click for Video Tutorial

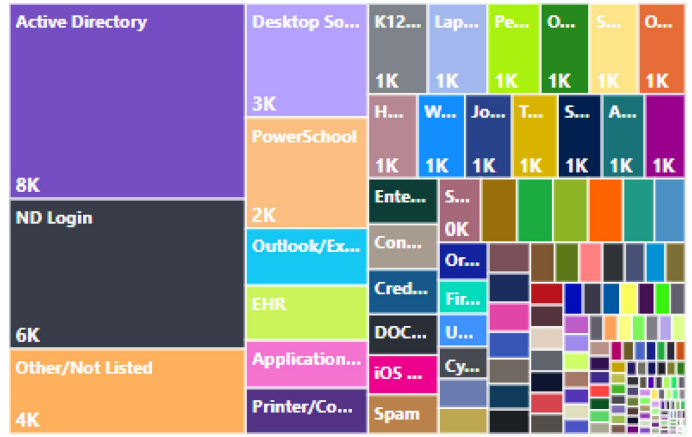
Select Time Period: 1/1/2024 – 8/20/2024

53K	53K	761	790	5.7%
Incidents Created	Incidents Worked	Incidents Outstanding	Avg Resolution Time(Mins)	Pct Tickets Breached

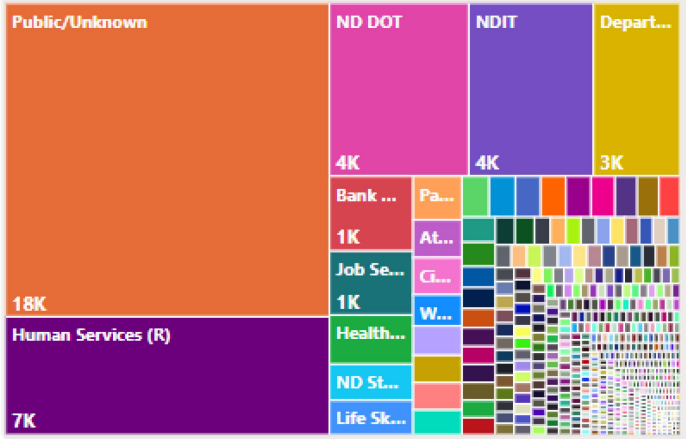
Incidents by Category



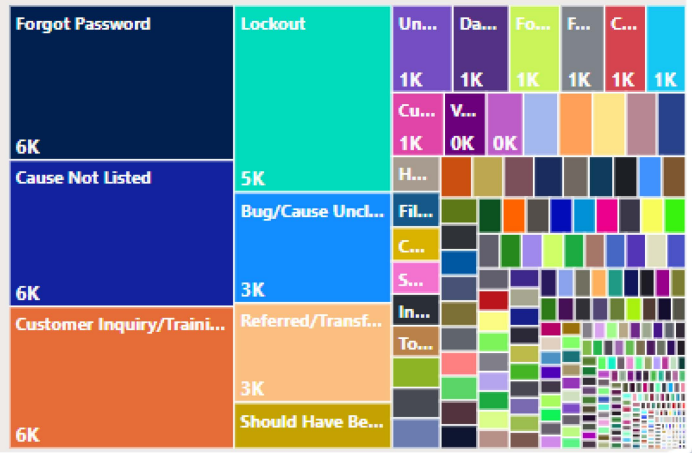
Incidents by Subcategory



Incidents by Agency



Incidents by Underlying Cause



Major IT Focus Areas Overview

Major IT Focus Areas

- Digital Experience (Gateway work)- Evonne Amundson, CBAO
- Statewide Data Strategy (Lighthouse work)- Kim Weis, CDO
- Enterprise Digitization and Modernization- Craig Felchle, CTO
- SIRN- Craig Felchle, CTO
- BEAD- Craig Felchle, CTO
- Vulnerability work- Chris Gergen, Director of Cybersecurity
- HIN- Shila Blend, NDHIN Coordinator
- SLDS- Tracy Korsmo, SLDS Program Manager
- GIS- Bob Nutsch, Geospatial Program Manager
- EduTech- John Gieser, K12 IT Strategist

Digital Experience(Formerly known as Gateway)

Program Objectives | *Goals*

Clear Directions

Provide business users with clear direction on the actions they need to take when starting a business, maintaining a business, remaining in compliance with state regulations, and closing a business

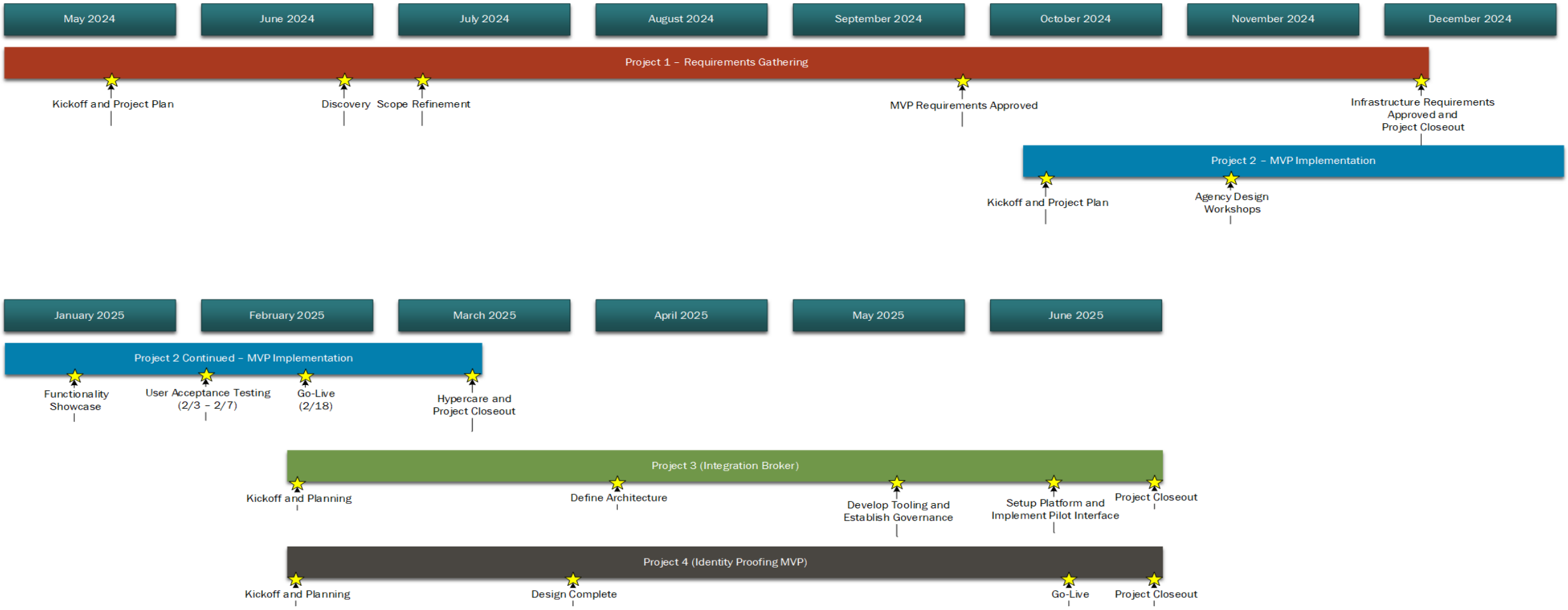
Digitize Data

Digitize the collection of business-related data that can be used by the Gateway and across participating agencies to further enable digital services, growth, compliance, and fraud prevention

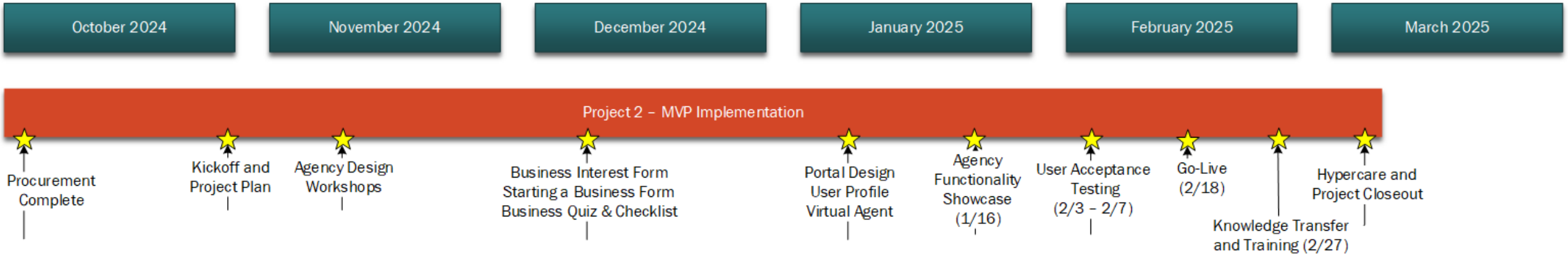
Provide Guidance

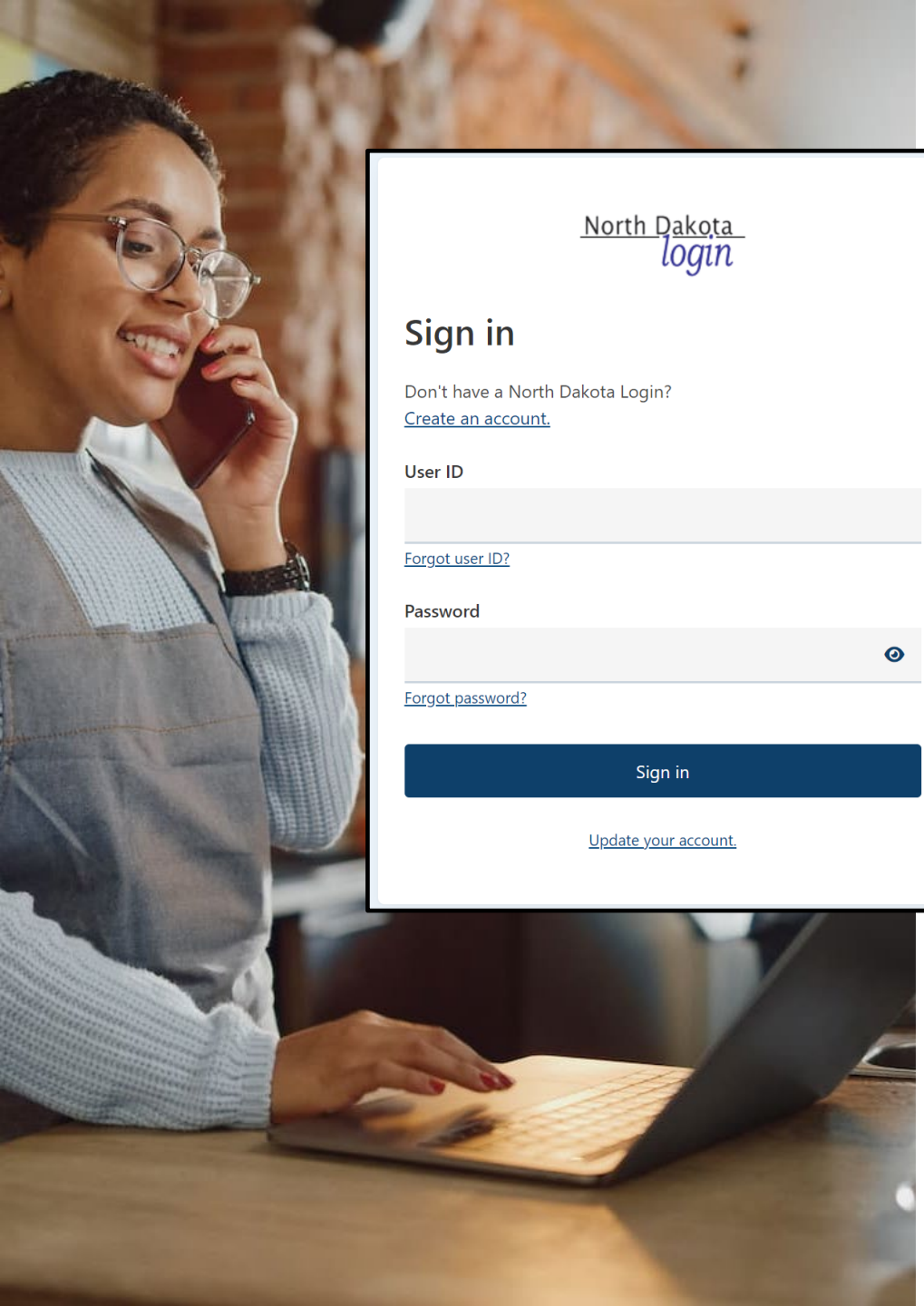
Guide users and encourage them to take advantage of available services, help businesses remain compliant with registration, reporting requirements, drive accuracy, auditability and begin to reduce the number of access points businesses rely on today and wrap it in a modern, friendly user interface.

Digital Experience – Timeline



Project 2 Timeline





Single Sign On (SSO)

SSO to be completed in Phase 2, but subsequent phases will need to incorporate it.

ND Login

The Gateway will integrate with the existing North Dakota Login functionality, eliminating the need for users to create new registration credentials and helps to achieve the program goal of reducing the need for duplicative identities across State systems. This will improve ease of access and best position the Gateway to continue onboarding additional partner agencies and services.

Single Sign On (SSO)

Users benefit from not having to remember multiple passwords for different services. With a single set of credentials, they can access a variety of governmental and associated services.

Compliance Ease

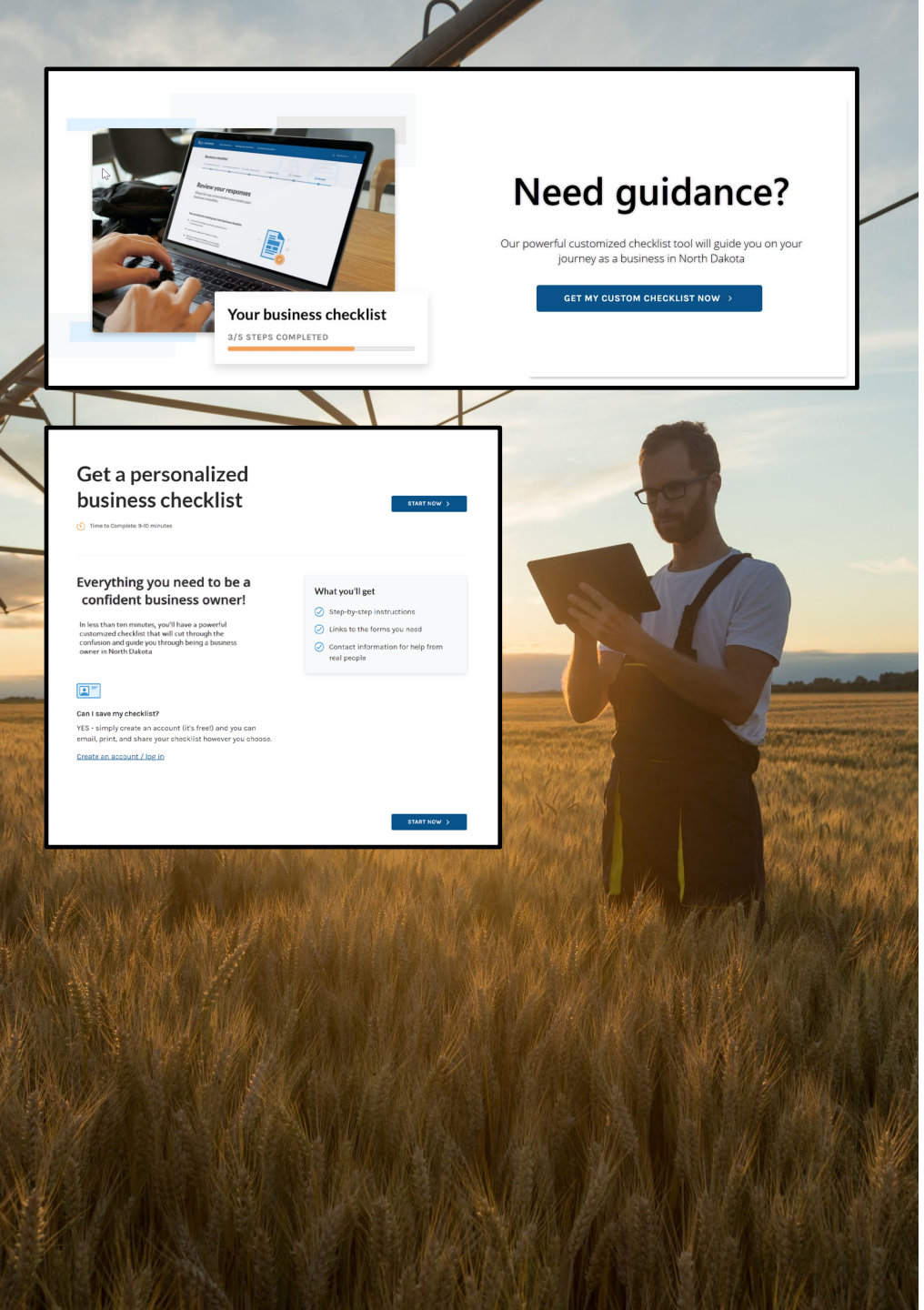
Integrating with North Dakota's login system ensures that the application is in compliance with the State's regulations regarding data security and privacy, having already been designed to meet these standards.

Enhanced Trust and Credibility

Using a state's login system can increase the perceived reliability and credibility of the service, as users often trust governmental systems for security and data protection.

Increased User Adoption

The trust factor can lead to higher adoption rates among users, as they feel more confident in the security and integrity of the service.



Establishing a North Dakota Business

The **web tool will initially act as a digital Green Book** and continue to expand as the Gateway program matures. Clear structured guidance empowers new entrepreneurs and large businesses to take confident steps towards establishing new businesses, operating those businesses, and remaining compliant over time.

Personalized Guidance *The tool provides customized guidance based on specific responses of the user, keeping information relevant to their unique business and needs*

Streamlined Process *By guiding users through a series of conditional questions, the tool streamlines the process of understanding state and department-specific requirements*

Centralized Resource *Acts as a one-stop resource for the information needed to establish a new business, consolidating data that might otherwise be scattered across various websites*

Enhanced User Experience *A well-designed web tool offers an intuitive and user-friendly interface, making information accessible to include those individuals with limited technical skills or business acumen*

Scalable *The tool can accommodate a wide range of business types and sizes, from sole proprietorships to large enterprises*

Adaptable *Once implemented the tool can be continuously updated with new information and features, it can grow with the evolving needs of businesses and regulatory changes*

Business Profile *The information entered in the tool serves as the foundation for the user's Business Profile*

My Dashboard **Design is currently being finalized*

This feature enhances departmental engagement by linking Gateway users to resources and services previously unknown to them, thereby boosting adoption and participation in services and programs.

Serving as the hub for logged in Gateway users, the My Dashboard section provides the following benefits:

Task and Activity Overview A list or summary of pending tasks, To-Do items, and recent activities to help users manage their business' efficiently

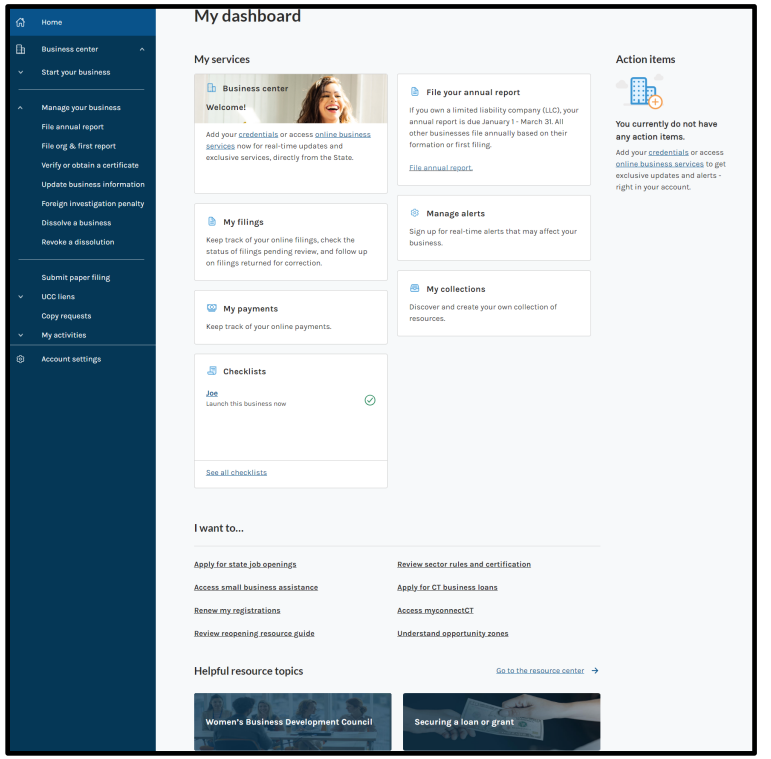
Calendar An integrated calendar displaying upcoming events, deadlines, and important dates to help users remain current and compliant

My Services Information regarding department-specific services currently being used by the logged in user's business

Frequently Used Tools Shortcuts to the most used applications, documents, and resources

Helpful Articles List of most popular knowledge articles

Document Repository A centralized location for storing and accessing documents



Other Applications Using Digital Platform

- In Production
  - QSP (Qualified Service Provider) Enrollment
    - Reduced time to enroll, currently 11 days
  - ND Rent Help
    - Helped over 30,000 renters, 14,666 of those households have children 18 or younger
  - ND Homeowner's Assistance Fund
    - Assisted nearly 6,000 ND Homeowners
  - ND Housing Stability Fund
    - Individualized Case Management for ND households and housing providers
  - Best In Class
    - Implemented in 6 weeks
- Future Projects
  - DFI Enhancements
  - HHS Background Checks
  - Best In Class Enhancements

Statewide Data Strategy

Why does data matter?

- Investing in data allows us to
  - Deliver better, more effective services for our citizens
  - Save taxpayer dollars through cost savings and efficiencies
  - Drive accountability and transparency
  - Shift from reactive government to proactive, better preparing for future challenges

What are we hearing from state agencies?

Key data challenges and pain points…

- Staffing/resource constraints
- Data siloes
- Aging technologies (i.e., tech debt)
- No central data catalog/inventory
- Reliance on institutional knowledge
- Manual processes
- Massive amounts of data
- Data is undocumented
- Lack of trust, leading to redundant efforts
- Challenges in sharing/accessing available data

North Dakota Statewide Data Strategy (implemented through the Lighthouse Program)

Harness the value of data to help North Dakota *thrive*.

Better government data & insights = **Better government decisions & actions** = **Better citizen & community outcomes**

Key Outcomes by Year

Year 1	Establish foundations and strengthen statewide collaboration
Year 2	Facilitate agency-level adoption and expand into more transformational projects and initiatives.
Year 3	Continue transformation efforts, maintain momentum, and sustain stakeholder and agency adoption.

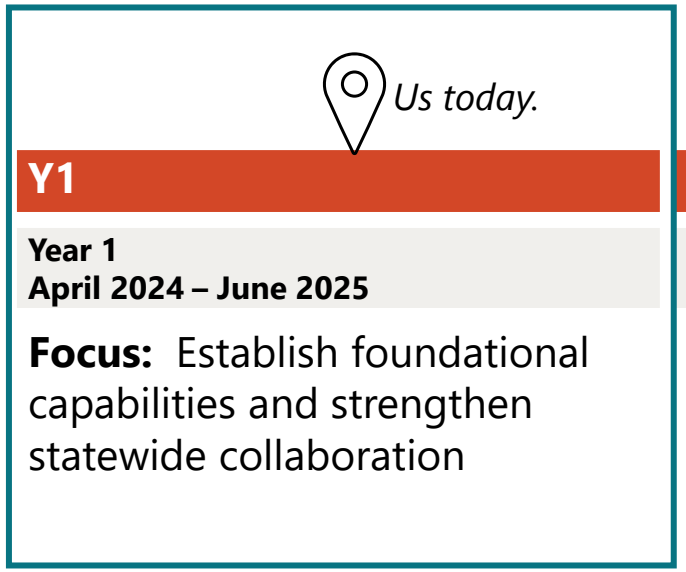
North Dakota Statewide Data Strategy

- Budget of $4.89M
  - Phase 1 completed in April 2024: Development of statewide data strategy and implementation roadmap
  - Phase 2 kicked off in April 2024 and currently underway: Implementation of data strategy through June 2025

Data Strategy Roadmap Implementation

26+

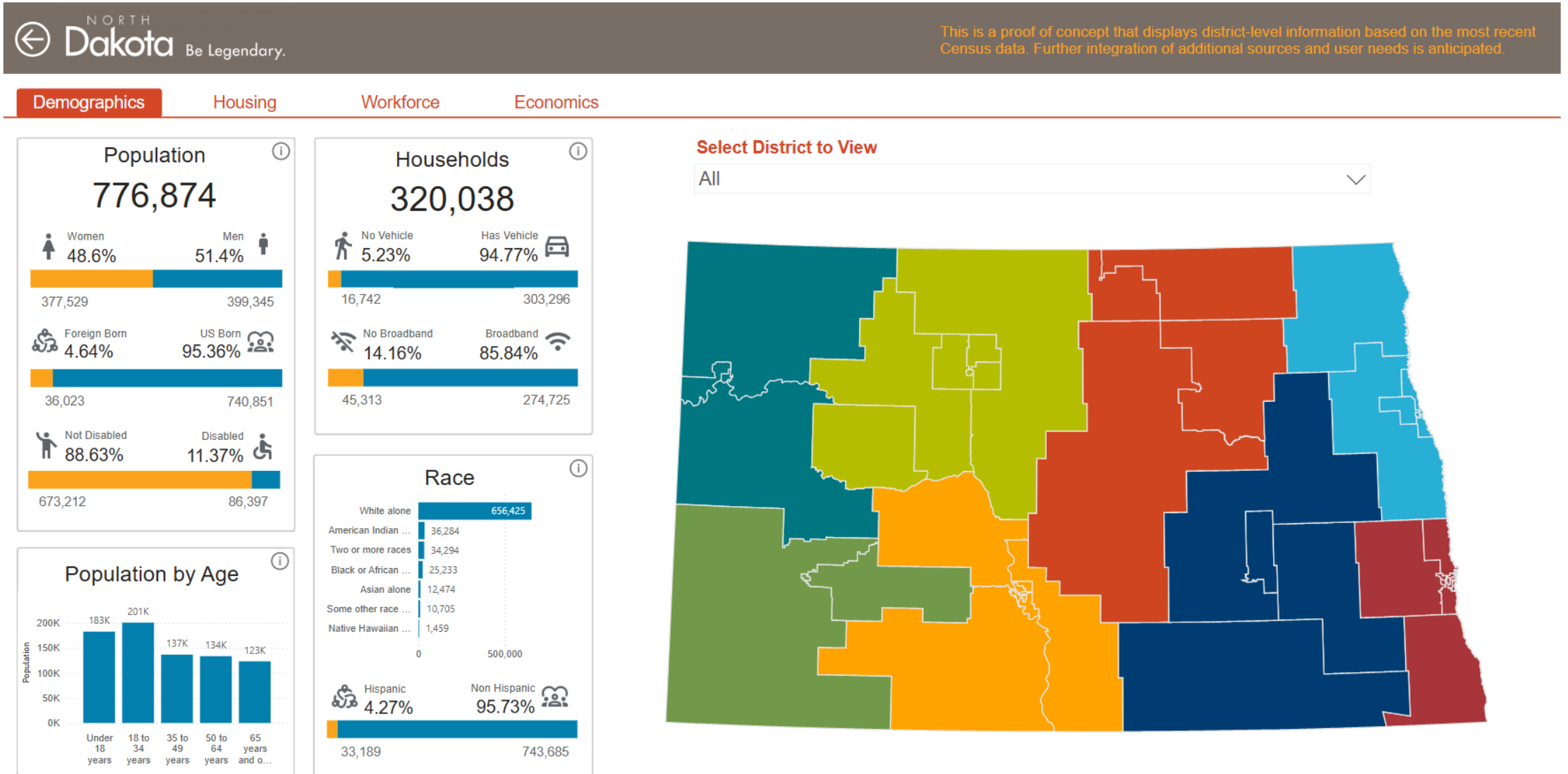
Projects envisioned as part of this roadmap



Key Accomplishments in 2023-2024

Strategy Rollout and Agency Collaboration *Building agency awareness and plans for adoption*	• Conducted roadshows with various state agencies to promote the statewide data strategy • Developed a comprehensive strategy report to help agencies create their own plans and tailored initiatives • Refined the NDIT Data Division's organizational structure to better align with and support the state's data needs
Statewide Data Governance Program *Establishing the overarching program that directs data management and use practices*	• Defined a statewide data governance operating model and Concept of Operations, outlining the structure, roles, and responsibilities • Established the Statewide Data Governance Council to advise the State on formalizing a data governance program • Initiated the Tactical Data Governance and Stewardship working group to address agency-specific governance needs • Developed the initial release of the Tactical Data Governance Toolkit, providing resources such as accelerators and guides to help agencies implement key data governance actions
Data Catalog *Determining requirements and approach for implementation*	• Defined requirements for a statewide data catalog, including business, functional, technical, and vendor services specifications
Data Literacy *Providing a statewide data skills and literacy curriculum*	• Defined data literacy learning paths for three data personas and an AI learning path to build skills/knowledge in AI
Modern Data Platform *Reimagining the current COVID data lake, creating a solution that is valuable to all agencies*	• Reviewed the current data lake implementation and proposed architectural enhancements. • Conducted testing for the Data Exploration Zone • Created an onboarding framework for agencies to start using the data lake solution
Analytic Proof of Concept *Exploring ways to join data from different agency sources, creating opportunities for greater diagnostic and predictive insights*	• Conducted use case scoping and discovery with the Department of Commerce • Developed the MVP version of the State Data Hub POC dashboards

State Data Hub



What is happening with AI in North Dakota?

NDIT wants to support the vision of AI-enabled Agencies throughout ND but is also committed to doing it in a controlled and considerate fashion that appropriately considers ***data privacy, risk management, ROI realization,*** and ***organizational and workforce readiness.***

AI is not new to the State and has been in use in government in a variety of ways, but in the last two years, the explosion of GenAI and new technologies and capabilities has provided new focus, opportunities, and oversight/governance considerations.

Consideration	Action	Status	Overview
Policy and Oversight	**Statewide AI Policy and Guidance Release**	**Released** *Early 2024*	A first step was establishing an overarching policy The policy's initial focus and supporting guidance is on directing responsible use of commercial tools (e.g., ChatGPT)
Productivity and Efficiency Tools	**Microsoft Copilot Release**	**In Progress** *Release – Q1 2025**	Publicly available tools (i.e., ChatGPT) currently in use by many Team ND members to enhance productivity M365 Copilot technical configuration and technical pilot underway in January 2025, with Agency pilot to follow in Q1
Workforce Engagement	**Data and AI Literacy and Training Supports**	**In Progress** *Early Q1 2025*	We are curating AI and data literacy learning paths and also developing custom guidance and materials to support building awareness and workforce skills in engaging with AI Consideration for both end-users and technical personas are in the planning
Operationalize AI	**Custom AI Products and Targeted Solutions**	**Started**	**Underway/Complete** • An initial Chatbot pilot has been developed with Commerce • Preliminary use cases were collected this summer **Upcoming** • Prioritization and risk evaluation framework • Broader agency use case collection and analysis • Selection and development of additional pilots • Exploration of commercial AI solutions to address particular organizational needs

What is to come in 2025 and beyond?

Building North Dakota's 'Data Muscle"

Completion of Year 1 activities & Year 2 planning/ implementation

Agency Empowerment

Empowering Agency data literacy, maturity and capabilities

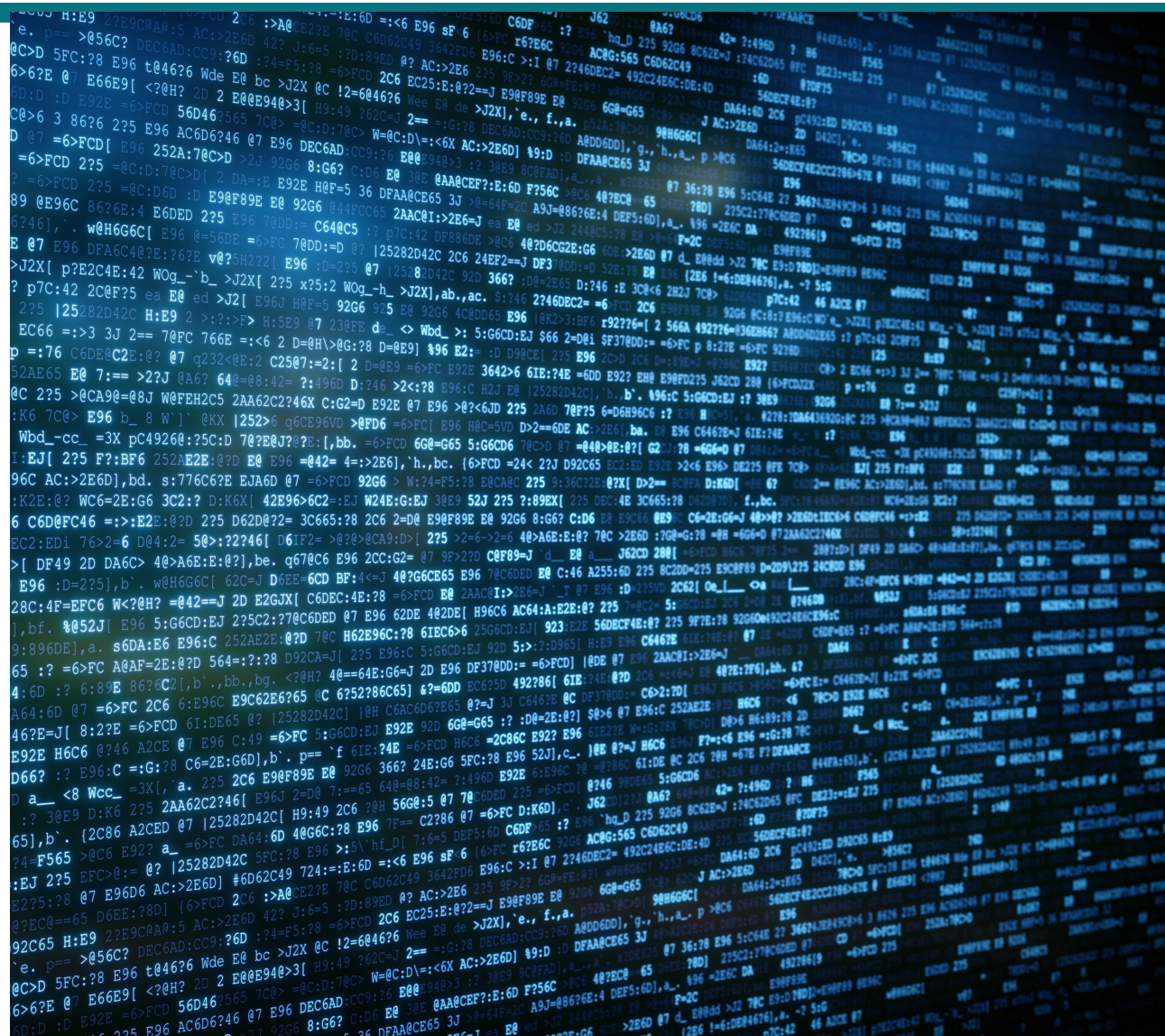
Data in Action

Onboarding and supporting new analytic use cases

Enterprise Digitization and Modernization

Digital Maturity

- Digital Maturity Efforts
  - Call Center
  - Capitol Security/Wiring
  - Enterprise Architecture – Technical Debt
  - AI Support



Call Center

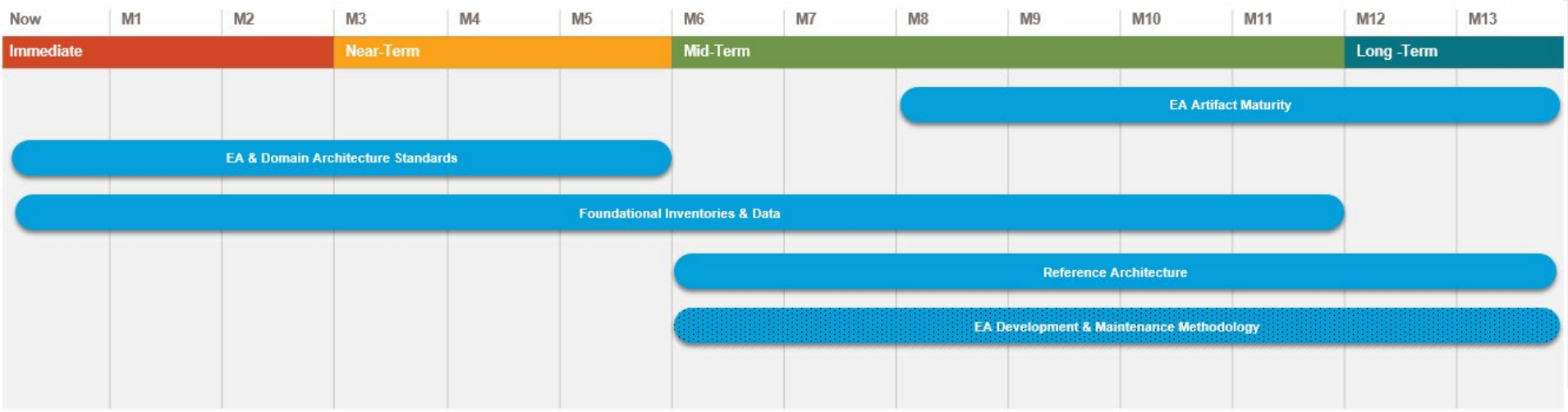
- **Budget:** $3M
- **Accomplishment to Date:**
  - All Migrations Completed
  - Fully Deprecated the Old Solution
  - Industry Leading Solution/No Major Outages
- **Upcoming Activities:**
  - On Track to be wrapped up this biennium
- **Risk/Issues:**
  - Completed

Capitol Security/Wiring

- **Budget:** $2.5M
- **Accomplishments to Date:**
  - Capitol Security Project
    - Implementation Underway
  - Capitol Wiring:
    - Conduits installed in the Capitol Complex.
    - Expected to be completed this biennium.
- **Upcoming Activities:**
  - Capitol Security Project:
    - Execute on SOW with the vendor
  - Capitol Wiring:
    - Run the fiber and install hardware
- **Risk/Issues:**
  - Vendor resource availability

Enterprise Architecture – Digital Maturity

- Enterprise Architecture
  - Where are we?
    - Assessments with 19 Agencies
  - Where are we going and how do we get there?
    - 20 Total Recommendations



20 Total Recommendations

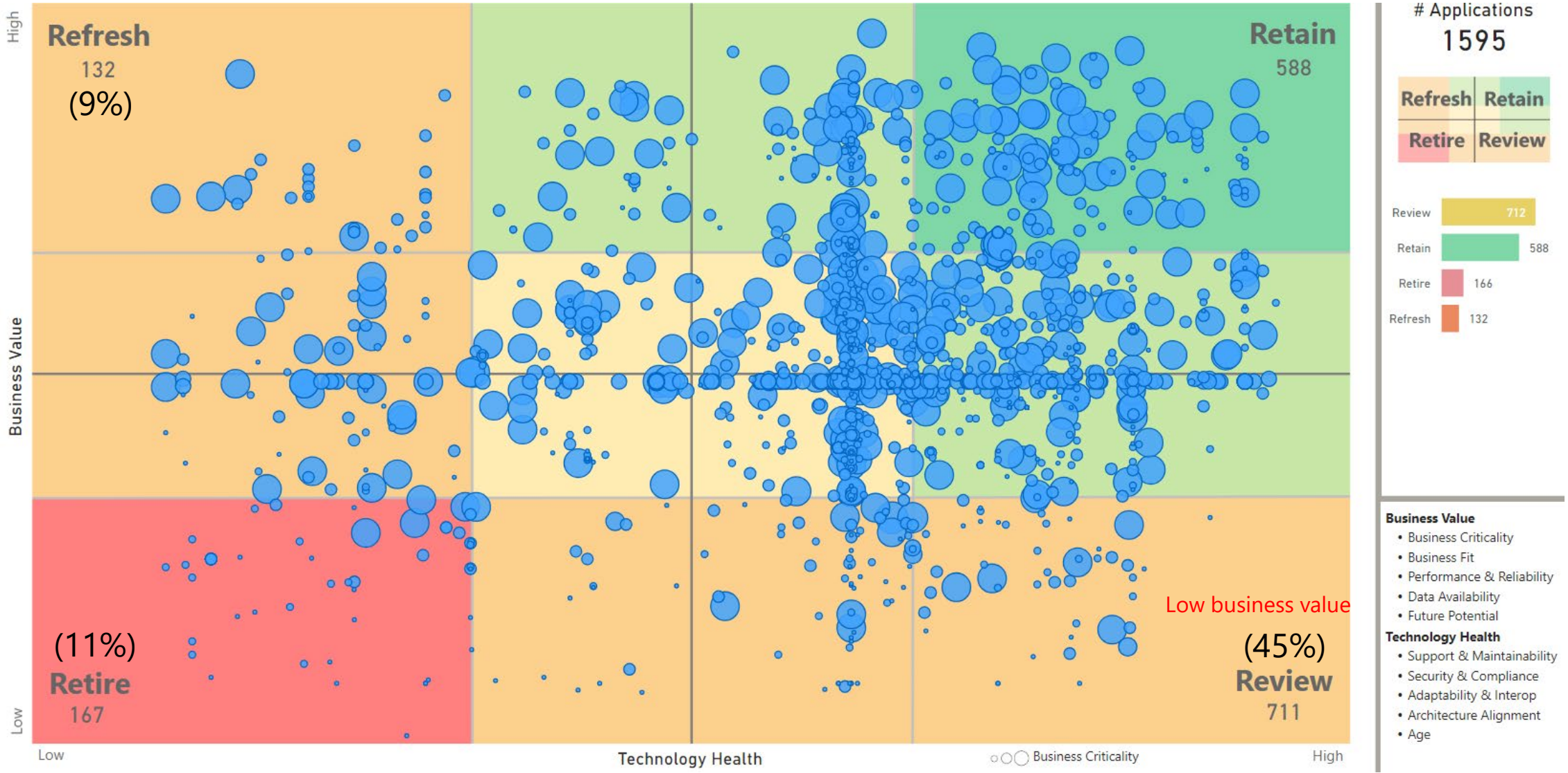
7 People Recommendations
4 Immediate
2 Mid-Term
1 Long-Term

5 Process Recommendations
3 Mid-Term
2 Long-Term

5 Tools & Artifacts Recommendations
3 Near-Term
2 Mid-Term

3 Governance Recommendations
1 Immediate
1 Near-Term
1 Mid-Term

The Output


High
Refresh
132
(9%)
Retain
588
Business Value
Low business value
(11%)
Retire
167
(45%)
Review
711
Low
Low
Technology Health
High
Business Criticality
Applications
1595
Refresh
Retain
Retire
Review
Review 712
Retain 588
Retire 166
Refresh 132
Business Value
• Business Criticality
• Business Fit
• Performance & Reliability
• Data Availability
• Future Potential
Technology Health
• Support & Maintainability
• Security & Compliance
• Adaptability & Interop
• Architecture Alignment
• Age

Legacy Systems Analysis Project

- **Down to 2 Major Agencies on the Mainframe**
  - High-Level Analysis Project
  - Looking at all options
  - Two Bienniums away from completion
- **Scope**
  - Mainframe – AS400 – Legacy AIX Platforms
- **Use of Applications**
- **Integrations**
- **Application Lifecycle**
- **Feedback Loop with Agencies**

Keys to AI Success In North Dakota

Key 1 **AI is not a magic bullet.**

Instead, it is a tool for speeding up data-driven decision making. A more appropriate description of current AI technology is data-enabled, automated, adaptive decision support. Use when appropriate.

Key 2 **Garbage in, garbage out still applies to AI – and is even more relevant!**

AI technology has its foundations in data. Lots and lots of it. Rich, relevant, accurate, and timely data from interconnected systems is essential to effective use of AI. How good is the data?

Key 3 **Learn from early adopters.**

AI is a rapidly evolving field, and there are many published use cases with documented business value. Using a use case-based approach, we can learn from the successes and failures of others, including other states, to more rapidly narrow down how AI can deliver value for the state.

Key 4 **Start small to gain experience and to lay a solid foundation.**

Too many big projects have failed in the past. Start small with AI and then wash, rinse, repeat. Keep in mind, though, that the real value will come from the enterprise adoption of AI, and for that we will need to create an AI strategy.

Key 5 **Give AI a purpose. Pick the right use cases.**

AI strategy and current exploration activities should closely align with the strategic goals and drivers of the state. The key question you should be asking is not "What can AI technologies do?" but rather "What can they do for us?" and "How much would we benefit from AI if we were to invest in it?"

Data Center

Data Center

- **Secondary Data Center**
  - Cooling Plant is No Longer Supported/Failing Pumps (~$300-400K)
- **Primary Data Center**
  - Single Point of Failure Identified this Biennium (~$1.4-1.7M to remediate)
  - Within Minutes, the data center will shut down
  - Infrastructure Damages to all State Equipment ($1M+)
  - What is the cost in lost productivity if team members, legislature, and Courts are stopped?
- **Risk Assessment was in December**
  - Identified both risks as *Critical* to the State with a recommendation to either remediate both issues or move 1 location
  - Data Center skillsets are in short supply – We only have 1.5 FTE

Data Center….The Plan

- **The Plan….**
  - Phase I
    - Use one-time funding to shut down 1 data center and partner with private market (leased space)
    - Estimating $500k+ to transition, but full costs are unknown
  - Phase II
    - Shift the roles of the two data centers after deprecation of 1 data center (multiple biennium)
    - Will require temporary hardware and coordination
  - After shifting the roles, the new secondary datacenter would have the cooling risk

SIRN

Send and Close
Reset
Exit
Unit
Unit Type
Coverage
Telephone No.
Recruit
Officer/Passenger
Password
Code
Portable
Type
613
Radio OK
MDT OK
Em. Kit
Fuel
Tires
Radio ID
Receive copies of dispatches for these coverage areas
Mileage
Vehicle Number
Light OK
Capabilities
Vehicle Condition
Remarks
The unit ID

History

- **2011** Exploratory Study Focused on Land Mobile Radio Interoperability
- **2015** Legislature Authorizes Feasibility Study
- **2016** Televate Study Conducted; Recommendations Provided
- **2017** Legislature Authorizes and Governor Signs into Law - Execution of SIRN 20/20
- **2017** SIRN 20/20 Program Initiated
- **2018** Requests for Proposals
- **2019** January - Contract Awarded to Motorola
- **2019** April - Legislature Authorizes and Governor Signs SIRN Project Funding into Law
- **2019** May - Project Kick Off
- **2020** December – Backhaul and 10 PSAPs cutover
- **2021** December – 7 additional PSAPs cutover
- **2022** November – 5 additional PSAPs cutover along with approx. 65 sites completed

What is SIRN building?

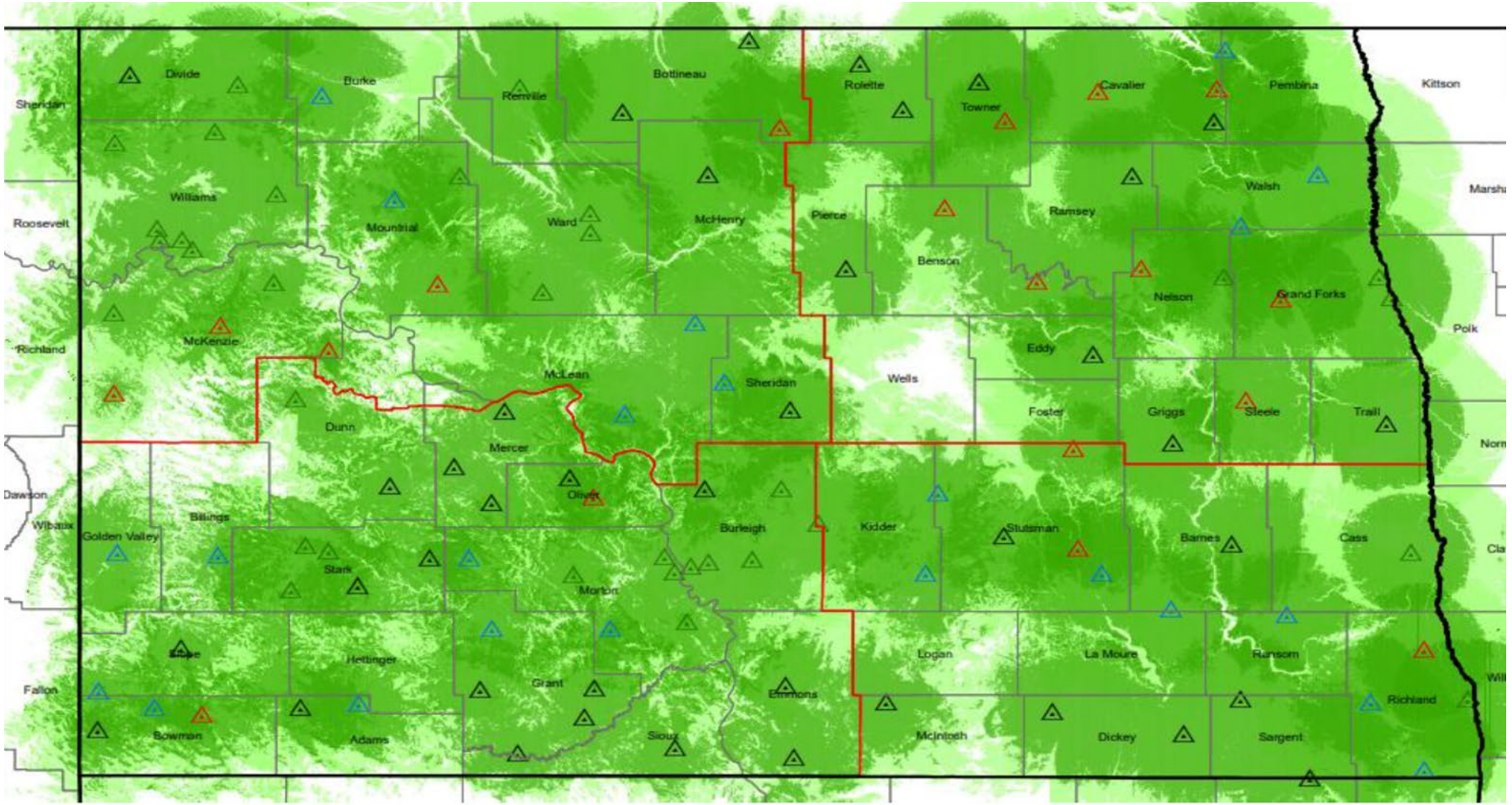
SIRN

SOLUTION

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

- Shared Infrastructure Utilized by All Public Safety Users
- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System
- Guaranteed Coverage
  - 95% Mobile Coverage / 95% Reliability
  - 85% Portable Coverage / 95% Reliability
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years

Project Maps



Latest Milestones

- **Law Enforcement Encryption** researched and statewide implementation in progress
  - Over the Air Rekeying in use
- **Radio Management** implemented
  - Over the Air Programming in regular use
  - More than 4000 radios entered

- **NDIT Public Safety Team** fully developed and SIRN responsibilities identified and assigned

- **Continued Tower Completions**
  - 72 complete
    - 33 currently in use
    - 39 not currently in use
  - 10 in civil construction phase
  - 2 awaiting radio equipment
  - 28 awaiting final site work
  - 28 remaining

Future Milestones

- Finish remaining tower buildouts
- Transition remaining PSAPs and agencies
- Begin project closeout activities

2026

2025

2027

- Continued tower buildouts
- Transitions additional PSAPS as coverage allows
- Implement Status Board and Cirrus Central

- Complete project closeout (decommission and surplus VHF system components, take down original state-owned towers, divest/surplus purchased towers not needed for SIRN, fully transition to operational status)

Financial Update

Operating Expenses	25-26	26-27
Connectivity & Equipment	2.7M	2.8M
Towers	1.1M	1.2M
Labor (Additional Resources)	1.7M	1.8M
Vendor Maintenance	3.3M	3.3M
NDIT Program Expense*	**8.8M**	**9.1M**
DOT Expense (+1 Additional Resource)	1.6M	1.6M
Total Expense	**10.4M**	**10.7M**
911 Fee Revenue	4.5M	4.5M
Shortfall**	5.9M	6.2M

Cash Flow	
911 Fee Balance	~21.9M
Est Rev 23-25 Remaining Biennium	~2.2M
Total Revenue	**23.9M**
Est exp 23-25 Remaining Biennium	**3-4M**

*Expenses are projected. New operational contracts and project decisions are still impacting the long-term operational expense.

Intelligent Transportation Systems

Intelligent Transportation Systems

- PTZ and Fixed Highway Cameras
- Dynamic Message Boards – Stationary & Portable
- Wrong Way Driver & Collision Warning Systems
- Meteorologic Stations
- Automatic Traffic Recorders/Weigh-in-Motion Systems
- NDDOT Smart Corridor

ITS Systems - 2011	ITS Systems - Present	ITS Systems - Planned
47	335 *1800 Individual Devices	~500+

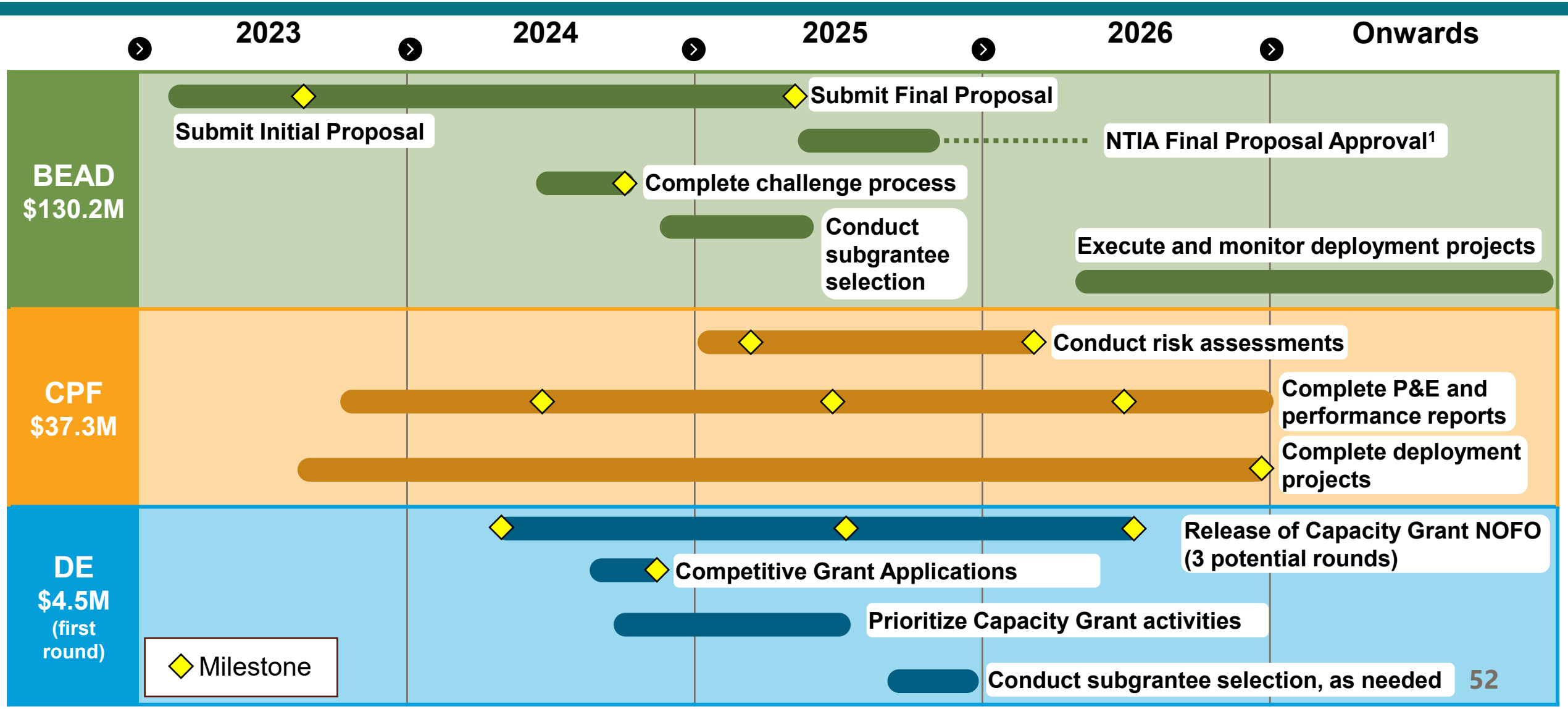
VISION ZERO

Broadband (CPF, BEAD, and DE)

BroadbandND

	BEAD	DE	CPF
Source	National Telecommunications and Information Administration	National Telecommunications and Information Administration	Treasury
Programs	**Broadband Equity, Access, & Deployment** Funds broadband deployment to unserved and underserved areas	**Digital Equity Act** Establishes three grant programs that promote digital equity and inclusion	**Capital Projects Fund** Funds critical capital projects, including broadband infrastructure
Eligible Expenditures	• Deploying broadband infrastructure • Broadband planning and data collection • Advancing digital adoption	• Promoting digital inclusion • Enhancing digital literacy and skills • Facilitating affordable and equitable access	• Broadband infrastructure projects • Digital connectivity technology projects • Multi-purpose community facility projects
Allocation	**$130.2M**	**$4.5M+**	**$37.3M**
Estimated Implementation Timeline	**2024 - 2030**	**2024 - 2029**	**2023 - 2026**

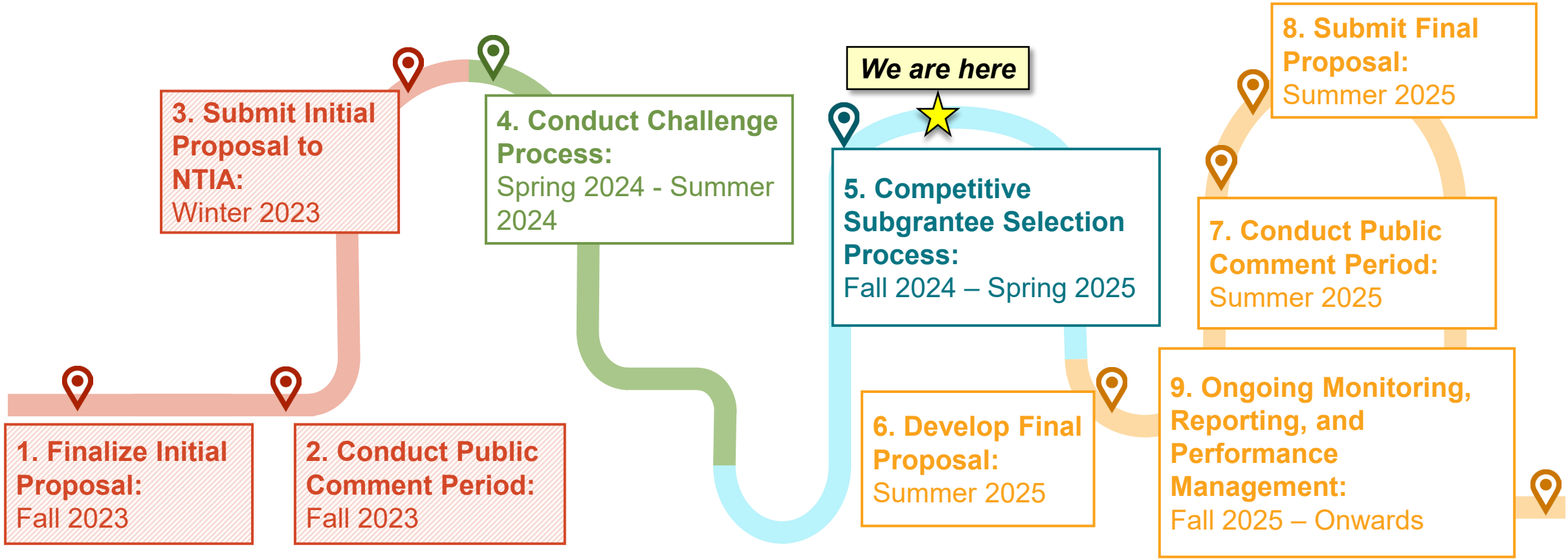
Through our continued collaboration, North Dakota is poised to allocate $172M+ over the next five years to support “BroadbaND for All”



The State Broadband Program Office has launched the first round of the subgrantee selection process

BEAD

Initial Proposal | Challenge Process | Subgrantee Selection | Final Proposal / Implementation



Projects funded by CPF are working to address infrastructure needs, with $37.3M to be deployed by 2026

CPF

$37.3 Million Committed[1]
- $2.5M Expended
- $34.8M Remaining

11 Projects Awarded
- 2 completed
- 9 underway

~2,150 BSLs Funded
- ~1.9k Residences
- ~250 Businesses

7 Participating ISPs

Red River Communications, Nemont, NCC, MLGC Internet • TV • Phone, HTC Halstad Telephone Company, WRT, polar

Organization	BSLs	Project Status	Completion Date[2]
NCC	64	Completed	Q4 2023
Nemont	45	Completed	Q4 2024
West River	47	Near Completion	Q4 2024
Halstad	221	< 50%	Q4 2024
Polar Walsh	318	< 50%	Q4 2024
Polar Grand Forks	394	Not Started	Q4 2024
Polar Traill/Steele	218	< 50%	Q4 2024
Red River	323	> 50%	Q4 2024
MLGC Cass	80	< 50%	Q4 2025
MLGC Steele	146	< 50%	Q4 2025
Nemont/MVC	291	Not Started	Q4 2026

[1] The total CPF allocation is $38.7M. $37.3M represents the project grants.
[2] Construction completion dates based on Q3 P&E Report projections

Vulnerability Remediation

Funding

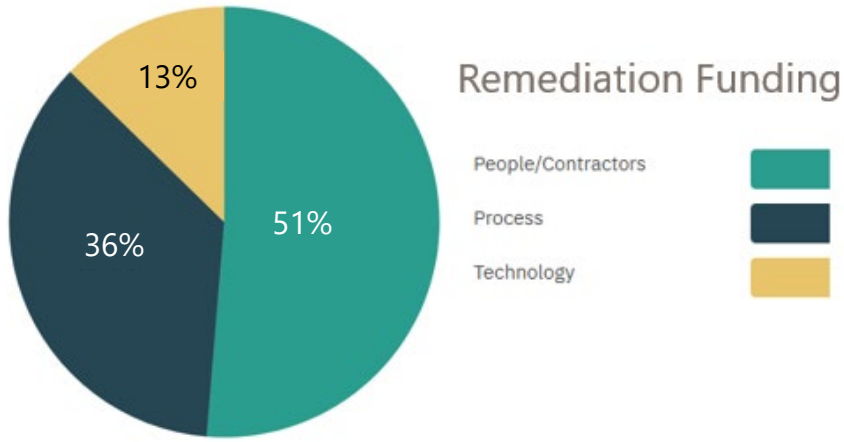
Vulnerability Remediation

Last Biennium NDIT was appropriated $1 million dollars to reduce vulnerabilities. There were three areas where this funding was used. People, Process, and Technology

People – Engaged contractor resources to patch vulnerabilities in applications developed or maintained by NDIT for our agency customers.

Process – Partnered with Guidehouse to continue enhancing the state's vulnerability management program.

Technology – Identified and procured technologies designed to accelerate the remediation of vulnerabilities.

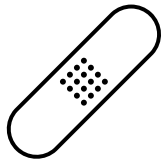


Progress and Challenges

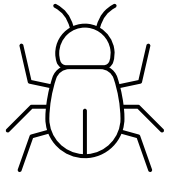
Vulnerabilities

A vulnerability is a weakness, flaw, or shortcoming in a system, infrastructure, database, software, process, or set of controls that can be exploited by a threat actor.

Progress

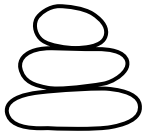


596k system vulnerabilities patched in 2024

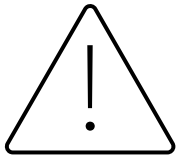


326 application vulnerabilities remediated

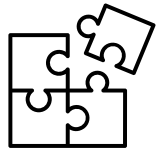
Challenges



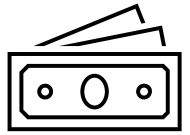
40,000 new and unique vulnerabilities published in 2024



Legacy technology (tech debt) complicates remediation efforts



Third-party software we don’t control



Some agencies lack funding for updating applications or hardware

Vulnerability Program/Process Maturity

We are here

Phase 1
Current State

- Manual process to determine remediation prioritization
- Funding for fixing critical vulnerabilities not defined
- Risk acceptance & exceptions not formalized from agencies

Phase 2
Design Program

- Establish Cyber Risk Board to determine remediation path for critical vulnerabilities
- Risk-based prioritization of vulnerabilities
- Build formal exception process

Phase 3
Implement to State Agencies

- Information Security Officers to educate and align with agencies
- Robust reporting & follow-up on exceptions
- SAST: determine feasibility for future implementation

Proactively address vulnerabilities in reducing cyber risk to systems and citizen data

Static Application Security Testing (SAST)

What it does

- Static Application Security Testing (SAST) scans an application's source code during development to identify vulnerabilities
- Validates code as it is built, ensuring security issues are addressed before deployment

Why it matters

- **Reduces cost:** fixing vulnerabilities during development is significantly more cost-effective than after production
- **Lowers risk:** Identifying vulnerabilities before deployment reduces the likelihood of security incidents in production, protecting sensitive data and services.

Why we should fund it

- Decreases long-term costs by catching vulnerabilities earlier.
- Strengthens application security, reducing risk to critical systems.
- Provides the tools necessary to build secure, reliable applications, that citizens and agencies depend on.

Reactive Incident Response

Reactive Incident Response

Reactive incident response focuses on addressing and mitigating incidents after they have occurred, with the goal of restoring normal operations and minimizing damage

Cyber Operations works an average of **50,000** incidents per year.

Screen Connect	325 Hours	9+ FTEs
VPN Brute Force	480 Hours	18+ FTEs
Denial of Service	450 Hours	14+ FTEs
Log4J	1098 Hours	20+ FTEs
PowerSchool	350+ Hours	15+ FTEs

In-depth Analysis

In just one incident, Log4j, the NDIT team spent 27 weeks of work on remediation. During this time other critical work for agencies had to be slowed or delayed to prevent a reportable breach

North Dakota Health Information Network (NDHIN)

How NDHIN Works

ND Department of Health & Human Services

MAVEN (Electronic Lab Reporting)

Syndromic Surveillance

Immunization Registry

Autism Registry

Advanced Healthcare Directives Registry

Community Health Centers

47 CAH & Tertiary Hospitals

Patient Search

Clinical Document Repository

Clinical Data Repository

North Dakota Health Information Network

200+ Ambulatory Points of Care

Local PH Units

86 Pharmacies

Direct Secure Messaging

≈100K Messages Per Month

5,560 Active Clinical Portal User Accounts

eHealth Exchange

VA/SSA/DoD

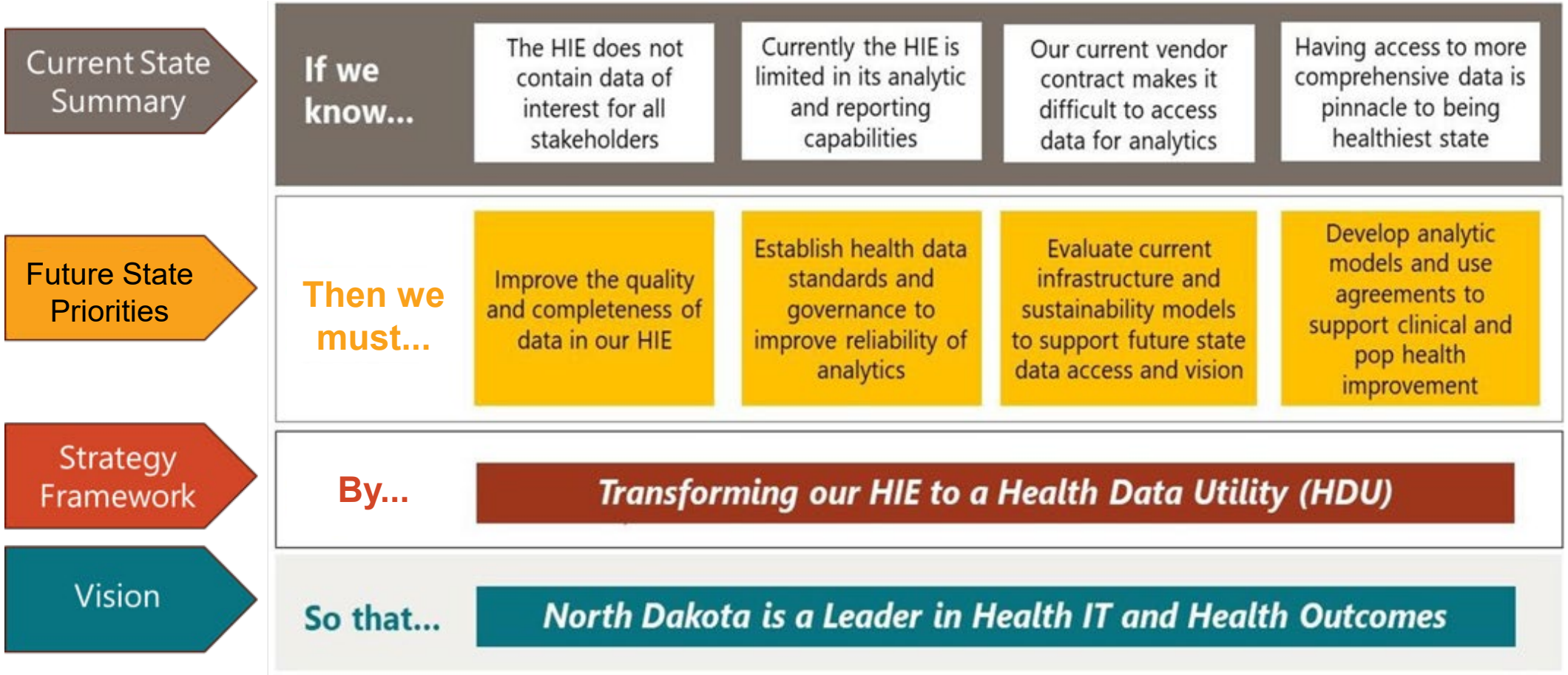
North Dakota PDMP

Payers Medicaid

Medicines Viewer

Data Submission

Future Target State

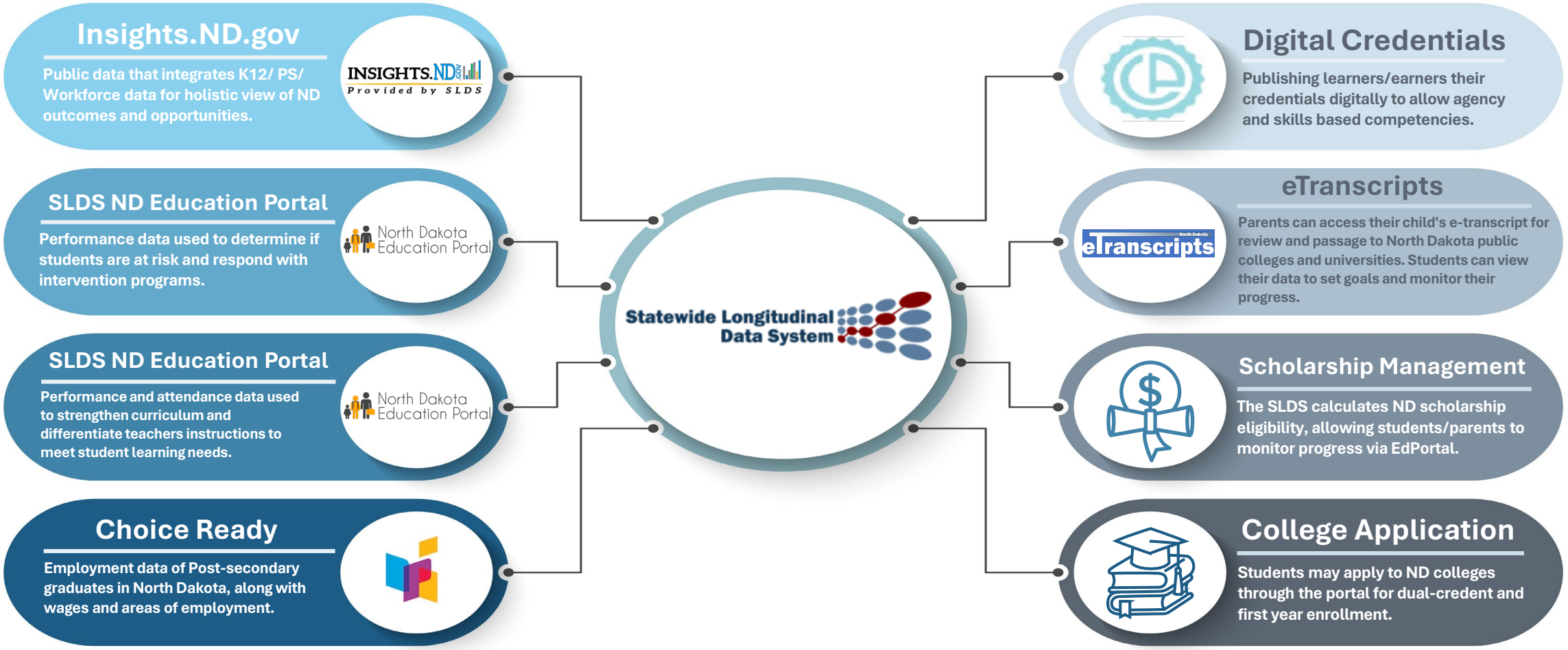


SLDS

What is the Statewide Longitudinal Data System

- The Statewide Longitudinal Data System (SLDS) leverages stakeholders and partners of education, training, and employment programs to create a system which provides data and services to support the research and evaluation of programs to improve the outcomes of individuals provided service.
- The SLDS is a series of secured data warehouses comprised of historical **education** and **workforce training data**. The objective of the SLDS is to provide data on the outcomes of ND education and workforce training programs.
- https://www.slds.nd.gov/

What is the Statewide Longitudinal Data System



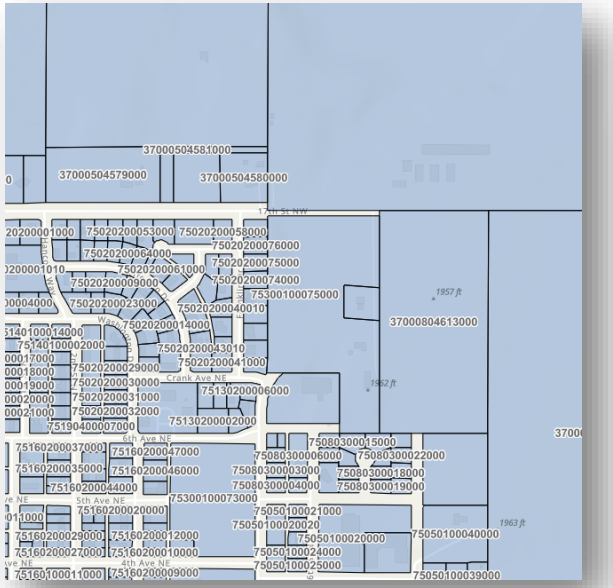
Geospatial

Geospatial Program

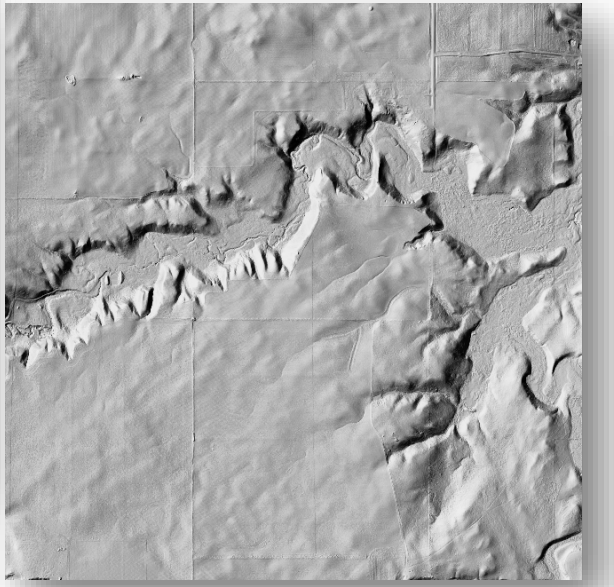
- The North Dakota Geospatial Program **reduces barriers** to the utilization of geospatial technology and geospatial data. This in turn, provides state agencies the opportunity for greater collaboration with other agencies, for more efficient **data-driven decisions**, and for improved **delivery of services** to other levels of government and to the citizens of North Dakota.
- The core of the State Geospatial Program is the GIS Hub which leverages the State's existing data and infrastructure to support state agency business processes including systems such as the **North Dakota Parcel Program**, the **Game and Fish Electronic Posting**, and **Next Generation 9-1-1**.

Geospatial Data Examples

Parcel Boundaries
(Counties & NDIT)

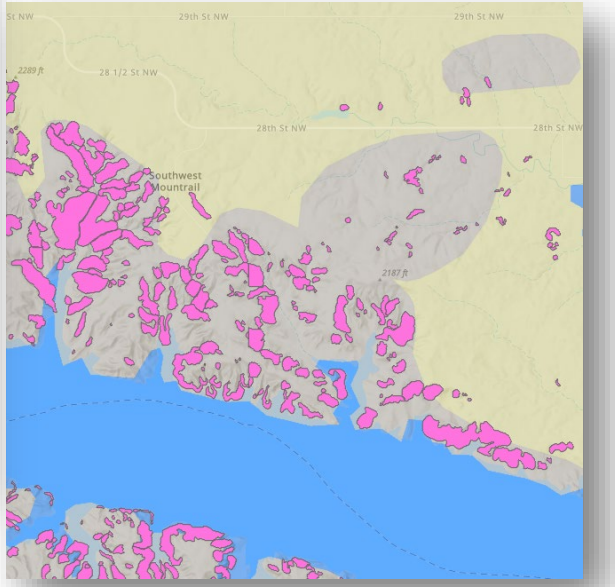


Elevation
(DWR & Partners)



Imagery
(USDA)

Landslides & Geology
(Geological Survey)



EduTech

Overview of EduTech

1990-1995
- Dial Up Service
- @sendit Mail
- Web hosting
- Teaching Practice
- Establish TECO Community

2009 - 2014
- Authority to build
- IES SLDS grant for K12

2010-12
- Workforce developed through a WDQI grant

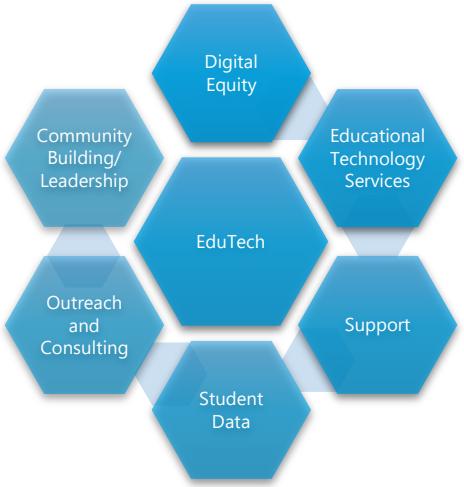
2012- 2016
- Higher Ed build
- IES Grant

2015 - 2022
- IES Grant for data utilization
- Dashboards and secured access for teachers

2015-2020
- Unification
- ETC dissolution
- Retire @sendit services
- High Octane/IgniteND
- PK20W Initiative
- STEM Education
- SETDA

2020-2025
- Computer Science/Cybersecurity Education
- ClassLink
- Cyber Madness
- Retire Web hosting
- Microsoft EES

2025-
- PowerSchool->Infinite Campus
- Digital Equity
- Artificial Intelligence
- CoSN



Improve Capacity and Equity

Reduce Technology Effort Required of K12 IT Leaders, Staff, Educators, and Students

Snapshot of Now and The Future

Professional Outreach

- 199 Topics
- 731 Engagements
- 11,700 attendees

- E-rate
  - State Application/STAGEnet
  - $6.7M to schools
- Skills for All
- Student Data User Group
- IgniteND Conference
- Cyber Madness
- Technology Showcase

Technical Services

- Identity Management
- Microsoft 365
- Microsoft EES Agreements
- ClassLink
  - 87 Districts
  - These cover 73% of students

Into the Future

- Artificial Intelligence
- Infinite Campus
- Training Management Application

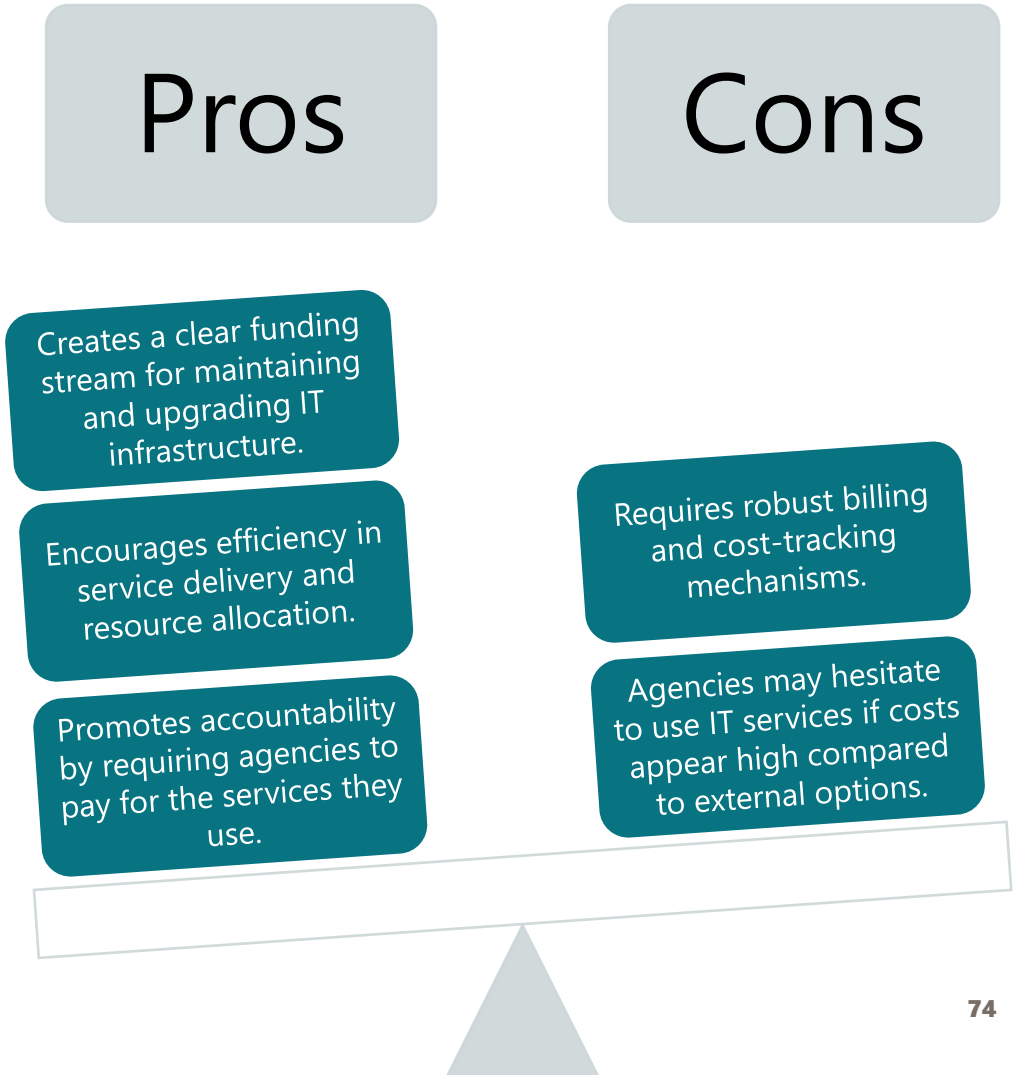
Community and Leadership

- Technology Coordinator Forum
- Statewide K12 Technology Town Hall
- SETDA
- CoSN
- PK20W

Budget Breakdown

Internal Service Fund (ISF)

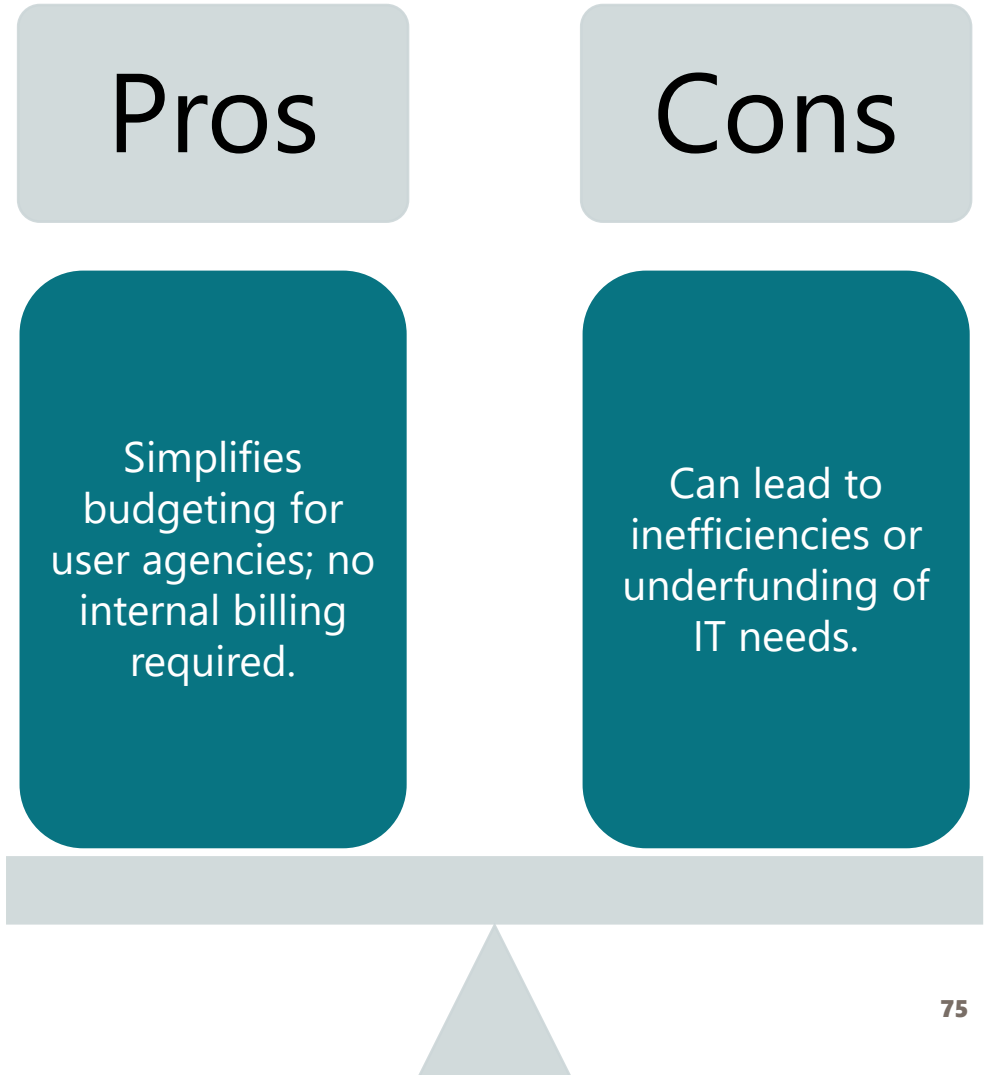
- **Definition:** ISFs are self-sustaining financial models used by government entities to deliver services to other agencies, with costs recovered through chargeback.



Alternative Models

- **General Fund Allocation:** IT services are funded through appropriations from the state's general fund, often making them appear "free" to the receiving agency.

- **Hybrid Models:** Some states use a combination of ISFs and direct appropriations, where certain core services are funded through the general fund and other services operate as ISFs.



Service Fee Timeline

January – April

2024

Do rate analysis

Set upcoming biennium rates

Publish rates to OMB/agencies

March – September 2024

State agency

IT Plan creation

June – September

2024

Agencies submit budgets

working with OMB budget analysts

December 2024

Governor's Executive Budget

January – April

2025

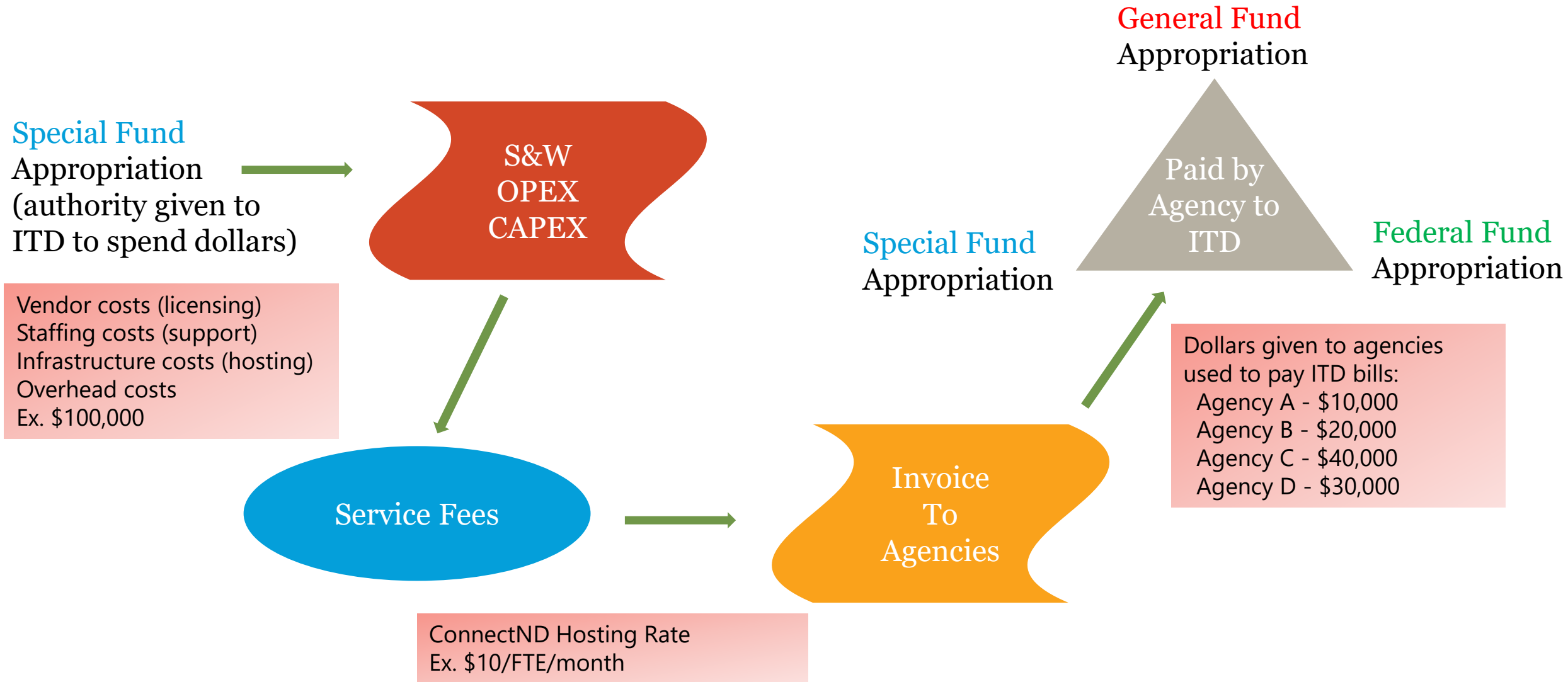
Legislative Session

Finalization of Agency Appropriations

July 2025 – June 2027

Biennium for which IT rates are used

Appropriation & Chargeback Example



Service Fee Example – Legislative IT Committee

What would a service fee for this committee look like?

<u>Assumptions:</u>
6 meetings during an interim
11 committee members
1 citizen member
2 support staff

What happens if you are directed to have 10 meetings?

What if it were an hourly rate per member?

Where does the cost of creating your Legislative Management report go?

Staffing:
- Portion of salaries/benefits for nine committee members
- Travel costs for nine committee members
- Any direct training needed to serve on the committee

Operational:
- Portion of contractor cost (CIO Mock)
- Portion of end user license costs (M365, Adobe, LC applications)
- Portion of end user equipment
- Cost of Harvest Room (includes technology within room)

Overhead:
- Portion of salaries/benefits for chairman/vice chairman (leadership)
- Portion of salaries/benefits for support staff

Billing metric could be a flat rate per meeting.

Budget breakdown

NDIT 2023-2025 Total Budget Appropriation (July 2023)					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,312,324	214,962,865	4,011,967	$ 242,287,156
Statewide Longitudinal Data System	3.0	5,082,678	-	500,000	5,582,678
EduTech	26.0	2,905,260	6,759,048	500,000	10,164,308
K-12 Network	4.0	6,272,610	90,000	-	6,362,610
Geographic Information System	1.0	1,142,213	-	65,679	1,207,892
Health Information Technology	4.0	2,000,000	6,742,111	-	8,742,111
Public Safety - (E911/SIRN)	1.0	1,858,240	16,543,229	-	18,401,469
Public Safety - (HB 1242)	0.0	-	20,000,000	80,000,000	100,000,000
Online Tax Portal Grant - (HB 1225)	0.0	300,000	-	-	300,000
IIJA Federal Funds	0.0	487,520	-	147,762,480	148,250,000
One-Time SIIF Funds	0.0	-	15,000,000	-	15,000,000
Total	**507.0**	$ 43,360,845	$ 280,097,253	$ 232,840,126	$ 556,298,224

Budget breakdown

NDIT 2023-2025 Budget Adjustments					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ (2,950,000)	(24,831,876)	(3,499,467)	$ (31,281,343)
Statewide Longitudinal Data System	3.0	(1,075,000)	-	-	(1,075,000)
EduTech	26.0	-	-	-	-
K-12 Network	4.0	-	-	-	-
Geographic Information System	1.0	-	-	-	-
Health Information Technology	4.0	-	(3,000,000)	-	(3,000,000)
Public Safety - (E911/SIRN)	1.0	-	(20,000,000)	(80,000,000)	(100,000,000)
Public Safety - (HB 1242)	0.0	-	-	-	-
Online Tax Portal Grant - (HB 1225)	0.0	(300,000)	-	-	(300,000)
American Rescue Plan Act	0.0	-	-	-	-
IIJA Federal Funds	0.0	(487,520)	-	(147,762,480)	(148,250,000)
One-Time SIIF Funds	0.0	-	-	-	-
Equity & Retirement Additions		2,869,980	5,802,948	-	8,672,928
Total	**507.0**	$ (1,942,540)	$ (42,028,928)	$ (231,261,947)	$(275,233,415)

Budget breakdown

NDIT 2025-2027 Legislative Base Budget					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,825,903	210,453,888	512,500	$ 234,792,291
Statewide Longitudinal Data System	3.0	4,125,661	-	500,000	4,625,661
EduTech	26.0	2,738,726	7,110,100	500,000	10,348,826
K-12 Network	4.0	5,825,668	90,000	-	5,915,668
Geographic Information System	1.0	1,044,107	-	65,679	1,109,786
Health Information Technology	4.0	2,000,000	3,822,725	-	5,822,725
Public Safety - (E911/SIRN)	1.0	1,858,240	16,591,612	-	18,449,852
Total	**507.0**	$ 41,418,305	$ 238,068,325	$ 1,578,179	$ 281,064,809

Budget breakdown

NDIT Decision Packages - 2025-2027 Biennium					
Package	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
#4 - Vulnerability Remediation	0.0	$ -	$ 3,042,960	$ -	$ 3,042,960
#5 - Public Safety	6.0	$ 209,520	$ 1,968,491	$ -	$ 2,178,011
#6 - Vendor Toolset Increases	0.0	$ 5,133,174	$ 265,447	$ -	$ 5,398,621
#8 - Continuing Appropriations	0.0	$ -	$ (99,168,477)	$ -	$ (99,168,477)
#11 - Inflationary Increases	0.0	$ 2,841,715	$ (1)	$ -	$ 2,841,714
#12 - Health Information Program	0.0	$ -	$ 8,182,968	$ -	$ 8,182,968
#14 - EduTech Program Funding	0.0	$ -	$ 411,793	$ -	$ 411,793
#15 - Data Center Infrastructure	0.0	$ -	$ 1,719,061	$ -	$ 1,719,061
Total Budget Changes	**6.0**	$ 8,184,409	$ (83,577,758)	$ -	$ (75,393,349)

Contains One Time SIIF Funds

Budget breakdown

NDIT 2025-2027 Budget Request	
Salaries and wages	$133,205,976
Operating expenses	24,266,840
Capital assets	1,820,096
Statewide longitudinal data system	4,140,379
Edutech	10,171,629
K-12 wide area network	6,849,648
Geographic information system	1,164,918
Health information technology office	12,568,304
Statewide interoperable radio network	15,610,989
Total all funds	$209,798,779
Less other funds	157,745,164
Total general fund	$52,053,615
Full-time equivalent (FTE) positions	513

New/Vacant FTE Pool

FTE Pool Calculation	Budget Reduction	Amount in NDIT Pool	Appropriation Reduction
75% of vacant FTE - Special	7,450,404	5,587,803	(1,862,601)
75% of vacant FTE - General	1,469,030	1,101,773	(367,258)
90% of new FTE - Special	2,967,987	2,298,667	(669,320)
90% of new FTE - General	1,998,699	1,725,377	(273,322)
Total	**13,886,120**	**10,713,620**	**(3,172,501)**

	Vacant FTE Pool Calculation
Salaries Permanent	91,481,377
Benefits (30%)	27,444,413
Total Salary Base Calculation	118,925,790
Vacancy Rate Assigned	7.5%
Vacant FTE Budget Reduction	**8,919,434**
New FTE Budget Reduction	**4,966,686**
	13,886,120

Combined New FTE / Vacant FTE pool					
	New FTE - GF	**New FTE - SF**	**Vacant FTE - GF**	**Vacant FTE - SF**	**Total**
Appropriaton Reduction	1,998,699	2,967,987	1,469,030	7,450,404	13,886,120
Pool Redcution	(273,322)	(669,320)	(367,258)	(1,862,601)	(3,172,501)
FTE Pool Available	**1,725,377**	**2,298,667**	**1,101,772**	**5,587,803**	**10,713,619**
Requests:					
July 1, 2023 Vacants			1,333,118	3,786,479	5,119,597
New FTE	1,121,088	1,138,682			2,259,770
Pending Request	*87,969*				*87,969*
Total Pool Requests	1,209,057	1,138,682	1,333,118	3,786,479	7,467,336
Balance Remaining	**516,320**	**1,159,985**	**(231,346)**	**1,801,324**	**3,246,283**

NEW FTE POOL POSITIONS

New FTE Pool

Position	Budget Amount	New FTE Pool Request	Position filled date
General Fund Positions			
Information Services V, Grade 207	*283,986*	*87,969*	*Dec-24*
Information Services I, Grade 203	138,787	52,045	Oct-24
Manager II, Grade 107	268,434	163,950	Jun-24
Information Services VI, Grade 208	250,054	250,713	May-24
Information Services IV, Grade 206	237,318	175,000	Apr-24
Professional Services III, Grade 107	250,908	207,226	Mar-24
Information Services V, Grade 207	320,289	272,154	Jan-24
General Fund Total	**1,749,776**	**1,209,057**	
Special Fund Positions			
Program Management III, Grade 106	268,430	111,846	Sep-24
Information Serivices III, Grade 205	190,641	71,490	Oct-24
Information Services IV, Grade 206	276,723	142,413	Jun-24
Information Services IV, Grade 206	216,575	118,421	Jul-24
Information Services I, Grade 203	138,787	87,399	Jun-24
Information Services IV, Grade 206	190,646	137,113	Jul-24
Information Services IV, Grade 206	237,318	135,000	May-24
Program Management III, Grade 106	229,540	165,000	Apr-24
Manager II, Grade 107	294,358	170,000	Jun-24
Special Fund Total	**2,043,018**	**1,138,682**	
New FTE Pool Total	**3,792,794**	**2,347,739**	

VACANT FTE POOL POSITIONS

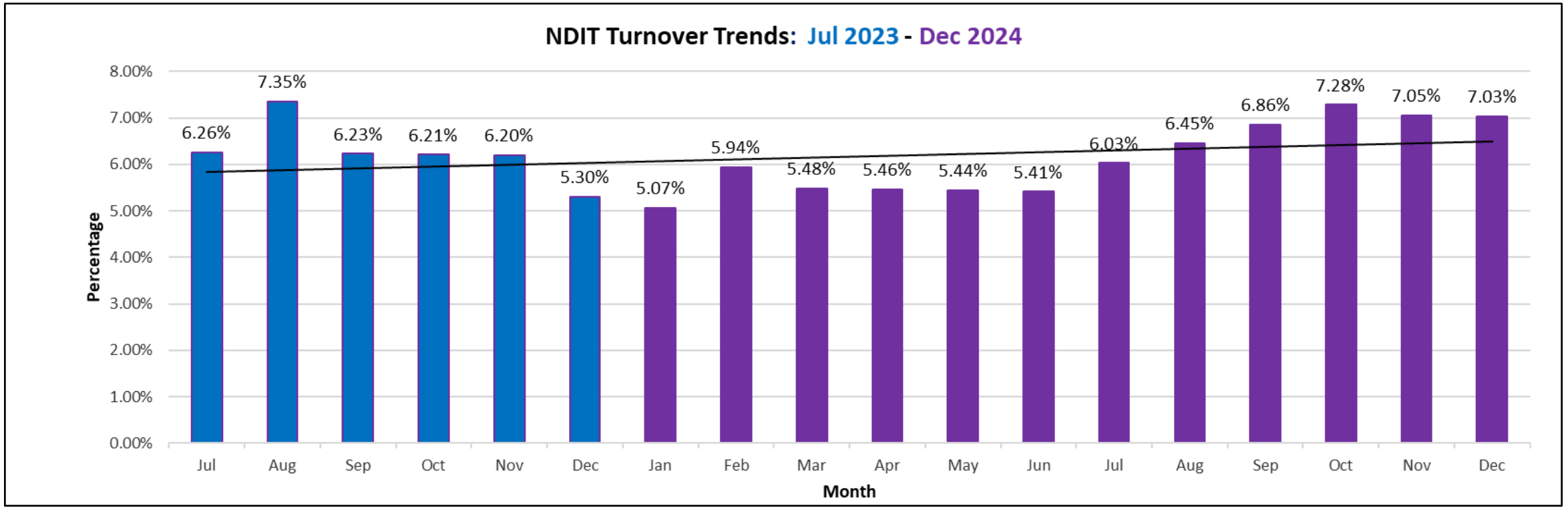
Vacant FTE Pool				
Position	Budget Amount	Vacant FTE Pool Request	Position filled date	Position vacated date
General Fund Positions				
Manager II, Grade 107	145,300	86,914	Nov-24	Jun-22
Information Services IV, Grade 206	199,853	137,645	Mar-24	Apr-22
Professional Services III, Grade 107	247,654	226,139	Nov-23	Dec-22
Information Services III, Grade 205	237,568	181,355	Aug-23	Feb-23
Information Services III, Grade 205	233,464	203,166	Jul-23	Mar-23
Information Services IV, Grade 206	295,192	192,600	Jul-23	Jul-22
Manager II, Grade 107	186,328	305,300	Jul-23	Apr-21
General Fund Total	**1,545,359**	**1,333,118**		
Special Fund Positions				
Information Services V, Grade 207	267,389	95,594	Nov-24	Apr-23
Information Services IV, Grade 206	269,895	155,000	Apr-24	Mar-23
Information Services IV, Grade 206	280,880	135,000	May-24	Jun-23
Information Services II, Grade 204	183,896	111,675	Mar-24	Mar-23
Information Services IV, Grade 206	280,911	170,400	Jan-24	Jun-23
Manager II, Grade 107	232,471	259,969	Dec-23	May-23
Information Services V, Grade 207	377,867	222,362	Dec-23	Jun-23
Manager II, Grade 107	185,597	245,071	Dec-23	Jul-21
Information Services IV, Grade 206	211,627	233,155	Nov-23	Jun-23
Profesional Services II, Grade 106	256,471	157,216	Nov-23	May-23
Information Services III, Grade 205	201,789	158,885	Nov-23	Mar-23
Profesional Services II, Grade 106	219,838	185,121	Nov-23	Nov-21
Information Services III, Grade 205	197,964	164,450	Sep-23	Aug-22
Professional Services III, Grade 107	227,113	206,080	Aug-23	May-23
Information Services IV, Grade 206	211,790	293,400	Jul-23	Apr-23
Information Services IV, Grade 206	205,379	195,040	Aug-23	Jul-22
Information Services III, Grade 205	260,420	215,400	Jul-23	Jun-23
Analyst IV, Grade 106	221,245	240,580	Aug-23	Jan-23
Manager III, Grade 108	204,899	342,080	Aug-23	Mar-23
Special Fund Total	**4,497,441**	**3,786,479**		
Vacant FTE Pool Total	**6,042,800**	**5,119,597**		

Staffing

NDIT Talent

- 507 FTE
- Mixture of remote, hybrid and in-office
- Staff augmentation
- Apprentice roles

Biennium Turnover



NDIT Retirement Statistics

Years to meet Rule of Eligibility	Total Employees			Management			Non-management		
	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %
Currently Eligible	49	10.32%	10.32%	6	1.26%	1.26%	43	9.05%	9.05%
0-3 years	39	8.21%	18.53%	3	0.63%	1.89%	36	7.58%	16.63%
3.1 - 5 years	23	4.84%	23.37%	4	0.84%	2.74%	19	4.00%	20.63%
5.1 - 10 years	69	14.53%	37.89%	17	3.58%	6.32%	52	10.95%	31.58%
10.1 - 15 years	80	16.84%	54.74%	12	2.53%	8.84%	68	14.32%	45.89%
15.1 - 20 years	70	14.74%	69.47%	10	2.11%	10.95%	60	12.63%	58.53%
20.1 - 25 years	72	15.16%	84.63%	9	1.89%	12.84%	63	13.26%	71.79%
25+ years	73	15.37%	100.00%	0	0.00%	12.84%	73	15.37%	87.16%
Total	475	100.00%		61	12.84%		414	87.16%	

*Management includes all people managers

*Data as of 12/24

Recruitment: 2024 in Review

- 78 Total Hires
- 50 External – from the market
- 6 Transfers
- 22 Promotions within NDIT

Recruitment: What's Going Well

- Applicant pools for remote, entry level and mid level roles are robust
- Applicants for these roles often exceed qualifications
- Early career roles in Bismarck/ND: smaller pools but we have qualified applicants, thus successful sourcing

Recruitment: Pain Points

- Highly skilled/niche roles in ND
  - Small or no applicant pools
  - Cannot afford talent in the marketplace
  - Unable to match salaries & benefits in private sector
- Highly skilled/niche roles remote
  - Quantity over quality
  - Upon interview, many do not have level of knowledge expected/needed

What We're Working On

- People-first culture
  - Culture Roots train-the-trainer: Behavior-based leadership
- Workforce Planning
  - Knowledge management
  - Skills matrix/career pathing

Section Changes and Policy Bills

Appropriation Carryover Authority

- Add sections to SB 2021 for the following projects in flight:
  - Statewide Interoperability Radio Network (SIRN)
  - Capitol Security
  - Governance Risk & Compliance (statewide data strategy work)
  - Business Gateway
  - Enterprise Digitization (modernization work)
  - Broadband, Equity, Access and Deployment (BEAD / DE)
- Add ability to transfer funds from HIN Loan Fund to operating

Policy Changes

- Agency sponsored policy changes
  - Change to Statewide Project Plan-SB2048
  - Change to Executive Steering Committee make up-SB 2049

- Legislator sponsored policy changes
  - HB 1265

Appendix

NORTH Dakota

Acronyms and Definitions

- **BAND** - Broadband Association of ND
- **Data governance** is the process of ensuring that data is accurate, secure, and used responsibly. It involves setting rules and responsibilities so everyone knows how to handle data properly and how to protect it.
- **EA** - Enterprise Architecture- the process by which organizations standardize, organize and develop roadmaps for IT infrastructure and applications to align with and facilitate the achievement of business goals and objectives.
- **Low Code-** is a software development approach that requires minimal hard-coding, allowing users to create applications and workflows through visual interfaces, drag-and-drop components, and pre-built templates. It is designed to simplify and speed up the development process, making it accessible to both professional developers and non-technical users (often referred to as "citizen developers").
- **SIRN** - Statewide Interoperable Radio Network
- **SLDS** - Statewide Longitudinal Data System
- **TBP** - Technology Business Partner knows the customer, their business, their technology, where they want to go and what is coming over the horizon.
- **Tech Debt**-happens when quick fixes or older systems are used instead of long-term, efficient solutions. While these choices might save time or money upfront, they eventually lead to more maintenance, slower systems, and higher costs to fix or replace.

Geospatial Acronyms and Definitions

- **Geospatial** - catch-all term for range of tools used for mapping and analysis
- **GIS** - Geographic Information Systems (e.g., the GIS Hub)
- **SGC** - State Geospatial Committee
- **Next Generation 911** - internet-based 911 system that requires GIS layers such as address points and emergency service boundaries
- **NDIT** - ND Information Technology
- **NDGF** - ND Game and Fish
- **NDDES** - ND Department of Emergency Services
- **Web services** - internet-based delivery of data
- **Parcel** - property boundary with associated information such as landowner

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Human Resources Division
Harvest Room, State Capitol

SB 2021
1/20/2025

A Bill for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

2:38 p.m. Chairman Dever called the meeting to order.

Members Present: Chairman Dever, Senators Cleary, Davison, Magrum and Mathern

Discussion Topics:

- Vulnerability Remediation
- Progress & Challenges
- State & Local Intelligence Center (SLIC)
- Chinese-made Drones
- Vulnerability Program
- Static Application Security Testing (SAST) Implementation
- Reactive Incident Response
- Call Center Product
- Capitol Security/Wiring
- Enterprise Architecture - Digital Maturity
- The Output - Refresh, Retain, Retire, Review
- Legacy Systems Analyst Project
- Keys to AI Success In North Dakota
- Data Center Plan
- Statewide Interoperable Radio Network (SIRN)
- SIRN Future Milestones
- SIRN Financial Update
- Intelligent Transportation Systems
- Broadband Programs - BEAD/DE/CPF
- Staffing
- Apprentice Roles
- Biennium Turnover
- Retirement Statistics
- 2024 Recruitment in Review
- Section Changes & Policy Bills
- Budget Breakdown - NDIT Decision Packages -2025-2027 Biennium
- New Vacant FTE Pool
- New FTE Pool Positions
- Vacant FTE Pool Positions
- Digital Experience - Gateway Project
- Section Changes and Policy Bills
- Appropriation Carryover Authority

2:42 p.m. Chris Gergen, Director of Cyber Operations, NDIT, testified in favor and continued testimony #29706.

3:14 p.m. Craig Felchle, CTO, NDIT, testified in favor and continued testimony #29706.

3:46 p.m. Shelly Miller, COS, NDIT, testified in favor and continued testimony #29706.

3:59 p.m. Greg Hoffman, Deputy CIO, NDIT, testified in favor and continued testimony #29706 and submitted testimony # 30305.

4:24 p.m. Corey Mock, CIO, NDIT, testified in favor and continued testimony #30305.

4:33 p.m. Chairman Dever adjourned the meeting.

Joan Bares, Committee Clerk

Inflationary Increases 2025-2027

Inflationary Increases - Fund 001

	2023-2025	2025-2027
Operating Expenses		
Licensing & Support	$ 1,750,000.00	$ 1,876,465.000
Professional Fees & Services	$ 500,000.00	$ 536,250.000
K12 Wide Area Network		
Equipment	$ 250,000.00	$ 268,125.000
Hardware Support	$ 50,000.00	$ 53,625.000
Geographic Information System		
Licensing & Support	$ 70,000.00	$ 75,075.000
Professional Fees & Services	$ 30,000.00	$ 32,175.000
	$ 2,650,000.00	$ 2,841,715.00

Health Information Revenue Breakdown

Revenue Sources - Health Information Network

$643,221.00	General Funds
$1,793,609.00	SIIF One Time Funds
$1,570,000.00	Participation Fees
$3,000,000.00	Transfer from HIT Loan Fund
$5,561,474.00	Federal CMS Funding
$12,568,304.00	

Package #12 - Health Information Program

$1,793,609.00	SIIF One Time Funds
$3,000,000.00	Transfer from HIT Loan Fund
$3,389,359.00	Federal CMS Funding
$8,182,968.00	

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Human Resources Division
Harvest Room, State Capitol

SB 2021
1/28/2025

A Bill for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

2:10 p.m. Chairman Dever opened the hearing.

Members Present: Chairman Dever, Senators Cleary, Davison, Magrum and Mathern

Discussion Topics:

- Budget Proposal
- Vacant Positions Funding
- Broadband Equity Access and Deployment **(**BEAD) Funding
- Statewide Interoperable Radio Network (SIRN) Funding
- EduTech Funding
- EduTech Special Funds - Power School
- Funding Models Exploration

2:10 p.m. Levi Kinnitschtzke, Senior Fiscal Analyst, LC, submitted testimony (long sheet) #33762.

2:20 p.m. Corey Mock, CIO, NDIT, testified in favor and submitted testimony #32222.

2:20 p.m. Greg Hoffman, CIO, NDIT, testified in favor and continued testimony #32222.

2:30 p.m. Larry Martin, Fiscal Management Analyst, OMB, referred to long sheet #33762.

2:30 p.m. Greg Hoffman, CIO, NDIT, testified in favor and continued testimony #32222.

2:35 p.m. Levi Kinnitschtze, Senior Fiscal Analyst, LC, referred to long sheet #33762.

2:54 p.m. Craig Felchle, CTO, NDIT, testified in favor and continued testimony #32222.

3:22 p.m. Greg Hoffman, CIO, NDIT, testified in favor and continued testimony #32222.

3:58 p.m. Chairman Dever adjourned the meeting.

Joan Bares, Committee Clerk

SENATE APPROPRIATIONS COMMITTEE

JANUARY 28, 2025
HARVEST ROOM

NORTH Dakota | Information Technology

Be Legendary.

Agenda

- Budget Proposal
- Vacant Positions
- BEAD Funding
- SIRN
- EduTech

Budget Breakdown

Armstrong Budget Recommendation

REVISED EXECUTIVE BUDGET RECOMMENDATION
2025-27 BIENNIUM

Budget Summary

	FTE Positions	General Fund	Other Funds	Total
Burgum budget recommendation	528.00	$123,294,308	$148,093,230	$271,387,538
Revisions - Increase (decrease)	(15.00)	(69,897,085)	16,836,203	(53,060,882)
Armstrong budget recommendation	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**
Base level	507.00	41,418,305	239,646,504	281,064,809
Increase (decrease)	6.00	$11,978,918	($74,717,071)	($62,738,153)
Percentage increase (decrease)	1.2%	28.9%	(31.2%)	(22.3%)

Vacant Positions

Vacant Positions – December 2024

Position number 00010251, Data Governance Lead – Filled 1/6/2025
Position number 00028732, intended to be Data Architect (new role for NDIT)

- Advertised in 2023 but not filled due to CDO transition
- Expected to be filled Q1 2025

Position number 00000392, intended to be Data Platform Architect (new role for NDIT)

- Unfilled while statewide data strategy and implementation roadmap was determined
- CDO transitions in 2021 and 2023 contributed to delay in hiring
- Expected to be filled Q1 2025
- All three positions are part of current vacant pool, no funding for NDIT until filled

9 new positions are still in the hiring process, 4 of which are Apprentices

- All nine positions are part of current vacant pool, no funding for NDIT until filled

26 positions currently vacant, average of 3.25 months open

Broadband (CPF, BEAD, and DE)

BroadbandND

	BEAD	DE	CPF
Source	National Telecommunications and Information Administration	National Telecommunications and Information Administration	Treasury
Programs	**Broadband Equity, Access, & Deployment** Funds broadband deployment to unserved and underserved areas	**Digital Equity Act** Establishes three grant programs that promote digital equity and inclusion	**Capital Projects Fund** Funds critical capital projects, including broadband infrastructure
Eligible Expenditures	• Deploying broadband infrastructure • Broadband planning and data collection • Advancing digital adoption	• Promoting digital inclusion • Enhancing digital literacy and skills • Facilitating affordable and equitable access	• Broadband infrastructure projects • Digital connectivity technology projects • Multi-purpose community facility projects
Allocation	**$130.2M**	**$4.5M+**	**$37.3M**
Estimated Implementation Timeline	**2024 - 2030**	**2024 - 2029**	**2023 - 2026**

The State Broadband Program Office has launched the first round of the subgrantee selection process

BEAD

Initial Proposal | Challenge Process | Subgrantee Selection | Final Proposal / Implementation

1. Finalize Initial Proposal:
Fall 2023

2. Conduct Public Comment Period:
Fall 2023

3. Submit Initial Proposal to NTIA:
Winter 2023

4. Conduct Challenge Process:
Spring 2024 - Summer 2024

We are here

5. Competitive Subgrantee Selection Process:
Fall 2024 – Spring 2025

6. Develop Final Proposal:
Summer 2025

7. Conduct Public Comment Period:
Summer 2025

8. Submit Final Proposal:
Summer 2025

9. Ongoing Monitoring, Reporting, and Performance Management:
Fall 2025 – Onwards

Projects funded by CPF are working to address infrastructure needs, with $37.3M to be deployed by 2026

CPF

$37.3 Million Committed[1]
- $2.5M Expended
- $34.8M Remaining

11 Projects Awarded
- 2 completed
- 9 underway

~2,150 BSLs Funded
- ~1.9k Residences
- ~250 Businesses

7 Participating ISPs

Red River Communications, Nemont, NCC, MLGC, HTC, WRT, polar

Organization	BSLs	Project Status	Completion Date[2]
NCC	64	Completed	Q4 2023
Nemont	45	Completed	Q4 2024
West River	47	Near Completion	Q4 2024
Halstad	221	< 50%	Q4 2024
Polar Walsh	318	< 50%	Q4 2024
Polar Grand Forks	394	Not Started	Q4 2024
Polar Traill/Steele	218	< 50%	Q4 2024
Red River	323	> 50%	Q4 2024
MLGC Cass	80	< 50%	Q4 2025
MLGC Steele	146	< 50%	Q4 2025
Nemont/MVC	291	Not Started	Q4 2026

[1] The total CPF allocation is $38.7M. $37.3M represents the project grants.
[2] Construction completion dates based on Q3 P&E Report projections

The State Broadband Program Office is refining proposed Digital Equity projects

DE

Compiling Digital Resources

NDIT will conduct a scan of all Digital Equity resources available across the state to create a single formalized inventory.

Outputs

- ❑ Physical and Online Inventory of Digital Equity Resources

Adjusting Digital Resources

NDIT will provide funding to organizations and state agencies to expand and/or adjust existing DE programs and resources to better reach covered populations.

Outputs

- ❑ Adjusted content / increased volume of Digital Equity resources

Advancing Cybersecurity

NDIT will collaborate with North Dakota carriers and cybersecurity experts to develop requirements and launch a cybersecurity certification program at CyberCon.

Outputs

- ❑ Cybersecurity certification program

BEAD activity related to the Presidential Administration Change

New Appointments

- New Acting **Commerce Secretary**, Howard Lutnick, has confirmation hearing scheduled for Wednesday.
- Commerce's Senate Oversight Committee will be chaired by Ted Cruz (R-Texas), who issued a public statement in support of the Commerce nominee.
- Currently the chairman and CEO of financial services firm Cantor Fitzgerald and global brokerage company BGC Group
- Would be responsible for National Telecommunications and Information Administration **(NTIA) policy enforcement**
- A new NTIA Administrator has not yet been announced

Executive Orders

- While an Executive Order has temporarily suspended Inflation Reduction Act (IRA) and Infrastructure and Investment Jobs Act (IIJA) projects, the White House has confirmed **that no Executive Order impacted BEAD funding.**
- **Executive Order "Unleashing American Energy" (1/20/25): Section 7** requires agencies to immediately pause disbursement of funds appropriated under Inflation Reduction Act (IRA) of 2022 and Infrastructure Investment and Jobs Act (IIJA)
- **Memorandum of Understanding "Memorandum to the Heads of Departments and Agencies" M-25-11 (1/21/25):** Clarifies that this pause only applies to funds supporting programs, projects, or activities related to **"Terminating the Green New Deal" (section 7)** and references to it in U.S. policy **(section 2)**

SIRN

Send and Close
Reset
Exit
Unit
Unit Type
Coverage
Recruit
Code
Portable
Type
Telephone No.
Officer/Passenger
Password
Radio OK
MDT OK
Em. Kit
Receive copies of dispatches for these coverage areas
Fuel
Tires
Mileage
Oil
Radio ID
Vehicle Number
Light OK
Capabilities
Vehicle Condition
Remarks
The unit ID

What is SIRN building?

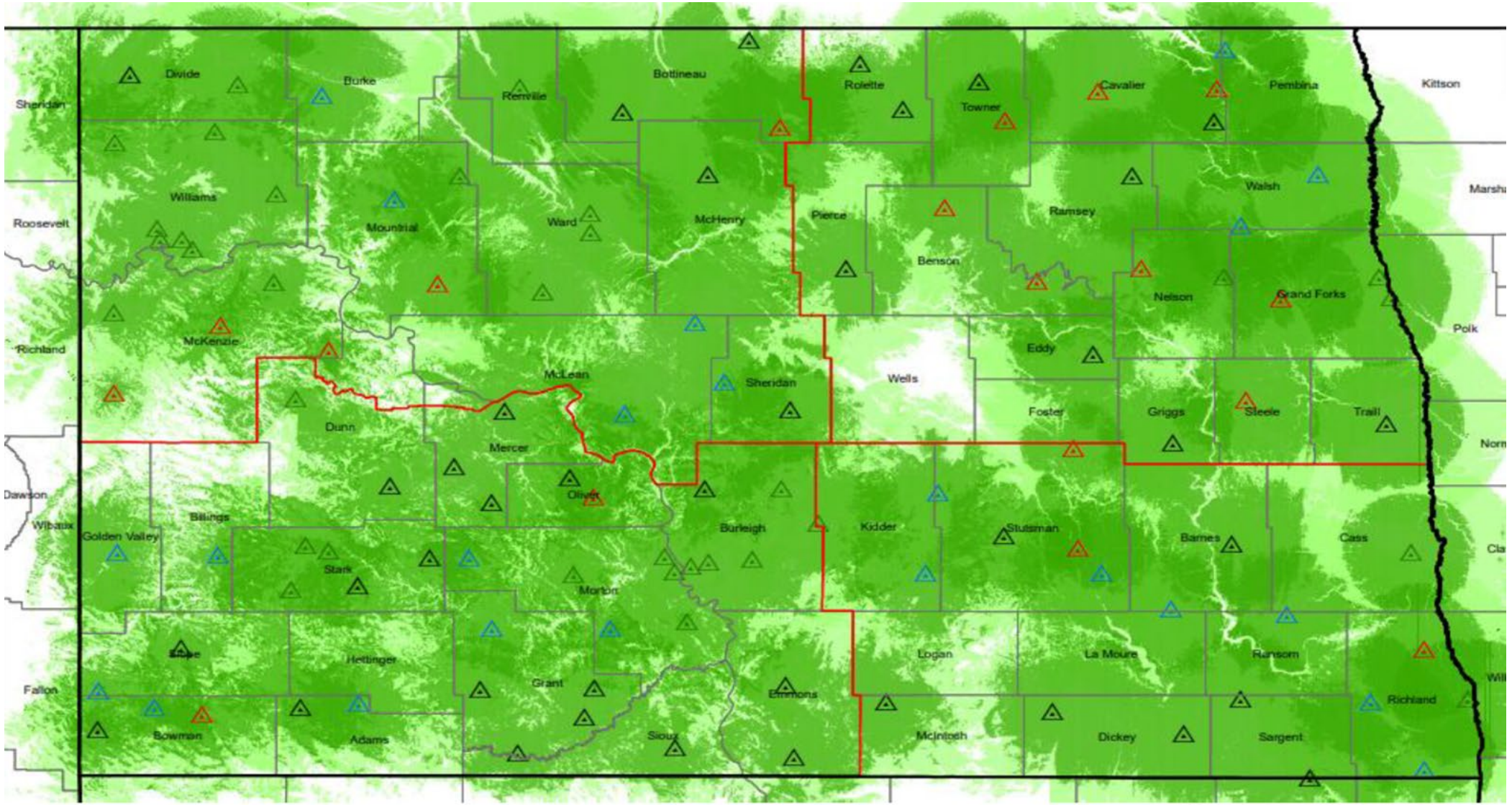
SIRN

SOLUTION

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

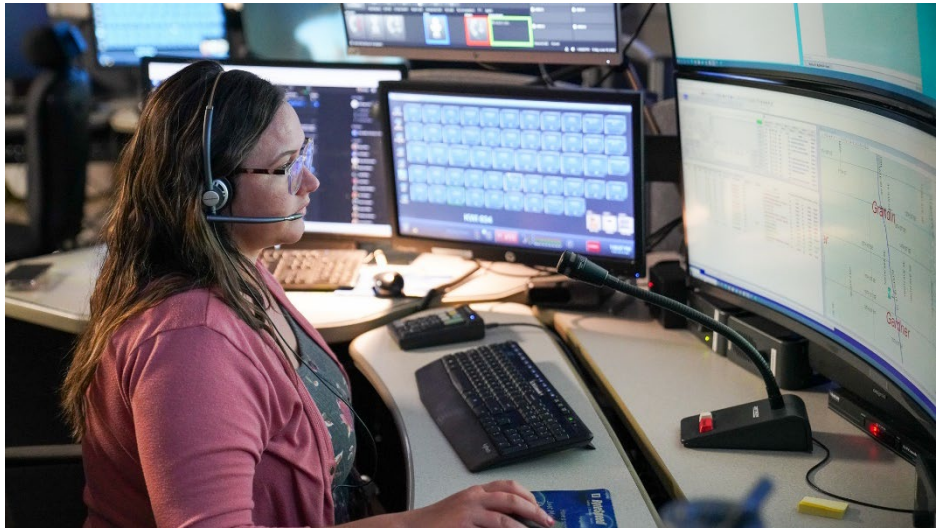
- Shared Infrastructure Utilized by All Public Safety Users
- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System
- Guaranteed Coverage
  - 95% Mobile Coverage / 95% Reliability
  - 85% Portable Coverage / 95% Reliability
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years

Project Maps



Latest Milestones

- **Law Enforcement Encryption** researched and statewide implementation in progress
  - Over the Air Rekeying in use
- **Radio Management** implemented
  - Over the Air Programming in regular use
  - More than 4000 radios entered



- **NDIT Public Safety Team** fully developed and SIRN responsibilities identified and assigned

- **Continued Tower Completions**
  - 72 complete
    - 33 currently in use
    - 39 not currently in use
  - 10 in civil construction phase
  - 2 awaiting radio equipment
  - 28 awaiting final site work
  - 28 remaining

Future Milestones

- Finish remaining tower buildouts
- Transition remaining PSAPs and agencies
- Begin project closeout activities

2026

2025

2027

- Continued tower buildouts
- Transitions additional PSAPS as coverage allows
- Implement Status Board and Cirrus Central

- Complete project closeout (decommission and surplus VHF system components, take down original state-owned towers, divest/surplus purchased towers not needed for SIRN, fully transition to operational status)

Financial Update

Operating Expenses	25-26	26-27
Connectivity & Equipment	2.7M	2.8M
Towers	1.1M	1.2M
Labor (Additional Resources)	1.7M	1.8M
Vendor Maintenance	3.3M	3.3M
NDIT Program Expense*	**8.8M**	**9.1M**
DOT Expense (+1 Additional Resource)	1.6M	1.6M
Total Expense	**10.4M**	**10.7M**
911 Fee Revenue	4.5M	4.5M
Shortfall**	5.9M	6.2M

Cash Flow	
911 Fee Balance	~21.9M
Est Rev 23-25 Remaining Biennium	~2.2M
Total Revenue	**23.9M**

*Expenses are projected. New operational contracts and project decisions are still impacting the long-term operational expense.

SIRN Operations Expenses

Operating Expenses	FY 23	FY 24	*FY 25
Operations Expense	4.4M	3.1M	6.1M

*Expenses for remainder of biennium are projected based on operational estimates

- **Growth in Operational Funding**
  - As towers are put into production, operational expense will go up per tower
  - Additional Sourcing Contracts/Sourcing Expense
  - DOT Funding Changes
  - Equipment Purchases
  - Labor Impacts of New Positions
    - Transitioning from project to ops
  - Training
  - Large Equipment Replacements
    - 2033-2034 – Planning for a large equipment replacement

EduTech

EduTech General Funds

	14.5 FTE	2 2021-23 Biennium Expenditures	3 2023-25 Biennium Appropriations	4 2025-27 Base Budget Request	5 2025-27 Optional Budget Changes	6 2025-27 Total Budget Request
Total: Edu Tech General Funds		$2,844,598.00	$2,905,259.90	$3,325,792.00	$0.00	$3,535,424.00

EduTech Leadership
EduTech Program Manager
Enterprise Collab Admin
EduTech Support Team
UX Designer
System Admin
E-Rate Coordinator
Technology Outreach Manager

EduTech Training Team
Learning & Outreach Team Lead
IT Education & Consult Spec
IT Education & Consult Spec
IT Education & Consult Spec
IT Education & Consult Spec
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EduTech Special Funds

		2	3	4	5	6
		2021-23 Biennium Expenditures	2023-25 Biennium Appropriations	2025-27 Base Budget Request	2025-27 Optional Budget Changes	2025-27 Total Budget Request
	Total: Edu Tech Special Funds	$1,179,284.72	$1,125,310.10	$1,125,311.10	$67,000.00	$1,210,740.10

- Serve approximately 124,000 students in any given year
- Serve approximately 23,000 adult users (administrators, teachers and non-certified staff)

- Revenue generating work by EduTech
  - CYBER.org
  - NDDPI
  - code.org
  - BSC
  - Center for Distance Education
  - Microsoft
  - ND Rural Education Associations and members
  - ND University Systems and members

EduTech Services

- EduTech delivers professional learning to certify teachers and enable them to prepare students for the computer science and cybersecurity graduation requirements of HB1398.
- EduTech also prepares teachers and administrators in areas of:
  - STEM
  - Artificial Intelligence
  - Technology Curriculum Integration
  - Skills for All [available to all ND residents]
  - Standardized Testing
  - General Educational Technology Capacity
  - Individualized instruction
  - E-rate

- $45/attendee (up to 4 hrs.) regular outreach
- $90/hr. consulting
- $250/hr. presentations
- Flat fee deliverable statements of work

Misc. Program Revenue	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025*
	263,049.80	216,689.36	216,197.25	509,872.45	346,709.40	271,881.16

*thru December 2024

K-12 benefits from EduTech alignment of IT services

- EduTech collaborates with NDIT service teams, leveraging shared expertise to deliver top-tier support and solutions:
  - **Enterprise Computing** (M365/Active Directory/EntraID/Authentication/Device Management)
  - **Technology Leadership** (strategic and operational goals and performance)
  - **Communications** (Web, social media, press releases, critical notifications)
  - **Operational Security** (network, desktop, server, protection, response, and remediation)
  - **Service Desk** (incident intake, routing, problem and change management)

EduTech Special Funds - PowerSchool

	11 FTE 1 Temp	2 2021-23 Biennium Expenditures	3 2023-25 Biennium Appropriations	4 2025-27 Base Budget Request	5 2025-27 Optional Budget Changes	6 2025-27 Total Budget Request
Total: Edu Tech Special Funds		$5,142,062.46	$5,633,738.00	$5,308,733.00	$344,792.50	$5,822,967.50

Temp Support
Temp IT Edu & Constant Spec
Help Desk & Tier II Support
Sr Tier II Analyst
Enterprise Service Desk An
System Admin

PowerSchool Support Team
Student Info Sys Team Lead
Student Information Sys Spec
Student Information Sys Spec
Student Information Sys Spec
Student Information Sys Spec
Student Information Sys Spec
Student Information Sys Spec
Student Information Sys Spec
Student Information Sys Spec

Appendix

NORTH Dakota

Acronyms and Definitions

- **BAND** - Broadband Association of ND
- **Data governance** is the process of ensuring that data is accurate, secure, and used responsibly. It involves setting rules and responsibilities so everyone knows how to handle data properly and how to protect it.
- **EA** - Enterprise Architecture- the process by which organizations standardize, organize and develop roadmaps for IT infrastructure and applications to align with and facilitate the achievement of business goals and objectives.
- **Low Code-** is a software development approach that requires minimal hard-coding, allowing users to create applications and workflows through visual interfaces, drag-and-drop components, and pre-built templates. It is designed to simplify and speed up the development process, making it accessible to both professional developers and non-technical users (often referred to as "citizen developers").
- **SIRN** - Statewide Interoperable Radio Network
- **SLDS** - Statewide Longitudinal Data System
- **TBP** - Technology Business Partner knows the customer, their business, their technology, where they want to go and what is coming over the horizon.
- **Tech Debt**-happens when quick fixes or older systems are used instead of long-term, efficient solutions. While these choices might save time or money upfront, they eventually lead to more maintenance, slower systems, and higher costs to fix or replace.

Geospatial Acronyms and Definitions

- **Geospatial** - catch-all term for range of tools used for mapping and analysis
- **GIS** - Geographic Information Systems (e.g., the GIS Hub)
- **SGC** - State Geospatial Committee
- **Next Generation 911** - internet-based 911 system that requires GIS layers such as address points and emergency service boundaries
- **NDIT** - ND Information Technology
- **NDGF** - ND Game and Fish
- **NDDES** - ND Department of Emergency Services
- **Web services** - internet-based delivery of data
- **Parcel** - property boundary with associated information such as landowner

32279

January 22, 2025

Legislative Council

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Burgum Budget				Armstrong Budget				Armstrong Budget Compared to Burgum Budget Increase (Decrease)			
	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809	507.00	$41,418,305	$239,646,504	$281,064,809	0.00	$0	$0	$0
2025-27 Ongoing Funding Changes												
Base payroll changes		($25,257)	$3,229,838	$3,204,581		($25,257)	$3,229,838	$3,204,581				$0
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716		418,501	2,047,215	2,465,716				0
Salary increase		1,741,655	5,935,135	7,676,790		845,089	4,707,103	5,552,192		($896,566)	($1,228,032)	(2,124,598)
Health insurance increase		768,676	2,654,333	3,423,009		498,438	2,576,265	3,074,703		(270,238)	(78,068)	(348,306)
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686		1,998,699	2,967,987	4,966,686				0
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434		1,469,030	7,450,404	8,919,434				0
Adds funding for a statewide data strategy initiative	4.00	3,585,877	606,472	4,192,349				0	(4.00)	(3,585,877)	(606,472)	(4,192,349)
Adds funding for FTE positions for IT projects	11.00		3,253,386	3,253,386				0	(11.00)		(3,253,386)	(3,253,386)
Adjusts funding for agency administration to the general fund		20,250,795	(20,250,795)	0				0		(20,250,795)	20,250,795	0
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,357)	(10,939,356)		(599,999)	(10,339,358)	(10,939,357)			(1)	(1)
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311		3,181,664	531,647	3,713,311				0
Adds funding for cybersecurity contractual services increases		5,133,174	265,447	5,398,621		5,133,174	265,447	5,398,621				0
Adds funding for vulnerability management software license costs			2,892,960	2,892,960			2,892,960	2,892,960				0
Transfers special fund authority to continuing appropriation authority for operating expenses			(95,855,602)	(95,855,602)			(95,855,602)	(95,855,602)				0
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)		(394,839)	(500,000)	(894,839)				0
Reduces funding for Edutech			(553,869)	(553,869)			(553,869)	(553,869)				0
Adds funding for an Edutech training application replacement project			391,793	391,793			391,793	391,793				0
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501		512,501	(90,000)	422,501				0
Adjusts funding for the geographic information		89,176	(65,679)	23,497		89,176	(65,679)	23,497				0
Adjusts funding for the North Dakota Health Information Network (NDHIN)		(1,356,779)	6,241,945	4,885,166		(1,356,779)	6,241,945	4,885,166				0
Reduces funding for the statewide interoperable radio network (SIRN) equipment			(2,854,082)	(2,854,082)			(2,854,082)	(2,854,082)				0
Adds funding for FTE SIRN positions	6.00		1,869,120	1,869,120	6.00		1,869,120	1,869,120				0
Adds funding for SIRN circuits		209,520		209,520		209,520		209,520				0
Total ongoing funding changes	**21.00**	**$36,982,394**	**($90,171,702)**	**($53,189,308)**	**6.00**	**$11,978,918**	**($75,086,866)**	**($63,107,948)**	**(15.00)**	**($25,003,476)**	**$15,084,836**	**($9,918,640)**
One-Time Funding Items												
Adds funding for a modernization and innovation fund		$10,800,000	$42,242	$10,842,242				$0		($10,800,000)	($42,242)	($10,842,242)
Adds one-time funding for a statewide data strategy initiative		9,300,000		9,300,000				0		(9,300,000)		(9,300,000)
Adds funding for the digital experience business gateway portal project		8,000,000		8,000,000				0		(8,000,000)		(8,000,000)
Adds one-time funding for vulnerability management software license costs			150,000	150,000			$150,000	150,000				0

SB 2021 1-28-25

Adds funding to upgrade the state datacenter cooling system			1,719,061	1,719,061			1,719,061	1,719,061				0
Transfers special fund authority to continuing appropriation authority for capital assets			(3,312,875)	(3,312,875)			(3,312,875)	(3,312,875)				0
Adds funding for an artificial intelligence strategy pilot program		15,000,000		15,000,000				0		(15,000,000)		(15,000,000)
Adds one-time funding for an Edutech training application replacement project			20,000	20,000			20,000	20,000				0
Adds one-time funding for phase 1 of the NDHIN health data utility project		1,793,609		1,793,609			1,793,609	1,793,609		(1,793,609)	1,793,609	0
Total one-time funding changes	**0.00**	**$44,893,609**	**($1,381,572)**	**$43,512,037**	**0.00**	**$0**	**$369,795**	**$369,795**	**0.00**	**($44,893,609)**	**$1,751,367**	**($43,142,242)**
Total Changes to Base Level Funding	**21.00**	**$81,876,003**	**($91,553,274)**	**($9,677,271)**	**6.00**	**$11,978,918**	**($74,717,071)**	**($62,738,153)**	**(15.00)**	**($69,897,085)**	**$16,836,203**	**($53,060,882)**
2025-27 Total Funding	**528.00**	**$123,294,308**	**$148,093,230**	**$271,387,538**	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**	**(15.00)**	**($69,897,085)**	**$16,836,203**	**($53,060,882)**
Federal funds included in other funds			*$0*				*$0*				*$0*	
Total ongoing changes - Percentage of base level	*4.1%*	*89.3%*	*(37.6%)*	*(18.9%)*	*1.2%*	*28.9%*	*(31.3%)*	*(22.5%)*	*N/A*	*N/A*	*N/A*	*N/A*
Total changes - Percentage of base level	*4.1%*	*197.7%*	*(38.2%)*	*(3.4%)*	*1.2%*	*28.9%*	*(31.2%)*	*(22.3%)*	*N/A*	*N/A*	*N/A*	*N/A*

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Human Resources Division
Harvest Room, State Capitol

SB 2021
2/14/2025

A Bill for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

8:47 a.m. Chairman Dever opened the hearing.

Members Present: Chairman Dever, Senators Cleary, Davison, Magrum, Mathern

Discussion Topics:

- Line by Line Budget Review
- Salaries
- FTE Pool
- Health Insurance
- Continuing Appropriation Authority
- Double Appropriation Reduction

8:47 a.m. Senator Davison introduced the bill.

8:47 a.m. Alex Cronquist, Senior Financial Analyst, LC, distributed long sheets and submitted testimony #37743 and #37998.

8:53 a.m. Larry Martin, Fiscal Management Analyst, OMB, referred to long sheet.

9:07 a.m. Chairman Dever closed the hearing.

Joan Bares, Committee Clerk

Dawson 2-14-25
SB 2021

#37743

February 13, 2025

Legislative Council

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Armstrong Budget				Senate Version				Senate Compared to Armstrong Budget Increase (Decrease)			
	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809	507.00	$41,418,305	$239,646,504	$281,064,809	0.00	$0	$0	$0
2025-27 Ongoing Funding Changes												
Base payroll changes		($25,257)	$3,229,838	$3,204,581				$0		$25,257	($3,229,838)	($3,204,581)
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716		$418,501	$2,047,215	2,465,716				0
Salary increase		845,089	4,707,103	5,552,192		845,089	4,707,103	5,552,192				0
Health insurance increase		498,438	2,576,265	3,074,703		498,438	2,576,265	3,074,703				0
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686		1,998,699	2,967,987	4,966,686				0
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434		1,469,030	7,450,404	8,919,434				0
Adjusts funding for the 2025-27 new FTE pool				0				0				0
Adjusts funding for the 2025-27 vacant FTE pool				0		(522,245)	(2,874,793)	(3,397,038)		(522,245)	(2,874,793)	(3,397,038)
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,358)	(10,939,357)				0		599,999	10,339,358	10,939,357
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311				0		(3,181,664)	(531,647)	(3,713,311)
Adds funding for cybersecurity contractual services increases		5,133,174	265,447	5,398,621				0		(5,133,174)	(265,447)	(5,398,621)
Adds funding for vulnerability management software license costs			2,892,960	2,892,960				0			(2,892,960)	(2,892,960)
Transfers special fund authority to continuing appropriation authority for operating expenses			(95,855,602)	(95,855,602)				0			95,855,602	95,855,602
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)				0		394,839	500,000	894,839
Reduces funding for EduTech			(553,869)	(553,869)				0			553,869	553,869
Adds funding for an EduTech training application replacement project			391,793	391,793				0			(391,793)	(391,793)
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501				0		(512,501)	90,000	(422,501)
Adjusts funding for the geographic information		89,176	(65,679)	23,497				0		(89,176)	65,679	(23,497)
Adjusts funding for NDHIN		(1,356,779)	6,241,945	4,885,166				0		1,356,779	(6,241,945)	(4,885,166)
Reduces funding for SIRN equipment			(2,854,082)	(2,854,082)				0			2,854,082	2,854,082
Adds funding for FTE SIRN positions	6.00		1,869,120	1,869,120				0	(6.00)		(1,869,120)	(1,869,120)
Adds funding for SIRN circuits		209,520		209,520				0		(209,520)		(209,520)
Total ongoing funding changes	**6.00**	**$11,978,918**	**($75,086,866)**	**($63,107,948)**	**0.00**	**$4,707,512**	**$16,874,181**	**$21,581,693**	**(6.00)**	**($7,271,406)**	**$91,961,047**	**$84,689,641**
One-Time Funding Items												
Adds one-time funding for vulnerability management software license costs			$150,000	$150,000				$0			($150,000)	($150,000)
Adds funding to upgrade the state datacenter cooling system			1,719,061	1,719,061				0			(1,719,061)	(1,719,061)
Transfers special fund authority to continuing appropriation authority for capital assets			(3,312,875)	(3,312,875)				0			3,312,875	3,312,875
Adds one-time funding for an Edutech training application replacement project			20,000	20,000				0			(20,000)	(20,000)
Adds one-time funding for phase 1 of the NDHIN health data utility project			1,793,609	1,793,609				0			(1,793,609)	(1,793,609)

Total one-time funding changes	**0.00**	**$0**	**$369,795**	**$369,795**	**0.00**	**$0**	**$0**	**$0**	**0.00**	**$0**	**($369,795)**	**($369,795)**
Total Changes to Base Level Funding	**6.00**	**$11,978,918**	**($74,717,071)**	**($62,738,153)**	**0.00**	**$4,707,512**	**$16,874,181**	**$21,581,693**	**(6.00)**	**($7,271,406)**	**$91,591,252**	**$84,319,846**
2025-27 Total Funding	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**	**507.00**	**$46,125,817**	**$256,520,685**	**$302,646,502**	**(6.00)**	**($7,271,406)**	**$91,591,252**	**$84,319,846**
Federal funds included in other funds			*$0*				*$1,578,179*				*$1,578,179*	
Total ongoing changes - Percentage of base level	*1.2%*	*28.9%*	*(31.3%)*	*(22.5%)*	*0.0%*	*11.4%*	*7.0%*	*7.7%*	*N/A*	*N/A*	*N/A*	*N/A*
Total changes - Percentage of base level	*1.2%*	*28.9%*	*(31.2%)*	*(22.3%)*	*0.0%*	*11.4%*	*7.0%*	*7.7%*	*N/A*	*N/A*	*N/A*	*N/A*

Other Sections in Information Technology Department - Budget No. 112

Section Description	Armstrong Budget	Senate Version	
New and vacant FTE pool line item		Section 3 provides the Information Technology Department cannot spend funds appropriated in the new and vacant FTE funding pool line item but may request the Office of Management and Budget to transfer funds to the salaries and wages line item.	
Exemption - Line item transfers		Section 4 allows the Director of the Office of Management and Budget to transfer funds between line items in Section 1 as requested by the Chief Information Officer of ITD for the development and implementation of technology projects.	

February 14, 2025

Legislative Council

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Armstrong Budget				Senate Version				Senate Compared to Armstrong Budget			
									Increase (Decrease)			
	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809	507.00	$41,418,305	$239,646,504	$281,064,809	0.00	$0	$0	$0
2025-27 Ongoing Funding Changes												
Base payroll changes		($25,257)	$3,229,838	$3,204,581		($25,257)	$3,229,838	$3,204,581				$0
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716		418,501	2,047,215	2,465,716				0
Salary increase		845,089	4,707,103	5,552,192		845,089	4,664,234	5,509,323			($42,869)	(42,869)
Health insurance increase		498,438	2,576,265	3,074,703		498,438	2,558,250	3,056,688			(18,015)	(18,015)
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686		1,998,699	2,967,987	4,966,686				0
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434		1,469,030	7,450,404	8,919,434				0
Adjusts funding for the 2025-27 new FTE pool				0			(52,999)	(52,999)			(52,999)	(52,999)
Adjusts funding for the 2025-27 vacant FTE pool				0		(522,245)	(2,874,793)	(3,397,038)		($522,245)	(2,874,793)	(3,397,038)
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,358)	(10,939,357)		(599,999)	(10,339,358)	(10,939,357)				0
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311		3,181,664	531,647	3,713,311				0
Adds funding for cybersecurity contractual services increases		5,133,174	265,447	5,398,621				0		(5,133,174)	(265,447)	(5,398,621)
Adds funding for vulnerability management software license costs			2,892,960	2,892,960			2,892,960	2,892,960				0
Transfers special fund authority to continuing appropriation authority for operating expenses			(95,855,602)	(95,855,602)			(99,168,477)	(99,168,477)			(3,312,875)	(3,312,875)
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)		(394,839)	(500,000)	(894,839)				0
Reduces funding for EduTech			(553,869)	(553,869)			(553,869)	(553,869)				0
Adds funding for an EduTech training application replacement project			391,793	391,793			391,793	391,793				0
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501		512,501	(90,000)	422,501				0
Adjusts funding for the geographic information		89,176	(65,679)	23,497		89,176	(65,679)	23,497				0
Adjusts funding for NDHIN		(1,356,779)	6,241,945	4,885,166		(1,356,779)	6,241,945	4,885,166				0
Reduces funding for SIRN equipment			(2,854,082)	(2,854,082)			(2,854,082)	(2,854,082)				0
Adds funding for FTE SIRN positions	6.00		1,869,120	1,869,120	2.00		608,927	608,927	(4.00)		(1,260,193)	(1,260,193)
Adds funding for SIRN circuits		209,520		209,520		209,520		209,520				0
Total ongoing funding changes	**6.00**	**$11,978,918**	**($75,086,866)**	**($63,107,948)**	**2.00**	**$6,323,499**	**($82,914,057)**	**($76,590,558)**	**(4.00)**	**($5,655,419)**	**($7,827,191)**	**($13,482,610)**
One-Time Funding Items												
Adds one-time funding for vulnerability management software license costs			$150,000	$150,000			$150,000	$150,000				$0
Adds funding to upgrade the state datacenter cooling system			1,719,061	1,719,061				0			($1,719,061)	(1,719,061)
Transfers special fund authority to continuing appropriation authority for capital assets			(3,312,875)	(3,312,875)				0			3,312,875	3,312,875
Adds one-time funding for an Edutech training application replacement project			20,000	20,000				0			(20,000)	(20,000)

Adds one-time funding for phase 1 of the NDHIN health data utility project			1,793,609	1,793,609				0			(1,793,609)	(1,793,609)
Total one-time funding changes	**0.00**	**$0**	**$369,795**	**$369,795**	**0.00**	**$0**	**$150,000**	**$150,000**	**0.00**	**$0**	**($219,795)**	**($219,795)**
Total Changes to Base Level Funding	**6.00**	**$11,978,918**	**($74,717,071)**	**($62,738,153)**	**2.00**	**$6,323,499**	**($82,764,057)**	**($76,440,558)**	**(4.00)**	**($5,655,419)**	**($8,046,986)**	**($13,702,405)**
2025-27 Total Funding	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**	**509.00**	**$47,741,804**	**$156,882,447**	**$204,624,251**	**(4.00)**	**($5,655,419)**	**($8,046,986)**	**($13,702,405)**
Federal funds included in other funds			*$0*				*$0*				*$0*	
Total ongoing changes - Percentage of base level	*1.2%*	*28.9%*	*(31.3%)*	*(22.5%)*	*0.4%*	*15.3%*	*(34.6%)*	*(27.3%)*	*N/A*	*N/A*	*N/A*	*N/A*
Total changes - Percentage of base level	*1.2%*	*28.9%*	*(31.2%)*	*(22.3%)*	*0.4%*	*15.3%*	*(34.5%)*	*(27.2%)*	*N/A*	*N/A*	*N/A*	*N/A*

Other Sections in Information Technology Department - Budget No. 112

Section Description	Armstrong Budget	Senate Version	
New and vacant FTE pool line item		Section 3 provides the Information Technology Department cannot spend funds appropriated in the new and vacant FTE funding pool line item but may request the Office of Management and Budget to transfer funds to the salaries and wages line item.	
Exemption - Line item transfers		Section 4 allows the Director of the Office of Management and Budget to transfer funds between line items in Section 1 as requested by the Chief Information Officer of ITD for the development and implementation of technology projects.	
Amendment - Information Technology Department operating fund		Section 5 amends North Dakota Century Code Section 54-59-14 to provide ITD a continuing appropriation from the ITD operating fund to allow ITD to provide information technology, network services, and central microfilm unit services to state agencies without appropriation authority from the Legislative Assembly.	
Exemption - Stockmen's Association grant		Section 6 allows ITD to continue any remaining funding of the $401,000 appropriated from the federal State Fiscal Recovery Fund during the 2021-23 biennium and continued into the 2023-25 biennium for a grant to the North Dakota Stockmen's Association to convert a paper-based brand inspection program to an electronic system into the 2025-27 biennium.	
Exemption - Capitol security software upgrade and fiber replacement project		Section 7 allows ITD to continue any remaining funding of the $2,499,467 appropriated from the State Fiscal Recovery Fund during the 2023-25 biennium for the capitol security software upgrade and fiber replacement project into the 2025-27 biennium.	
Exemption - SIIF		Section 8 allows ITD to continue any remaining funding of the $15,000,000 appropriated from SIIF during the 2023-25 biennium for the enterprise digitization project ($7,000,000), call center software upgrade project ($3,000,000), and the business gateway enterprise customer relationship management program ($5,000,000) into the 2025-27 biennium.	

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Human Resources Division
Harvest Room, State Capitol

SB 2021
2/20/2025

A Bill for an Act to provide an appropriation or defraying the expenses of the information technology department; and to provide an exemption.

3:08 p.m. Chairman Dever opened the hearing.

Members Present: Chairman Dever, Senators Cleary, Davison, Magrum & Mathern.

Discussion Topics:

- ND Information Technology (NDIT) Monthly Income Statement Provision
- Monthly Income Statement Report to Appropriations Committee

3:08 p.m. Levi Kinnischtzke, Senior Fiscal Analyst, LC, testified neutral, referred to long sheets and submitted testimony #38249.

3:08 p.m. Greg Hoffman, Deputy Chief Information Officer, ND Information Technology Department (NDIT), testified in favor.

3:28 p.m. Levi Kinnischtzke, Senior Fiscal Analyst, LC, testified neutral and referred to long sheets.

3:30 p.m. Greg Hoffman, Deputy Chief Information Officer, NDIT, testified in favor.

3:35 p.m. Senator Dever closed the hearing.

Joan Bares, Procedural Clerk

SB 2021
2-20-25

February 18, 2025

Legislative Council

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Armstrong Budget				Senate Version				Senate Compared to Armstrong Budget Increase (Decrease)			
	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809	507.00	$41,418,305	$239,646,504	$281,064,809	0.00	$0	$0	$0
2025-27 Ongoing Funding Changes												
Base payroll changes		($25,257)	$3,229,838	$3,204,581		($25,257)	$3,229,838	$3,204,581				$0
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716		418,501	2,047,215	2,465,716				0
Salary increase		845,089	4,707,103	5,552,192		845,089	4,664,234	5,509,323			($42,869)	(42,869)
Health insurance increase		498,438	2,576,265	3,074,703		498,438	2,558,250	3,056,688			(18,015)	(18,015)
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686		1,998,699	2,967,987	4,966,686				0
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434		1,469,030	7,450,404	8,919,434				0
Adjusts funding for the 2025-27 new FTE pool				0			(52,999)	(52,999)			(52,999)	(52,999)
Adjusts funding for the 2025-27 vacant FTE pool				0		(522,246)	(2,874,794)	(3,397,040)		($522,246)	(2,874,794)	(3,397,040)
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,358)	(10,939,357)		(599,999)	(10,339,358)	(10,939,357)				0
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311		3,181,664	531,647	3,713,311				0
Adds funding for cybersecurity contractual services increases		5,133,174	265,447	5,398,621				0		(5,133,174)	(265,447)	(5,398,621)
Adds funding for vulnerability management software license costs			2,892,960	2,892,960			2,892,960	2,892,960				0
Transfers special fund authority to continuing appropriation authority			(95,855,602)	(95,855,602)			(99,168,477)	(99,168,477)			(3,312,875)	(3,312,875)
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)		(394,839)	(500,000)	(894,839)				0
Reduces funding for EduTech			(553,869)	(553,869)			(553,869)	(553,869)				0
Adds funding for an EduTech training application replacement project			391,793	391,793			391,793	391,793				0
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501		512,501	(90,000)	422,501				0
Adjusts funding for the geographic information		89,176	(65,679)	23,497		89,176	(65,679)	23,497				0
Adjusts funding for NDHIN		(1,356,779)	6,241,945	4,885,166		(1,356,779)	3,241,945	1,885,166			(3,000,000)	(3,000,000)
Reduces funding for SIRN equipment			(2,854,082)	(2,854,082)			(2,854,082)	(2,854,082)				0
Adds funding for FTE SIRN positions	6.00		1,869,120	1,869,120	2.00		608,927	608,927	(4.00)		(1,260,193)	(1,260,193)
Adds funding for SIRN circuits		209,520		209,520		209,520		209,520				0
Total ongoing funding changes	**6.00**	**$11,978,918**	**($75,086,866)**	**($63,107,948)**	**2.00**	**$6,323,498**	**($85,914,058)**	**($79,590,560)**	**(4.00)**	**($5,655,420)**	**($10,827,192)**	**($16,482,612)**
One-Time Funding Items												
Adds one-time funding for vulnerability management software license costs			$150,000	$150,000			$150,000	$150,000				$0
Adds funding to upgrade the state datacenter cooling system			1,719,061	1,719,061				0			($1,719,061)	(1,719,061)
Transfers special fund authority to continuing appropriation authority for capital assets			(3,312,875)	(3,312,875)				0			3,312,875	3,312,875
Adds one-time funding for an Edutech training application replacement project			20,000	20,000				0			(20,000)	(20,000)

Adds one-time funding for phase 1 of the NDHIN health data utility project			1,793,609	1,793,609				0			(1,793,609)	(1,793,609)
Adds one-time funding for NDHIN				0			3,000,000	3,000,000			3,000,000	3,000,000
Total one-time funding changes	**0.00**	**$0**	**$369,795**	**$369,795**	**0.00**	**$0**	**$3,150,000**	**$3,150,000**	**0.00**	**$0**	**$2,780,205**	**$2,780,205**
Total Changes to Base Level Funding	**6.00**	**$11,978,918**	**($74,717,071)**	**($62,738,153)**	**2.00**	**$6,323,498**	**($82,764,058)**	**($76,440,560)**	**(4.00)**	**($5,655,420)**	**($8,046,987)**	**($13,702,407)**
2025-27 Total Funding	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**	**509.00**	**$47,741,803**	**$156,882,446**	**$204,624,249**	**(4.00)**	**($5,655,420)**	**($8,046,987)**	**($13,702,407)**
Federal funds included in other funds			*$0*				*$0*				*$0*	
Total ongoing changes - Percentage of base level	*1.2%*	*28.9%*	*(31.3%)*	*(22.5%)*	*0.4%*	*15.3%*	*(35.9%)*	*(28.3%)*	*N/A*	*N/A*	*N/A*	*N/A*
Total changes - Percentage of base level	*1.2%*	*28.9%*	*(31.2%)*	*(22.3%)*	*0.4%*	*15.3%*	*(34.5%)*	*(27.2%)*	*N/A*	*N/A*	*N/A*	*N/A*

Other Sections in Information Technology Department - Budget No. 112

Section Description	Armstrong Budget	Senate Version	
New and vacant FTE pool line item		Section 3 provides the Information Technology Department cannot spend funds appropriated in the new and vacant FTE funding pool line item but may request the Office of Management and Budget to transfer funds to the salaries and wages line item.	
Other funds - Transfer - Health information technology planning loan fund to electronic health information exchange fund		Section 4 provides for a transfer of $3 million from the health information technology planning loan fund to the electronic health information exchange fund for NDHIN.	
Exemption - Line item transfers		Section 5 allows the Director of the Office of Management and Budget to transfer funds between line items in Section 1 as requested by the Chief Information Officer of ITD for the development and implementation of technology projects.	
Amendment - Information technology operating fund continuing appropriation		Section 6 amends North Dakota Century Code Section 54-59-14 to provide ITD a continuing appropriation from the information technology operating fund to allow ITD to provide information technology and network services to state agencies without receiving appropriation authority from the Legislative Assembly.	
Amendment - Information technology operating fund renamed		Section 7 amends Section 54-59-15 to rename the information technology operating account the information technology operating fund.	
Exemption - Broadband infrastructure grants		Subsection 1 of Section 8 allows ITD to continue any remaining funding of the $45,000,000 appropriated from the federal Coronavirus Capital Projects Fund during the 2021-23 biennium and continued into the 2023-25 biennium for broadband infrastructure grants into the 2025-27 biennium.	
Exemption - SIIF		Subsection 2 of Section 8 allows ITD to continue any remaining funding of the $12,000,000 appropriated from SIIF during the 2023-25 biennium for the enterprise digitization project ($7,000,000) and the business gateway enterprise customer relationship management program ($5,000,000) into the 2025-27 biennium.	
Exemption - Governance, risk, and compliance costs and the Department of Public Instruction lighthouse project		Subsection 3 of Section 8 allows ITD to continue any remaining funding of the $4,856,876 appropriated from the ITD information technology operating fund during the 2023-25 biennium for governance, risk, and compliance costs and the Department of Public Instruction lighthouse project into the 2025-27 biennium.	

Other Sections in Information Technology Department - Budget No. 112

Section Description	Armstrong Budget	Senate Version	
Exemption - Broadband, equity, access, and deployment (BEAD), digital equity, and state and local cybersecurity grant programs		Subsection 4 of Section 8 allows ITD to continue any remaining funding of the $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act during the 2023-25 biennium for the BEAD, digital equity, and state and local cybersecurity grant programs into the 2025-27 biennium.	
Exemption - State and local cybersecurity grant program matching funds		Subsection 5 of Section 8 allows ITD to continue any remaining funding of the $487,520 appropriated from the general fund during the 2023-25 biennium for state and local cybersecurity grant program matching funds into the 2025-27 biennium.	
Exemption - Statewide interoperable radio network (SIRN) project		Subsection 6 of Section 8 allows ITD to continue any remaining funding of the $80,000,000 appropriated from the federal State Fiscal Recovery Fund during the 2023-25 biennium for the SIRN project into the 2025-27 biennium.	

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Human Resources Division
Harvest Room, State Capitol

SB 2021
2/21/2025

A Bill for an Act to provide for defraying the expenses of the information technology department; and to provide an exemption.

9:36 a.m. Chairman Dever opened the hearing.

Members Present: Chairman Dever, Senators Cleary, Davison, Magrum, and Mathern

Discussion Topics:

- Cybersecurity Funding
- Salaries
- Two Full Time Employees
- EduTech

9:40 a.m. Larry Martin, Fiscal Analyst, OMB, referred to long sheets.

9:50 a.m. Senator Davison moved amendment LC 25.0188.01001 #38313.

9:50 a.m. Senator Magrum seconded the motion.

Voice Vote: Motion Passed.

9:54 a.m. Senator Davison moved A Do Pass as Amended.

9:54 a.m. Senator Magrum seconded.

Senators	Vote
Senator Dick Dever	Y
Senator Sean Cleary	Y
Senator Kyle Davison	Y
Senator Jeffery J. Magrum	Y
Senator Tim Mathern	Y

Motion Passed. 5-0-0

9:55 a.m. Senator Davison will carry the bill.

9:54 a.m. Chairman Dever closed the hearing.

Joan Bares, Committee Clerk

25.0188.01001
Title.
Fiscal No. 1

Prepared by the Legislative Council staff for Senate Appropriations - Human Resources Division Committee
February 20, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO

SENATE BILL NO. 2021

Introduced by

Appropriations Committee

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; to amend and reenact sections 54-59-14 and 54-59-15 of the North Dakota Century Code, relating to the information technology operating fund; to provide for a transfer; and to provide an exemption.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from other funds derived from special funds and federal funds, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
~~Salaries and wages~~	~~$112,233,364~~	~~$0~~	~~$112,233,364~~
~~Operating expenses~~	~~119,115,018~~	~~0~~	~~119,115,018~~
~~Capital assets~~	~~3,443,909~~	~~0~~	~~3,443,909~~
~~Statewide longitudinal data system~~	~~4,625,661~~	~~0~~	~~4,625,661~~
~~Edutech~~	~~10,348,826~~	~~0~~	~~10,348,826~~
~~K-12 wide area network~~	~~5,915,668~~	~~0~~	~~5,915,668~~
~~Geographic information system~~	~~1,109,786~~	~~0~~	~~1,109,786~~

~~Health information technology office~~	~~5,822,725~~	~~0~~	~~5,822,725~~
~~Statewide interoperable radio network~~	~~18,449,852~~	~~0~~	~~18,449,852~~
~~Total all funds~~	~~$281,064,809~~	~~$0~~	~~$281,064,809~~
~~Less other funds~~	~~239,646,504~~	~~0~~	~~239,646,504~~
~~Total general fund~~	~~$41,418,305~~	~~$0~~	~~$41,418,305~~
~~Full-time equivalent positions~~	~~507.00~~	~~0.00~~	~~507.00~~
Salaries and wages	$112,233,364	$16,139,027	$128,372,391
New and vacant FTE pool	0	8,403,424	8,403,424
Operating expenses	119,115,018	(96,380,424)	22,734,594
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
Edutech	10,348,826	(304,659)	10,044,167
K-12 wide area network	5,915,668	912,665	6,828,333
Geographic information system	1,109,786	48,157	1,157,943
Health information technology office	5,822,725	4,928,517	10,751,242
Statewide interoperable radio network	18,449,852	(2,236,315)	16,213,537
Total all funds	$281,064,809	(72,307,386)	$208,757,423
Less other funds	239,646,504	(82,764,058)	156,882,446
Total general fund	$41,418,305	$10,456,672	$51,874,977
Full-time equivalent positions	507.00	2.00	509.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SEVENTIETH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items included in the appropriation in section 1 of this Act which are not included in the entity's base budget for the 2027-29 biennium and which the entity shall report to the appropriations committees of the seventieth legislative assembly regarding the use of this funding:

One-Time Funding Description	General Fund	Other Funds	Total
Vulnerability software licenses	$0	$150,000	$150,000
Health information technology office	0	3,000,000	3,000,000
Total	$0	$3,150,000	$3,150,000

SECTION 3. NEW AND VACANT FTE POOL - LIMITATION - TRANSFER REQUEST. The information technology department may not spend funds appropriated in the new and vacant

FTE pool line item in section 1 of this Act, but may request the office of management and budget to transfer funds from the new and vacant FTE pool line item to the salaries and wages line item and other line items with salaries and wages in accordance with the guidelines and reporting provisions included in House Bill No. 1015, as approved by the sixty-ninth legislative assembly.

SECTION 4. OTHER FUNDS - TRANSFER - HEALTH INFORMATION TECHNOLOGY PLANNING LOAN FUND TO ELECTRONIC HEALTH INFORMATION EXCHANGE FUND. Notwithstanding section 6-09-43, the other funds line item in section 1 of this Act includes the sum of $3,000,000, or so much of the sum as may be necessary, which the Bank of North Dakota shall transfer, as requested by the chief information officer, from the health information technology planning loan fund to the electronic health information exchange fund for the purpose of defraying the expenses of the health information technology office and the health information network during the biennium beginning July 1, 2025, and ending June 30, 2027.

SECTION 5. EXEMPTION - LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 6. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology, and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.
2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts

received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section.

3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 7. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating ~~account~~fund or other ~~accounts~~funds specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 8. EXEMPTION - UNEXPENDED APPROPRIATIONS. The following appropriations are not subject to the provisions of section 54-44.1-11 and any unexpended appropriation authority remaining may be continued into the biennium beginning July 1, 2025, and ending June 30, 2027:

1. The sum of $45,000,000 appropriated from the federal coronavirus capital projects fund for broadband infrastructure grants in section 9 of chapter 548 of the 2021 Special Session Session Laws and continued into the 2023-25 biennium in sections 9 and 10 of chapter 21 of the 2023 Session Laws.
2. The sum of $12,000,000 appropriated from the strategic investment and improvements fund, of which $7,000,000 was for an enterprise digitization project and

$5,000,000 was for a business gateway enterprise customer relationship management program, in section 1 of chapter 21 of the 2023 Session Laws.

3. The sum of $4,856,876 appropriated from the information technology operating fund for governance, risk, and compliance costs and the department of public instruction lighthouse project in section 1 of chapter 21 of the 2023 Session Laws.
4. The sum of $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act for the broadband, equity, access, and deployment program, digital equity program, and state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
5. The sum of $487,520 appropriated from the general fund as matching funds for the state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
6. The sum of $80,000,000 appropriated from the federal state fiscal recovery fund for the statewide interoperable radio network project in section 4 of chapter 554 of the 2023 Session Laws.

STATEMENT OF PURPOSE OF AMENDMENT:

Senate Bill No. 2021 - Information Technology Department - Senate Action

	Base Budget	Senate Changes	Senate Version
Salaries and wages	$112,233,364	$16,139,027	$128,372,391
New and vacant FTE pool		8,403,424	8,403,424
Operating expenses	119,115,018	(96,380,424)	22,734,594
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
EduTech	10,348,826	(304,659)	10,044,167
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Geographic information system	1,109,786	48,157	1,157,943
Health Information Technology Office	5,822,725	4,928,517	10,751,242
Statewide interoperable radio network	18,449,852	(2,236,315)	16,213,537
Total all funds	$281,064,809	($72,307,386)	$208,757,423
Less estimated income	239,646,504	(82,764,058)	156,882,446
General fund	$41,418,305	$10,456,672	$51,874,977
FTE	507.00	2.00	509.00

Department 112 - Information Technology Department - Detail of Senate Changes

	Adjusts Funding for Base Payroll Changes[1]	Adds Funding for the Cost to Continue Salaries[2]	Adds Funding for Salary and Benefit Increases[3]	Adds Funding for FTE SIRN Positions[4]	Adds Funding to Replace 2023-25 New and Vacant FTE Pool[5]	Transfers Funding for 2025-27 New and Vacant FTE Pool[6]
Salaries and wages	$3,204,581	$2,942,816	$7,936,669		$13,093,855	($11,038,894)
New and vacant FTE pool						8,403,424
Operating expenses						
Capital assets						
Statewide longitudinal data system		276,855	55,822		132,703	(75,445)
EduTech		(455,630)	397,495		420,517	(504,965)
K-12 wide area network		(65,555)	67,738		102,130	(89,058)
Geographic information system		8,932	19,208		22,704	(26,184)
Health Information Technology Office		(10,695)	70,693		77,504	(94,151)
Statewide interoperable radio network		(231,007)	18,386	$608,927	36,707	(24,766)
Total all funds	$3,204,581	$2,465,716	$8,566,011	$608,927	$13,886,120	($3,450,039)
Less estimated income	3,229,838	2,047,215	7,222,484	608,927	10,418,391	(2,927,793)
General fund	($25,257)	$418,501	$1,343,527	$0	$3,467,729	($522,246)
FTE	0.00	0.00	0.00	2.00	0.00	0.00

	Adjusts Base Level Funding[7]	Adds Funding for Cybersecurity Contractual Services[8]	Transfers Special Fund Authority to Continuing Appropriation Authority[9]	Adds Ongoing Funding for Vulnerability Software[10]	Adjusts Ongoing Funding for the Health Information Network[11]	Adjusts Funding for SIRN[12]
Salaries and wages						
New and vacant FTE pool						
Operating expenses	($7,574,647)	$4,006,865	($95,855,602)	$2,892,960		
Capital assets	1		(3,312,875)			
Statewide longitudinal data system	(894,839)					
EduTech	(162,076)					
K-12 wide area network	771,101	126,309				
Geographic information system	23,497					
Health Information Technology Office					$1,885,166	
Statewide interoperable radio network						($2,644,562)
Total all funds	($7,836,963)	$4,133,174	($99,168,477)	$2,892,960	$1,885,166	($2,644,562)
Less estimated income	(10,625,466)	0	(99,168,477)	2,892,960	3,241,945	(2,854,082)
General fund	$2,788,503	$4,133,174	$0	$0	($1,356,779)	$209,520
FTE	0.00	0.00	0.00	0.00	0.00	0.00

	Adds One-Time Funding[13]	Total Senate Changes
Salaries and wages		$16,139,027
New and vacant FTE pool		8,403,424
Operating expenses	$150,000	(96,380,424)
Capital assets		(3,312,874)
Statewide longitudinal data system		(504,904)
EduTech		(304,659)
K-12 wide area network		912,665
Geographic information system		48,157
Health Information Technology Office	3,000,000	4,928,517
Statewide interoperable radio network		(2,236,315)
Total all funds	$3,150,000	($72,307,386)
Less estimated income	3,150,000	(82,764,058)
General fund	$0	$10,456,672
FTE	0.00	2.00

[1] Funding is adjusted for base payroll changes related to salary equity increases, position reclassifications, and other staffing changes.

[2] Funding is added for the cost to continue salary increases from the 2023-25 biennium.

[3] The following funding is added for 2025-27 biennium salary adjustments of 3 percent on July 1, 2025, and 3 percent on July 1, 2026, and increases in health insurance premiums from $1,643 to $1,893 per month:

	General Fund	Other Funds	Total
Salary increase	$845,089	$4,664,234	$5,509,323
Health insurance increase	498,438	2,558,250	3,056,688
Total	$1,343,527	$7,222,484	$8,566,011

[4] Funding of $608,927 is added from the statewide interoperable radio network (SIRN) fund for 2 FTE SIRN positions.

[5] Funding is added to replace 2023-25 biennium new and vacant FTE pool funding as follows:

	General Fund	Other Funds	Total
New FTE positions	$1,998,699	$2,967,987	$4,966,686
Vacant FTE positions	1,469,030	7,450,404	8,919,434
Total	$3,467,729	$10,418,391	$13,886,120

[6] Funding of $11,853,462 for new FTE positions and estimated savings from vacant FTE positions is removed and funding of $8,403,423 is added for a 2025-27 new and vacant FTE pool line item as follows:

	General Fund	Other Funds	Total
New FTE positions	$0	($529,994)	($529,994)
Vacant FTE positions	(1,740,821)	(9,582,647)	(11,323,468)
Total	($1,740,821)	($10,112,641)	($11,853,462)
Funding pool line item	1,218,575	7,184,849	8,403,424
Net savings	($522,246)	($2,927,792)	($3,450,038)

[7] Base level funding is adjusted as follows:

	General Fund	Other Funds	Total
Reduces funding for operating expenses, primarily professional services. Of the funding reduced from other funds, $744,345 is from federal funds and $9,595,013 is from special funds	($599,999)	($10,339,358)	($10,939,357)
Adds funding for information technology (IT) inflationary costs, including $231,845 from federal funds and $299,802 from special funds	3,181,664	531,647	3,713,311
Reduces funding for the statewide longitudinal data system, including $500,000 from federal funds	(394,839)	(500,000)	(894,839)
Reduces funding for EduTech operating expenses, including $500,000 from federal funds and $53,869 from special funds	0	(553,869)	(553,869)
Adds funding from special funds for an EduTech training application replacement project	0	391,793	391,793
Adjusts funding for the K-12 wide area network, including a reduction from special funds	512,501	(90,000)	422,501
Adjusts funding for the geographic information system, including a reduction from federal funds	89,176	(65,679)	23,497
Total	$2,788,503	($10,625,466)	($7,836,963)

[8] Funding of $4,133,174 from the general fund is added for cybersecurity contractual service increases.

[9] Special funds of $99,168,477 from the department's IT operating fund is transferred to continuing appropriation authority, resulting in the department being able to charge state agencies for IT services without specific legislative approval. A section is added to the bill providing the statutory change to establish a continuing appropriation.

[10] Ongoing funding of $2,892,960 from the information technology operating fund is added for vulnerability management software licensing costs.

[11] Ongoing funding for the North Dakota Health Information Network is adjusted, including a ($1,356,779) reduction from the general fund and a $3,241,945 increase from the electronic health information exchange fund.

[12] Funding for SIRN is adjusted, including adding $209,520 from the general fund for SIRN circuits and reducing $2,854,082 from the SIRN fund for equipment.

[13] One-time funding of $3.15 million is added, including $150,000 from the information technology operating fund for vulnerability management software licensing costs and $3 million transferred from the health IT planning loan fund to the electronic health information exchange fund for the North Dakota Health Information Network. A section is added to the bill to provide for the transfer.

Senate Bill No. 2021 - Other Changes - Senate Action

This amendment also adds sections:

- Regarding the use funding in the new and vacant FTE pool line item.
- To provide for a $3 million transfer from the health IT planning loan fund to the electronic health information exchange fund for the North Dakota Health Information Network.
- To amend North Dakota Century Code Section 54-59-14 to provide the Information Technology Department a continuing appropriation from the IT operating fund to allow the department to provide IT and network services to state agencies without receiving appropriation authority from the Legislative Assembly. The department is required to provide a report at each meeting of the Budget Section and to the appropriations committee each legislative session regarding the status of the IT operating fund and the balance of the fund.
- To amend Section 54-59-15 to rename the IT operating account the IT operating fund.
- To provide exemptions allowing the department to continue funding appropriated in prior bienniums into the 2025-27 biennium.

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations Committee
Harvest Room, State Capitol

SB 2021
2/24/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

8:02 a.m. Chairman Bekkedahl called the meeting to order.

Members Present: Chairman Bekkedahl, Vice-Chairman Erbele, and Senators Burckhard, Cleary, Conley, Davison, Dever, Dwyer, Magrum, Mathern, Meyer, Schaible, Sickler, Sorvaag, Thomas, Wanzek.

Discussion Topics:

- Reductions
- Cybersecurity Audit
- Continuing Appropriation Language
- Oversight Safety Net to Prevent Over Charging
- Federal State Fiscal Recovery Fund

8:04 a.m. Senator Davison introduced the bill and submitted testimony #38392.

8:22 a.m. Senator Davison moved amendment LC 25.0188.01001.

8:22 a.m. Senator Thomas seconded the motion.

Senators	Vote
Senator Brad Bekkedahl	Y
Senator Robert Erbele	Y
Senator Randy A. Burckhard	Y
Senator Sean Cleary	Y
Senator Cole Conley	Y
Senator Kyle Davison	Y
Senator Dick Dever	Y
Senator Michael Dwyer	Y
Senator Jeffery J. Magrum	Y
Senator Tim Mathern	Y
Senator Scott Meyer	Y
Senator Donald Schaible	Y
Senator Jonathan Sickler	Y
Senator Ronald Sorvaag	Y
Senator Paul J. Thomas	Y
Senator Terry M. Wanzek	Y

Motion Passed 16-0-0.

8:26 a.m. Senator Davison moved a Do Pass as Amended.

8:27 a.m. Senator Cleary seconded the motion.

Senators	Vote
Senator Brad Bekkedahl	Y
Senator Robert Erbele	Y
Senator Randy A. Burckhard	Y
Senator Sean Cleary	Y
Senator Cole Conley	Y
Senator Kyle Davison	Y
Senator Dick Dever	Y
Senator Michael Dwyer	Y
Senator Jeffery J. Magrum	Y
Senator Tim Mathern	Y
Senator Scott Meyer	Y
Senator Donald Schaible	Y
Senator Jonathan Sickler	Y
Senator Ronald Sorvaag	Y
Senator Paul J. Thomas	Y
Senator Terry M. Wanzek	Y

Motion Passed 16-0-0.

Senator Davison will carry the bill.

8:28 a.m. Chairman Bekkedahl closed the hearing.

Elizabeth Reiten, Committee Clerk

25.0188.01001
Title.02000
Fiscal No. 1

Prepared by the Legislative Council staff for Senate Appropriations - Human Resources Division Committee
February 20, 2025

2-24-25

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO

1069

SENATE BILL NO. 2021

Introduced by

Appropriations Committee

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; to amend and reenact sections 54-59-14 and 54-59-15 of the North Dakota Century Code, relating to the information technology operating fund; to provide for a transfer; and to provide an exemption.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from other funds derived from special funds and federal funds, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

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~~Capital assets~~	~~3,443,909~~	~~0~~	~~3,443,909~~
~~Statewide longitudinal data system~~	~~4,625,661~~	~~0~~	~~4,625,661~~
~~Edutech~~	~~10,348,826~~	~~0~~	~~10,348,826~~
~~K-12 wide area network~~	~~5,915,668~~	~~0~~	~~5,915,668~~
~~Geographic information system~~	~~1,109,786~~	~~0~~	~~1,109,786~~

~~Health information technology office~~	~~5,822,725~~	~~0~~	~~5,822,725~~
~~Statewide interoperable radio network~~	~~18,449,852~~	~~0~~	~~18,449,852~~
~~Total all funds~~	~~$281,064,809~~	~~$0~~	~~$281,064,809~~
~~Less other funds~~	~~239,646,504~~	~~0~~	~~239,646,504~~
~~Total general fund~~	~~$41,418,305~~	~~$0~~	~~$41,418,305~~
~~Full-time equivalent positions~~	~~507.00~~	~~0.00~~	~~507.00~~
Salaries and wages	$112,233,364	$16,139,027	$128,372,391
New and vacant FTE pool	0	8,403,424	8,403,424
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Full-time equivalent positions	507.00	2.00	509.00

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One-Time Funding Description	General Fund	Other Funds	Total
Vulnerability software licenses	$0	$150,000	$150,000
Health information technology office	0	3,000,000	3,000,000
Total	$0	$3,150,000	$3,150,000

SECTION 3. NEW AND VACANT FTE POOL - LIMITATION - TRANSFER REQUEST. The information technology department may not spend funds appropriated in the new and vacant

FTE pool line item in section 1 of this Act, but may request the office of management and budget to transfer funds from the new and vacant FTE pool line item to the salaries and wages line item and other line items with salaries and wages in accordance with the guidelines and reporting provisions included in House Bill No. 1015, as approved by the sixty-ninth legislative assembly.

SECTION 4. OTHER FUNDS - TRANSFER - HEALTH INFORMATION TECHNOLOGY PLANNING LOAN FUND TO ELECTRONIC HEALTH INFORMATION EXCHANGE FUND. Notwithstanding section 6-09-43, the other funds line item in section 1 of this Act includes the sum of $3,000,000, or so much of the sum as may be necessary, which the Bank of North Dakota shall transfer, as requested by the chief information officer, from the health information technology planning loan fund to the electronic health information exchange fund for the purpose of defraying the expenses of the health information technology office and the health information network during the biennium beginning July 1, 2025, and ending June 30, 2027.

SECTION 5. EXEMPTION - LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 6. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology~~,~~ and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.
2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts

received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section.

3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 7. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating ~~account~~fund or other ~~accounts~~funds specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 8. EXEMPTION - UNEXPENDED APPROPRIATIONS. The following appropriations are not subject to the provisions of section 54-44.1-11 and any unexpended appropriation authority remaining may be continued into the biennium beginning July 1, 2025, and ending June 30, 2027:

1. The sum of $45,000,000 appropriated from the federal coronavirus capital projects fund for broadband infrastructure grants in section 9 of chapter 548 of the 2021 Special Session Session Laws and continued into the 2023-25 biennium in sections 9 and 10 of chapter 21 of the 2023 Session Laws.
2. The sum of $12,000,000 appropriated from the strategic investment and improvements fund, of which $7,000,000 was for an enterprise digitization project and

549

$5,000,000 was for a business gateway enterprise customer relationship management program, in section 1 of chapter 21 of the 2023 Session Laws.

3. The sum of $4,856,876 appropriated from the information technology operating fund for governance, risk, and compliance costs and the department of public instruction lighthouse project in section 1 of chapter 21 of the 2023 Session Laws.

4. The sum of $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act for the broadband, equity, access, and deployment program, digital equity program, and state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.

5. The sum of $487,520 appropriated from the general fund as matching funds for the state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.

6. The sum of $80,000,000 appropriated from the federal state fiscal recovery fund for the statewide interoperable radio network project in section 4 of chapter 554 of the 2023 Session Laws.

6089

STATEMENT OF PURPOSE OF AMENDMENT:

Senate Bill No. 2021 - Information Technology Department - Senate Action

	Base Budget	Senate Changes	Senate Version
Salaries and wages	$112,233,364	$16,139,027	$128,372,391
New and vacant FTE pool		8,403,424	8,403,424
Operating expenses	119,115,018	(96,380,424)	22,734,594
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
EduTech	10,348,826	(304,659)	10,044,167
K-12 wide area network	5,915,668	912,665	6,828,333
Geographic information system	1,109,786	48,157	1,157,943
Health Information Technology Office	5,822,725	4,928,517	10,751,242
Statewide interoperable radio network	18,449,852	(2,236,315)	16,213,537
Total all funds	$281,064,809	($72,307,386)	$208,757,423
Less estimated income	239,646,504	(82,764,058)	156,882,446
General fund	$41,418,305	$10,456,672	$51,874,977
FTE	507.00	2.00	509.00

Department 112 - Information Technology Department - Detail of Senate Changes

	Adjusts Funding for Base Payroll Changes[1]	Adds Funding for the Cost to Continue Salaries[2]	Adds Funding for Salary and Benefit Increases[3]	Adds Funding for FTE SIRN Positions[4]	Adds Funding to Replace 2023-25 New and Vacant FTE Pool[5]	Transfers Funding for 2025-27 New and Vacant FTE Pool[6]
Salaries and wages	$3,204,581	$2,942,816	$7,936,669		$13,093,855	($11,038,894)
New and vacant FTE pool						8,403,424
Operating expenses						
Capital assets						
Statewide longitudinal data system		276,855	55,822		132,703	(75,445)
EduTech		(455,630)	397,495		420,517	(504,965)
K-12 wide area network		(65,555)	67,738		102,130	(89,058)
Geographic information system		8,932	19,208		22,704	(26,184)
Health Information Technology Office		(10,695)	70,693		77,504	(94,151)
Statewide interoperable radio network		(231,007)	18,386	$608,927	36,707	(24,766)
Total all funds	$3,204,581	$2,465,716	$8,566,011	$608,927	$13,886,120	($3,450,039)
Less estimated income	3,229,838	2,047,215	7,222,484	608,927	10,418,391	(2,927,793)
General fund	($25,257)	$418,501	$1,343,527	$0	$3,467,729	($522,246)
FTE	0.00	0.00	0.00	2.00	0.00	0.00

7089

	Adjusts Base Level Funding[7]	Adds Funding for Cybersecurity Contractual Services[8]	Transfers Special Fund Authority to Continuing Appropriation Authority[9]	Adds Ongoing Funding for Vulnerability Software[10]	Adjusts Ongoing Funding for the Health Information Network[11]	Adjusts Funding for SIRN[12]
Salaries and wages						
New and vacant FTE pool						
Operating expenses	($7,574,647)	$4,006,865	($95,855,602)	$2,892,960		
Capital assets	1		(3,312,875)			
Statewide longitudinal data system	(894,839)					
EduTech	(162,076)					
K-12 wide area network	771,101	126,309				
Geographic information system	23,497					
Health Information Technology Office					$1,885,166	
Statewide interoperable radio network						($2,644,562)
Total all funds	($7,836,963)	$4,133,174	($99,168,477)	$2,892,960	$1,885,166	($2,644,562)
Less estimated income	(10,625,466)	0	(99,168,477)	2,892,960	3,241,945	(2,854,082)
General fund	$2,788,503	$4,133,174	$0	$0	($1,356,779)	$209,520
FTE	0.00	0.00	0.00	0.00	0.00	0.00

	Adds One-Time Funding[13]	Total Senate Changes
Salaries and wages		$16,139,027
New and vacant FTE pool		8,403,424
Operating expenses	$150,000	(96,380,424)
Capital assets		(3,312,874)
Statewide longitudinal data system		(504,904)
EduTech		(304,659)
K-12 wide area network		912,665
Geographic information system		48,157
Health Information Technology Office	3,000,000	4,928,517
Statewide interoperable radio network		(2,236,315)
Total all funds	$3,150,000	($72,307,386)
Less estimated income	3,150,000	(82,764,058)
General fund	$0	$10,456,672
FTE	0.00	2.00

[1] Funding is adjusted for base payroll changes related to salary equity increases, position reclassifications, and other staffing changes.

[2] Funding is added for the cost to continue salary increases from the 2023-25 biennium.

[3] The following funding is added for 2025-27 biennium salary adjustments of 3 percent on July 1, 2025, and 3 percent on July 1, 2026, and increases in health insurance premiums from $1,643 to $1,893 per month:

	General Fund	Other Funds	Total
Salary increase	$845,089	$4,664,234	$5,509,323
Health insurance increase	498,438	2,558,250	3,056,688
Total	$1,343,527	$7,222,484	$8,566,011

[4] Funding of $608,927 is added from the statewide interoperable radio network (SIRN) fund for 2 FTE SIRN positions.

[5] Funding is added to replace 2023-25 biennium new and vacant FTE pool funding as follows:

	General Fund	Other Funds	Total
New FTE positions	$1,998,699	$2,967,987	$4,966,686
Vacant FTE positions	1,469,030	7,450,404	8,919,434
Total	$3,467,729	$10,418,391	$13,886,120

[6] Funding of $11,853,462 for new FTE positions and estimated savings from vacant FTE positions is removed and funding of $8,403,423 is added for a 2025-27 new and vacant FTE pool line item as follows:

	General Fund	Other Funds	Total
New FTE positions	$0	($529,994)	($529,994)
Vacant FTE positions	(1,740,821)	(9,582,647)	(11,323,468)
Total	($1,740,821)	($10,112,641)	($11,853,462)
Funding pool line item	1,218,575	7,184,849	8,403,424
Net savings	($522,246)	($2,927,792)	($3,450,038)

[7] Base level funding is adjusted as follows:

	General Fund	Other Funds	Total
Reduces funding for operating expenses, primarily professional services. Of the funding reduced from other funds, $744,345 is from federal funds and $9,595,013 is from special funds	($599,999)	($10,339,358)	($10,939,357)
Adds funding for information technology (IT) inflationary costs, including $231,845 from federal funds and $299,802 from special funds	3,181,664	531,647	3,713,311
Reduces funding for the statewide longitudinal data system, including $500,000 from federal funds	(394,839)	(500,000)	(894,839)
Reduces funding for EduTech operating expenses, including $500,000 from federal funds and $53,869 from special funds	0	(553,869)	(553,869)
Adds funding from special funds for an EduTech training application replacement project	0	391,793	391,793
Adjusts funding for the K-12 wide area network, including a reduction from special funds	512,501	(90,000)	422,501
Adjusts funding for the geographic information system, including a reduction from federal funds	89,176	(65,679)	23,497
Total	$2,788,503	($10,625,466)	($7,836,963)

[8] Funding of $4,133,174 from the general fund is added for cybersecurity contractual service increases.

[9] Special funds of $99,168,477 from the department's IT operating fund is transferred to continuing appropriation authority, resulting in the department being able to charge state agencies for IT services without specific legislative approval. A section is added to the bill providing the statutory change to establish a continuing appropriation.

[10] Ongoing funding of $2,892,960 from the information technology operating fund is added for vulnerability management software licensing costs.

[11] Ongoing funding for the North Dakota Health Information Network is adjusted, including a ($1,356,779) reduction from the general fund and a $3,241,945 increase from the electronic health information exchange fund.

[12] Funding for SIRN is adjusted, including adding $209,520 from the general fund for SIRN circuits and reducing $2,854,082 from the SIRN fund for equipment.

[13] One-time funding of $3.15 million is added, including $150,000 from the information technology operating fund for vulnerability management software licensing costs and $3 million transferred from the health IT planning loan fund to the electronic health information exchange fund for the North Dakota Health Information Network. A section is added to the bill to provide for the transfer.

Senate Bill No. 2021 - Other Changes - Senate Action

This amendment also adds sections:

- Regarding the use funding in the new and vacant FTE pool line item.
- To provide for a $3 million transfer from the health IT planning loan fund to the electronic health information exchange fund for the North Dakota Health Information Network.
- To amend North Dakota Century Code Section 54-59-14 to provide the Information Technology Department a continuing appropriation from the IT operating fund to allow the department to provide IT and network services to state agencies without receiving appropriation authority from the Legislative Assembly. The department is required to provide a report at each meeting of the Budget Section and to the appropriations committee each legislative session regarding the status of the IT operating fund and the balance of the fund.
- To amend Section 54-59-15 to rename the IT operating account the IT operating fund.
- To provide exemptions allowing the department to continue funding appropriated in prior bienniums into the 2025-27 biennium.

REPORT OF STANDING COMMITTEE
SB 2021

Appropriations Committee (Sen. Bekkedahl, Chairman) recommends **AMENDMENTS (25.0188.01001)** and when so amended, recommends **DO PASS** (16 YEAS, 0 NAYS, 0 ABSENT OR EXCUSED AND NOT VOTING). SB 2021 was placed on the Sixth order on the calendar. This bill does not affect workforce development.

25.0188.01001
Title.
Fiscal No. 1

Prepared by the Legislative Council staff for Senate Appropriations - Human Resources Division Committee
February 20, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO

SENATE BILL NO. 2021

Introduced by

Appropriations Committee

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; to amend and reenact sections 54-59-14 and 54-59-15 of the North Dakota Century Code, relating to the information technology operating fund; to provide for a transfer; and to provide an exemption.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from other funds derived from special funds and federal funds, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
~~Salaries and wages~~	~~$112,233,364~~	~~$0~~	~~$112,233,364~~
~~Operating expenses~~	~~119,115,018~~	~~0~~	~~119,115,018~~
~~Capital assets~~	~~3,443,909~~	~~0~~	~~3,443,909~~
~~Statewide longitudinal data system~~	~~4,625,661~~	~~0~~	~~4,625,661~~
~~Eduteeh~~	~~10,348,826~~	~~0~~	~~10,348,826~~
~~K-12 wide area network~~	~~5,915,668~~	~~0~~	~~5,915,668~~
~~Geographic information system~~	~~1,109,786~~	~~0~~	~~1,109,786~~

~~Health information technology office~~	~~5,822,725~~	~~0~~	~~5,822,725~~
~~Statewide interoperable radio network~~	~~18,449,852~~	~~0~~	~~18,449,852~~
~~Total all funds~~	~~$281,064,809~~	~~$0~~	~~$281,064,809~~
~~Less other funds~~	~~239,646,504~~	~~0~~	~~239,646,504~~
~~Total general fund~~	~~$41,418,305~~	~~$0~~	~~$41,418,305~~
~~Full-time equivalent positions~~	~~507.00~~	~~0.00~~	~~507.00~~
Salaries and wages	$112,233,364	$16,139,027	$128,372,391
New and vacant FTE pool	0	8,403,424	8,403,424
Operating expenses	119,115,018	(96,380,424)	22,734,594
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
Edutech	10,348,826	(304,659)	10,044,167
K-12 wide area network	5,915,668	912,665	6,828,333
Geographic information system	1,109,786	48,157	1,157,943
Health information technology office	5,822,725	4,928,517	10,751,242
Statewide interoperable radio network	18,449,852	(2,236,315)	16,213,537
Total all funds	$281,064,809	(72,307,386)	$208,757,423
Less other funds	239,646,504	(82,764,058)	156,882,446
Total general fund	$41,418,305	$10,456,672	$51,874,977
Full-time equivalent positions	507.00	2.00	509.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SEVENTIETH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items included in the appropriation in section 1 of this Act which are not included in the entity's base budget for the 2027-29 biennium and which the entity shall report to the appropriations committees of the seventieth legislative assembly regarding the use of this funding:

One-Time Funding Description	General Fund	Other Funds	Total
Vulnerability software licenses	$0	$150,000	$150,000
Health information technology office	0	3,000,000	3,000,000
Total	$0	$3,150,000	$3,150,000

SECTION 3. NEW AND VACANT FTE POOL - LIMITATION - TRANSFER REQUEST. The information technology department may not spend funds appropriated in the new and vacant

FTE pool line item in section 1 of this Act, but may request the office of management and budget to transfer funds from the new and vacant FTE pool line item to the salaries and wages line item and other line items with salaries and wages in accordance with the guidelines and reporting provisions included in House Bill No. 1015, as approved by the sixty-ninth legislative assembly.

SECTION 4. OTHER FUNDS - TRANSFER - HEALTH INFORMATION TECHNOLOGY PLANNING LOAN FUND TO ELECTRONIC HEALTH INFORMATION EXCHANGE FUND. Notwithstanding section 6-09-43, the other funds line item in section 1 of this Act includes the sum of $3,000,000, or so much of the sum as may be necessary, which the Bank of North Dakota shall transfer, as requested by the chief information officer, from the health information technology planning loan fund to the electronic health information exchange fund for the purpose of defraying the expenses of the health information technology office and the health information network during the biennium beginning July 1, 2025, and ending June 30, 2027.

SECTION 5. EXEMPTION - LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 6. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology, and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.
2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts

received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section.

3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 7. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating ~~account~~fund or other ~~accounts~~funds specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 8. EXEMPTION - UNEXPENDED APPROPRIATIONS. The following appropriations are not subject to the provisions of section 54-44.1-11 and any unexpended appropriation authority remaining may be continued into the biennium beginning July 1, 2025, and ending June 30, 2027:

1. The sum of $45,000,000 appropriated from the federal coronavirus capital projects fund for broadband infrastructure grants in section 9 of chapter 548 of the 2021 Special Session Session Laws and continued into the 2023-25 biennium in sections 9 and 10 of chapter 21 of the 2023 Session Laws.
2. The sum of $12,000,000 appropriated from the strategic investment and improvements fund, of which $7,000,000 was for an enterprise digitization project and

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4. The sum of $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act for the broadband, equity, access, and deployment program, digital equity program, and state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
5. The sum of $487,520 appropriated from the general fund as matching funds for the state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
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FTE	507.00	2.00	509.00

Department 112 - Information Technology Department - Detail of Senate Changes

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Operating expenses						
Capital assets						
Statewide longitudinal data system		276,855	55,822		132,703	(75,445)
EduTech		(455,630)	397,495		420,517	(504,965)
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Total all funds	$3,204,581	$2,465,716	$8,566,011	$608,927	$13,886,120	($3,450,039)
Less estimated income	3,229,838	2,047,215	7,222,484	608,927	10,418,391	(2,927,793)
General fund	($25,257)	$418,501	$1,343,527	$0	$3,467,729	($522,246)
FTE	0.00	0.00	0.00	2.00	0.00	0.00

	Adjusts Base Level Funding[7]	Adds Funding for Cybersecurity Contractual Services[8]	Transfers Special Fund Authority to Continuing Appropriation Authority[9]	Adds Ongoing Funding for Vulnerability Software[10]	Adjusts Ongoing Funding for the Health Information Network[11]	Adjusts Funding for SIRN[12]
Salaries and wages						
New and vacant FTE pool						
Operating expenses	($7,574,647)	$4,006,865	($95,855,602)	$2,892,960		
Capital assets	1		(3,312,875)			
Statewide longitudinal data system	(894,839)					
EduTech	(162,076)					
K-12 wide area network	771,101	126,309				
Geographic information system	23,497					
Health Information Technology Office					$1,885,166	
Statewide interoperable radio network						($2,644,562)
Total all funds	($7,836,963)	$4,133,174	($99,168,477)	$2,892,960	$1,885,166	($2,644,562)
Less estimated income	(10,625,466)	0	(99,168,477)	2,892,960	3,241,945	(2,854,082)
General fund	$2,788,503	$4,133,174	$0	$0	($1,356,779)	$209,520
FTE	0.00	0.00	0.00	0.00	0.00	0.00

	Adds One-Time Funding[13]	Total Senate Changes
Salaries and wages		$16,139,027
New and vacant FTE pool		8,403,424
Operating expenses	$150,000	(96,380,424)
Capital assets		(3,312,874)
Statewide longitudinal data system		(504,904)
EduTech		(304,659)
K-12 wide area network		912,665
Geographic information system		48,157
Health Information Technology Office	3,000,000	4,928,517
Statewide interoperable radio network		(2,236,315)
Total all funds	$3,150,000	($72,307,386)
Less estimated income	3,150,000	(82,764,058)
General fund	$0	$10,456,672
FTE	0.00	2.00

[1] Funding is adjusted for base payroll changes related to salary equity increases, position reclassifications, and other staffing changes.

[2] Funding is added for the cost to continue salary increases from the 2023-25 biennium.

[3] The following funding is added for 2025-27 biennium salary adjustments of 3 percent on July 1, 2025, and 3 percent on July 1, 2026, and increases in health insurance premiums from $1,643 to $1,893 per month:

	General Fund	Other Funds	Total
Salary increase	$845,089	$4,664,234	$5,509,323
Health insurance increase	498,438	2,558,250	3,056,688
Total	$1,343,527	$7,222,484	$8,566,011

[4] Funding of $608,927 is added from the statewide interoperable radio network (SIRN) fund for 2 FTE SIRN positions.

[5] Funding is added to replace 2023-25 biennium new and vacant FTE pool funding as follows:

	General Fund	Other Funds	Total
New FTE positions	$1,998,699	$2,967,987	$4,966,686
Vacant FTE positions	1,469,030	7,450,404	8,919,434
Total	$3,467,729	$10,418,391	$13,886,120

[6] Funding of $11,853,462 for new FTE positions and estimated savings from vacant FTE positions is removed and funding of $8,403,423 is added for a 2025-27 new and vacant FTE pool line item as follows:

	General Fund	Other Funds	Total
New FTE positions	$0	($529,994)	($529,994)
Vacant FTE positions	(1,740,821)	(9,582,647)	(11,323,468)
Total	($1,740,821)	($10,112,641)	($11,853,462)
Funding pool line item	1,218,575	7,184,849	8,403,424
Net savings	($522,246)	($2,927,792)	($3,450,038)

[7] Base level funding is adjusted as follows:

	General Fund	Other Funds	Total
Reduces funding for operating expenses, primarily professional services. Of the funding reduced from other funds, $744,345 is from federal funds and $9,595,013 is from special funds	($599,999)	($10,339,358)	($10,939,357)
Adds funding for information technology (IT) inflationary costs, including $231,845 from federal funds and $299,802 from special funds	3,181,664	531,647	3,713,311
Reduces funding for the statewide longitudinal data system, including $500,000 from federal funds	(394,839)	(500,000)	(894,839)
Reduces funding for EduTech operating expenses, including $500,000 from federal funds and $53,869 from special funds	0	(553,869)	(553,869)
Adds funding from special funds for an EduTech training application replacement project	0	391,793	391,793
Adjusts funding for the K-12 wide area network, including a reduction from special funds	512,501	(90,000)	422,501
Adjusts funding for the geographic information system, including a reduction from federal funds	89,176	(65,679)	23,497
Total	$2,788,503	($10,625,466)	($7,836,963)

[8] Funding of $4,133,174 from the general fund is added for cybersecurity contractual service increases.

[9] Special funds of $99,168,477 from the department's IT operating fund is transferred to continuing appropriation authority, resulting in the department being able to charge state agencies for IT services without specific legislative approval. A section is added to the bill providing the statutory change to establish a continuing appropriation.

[10] Ongoing funding of $2,892,960 from the information technology operating fund is added for vulnerability management software licensing costs.

[11] Ongoing funding for the North Dakota Health Information Network is adjusted, including a ($1,356,779) reduction from the general fund and a $3,241,945 increase from the electronic health information exchange fund.

[12] Funding for SIRN is adjusted, including adding $209,520 from the general fund for SIRN circuits and reducing $2,854,082 from the SIRN fund for equipment.

[13] One-time funding of $3.15 million is added, including $150,000 from the information technology operating fund for vulnerability management software licensing costs and $3 million transferred from the health IT planning loan fund to the electronic health information exchange fund for the North Dakota Health Information Network. A section is added to the bill to provide for the transfer.

Senate Bill No. 2021 - Other Changes - Senate Action

This amendment also adds sections:

- Regarding the use funding in the new and vacant FTE pool line item.
- To provide for a $3 million transfer from the health IT planning loan fund to the electronic health information exchange fund for the North Dakota Health Information Network.
- To amend North Dakota Century Code Section 54-59-14 to provide the Information Technology Department a continuing appropriation from the IT operating fund to allow the department to provide IT and network services to state agencies without receiving appropriation authority from the Legislative Assembly. The department is required to provide a report at each meeting of the Budget Section and to the appropriations committee each legislative session regarding the status of the IT operating fund and the balance of the fund.
- To amend Section 54-59-15 to rename the IT operating account the IT operating fund.
- To provide exemptions allowing the department to continue funding appropriated in prior bienniums into the 2025-27 biennium.

2025 HOUSE APPROPRIATIONS

SB 2021

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee
Roughrider Room, State Capitol

SB 2021
3/5/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; relating to the information technology operating fund; to provide for a transfer; and to provide an exemption.

1:05 p.m. Chairman Vigesaa opened the meeting.

Members present: Chairman Vigesaa, Vice Chairman Kempenich, Representatives Anderson, Bosch, Brandenburg, Fisher, Hanson, Martinson, Meier, Mitskog, Monson, Murphy, Nathe, Nelson, O'Brien, Pyle, Richter, Sanford, Stemen, Swiontek, Wagner

Members Absent: Representatives Berg and Louser

Discussion Topics:

- North Dakota Information Technology (NDIT) Overview
- NDIT Teams and Divisions
- PowerSchool application
- Internal Service Fund (ISF)
- EDUTech
- NDIT rates throughout agencies
- NDIT Service Fee Breakdown

1:05 p.m. Corey Mock, Chief Information Officer, North Dakota Information Technology, testified in favor and submitted testimony #38952.

1:31 p.m. Greg Hoffman, Deputy Chief Information Officer, North Dakota Information Technology, testified in favor and continued with testimony #38952.

2:17 p.m. Chairman Vigesaa closed the meeting.

Madaline Cooper, Committee Clerk

HOUSE APPROPRIATIONS COMMITTEE

MARCH 5TH, 2025
ROUGH RIDER ROOM

NORTH Dakota | Information Technology

Be Legendary.

Introductions

Corey Mock
Chief Information Officer

Greg Hoffman
Deputy Chief Information Officer

Evonne Amundson
Chief Business Applications Officer

Kim Weis
Chief Data Officer

Craig Felchle
Chief Technology Officer

Shelly Miller
Chief of Staff

Chris Gergen
Interim Chief Information Security Officer

NDIT Vision and Mission

NDIT enables partners to provide the ‘Best Government Experience’ and strives to be a trusted business partner through frictionless technology and proactive services

North Dakota Information Technology

Defends
252,000+
People every day from cyber attacks

Prevents
4.5 Billion+
Threats on STAGEnet per year

Provides
ND Citizen Skills for All Training
a pathway to a career in technology

Supports
ND companies to provide internet to unserved /underserved citizens by awarding **$37M grant funds**

WHAT WE DO

End to End Technology Services
Handling all technology, from supporting the tried and true, to finding innovative technology solutions for the future.

Whole-of-State Cybersecurity
Defending the data and services of all branches of government and the citizens they serve.

STAGEnet
Network backbone for governmental entities in the state.

PK20W
All North Dakota, Future Ready, Today. Every student. Every school. Cyber educated.

Education
Improve student and teacher outcomes in every North Dakota K12 school using SLDS and Learning Information Systems.

Program & Portfolios
Managing hundreds of millions of dollars of IT projects across government.

WHAT WE'RE PROUD OF

Strengthen Operational Rhythm – HB1398 (2023)
ND is the First State to require Cybersecurity and Computer Science credits for high school graduation.

Optimize Financial and Process Discipline - HHS MMIS Upgrade
Decreasing operational support costs, addressing security risk, and building more modern platforms that will support the MMIS system for the future.

Frictionless Experience - NDIT and ND Game and Fish win National Award
The Electronic posting project is a tool for landowners and hunters to identify posted lands digitally.

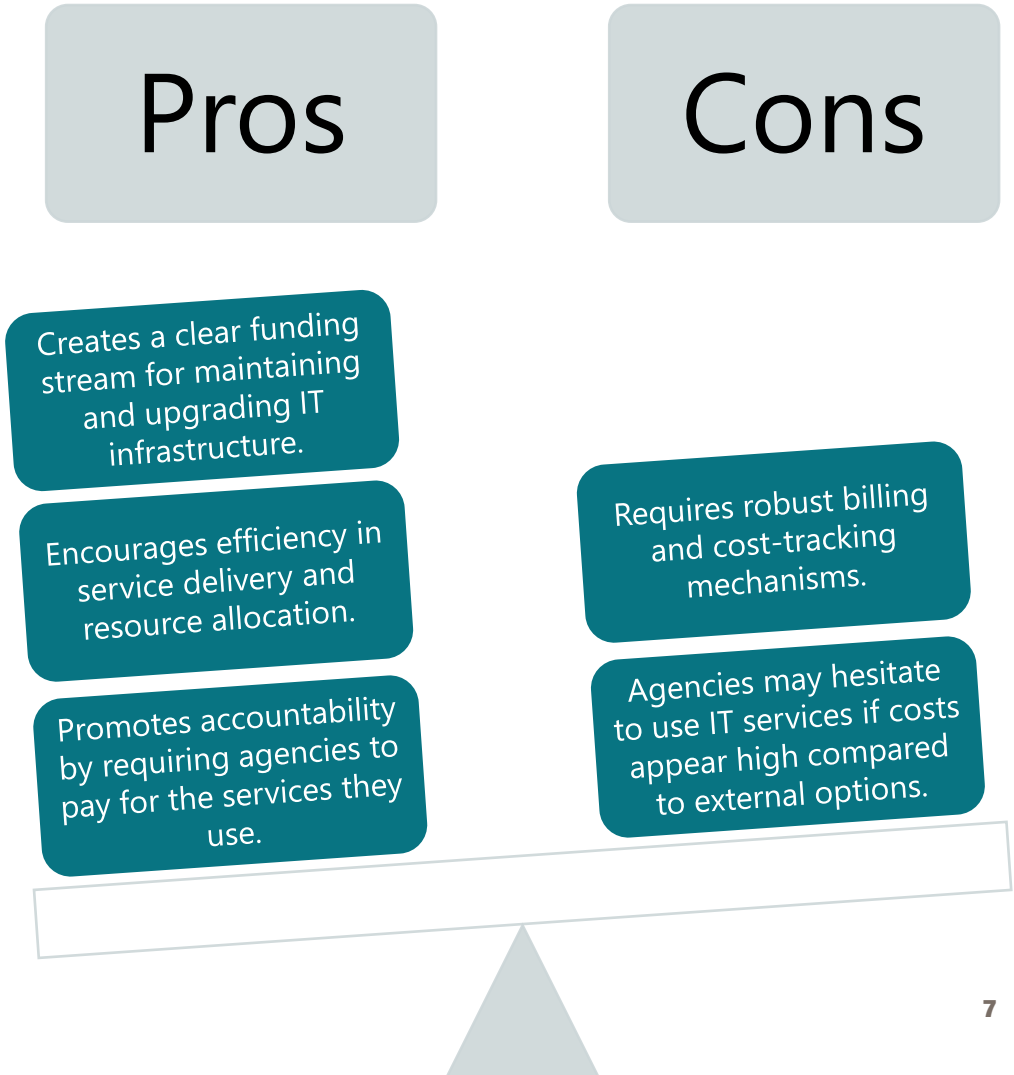
NDIT Teams

- **Applications Team-** The Applications Team at NDIT creates, supports, and improves the digital tools and programs—like health applications, websites, and document-sharing platforms—that help state employees get their work done. This team ensures these tools are reliable, user-friendly, and meet the needs of everyone who uses them.
- **Data Team-** The Data Team at NDIT helps make data useful and accessible for better decision-making across the state. They support tools like maps and geospatial data (GIS), analyze data for trends and insights, and use artificial intelligence to automate tasks and improve processes.
- **Technology Team-** The Technology Team at NDIT ensures the state's technology is innovative, secure, and efficient. They support public safety with tools like 911 system support and emergency communication, expand broadband access to connect communities, and manage the overall technology (hosting, computers, networks, collaboration products) that keep systems running smoothly. The Technology Team also leads the Enterprise Architecture practice, the solutioning and road-mapping team that strives to align business objectives with technology solutions.
- **Security Team-** The Security Team protects the state's data, systems, and critical services from cyber threats. They work closely with agencies to create security policies, identify risks, fix vulnerabilities, and monitor and respond to threats to ensure everything remains safe and secure.
- **Fiscal and Vendor Management Team-** The Fiscal and Vendor Management teams handle all the back-office support for procurement, budgeting, service fee creation and financial management of NDIT
- **Administrative Team-** The Administrative Team at NDIT is responsible for internal and external communications, human resource functions, training, education and outreach for technology solutions. They lead efforts on employee culture, engagement and succession planning.

Budget Breakdown

Internal Service Fund (ISF)

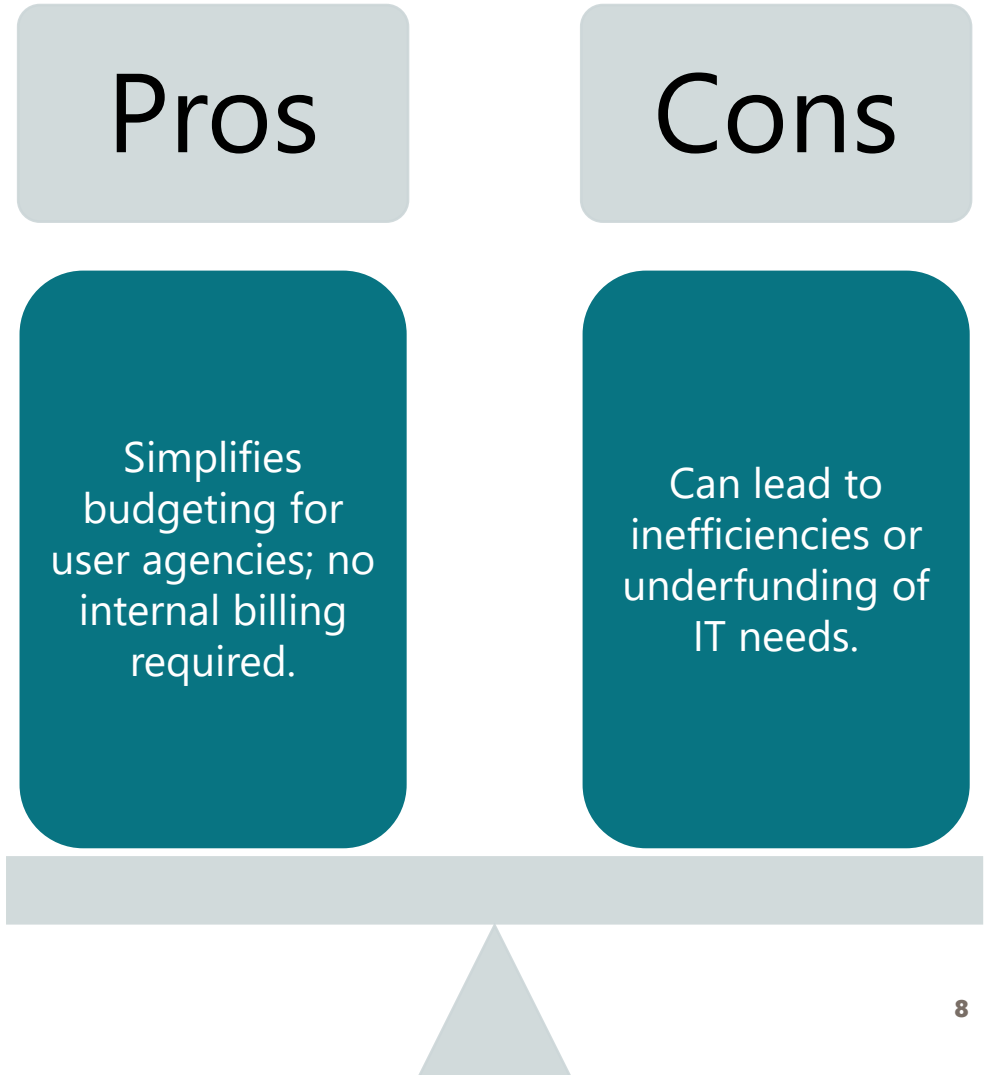
- **Definition:** ISFs are self-sustaining financial models used by government entities to deliver services to other agencies, with costs recovered through chargeback.



Alternative Models

- **General Fund Allocation:** IT services are funded through appropriations from the state's general fund, often making them appear "free" to the receiving agency.

- **Hybrid Models:** Some states use a combination of ISFs and direct appropriations, where certain core services are funded through the general fund and other services operate as ISFs.



Service Fee Timeline

January – April

2024

Do rate analysis

Set upcoming biennium rates

Publish rates to OMB/agencies

March – September 2024

State agency

IT Plan creation

June – September

2024

Agencies submit budgets

working with OMB budget analysts

December 2024

Governor's Executive Budget

January – April

2025

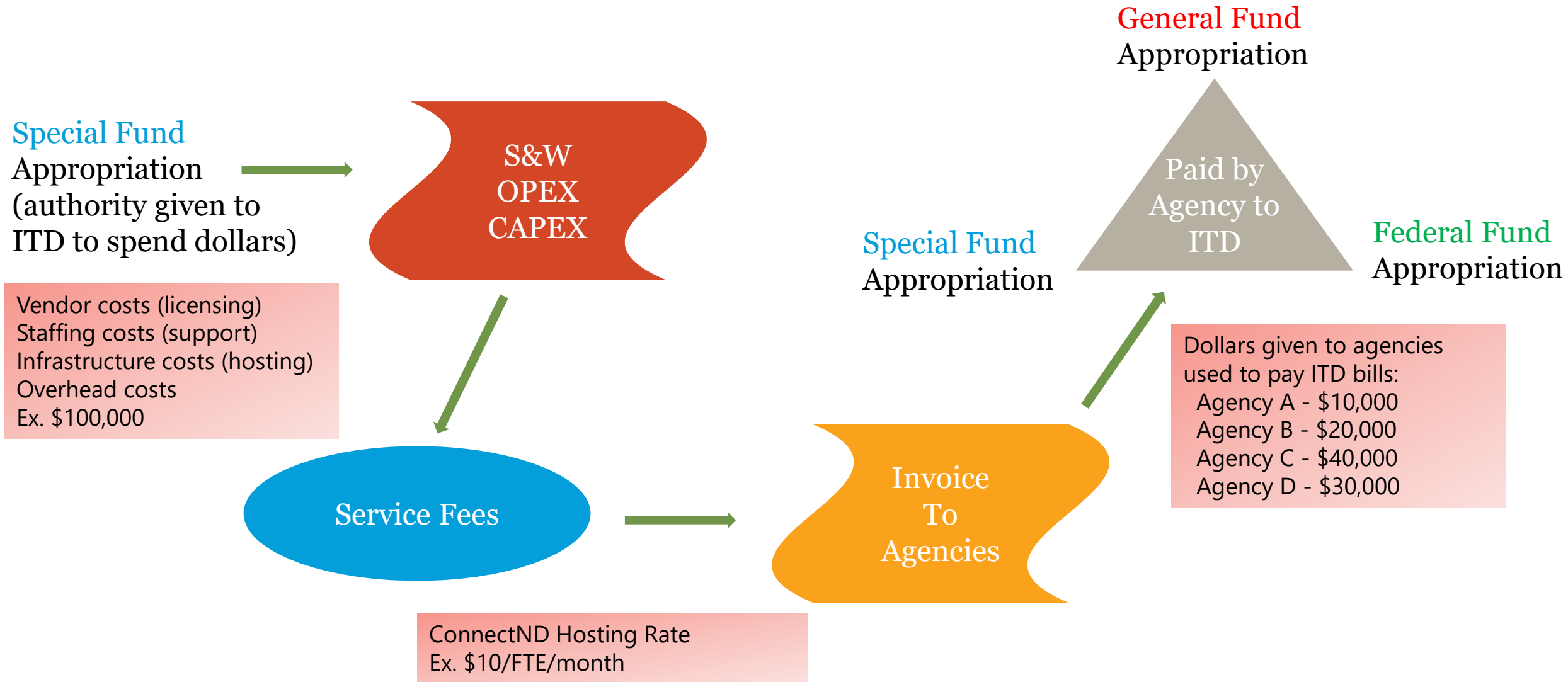
Legislative Session

Finalization of Agency Appropriations

July 2025 – June 2027

Biennium for which IT rates are used

Appropriation & Chargeback Example



Service Fee Example – Legislative IT Committee

What would a service fee for this committee look like?

<u>Assumptions:</u>
6 meetings during an interim
11 committee members
1 citizen member
2 support staff

What happens if you are directed to have 10 meetings?

What if it were an hourly rate per member?

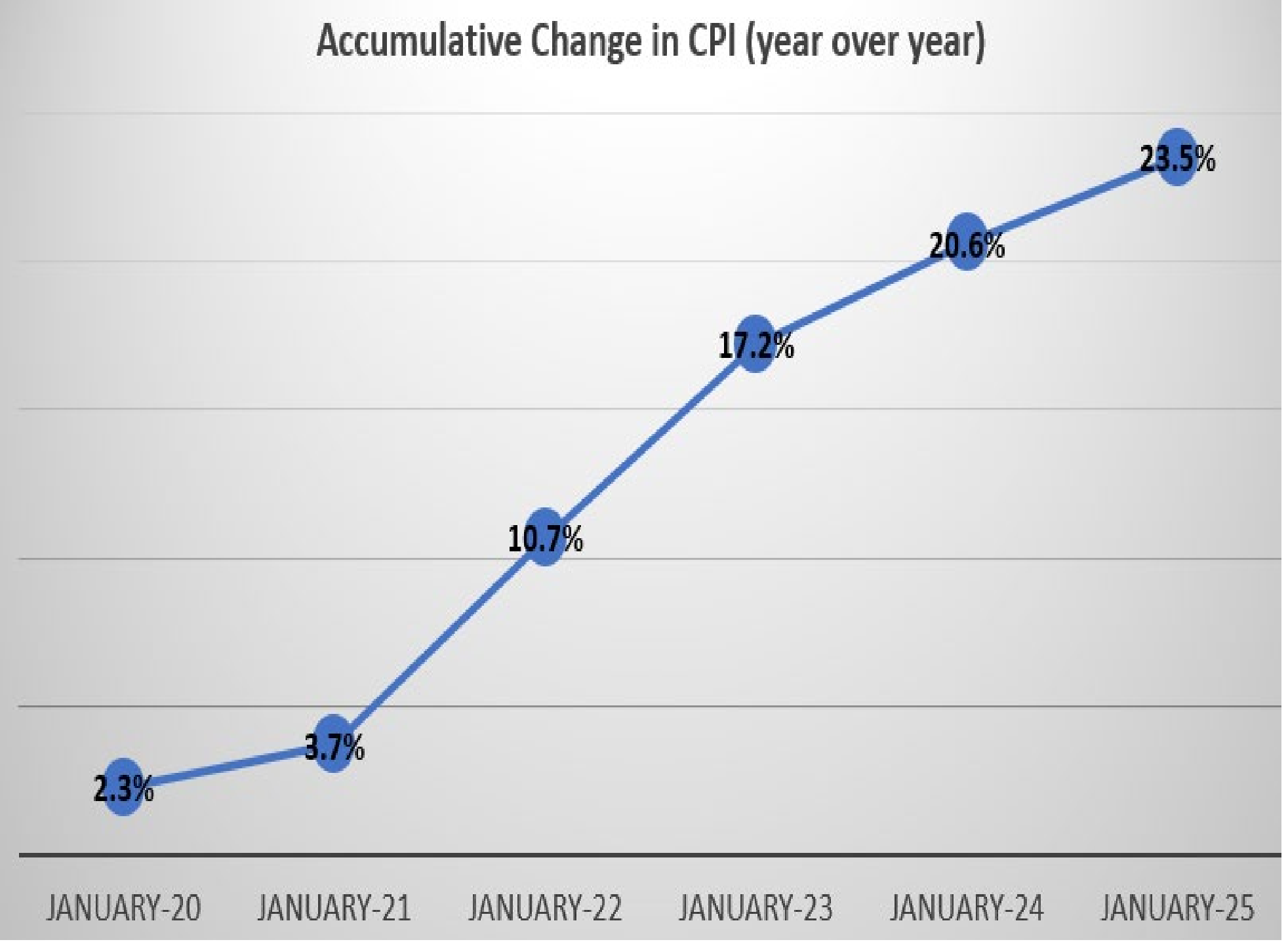
Where does the cost of creating your Legislative Management report go?

Staffing:
- Portion of salaries/benefits for nine committee members
- Travel costs for nine committee members
- Any direct training needed to serve on the committee

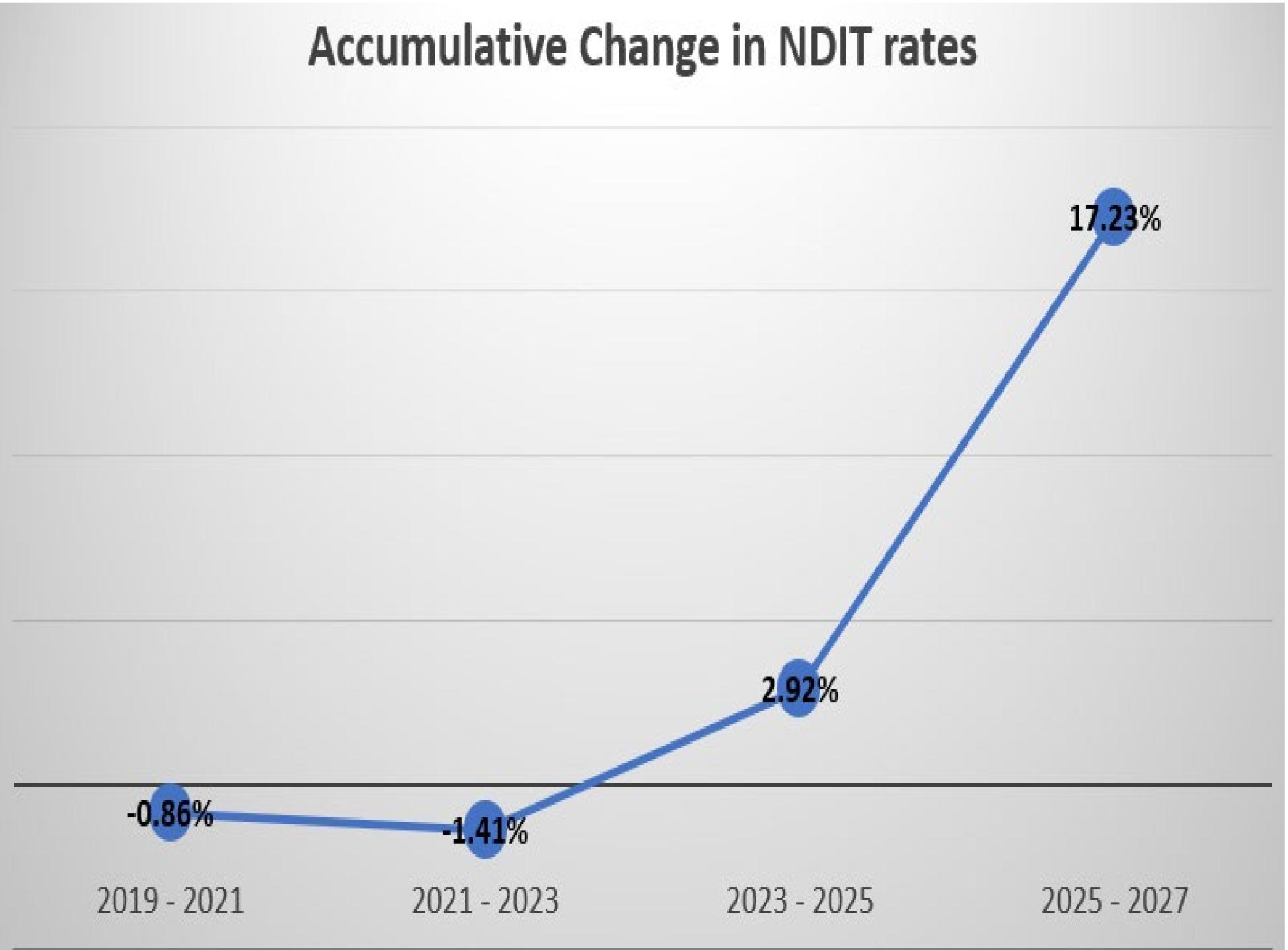
Operational:
- Portion of contractor cost (CIO Mock)
- Portion of end user license costs (M365, Adobe, LC applications)
- Portion of end user equipment
- Cost of Harvest Room (includes technology within room)

Overhead:
- Portion of salaries/benefits for chairman/vice chairman (leadership)
- Portion of salaries/benefits for support staff

Billing metric could be a flat rate per meeting.



Source: Consumer Price Index Data from 1913 to 2025



Rates set in April of 2018, 2020, 2022 and 2024 for next biennium services

Costs Absent From 2023-2025 Rates

- Current biennium rates do not include:
  - Equity Package
    - $5.2M, including the 6/4% legislative increase
      - Would increase current rates by 10.2%
  - Legislative Increase of 6/4%
    - Rates only included a 3/3% increase
      - Approx. $1M difference for the biennium
- Efforts to remediate critical security vulnerabilities
  - Unmanaged desktop apps
  - Apps unable to migrate to new hardware
- New technology proof of concepts
  - Artificial Intelligence
  - Robotic Process Automation
  - Low code/No Code platforms

Cost Reduction Considerations

- Request for Information (RFI) for Managed Voice Services:
  - Issued March 2024, only 2 qualifying responses one of which submitted a cost proposal
  - $1.85M/yr. for just managed services (staffing)
  - NDIT staffing is $675,000/year

- Multi-year contract to lock in pricing

- Transition costs to change vendors
  - Network Endpoint Hardware – 1,336 switches
    - Over 7,000 firewall rules would need to be redone
  - Desktop Hardware – 7,350 devices

- Changes to support agreements

Desktop Support Examples

- South Dakota
  - January 2025 User Fee
  - $125.00 User/Month

  User Fee: The user fee is assessed based on each domain account or user name used to sign on to a computer. This fee covers services provided by BIT including statewide technical support for hardware and software on workstations and networks, installation of hardware and software, operating system research and development, cloning or developing a standard workstation set-up, Parts Center services (including warranty repair), application deployment, hardware and software inventory, printer support, and file restores.

- ND Legislative Council (estimate)
  - 3 Information Tech Specialists
  - $5,275 monthly salary (assumes mid-range)
  - 141 Devices – Legislative Assembly
  - 48 Devices – Legislative Council
  - $83.73 per device for support
    - (3 * $5275) / (141 + 48)
    - Does not include benefits, operational costs, management costs
  - NDIT support per device - $62.00

Budget breakdown

NDIT 2023-2025 Total Budget Appropriation (July 2023)					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,312,324	214,962,865	4,011,967	$ 242,287,156
Statewide Longitudinal Data System	3.0	5,082,678	-	500,000	5,582,678
EduTech	26.0	2,905,260	6,759,048	500,000	10,164,308
K-12 Network	4.0	6,272,610	90,000	-	6,362,610
Geographic Information System	1.0	1,142,213	-	65,679	1,207,892
Health Information Technology	4.0	2,000,000	6,742,111	-	8,742,111
Public Safety - (E911/SIRN)	1.0	1,858,240	16,543,229	-	18,401,469
Public Safety - (HB 1242)	0.0	-	20,000,000	80,000,000	100,000,000
Online Tax Portal Grant - (HB 1225)	0.0	300,000	-	-	300,000
IIJA Federal Funds	0.0	487,520	-	147,762,480	148,250,000
One-Time SIIF Funds	0.0	-	15,000,000	-	15,000,000
Total	**507.0**	$ 43,360,845	$ 280,097,253	$ 232,840,126	$ 556,298,224

Budget breakdown

NDIT 2023-2025 Budget Adjustments					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ (2,950,000)	(24,831,876)	(3,499,467)	$ (31,281,343)
Statewide Longitudinal Data System	3.0	(1,075,000)	-	-	(1,075,000)
EduTech	26.0	-	-	-	-
K-12 Network	4.0	-	-	-	-
Geographic Information System	1.0	-	-	-	-
Health Information Technology	4.0	-	(3,000,000)	-	(3,000,000)
Public Safety - (E911/SIRN)	1.0	-	(20,000,000)	(80,000,000)	(100,000,000)
Public Safety - (HB 1242)	0.0	-	-	-	-
Online Tax Portal Grant - (HB 1225)	0.0	(300,000)	-	-	(300,000)
American Rescue Plan Act	0.0	-	-	-	-
IIJA Federal Funds	0.0	(487,520)	-	(147,762,480)	(148,250,000)
One-Time SIIF Funds	0.0	-	-	-	-
Equity & Retirement Additions		2,869,980	5,802,948	-	8,672,928
Total	**507.0**	$ (1,942,540)	$ (42,028,928)	$ (231,261,947)	$(275,233,415)

Budget breakdown

NDIT 2025-2027 Legislative Base Budget					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,825,903	210,453,888	512,500	$ 234,792,291
Statewide Longitudinal Data System	3.0	4,125,661	-	500,000	4,625,661
EduTech	26.0	2,738,726	7,110,100	500,000	10,348,826
K-12 Network	4.0	5,825,668	90,000	-	5,915,668
Geographic Information System	1.0	1,044,107	-	65,679	1,109,786
Health Information Technology	4.0	2,000,000	3,822,725	-	5,822,725
Public Safety - (E911/SIRN)	1.0	1,858,240	16,591,612	-	18,449,852
Total	**507.0**	$ 41,418,305	$ 238,068,325	$ 1,578,179	$ 281,064,809

Budget breakdown

NDIT Decision Packages - 2025-2027 Biennium					
Package	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
#4 - Vulnerability Remediation	0.0	$ -	$ 3,042,960	$ -	$ 3,042,960
#5 - Public Safety	6.0	$ 209,520	$ 1,968,491	$ -	$ 2,178,011
#6 - Vendor Toolset Increases	0.0	$ 5,133,174	$ 265,447	$ -	$ 5,398,621
#8 - Continuing Appropriations	0.0	$ -	$ (99,168,477)	$ -	$ (99,168,477)
#11 - Inflationary Increases	0.0	$ 2,841,715	$ (1)	$ -	$ 2,841,714
#12 - Health Information Program	0.0	$ -	$ 8,182,968	$ -	$ 8,182,968
#14 - EduTech Program Funding	0.0	$ -	$ 411,793	$ -	$ 411,793
#15 - Data Center Infrastructure	0.0	$ -	$ 1,719,061	$ -	$ 1,719,061
Total Budget Changes	**6.0**	$ 8,184,409	$ (83,577,758)	$ -	$ (75,393,349)

Contains One Time SIIF Funds

Budget breakdown

NDIT 2025-2027 Senate Changes to Legislative Base					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 10,500,508	(85,138,855)	(512,500)	$ (75,150,847)
Statewide Longitudinal Data System	3.0	(4,904)	-	(500,000)	(504,904)
EduTech	26.0	(8,174)	203,515	(500,000)	(304,659)
K-12 Network	4.0	1,002,665	(90,000)	-	912,665
Geographic Information System	1.0	113,836	-	(65,679)	48,157
Health Information Technology	4.0	(1,356,779)	6,285,296	-	4,928,517
Public Safety - (E911/SIRN)	3.0	209,520	(2,445,835)	-	(2,236,315)
Total	**509.0**	$ 10,456,672	$ (81,185,879)	$ (1,578,179)	$ (72,307,386)

NDIT 2025-2027 Senate Budget					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 34,326,411	125,315,033	-	$ 159,641,444
Statewide Longitudinal Data System	3.0	4,120,757	-	-	4,120,757
EduTech	26.0	2,730,552	7,313,615	-	10,044,167
K-12 Network	4.0	6,828,333	-	-	6,828,333
Geographic Information System	1.0	1,157,943	-	-	1,157,943
Health Information Technology	4.0	643,221	10,108,021	-	10,751,242
Public Safety - (E911/SIRN)	3.0	2,067,760	14,145,777	-	16,213,537
Total	**509.0**	$ 51,874,977	$ 156,882,446	$ -	$ 208,757,423

Appendix

NORTH Dakota

Acronyms and Definitions

- **BAND** - Broadband Association of ND
- **Data governance** is the process of ensuring that data is accurate, secure, and used responsibly. It involves setting rules and responsibilities so everyone knows how to handle data properly and how to protect it.
- **EA** - Enterprise Architecture- the process by which organizations standardize, organize and develop roadmaps for IT infrastructure and applications to align with and facilitate the achievement of business goals and objectives.
- **Low Code-** is a software development approach that requires minimal hard-coding, allowing users to create applications and workflows through visual interfaces, drag-and-drop components, and pre-built templates. It is designed to simplify and speed up the development process, making it accessible to both professional developers and non-technical users (often referred to as "citizen developers").
- **SIRN** - Statewide Interoperable Radio Network
- **SLDS** - Statewide Longitudinal Data System
- **TBP** - Technology Business Partner knows the customer, their business, their technology, where they want to go and what is coming over the horizon.
- **Tech Debt**-happens when quick fixes or older systems are used instead of long-term, efficient solutions. While these choices might save time or money upfront, they eventually lead to more maintenance, slower systems, and higher costs to fix or replace.

Geospatial Acronyms and Definitions

- **Geospatial** - catch-all term for range of tools used for mapping and analysis
- **GIS** - Geographic Information Systems (e.g., the GIS Hub)
- **SGC** - State Geospatial Committee
- **Next Generation 911** - internet-based 911 system that requires GIS layers such as address points and emergency service boundaries
- **NDIT** - ND Information Technology
- **NDGF** - ND Game and Fish
- **NDDES** - ND Department of Emergency Services
- **Web services** - internet-based delivery of data
- **Parcel** - property boundary with associated information such as landowner

Major IT Focus Areas Overview

Major IT Focus Areas

- Digital Experience (Gateway work)- Evonne Amundson, CBAO
- Statewide Data Strategy (Lighthouse work)- Kim Weis, CDO
- SLDS- Tracy Korsmo, SLDS Program Manager
- GIS- Bob Nutsch, Geospatial Program Manager
- HIN- Shila Blend, NDHIN Coordinator
- EduTech- John Gieser, K12 IT Strategist
- Vulnerability work- Chris Gergen, Director of Cybersecurity
- Enterprise Digitization and Modernization- Craig Felchle, CTO
- SIRN- Craig Felchle, CTO
- BEAD- Craig Felchle, CTO

Digital Experience(Formerly known as Gateway)

Program Objectives | *Goals*

Clear Directions

Provide business users with clear direction on the actions they need to take when starting a business, maintaining a business, remaining in compliance with state regulations, and closing a business

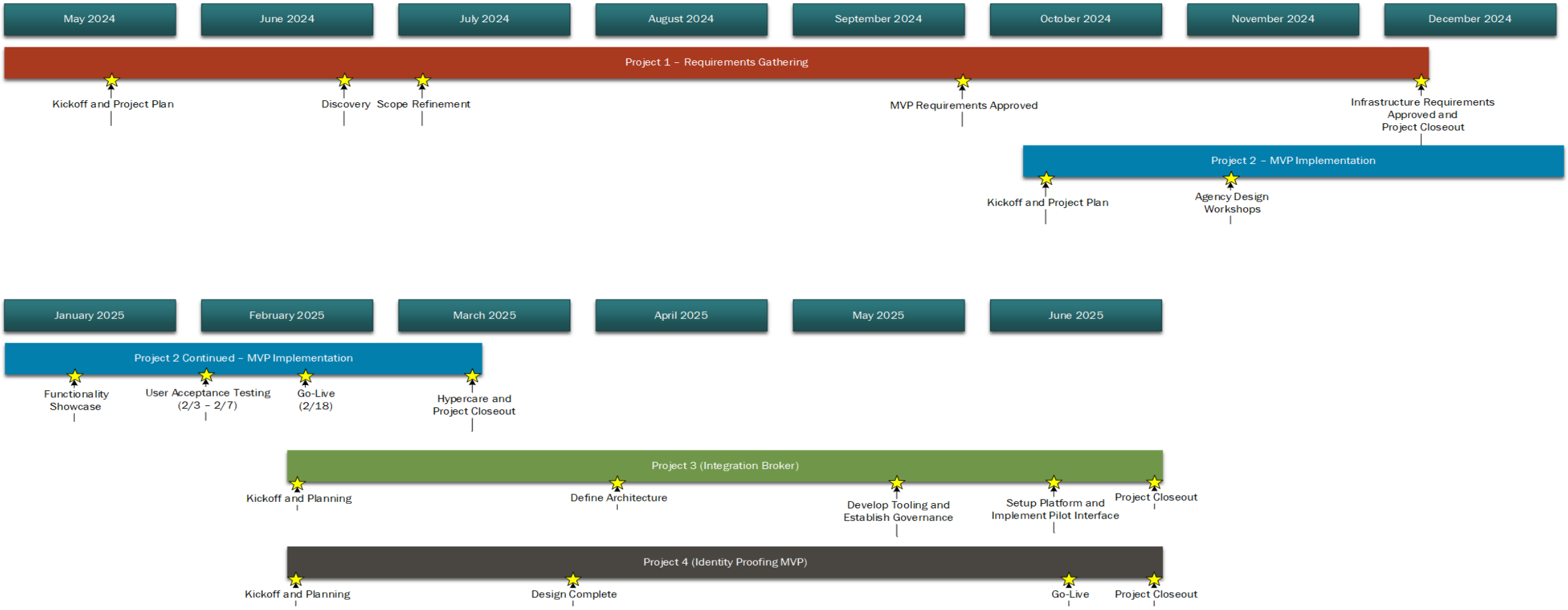
Digitize Data

Digitize the collection of business-related data that can be used by the Gateway and across participating agencies to further enable digital services, growth, compliance, and fraud prevention

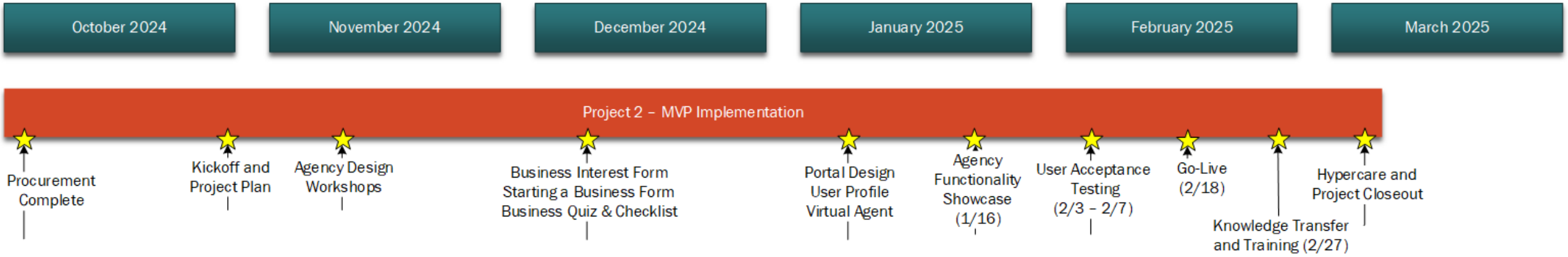
Provide Guidance

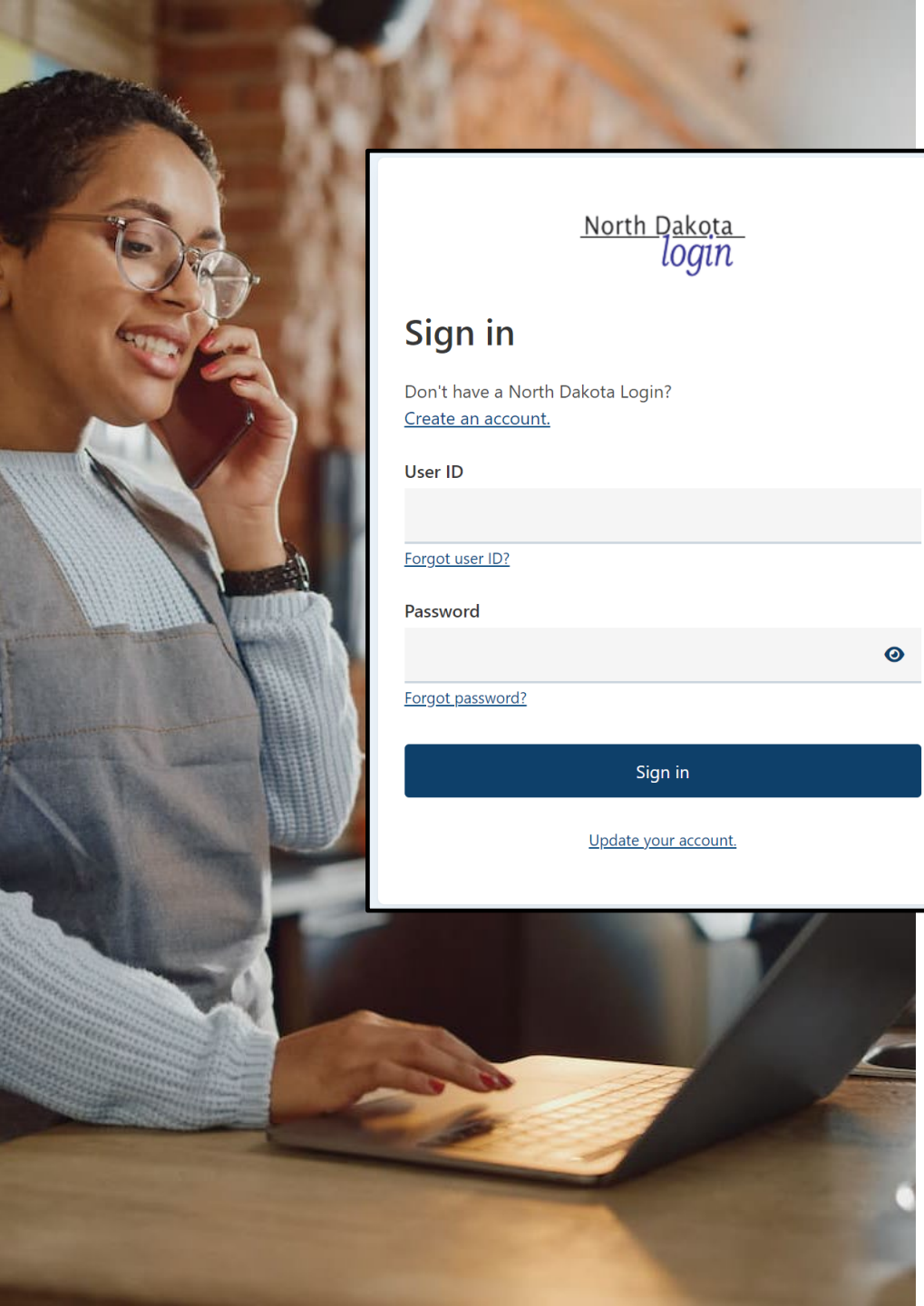
Guide users and encourage them to take advantage of available services, help businesses remain compliant with registration, reporting requirements, drive accuracy, auditability and begin to reduce the number of access points businesses rely on today and wrap it in a modern, friendly user interface.

Digital Experience – Timeline



Project 2 Timeline





Single Sign On (SSO)

SSO to be completed in Phase 2, but subsequent phases will need to incorporate it.

ND Login

The Gateway will integrate with the existing North Dakota Login functionality, eliminating the need for users to create new registration credentials and helps to achieve the program goal of reducing the need for duplicative identities across State systems. This will improve ease of access and best position the Gateway to continue onboarding additional partner agencies and services.

Single Sign On (SSO)

Users benefit from not having to remember multiple passwords for different services. With a single set of credentials, they can access a variety of governmental and associated services.

Compliance Ease

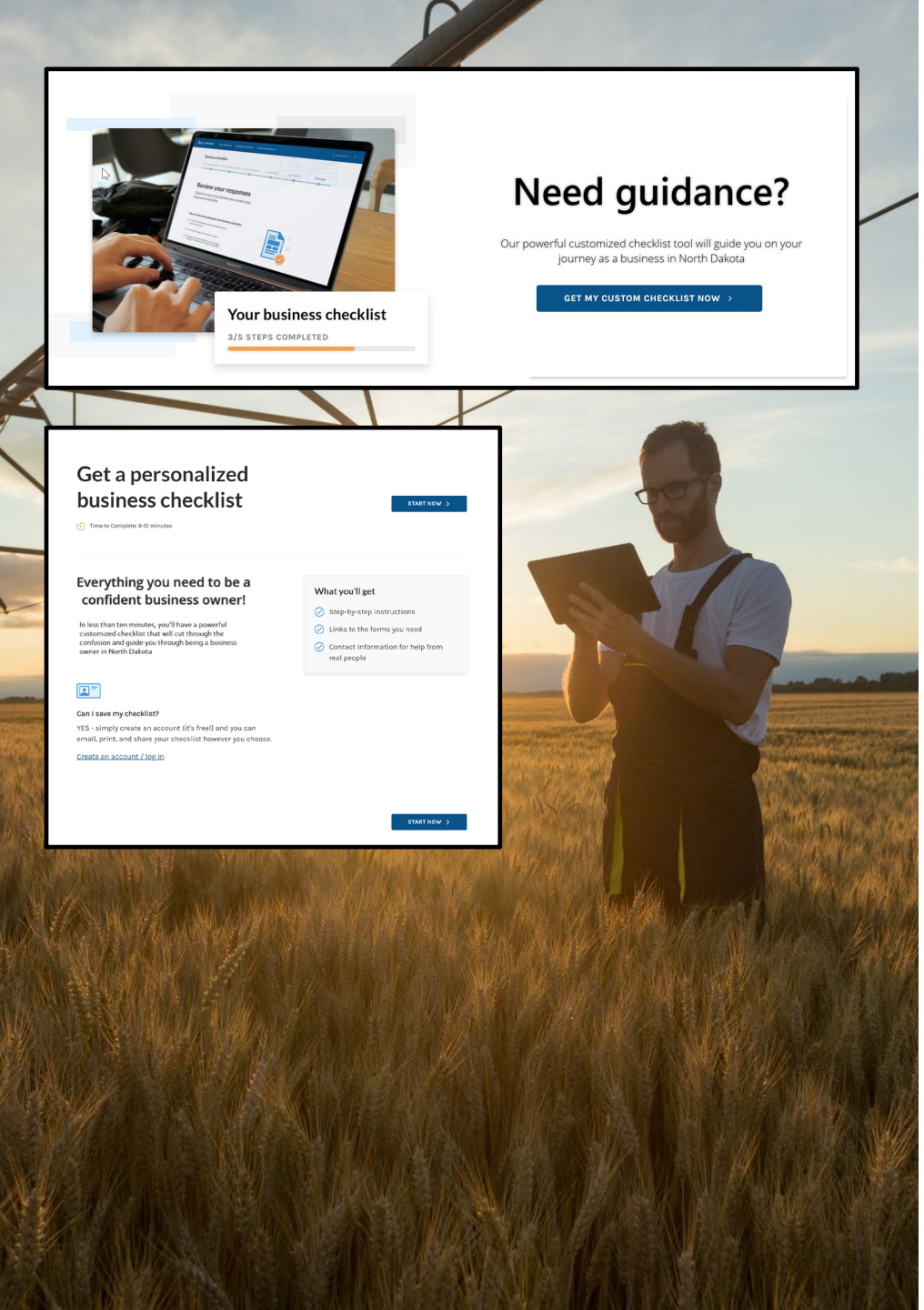
Integrating with North Dakota's login system ensures that the application is in compliance with the State's regulations regarding data security and privacy, having already been designed to meet these standards.

Enhanced Trust and Credibility

Using a state's login system can increase the perceived reliability and credibility of the service, as users often trust governmental systems for security and data protection.

Increased User Adoption

The trust factor can lead to higher adoption rates among users, as they feel more confident in the security and integrity of the service.



Establishing a North Dakota Business

The **web tool will initially act as a digital Green Book** and continue to expand as the Gateway program matures. Clear structured guidance empowers new entrepreneurs and large businesses to take confident steps towards establishing new businesses, operating those businesses, and remaining compliant over time.

Personalized Guidance *The tool provides customized guidance based on specific responses of the user, keeping information relevant to their unique business and needs*

Streamlined Process *By guiding users through a series of conditional questions, the tool streamlines the process of understanding state and department-specific requirements*

Centralized Resource *Acts as a one-stop resource for the information needed to establish a new business, consolidating data that might otherwise be scattered across various websites*

Enhanced User Experience *A well-designed web tool offers an intuitive and user-friendly interface, making information accessible to include those individuals with limited technical skills or business acumen*

Scalable *The tool can accommodate a wide range of business types and sizes, from sole proprietorships to large enterprises*

Adaptable *Once implemented the tool can be continuously updated with new information and features, it can grow with the evolving needs of businesses and regulatory changes*

Business Profile *The information entered in the tool serves as the foundation for the user's Business Profile*

My Dashboard **Design is currently being finalized*

This feature enhances departmental engagement by linking Gateway users to resources and services previously unknown to them, thereby boosting adoption and participation in services and programs.

Serving as the hub for logged in Gateway users, the My Dashboard section provides the following benefits:

Task and Activity Overview A list or summary of pending tasks, To-Do items, and recent activities to help users manage their business' efficiently

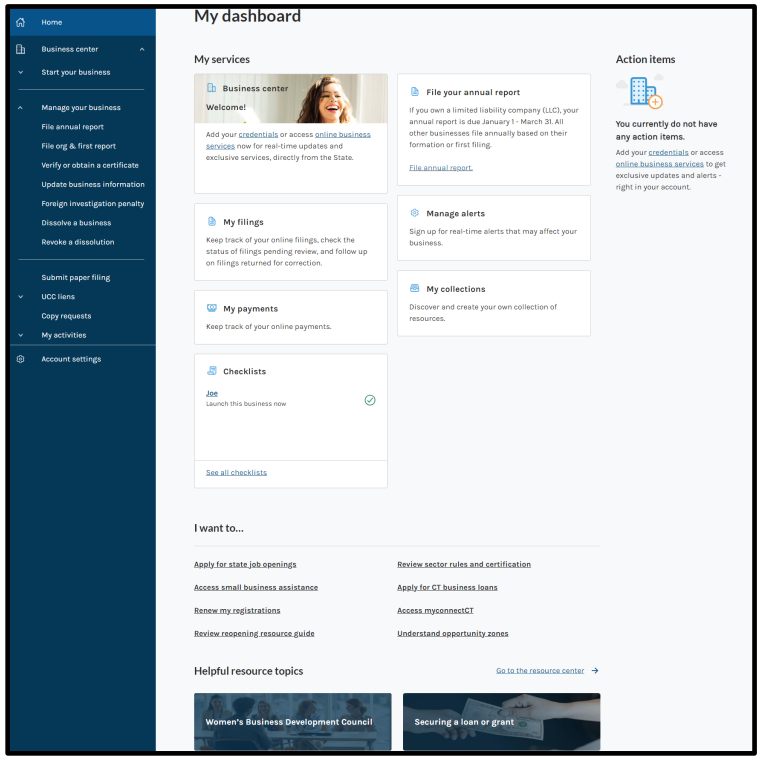
Calendar An integrated calendar displaying upcoming events, deadlines, and important dates to help users remain current and compliant

My Services Information regarding department-specific services currently being used by the logged in user's business

Frequently Used Tools Shortcuts to the most used applications, documents, and resources

Helpful Articles List of most popular knowledge articles

Document Repository A centralized location for storing and accessing documents



Other Applications Using Digital Platform

- In Production
  - QSP (Qualified Service Provider) Enrollment
    - Reduced time to enroll, currently 11 days
  - ND Rent Help
    - Helped over 30,000 renters, 14,666 of those households have children 18 or younger
  - ND Homeowner's Assistance Fund
    - Assisted nearly 6,000 ND Homeowners
  - ND Housing Stability Fund
    - Individualized Case Management for ND households and housing providers
  - Best In Class
    - Implemented in 6 weeks
- Future Projects
  - DFI Enhancements
  - HHS Background Checks
  - Best In Class Enhancements

Statewide Data Strategy

Why does data matter?

- Investing in data allows us to
  - Deliver better, more effective services for our citizens
  - Save taxpayer dollars through cost savings and efficiencies
  - Drive accountability and transparency
  - Shift from reactive government to proactive, better preparing for future challenges

What are we hearing from state agencies?

Key data challenges and pain points…

- Staffing/resource constraints
- Data siloes
- Aging technologies (i.e., tech debt)
- No central data catalog/inventory
- Reliance on institutional knowledge
- Manual processes
- Massive amounts of data
- Data is undocumented
- Lack of trust, leading to redundant efforts
- Challenges in sharing/accessing available data

North Dakota Statewide Data Strategy (implemented through the Lighthouse Program)

Harness the value of data to help North Dakota *thrive*.

Better government data & insights = **Better government decisions & actions** = **Better citizen & community outcomes**

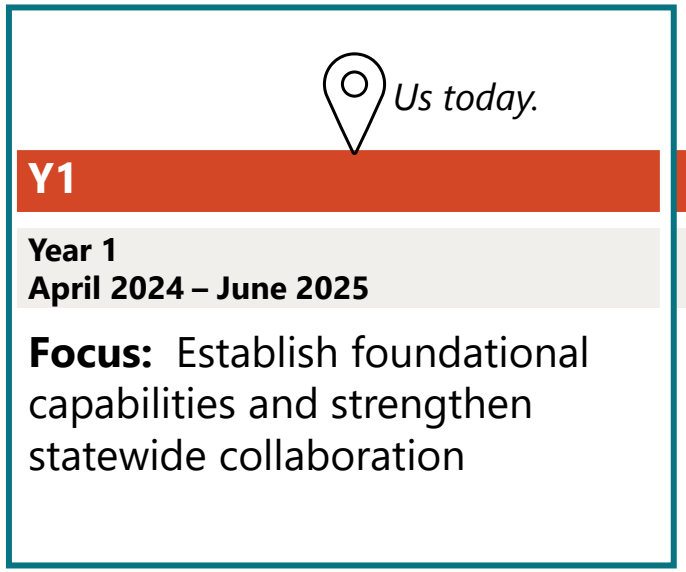
Key Outcomes by Year

Year 1	Establish foundations and strengthen statewide collaboration
Year 2	Facilitate agency-level adoption and expand into more transformational projects and initiatives.
Year 3	Continue transformation efforts, maintain momentum, and sustain stakeholder and agency adoption.

North Dakota Statewide Data Strategy

- Budget of $4.89M
  - Phase 1 completed in April 2024: Development of statewide data strategy and implementation roadmap
  - Phase 2 kicked off in April 2024 and currently underway: Implementation of data strategy through June 2025

Data Strategy Roadmap Implementation



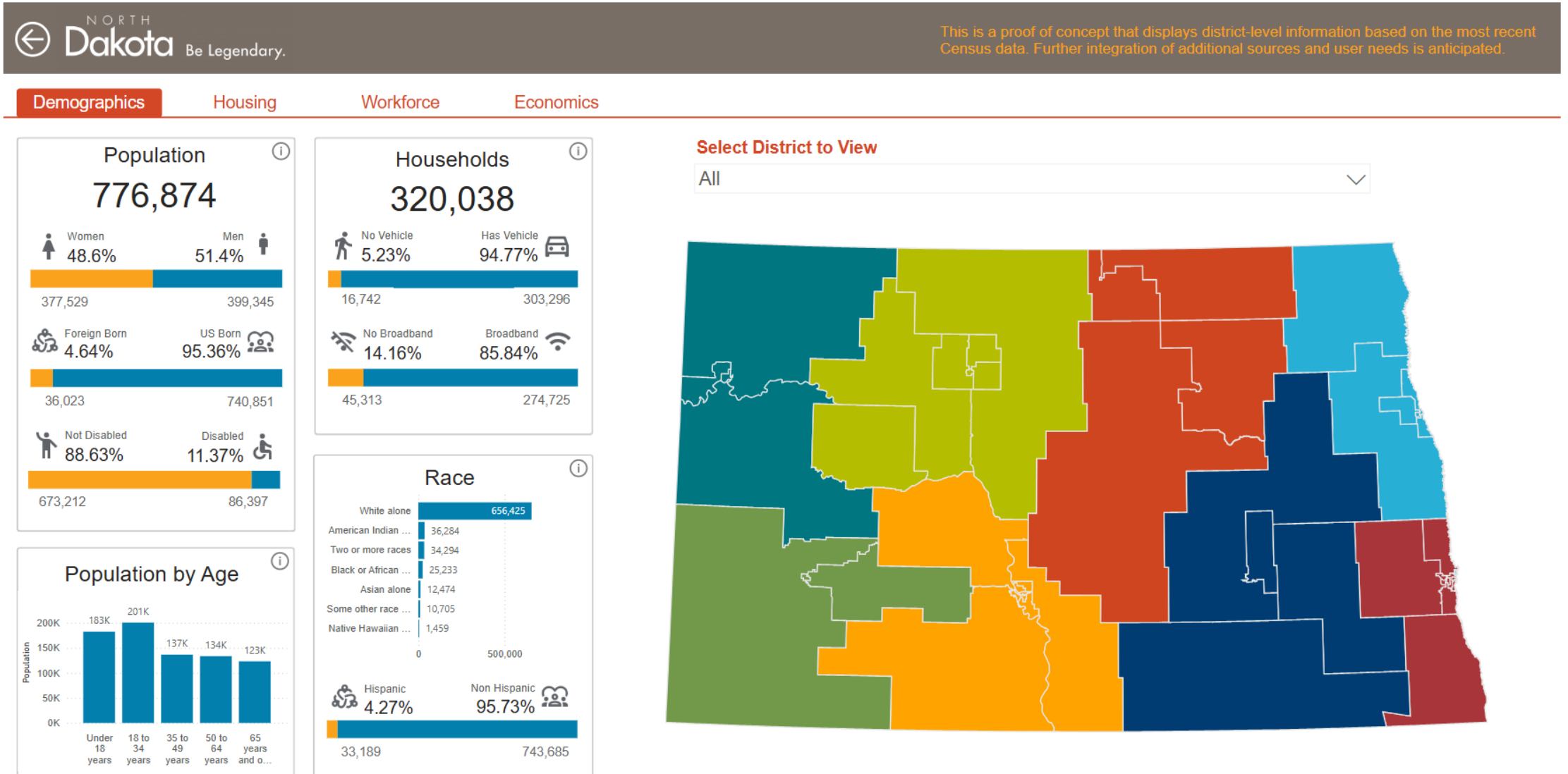
26+

Projects envisioned as part of this roadmap

Key Accomplishments in 2023-2024

Strategy Rollout and Agency Collaboration *Building agency awareness and plans for adoption*	• Conducted roadshows with various state agencies to promote the statewide data strategy • Developed a comprehensive strategy report to help agencies create their own plans and tailored initiatives • Refined the NDIT Data Division's organizational structure to better align with and support the state's data needs
Statewide Data Governance Program *Establishing the overarching program that directs data management and use practices*	• Defined a statewide data governance operating model and Concept of Operations, outlining the structure, roles, and responsibilities • Established the Statewide Data Governance Council to advise the State on formalizing a data governance program • Initiated the Tactical Data Governance and Stewardship working group to address agency-specific governance needs • Developed the initial release of the Tactical Data Governance Toolkit, providing resources such as accelerators and guides to help agencies implement key data governance actions
Data Catalog *Determining requirements and approach for implementation*	• Defined requirements for a statewide data catalog, including business, functional, technical, and vendor services specifications
Data Literacy *Providing a statewide data skills and literacy curriculum*	• Defined data literacy learning paths for three data personas and an AI learning path to build skills/knowledge in AI
Modern Data Platform *Reimagining the current COVID data lake, creating a solution that is valuable to all agencies*	• Reviewed the current data lake implementation and proposed architectural enhancements. • Conducted testing for the Data Exploration Zone • Created an onboarding framework for agencies to start using the data lake solution
Analytic Proof of Concept *Exploring ways to join data from different agency sources, creating opportunities for greater diagnostic and predictive insights*	• Conducted use case scoping and discovery with the Department of Commerce • Developed the MVP version of the State Data Hub POC dashboards

State Data Hub



What is happening with AI in North Dakota?

NDIT wants to support the vision of AI-enabled Agencies throughout ND but is also committed to doing it in a controlled and considerate fashion that appropriately considers ***data privacy, risk management, ROI realization,*** and ***organizational and workforce readiness.***

AI is not new to the State and has been in use in government in a variety of ways, but in the last two years, the explosion of GenAI and new technologies and capabilities has provided new focus, opportunities, and oversight/governance considerations.

Consideration	Action	Status	Overview
Policy and Oversight	**Statewide AI Policy and Guidance Release**	**Released** *Early 2024*	A first step was establishing an overarching policy The policy's initial focus and supporting guidance is on directing responsible use of commercial tools (e.g., ChatGPT)
Productivity and Efficiency Tools	**Microsoft Copilot Release**	**In Progress** *Release – Q1 2025**	Publicly available tools (i.e., ChatGPT) currently in use by many Team ND members to enhance productivity M365 Copilot technical configuration and technical pilot underway in January 2025, with Agency pilot to follow in Q1
Workforce Engagement	**Data and AI Literacy and Training Supports**	**In Progress** *Early Q1 2025*	We are curating AI and data literacy learning paths and also developing custom guidance and materials to support building awareness and workforce skills in engaging with AI Consideration for both end-users and technical personas are in the planning
Operationalize AI	**Custom AI Products and Targeted Solutions**	**Started**	**Underway/Complete** • An initial Chatbot pilot has been developed with Commerce • Preliminary use cases were collected this summer **Upcoming** • Prioritization and risk evaluation framework • Broader agency use case collection and analysis • Selection and development of additional pilots • Exploration of commercial AI solutions to address particular organizational needs

What is to come in 2025 and beyond?

Building North Dakota's 'Data Muscle"

Completion of Year 1 activities & Year 2 planning/ implementation

Agency Empowerment

Empowering Agency data literacy, maturity and capabilities

Data in Action

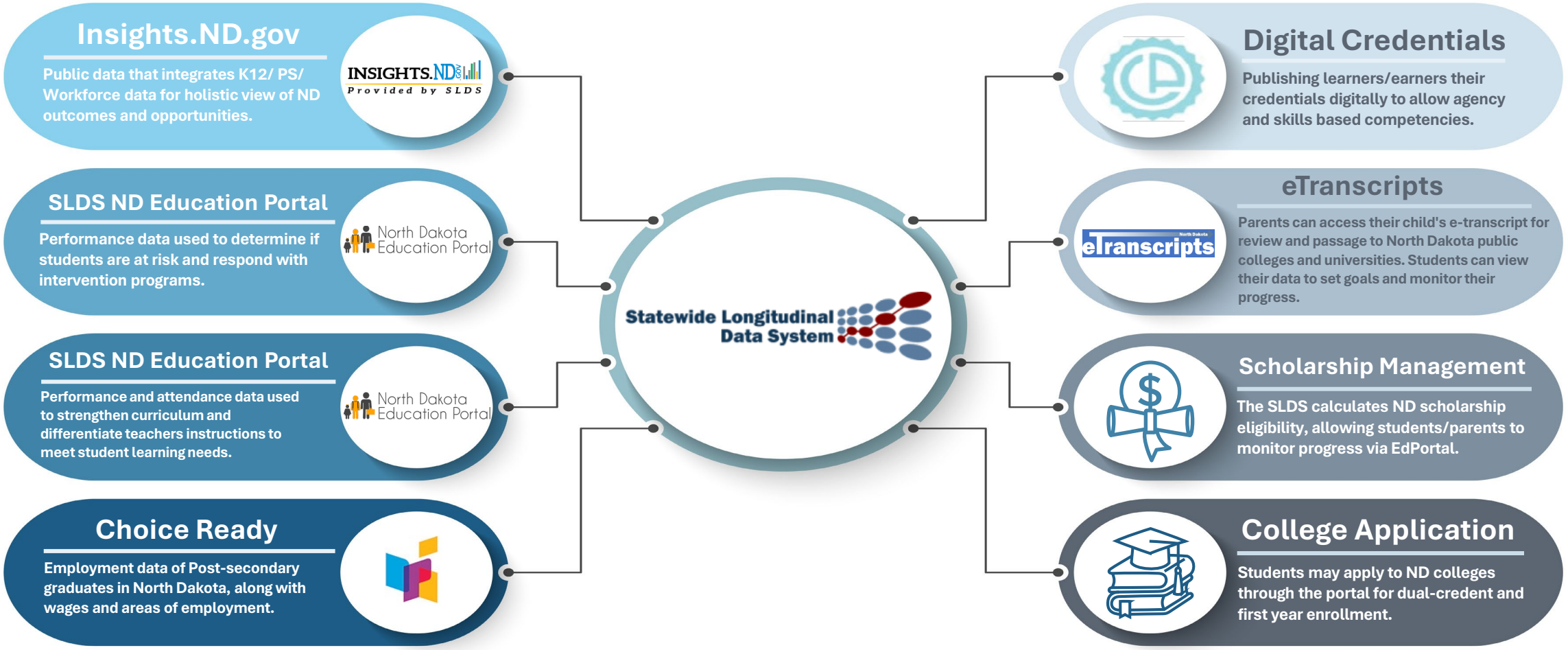
Onboarding and supporting new analytic use cases

SLDS

What is the Statewide Longitudinal Data System

- The Statewide Longitudinal Data System (SLDS) leverages stakeholders and partners of education, training, and employment programs to create a system which provides data and services to support the research and evaluation of programs to improve the outcomes of individuals provided service.
- The SLDS is a series of secured data warehouses comprised of historical **education** and **workforce training data**. The objective of the SLDS is to provide data on the outcomes of ND education and workforce training programs.
- https://www.slds.nd.gov/

What is the Statewide Longitudinal Data System



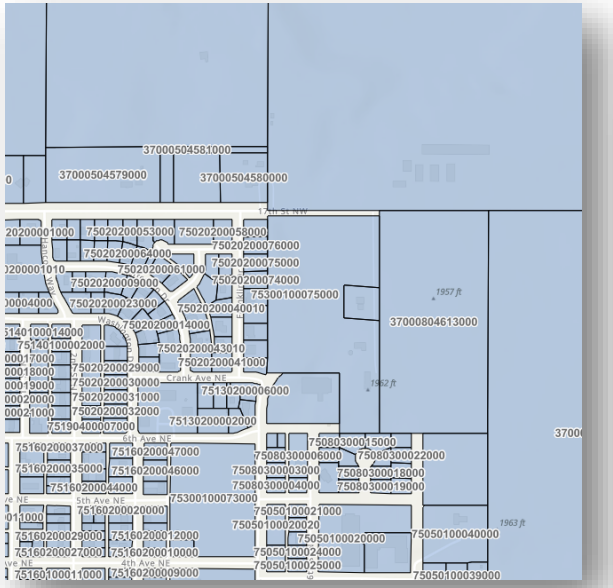
Geospatial

Geospatial Program

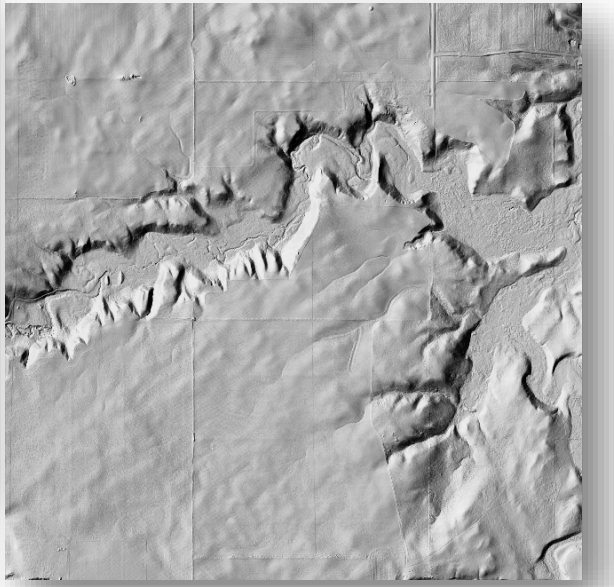
- The North Dakota Geospatial Program **reduces barriers** to the utilization of geospatial technology and geospatial data. This in turn, provides state agencies the opportunity for greater collaboration with other agencies, for more efficient **data-driven decisions**, and for improved **delivery of services** to other levels of government and to the citizens of North Dakota.
- The core of the State Geospatial Program is the GIS Hub which leverages the State's existing data and infrastructure to support state agency business processes including systems such as the **North Dakota Parcel Program**, the **Game and Fish Electronic Posting**, and **Next Generation 9-1-1**.

Geospatial Data Examples

Parcel Boundaries
(Counties & NDIT)

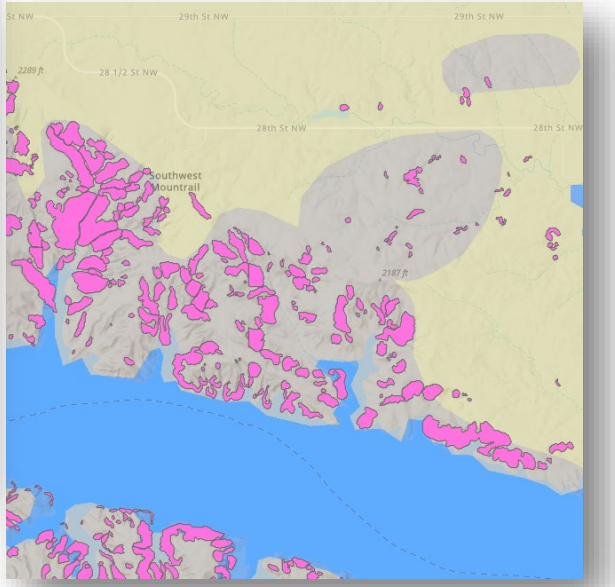


Elevation
(DWR & Partners)



Imagery
(USDA)

Landslides & Geology
(Geological Survey)



North Dakota Health Information Network (NDHIN)

How NDHIN Works

ND Department of Health & Human Services

MAVEN (Electronic Lab Reporting)

Syndromic Surveillance

Advanced Healthcare Directives Registry

Community Health Centers

Immunization Registry

Autism Registry

47 CAH & Tertiary Hospitals

Patient Search

Clinical Document Repository

Clinical Data Repository

North Dakota Health Information Network

200+ Ambulatory Points of Care

Local PH Units

86 Pharmacies

Direct Secure Messaging

≈100K Messages Per Month

5,560 Active Clinical Portal User Accounts

eHealth Exchange

VA/SSA/DoD

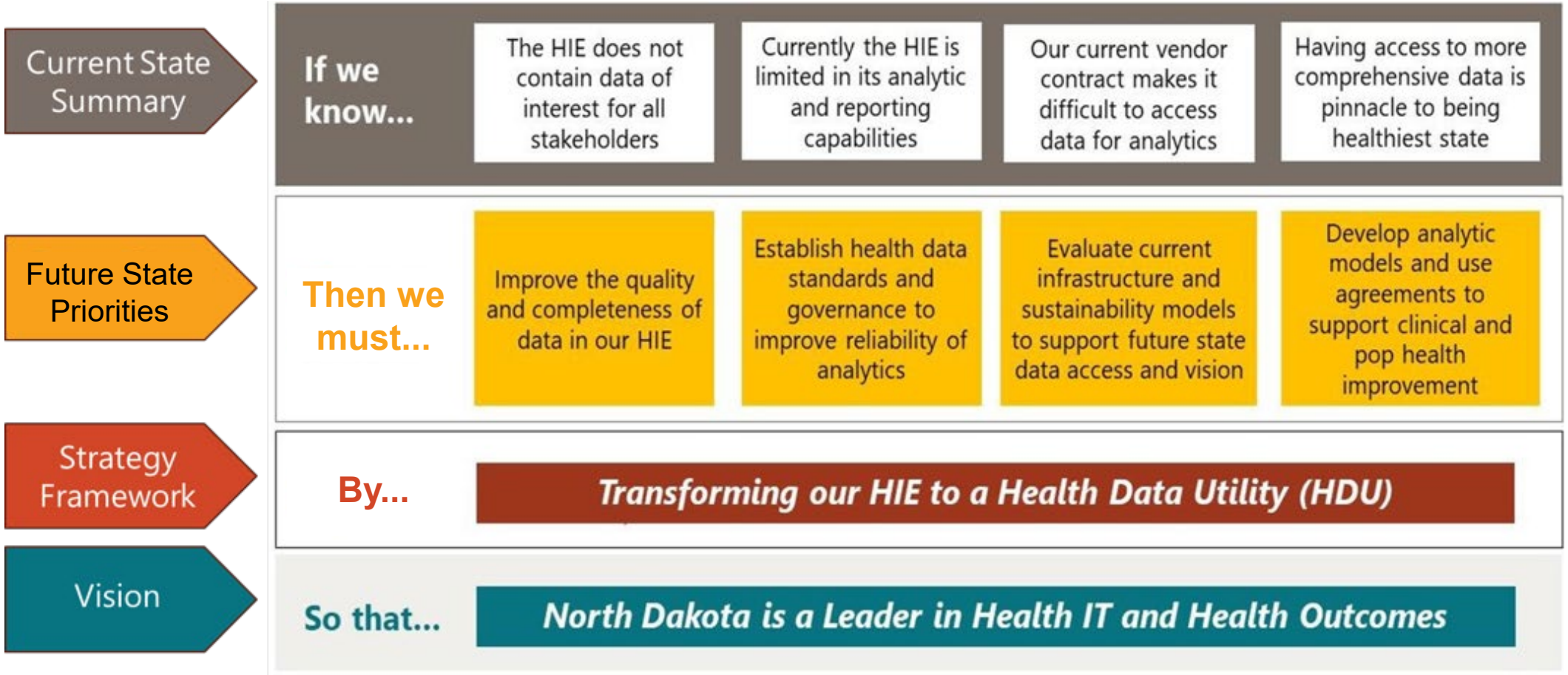
North Dakota PDMP

Payers Medicaid

Medicines Viewer

Data Submission

Future Target State



EduTech

Overview of EduTech

1990-1995
- Dial Up Service
- @sendit Mail
- Web hosting
- Teaching Practice
- Establish TECO Community

2009 - 2014
- Authority to build
- IES SLDS grant for K12

2010-12
- Workforce developed through a WDQI grant

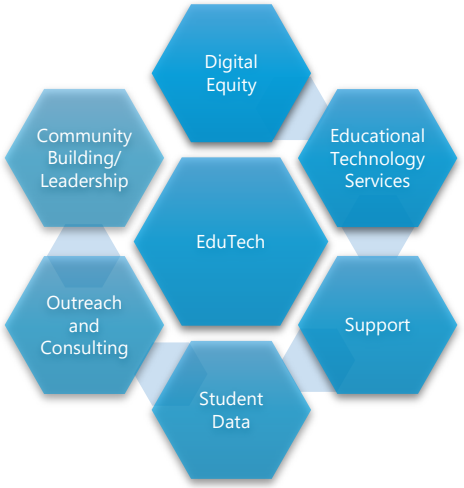
2012- 2016
- Higher Ed build
- IES Grant

2015 - 2022
- IES Grant for data utilization
- Dashboards and secured access for teachers

2015-2020
- Unification
- ETC dissolution
- Retire @sendit services
- High Octane/IgniteND
- PK20W Initiative
- STEM Education
- SETDA

2020-2025
- Computer Science/Cybersecurity Education
- ClassLink
- Cyber Madness
- Retire Web hosting
- Microsoft EES

2025-
- PowerSchool->Infinite Campus
- Digital Equity
- Artificial Intelligence
- CoSN



Improve Capacity and Equity

Reduce Technology Effort Required of K12 IT Leaders, Staff, Educators, and Students

Snapshot of Now and The Future

Professional Outreach

- 199 Topics
- 731 Engagements
- 11,700 attendees
- E-rate
  - State Application/STAGEnet
  - $6.7M to schools
- Skills for All
- Student Data User Group
- IgniteND Conference
- Cyber Madness
- Technology Showcase

Technical Services

- Identity Management
- Microsoft 365
- Microsoft EES Agreements
- ClassLink
  - 87 Districts
  - These cover 73% of students

Into the Future

- Artificial Intelligence
- Infinite Campus
- Training Management Application

Community and Leadership

- Technology Coordinator Forum
- Statewide K12 Technology Town Hall
- SETDA
- CoSN
- PK20W

Vulnerability Remediation

Funding

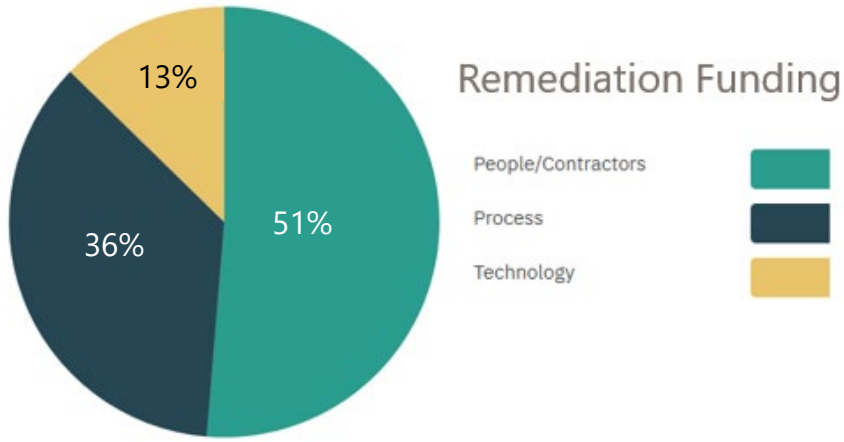
Vulnerability Remediation

Last Biennium NDIT was appropriated $1 million dollars to reduce vulnerabilities. There were three areas where this funding was used. People, Process, and Technology

People – Engaged contractor resources to patch vulnerabilities in applications developed or maintained by NDIT for our agency customers.

Process – Partnered with Guidehouse to continue enhancing the state's vulnerability management program.

Technology – Identified and procured technologies designed to accelerate the remediation of vulnerabilities.



Progress and Challenges

Vulnerabilities

A vulnerability is a weakness, flaw, or shortcoming in a system, infrastructure, database, software, process, or set of controls that can be exploited by a threat actor.

Progress

596k system vulnerabilities patched in 2024

326 application vulnerabilities remediated

Challenges

40,000 new and unique vulnerabilities published in 2024

Legacy technology (tech debt) complicates remediation efforts

Third-party software we don’t control

Some agencies lack funding for updating applications or hardware

Vulnerability Program/Process Maturity

We are here

Phase 1
Current State

- Manual process to determine remediation prioritization
- Funding for fixing critical vulnerabilities not defined
- Risk acceptance & exceptions not formalized from agencies

Phase 2
Design Program

- Establish Cyber Risk Board to determine remediation path for critical vulnerabilities
- Risk-based prioritization of vulnerabilities
- Build formal exception process

Phase 3
Implement to State Agencies

- Information Security Officers to educate and align with agencies
- Robust reporting & follow-up on exceptions
- SAST: determine feasibility for future implementation

Proactively address vulnerabilities in reducing cyber risk to systems and citizen data

Static Application Security Testing (SAST)

What it does

- Static Application Security Testing (SAST) scans an application's source code during development to identify vulnerabilities
- Validates code as it is built, ensuring security issues are addressed before deployment

Why it matters

- **Reduces cost:** fixing vulnerabilities during development is significantly more cost-effective than after production
- **Lowers risk:** Identifying vulnerabilities before deployment reduces the likelihood of security incidents in production, protecting sensitive data and services.

Why we should fund it

- Decreases long-term costs by catching vulnerabilities earlier.
- Strengthens application security, reducing risk to critical systems.
- Provides the tools necessary to build secure, reliable applications, that citizens and agencies depend on.

Reactive Incident Response

Reactive Incident Response

Reactive incident response focuses on addressing and mitigating incidents after they have occurred, with the goal of restoring normal operations and minimizing damage

Cyber Operations works an average of **50,000** incidents per year.

Screen Connect	325 Hours	9+ FTEs
VPN Brute Force	480 Hours	18+ FTEs
Denial of Service	450 Hours	14+ FTEs
Log4J	1098 Hours	20+ FTEs
PowerSchool	350+ Hours	15+ FTEs

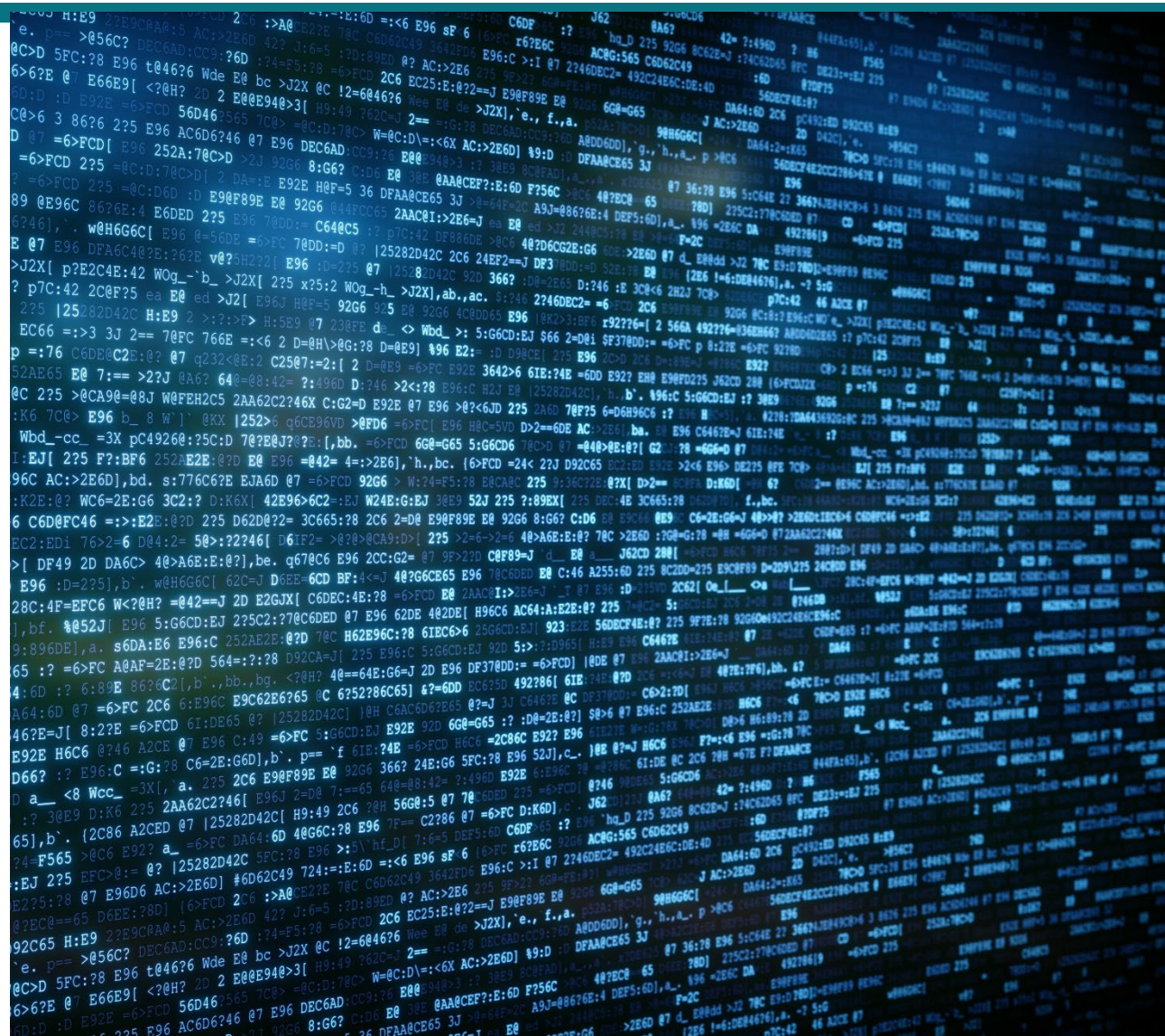
In-depth Analysis

In just one incident, Log4j, the NDIT team spent 27 weeks of work on remediation. During this time other critical work for agencies had to be slowed or delayed to prevent a reportable breach

Enterprise Digitization and Modernization

Digital Maturity

- Digital Maturity Efforts
  - Call Center
  - Capitol Security/Wiring
  - Enterprise Architecture – Technical Debt
  - AI Support



Call Center

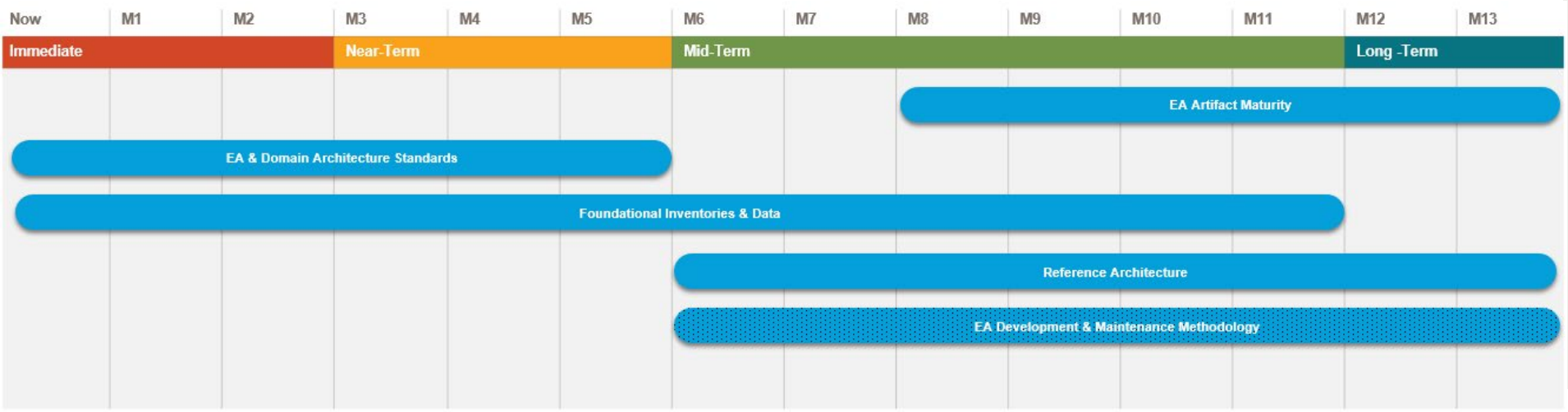
- **Budget:** $3M
- **Accomplishment to Date:**
  - All Migrations Completed
  - Fully Deprecated the Old Solution
  - Industry Leading Solution/No Major Outages
- **Upcoming Activities:**
  - On Track to be wrapped up this biennium
- **Risk/Issues:**
  - Completed

Capitol Security/Wiring

- **Budget:** $2.5M
- **Accomplishments to Date:**
  - Capitol Security Project
    - Implementation Underway
  - Capitol Wiring:
    - Conduits installed in the Capitol Complex.
    - Expected to be completed this biennium.
- **Upcoming Activities:**
  - Capitol Security Project:
    - Execute on SOW with the vendor
  - Capitol Wiring:
    - Run the fiber and install hardware
- **Risk/Issues:**
  - Vendor resource availability

Enterprise Architecture – Digital Maturity

- Enterprise Architecture
  - Where are we?
    - Assessments with 19 Agencies
  - Where are we going and how do we get there?
    - 20 Total Recommendations



20 Total Recommendations

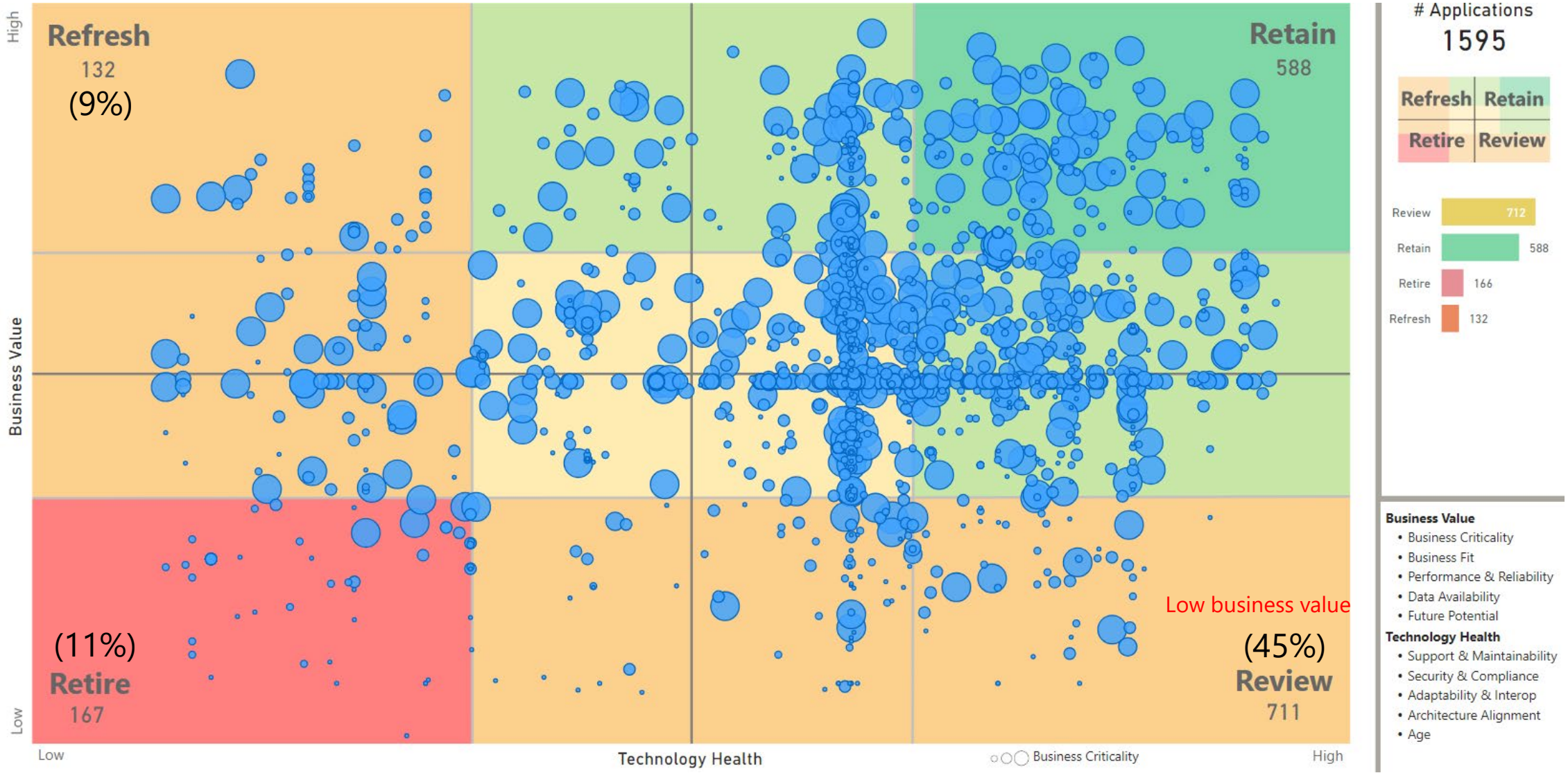
7 People Recommendations
4 Immediate
2 Mid-Term
1 Long-Term

5 Process Recommendations
3 Mid-Term
2 Long-Term

5 Tools & Artifacts Recommendations
3 Near-Term
2 Mid-Term

3 Governance Recommendations
1 Immediate
1 Near-Term
1 Mid-Term

The Output


High
Refresh
132
(9%)
Retain
588
Business Value
Low business value
(11%)
Retire
167
(45%)
Review
711
Low
Low
Technology Health
High
Business Criticality
Applications
1595
Refresh
Retain
Retire
Review
Review 712
Retain 588
Retire 166
Refresh 132
Business Value
• Business Criticality
• Business Fit
• Performance & Reliability
• Data Availability
• Future Potential
Technology Health
• Support & Maintainability
• Security & Compliance
• Adaptability & Interop
• Architecture Alignment
• Age

Legacy Systems Analysis Project

- **Down to 2 Major Agencies on the Mainframe**
  - High-Level Analysis Project
  - Looking at all options
  - Two Bienniums away from completion
- **Scope**
  - Mainframe – AS400 – Legacy AIX Platforms
- **Use of Applications**
- **Integrations**
- **Application Lifecycle**
- **Feedback Loop with Agencies**

Keys to AI Success In North Dakota

Key 1 **AI is not a magic bullet.**

Instead, it is a tool for speeding up data-driven decision making. A more appropriate description of current AI technology is data-enabled, automated, adaptive decision support. Use when appropriate.

Key 2 **Garbage in, garbage out still applies to AI – and is even more relevant!**

AI technology has its foundations in data. Lots and lots of it. Rich, relevant, accurate, and timely data from interconnected systems is essential to effective use of AI. How good is the data?

Key 3 **Learn from early adopters.**

AI is a rapidly evolving field, and there are many published use cases with documented business value. Using a use case-based approach, we can learn from the successes and failures of others, including other states, to more rapidly narrow down how AI can deliver value for the state.

Key 4 **Start small to gain experience and to lay a solid foundation.**

Too many big projects have failed in the past. Start small with AI and then wash, rinse, repeat. Keep in mind, though, that the real value will come from the enterprise adoption of AI, and for that we will need to create an AI strategy.

Key 5 **Give AI a purpose. Pick the right use cases.**

AI strategy and current exploration activities should closely align with the strategic goals and drivers of the state. The key question you should be asking is not “What can AI technologies do?” but rather “What can they do for us?” and “How much would we benefit from AI if we were to invest in it?”

Data Center

Data Center

- **Secondary Data Center**
  - Cooling Plant is No Longer Supported/Failing Pumps (~$300-400K)
- **Primary Data Center**
  - Single Point of Failure Identified this Biennium (~$1.4-1.7M to remediate)
  - Within Minutes, the data center will shut down
  - Infrastructure Damages to all State Equipment
  - What is the cost in lost productivity if team members, legislature, and Courts are stopped?
- **Risk Assessment completed in December**
  - Identified both risks as *Critical* to the State with a recommendation to either remediate both issues or move 1 location
  - Data Center skillsets are in short supply – We only have 1.5 FTE

Data Center….The Plan

- **The Plan….**
  - Phase I
    - Use one-time funding to shut down 1 data center and partner with private market (leased space)
    - Estimating $500k+ to transition, but full costs are unknown
  - Phase II
    - Shift the roles of the two data centers after deprecation of 1 data center (multiple biennium)
    - Will require temporary hardware and coordination
  - After shifting the roles, the new secondary datacenter would have the cooling risk

SIRN

Send and Close
Reset
Exit
Unit
Unit Type
Coverage
Recruit
Code
Portable
Type
Telephone No.
813
Officer/Passenger
Password
Radio OK
MDT OK
Em. Kit
Receive copies of dispatches for these coverage areas
Fuel
Tires
Mileage
Oil
Radio ID
Vehicle Number
Light OK
Capabilities
Vehicle Condition
Remarks
The unit ID:

History

- **2011** Exploratory Study Focused on Land Mobile Radio Interoperability
- **2015** Legislature Authorizes Feasibility Study
- **2016** Televate Study Conducted; Recommendations Provided
- **2017** Legislature Authorizes and Governor Signs into Law - Execution of SIRN 20/20
- **2017** SIRN 20/20 Program Initiated
- **2018** Requests for Proposals
- **2019** January - Contract Awarded to Motorola
- **2019** April - Legislature Authorizes and Governor Signs SIRN Project Funding into Law
- **2019** May - Project Kick Off
- **2020** December – Backhaul and 10 PSAPs cutover
- **2021** December – 7 additional PSAPs cutover
- **2022** November – 5 additional PSAPs cutover along with approx. 65 sites completed

What is SIRN building?

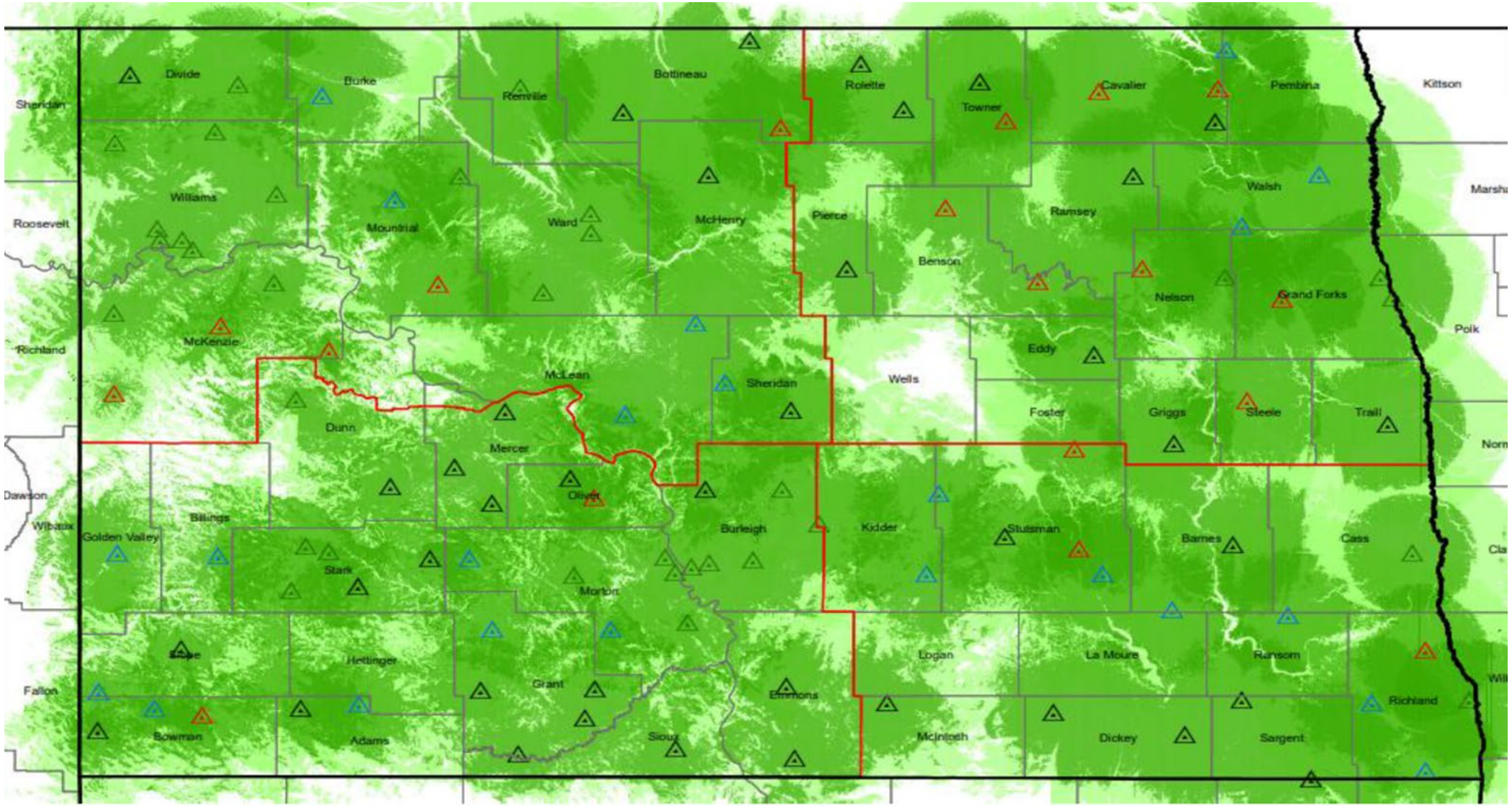
SIRN

SOLUTION

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

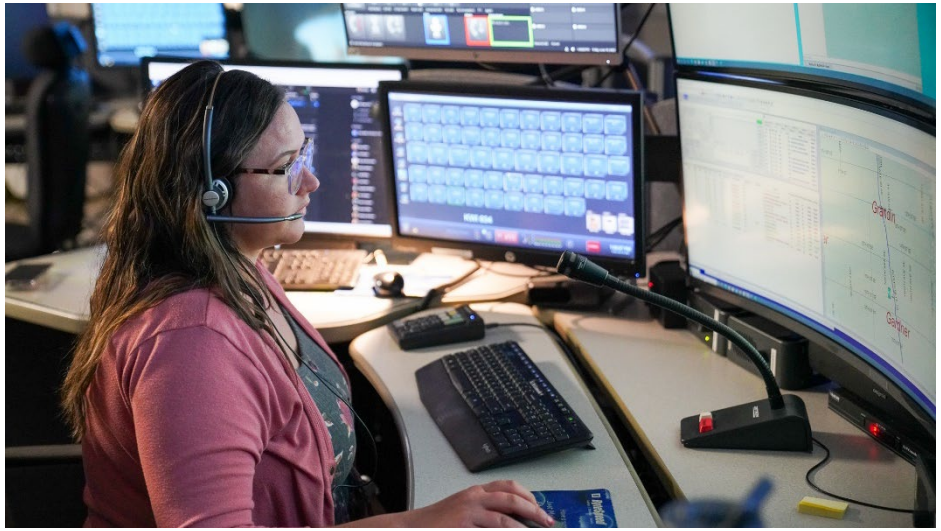
- Shared Infrastructure Utilized by All Public Safety Users
- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System
- Guaranteed Coverage
  - 95% Mobile Coverage / 95% Reliability
  - 85% Portable Coverage / 95% Reliability
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years

Project Maps



Latest Milestones

- **Law Enforcement Encryption** researched and statewide implementation in progress
  - Over the Air Rekeying in use
- **Radio Management** implemented
  - Over the Air Programming in regular use
  - More than 4000 radios entered



- **NDIT Public Safety Team** fully developed and SIRN responsibilities identified and assigned

- **Continued Tower Completions**
  - 72 complete
    - 33 currently in use
    - 39 not currently in use
  - 10 in civil construction phase
  - 2 awaiting radio equipment
  - 28 awaiting final site work
  - 28 remaining

Future Milestones

- Finish remaining tower buildouts
- Transition remaining PSAPs and agencies
- Begin project closeout activities

2026

2025

2027

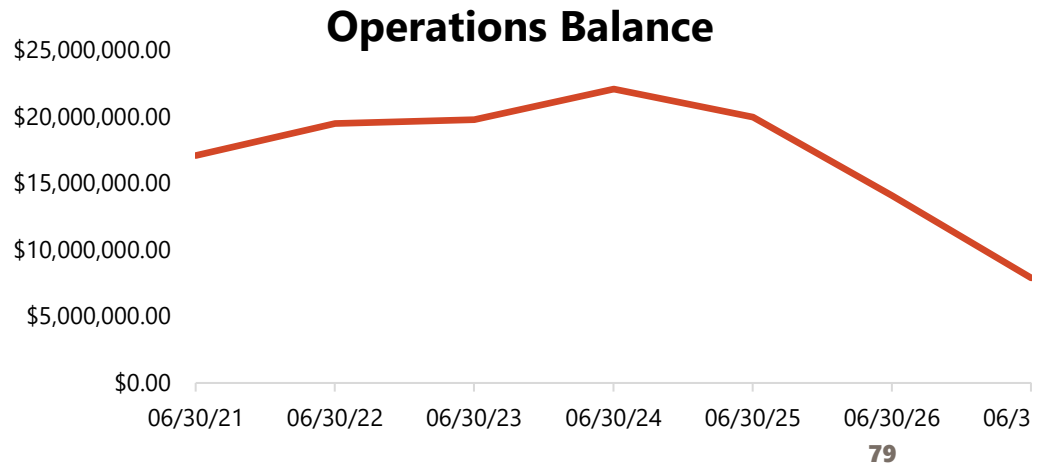
- Continued tower buildouts
- Transitions additional PSAPS as coverage allows
- Implement Status Board and Cirrus Central

- Complete project closeout (decommission and surplus VHF system components, take down original state-owned towers, divest/surplus purchased towers not needed for SIRN, fully transition to operational status)

Financial Update

Operating Expenses	25-26	26-27
Connectivity & Equipment	2.7M	2.8M
Towers	1.1M	1.2M
Labor (Additional Resources)	1.7M	1.8M
Vendor Maintenance	3.3M	3.3M
NDIT Program Expense*	**8.8M**	**9.1M**
DOT Expense (+1 Additional Resource)	1.6M	1.6M
Total Expense	**10.4M**	**10.7M**
911 Fee Revenue	4.5M	4.5M
Shortfall**	5.9M	6.2M

Cash Flow	
911 Fee Balance (January)	~21.9M
Est Rev 23-25 Remaining Biennium	~2.2M
Total Revenue	**23.9M**
Est exp 23-25 Remaining Biennium	~3-4M
End of '23-'25 Biennium Balance	**~20M**



*Expenses are projected. New operational contracts and project decisions are still impacting the long-term operational expense.

Intelligent Transportation Systems

Intelligent Transportation Systems

- PTZ and Fixed Highway Cameras
- Dynamic Message Boards – Stationary & Portable
- Wrong Way Driver & Collision Warning Systems
- Meteorologic Stations
- Automatic Traffic Recorders/Weigh-in-Motion Systems
- NDDOT Smart Corridor

ITS Systems - 2011	ITS Systems - Present	ITS Systems - Planned
47	335 *1800 Individual Devices	~500+

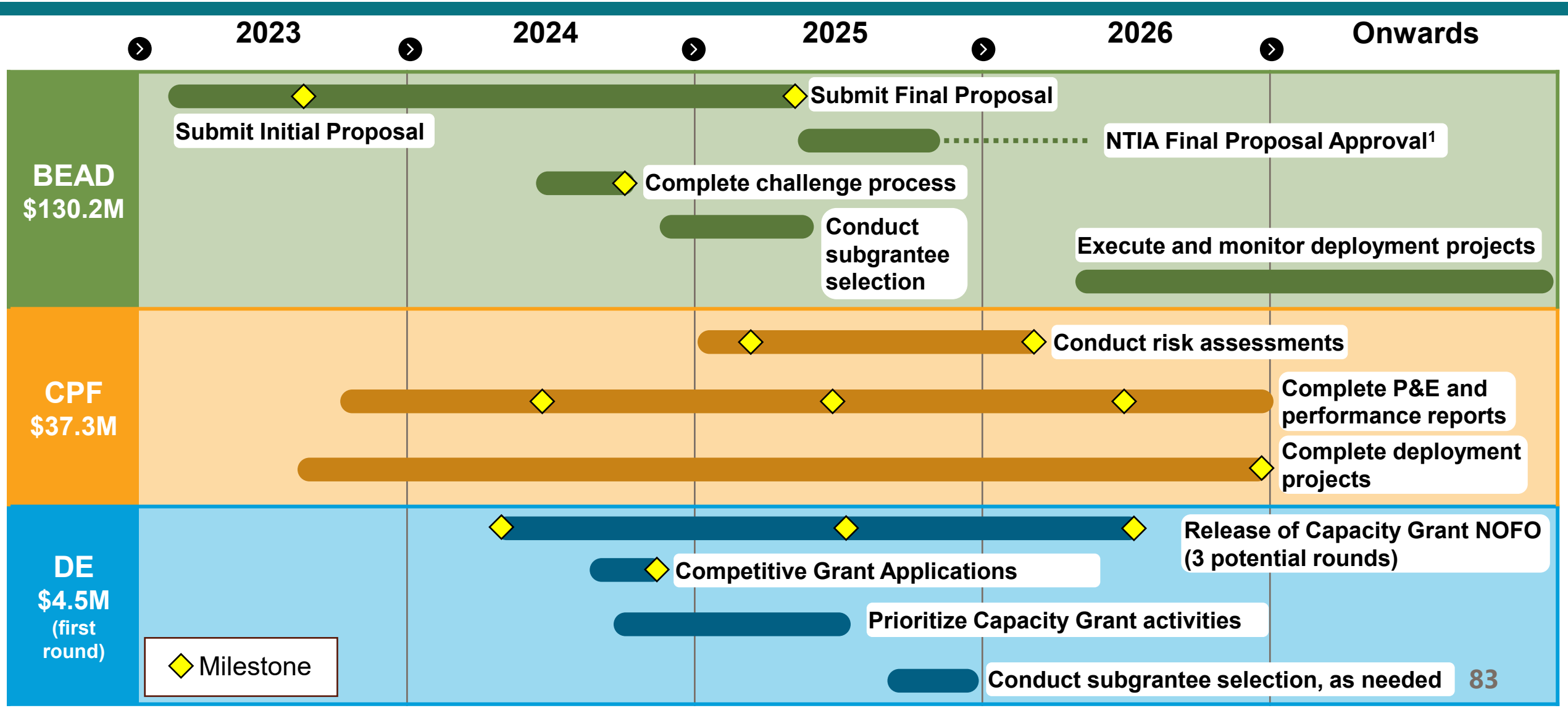
VISION ZERO

Broadband (CPF, BEAD, and DE)

BroadbandND

	BEAD	DE	CPF
Source	National Telecommunications and Information Administration	National Telecommunications and Information Administration	Treasury
Programs	**Broadband Equity, Access, & Deployment** Funds broadband deployment to unserved and underserved areas	**Digital Equity Act** Establishes three grant programs that promote digital equity and inclusion	**Capital Projects Fund** Funds critical capital projects, including broadband infrastructure
Eligible Expenditures	• Deploying broadband infrastructure • Broadband planning and data collection • Advancing digital adoption	• Promoting digital inclusion • Enhancing digital literacy and skills • Facilitating affordable and equitable access	• Broadband infrastructure projects • Digital connectivity technology projects • Multi-purpose community facility projects
Allocation	**$130.2M**	**$4.5M+**	**$37.3M**
Estimated Implementation Timeline	**2024 - 2030**	**2024 - 2029**	**2023 - 2026**

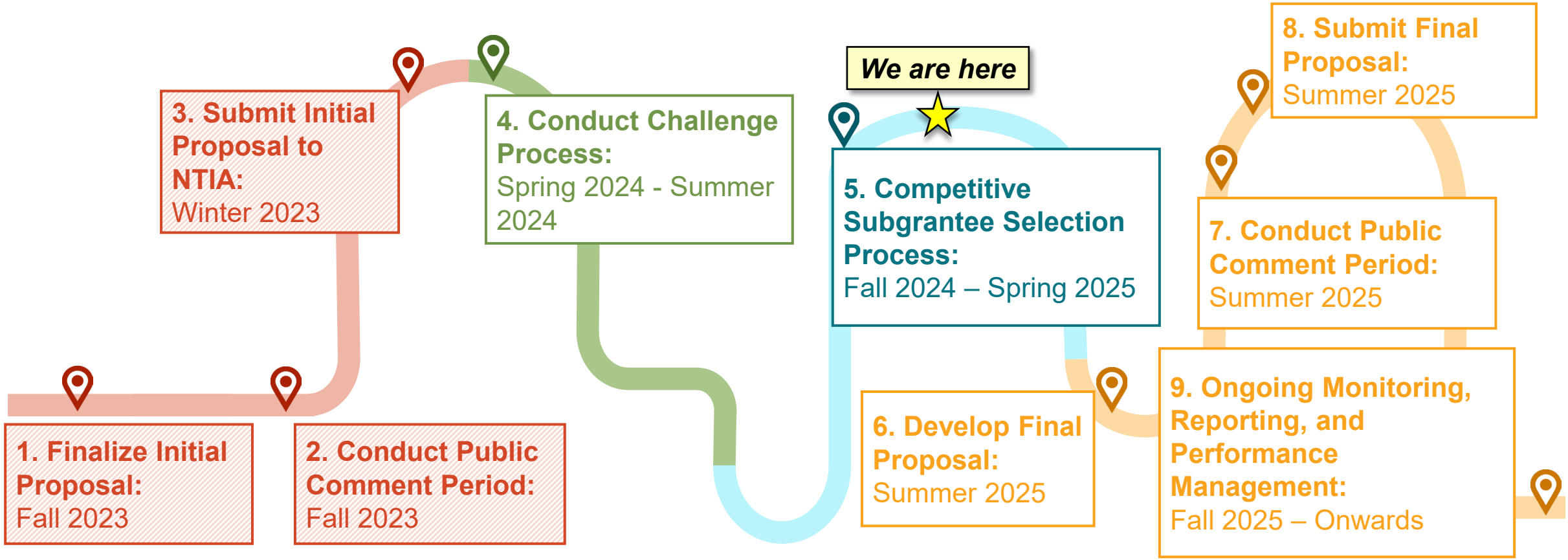
Through our continued collaboration, North Dakota is poised to allocate $172M+ over the next five years to support “BroadbaND for All”



The State Broadband Program Office has launched the first round of the subgrantee selection process

BEAD

Initial Proposal | **Challenge Process** | **Subgrantee Selection** | **Final Proposal / Implementation**



Projects funded by CPF are working to address infrastructure needs, with $37.3M to be deployed by 2026

CPF

$37.3 Million Committed[1]
- $2.5M Expended
- $34.8M Remaining

11 Projects Awarded
- 2 completed
- 9 underway

~2,150 BSLs Funded
- ~1.9k Residences
- ~250 Businesses

7 Participating ISPs

Organization	BSLs	Project Status	Completion Date[2]
NCC	64	Completed	Q4 2023
Nemont	45	Completed	Q4 2024
West River	47	Near Completion	Q4 2024
Halstad	221	< 50%	Q4 2024
Polar Walsh	318	< 50%	Q4 2024
Polar Grand Forks	394	Not Started	Q4 2024
Polar Traill/Steele	218	< 50%	Q4 2024
Red River	323	> 50%	Q4 2024
MLGC Cass	80	< 50%	Q4 2025
MLGC Steele	146	< 50%	Q4 2025
Nemont/MVC	291	Not Started	Q4 2026

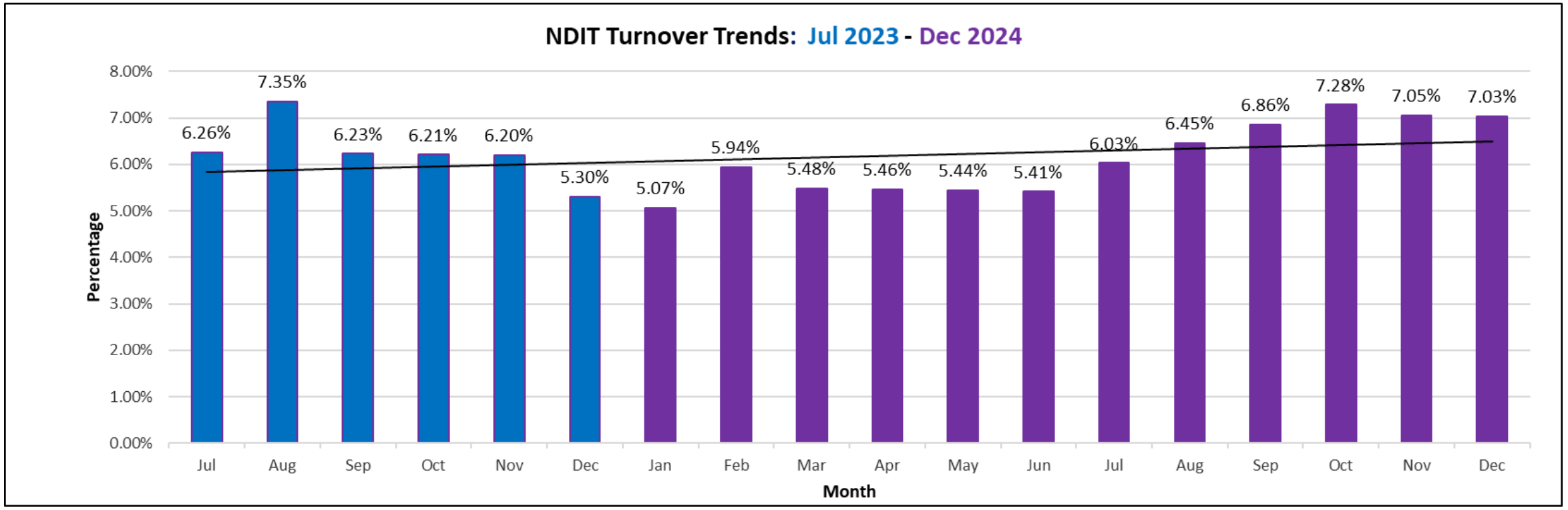
[1] The total CPF allocation is $38.7M. $37.3M represents the project grants.
[2] Construction completion dates based on Q3 P&E Report projections

Staffing

NDIT Talent

- 507 FTE
- Mixture of remote, hybrid and in-office
- Staff augmentation
- Apprentice roles

Biennium Turnover



NDIT Retirement Statistics

Years to meet Rule of Eligibility	Total Employees			Management			Non-management		
	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %
Currently Eligible	49	10.32%	10.32%	6	1.26%	1.26%	43	9.05%	9.05%
0-3 years	39	8.21%	18.53%	3	0.63%	1.89%	36	7.58%	16.63%
3.1 - 5 years	23	4.84%	23.37%	4	0.84%	2.74%	19	4.00%	20.63%
5.1 - 10 years	69	14.53%	37.89%	17	3.58%	6.32%	52	10.95%	31.58%
10.1 - 15 years	80	16.84%	54.74%	12	2.53%	8.84%	68	14.32%	45.89%
15.1 - 20 years	70	14.74%	69.47%	10	2.11%	10.95%	60	12.63%	58.53%
20.1 - 25 years	72	15.16%	84.63%	9	1.89%	12.84%	63	13.26%	71.79%
25+ years	73	15.37%	100.00%	0	0.00%	12.84%	73	15.37%	87.16%
Total	475	100.00%		61	12.84%		414	87.16%	

*Management includes all people managers

*Data as of 12/24

Recruitment: 2024 in Review

- 78 Total Hires
- 50 External – from the market
- 6 Transfers
- 22 Promotions within NDIT

Recruitment: What's Going Well

- Applicant pools for remote, entry level and mid level roles are robust
- Applicants for these roles often exceed qualifications
- Early career roles in Bismarck/ND: smaller pools but we have qualified applicants, thus successful sourcing

Recruitment: Pain Points

- Highly skilled/niche roles in ND
  - Small or no applicant pools
  - Cannot afford talent in the marketplace
  - Unable to match salaries & benefits in private sector
- Highly skilled/niche roles remote
  - Quantity over quality
  - Upon interview, many do not have level of knowledge expected/needed

What We're Working On

- People-first culture
  - Culture Roots train-the-trainer: Behavior-based leadership
- Workforce Planning
  - Knowledge management
  - Skills matrix/career pathing

New/Vacant FTE Pool

FTE Pool Calculation	Budget Reduction	Amount in NDIT Pool	Appropriation Reduction
75% of vacant FTE - Special	7,450,404	5,587,803	(1,862,601)
75% of vacant FTE - General	1,469,030	1,101,773	(367,258)
90% of new FTE - Special	2,967,987	2,298,667	(669,320)
90% of new FTE - General	1,998,699	1,725,377	(273,322)
Total	13,886,120	10,713,620	(3,172,501)

	Vacant FTE Pool Calculation
Salaries Permanent	91,481,377
Benefits (30%)	27,444,413
Total Salary Base Calculation	118,925,790
Vacancy Rate Assigned	7.5%
Vacant FTE Budget Reduction	8,919,434
New FTE Budget Reduction	4,966,686
	13,886,120

Combined New FTE / Vacant FTE pool	New FTE - GF	New FTE - SF	Vacant FTE - GF	Vacant FTE - SF	Total
Appropriaton Reduction	1,998,699	2,967,987	1,469,030	7,450,404	13,886,120
Pool Redcution	(273,322)	(669,320)	(367,258)	(1,862,601)	(3,172,501)
FTE Pool Available	1,725,377	2,298,667	1,101,772	5,587,803	10,713,619
Requests:					
July 1, 2023 Vacants			1,333,118	3,786,479	5,119,597
New FTE	1,121,088	1,138,682			2,259,770
Pending Request	87,969				87,969
Total Pool Requests	1,209,057	1,138,682	1,333,118	3,786,479	7,467,336
Balance Remaining	516,320	1,159,985	(231,346)	1,801,324	3,246,283

NEW FTE POOL POSITIONS

New FTE Pool

Position	Budget Amount	New FTE Pool Request	Position filled date
General Fund Positions			
Information Services V, Grade 207	283,986	87,969	Dec-24
Information Services I, Grade 203	138,787	52,045	Oct-24
Manager II, Grade 107	268,434	163,950	Jun-24
Information Services VI, Grade 208	250,054	250,713	May-24
Information Services IV, Grade 206	237,318	175,000	Apr-24
Professional Services III, Grade 107	250,908	207,226	Mar-24
Information Services V, Grade 207	320,289	272,154	Jan-24
General Fund Total	1,749,776	1,209,057	
Special Fund Positions			
Program Management III, Grade 106	268,430	111,846	Sep-24
Information Serivices III, Grade 205	190,641	71,490	Oct-24
Information Services IV, Grade 206	276,723	142,413	Jun-24
Information Services IV, Grade 206	216,575	118,421	Jul-24
Information Services I, Grade 203	138,787	87,399	Jun-24
Information Services IV, Grade 206	190,646	137,113	Jul-24
Information Services IV, Grade 206	237,318	135,000	May-24
Program Management III, Grade 106	229,540	165,000	Apr-24
Manager II, Grade 107	294,358	170,000	Jun-24
Special Fund Total	2,043,018	1,138,682	
New FTE Pool Total	3,792,794	2,347,739	

VACANT FTE POOL POSITIONS

Vacant FTE Pool				
Position	Budget Amount	Vacant FTE Pool Request	Position filled date	Position vacated date
General Fund Positions				
Manager II, Grade 107	145,300	86,914	Nov-24	Jun-22
Information Services IV, Grade 206	199,853	137,645	Mar-24	Apr-22
Professional Services III, Grade 107	247,654	226,139	Nov-23	Dec-22
Information Services III, Grade 205	237,568	181,355	Aug-23	Feb-23
Information Services III, Grade 205	233,464	203,166	Jul-23	Mar-23
Information Services IV, Grade 206	295,192	192,600	Jul-23	Jul-22
Manager II, Grade 107	186,328	305,300	Jul-23	Apr-21
General Fund Total	1,545,359	1,333,118		
Special Fund Positions				
Information Services V, Grade 207	267,389	95,594	Nov-24	Apr-23
Information Services IV, Grade 206	269,895	155,000	Apr-24	Mar-23
Information Services IV, Grade 206	280,880	135,000	May-24	Jun-23
Information Services II, Grade 204	183,896	111,675	Mar-24	Mar-23
Information Services IV, Grade 206	280,911	170,400	Jan-24	Jun-23
Manager II, Grade 107	232,471	259,969	Dec-23	May-23
Information Services V, Grade 207	377,867	222,362	Dec-23	Jun-23
Manager II, Grade 107	185,597	245,071	Dec-23	Jul-21
Information Services IV, Grade 206	211,627	233,155	Nov-23	Jun-23
Profesional Services II, Grade 106	256,471	157,216	Nov-23	May-23
Information Services III, Grade 205	201,789	158,885	Nov-23	Mar-23
Profesional Services II, Grade 106	219,838	185,121	Nov-23	Nov-21
Information Services III, Grade 205	197,964	164,450	Sep-23	Aug-22
Professional Services III, Grade 107	227,113	206,080	Aug-23	May-23
Information Services IV, Grade 206	211,790	293,400	Jul-23	Apr-23
Information Services IV, Grade 206	205,379	195,040	Aug-23	Jul-22
Information Services III, Grade 205	260,420	215,400	Jul-23	Jun-23
Analyst IV, Grade 106	221,245	240,580	Aug-23	Jan-23
Manager III, Grade 108	204,899	342,080	Aug-23	Mar-23
Special Fund Total	4,497,441	3,786,479		
Vacant FTE Pool Total	6,042,800	5,119,597		

Transparency and Governance

Advisory Groups

- Enterprise Architecture Group (current) – review of IT standards, policies, guidelines
  - Agency representation
  - Technology domain representation
  - Service Delivery representation
- Data Governance Council (current) – statewide data strategy
  - Agency representation
  - Technology domain representation
- Customer Advisory Group (upcoming) – service feedback, strategic guidance of services
  - Agency representation
  - Service Delivery representation
- Portfolio Steering Committee (upcoming) – work prioritization
  - Agency representation
  - Portfolio Manager
  - Chief Information Officer

Incident Performance

Agency: All | Priority: All | Breach: All | Underlying Cause: All | Assigned To Group: All | Contact Type: All

- Exclude Tickets Resolved by Solarwinds
- Exclude Child Tickets
- Include only tickets assigned to NDIT

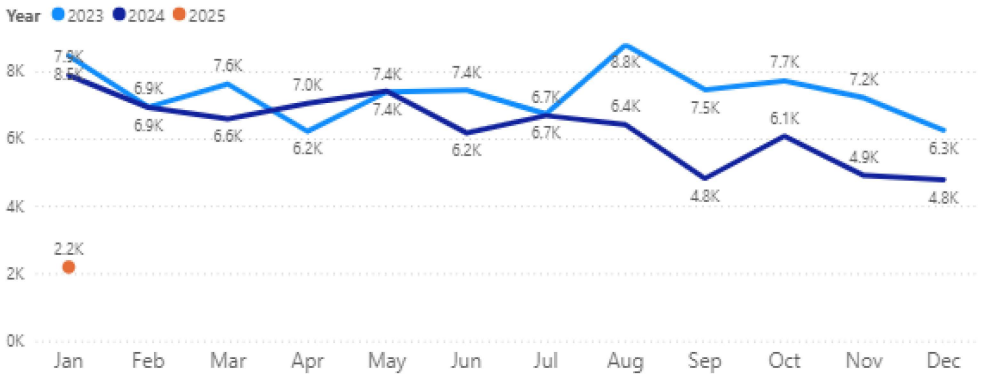
NORTH Dakota — Be Legendary.

Data last refreshed 1/12/25

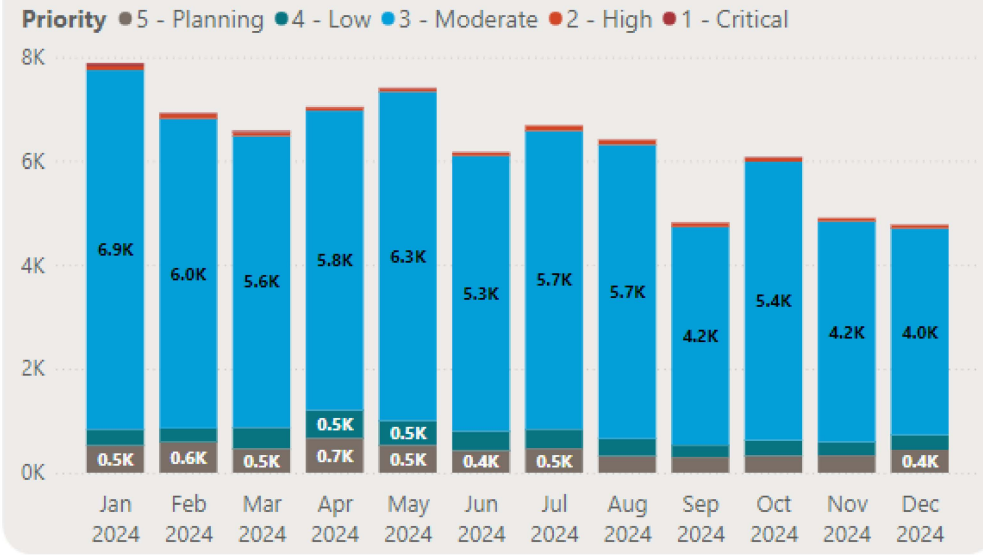
Select Metric: Incidents Created | Incidents Resolved | Incident Backlog | Avg Resolution Time(Mins)

Trend: Incidents Year over Year

Continuous | Year over Year | 3 Metrics



Trend: Incidents by Priority



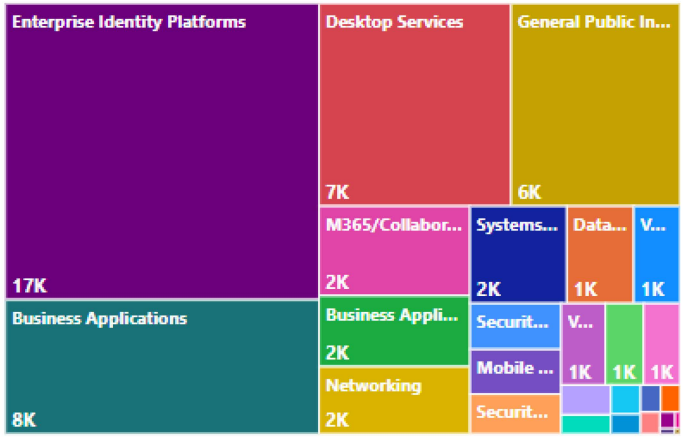
Summary Metrics for 1/1/2024 - 8/20/2024

Click for Video Tutorial

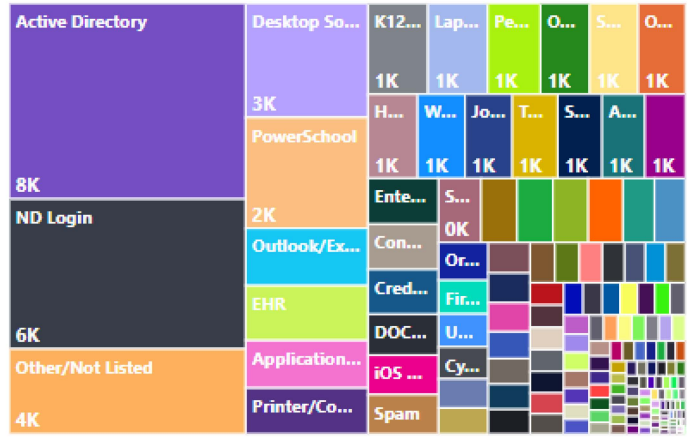
Select Time Period: 1/1/2024 – 8/20/2024

53K	53K	761	790	5.7%
Incidents Created	Incidents Worked	Incidents Outstanding	Avg Resolution Time(Mins)	Pct Tickets Breached

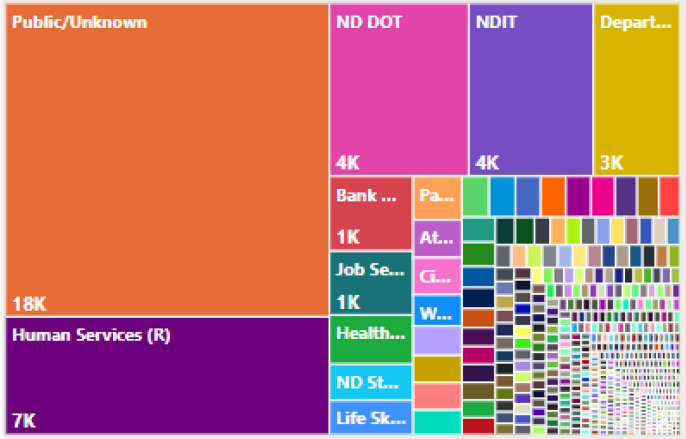
Incidents by Category



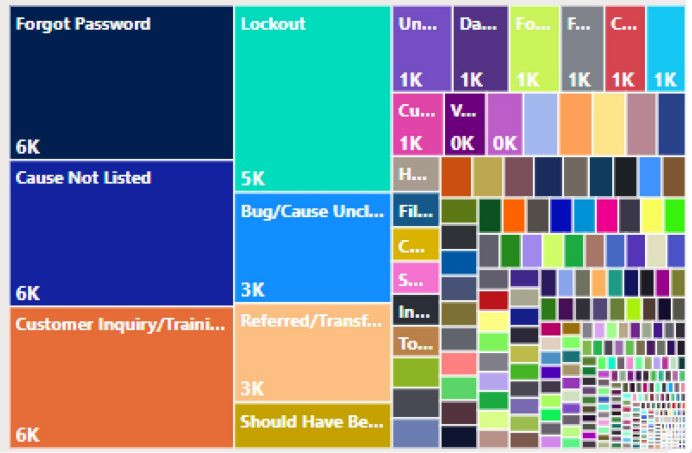
Incidents by Subcategory



Incidents by Agency



Incidents by Underlying Cause



IT Procurement

IT Solution Lifecycle for State Government

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Large IT Procurement >$500,000	Funding & Project Start Up	Preliminary Research	RFP Draft, Approval & Issue			Response Period	Evaluations, Demonstrations & Best & Final		Contract Negotiations			Award & Protest Period
IT RFP >$100,000	Funding/ Initiatative Intake	Preliminary Research	RFP Draft & Issue		Response Period	Evals, Demos, & Best & Final	Contract Negotiations			Award & Protest Period		
Invitation for Bid <$100,000	Funding & Project Start Up	Preliminary Research	Draft & Issue	Response Period	Eval	Award & Protest Period						

Things to Consider:

- It is known what is needed.
- Team Availability
- ESC Availability
- Number of Responses
- Demonstrations & Clarification results
- Best and Final Offer
- Protest
- Contract negotiations
  - State Law
  - Retainage
  - Liquidated Damages
  - Deliverables
  - Limitation of Liability
  - Indemnification

5 Months is a unicorn

Section Changes and Policy Bills

Appropriation Carryover Authority

- Add sections to SB 2021 for the following projects in flight:
  - Statewide Interoperability Radio Network (SIRN)
  - Capitol Security
  - Governance Risk & Compliance (statewide data strategy work)
  - Business Gateway
  - Enterprise Digitization (modernization work)
  - Broadband, Equity, Access and Deployment (BEAD / DE)
- Add ability to transfer funds from HIN Loan Fund to operating

Policy Changes

- Agency sponsored policy changes
  - Change to Statewide Project Plan-SB2048
  - Change to Executive Steering Committee make up-SB 2049

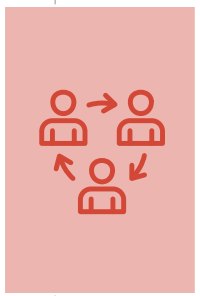
- Legislator sponsored policy changes
  - HB 1265

NDIT FIVE PILLAR STRATEGY

Frictionless Experience

Personalized and intuitive employee and consumer experiences for businesses and citizens

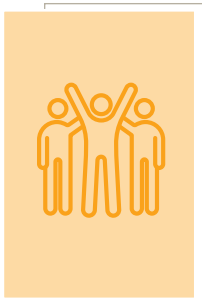
•Deliver consistent, predictable, and seamless, secure user experiences across all IT systems and services within the state
•Enable highly personalized experiences for citizens and businesses by enabling the delivery of services to match user preferences and needs
•Collaborate with stakeholders to develop solutions that prioritize a seamless experience for users across all communication channels, ensuring effortless engagement in every interaction



Strengthen Operational Rhythm

Establishing efficient processes and workflows to optimize operational efficiency

•Elevate service excellence through a culture of continuous improvement and innovation, fostering an environment where operational excellence is the norm.
•Implement agile methodologies for rapid adaptation to changing requirements and priorities.
•Strengthen the security posture of the entire state by implementing comprehensive measures to protect critical infrastructure and sensitive data from cyber threats.



People First Culture

Fostering an environment where employees feel valued, supported, and empowered to thrive

•Develop a future-ready workforce, ensuring they are dynamic, adaptable, and diverse to meet the evolving talent needs
•Create pathways for career advancement and succession planning
•Promote behaviors that demonstrate curiosity, open communication, collaboration, and innovation to build strong relationships and a sense of belonging within the team

Provide Business Insights

Leveraging data analytics to enable a data-driven state

•Identify trends, patterns, and opportunities to unlock new business value and drive innovation
•Empower decision-makers with actionable data-driven insights to drive strategic initiatives and improve outcomes
•Foster a culture of data governance and literacy to drive informed decision-making throughout North Dakota

Optimize Financial and Process Discipline

Implementing efficient budgeting and resource allocation strategies

•Drive efficiency and cost-effectiveness through streamlined processes and optimized resource allocation
•Ensure transparency, accountability, and compliance with fiscal regulations and policies

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations - Government Operations Division
Brynhild Haugland Room, State Capitol

SB 2021
3/13/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

10:53 a.m. Chairman Monson called the meeting to order.

Members Present: Chairman Monson, Representatives: Bosch, Fisher, Kempenich, Meier, Pyle.

Member Absent: Vice Chair Brandenburg.

Discussion Topics:

- Broadband Services
- Broadband Equity, Access and Deployment (BEAD) Program
- Digital Equity (DE)
- Technological School Outreach

10:56 a.m. Corey Mock, Chief Information Officer, State of ND, testified in favor #41253.

10:58 a.m. Brian Newby, Broadband Director, ND IT Department, testified in favor and continued testimony #41253.

11:28 a.m. John Gieser, K12 IT Strategist, EduTech, ND IT Department, testified in favor and continued testimony #41253.

11:37 a.m. Greg Hoffman, Deputy Chief Information Officer, ND Information Technology, testified in favor, answered questions.

11:40 a.m. John Gieser, K12 IT Strategist, EduTech, ND IT Department, testified in favor and continued testimony #41253.

11:47 a.m. Corey Mock, Chief Information Officer, State of ND, continued testimony.

Additional written testimony:

Sheila Sandness, Legislative Council, submitted neutral testimony #41310.

11:47 a.m. Chairman Monson adjourned the meeting.

Krystal Eberle for Madaline Cooper, Committee Clerk

HOUSE APPROPRIATIONS

GOV. OPS SUB COMMITTEE

MARCH 13, 2025

BRYNHILD HAUGLAND

NORTH Dakota | Information Technology

Be Legendary.

Introductions

Corey Mock
Chief Information Officer

Greg Hoffman
Deputy Chief Information Officer

Evonne Amundson
Chief Business Applications Officer

Kim Weis
Chief Data Officer

Craig Felchle
Chief Technology Officer

Shelly Miller
Chief of Staff

Chris Gergen
Interim Chief Information Security Officer

NDIT Vision and Mission

NDIT enables partners to provide the ‘Best Government Experience’ and strives to be a trusted business partner through frictionless technology and proactive services

North Dakota Information Technology

Defends
252,000+
People every day from cyber attacks

Prevents
4.5 Billion+
Threats on STAGEnet per year

Provides
ND Citizen Skills for All Training
a pathway to a career in technology

Supports
ND companies to provide internet to unserved /underserved citizens by awarding **$37M grant funds**

WHAT WE DO

End to End Technology Services
Handling all technology, from supporting the tried and true, to finding innovative technology solutions for the future.

Whole-of-State Cybersecurity
Defending the data and services of all branches of government and the citizens they serve.

STAGEnet
Network backbone for governmental entities in the state.

PK20W
All North Dakota, Future Ready, Today. Every student. Every school. Cyber educated.

Education
Improve student and teacher outcomes in every North Dakota K12 school using SLDS and Learning Information Systems.

Program & Portfolios
Managing hundreds of millions of dollars of IT projects across government.

WHAT WE'RE PROUD OF

Strengthen Operational Rhythm – HB1398 (2023)
ND is the First State to require Cybersecurity and Computer Science credits for high school graduation.

Optimize Financial and Process Discipline - HHS MMIS Upgrade
Decreasing operational support costs, addressing security risk, and building more modern platforms that will support the MMIS system for the future.

Frictionless Experience - NDIT and ND Game and Fish win National Award
The Electronic posting project is a tool for landowners and hunters to identify posted lands digitally.

NDIT Teams

- **Applications Team-** The Applications Team at NDIT creates, supports, and improves the digital tools and programs—like health applications, websites, and document-sharing platforms—that help state employees get their work done. This team ensures these tools are reliable, user-friendly, and meet the needs of everyone who uses them.
- **Data Team-** The Data Team at NDIT helps make data useful and accessible for better decision-making across the state. They support tools like maps and geospatial data (GIS), analyze data for trends and insights, and use artificial intelligence to automate tasks and improve processes.
- **Technology Team-** The Technology Team at NDIT ensures the state's technology is innovative, secure, and efficient. They support public safety with tools like 911 system support and emergency communication, expand broadband access to connect communities, and manage the overall technology (hosting, computers, networks, collaboration products) that keep systems running smoothly. The Technology Team also leads the Enterprise Architecture practice, the solutioning and road-mapping team that strives to align business objectives with technology solutions.
- **Security Team-** The Security Team protects the state's data, systems, and critical services from cyber threats. They work closely with agencies to create security policies, identify risks, fix vulnerabilities, and monitor and respond to threats to ensure everything remains safe and secure.
- **Fiscal and Vendor Management Team-** The Fiscal and Vendor Management teams handle all the back-office support for procurement, budgeting, service fee creation and financial management of NDIT
- **Administrative Team-** The Administrative Team at NDIT is responsible for internal and external communications, human resource functions, training, education and outreach for technology solutions. They lead efforts on employee culture, engagement and succession planning.

Major IT Focus Areas Overview

Major IT Focus Areas

- SLDS- Tracy Korsmo, SLDS Program Manager
- GIS- Bob Nutsch, Geospatial Program Manager
- HIN- Shila Blend, NDHIN Health IT Director
- EduTech- John Gieser, K12 IT Strategist
- Broadband- Brian Newby, Broadband Program Director
- SIRN- Craig Felchle, CTO
- Enterprise Digitization and Modernization- Craig Felchle, CTO
- Vulnerability Remediation- Chris Gergen, Interim CISO
- Digital Experience (Gateway work)- Evonne Amundson, CBAO
- Statewide Data Strategy (Lighthouse work)- Kim Weis, CDO

SLDS

WHAT DOES AI SAY ABOUT THE SLDS

(GROK3 QUESTION: "WHAT CAN YOU DESCRIBE OF THE ND SLDS")

The North Dakota Statewide Longitudinal Data System (SLDS), as reflected through ND Insights (https://insights.nd.gov) and related public information, is a comprehensive data framework designed to track individuals across education and workforce stages. Managed by the North Dakota Information Technology agency in collaboration with multiple state partners, it aims to provide actionable insights for improving educational outcomes, workforce readiness, and policy decisions. Here's a detailed breakdown based on available descriptions:

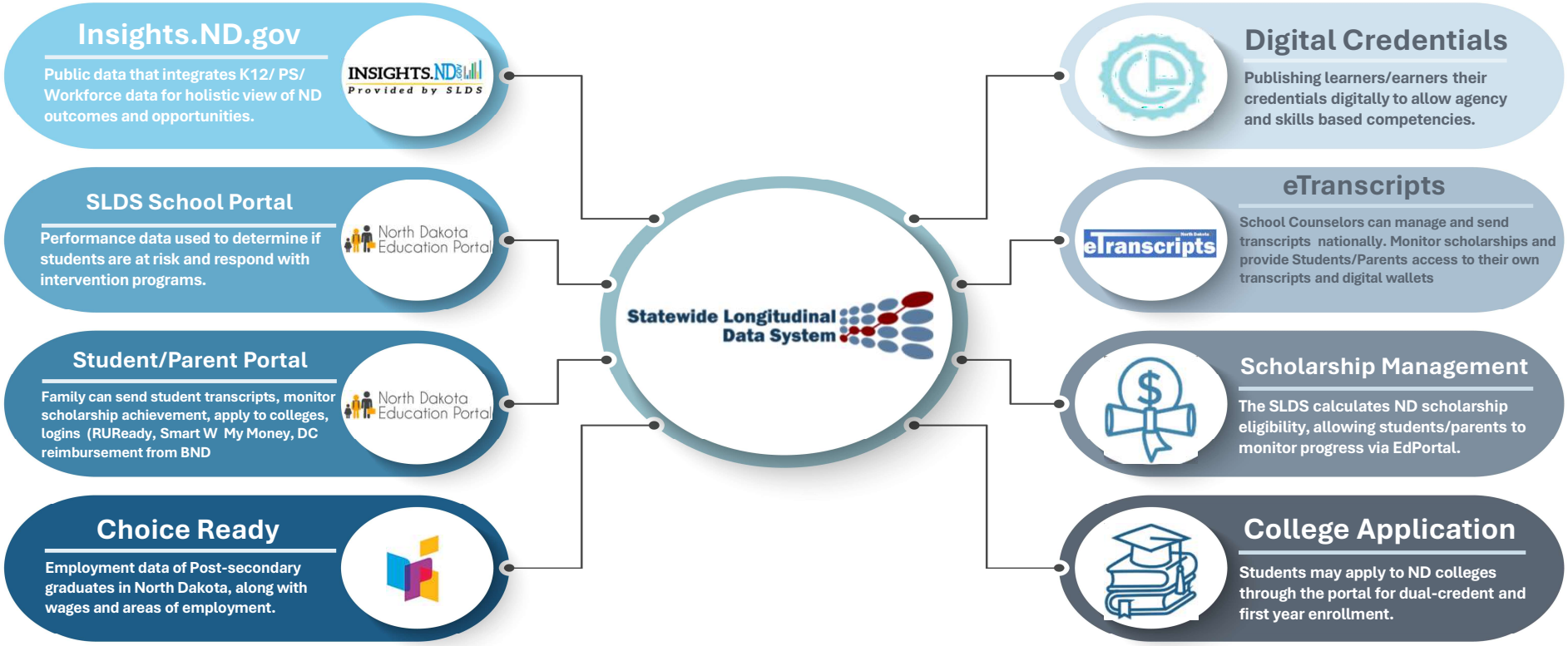
Purpose and Scope

- The ND SLDS integrates data from early childhood education through K-12, post-secondary education, and into workforce participation. Its primary goals are:
  - Track Progress: Monitor student achievement and transitions over time, from preschool to employment.
  - Evaluate Programs: Assess the effectiveness of education and training initiatives.
  - Inform Stakeholders: Offer transparent data to educators, families, policymakers, and employers to support decision-making.
  - Workforce Alignment: Connect educational outputs (e.g., degrees, skills) to North Dakota's economic needs, like agriculture, energy, and healthcare.

What is the Statewide Longitudinal Data System

- The Statewide Longitudinal Data System (SLDS) leverages stakeholders and partners of education, training, and employment programs to create a system which provides data and services to support the research and evaluation of programs to improve the outcomes of individuals provided service.
- The SLDS is a series of secured data warehouses comprised of historical **education** and **workforce training data**. The objective of the SLDS is to provide data on the outcomes of ND education and workforce training programs.
- https://www.slds.nd.gov/

ND SLDS Services and Features



SLDS Activity and Goals

- Research teacher retention
- Training 2000+ along with video and online
- Move applications to cloud-based infrastructure in Azure (modernization)
- BND DC application
- Digital Credentials
  - Bismarck State College Proof of Concept (degrees/credentials to digital wallet)
  - ND EMS with Federal Homeland Security POC on First Responder digital credentials with Digital Bazaar
- Juvenile Justice domain (measure interventions, programs, outcomes in education and beyond)
- AI POC on public data (Insights.nd.gov)

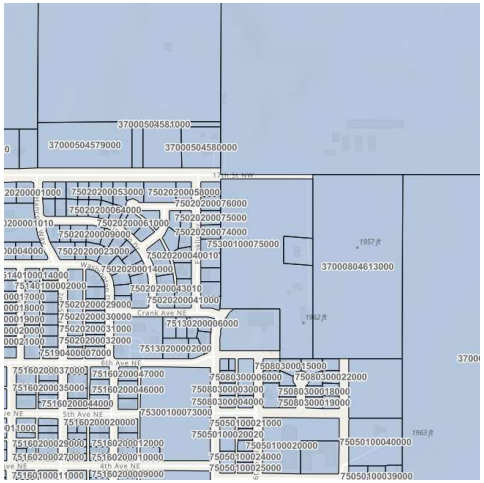
Geospatial

Geospatial Program

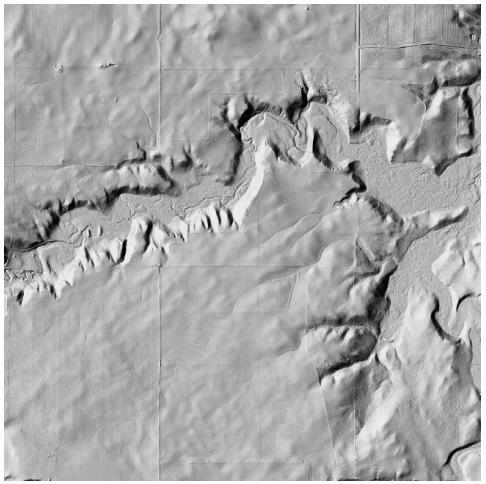
- The North Dakota Geospatial Program **reduces barriers** to the utilization of geospatial technology and geospatial data. This in turn, provides state agencies the opportunity for greater collaboration with other agencies, for more efficient **data-driven decisions**, and for improved **delivery of services** to other levels of government and to the citizens of North Dakota.
- The core of the State Geospatial Program is the GIS Hub which leverages the State's existing data and infrastructure to support state agency business processes including systems such as the **North Dakota Parcel Program**, the **Game and Fish Electronic Posting**, and **Next Generation 9-1-1**.

Geospatial Data Examples

Parcel Boundaries
(Counties & NDIT)

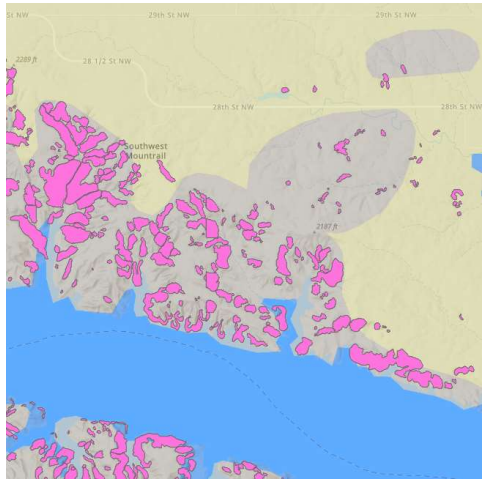


Elevation
(DWR & Partners)

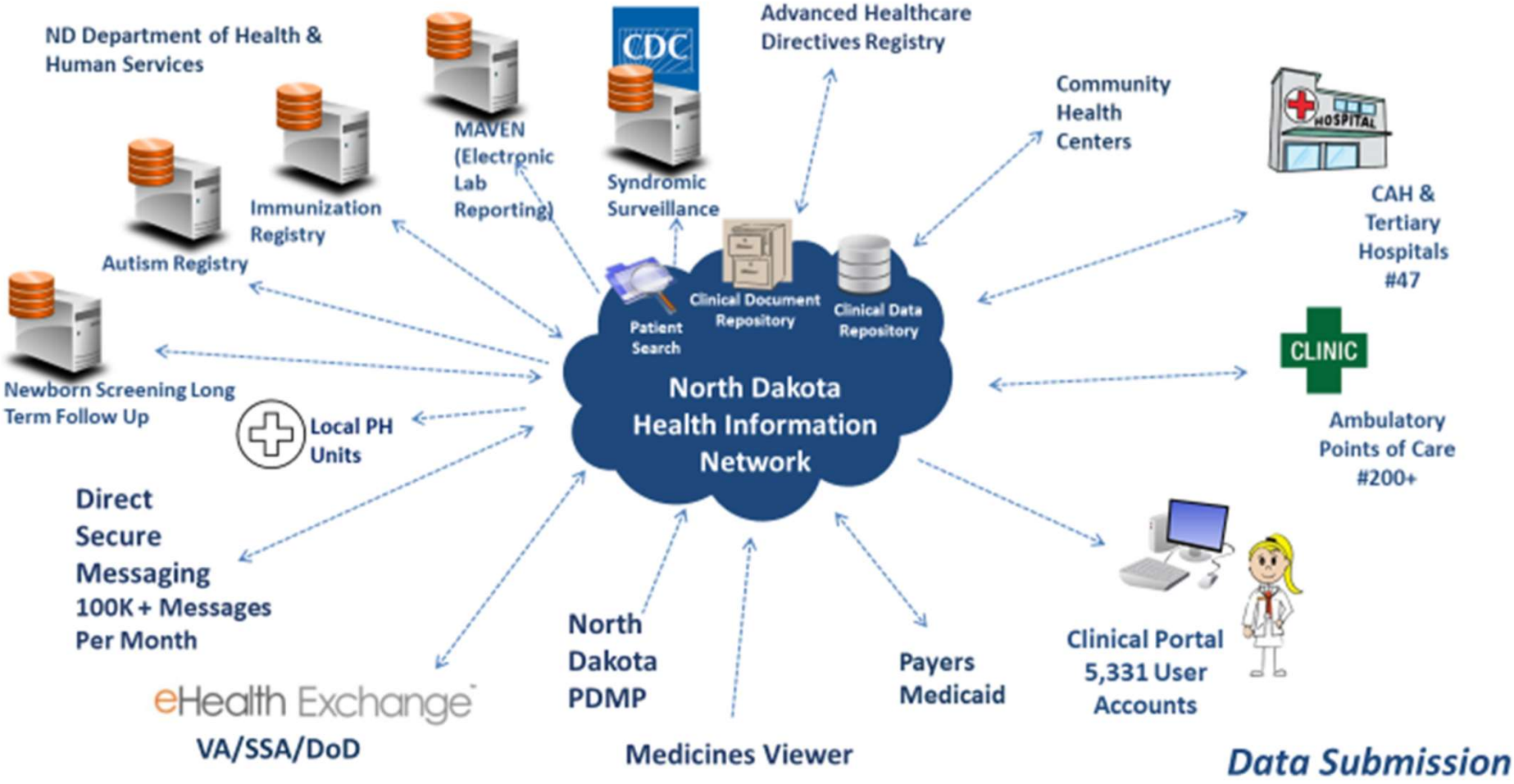


Imagery
(USDA)

Landslides & Geology
(Geological Survey)

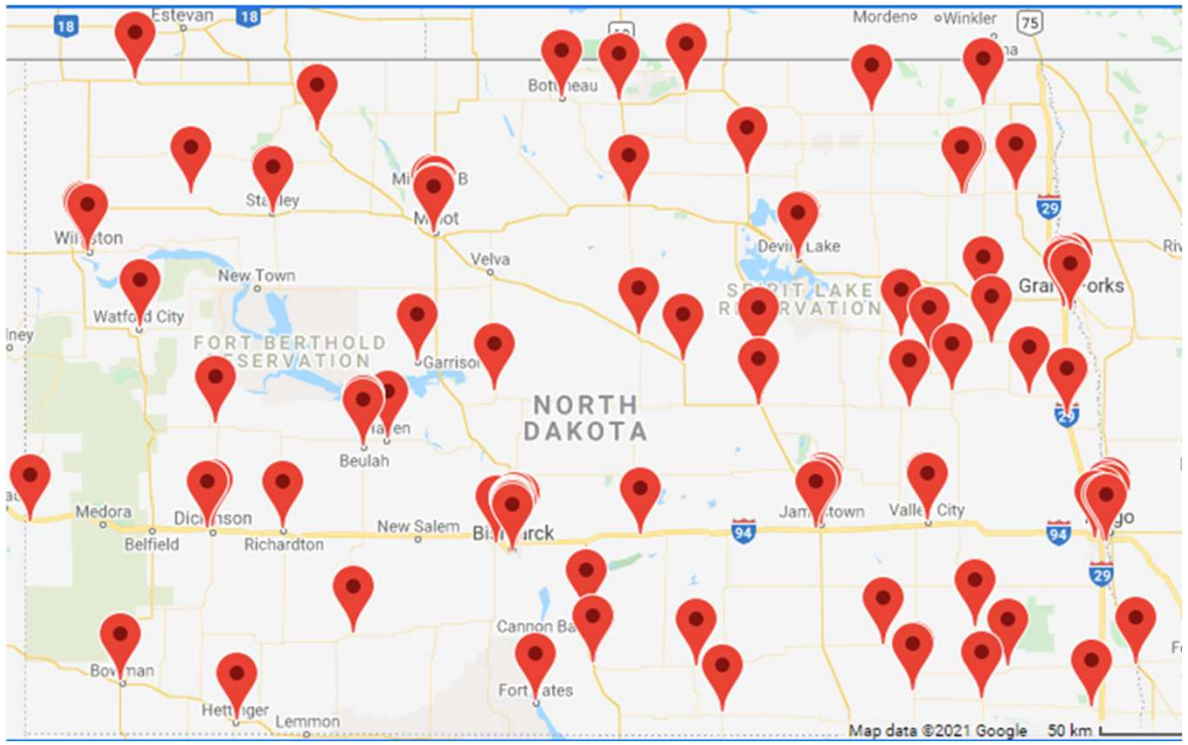


North Dakota Health Information Network (NDHIN)

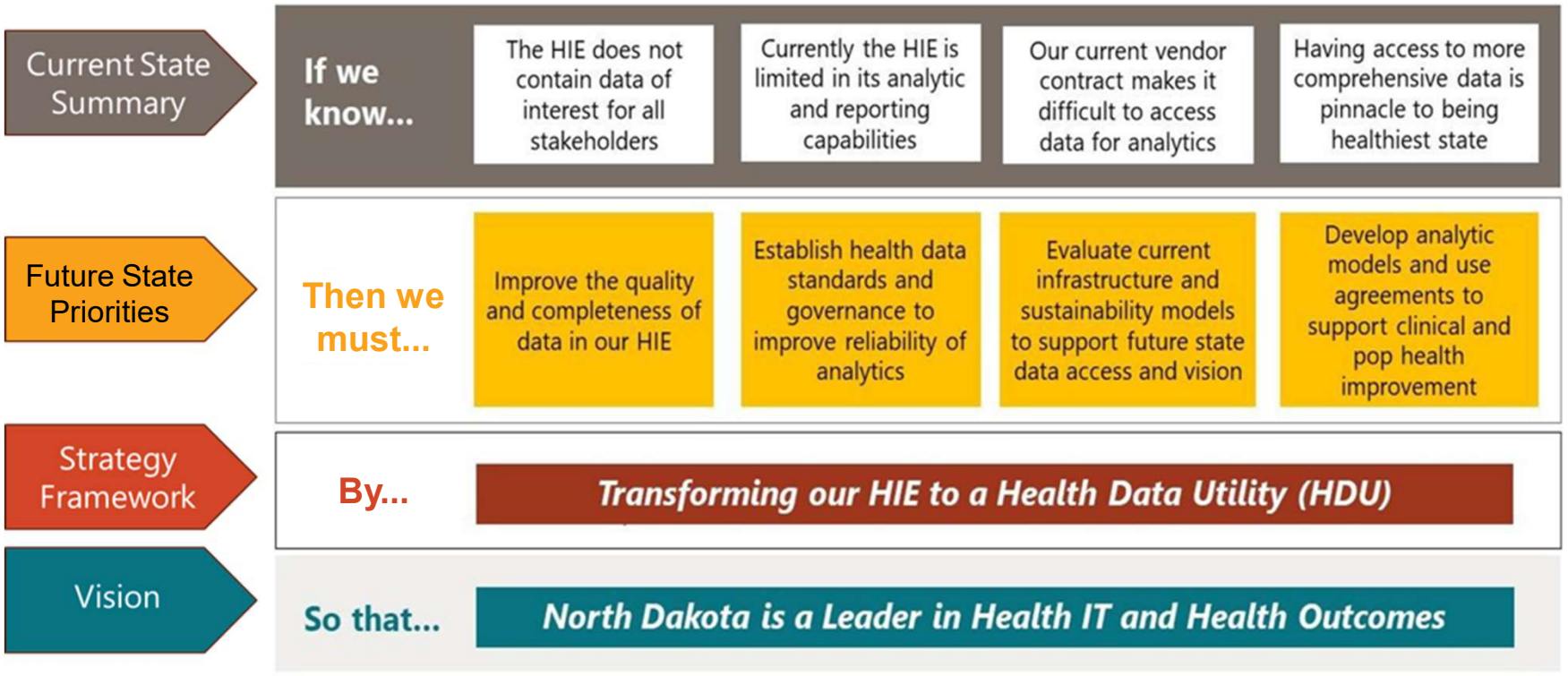

ND Department of Health & Human Services
MAVEN (Electronic Lab Reporting)
CDC
Syndromic Surveillance
Advanced Healthcare Directives Registry
Community Health Centers
HOSPITAL
CAH & Tertiary Hospitals #47
Immunization Registry
Autism Registry
Newborn Screening Long Term Follow Up
Local PH Units
Patient Search
Clinical Document Repository
Clinical Data Repository
North Dakota Health Information Network
CLINIC
Ambulatory Points of Care #200+
Direct Secure Messaging
100K + Messages Per Month
eHealth Exchange
VA/SSA/DoD
North Dakota PDMP
Medicines Viewer
Payers Medicaid
Clinical Portal 5,331 User Accounts
Data Submission

NDHIN FOOTPRINT

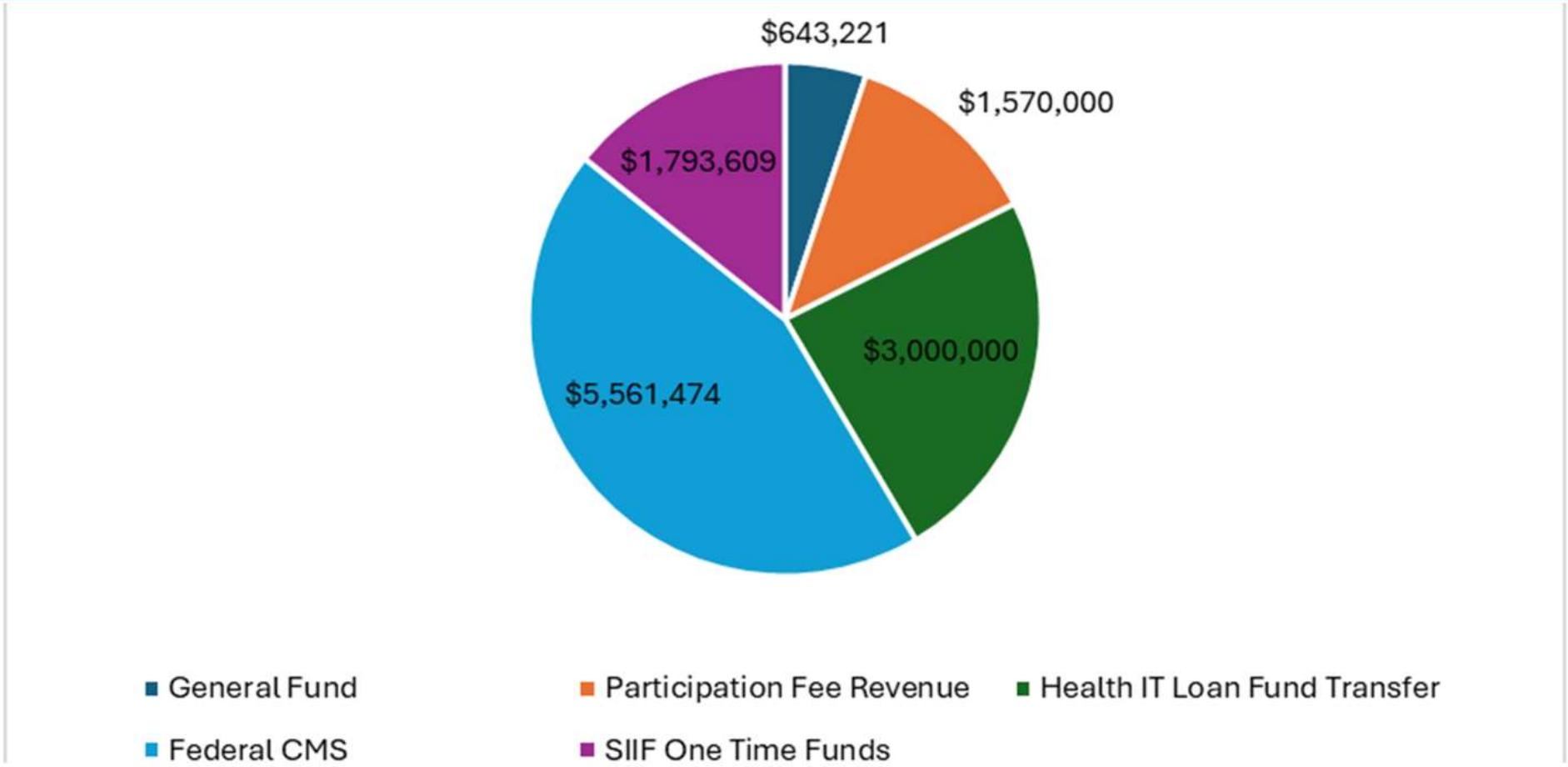
- 2024 Snapshot
- 356 Participating Facilities
- 5560 Active Users
- 1.57M Unique Patient IDs
- All tertiary and Critical Access Hospitals participating
- 655 Incoming Data Feeds
- Almost 1M Direct Secure Messages sent/received in 2023
- 3600+ images viewed in 2023



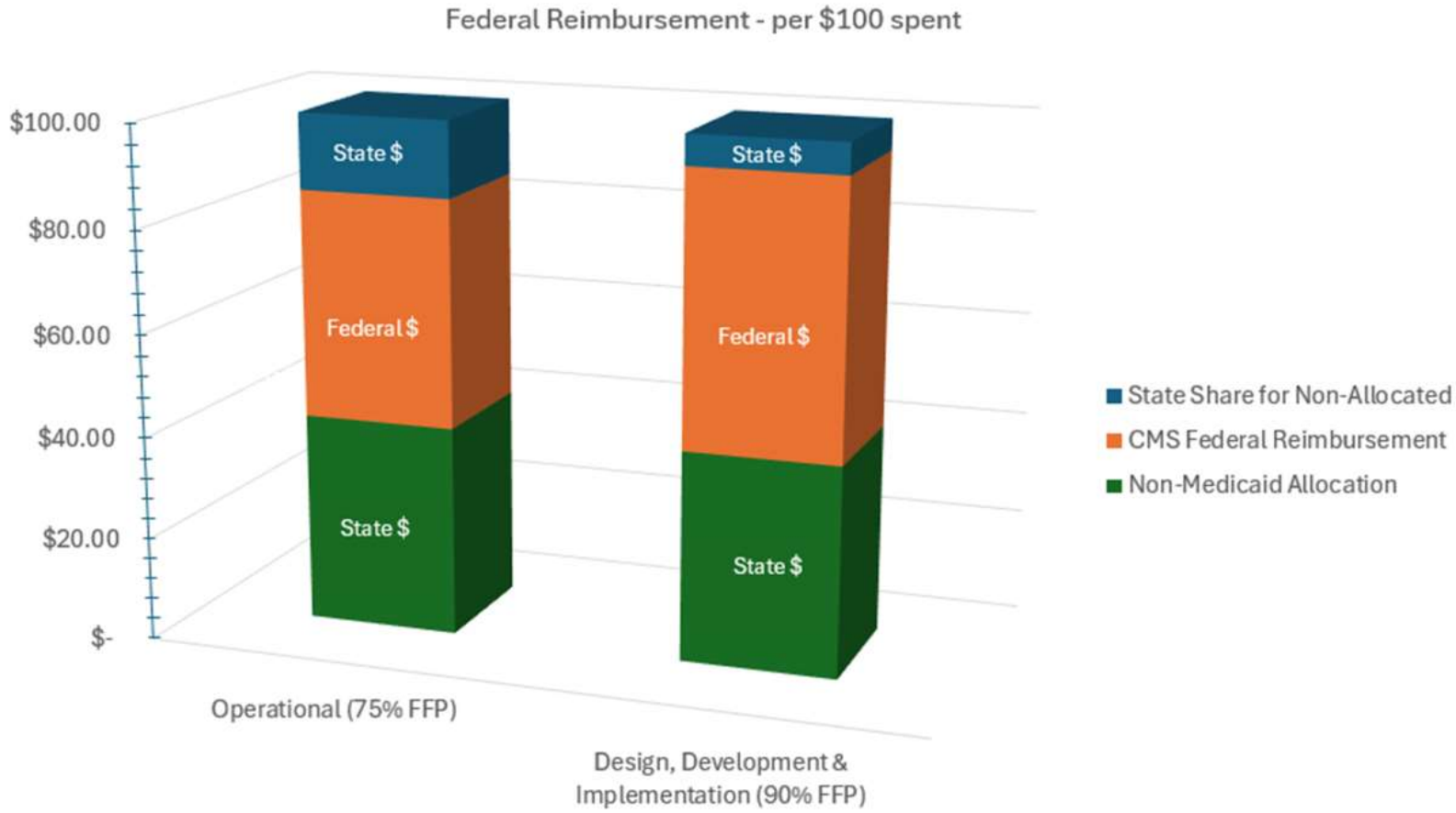
Future Target State



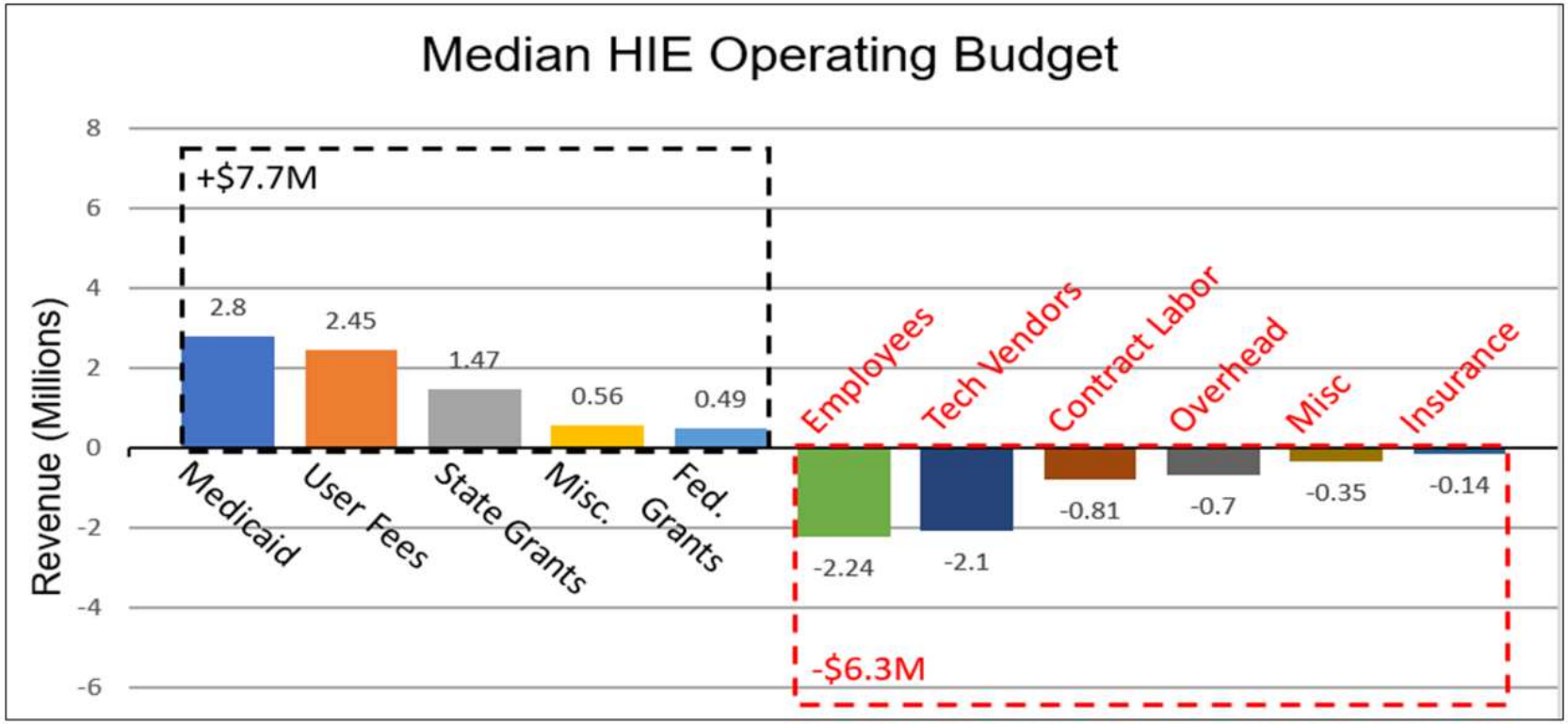
NDHIN Proposed Funding Breakdown



Federal Reimbursement with Current Cost Allocation (59%)



National Annual Median HIE budget



Source: CIVITAS Networks for Health, 2024

EduTech

Overview of EduTech

1990-1995
- Dial Up Service
- @sendit Mail
- Web hosting
- Teaching Practice
- Establish TECO Community

2009 - 2014
- Authority to build
- IES SLDS grant for K12

2010-12
- Workforce developed through a WDQI grant

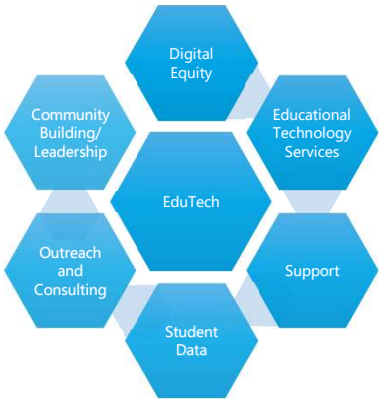
2012- 2016
- Higher Ed build
- IES Grant

2015 - 2022
- IES Grant for data utilization
- Dashboards and secured access for teachers

2015-2020
- Unification
- ETC dissolution
- Retire @sendit services
- High Octane/IgniteND
- PK20W Initiative
- STEM Education
- SETDA

2020-2025
- Computer Science/Cybersecurity Education
- ClassLink
- Cyber Madness
- Retire Web hosting
- Microsoft EES

2025-
- PowerSchool->Infinite Campus
- Digital Equity
- Artificial Intelligence
- CoSN



Improve Capacity and Equity

Reduce Technology Effort Required of K12 IT Leaders, Staff, Educators, and Students

Snapshot of Now and The Future

Professional Outreach

- 199 Topics
- 731 Engagements
- 11,700 attendees
- E-rate
  - State Application/STAGEnet
  - $6.7M to schools
- Skills for All
- Student Data User Group
- IgniteND Conference
- Cyber Madness
- Technology Showcase

Technical Services

- Identity Management
- Microsoft 365
- Microsoft EES Agreements
- ClassLink
  - 87 Districts
  - These cover 73% of students

Into the Future

- Artificial Intelligence
- Infinite Campus
- Training Management Application

Community and Leadership

- Technology Coordinator Forum
- Statewide K12 Technology Town Hall
- SETDA
- CoSN
- PK20W

Broadband (CPF, BEAD, and DE)

ND State Broadband Program Update

1. Broadband Programs Overview
2. Capital Projects Fund Update
3. Broadband Equity, Access, and Deployment Update
4. Digital Equity Update
5. Timeline and Next Steps

The State of North Dakota has been awarded ~$172M in Federal Funding to provide reliable access to affordable, high-speed[1] broadband

$37 M — **Capital Projects Fund (CPF)**

Purpose | To fund critical capital projects that provide North Dakotans access to the high-quality modern infrastructure, including broadband, needed to access critical services

$130 M — **Broadband Equity, Access, & Deployment (BEAD)**

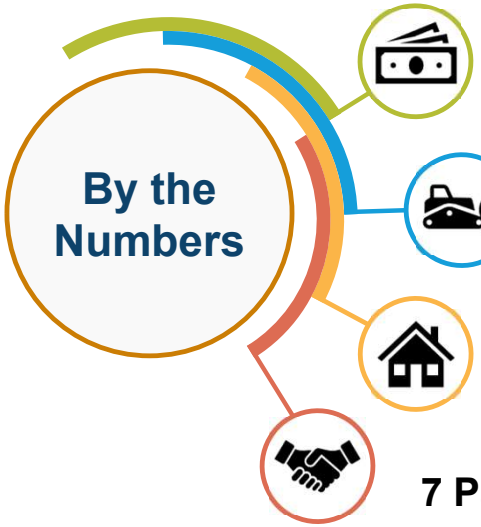
Purpose | To expand high-speed Internet access in North Dakota by funding broadband planning, infrastructure deployment, and digital adoption programs

$5 M[2] — **Digital Equity (DE) Act Programs**

Purpose | To fund programs that promote North Dakotan's access to the skills, capacity, and technology to fully participate in the modern economy

1: *Defined as speeds at or above 100/20 Mbps* | 2: *$4.5M in funds have been allocated to ND, with potentially more anticipated*

CPF | Projects funded by CPF are working to address infrastructure needs, with $37.3M to be deployed by end of 2026



$37.3 Million Committed[1]
- $6M Expended
- $31.3M Remaining

11 Projects Awarded
- 2 completed
- 9 underway

~2,150 Locations Funded
- ~1.9k Residences
- ~250 Businesses

7 Participating ISPs

Red River Communications, Nemont, NCC, MLGC, HTC, WRT, polar

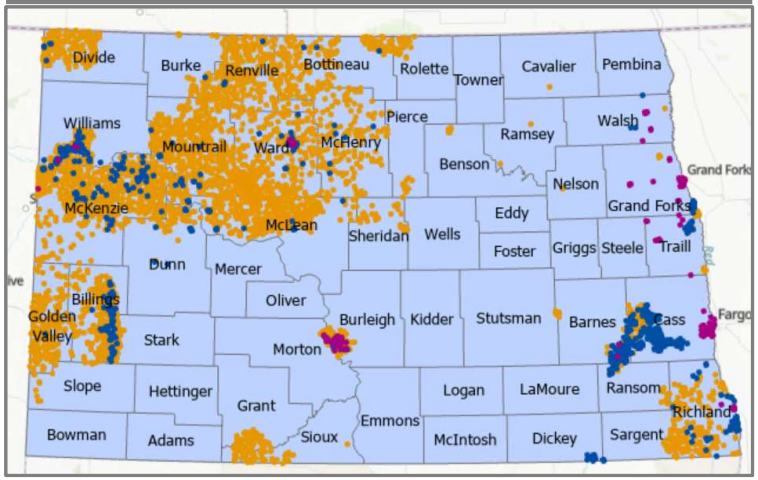
Organization	Locations	Status	Project End[2]
NCC	64	Completed	Q4 2023
Nemont	45	Completed	Q4 2024
West River	47	Near Complete	Q2 2025
Halstad	221	50%	Q4 2025
Polar Walsh	318	50%	Q4 2025
Polar Grand Forks	394	Not Started	Q4 2025
Polar Traill/Steele	218	50%	Q4 2025
Red River	323	50%	Q3 2025
MLGC Cass	80	< 50%	Q4 2025
MLGC Steele	146	< 50%	Q4 2025
NCC/MVC	291	Not Started	Q4 2026

[1] The total CPF allocation is $38.7M. $37.3M represents the project grants.
[2] Operations initiation dates based on Q4 P&E Report projections and monthly progress updates

BEAD | In 2024, the federal government updated its definition of broadband internet to a minimum standard of 100/20 Mbps[1]

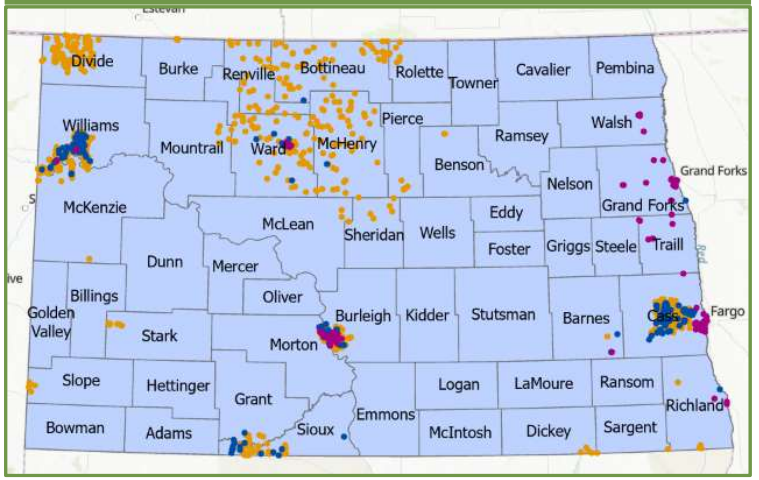
- The goal of BEAD is to deliver broadband service to locations where this standard is not met
- Initially, over 7,000 North Dakota residences and businesses lacked access to broadband
- Today, significant progress has been made refining this list to ~2,000 locations

2023 | Eligible Locations



Unserved Underserved Unserved CAIs

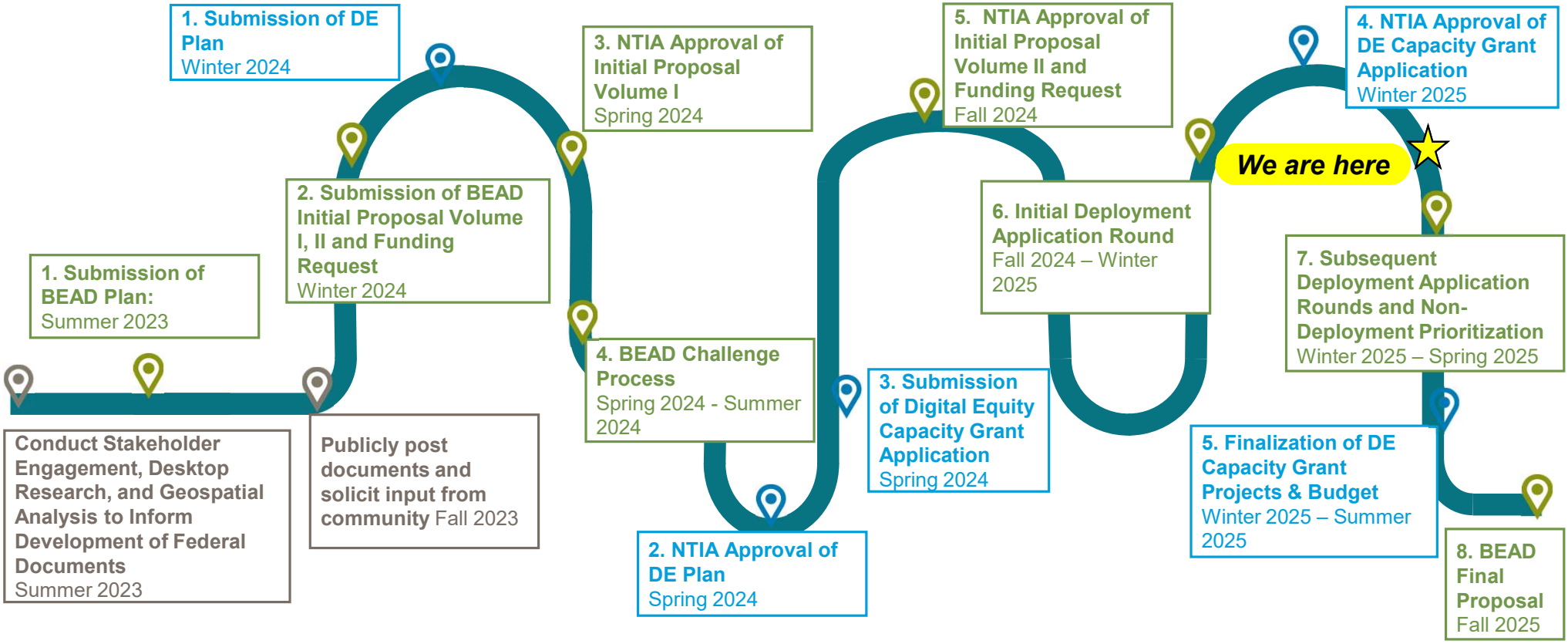
2025 | Eligible Locations[2]



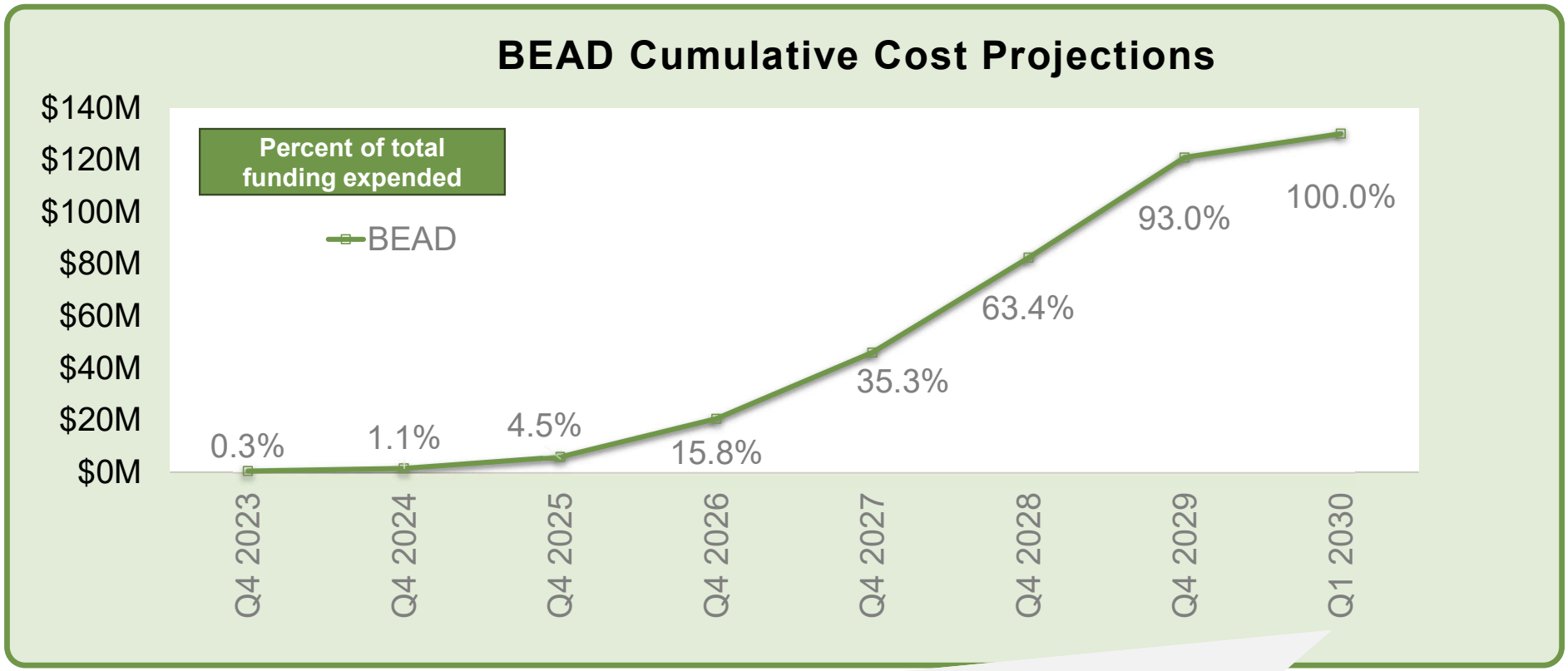
Unserved Underserved Unserved CAIs

1: 1/1 Gbps for Community Institutions (CAIs) such as Libraries and Schools | 2: Does not include locations that will be served through CPF projects

BEAD | North Dakota has made significant strides from initial inception to preparation for final project selection



BEAD | At present, the program is on-track to have delivered broadband service to 100% of all locations in the State by 2030



*Note: Per NOFO, all deployment projects must be completed within 4 years of subgrant. Assuming completion of subgrantee selection in Q2 2025, deployment projects **must conclude by Q1 2030**.*

CPF | Projects are closing out under budget, creating an opportunity to use remaining dollars for connecting locations not addressed by BEAD

Using Remaining Funds for Line Extension Efforts if Projects Come Back Under-Budget

- **Supplant BEAD:** Remaining funds can help address connectivity gaps that do not merit BEAD awards
- **Quick Implementation:** Projects target locations near existing networks, avoiding lengthy start-up phases
- **Efficient Use of Funds:** Ideal for smaller, ad-hoc allocations where full-scale projects are cost-prohibitive
- **Alignment with Deadlines:** Extensions are more readily completed before the fund expiration deadline

Process and Next Steps

- **Establish** program guidelines and finalize eligible locations
- **Draft** solicitation documents and conduct outreach to ISPs
- **Open** application process and evaluate proposals on a rolling basis as funds become available
- **Award** funds to cost-effective projects and monitor completion
- **Emphasize** fiber as the priority technology, consistent with legislative intent

BEAD | Any remaining funds not used during the program may be repurposed for Non-Deployment initiatives

Non-deployment projects are activities beyond last-mile deployment that may include:

- Digital safety; digital literacy training
- Remote learning; computer science, coding, cyber security education
- Digital navigators; broadband adoption support
- Telehealth services
- Digital Equity Plan projects; stakeholder engagement

Process for selecting and finalizing non-deployment projects

- **Develop project long-list**
  Winter/Spring 2025
- **Prioritize and down-select projects**
  Winter/Spring 2025
- **Finalize projects for funding**
  Spring 2026 - 2027
- **Implement non-deployment projects**
  2027 and beyond

We know that certain BEAD non-deployment activities align with 2025-2027 legislative priorities (e.g., digital government transformation, education innovation, economic development)

However, non-deployment projects will not be finalized and selected until 2027, so funds cannot be allocated toward 2025-2027 biennium projects

DE | The DE Act provides $4.5M+ in funding to address North Dakotan's digital opportunity needs; existing programs would benefit from funds

Program Overview

Program Objectives

- Establishes three grant programs that promote digital equity and inclusion

North Dakota's Needs

- Closing broadband access gap among the eight federally defined Covered Populations

Planned Fund Use

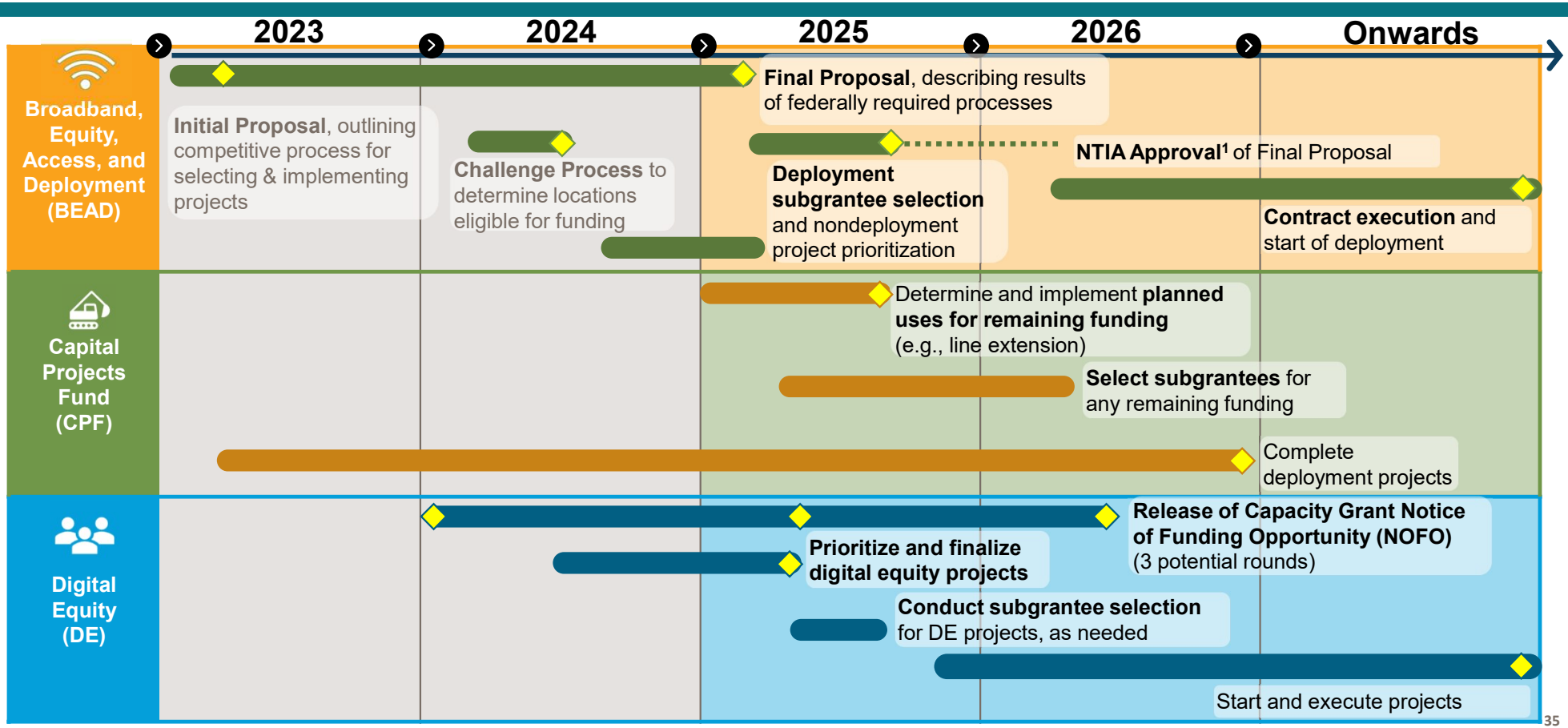
- **Project 1 |** Create one-stop inventory of all digital resources available in the State
- **Project 2 |** Fund existing DE programs run through state agencies / organizations
- **Project 3 |** Work with ISPs and experts to establish cybersecurity certification as a "North Dakota Trusted Source"

What Are Covered Populations?

Congress has identified the following groups as disproportionally impacted by the digital divide:

- Low-Income Individuals
- Incarcerated Individuals
- Veterans
- Racial / Ethnic Minorities
- Aging (60+) Individuals
- Disabled Individuals
- Have Language / Literacy Barriers
- Rural Inhabitants

Over the next few months, NDIT will be focused on deployment and non-deployment efforts across BEAD and CPF



[1]Assumes approval timeline will be similar to that of initial proposal

BEAD | A wide range of projects are being explored as potential uses for non-deployment funding

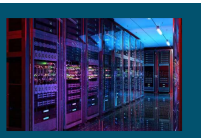
Per NTIA guidance, "non-deployment" projects are activities beyond last-mile deployment that may include:

- ☑ Digital safety training
- ☑ Computer science, coding, cyber security education
- ☑ Broadband sign-up assistance
- ☑ Broadband subscription subsidies
- ☑ Remote learning or telehealth services
- ☑ Digital Equity Plan projects
- ☑ Multilingual outreach to support adoption
- ☑ Stakeholder engagement costs
- ☑ Digital literacy/upskilling
- ☑ Prisoner education to promote digital literacy
- ☑ Digital navigators
- ☑ Other, as approved by NTIA

Ineligible activities may include:

- ☒ Purely administrative activities
- ☒ Activities that don't advance BEAD/DE goals
- ☒ Activities which the state would otherwise fund

Proof of Concept — ***Example Non-Deployment Projects*** — ***Requires Validation***

- (14) **Workforce development** to upskill broadband deployment workers
- (5) **Subsidized broadband** at affordable housing locations
- (4) **Middle Mile Broadband Network**
- (0) **Financial relief** for covered populations that subscribe to broadband
- (8) **Digital literacy programs** to promote broadband adoption
- (4) **Telehealth tech and services** to provide remote health access
- (4) **Precision agriculture** using IoT technology to enhance ag. productivity
- (0) **Data center accelerator** to promote development 

Key: ◯ Number of states that have proposed a similar project in their BEAD and/or DE plans

BEAD | Any remaining funds not used during the program may be repurposed for Non-Deployment initiatives

Per NTIA guidance, "non-deployment" projects are activities beyond last-mile deployment that may include:

- Digital safety; digital literacy training
- Remote learning; computer science, coding, cyber security education
- Digital navigators; multilingual broadband adoption support (e.g., outreach, sign-up assistance, subscription subsidies)
- Telehealth services
- Digital Equity Plan projects; stakeholder engagement costs

We know that certain BEAD non-deployment activities align with 2025-2027 legislative priorities (e.g., digital government transformation, education innovation, behavioral health and addiction, community economic development)

Process for selecting and finalizing non-deployment projects

Develop project long-list (Winter/Spring 2025)
Develop long list of non-deployment projects based on BEAD requirements & ND-specific criteria

Prioritize and down-select projects (Winter/Spring 2025)
Evaluate and score projects to determine short-list of high-impact options

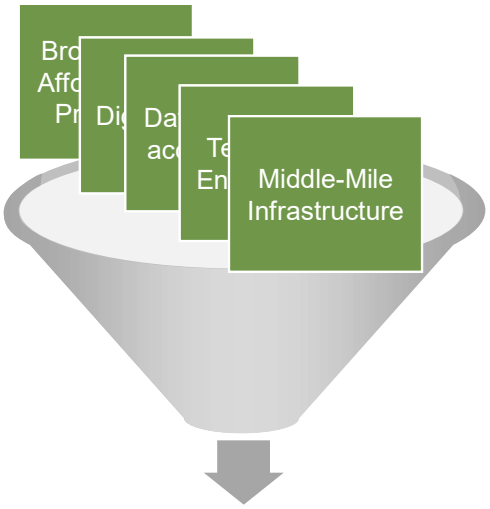
Finalize projects for funding (Spring 2026 - 2027)
Finalize set of projects eligible for funding and conduct sub-grantee selection following start of deployment projects

Implement non-deployment projects (2027 and beyond)
Subgrantees begin implementation of selected non-deployment projects

However, non-deployment projects will not be finalized and selected until 2027, so funds cannot be allocated toward 2025-2027 biennium projects

*Once North Dakota has a plan to deploy service to all unserved and underserved locations within its jurisdiction, it may pursue non-deployment initiatives using BEAD funds before or while deployment projects are underway

BEAD | BEAD non-deployment projects can be evaluated across a series of step-wide questions



Long-list of eligible non-deployment projects

Proxy	Workforce Size (new workers)	Number of Businesses	Total Payroll ($M)	Average Annual Wages ($)	Job Openings	GDP ($M)	Housing Cost-Burdened Households	NE CPI	MHI	Population Below 200% FPL	Persons Experiencing Homelessness
RHP											
Broad band											
BRF											
On-site					SAMPLE						
Healthy Homes											
HRP											

Projects scored and prioritized

Proposed Prioritization Methodology

- Projects will be evaluated based on responses to a **series of questions.**
- A rating of **High, Medium, Low (HML)** will be defined for each scored question (Questions 3-8 below).
- Projects that fail gating criteria will be deprioritized while those that pass will receive a H, M, L rating for each scored question.
- Projects are assigned a summary score and compared.

Example questions

Gating questions (Yes/No)

1. **Permissibility:** Is the project permissible?
2. **Redundancy:** Is this project redundant with other funding sources (e.g., would BEAD funding crowd out other funding sources)?
3. **Timeline:** Does the implementation timeline meet NTIA requirements?

Scored questions (H, M, L)

3. **Proof of concept:** Is there a precedent that demonstrates project success in ND or other states?
4. **Policy Alignment:** Will the project support key priority areas (e.g., NDIT and/or Governor Armstrong's priorities)?
5. **Direct Impact:** Is the project going to generate a positive impact (e.g., social, economic, environmental, workforce)?
6. **Indirect Impact:** Is the project going to augment or amplify the impact of existing programs or projects?
7. **Timeline:** How reasonable is the timeline to realize benefits from this project?
8. **Cost:** What is the project's investment cost?

SIRN

Send and Close
Reset
Exit
Unit
Unit Type
Coverage
Telephone No.
Recall
Officer/Passenger
Password
Code
Portable
Type
813
Radio OK
Em. Kit
MDT OK
Receive copies of dispatches for these coverage areas
Fuel
Mileage
Tires
Vehicle Number
Oil
Radio ID
Light OK
Capabilities
Vehicle Condition
Remarks
The unit ID

History

- **2011** Exploratory Study Focused on Land Mobile Radio Interoperability
- **2015** Legislature Authorizes Feasibility Study
- **2016** Televate Study Conducted; Recommendations Provided
- **2017** Legislature Authorizes and Governor Signs into Law - Execution of SIRN 20/20
- **2017** SIRN 20/20 Program Initiated
- **2018** Requests for Proposals
- **2019** January - Contract Awarded to Motorola
- **2019** April - Legislature Authorizes and Governor Signs SIRN Project Funding into Law
- **2019** May - Project Kick Off
- **2020** December – Backhaul and 10 PSAPs cutover
- **2021** December – 7 additional PSAPs cutover
- **2022** November – 5 additional PSAPs cutover along with approx. 65 sites completed

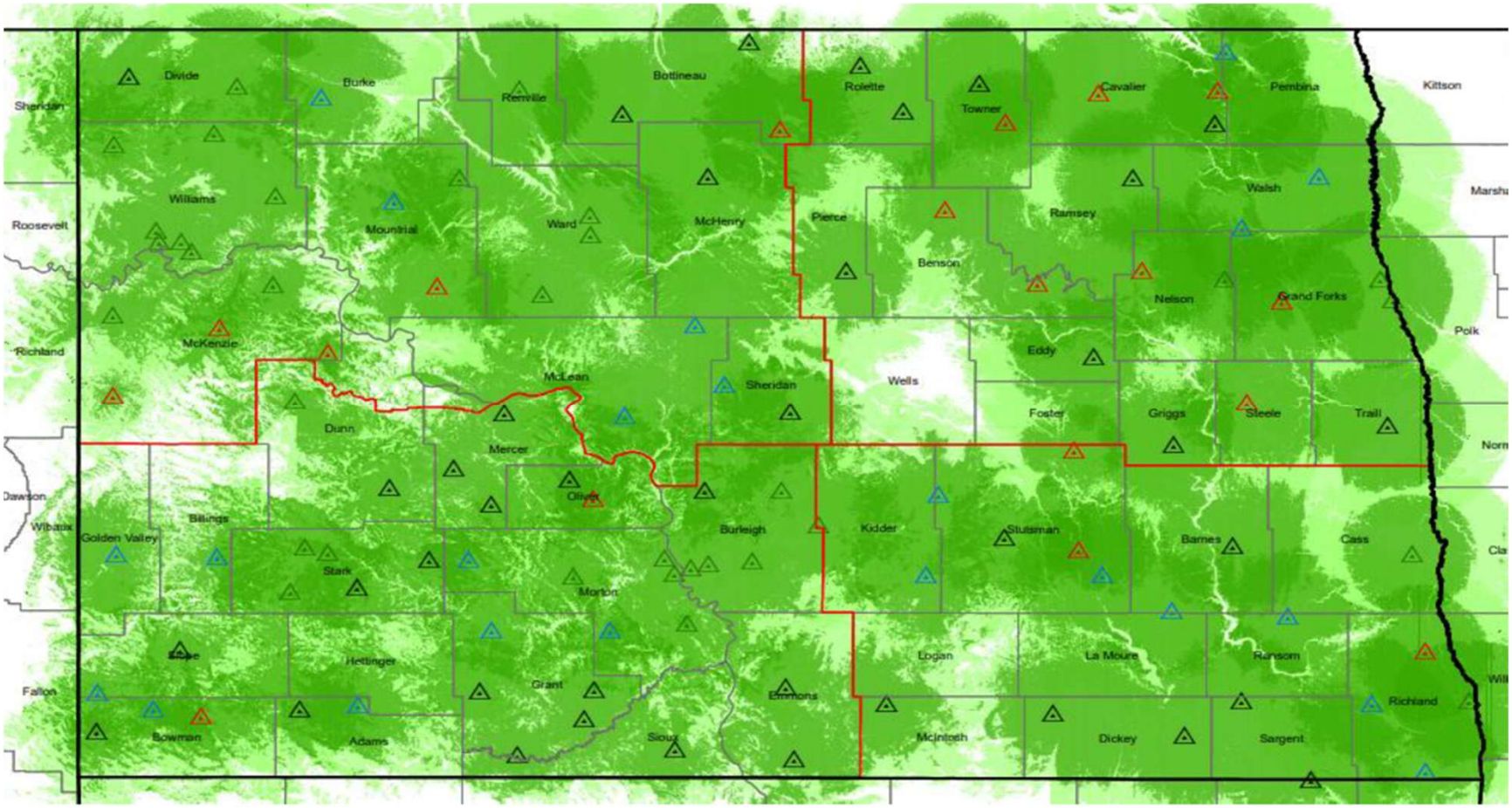
What is SIRN building?

SIRN SOLUTION

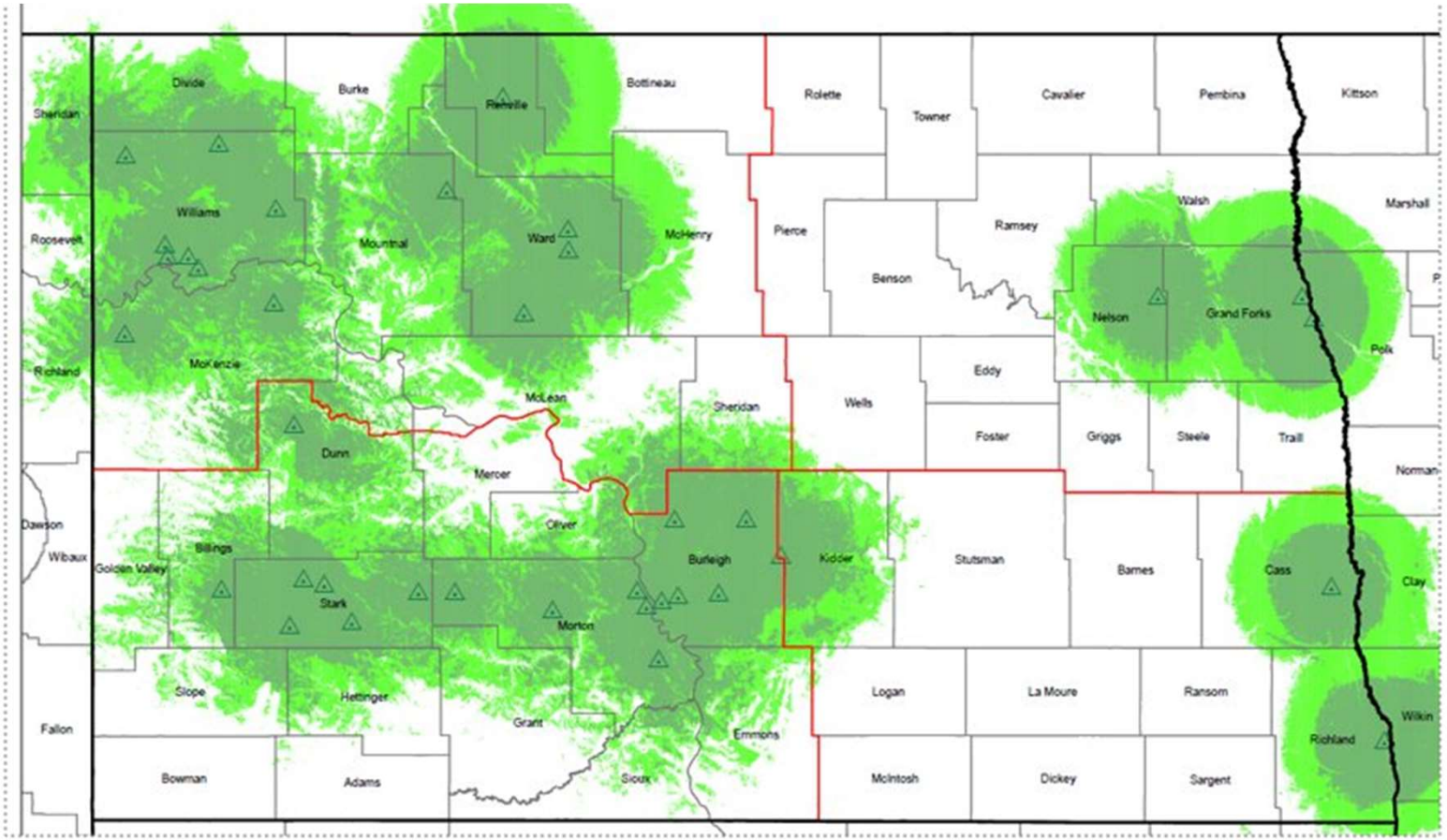
NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

- Shared Infrastructure Utilized by All Public Safety Users
- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System
- Guaranteed Coverage
  - 95% Mobile Coverage / 95% Reliability
  - 85% Portable Coverage / 95% Reliability
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years

Project Maps

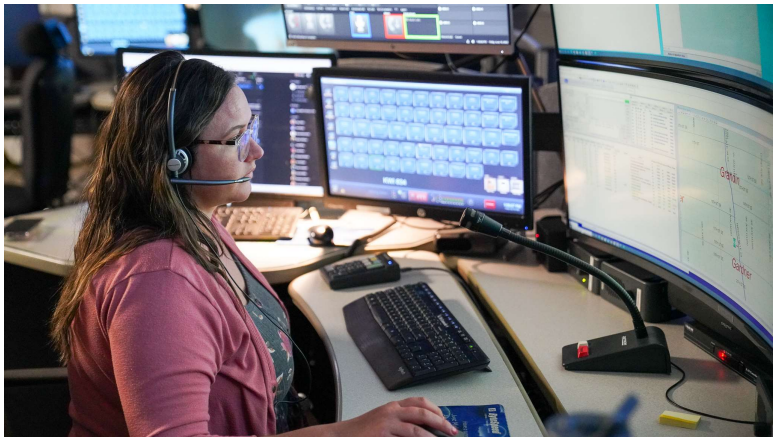


Project Maps



Latest Milestones

- **Law Enforcement Encryption** researched and statewide implementation in progress
  - Over the Air Rekeying in use
- **Radio Management** implemented
  - Over the Air Programming in regular use
  - More than 4000 radios entered



- **NDIT Public Safety Team** fully developed and SIRN responsibilities identified and assigned

- **Continued Tower Completions**
  - 72 complete
    - 33 currently in use
    - 39 not currently in use
  - 10 in civil construction phase
  - 2 awaiting radio equipment
  - 28 awaiting final site work
  - 28 remaining

Future Milestones

- Finish remaining tower buildouts
- Transition remaining PSAPs and agencies
- Begin project closeout activities

2026

2025

2027

- Continued tower buildouts
- Transitions additional PSAPS as coverage allows
- Implement Status Board and Cirrus Central

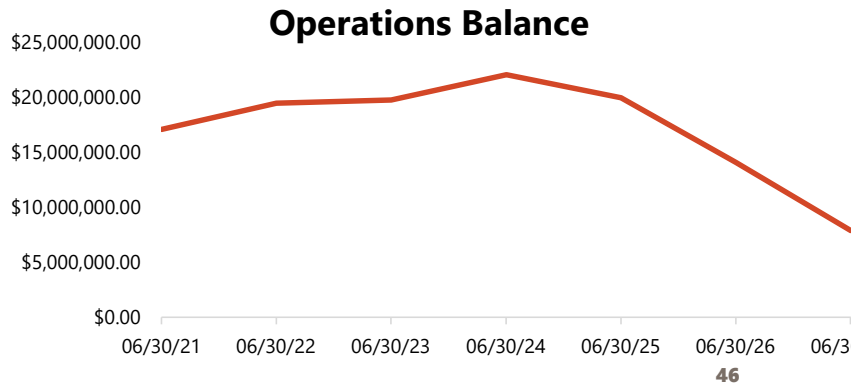
- Complete project closeout (decommission and surplus VHF system components, take down original state-owned towers, divest/surplus purchased towers not needed for SIRN, fully transition to operational status)

Financial Update

Operating Expenses	25-26	26-27
Connectivity & Equipment	2.7M	2.8M
Towers	1.1M	1.2M
Labor (Additional Resources)	1.7M	1.8M
Vendor Maintenance	3.3M	3.3M
NDIT Program Expense*	**8.8M**	**9.1M**
DOT Expense (+1 Additional Resource)	1.6M	1.6M
Total Expense	**10.4M**	**10.7M**
911 Fee Revenue	4.5M	4.5M
Shortfall**	5.9M	6.2M

*Expenses are projected. New operational contracts and project decisions are still impacting the long-term operational expense.

Cash Flow	
911 Fee Balance (January)	~21.9M
Est Rev 23-25 Remaining Biennium	~2.2M
Total Revenue	**23.9M**
Est exp 23-25 Remaining Biennium	~3-4M
End of '23-'25 Biennium Balance	**~20M**



Intelligent Transportation Systems

Intelligent Transportation Systems

- PTZ and Fixed Highway Cameras
- Dynamic Message Boards – Stationary & Portable
- Wrong Way Driver & Collision Warning Systems
- Meteorologic Stations
- Automatic Traffic Recorders/Weigh-in-Motion Systems
- NDDOT Smart Corridor

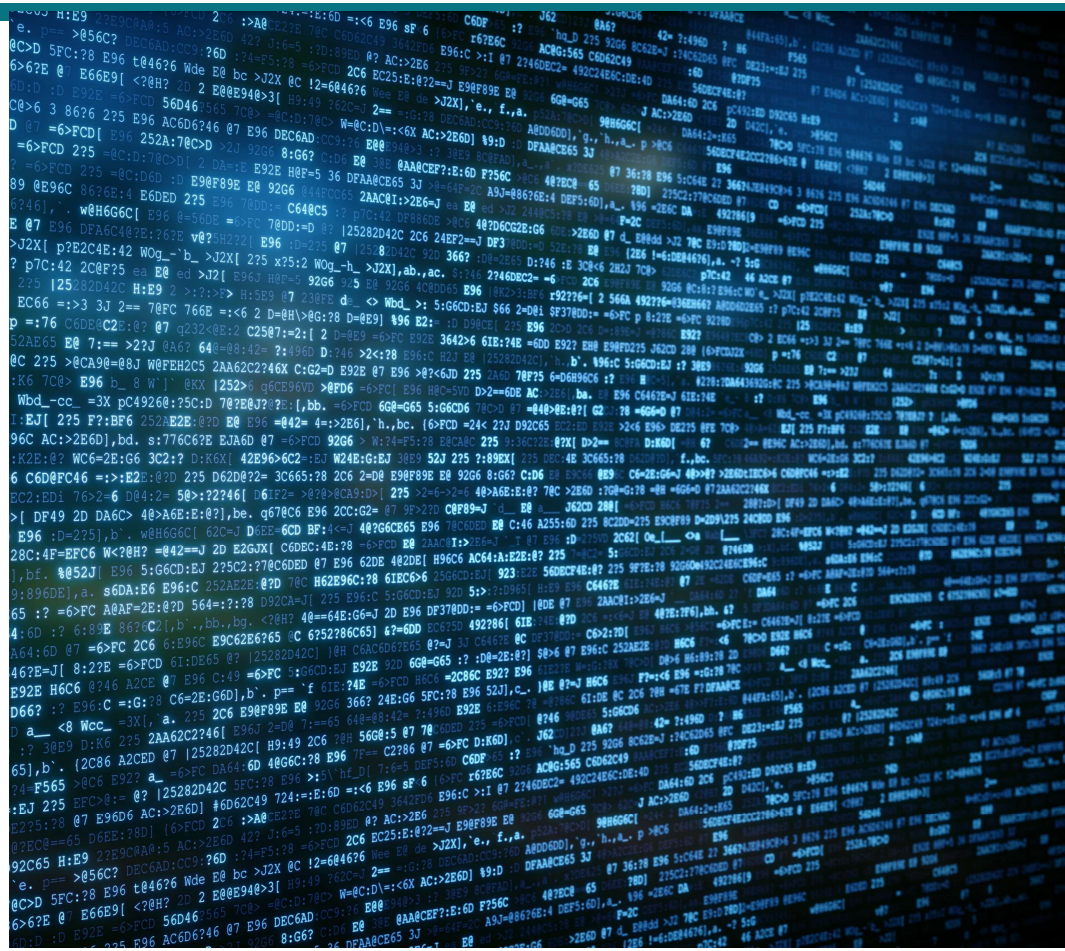
ITS Systems - 2011	ITS Systems - Present	ITS Systems - Planned
47	335 *1800 Individual Devices	~500+

VISION ZERO

Enterprise Digitization and Modernization

Digital Maturity

- Digital Maturity Efforts
  - Call Center
  - Capitol Security/Wiring
  - Enterprise Architecture – Technical Debt
  - AI Support



Call Center

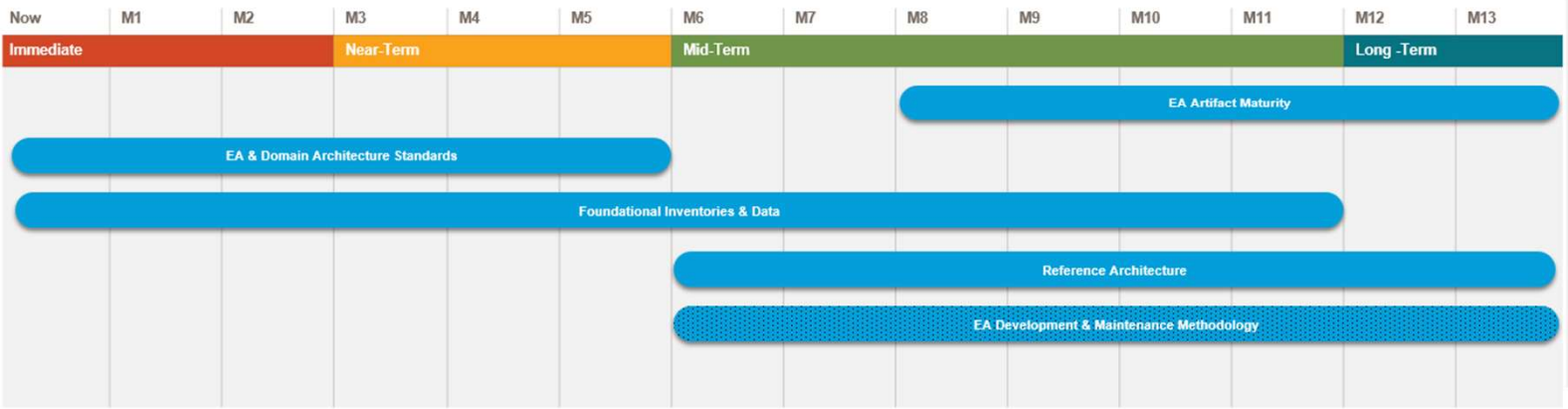
- **Budget:** $3M
- **Accomplishment to Date:**
  - All Migrations Completed
  - Fully Deprecated the Old Solution
  - Industry Leading Solution/No Major Outages
- **Upcoming Activities:**
  - On Track to be wrapped up this biennium
- **Risk/Issues:**
  - Completed

Capitol Security/Wiring

- **Budget:** $2.5M
- **Accomplishments to Date:**
  - Capitol Security Project
    - Implementation Underway
  - Capitol Wiring:
    - Conduits installed in the Capitol Complex.
    - Expected to be completed this biennium.
- **Upcoming Activities:**
  - Capitol Security Project:
    - Execute on SOW with the vendor
  - Capitol Wiring:
    - Run the fiber and install hardware
- **Risk/Issues:**
  - Vendor resource availability

Enterprise Architecture – Digital Maturity

- Enterprise Architecture
  - Where are we?
    - Assessments with 19 Agencies
  - Where are we going and how do we get there?
    - 20 Total Recommendations



20 Total Recommendations

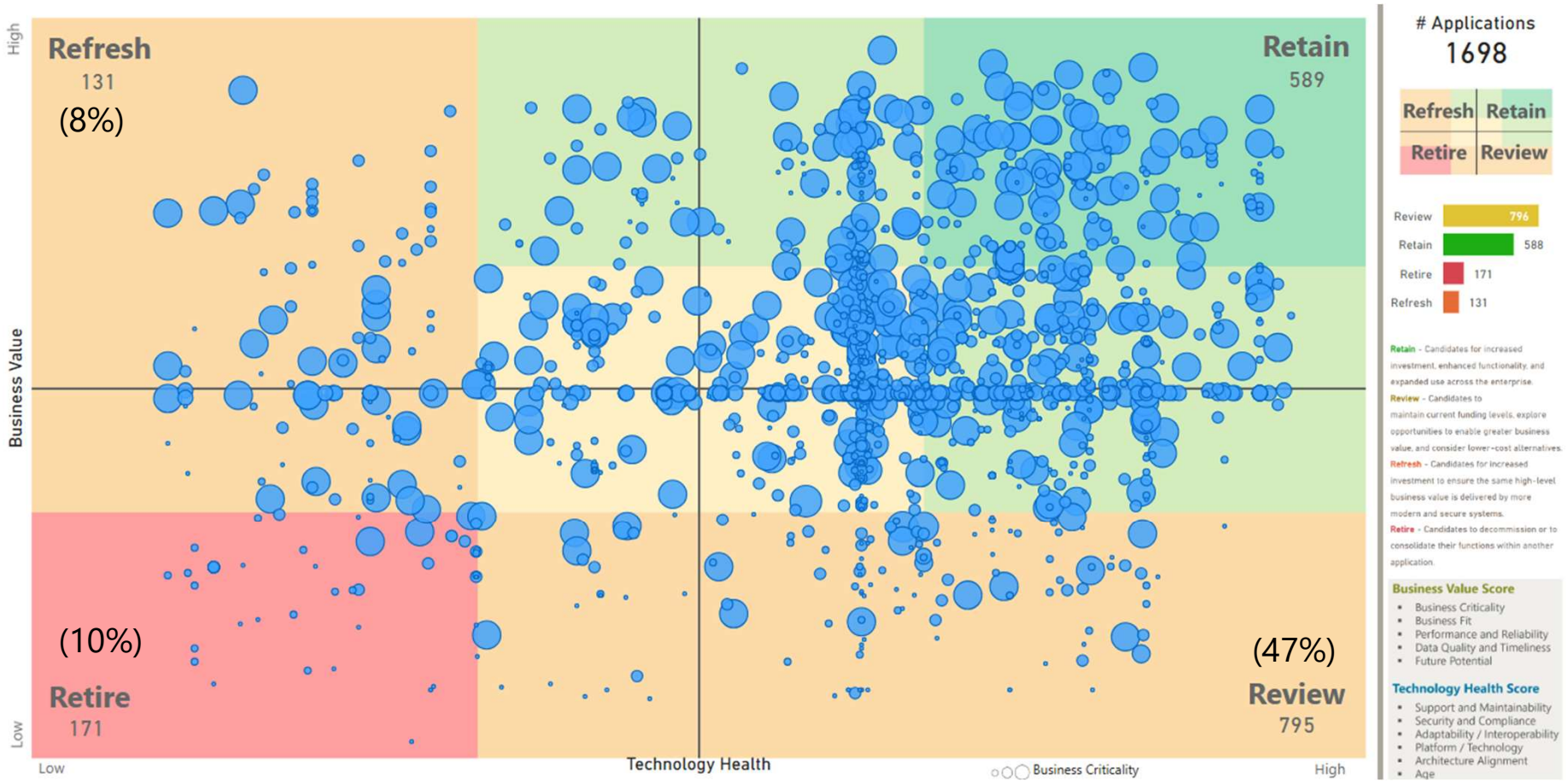
7 People Recommendations
4 Immediate
2 Mid-Term
1 Long-Term

5 Process Recommendations
3 Mid-Term
2 Long-Term

5 Tools & Artifacts Recommendations
3 Near-Term
2 Mid-Term

3 Governance Recommendations
1 Immediate
1 Near-Term
1 Mid-Term

The Output


Refresh
131
(8%)
Retain
589
(10%)
Retire
171
(47%)
Review
795
High
Low
Business Value
Low
Technology Health
High
Business Criticality
Applications
1698
Refresh
Retain
Retire
Review
Review 796
Retain 588
Retire 171
Refresh 131
Retain - Candidates for increased investment, enhanced functionality, and expanded use across the enterprise.
Review - Candidates to maintain current funding levels, explore opportunities to enable greater business value, and consider lower-cost alternatives.
Refresh - Candidates for increased investment to ensure the same high-level business value is delivered by more modern and secure systems.
Retire - Candidates to decommission or to consolidate their functions within another application.
Business Value Score
Business Criticality
Business Fit
Performance and Reliability
Data Quality and Timeliness
Future Potential
Technology Health Score
Support and Maintainability
Security and Compliance
Adaptability / Interoperability
Platform / Technology
Architecture Alignment
Age

Legacy Systems Analysis Project

- **Down to 2 Major Agencies on the Mainframe**
  - High-Level Analysis Project
  - Looking at all options
  - Two Bienniums away from completion
- **Scope**
  - Mainframe – AS400 – Legacy AIX Platforms
- **Use of Applications**
- **Integrations**
- **Application Lifecycle**
- **Feedback Loop with Agencies**

Keys to AI Success In North Dakota

Key 1 **AI is not a magic bullet.**

Instead, it is a tool for speeding up data-driven decision making. A more appropriate description of current AI technology is data-enabled, automated, adaptive decision support. Use when appropriate.

Key 2 **Garbage in, garbage out still applies to AI – and is even more relevant!**

AI technology has its foundations in data. Lots and lots of it. Rich, relevant, accurate, and timely data from interconnected systems is essential to effective use of AI. How good is the data?

Key 3 **Learn from early adopters.**

AI is a rapidly evolving field, and there are many published use cases with documented business value. Using a use case-based approach, we can learn from the successes and failures of others, including other states, to more rapidly narrow down how AI can deliver value for the state.

Key 4 **Start small to gain experience and to lay a solid foundation.**

Too many big projects have failed in the past. Start small with AI and then wash, rinse, repeat. Keep in mind, though, that the real value will come from the enterprise adoption of AI, and for that we will need to create an AI strategy.

Key 5 **Give AI a purpose. Pick the right use cases.**

AI strategy and current exploration activities should closely align with the strategic goals and drivers of the state. The key question you should be asking is not "What can AI technologies do?" but rather "What can they do for us?" and "How much would we benefit from AI if we were to invest in it?"

Data Center

Data Center

- **Secondary Data Center**
  - Cooling Plant is No Longer Supported/Failing Pumps (~$300-400K)
- **Primary Data Center**
  - Single Point of Failure Identified this Biennium (~$1.4-1.7M to remediate)
  - Within Minutes, the data center will shut down
  - Infrastructure Damages to all State Equipment
  - What is the cost in lost productivity if team members, legislature, and Courts are stopped?
- **Risk Assessment completed in December**
  - Identified both risks as *Critical* to the State with a recommendation to either remediate both issues or move 1 location
  - Data Center skillsets are in short supply – We only have 1.5 FTE

Data Center….The Plan

- **The Plan….**
  - Phase I
    - Use one-time funding to shut down 1 data center and partner with private market (leased space)
    - Estimating $500k+ to transition, but full costs are unknown
  - Phase II
    - Shift the roles of the two data centers after deprecation of 1 data center (multiple biennium)
    - Will require temporary hardware and coordination
  - After shifting the roles, the new secondary datacenter would have the cooling risk

Vulnerability Remediation

Funding

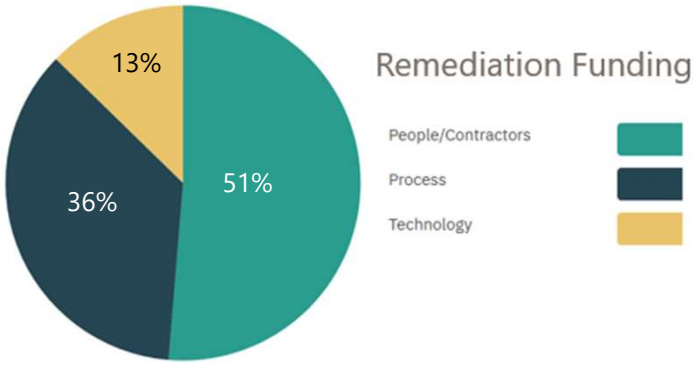
Vulnerability Remediation

Last Biennium NDIT was appropriated $1 million dollars to reduce vulnerabilities. There were three areas where this funding was used. People, Process, and Technology

People – Engaged contractor resources to patch vulnerabilities in applications developed or maintained by NDIT for our agency customers.

Process – Partnered with Guidehouse to continue enhancing the state's vulnerability management program.

Technology – Identified and procured technologies designed to accelerate the remediation of vulnerabilities.



Progress and Challenges

Vulnerabilities

A vulnerability is a weakness, flaw, or shortcoming in a system, infrastructure, database, software, process, or set of controls that can be exploited by a threat actor.

Progress

596k system vulnerabilities patched in 2024

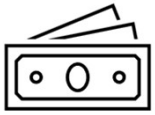
326 application vulnerabilities remediated

Challenges

40,000 new and unique vulnerabilities published in 2024

Legacy technology (tech debt) complicates remediation efforts

Third-party software we don't control

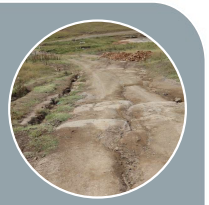


Some agencies lack funding for updating applications or hardware

Vulnerability Program/Process Maturity

We are here

Phase 1
Current State



- Manual process to determine remediation prioritization
- Funding for fixing critical vulnerabilities not defined
- Risk acceptance & exceptions not formalized from agencies

Phase 2
Design Program

- Establish Cyber Risk Board to determine remediation path for critical vulnerabilities
- Risk-based prioritization of vulnerabilities
- Build formal exception process

Phase 3
Implement to State Agencies

- Information Security Officers to educate and align with agencies
- Robust reporting & follow-up on exceptions
- SAST: determine feasibility for future implementation

Proactively address vulnerabilities in reducing cyber risk to systems and citizen data

Static Application Security Testing (SAST)

What it does

- Static Application Security Testing (SAST) scans an application's source code during development to identify vulnerabilities
- Validates code as it is built, ensuring security issues are addressed before deployment

Why it matters

- **Reduces cost:** fixing vulnerabilities during development is significantly more cost-effective than after production
- **Lowers risk:** Identifying vulnerabilities before deployment reduces the likelihood of security incidents in production, protecting sensitive data and services.

Why we should fund it

- Decreases long-term costs by catching vulnerabilities earlier.
- Strengthens application security, reducing risk to critical systems.
- Provides the tools necessary to build secure, reliable applications, that citizens and agencies depend on.

Reactive Incident Response

Reactive Incident Response

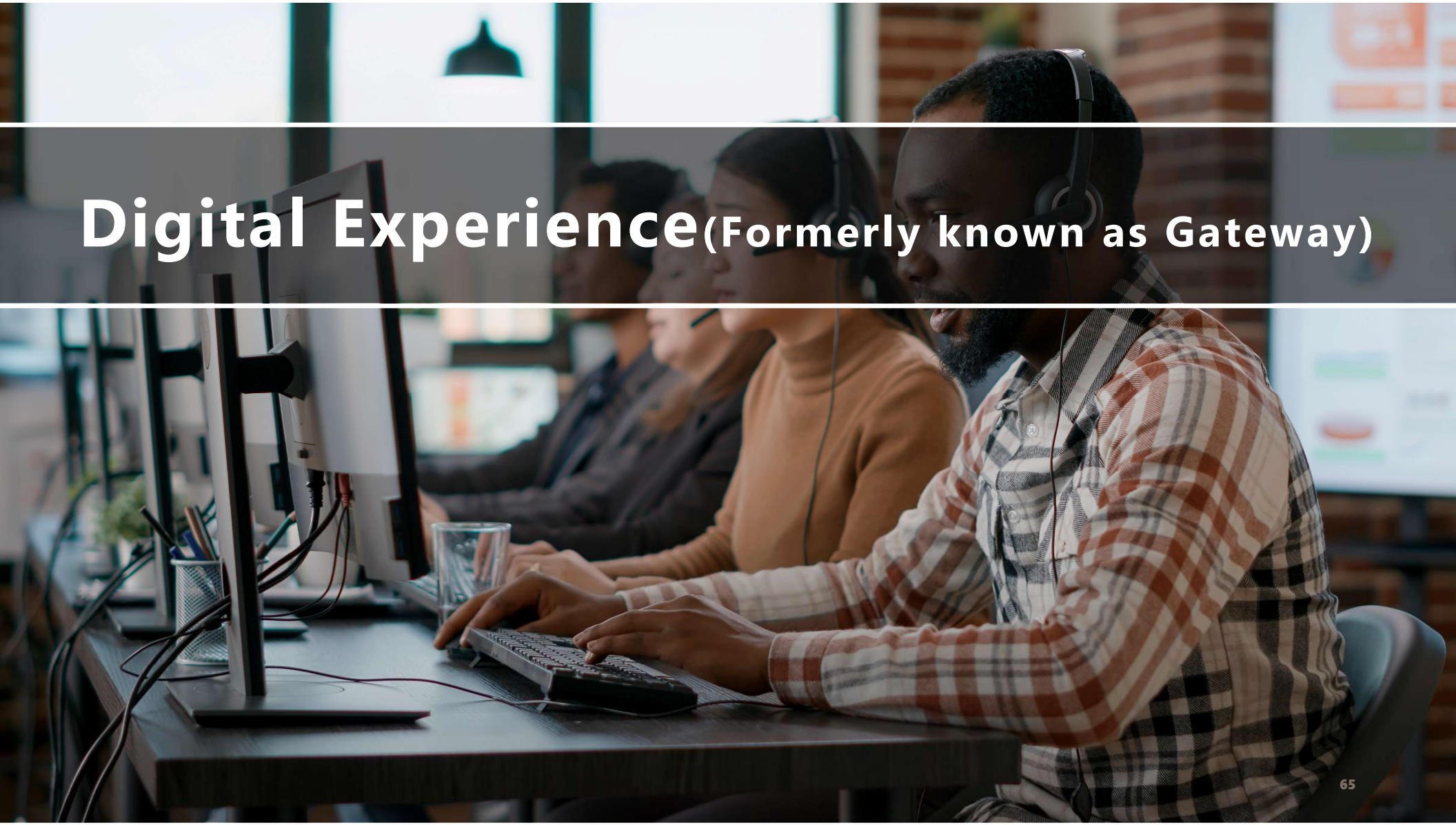
Reactive incident response focuses on addressing and mitigating incidents after they have occurred, with the goal of restoring normal operations and minimizing damage

Cyber Operations works an average of **50,000** incidents per year.

Screen Connect	325 Hours	9+ FTEs
VPN Brute Force	480 Hours	18+ FTEs
Denial of Service	450 Hours	14+ FTEs
Log4J	1098 Hours	20+ FTEs
PowerSchool	350+ Hours	15+ FTEs

In-depth Analysis

In just one incident, Log4j, the NDIT team spent 27 weeks of work on remediation. During this time other critical work for agencies had to be slowed or delayed to prevent a reportable breach



Digital Experience(Formerly known as Gateway)

Program Objectives | *Goals*

Clear Directions

Provide business users with clear direction on the actions they need to take when starting a business, maintaining a business, remaining in compliance with state regulations, and closing a business

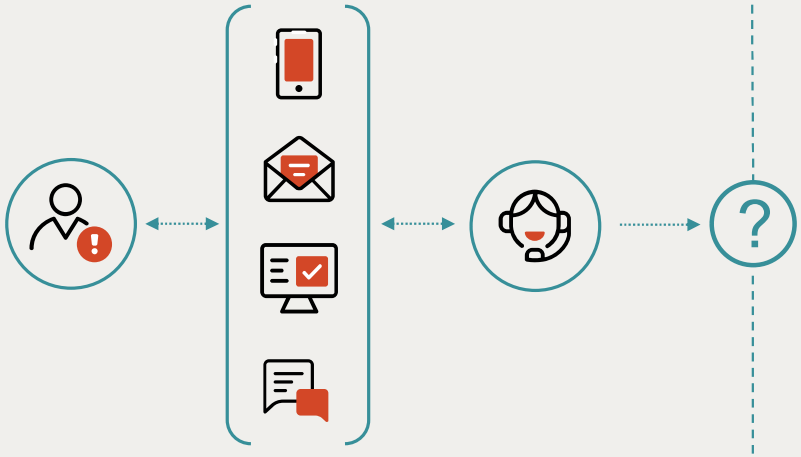
Digitize Data

Digitize the collection of business-related data that can be used by the Gateway and across participating agencies to further enable digital services, growth, compliance, and fraud prevention

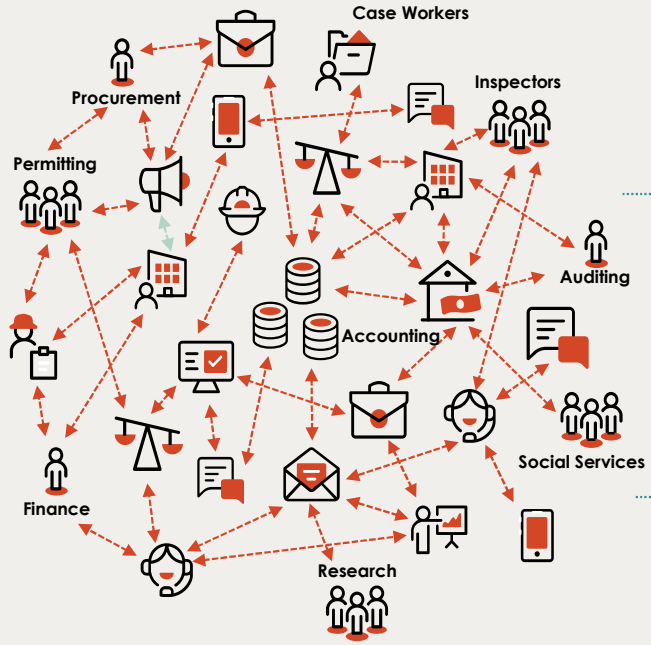
Provide Guidance

Guide users and encourage them to take advantage of available services, help businesses remain compliant with registration, reporting requirements, drive accuracy, auditability and begin to reduce the number of access points businesses rely on today and wrap it in a modern, friendly user interface.

HUMANS STILL DO THE HEAVY LIFTING TO SERVE CUSTOMERS



Engagement-focused Investments



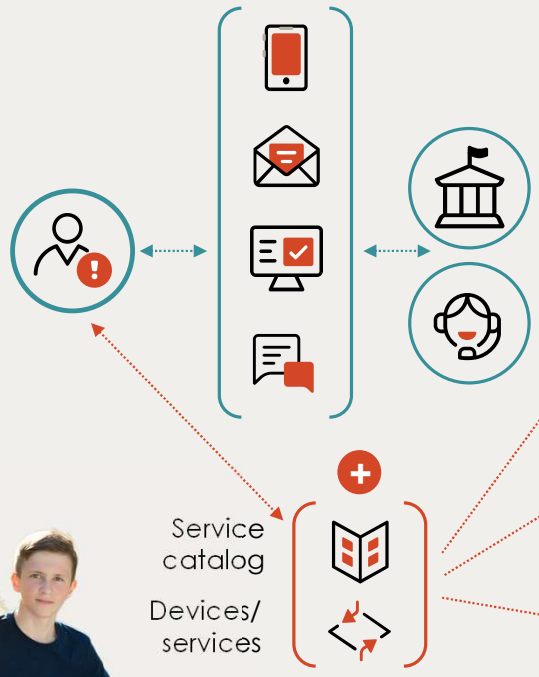
Human middleware bridges people, process and data silos

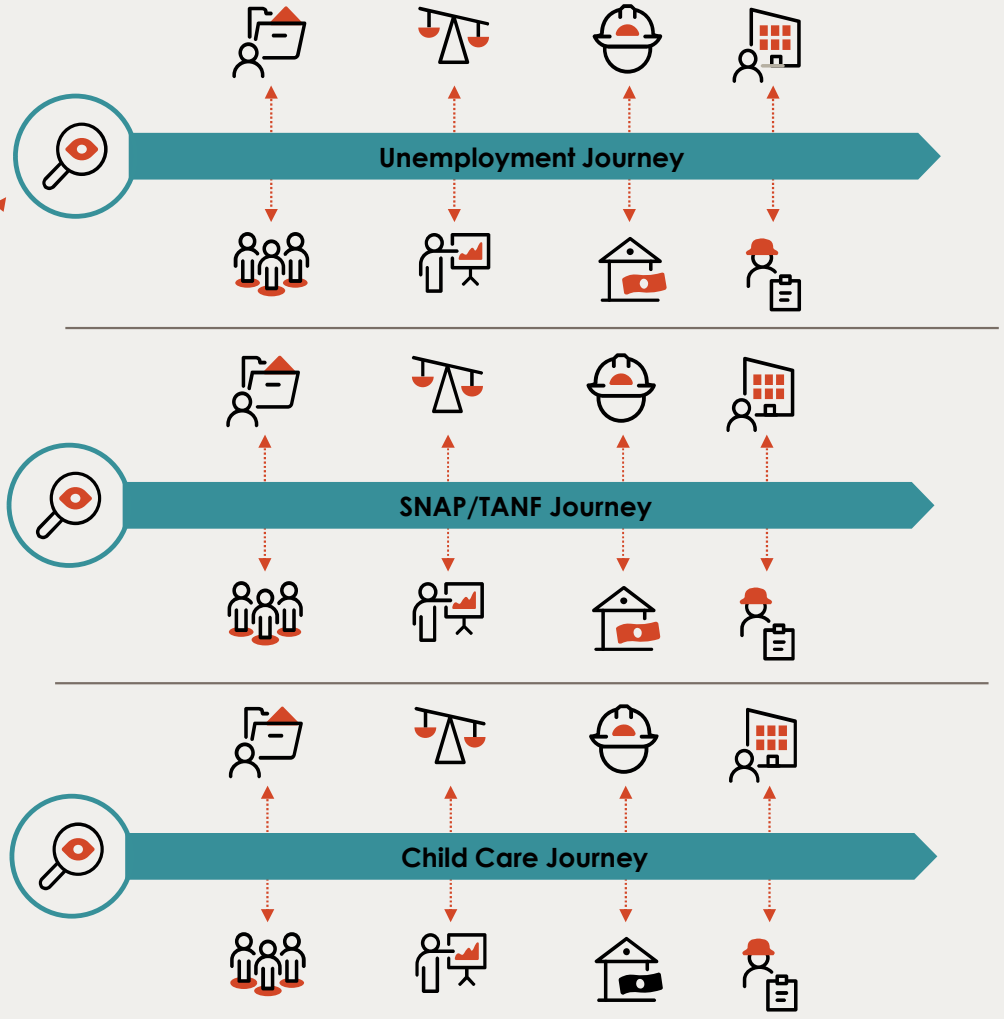
Increased customer expectation leads to bad experience

Slow Delivery of Services

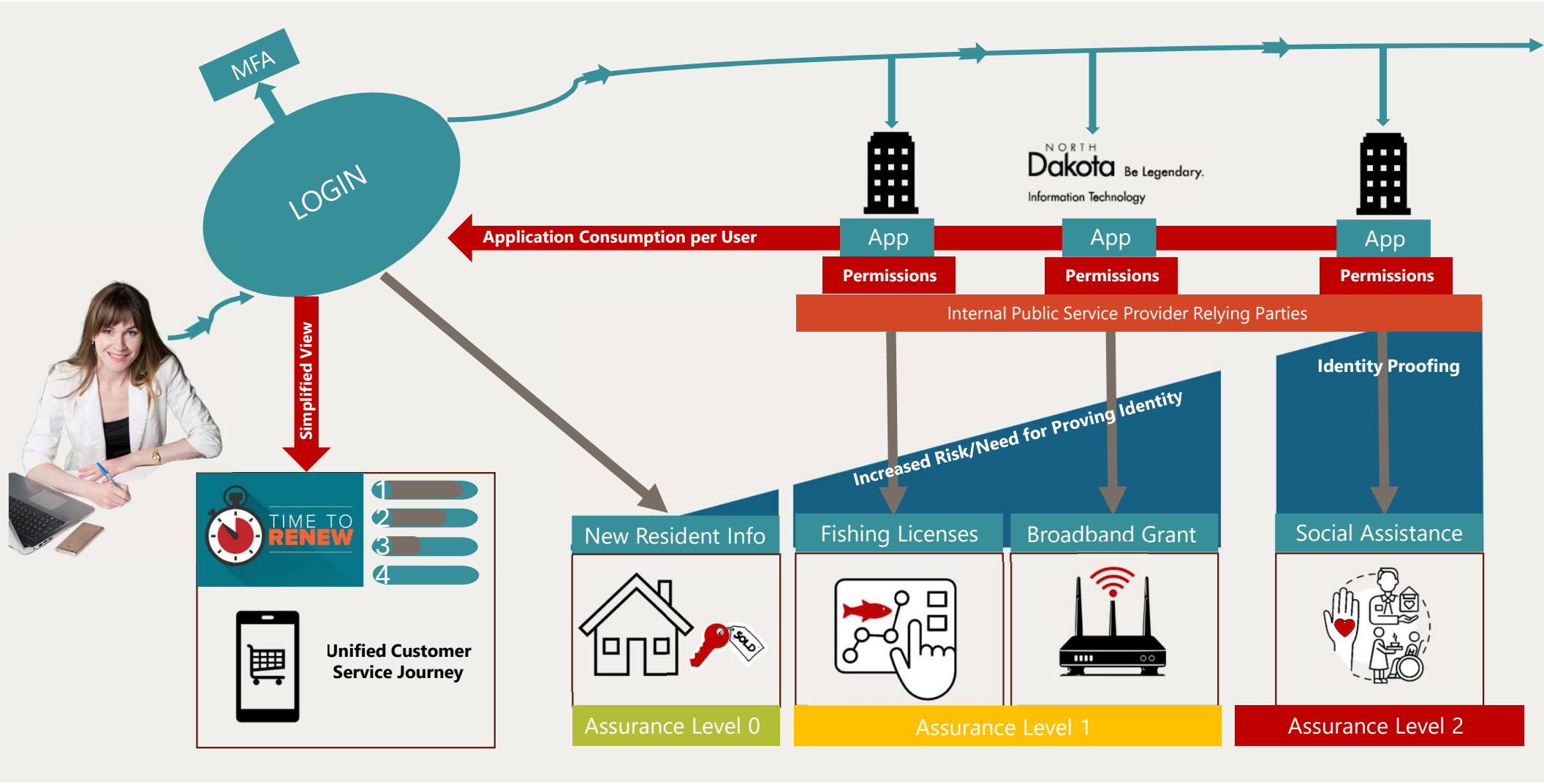
OPERATING AT SCALE

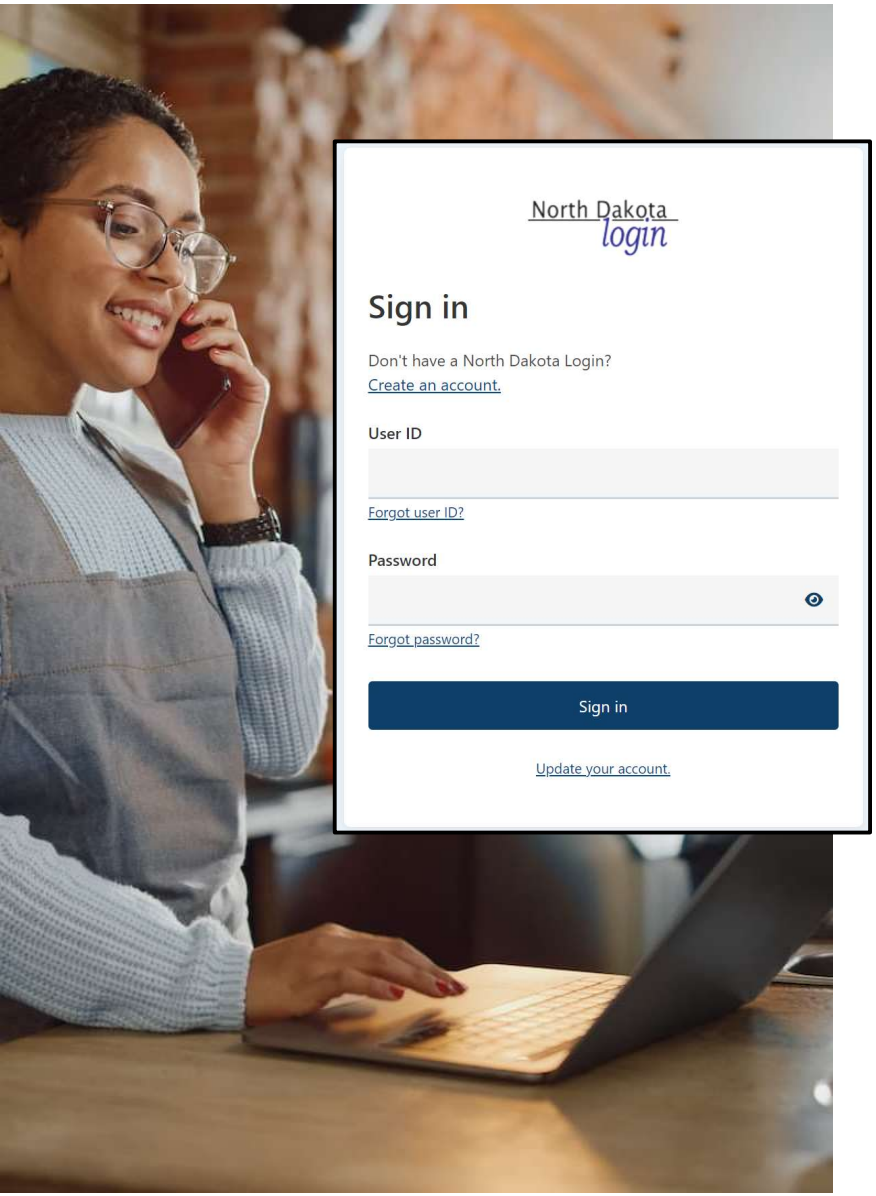
Each Agency or department gets the necessary Citizen information to complete their specific program process





Customer Experience Data





Single Sign On (SSO)

SSO to be completed in Phase 2, but subsequent phases will need to incorporate it.

ND Login

The Gateway will integrate with the existing North Dakota Login functionality, eliminating the need for users to create new registration credentials and helps to achieve the program goal of reducing the need for duplicative identities across State systems. This will improve ease of access and best position the Gateway to continue onboarding additional partner agencies and services.

Single Sign On (SSO)

Users benefit from not having to remember multiple passwords for different services. With a single set of credentials, they can access a variety of governmental and associated services.

Compliance Ease

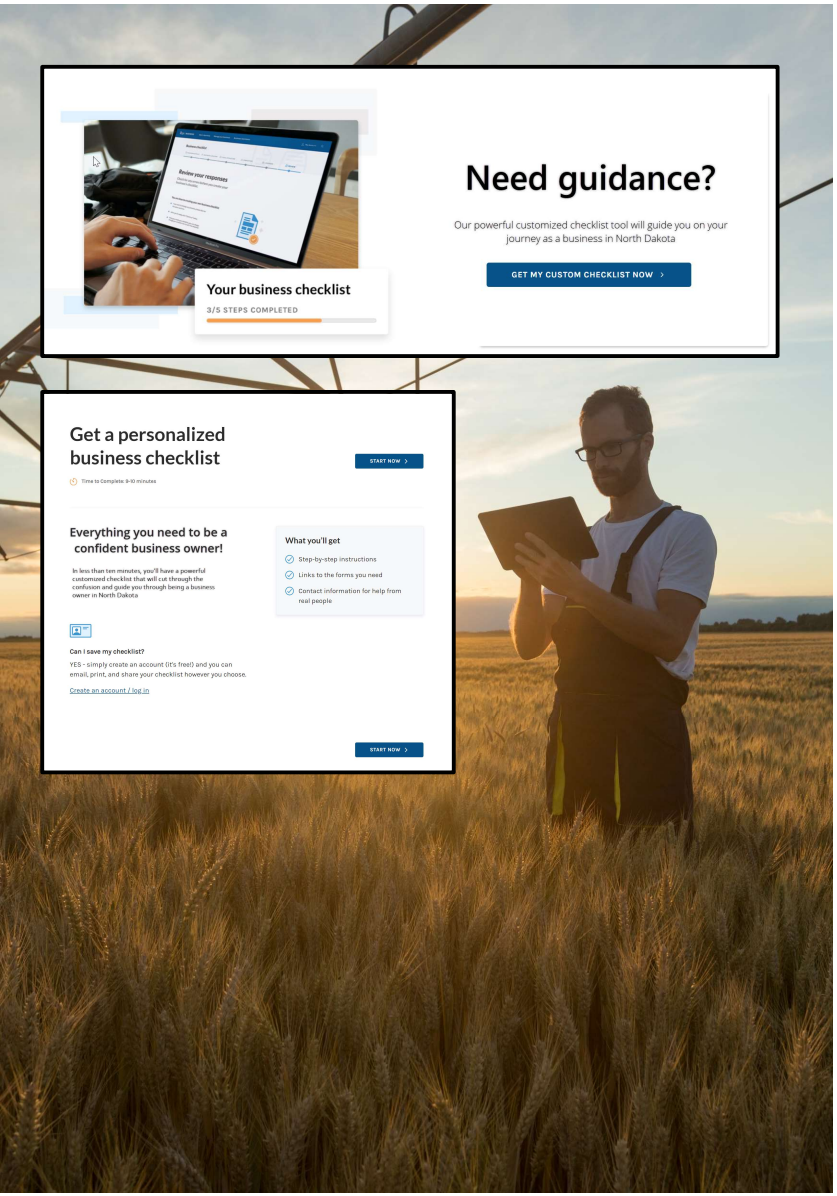
Integrating with North Dakota's login system ensures that the application is in compliance with the State's regulations regarding data security and privacy, having already been designed to meet these standards.

Enhanced Trust and Credibility

Using a state's login system can increase the perceived reliability and credibility of the service, as users often trust governmental systems for security and data protection.

Increased User Adoption

The trust factor can lead to higher adoption rates among users, as they feel more confident in the security and integrity of the service.



Establishing a North Dakota Business

The **web tool will initially act as a digital Green Book** and continue to expand as the Gateway program matures. Clear structured guidance empowers new entrepreneurs and large businesses to take confident steps towards establishing new businesses, operating those businesses, and remaining compliant over time.

Personalized Guidance *The tool provides customized guidance based on specific responses of the user, keeping information relevant to their unique business and needs*

Streamlined Process *By guiding users through a series of conditional questions, the tool streamlines the process of understanding state and department-specific requirements*

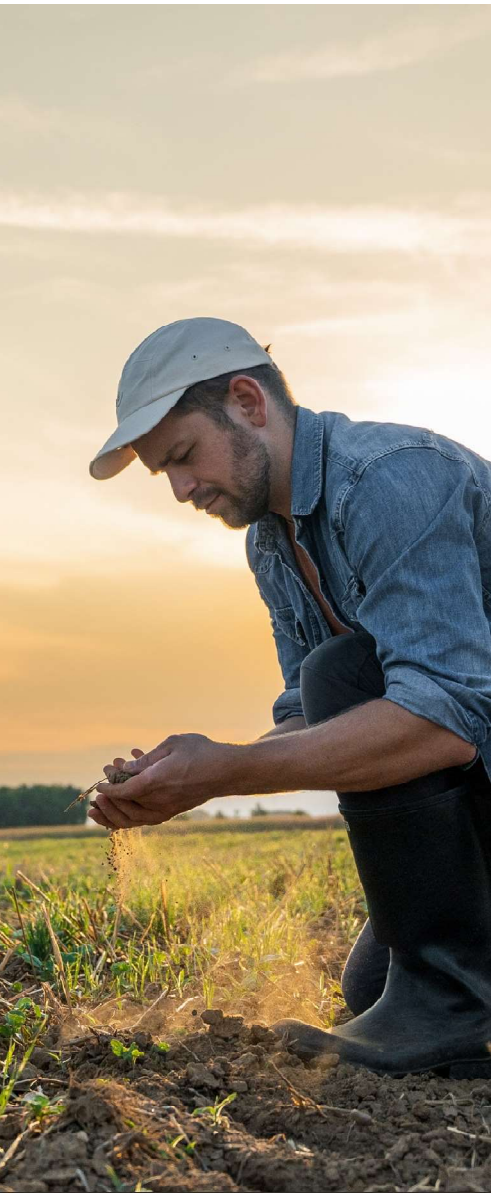
Centralized Resource *Acts as a one-stop resource for the information needed to establish a new business, consolidating data that might otherwise be scattered across various websites*

Enhanced User Experience *A well-designed web tool offers an intuitive and user-friendly interface, making information accessible to include those individuals with limited technical skills or business acumen*

Scalable *The tool can accommodate a wide range of business types and sizes, from sole proprietorships to large enterprises*

Adaptable *Once implemented the tool can be continuously updated with new information and features, it can grow with the evolving needs of businesses and regulatory changes*

Business Profile *The information entered in the tool serves as the foundation for the user's Business Profile*



My Dashboard **Design is currently being finalized*

This feature enhances departmental engagement by linking Gateway users to resources and services previously unknown to them, thereby boosting adoption and participation in services and programs.

Serving as the hub for logged in Gateway users, the My Dashboard section provides the following benefits:

Task and Activity Overview A list or summary of pending tasks, To-Do items, and recent activities to help users manage their business' efficiently

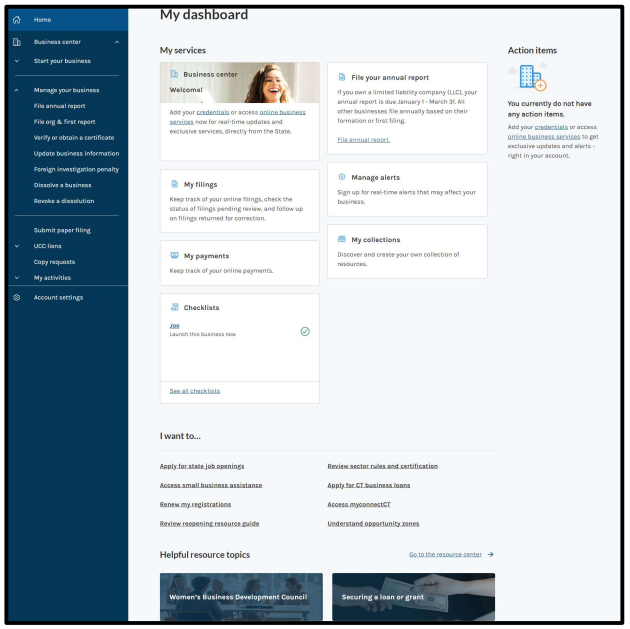
Calendar An integrated calendar displaying upcoming events, deadlines, and important dates to help users remain current and compliant

My Services Information regarding department-specific services currently being used by the logged in user's business

Frequently Used Tools Shortcuts to the most used applications, documents, and resources

Helpful Articles List of most popular knowledge articles

Document Repository A centralized location for storing and accessing documents



Other Applications Using Digital Platform

- In Production
  - QSP (Qualified Service Provider) Enrollment
    - Reduced time to enroll, currently 11 days
  - ND Rent Help
    - Helped over 30,000 renters, 14,666 of those households have children 18 or younger
  - ND Homeowner's Assistance Fund
    - Assisted nearly 6,000 ND Homeowners
  - ND Housing Stability Fund
    - Individualized Case Management for ND households and housing providers
  - Best In Class
    - Implemented in 6 weeks
- Future Projects
  - DFI Enhancements
  - HHS Background Checks
  - Best In Class Enhancements

Statewide Data Strategy

Why does data matter?

- Investing in data allows us to
  - Deliver better, more effective services for our citizens
  - Save taxpayer dollars through cost savings and efficiencies
  - Drive accountability and transparency
  - Shift from reactive government to proactive, better preparing for future challenges

What are we hearing from state agencies?

Key data challenges and pain points…

- Staffing/resource constraints
- Data siloes
- Aging technologies (i.e., tech debt)
- No central data catalog/inventory
- Reliance on institutional knowledge
- Manual processes
- Massive amounts of data
- Data is undocumented
- Lack of trust, leading to redundant efforts
- Challenges in sharing/accessing available data

North Dakota Statewide Data Strategy (implemented through the Lighthouse Program)

Harness the value of data to help North Dakota *thrive*.

Better government data & insights = **Better government decisions & actions** = **Better citizen & community outcomes**

Key Outcomes by Year

Year 1	Establish foundations and strengthen statewide collaboration
Year 2	Facilitate agency-level adoption and expand into more transformational projects and initiatives.
Year 3	Continue transformation efforts, maintain momentum, and sustain stakeholder and agency adoption.

North Dakota Statewide Data Strategy

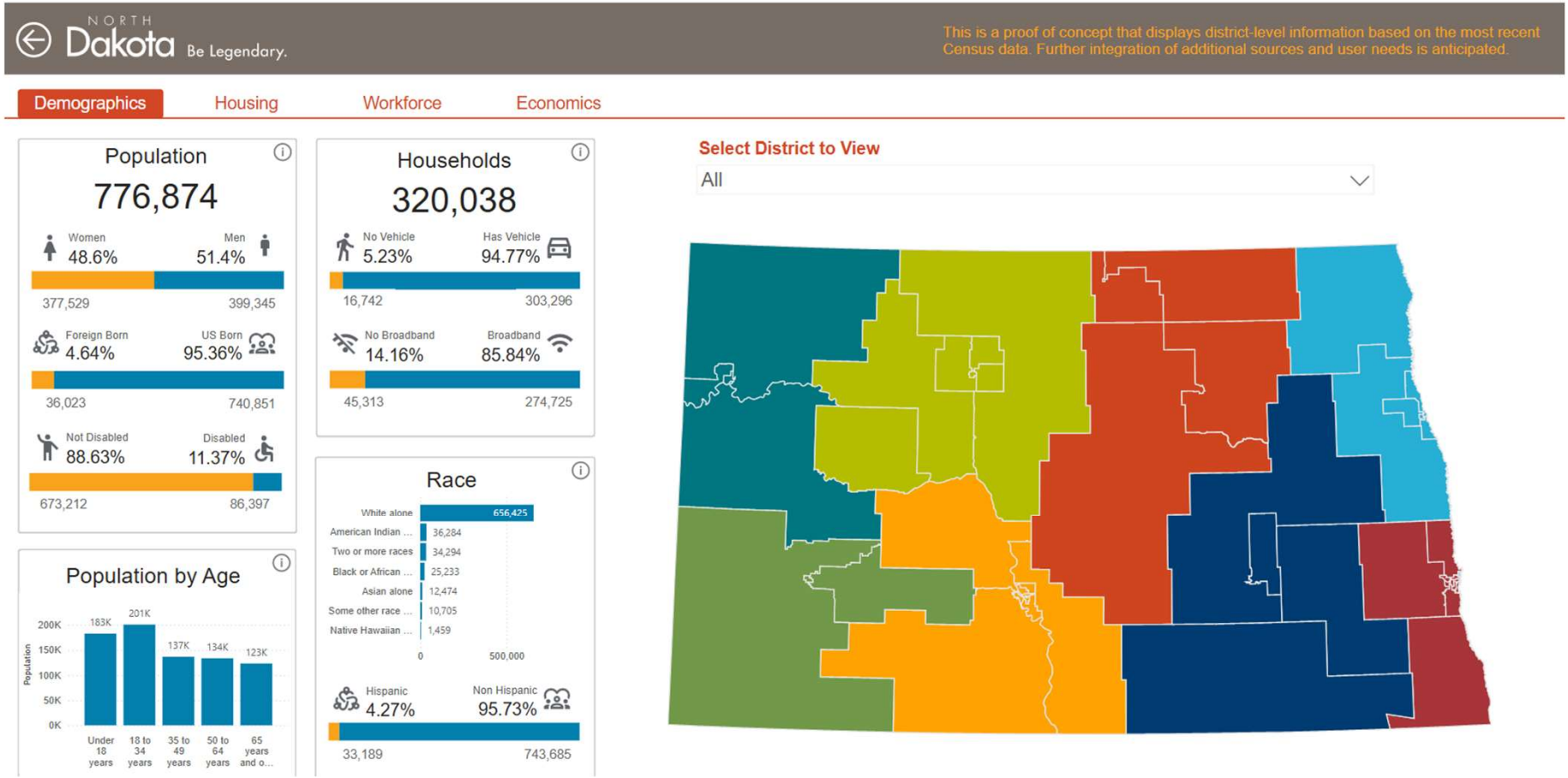
- Budget of $4.89M
  - Phase 1 completed in April 2024: Development of statewide data strategy and implementation roadmap
  - Phase 2 kicked off in April 2024 and currently underway: Implementation of data strategy through June 2025

Data Strategy Roadmap Implementation

Key Accomplishments in 2023-2024

Strategy Rollout and Agency Collaboration *Building agency awareness and plans for adoption*	• Conducted roadshows with various state agencies to promote the statewide data strategy • Developed a comprehensive strategy report to help agencies create their own plans and tailored initiatives • Refined the NDIT Data Division's organizational structure to better align with and support the state's data needs
Statewide Data Governance Program *Establishing the overarching program that directs data management and use practices*	• Defined a statewide data governance operating model and Concept of Operations, outlining the structure, roles, and responsibilities • Established the Statewide Data Governance Council to advise the State on formalizing a data governance program • Initiated the Tactical Data Governance and Stewardship working group to address agency-specific governance needs • Developed the initial release of the Tactical Data Governance Toolkit, providing resources such as accelerators and guides to help agencies implement key data governance actions
Data Catalog *Determining requirements and approach for implementation*	• Defined requirements for a statewide data catalog, including business, functional, technical, and vendor services specifications
Data Literacy *Providing a statewide data skills and literacy curriculum*	• Defined data literacy learning paths for three data personas and an AI learning path to build skills/knowledge in AI
Modern Data Platform *Reimagining the current COVID data lake, creating a solution that is valuable to all agencies*	• Reviewed the current data lake implementation and proposed architectural enhancements. • Conducted testing for the Data Exploration Zone • Created an onboarding framework for agencies to start using the data lake solution
Analytic Proof of Concept *Exploring ways to join data from different agency sources, creating opportunities for greater diagnostic and predictive insights*	• Conducted use case scoping and discovery with the Department of Commerce • Developed the MVP version of the State Data Hub POC dashboards

State Data Hub



What is happening with AI in North Dakota?

NDIT wants to support the vision of AI-enabled Agencies throughout ND but is also committed to doing it in a controlled and considerate fashion that appropriately considers ***data privacy, risk management, ROI realization,*** and ***organizational and workforce readiness.***

AI is not new to the State and has been in use in government in a variety of ways, but in the last two years, the explosion of GenAI and new technologies and capabilities has provided new focus, opportunities, and oversight/governance considerations.

Consideration	Action	Status	Overview
Policy and Oversight	**Statewide AI Policy and Guidance Release**	**Released** *Early 2024*	A first step was establishing an overarching policy The policy's initial focus and supporting guidance is on directing responsible use of commercial tools (e.g., ChatGPT)
Productivity and Efficiency Tools	**Microsoft Copilot Release**	**In Progress** *Release – Q2 2025*	Publicly available tools (i.e., ChatGPT) currently in use by many Team ND members to enhance productivity M365 Copilot technical configuration and technical pilot underway in Q1 2025, with Agency pilot to follow in Q2
Workforce Engagement	**Data and AI Literacy and Training Supports**	**In Progress** *Q1-Q2 2025*	We are curating AI and data literacy learning paths and also developing custom guidance and materials to support building awareness and workforce skills in engaging with AI Consideration for both end-users and technical personas are in the planning
Operationalize AI	**Custom AI Products and Targeted Solutions**	**Started**	**Underway/Complete** • An initial Chatbot pilot has been developed with Commerce • Preliminary use cases were collected this summer **Upcoming** • Prioritization and risk evaluation framework • Broader agency use case collection and analysis • Selection and development of additional pilots • Exploration of commercial AI solutions to address particular organizational needs

What is to come in 2025 and beyond?

Building North Dakota's 'Data Muscle"

Completion of Year 1 activities & Year 2 planning/ implementation

Agency Empowerment

Empowering Agency data governance/stewardship, data literacy, data platform and analytic maturity and capabilities

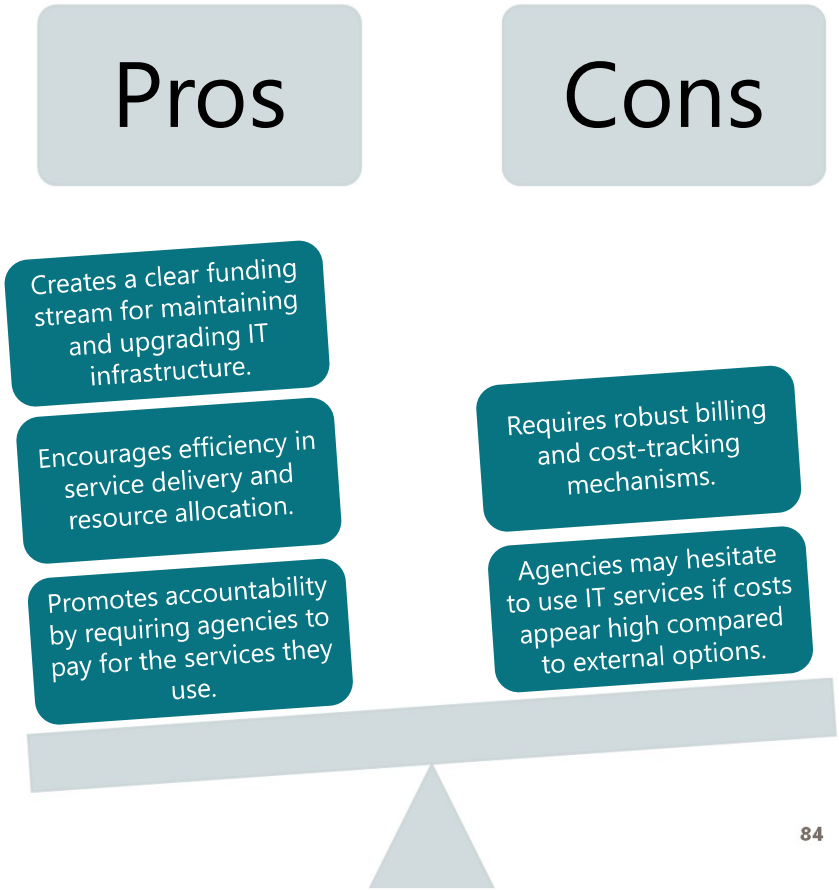
Data in Action

Onboarding and supporting new analytic use cases

Budget Breakdown

Internal Service Fund (ISF)

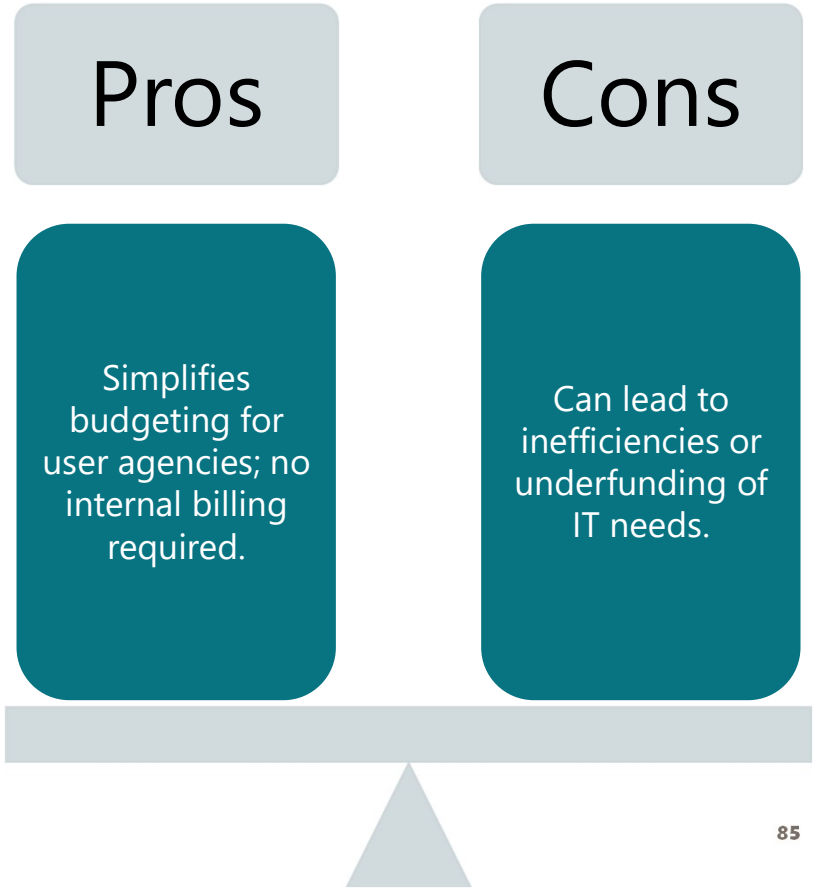
- **Definition:** ISFs are self-sustaining financial models used by government entities to deliver services to other agencies, with costs recovered through chargeback.



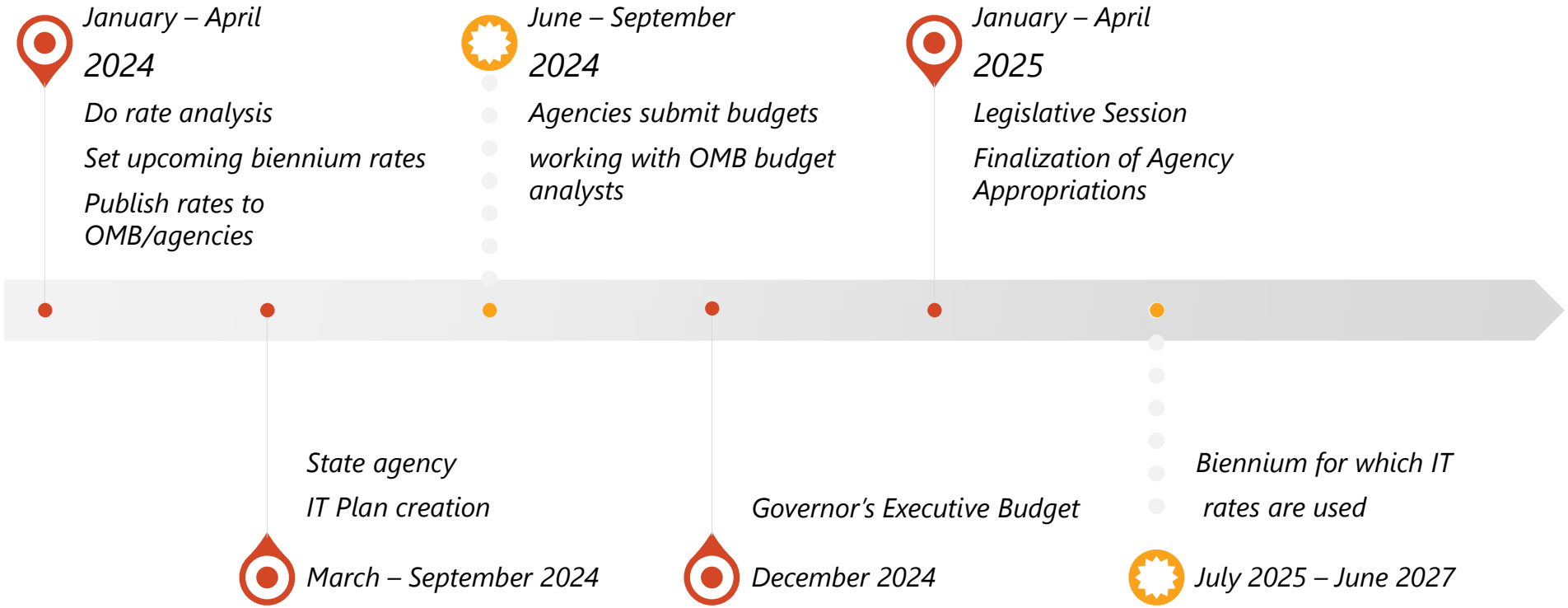
Alternative Models

- **General Fund Allocation:** IT services are funded through appropriations from the state's general fund, often making them appear "free" to the receiving agency.

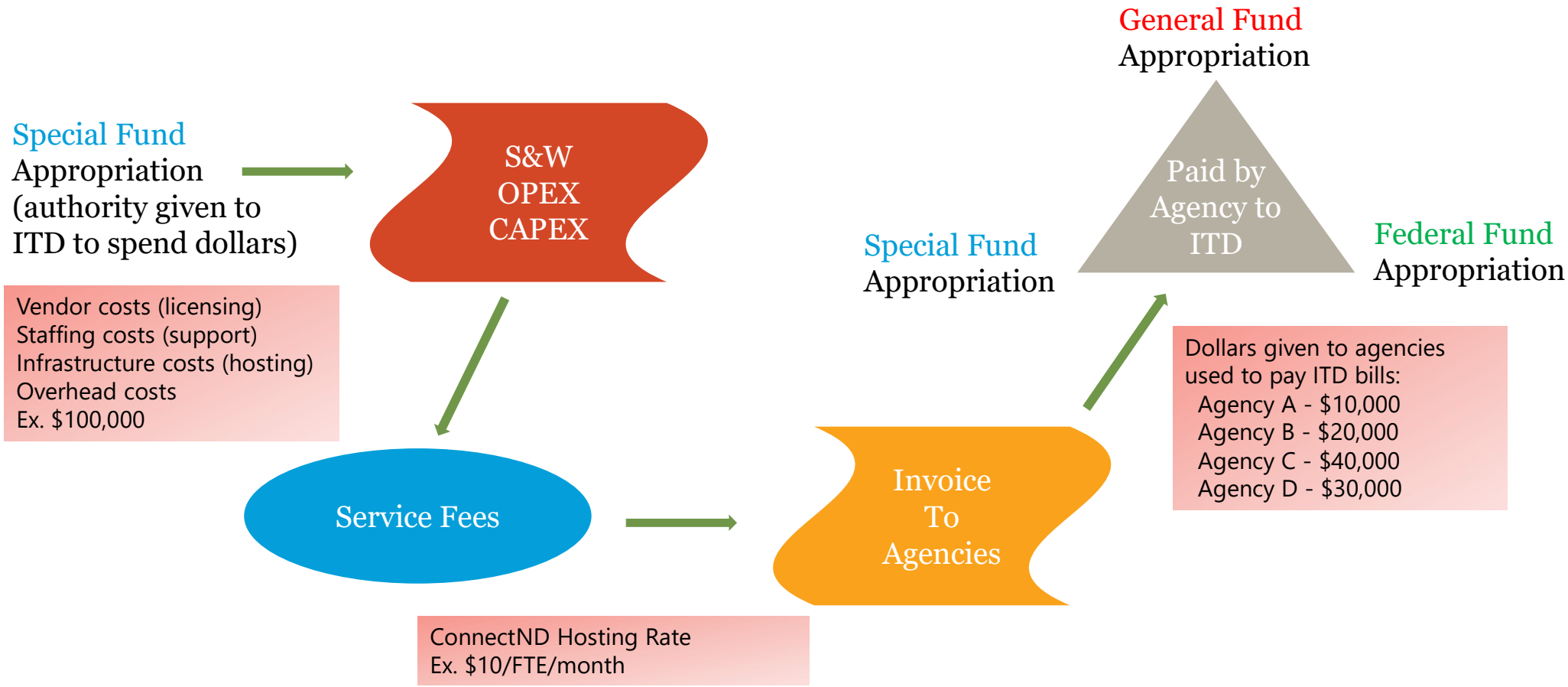
- **Hybrid Models:** Some states use a combination of ISFs and direct appropriations, where certain core services are funded through the general fund and other services operate as ISFs.



Service Fee Timeline



Appropriation & Chargeback Example



Service Fee Example – Legislative IT Committee

What would a service fee for this committee look like?

What happens if you are directed to have 10 meetings?

What if it were an hourly rate per member?

Where does the cost of creating your Legislative Management report go?

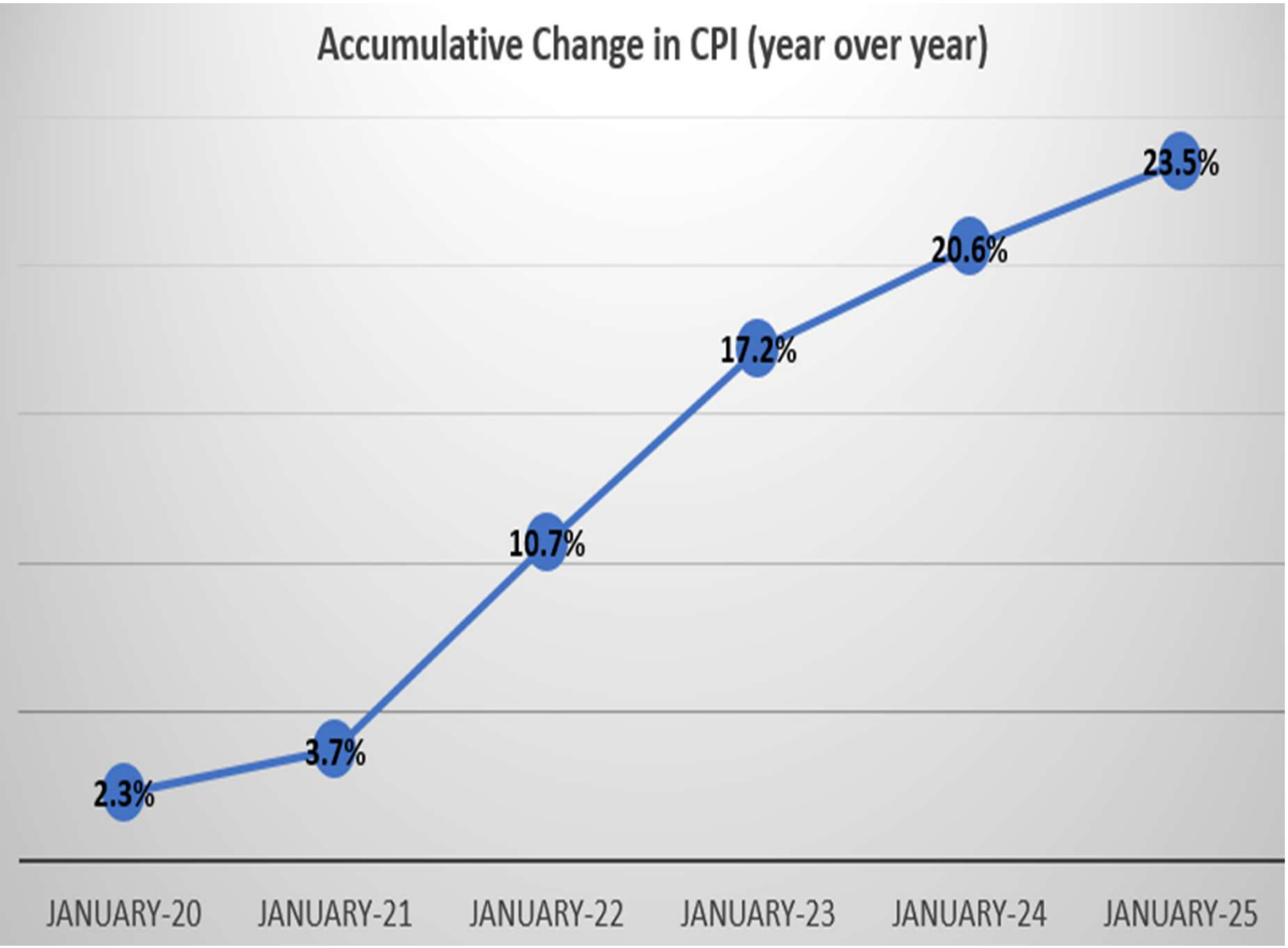
Assumptions:
6 meetings during an interim
11 committee members
1 citizen member
2 support staff

Staffing:
- Portion of salaries/benefits for nine committee members
- Travel costs for nine committee members
- Any direct training needed to serve on the committee

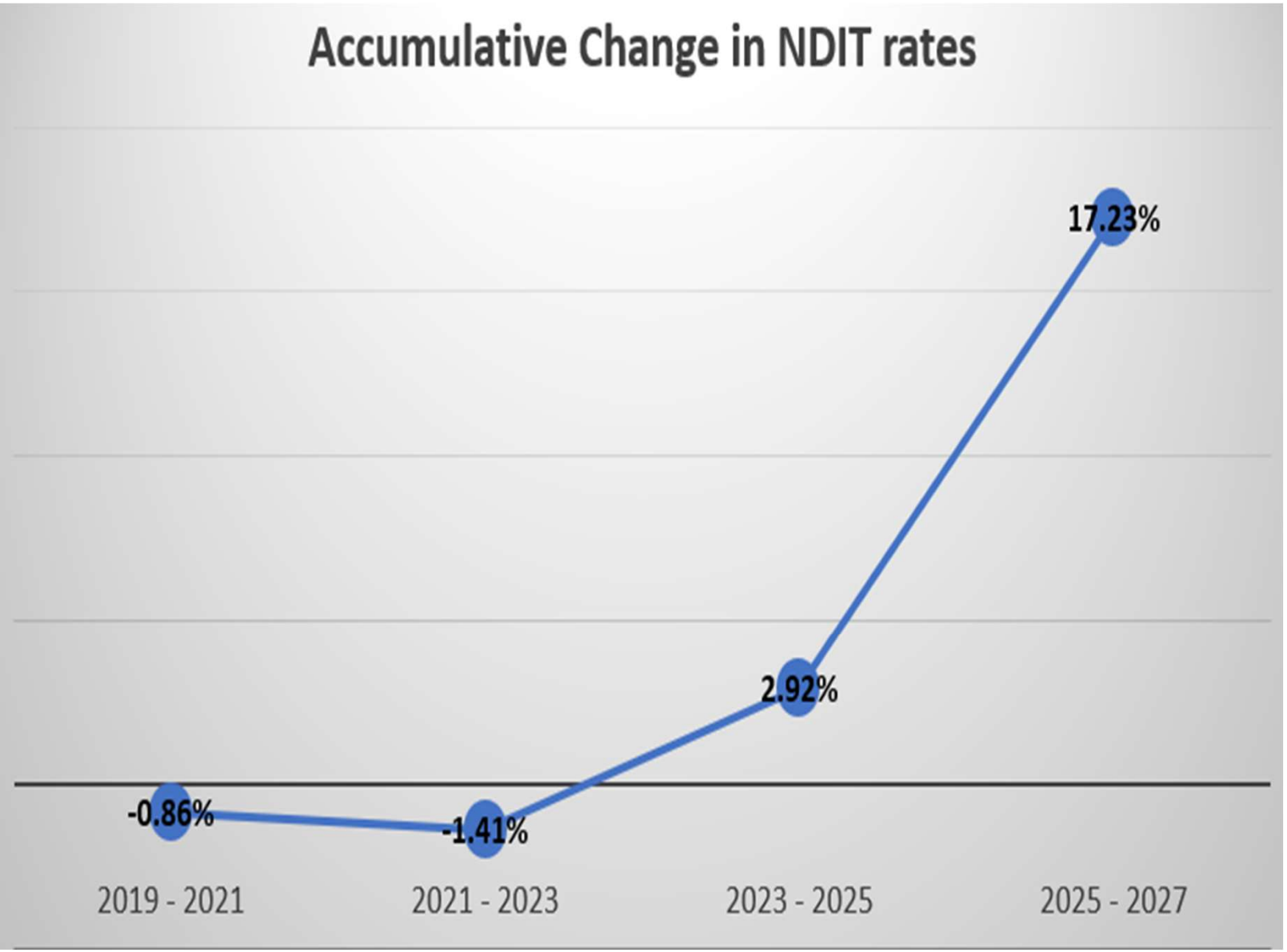
Operational:
- Portion of contractor cost (CIO Mock)
- Portion of end user license costs (M365, Adobe, LC applications)
- Portion of end user equipment
- Cost of Harvest Room (includes technology within room)

Overhead:
- Portion of salaries/benefits for chairman/vice chairman (leadership)
- Portion of salaries/benefits for support staff

Billing metric could be a flat rate per meeting.



Source: Consumer Price Index Data from 1913 to 2025

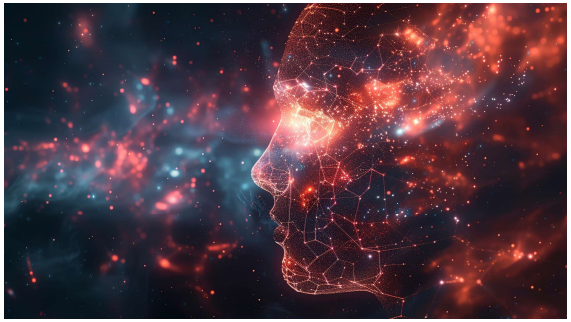


Rates set in April of 2018, 2020, 2022 and 2024 for next biennium services

Costs Absent From 2023-2025 Rates

- Current biennium rates do not include:
  - Equity Package
    - $5.2M, including the 6/4% legislative increase
      - Would increase current rates by 10.2%
  - Legislative Increase of 6/4%
    - Rates only included a 3/3% increase
      - Approx. $1M difference for the biennium
- Efforts to remediate critical security vulnerabilities
  - Unmanaged desktop apps
  - Apps unable to migrate to new hardware

- New technology proof of concepts
  - Artificial Intelligence
  - Robotic Process Automation
  - Low code/No Code platforms



Cost Reduction Considerations

- Request for Information (RFI) for Managed Voice Services:
  - Issued March 2024, only 2 qualifying responses one of which submitted a cost proposal
  - $1.85M/yr. for just managed services (staffing)
  - NDIT staffing is $675,000/year
- Multi-year contract to lock in pricing
- Transition costs to change vendors
  - Network Endpoint Hardware – 1,336 switches
    - Over 7,000 firewall rules would need to be redone
  - Desktop Hardware – 7,350 devices
- Changes to support agreements

Desktop Support Examples

- South Dakota
  - January 2025 User Fee
  - $125.00 User/Month

  User Fee: The user fee is assessed based on each domain account or user name used to sign on to a computer. This fee covers services provided by BIT including statewide technical support for hardware and software on workstations and networks, installation of hardware and software, operating system research and development, cloning or developing a standard workstation set-up, Parts Center services (including warranty repair), application deployment, hardware and software inventory, printer support, and file restores.

- ND Legislative Council (estimate)
  - 3 Information Tech Specialists
  - $5,275 monthly salary (assumes mid-range)
  - 141 Devices – Legislative Assembly
  - 48 Devices – Legislative Council
  - $83.73 per device for support
    - (3 * $5275) / (141 + 48)
    - Does not include benefits, operational costs, management costs
  - NDIT support per device - $62.00

Budget breakdown

NDIT 2023-2025 Total Budget Appropriation (July 2023)					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,312,324	214,962,865	4,011,967	$ 242,287,156
Statewide Longitudinal Data System	3.0	5,082,678	-	500,000	5,582,678
EduTech	26.0	2,905,260	6,759,048	500,000	10,164,308
K-12 Network	4.0	6,272,610	90,000	-	6,362,610
Geographic Information System	1.0	1,142,213	-	65,679	1,207,892
Health Information Technology	4.0	2,000,000	6,742,111	-	8,742,111
Public Safety - (E911/SIRN)	1.0	1,858,240	16,543,229	-	18,401,469
Public Safety - (HB 1242)	0.0	-	20,000,000	80,000,000	100,000,000
Online Tax Portal Grant - (HB 1225)	0.0	300,000	-	-	300,000
IIJA Federal Funds	0.0	487,520	-	147,762,480	148,250,000
One-Time SIIF Funds	0.0	-	15,000,000	-	15,000,000
Total	**507.0**	$ 43,360,845	$ 280,097,253	$ 232,840,126	$ 556,298,224

Budget breakdown

NDIT 2023-2025 Budget Adjustments					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ (2,950,000)	(24,831,876)	(3,499,467)	$ (31,281,343)
Statewide Longitudinal Data System	3.0	(1,075,000)	-	-	(1,075,000)
EduTech	26.0	-	-	-	-
K-12 Network	4.0	-	-	-	-
Geographic Information System	1.0	-	-	-	-
Health Information Technology	4.0	-	(3,000,000)	-	(3,000,000)
Public Safety - (E911/SIRN)	1.0	-	(20,000,000)	(80,000,000)	(100,000,000)
Public Safety - (HB 1242)	0.0	-	-	-	-
Online Tax Portal Grant - (HB 1225)	0.0	(300,000)	-	-	(300,000)
American Rescue Plan Act	0.0	-	-	-	-
IIJA Federal Funds	0.0	(487,520)	-	(147,762,480)	(148,250,000)
One-Time SIIF Funds	0.0	-	-	-	-
Equity & Retirement Additions		2,869,980	5,802,948	-	8,672,928
Total	**507.0**	$ (1,942,540)	$ (42,028,928)	$ (231,261,947)	$(275,233,415)

Budget breakdown

NDIT 2025-2027 Legislative Base Budget					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,825,903	210,453,888	512,500	$ 234,792,291
Statewide Longitudinal Data System	3.0	4,125,661	-	500,000	4,625,661
EduTech	26.0	2,738,726	7,110,100	500,000	10,348,826
K-12 Network	4.0	5,825,668	90,000	-	5,915,668
Geographic Information System	1.0	1,044,107	-	65,679	1,109,786
Health Information Technology	4.0	2,000,000	3,822,725	-	5,822,725
Public Safety - (E911/SIRN)	1.0	1,858,240	16,591,612	-	18,449,852
Total	**507.0**	$ 41,418,305	$ 238,068,325	$ 1,578,179	$ 281,064,809

Budget breakdown

NDIT Decision Packages - 2025-2027 Biennium					
Package	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
#4 - Vulnerability Remediation	0.0	$ -	$ 3,042,960	$ -	$ 3,042,960
#5 - Public Safety	6.0	$ 209,520	$ 1,968,491	$ -	$ 2,178,011
#6 - Vendor Toolset Increases	0.0	$ 5,133,174	$ 265,447	$ -	$ 5,398,621
#8 - Continuing Appropriations	0.0	$ -	$ (99,168,477)	$ -	$ (99,168,477)
#11 - Inflationary Increases	0.0	$ 2,841,715	$ (1)	$ -	$ 2,841,714
#12 - Health Information Program	0.0	$ -	$ 8,182,968	$ -	$ 8,182,968
#14 - EduTech Program Funding	0.0	$ -	$ 411,793	$ -	$ 411,793
#15 - Data Center Infrastructure	0.0	$ -	$ 1,719,061	$ -	$ 1,719,061
Total Budget Changes	**6.0**	$ 8,184,409	$ (83,577,758)	$ -	$ (75,393,349)

Contains One Time SIIF Funds

Budget breakdown

NDIT 2025-2027 Senate Changes to Legislative Base					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 10,500,508	(85,138,855)	(512,500)	$ (75,150,847)
Statewide Longitudinal Data System	3.0	(4,904)	-	(500,000)	(504,904)
EduTech	26.0	(8,174)	203,515	(500,000)	(304,659)
K-12 Network	4.0	1,002,665	(90,000)	-	912,665
Geographic Information System	1.0	113,836	-	(65,679)	48,157
Health Information Technology	4.0	(1,356,779)	6,285,296	-	4,928,517
Public Safety - (E911/SIRN)	3.0	209,520	(2,445,835)	-	(2,236,315)
Total	**509.0**	$ 10,456,672	$ (81,185,879)	$ (1,578,179)	$ (72,307,386)

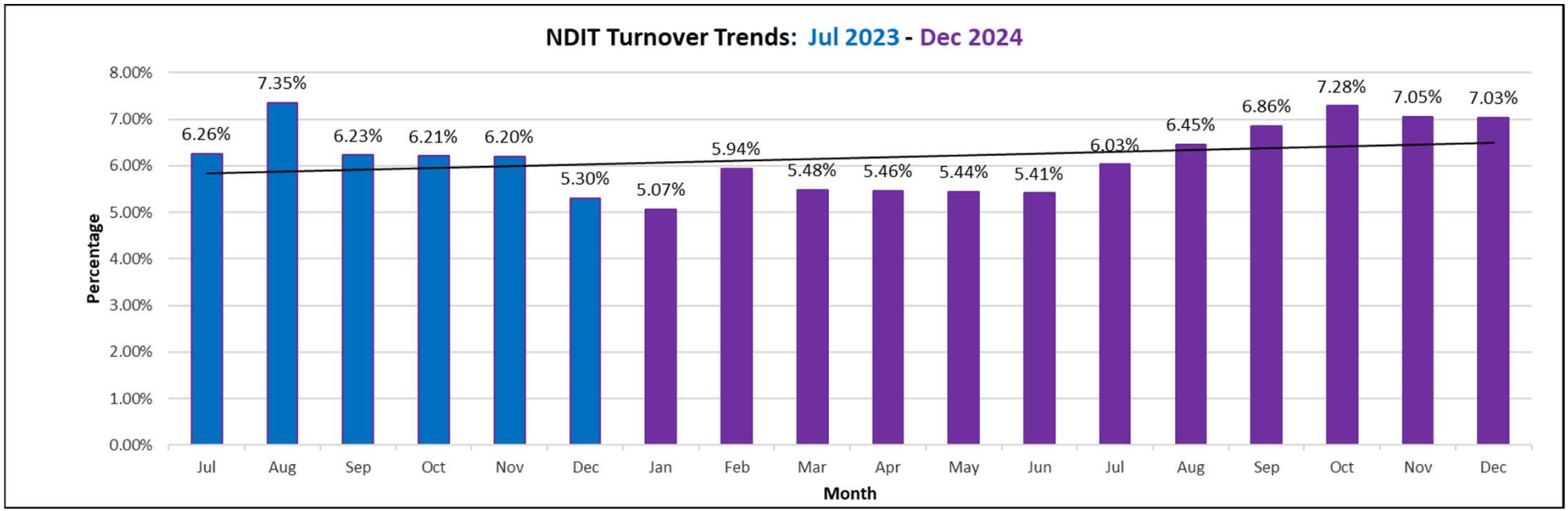
NDIT 2025-2027 Senate Budget					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 34,326,411	125,315,033	-	$ 159,641,444
Statewide Longitudinal Data System	3.0	4,120,757	-	-	4,120,757
EduTech	26.0	2,730,552	7,313,615	-	10,044,167
K-12 Network	4.0	6,828,333	-	-	6,828,333
Geographic Information System	1.0	1,157,943	-	-	1,157,943
Health Information Technology	4.0	643,221	10,108,021	-	10,751,242
Public Safety - (E911/SIRN)	3.0	2,067,760	14,145,777	-	16,213,537
Total	**509.0**	$ 51,874,977	$ 156,882,446	$ -	$ 208,757,423

Staffing

NDIT Talent

- 507 FTE
- Mixture of remote, hybrid and in-office
- Staff augmentation
- Apprentice roles

Biennium Turnover



NDIT Retirement Statistics

Years to meet Rule of Eligibility	Total Employees			Management			Non-management		
	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %
Currently Eligible	49	10.32%	10.32%	6	1.26%	1.26%	43	9.05%	9.05%
0-3 years	39	8.21%	18.53%	3	0.63%	1.89%	36	7.58%	16.63%
3.1 - 5 years	23	4.84%	23.37%	4	0.84%	2.74%	19	4.00%	20.63%
5.1 - 10 years	69	14.53%	37.89%	17	3.58%	6.32%	52	10.95%	31.58%
10.1 - 15 years	80	16.84%	54.74%	12	2.53%	8.84%	68	14.32%	45.89%
15.1 - 20 years	70	14.74%	69.47%	10	2.11%	10.95%	60	12.63%	58.53%
20.1 - 25 years	72	15.16%	84.63%	9	1.89%	12.84%	63	13.26%	71.79%
25+ years	73	15.37%	100.00%	0	0.00%	12.84%	73	15.37%	87.16%
Total	475	100.00%		61	12.84%		414	87.16%	

*Management includes all people managers

*Data as of 12/24

Recruitment: 2024 in Review

- 78 Total Hires
- 50 External – from the market
- 6 Transfers
- 22 Promotions within NDIT

Recruitment: What's Going Well

- Applicant pools for remote, entry level and mid level roles are robust
- Applicants for these roles often exceed qualifications
- Early career roles in Bismarck/ND: smaller pools but we have qualified applicants, thus successful sourcing

Recruitment: Pain Points

- Highly skilled/niche roles in ND
  - Small or no applicant pools
  - Cannot afford talent in the marketplace
  - Unable to match salaries & benefits in private sector
- Highly skilled/niche roles remote
  - Quantity over quality
  - Upon interview, many do not have level of knowledge expected/needed

What We're Working On

- People-first culture
  - Culture Roots train-the-trainer: Behavior-based leadership
- Workforce Planning
  - Knowledge management
  - Skills matrix/career pathing

New/Vacant FTE Pool

FTE Pool Calculation	Budget Reduction	Amount in NDIT Pool	Appropriation Reduction
75% of vacant FTE - Special	7,450,404	5,587,803	(1,862,601)
75% of vacant FTE - General	1,469,030	1,101,773	(367,258)
90% of new FTE - Special	2,967,987	2,298,667	(669,320)
90% of new FTE - General	1,998,699	1,725,377	(273,322)
Total	**13,886,120**	**10,713,620**	**(3,172,501)**

	Vacant FTE Pool Calculation
Salaries Permanent	91,481,377
Benefits (30%)	27,444,413
Total Salary Base Calculation	118,925,790
Vacancy Rate Assigned	7.5%
Vacant FTE Budget Reduction	**8,919,434**
New FTE Budget Reduction	**4,966,686**
	13,886,120

Combined New FTE / Vacant FTE pool					
	New FTE - GF	**New FTE - SF**	**Vacant FTE - GF**	**Vacant FTE - SF**	**Total**
Appropriaton Reduction	1,998,699	2,967,987	1,469,030	7,450,404	13,886,120
Pool Redcution	(273,322)	(669,320)	(367,258)	(1,862,601)	(3,172,501)
FTE Pool Available	**1,725,377**	**2,298,667**	**1,101,772**	**5,587,803**	**10,713,619**
Requests:					
July 1, 2023 Vacants			1,333,118	3,786,479	5,119,597
New FTE	1,121,088	1,138,682			2,259,770
Pending Request	*87,969*				*87,969*
Total Pool Requests	1,209,057	1,138,682	1,333,118	3,786,479	7,467,336
Balance Remaining	**516,320**	**1,159,985**	**(231,346)**	**1,801,324**	**3,246,283**

NEW FTE POOL POSITIONS

New FTE Pool			
Position	**Budget Amount**	**New FTE Pool Request**	**Position filled date**
General Fund Positions			
Information Services V, Grade 207	*283,986*	*87,969*	*Dec-24*
Information Services I, Grade 203	138,787	52,045	Oct-24
Manager II, Grade 107	268,434	163,950	Jun-24
Information Services VI, Grade 208	250,054	250,713	May-24
Information Services IV, Grade 206	237,318	175,000	Apr-24
Professional Services III, Grade 107	250,908	207,226	Mar-24
Information Services V, Grade 207	320,289	272,154	Jan-24
General Fund Total	**1,749,776**	**1,209,057**	
Special Fund Positions			
Program Management III, Grade 106	268,430	111,846	Sep-24
Information Serivices III, Grade 205	190,641	71,490	Oct-24
Information Services IV, Grade 206	276,723	142,413	Jun-24
Information Services IV, Grade 206	216,575	118,421	Jul-24
Information Services I, Grade 203	138,787	87,399	Jun-24
Information Services IV, Grade 206	190,646	137,113	Jul-24
Information Services IV, Grade 206	237,318	135,000	May-24
Program Management III, Grade 106	229,540	165,000	Apr-24
Manager II, Grade 107	294,358	170,000	Jun-24
Special Fund Total	**2,043,018**	**1,138,682**	
New FTE Pool Total	**3,792,794**	**2,347,739**	

VACANT FTE POOL POSITIONS

Vacant FTE Pool				
Position	**Budget Amount**	**Vacant FTE Pool Request**	**Position filled date**	**Position vacated date**
General Fund Positions				
Manager II, Grade 107	145,300	86,914	Nov-24	Jun-22
Information Services IV, Grade 206	199,853	137,645	Mar-24	Apr-22
Professional Services III, Grade 107	247,654	226,139	Nov-23	Dec-22
Information Services III, Grade 205	237,568	181,355	Aug-23	Feb-23
Information Services III, Grade 205	233,464	203,166	Jul-23	Mar-23
Information Services IV, Grade 206	295,192	192,600	Jul-23	Jul-22
Manager II, Grade 107	186,328	305,300	Jul-23	Apr-21
General Fund Total	**1,545,359**	**1,333,118**		
Special Fund Positions				
Information Services V, Grade 207	267,389	95,594	Nov-24	Apr-23
Information Services IV, Grade 206	269,895	155,000	Apr-24	Mar-23
Information Services IV, Grade 206	280,880	135,000	May-24	Jun-23
Information Services II, Grade 204	183,896	111,675	Mar-24	Mar-23
Information Services IV, Grade 206	280,911	170,400	Jan-24	Jun-23
Manager II, Grade 107	232,471	259,969	Dec-23	May-23
Information Services V, Grade 207	377,867	222,362	Dec-23	Jun-23
Manager II, Grade 107	185,597	245,071	Dec-23	Jul-21
Information Services IV, Grade 206	211,627	233,155	Nov-23	Jun-23
Profesional Services II, Grade 106	256,471	157,216	Nov-23	May-23
Information Services III, Grade 205	201,789	158,885	Nov-23	Mar-23
Profesional Services II, Grade 106	219,838	185,121	Nov-23	Nov-21
Information Services III, Grade 205	197,964	164,450	Sep-23	Aug-22
Professional Services III, Grade 107	227,113	206,080	Aug-23	May-23
Information Services IV, Grade 206	211,790	293,400	Jul-23	Apr-23
Information Services IV, Grade 206	205,379	195,040	Aug-23	Jul-22
Information Services III, Grade 205	260,420	215,400	Jul-23	Jun-23
Analyst IV, Grade 106	221,245	240,580	Aug-23	Jan-23
Manager III, Grade 108	204,899	342,080	Aug-23	Mar-23
Special Fund Total	**4,497,441**	**3,786,479**		
Vacant FTE Pool Total	**6,042,800**	**5,119,597**		

Appendix

Acronyms and Definitions

- **BAND** - Broadband Association of ND
- **Data governance** is the process of ensuring that data is accurate, secure, and used responsibly. It involves setting rules and responsibilities so everyone knows how to handle data properly and how to protect it.
- **EA** - Enterprise Architecture- the process by which organizations standardize, organize and develop roadmaps for IT infrastructure and applications to align with and facilitate the achievement of business goals and objectives.
- **Low Code-** is a software development approach that requires minimal hard-coding, allowing users to create applications and workflows through visual interfaces, drag-and-drop components, and pre-built templates. It is designed to simplify and speed up the development process, making it accessible to both professional developers and non-technical users (often referred to as "citizen developers").
- **SIRN** - Statewide Interoperable Radio Network
- **SLDS** - Statewide Longitudinal Data System
- **TBP** - Technology Business Partner knows the customer, their business, their technology, where they want to go and what is coming over the horizon.
- **Tech Debt**-happens when quick fixes or older systems are used instead of long-term, efficient solutions. While these choices might save time or money upfront, they eventually lead to more maintenance, slower systems, and higher costs to fix or replace.

Geospatial Acronyms and Definitions

- **Geospatial** - catch-all term for range of tools used for mapping and analysis
- **GIS** - Geographic Information Systems (e.g., the GIS Hub)
- **SGC** - State Geospatial Committee
- **Next Generation 911** - internet-based 911 system that requires GIS layers such as address points and emergency service boundaries

- **NDIT** - ND Information Technology
- **NDGF** - ND Game and Fish
- **NDDES** - ND Department of Emergency Services
- **Web services** - internet-based delivery of data
- **Parcel** - property boundary with associated information such as landowner

IT Procurement

IT Solution Lifecycle for State Government

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Large IT Procurement >$500,000	Funding & Project Start Up	Preliminary Research	RFP Draft, Approval & Issue			Response Period	Evaluations, Demonstrations & Best & Final		Contract Negotiations			Award & Protest Period
IT RFP >$100,000	Funding/ Initiatative Intake	Preliminary Research	RFP Draft & Issue	Response Period		Evals, Demos, & Best & Final	Contract Negotiations			Award & Protest Period		
Invitation for Bid <$100,000	Funding & Project Start Up	Preliminary Research	Draft & Issue	Response Period	Eval	Award & Protest Period						

Things to Consider:

- It is known what is needed.
- Team Availability
- ESC Availability
- Number of Responses
- Demonstrations & Clarification results
- Best and Final Offer
- Protest
- Contract negotiations
  - State Law
  - Retainage
  - Liquidated Damages
  - Deliverables
  - Limitation of Liability
  - Indemnification

5 Months is a unicorn

Transparency and Governance

Advisory Groups

- Enterprise Architecture Group (current) – review of IT standards, policies, guidelines
  - Agency representation
  - Technology domain representation
  - Service Delivery representation
- Data Governance Council (current) – statewide data strategy
  - Agency representation
  - Technology domain representation
- Customer Advisory Group (upcoming) – service feedback, strategic guidance of services
  - Agency representation
  - Service Delivery representation
- Portfolio Steering Committee (upcoming) – work prioritization
  - Agency representation
  - Portfolio Manager
  - Chief Information Officer

Incident Performance

Agency: All | Priority: All | Breach: All | Underlying Cause: All | Assigned To Group: All | Contact Type: All

- Exclude Tickets Resolved by Solarwinds
- Exclude Child Tickets
- Include only tickets assigned to NDIT

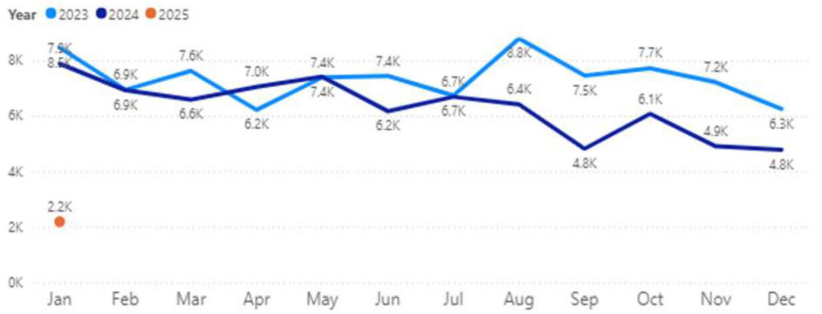
NORTH Dakota — Be Legendary.

Data last refreshed 1/12/25

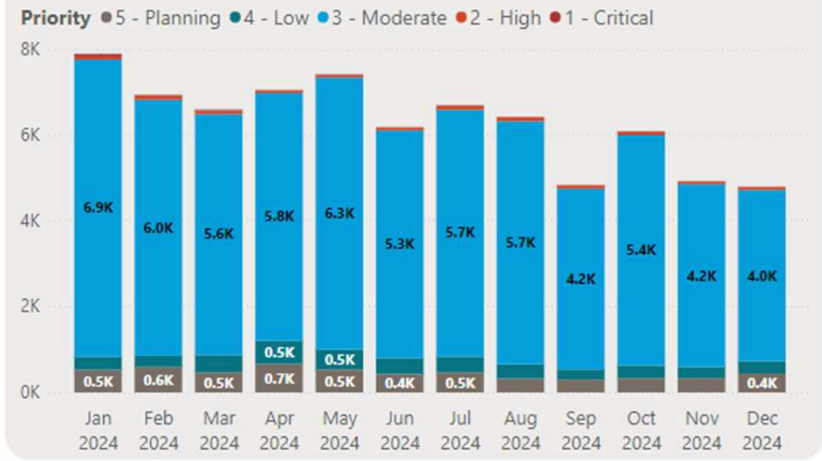
Select Metric: Incidents Created | Incidents Resolved | Incident Backlog | Avg Resolution Time(Mins)

Trend: Incidents Year over Year

Continuous | Year over Year | 3 Metrics



Trend: Incidents by Priority



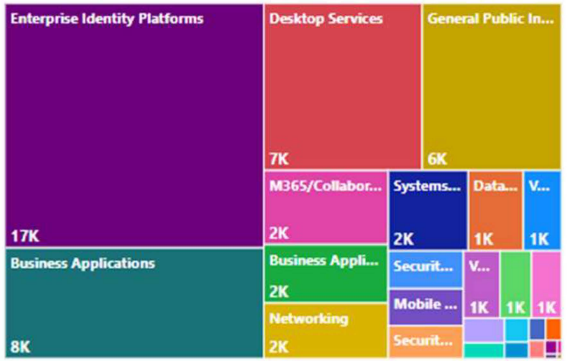
Summary Metrics for 1/1/2024 - 8/20/2024

Click for Video Tutorial

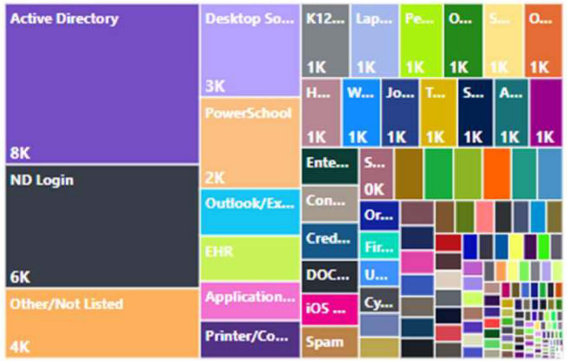
Select Time Period: 1/1/2024 – 8/20/2024

53K	53K	761	790	5.7%
Incidents Created	Incidents Worked	Incidents Outstanding	Avg Resolution Time(Mins)	Pct Tickets Breached

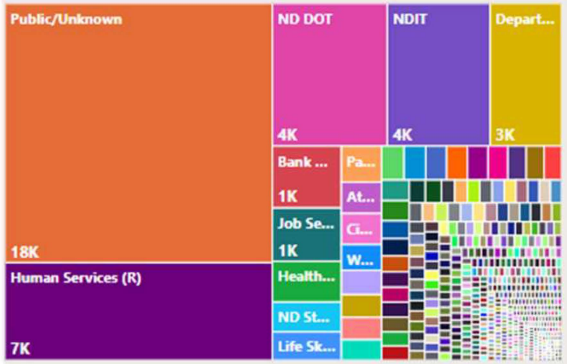
Incidents by Category



Incidents by Subcategory



Incidents by Agency



Incidents by Underlying Cause

Section Changes and Policy Bills

Appropriation Carryover Authority

- Add sections to SB 2021 for the following projects in flight:
  - Statewide Interoperability Radio Network (SIRN)
  - Capitol Security
  - Governance Risk & Compliance (statewide data strategy work)
  - Business Gateway
  - Enterprise Digitization (modernization work)
  - Broadband, Equity, Access and Deployment (BEAD / DE)
- Add ability to transfer funds from HIN Loan Fund to operating

Policy Changes

- Agency sponsored policy changes
  - Change to Statewide Project Plan-SB2048
  - Change to Executive Steering Committee make up-SB 2049

- Legislator sponsored policy changes
  - HB 1265

Legislative Council

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Armstrong Budget				Senate Version				Senate Compared to Armstrong Budget Increase (Decrease)			
	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809	507.00	$41,418,305	$239,646,504	$281,064,809	0.00	$0	$0	$0
2025-27 Ongoing Funding Changes												
Base payroll changes		($25,257)	$3,229,838	$3,204,581		($25,257)	$3,229,838	$3,204,581				$0
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716		418,501	2,047,215	2,465,716				0
Salary increase		845,089	4,707,103	5,552,192		845,089	4,664,234	5,509,323			($42,869)	(42,869)
Health insurance increase		498,438	2,576,265	3,074,703		498,438	2,558,250	3,056,688			(18,015)	(18,015)
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686		1,998,699	2,967,987	4,966,686				0
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434		1,469,030	7,450,404	8,919,434				0
Adjusts funding for the 2025-27 new FTE pool				0			(52,999)	(52,999)			(52,999)	(52,999)
Adjusts funding for the 2025-27 vacant FTE pool				0		(522,246)	(2,874,794)	(3,397,040)		($522,246)	(2,874,794)	(3,397,040)
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,358)	(10,939,357)		(599,999)	(10,339,358)	(10,939,357)				0
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311		3,181,664	531,647	3,713,311				0
Adds funding for cybersecurity contractual services increases		5,133,174	265,447	5,398,621		4,133,174		4,133,174		(1,000,000)	(265,447)	(1,265,447)
Adds funding for vulnerability management software license costs			2,892,960	2,892,960			2,892,960	2,892,960				0
Transfers special fund authority to continuing appropriation authority			(95,855,602)	(95,855,602)			(99,168,477)	(99,168,477)			(3,312,875)	(3,312,875)
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)		(394,839)	(500,000)	(894,839)				0
Reduces funding for EduTech			(553,869)	(553,869)			(553,869)	(553,869)				0
Adds funding for an EduTech training application replacement project			391,793	391,793			391,793	391,793				0
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501		512,501	(90,000)	422,501				0
Adjusts funding for the geographic information		89,176	(65,679)	23,497		89,176	(65,679)	23,497				0
Adjusts funding for NDHIN		(1,356,779)	6,241,945	4,885,166		(1,356,779)	3,241,945	1,885,166			(3,000,000)	(3,000,000)
Reduces funding for SIRN equipment			(2,854,082)	(2,854,082)			(2,854,082)	(2,854,082)				0
Adds funding for FTE SIRN positions	6.00		1,869,120	1,869,120	2.00		608,927	608,927	(4.00)		(1,260,193)	(1,260,193)
Adds funding for SIRN circuits		209,520		209,520		209,520		209,520				0
Total ongoing funding changes	**6.00**	**$11,978,918**	**($75,086,866)**	**($63,107,948)**	**2.00**	**$10,456,672**	**($85,914,058)**	**($75,457,386)**	**(4.00)**	**($1,522,246)**	**($10,827,192)**	**($12,349,438)**
One-Time Funding Items												
Adds one-time funding for vulnerability management software license costs			$150,000	$150,000			$150,000	$150,000				$0
Adds funding to upgrade the state datacenter cooling system			1,719,061	1,719,061				0			($1,719,061)	(1,719,061)
Transfers special fund authority to continuing appropriation authority for capital assets			(3,312,875)	(3,312,875)				0			3,312,875	3,312,875
Adds one-time funding for an Edutech training application replacement project			20,000	20,000				0			(20,000)	(20,000)
Adds one-time funding for phase 1 of the NDHIN health data utility project			1,793,609	1,793,609				0			(1,793,609)	(1,793,609)

Adds one-time funding for NDHIN				0			3,000,000	3,000,000			3,000,000	3,000,000
Total one-time funding changes	**0.00**	**$0**	**$369,795**	**$369,795**	**0.00**	**$0**	**$3,150,000**	**$3,150,000**	**0.00**	**$0**	**$2,780,205**	**$2,780,205**
Total Changes to Base Level Funding	**6.00**	**$11,978,918**	**($74,717,071)**	**($62,738,153)**	**2.00**	**$10,456,672**	**($82,764,058)**	**($72,307,386)**	**(4.00)**	**($1,522,246)**	**($8,046,987)**	**($9,569,233)**
2025-27 Total Funding	**513.00**	**$53,397,223**	**$164,929,433**	**$218,326,656**	**509.00**	**$51,874,977**	**$156,882,446**	**$208,757,423**	**(4.00)**	**($1,522,246)**	**($8,046,987)**	**($9,569,233)**
Federal funds included in other funds			*$0*				*$0*				*$0*	
Total ongoing changes - Percentage of base level	*1.2%*	*28.9%*	*(31.3%)*	*(22.5%)*	*0.4%*	*25.2%*	*(35.9%)*	*(26.8%)*	*N/A*	*N/A*	*N/A*	*N/A*
Total changes - Percentage of base level	*1.2%*	*28.9%*	*(31.2%)*	*(22.3%)*	*0.4%*	*25.2%*	*(34.5%)*	*(25.7%)*	*N/A*	*N/A*	*N/A*	*N/A*

Other Sections in Information Technology Department - Budget No. 112

Section Description	Armstrong Budget	Senate Version	
New and vacant FTE pool line item		Section 3 provides the Information Technology Department cannot spend funds appropriated in the new and vacant FTE funding pool line item but may request the Office of Management and Budget to transfer funds to the salaries and wages line item.	
Other funds - Transfer - Health information technology planning loan fund to electronic health information exchange fund		Section 4 provides for a transfer of $3 million from the health information technology planning loan fund to the electronic health information exchange fund for NDHIN.	
Exemption - Line item transfers		Section 5 allows the Director of the Office of Management and Budget to transfer funds between line items in Section 1 as requested by the Chief Information Officer of ITD for the development and implementation of technology projects.	
Amendment - Information technology operating fund - Continuing appropriation - Reporting		Section 6 amends North Dakota Century Code Section 54-59-14 to provide ITD a continuing appropriation from the information technology operating fund to allow ITD to provide information technology and network services to state agencies without receiving appropriation authority from the Legislative Assembly. The department is required to provide a report at each meeting of the Budget Section and to the appropriations committee each legislative session regarding the status of the information technology operating fund and the balance of the fund.	
Amendment - Information technology operating fund renamed		Section 7 amends Section 54-59-15 to rename the information technology operating account the information technology operating fund.	
Exemption - Broadband infrastructure grants		Subsection 1 of Section 8 allows ITD to continue any remaining funding of the $45,000,000 appropriated from the federal Coronavirus Capital Projects Fund during the 2021-23 biennium and continued into the 2023-25 biennium for broadband infrastructure grants into the 2025-27 biennium.	
Exemption - SIIF		Subsection 2 of Section 8 allows ITD to continue any remaining funding of the $12,000,000 appropriated from SIIF during the 2023-25 biennium for the enterprise digitization project ($7,000,000) and the business gateway enterprise customer relationship management program ($5,000,000) into the 2025-27 biennium.	
Exemption - Governance, risk, and compliance costs and the Department of Public Instruction lighthouse project		Subsection 3 of Section 8 allows ITD to continue any remaining funding of the $4,856,876 appropriated from the ITD information technology operating fund during the 2023-25 biennium for governance, risk, and compliance costs and the Department of Public Instruction lighthouse project into the 2025-27 biennium.	

Other Sections in Information Technology Department - Budget No. 112

Section Description	Armstrong Budget	Senate Version	
Exemption - Broadband, equity, access, and deployment (BEAD), digital equity, and state and local cybersecurity grant programs		Subsection 4 of Section 8 allows ITD to continue any remaining funding of the $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act during the 2023-25 biennium for the BEAD, digital equity, and state and local cybersecurity grant programs into the 2025-27 biennium.	
Exemption - State and local cybersecurity grant program matching funds		Subsection 5 of Section 8 allows ITD to continue any remaining funding of the $487,520 appropriated from the general fund during the 2023-25 biennium for state and local cybersecurity grant program matching funds into the 2025-27 biennium.	
Exemption - Statewide interoperable radio network (SIRN) project		Subsection 6 of Section 8 allows ITD to continue any remaining funding of the $80,000,000 appropriated from the federal State Fiscal Recovery Fund during the 2023-25 biennium for the SIRN project into the 2025-27 biennium.	

Prepared for the House Appropriations Committee
March 13, 2025

MAJOR RELATED LEGISLATION AFFECTING THE INFORMATION TECHNOLOGY DEPARTMENT AS OF CROSSOVER

This memorandum provides information on major related legislation affecting the Information Technology Department as of Crossover:

House Bill No. 1265 - This bill creates a state information technology research center, an advanced technology review committee, a compute credits grant program, and an advanced technology grant fund. The Chief Information Officer is included as a member of the advanced technology review committee.

House Bill No. 1448 - This bill creates an advanced technology review committee, an advanced technology grant program, and an advanced technology grant fund. The Chief Information Officer is included as a member of the advanced technology review committee.

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations - Government Operations Division
Brynhild Haugland Room, State Capitol

SB 2021
3/21/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

8:45 a.m. Chairman Monson called the meeting to order.

Members Present: Chairman Monson, Vice Chair Brandenburg, Representatives: Bosch, Fisher, Kempenich, Meier, Pyle.

Discussion Topics:

- Procurement Process for NDIT
- Mainframe Project
- Artificial Intelligence (AI)
- North Dakota Statewide Longitudinal Data System (SLDS)
- Powerschool and EduTech
- Choice Ready program
- Digital Credentials
- Geospatial
- Geographic Information System (GIS)
- Parcel Data

8:47 a.m. Corey Mock, Chief Operating Officer, North Dakota Information Technology Department, testified in favor and submitted testimony #43344.

9:07 a.m. Tracy Korsmo, Program Manager, SLDS, testified in favor and continued with testimony #43344.

9:15 a.m. Representative Bosch referenced the previous long sheet #41310

9:15 a.m. Greg Hoffman, Deputy CIO, ND Information Technology Department, testified in favor and continued with #43344.

9:27 a.m. Kim Weis, Chief Data Officer, ND Information Technology Department, testified in favor.

9:46 a.m. Bob Nutsch, Geospatial Program Manager, ND Information Technology, testified in favor and continued with #43344.

10:06 a.m. Chairman Monson closed the meeting.

Madaline Cooper, Committee Clerk

HOUSE APPROPRIATIONS

GOV. OPS SUB COMMITTEE

MARCH 13, 2025

BRYNHILD HAUGLAND

NORTH Dakota | Information Technology

Be Legendary.

Introductions

Corey Mock
Chief Information Officer

Greg Hoffman
Deputy Chief Information Officer

Evonne Amundson
Chief Business Applications Officer

Kim Weis
Chief Data Officer

Craig Felchle
Chief Technology Officer

Shelly Miller
Chief of Staff

Chris Gergen
Interim Chief Information Security Officer

NDIT Vision and Mission

NDIT enables partners to provide the ‘Best Government Experience’ and strives to be a trusted business partner through frictionless technology and proactive services

North Dakota Information Technology

Defends
252,000+
People every day from cyber attacks

Prevents
4.5 Billion+
Threats on STAGEnet per year

Provides
ND Citizen Skills for All Training
a pathway to a career in technology

Supports
ND companies to provide internet to unserved /underserved citizens by awarding **$37M grant funds**

WHAT WE DO

End to End Technology Services
Handling all technology, from supporting the tried and true, to finding innovative technology solutions for the future.

Whole-of-State Cybersecurity
Defending the data and services of all branches of government and the citizens they serve.

STAGEnet
Network backbone for governmental entities in the state.

PK20W
All North Dakota, Future Ready, Today. Every student. Every school. Cyber educated.

Education
Improve student and teacher outcomes in every North Dakota K12 school using SLDS and Learning Information Systems.

Program & Portfolios
Managing hundreds of millions of dollars of IT projects across government.

WHAT WE'RE PROUD OF

Strengthen Operational Rhythm – HB1398 (2023)
ND is the First State to require Cybersecurity and Computer Science credits for high school graduation.

Optimize Financial and Process Discipline - HHS MMIS Upgrade
Decreasing operational support costs, addressing security risk, and building more modern platforms that will support the MMIS system for the future.

Frictionless Experience - NDIT and ND Game and Fish win National Award
The Electronic posting project is a tool for landowners and hunters to identify posted lands digitally.

NDIT Teams

- **Applications Team-** The Applications Team at NDIT creates, supports, and improves the digital tools and programs—like health applications, websites, and document-sharing platforms—that help state employees get their work done. This team ensures these tools are reliable, user-friendly, and meet the needs of everyone who uses them.
- **Data Team-** The Data Team at NDIT helps make data useful and accessible for better decision-making across the state. They support tools like maps and geospatial data (GIS), analyze data for trends and insights, and use artificial intelligence to automate tasks and improve processes.
- **Technology Team-** The Technology Team at NDIT ensures the state's technology is innovative, secure, and efficient. They support public safety with tools like 911 system support and emergency communication, expand broadband access to connect communities, and manage the overall technology (hosting, computers, networks, collaboration products) that keep systems running smoothly. The Technology Team also leads the Enterprise Architecture practice, the solutioning and road-mapping team that strives to align business objectives with technology solutions.
- **Security Team-** The Security Team protects the state's data, systems, and critical services from cyber threats. They work closely with agencies to create security policies, identify risks, fix vulnerabilities, and monitor and respond to threats to ensure everything remains safe and secure.
- **Fiscal and Vendor Management Team-** The Fiscal and Vendor Management teams handle all the back-office support for procurement, budgeting, service fee creation and financial management of NDIT
- **Administrative Team-** The Administrative Team at NDIT is responsible for internal and external communications, human resource functions, training, education and outreach for technology solutions. They lead efforts on employee culture, engagement and succession planning.

Major IT Focus Areas Overview

Major IT Focus Areas

- SLDS- Tracy Korsmo, SLDS Program Manager
- GIS- Bob Nutsch, Geospatial Program Manager
- HIN- Shila Blend, NDHIN Health IT Director
- EduTech- John Gieser, K12 IT Strategist
- Broadband- Brian Newby, Broadband Program Director
- SIRN- Craig Felchle, CTO
- Enterprise Digitization and Modernization- Craig Felchle, CTO
- Vulnerability Remediation- Chris Gergen, Interim CISO
- Digital Experience (Gateway work)- Evonne Amundson, CBAO
- Statewide Data Strategy (Lighthouse work)- Kim Weis, CDO

SLDS

WHAT DOES AI SAY ABOUT THE SLDS

(GROK3 QUESTION: "WHAT CAN YOU DESCRIBE OF THE ND SLDS")

The North Dakota Statewide Longitudinal Data System (SLDS), as reflected through ND Insights (https://insights.nd.gov) and related public information, is a comprehensive data framework designed to track individuals across education and workforce stages. Managed by the North Dakota Information Technology agency in collaboration with multiple state partners, it aims to provide actionable insights for improving educational outcomes, workforce readiness, and policy decisions. Here's a detailed breakdown based on available descriptions:

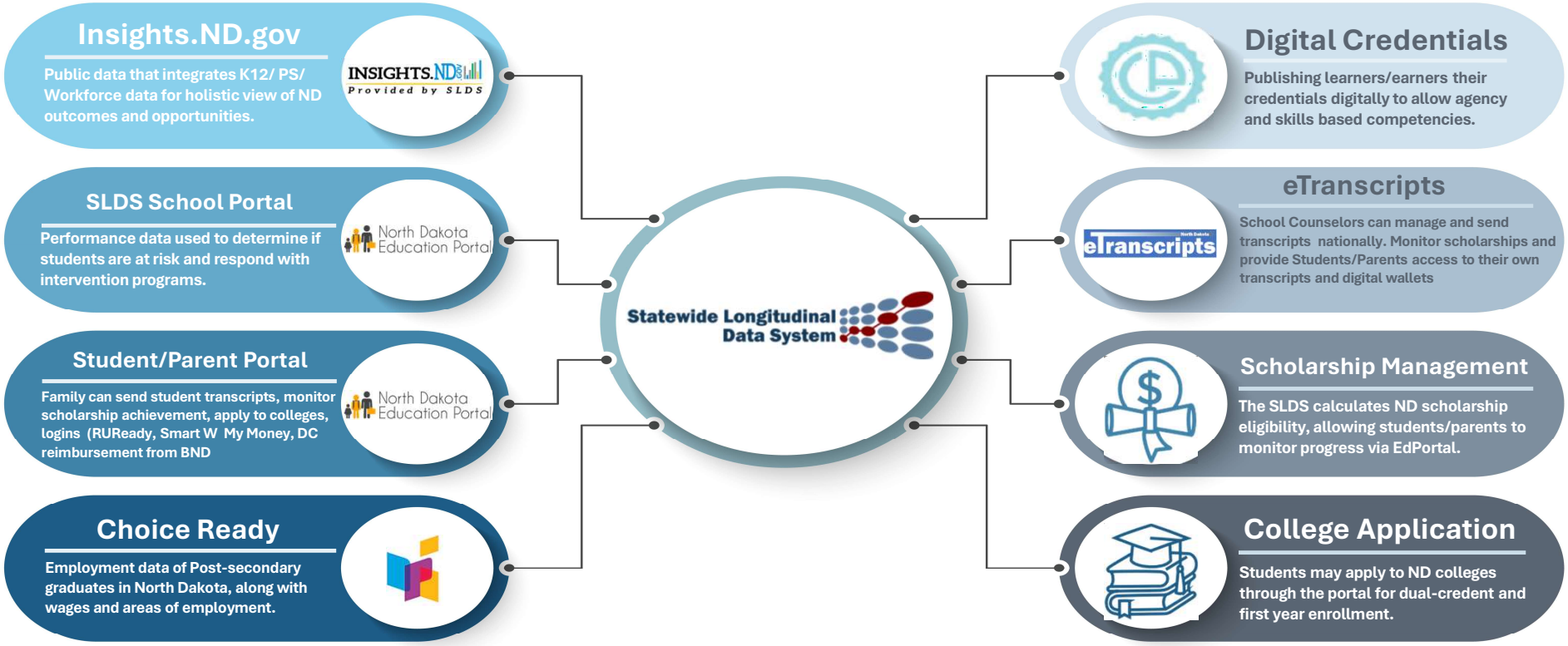
Purpose and Scope

- The ND SLDS integrates data from early childhood education through K-12, post-secondary education, and into workforce participation. Its primary goals are:
  - Track Progress: Monitor student achievement and transitions over time, from preschool to employment.
  - Evaluate Programs: Assess the effectiveness of education and training initiatives.
  - Inform Stakeholders: Offer transparent data to educators, families, policymakers, and employers to support decision-making.
  - Workforce Alignment: Connect educational outputs (e.g., degrees, skills) to North Dakota's economic needs, like agriculture, energy, and healthcare.

What is the Statewide Longitudinal Data System

- The Statewide Longitudinal Data System (SLDS) leverages stakeholders and partners of education, training, and employment programs to create a system which provides data and services to support the research and evaluation of programs to improve the outcomes of individuals provided service.
- The SLDS is a series of secured data warehouses comprised of historical **education** and **workforce training data**. The objective of the SLDS is to provide data on the outcomes of ND education and workforce training programs.
- https://www.slds.nd.gov/

ND SLDS Services and Features



SLDS Activity and Goals

- Research teacher retention
- Training 2000+ along with video and online
- Move applications to cloud-based infrastructure in Azure (modernization)
- BND DC application
- Digital Credentials
  - Bismarck State College Proof of Concept (degrees/credentials to digital wallet)
  - ND EMS with Federal Homeland Security POC on First Responder digital credentials with Digital Bazaar
- Juvenile Justice domain (measure interventions, programs, outcomes in education and beyond)
- AI POC on public data (Insights.nd.gov)

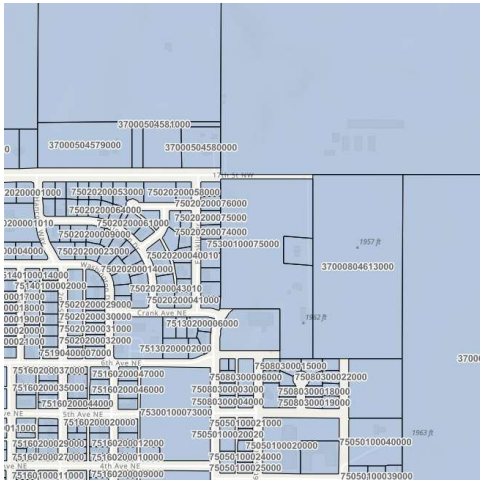
Geospatial

Geospatial Program

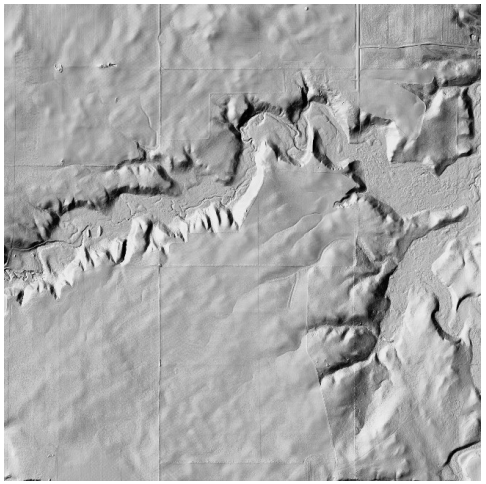
- The North Dakota Geospatial Program **reduces barriers** to the utilization of geospatial technology and geospatial data. This in turn, provides state agencies the opportunity for greater collaboration with other agencies, for more efficient **data-driven decisions**, and for improved **delivery of services** to other levels of government and to the citizens of North Dakota.
- The core of the State Geospatial Program is the GIS Hub which leverages the State's existing data and infrastructure to support state agency business processes including systems such as the **North Dakota Parcel Program**, the **Game and Fish Electronic Posting**, and **Next Generation 9-1-1**.

Geospatial Data Examples

Parcel Boundaries
(Counties & NDIT)

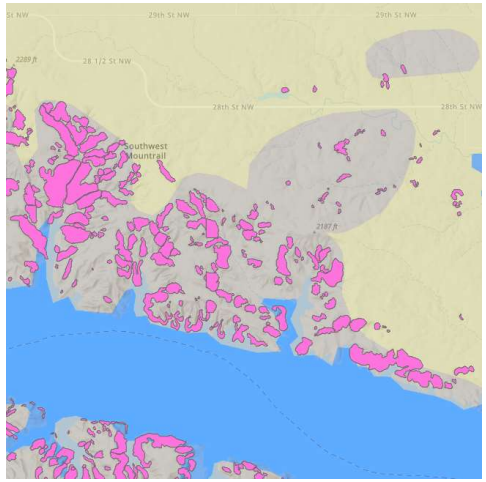


Elevation
(DWR & Partners)



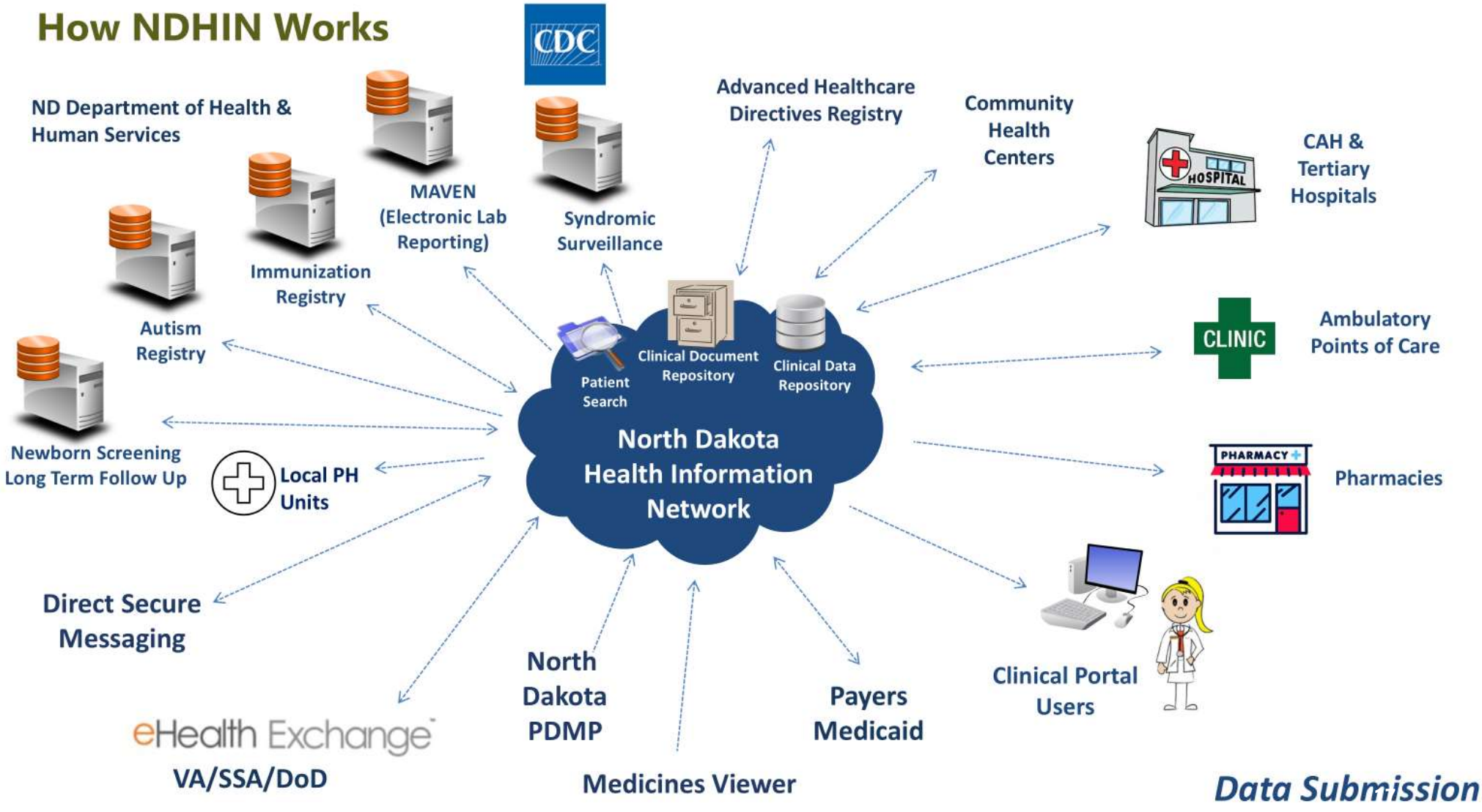
Imagery
(USDA)

Landslides & Geology
(Geological Survey)



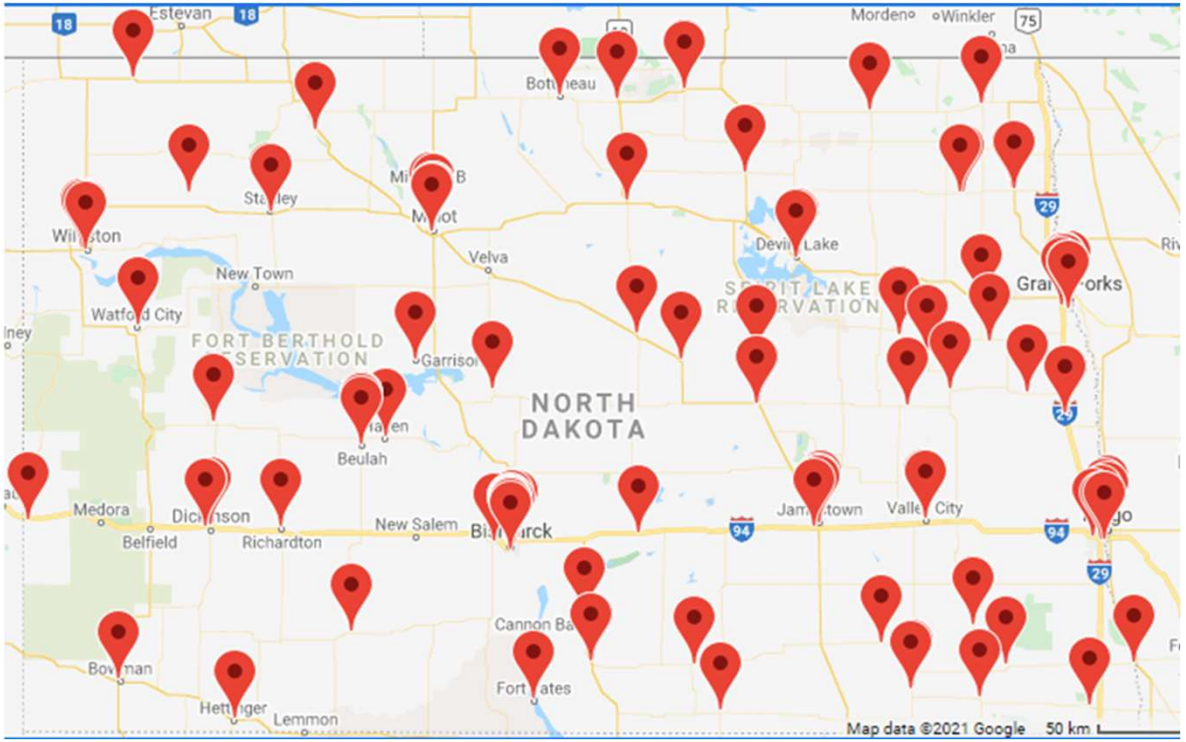
North Dakota Health Information Network (NDHIN)

How NDHIN Works

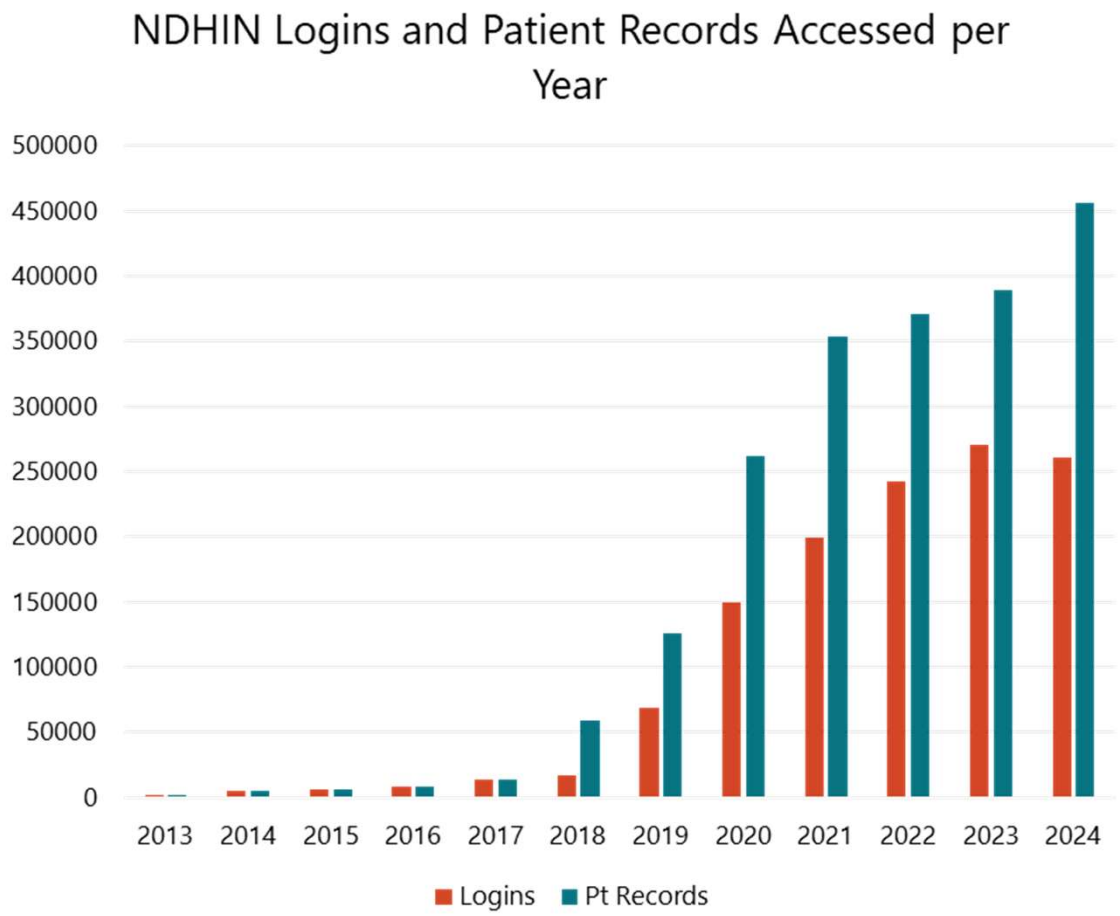


NDHIN FOOTPRINT

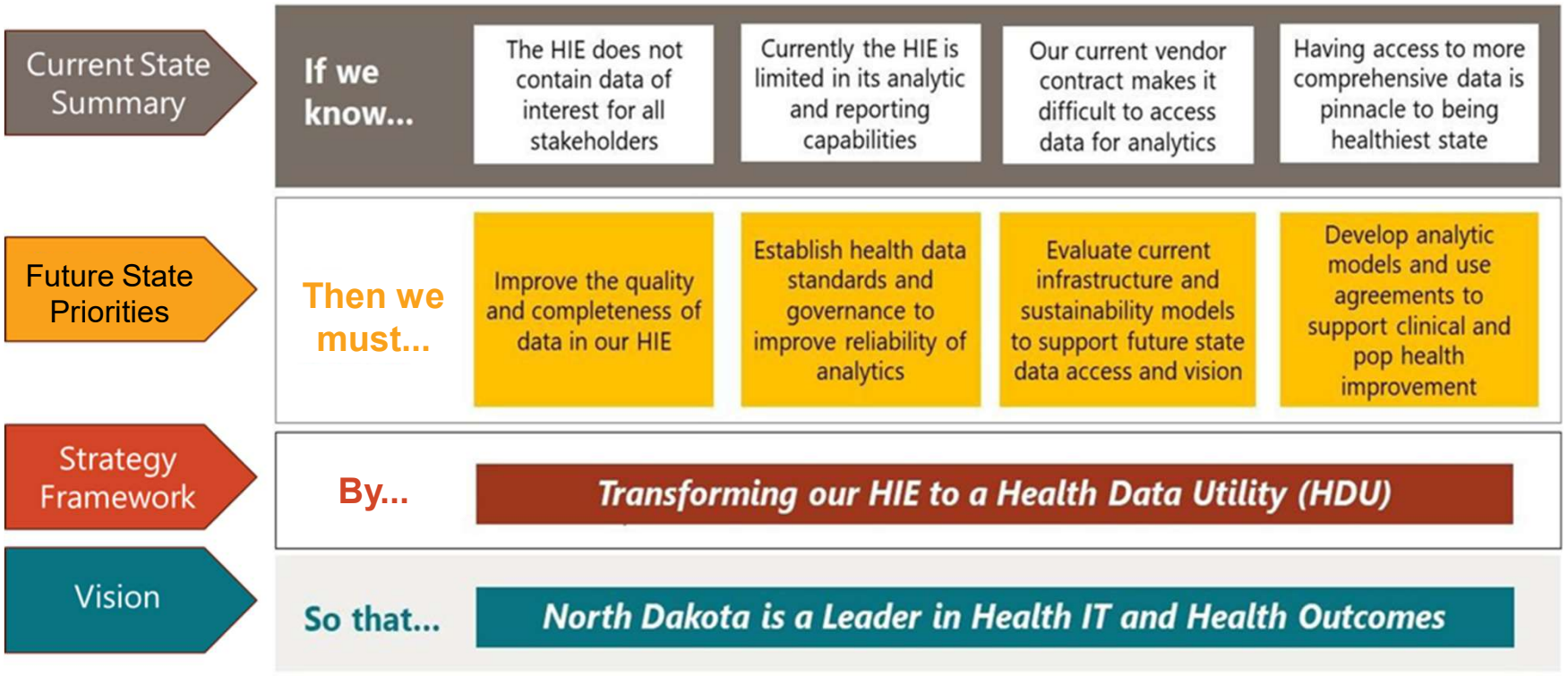
- 380 Participating Facilities
- 5560 Active Users
- 1.63M Unique Patient IDs
- All tertiary and Critical Access Hospitals participating
- 655 Incoming Data Feeds
- Almost 3.8M Direct Secure Messages sent/received in 2024
- 4,451 images viewed in 2024



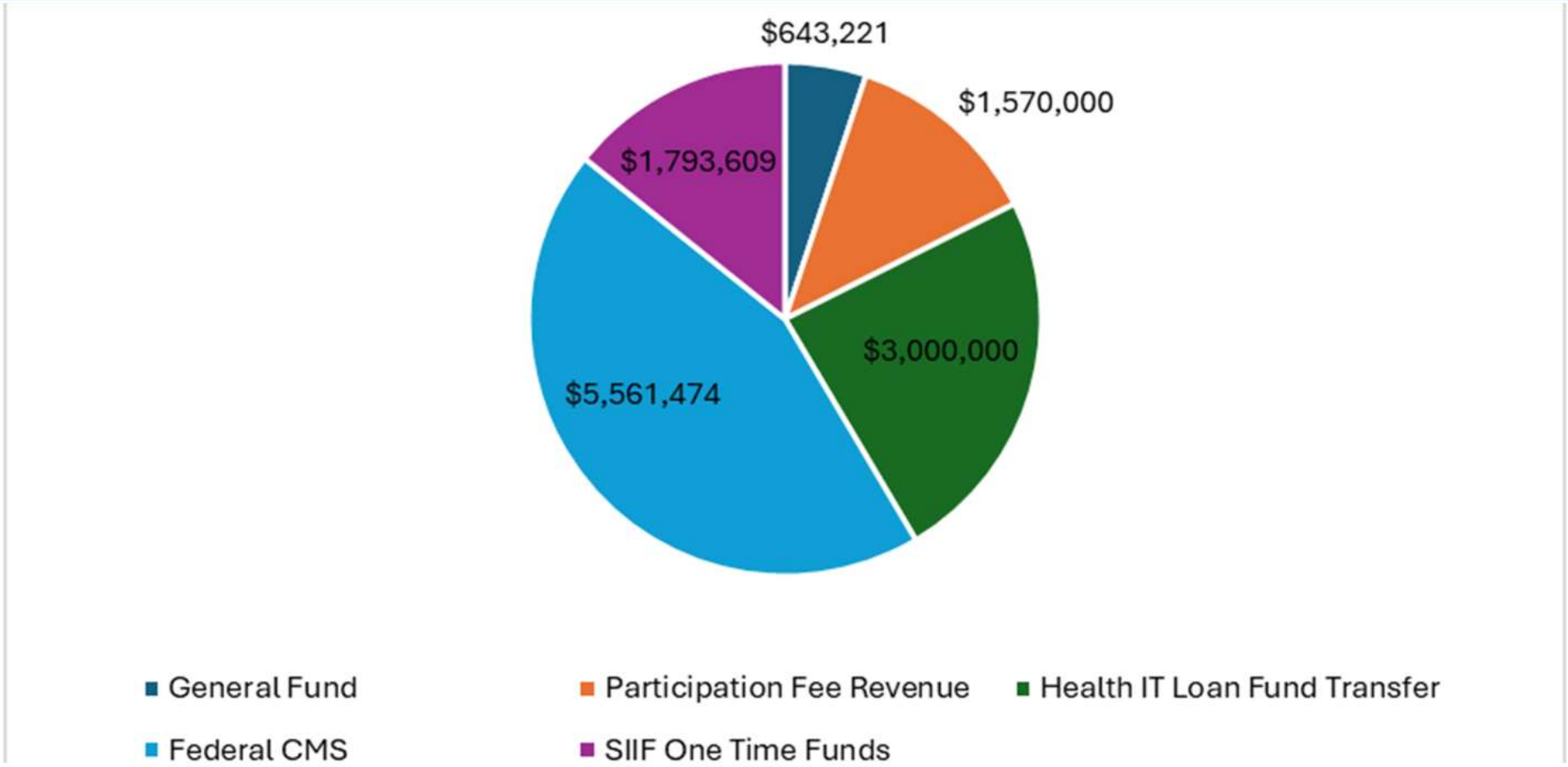
NDHIN USAGE


NDHIN Logins and Patient Records Accessed per Year
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Logins
Pt Records

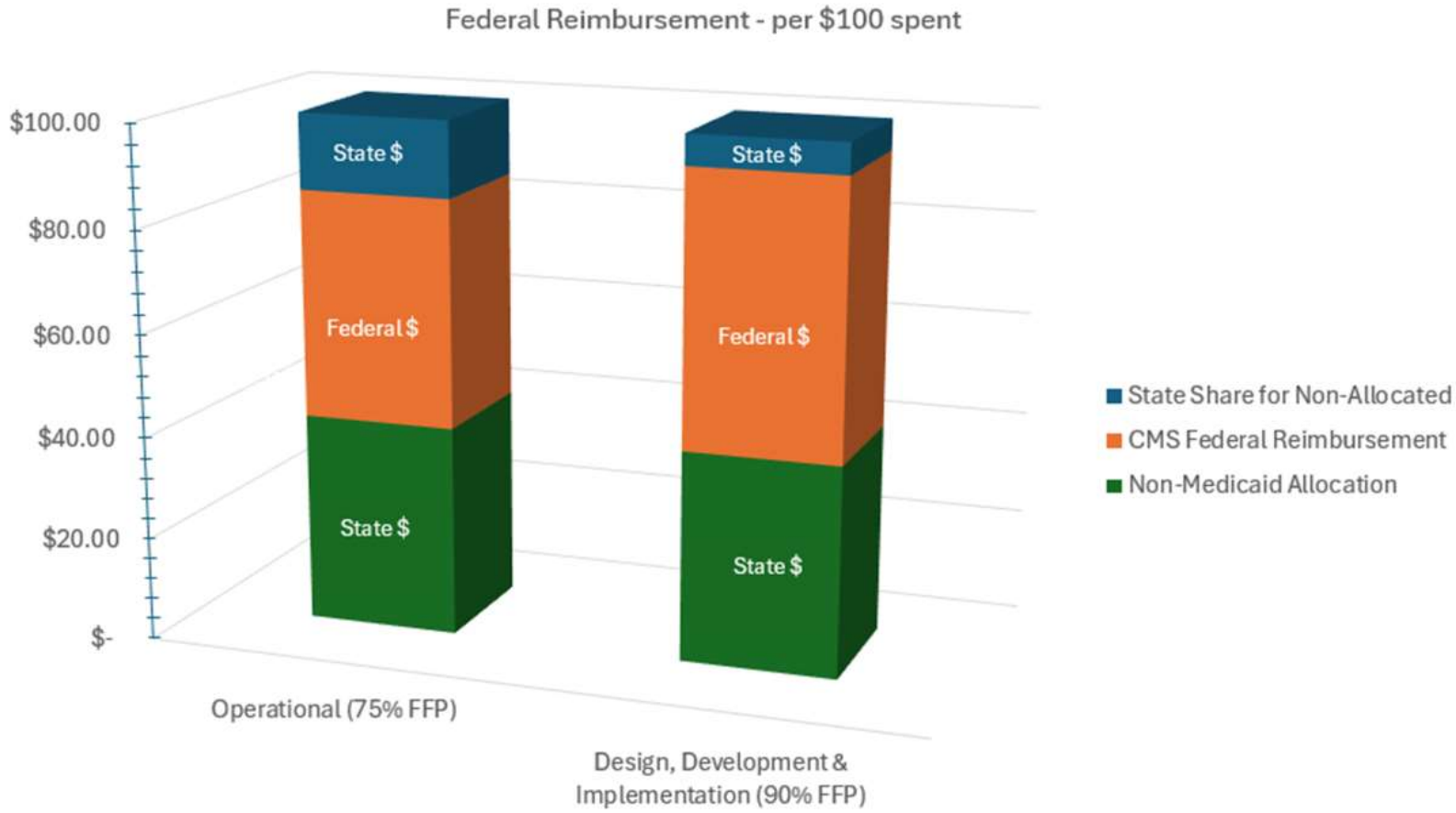
Future Target State



NDHIN Proposed Funding Breakdown



Federal Reimbursement with Current Cost Allocation (59%)



EduTech

Overview of EduTech

1990-1995
- Dial Up Service
- @sendit Mail
- Web hosting
- Teaching Practice
- Establish TECO Community

2009 - 2014
- Authority to build
- IES SLDS grant for K12

2010-12
- Workforce developed through a WDQI grant

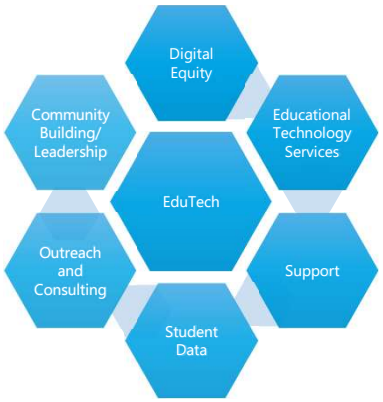
2012- 2016
- Higher Ed build
- IES Grant

2015 - 2022
- IES Grant for data utilization
- Dashboards and secured access for teachers

2015-2020
- Unification
- ETC dissolution
- Retire @sendit services
- High Octane/IgniteND
- PK20W Initiative
- STEM Education
- SETDA

2020-2025
- Computer Science/Cybersecurity Education
- ClassLink
- Cyber Madness
- Retire Web hosting
- Microsoft EES

2025-
- PowerSchool->Infinite Campus
- Digital Equity
- Artificial Intelligence
- CoSN



Improve Capacity and Equity

Reduce Technology Effort Required of K12 IT Leaders, Staff, Educators, and Students

Snapshot of Now and The Future

Professional Outreach

- 199 Topics
- 731 Engagements
- 11,700 attendees
- E-rate
  - State Application/STAGEnet
  - $6.7M to schools
- Skills for All
- Student Data User Group
- IgniteND Conference
- Cyber Madness
- Technology Showcase

Technical Services

- Identity Management
- Microsoft 365
- Microsoft EES Agreements
- ClassLink
  - 87 Districts
  - These cover 73% of students

Into the Future

- Artificial Intelligence
- Infinite Campus
- Training Management Application

Community and Leadership

- Technology Coordinator Forum
- Statewide K12 Technology Town Hall
- SETDA
- CoSN
- PK20W

Broadband (CPF, BEAD, and DE)

ND State Broadband Program Update

1. Broadband Programs Overview
2. Capital Projects Fund Update
3. Broadband Equity, Access, and Deployment Update
4. Digital Equity Update
5. Timeline and Next Steps

The State of North Dakota has been awarded ~$172M in Federal Funding to provide reliable access to affordable, high-speed[1] broadband

$37 M — **Capital Projects Fund (CPF)**

Purpose | To fund critical capital projects that provide North Dakotans access to the high-quality modern infrastructure, including broadband, needed to access critical services

$130 M — **Broadband Equity, Access, & Deployment (BEAD)**

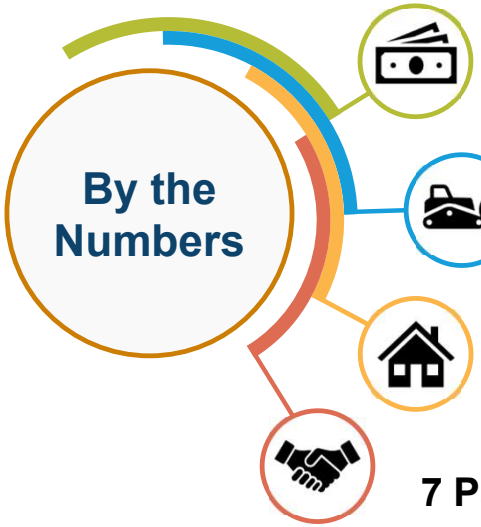
Purpose | To expand high-speed Internet access in North Dakota by funding broadband planning, infrastructure deployment, and digital adoption programs

$5 M[2] — **Digital Equity (DE) Act Programs**

Purpose | To fund programs that promote North Dakotan's access to the skills, capacity, and technology to fully participate in the modern economy

1: *Defined as speeds at or above 100/20 Mbps* | 2: *$4.5M in funds have been allocated to ND, with potentially more anticipated*

CPF | Projects funded by CPF are working to address infrastructure needs, with $37.3M to be deployed by end of 2026



$37.3 Million Committed[1]
- $6M Expended
- $31.3M Remaining

11 Projects Awarded
- 2 completed
- 9 underway

~2,150 Locations Funded
- ~1.9k Residences
- ~250 Businesses

7 Participating ISPs

Red River Communications, Nemont, NCC, MLGC, HTC, WRT, polar

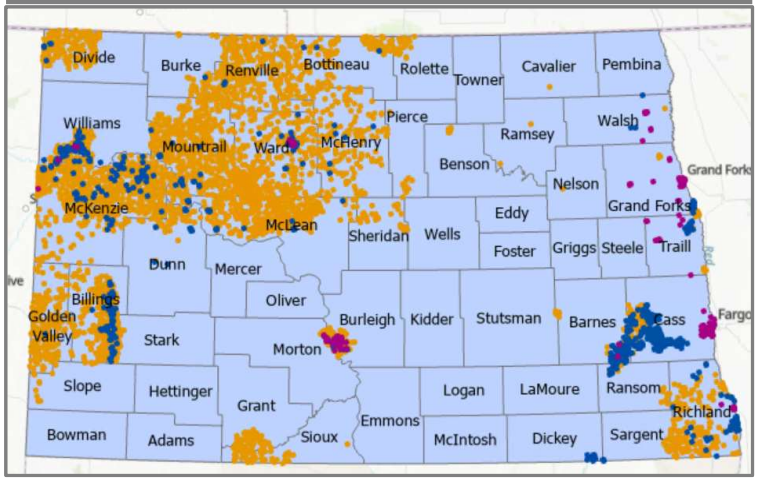
Organization	Locations	Status	Project End[2]
NCC	64	Completed	Q4 2023
Nemont	45	Completed	Q4 2024
West River	47	Near Complete	Q2 2025
Halstad	221	50%	Q4 2025
Polar Walsh	318	50%	Q4 2025
Polar Grand Forks	394	Not Started	Q4 2025
Polar Traill/Steele	218	50%	Q4 2025
Red River	323	50%	Q3 2025
MLGC Cass	80	< 50%	Q4 2025
MLGC Steele	146	< 50%	Q4 2025
NCC/MVC	291	Not Started	Q4 2026

[1] The total CPF allocation is $38.7M. $37.3M represents the project grants.
[2] Operations initiation dates based on Q4 P&E Report projections and monthly progress updates

BEAD | In 2024, the federal government updated its definition of broadband internet to a minimum standard of 100/20 Mbps[1]

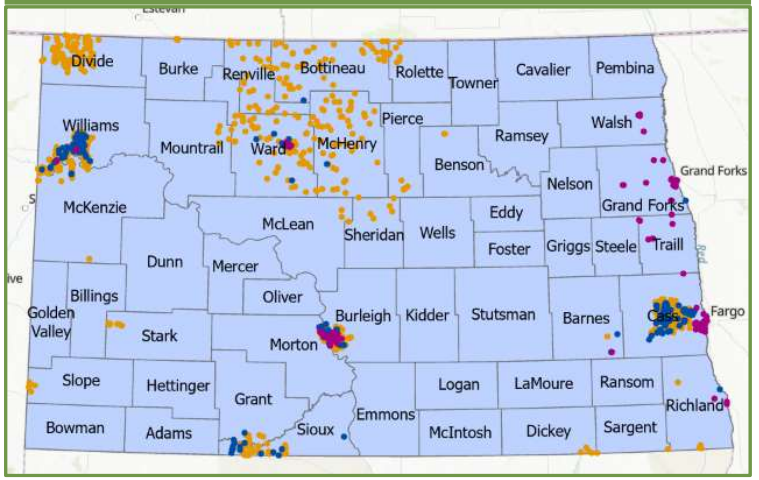
- The goal of BEAD is to deliver broadband service to locations where this standard is not met
- Initially, over 7,000 North Dakota residences and businesses lacked access to broadband
- Today, significant progress has been made refining this list to ~2,000 locations

2023 | Eligible Locations



Unserved Underserved Unserved CAIs

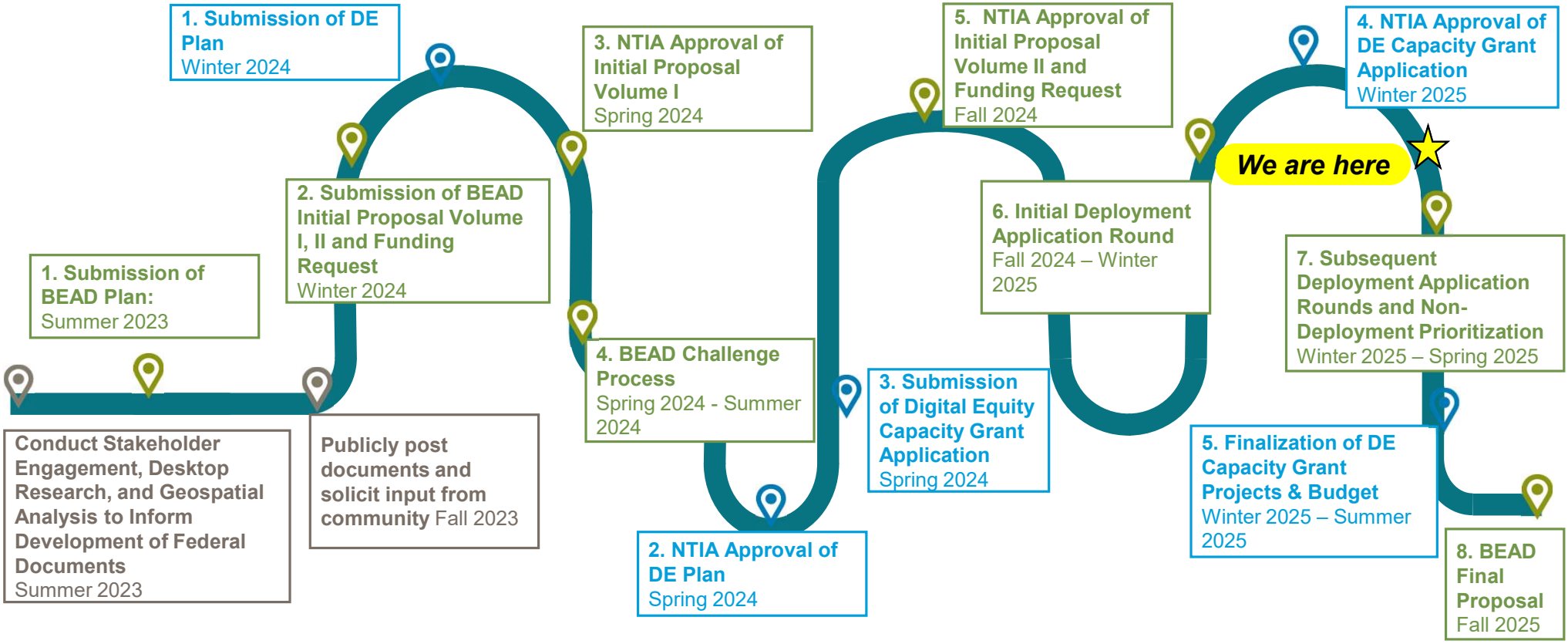
2025 | Eligible Locations[2]



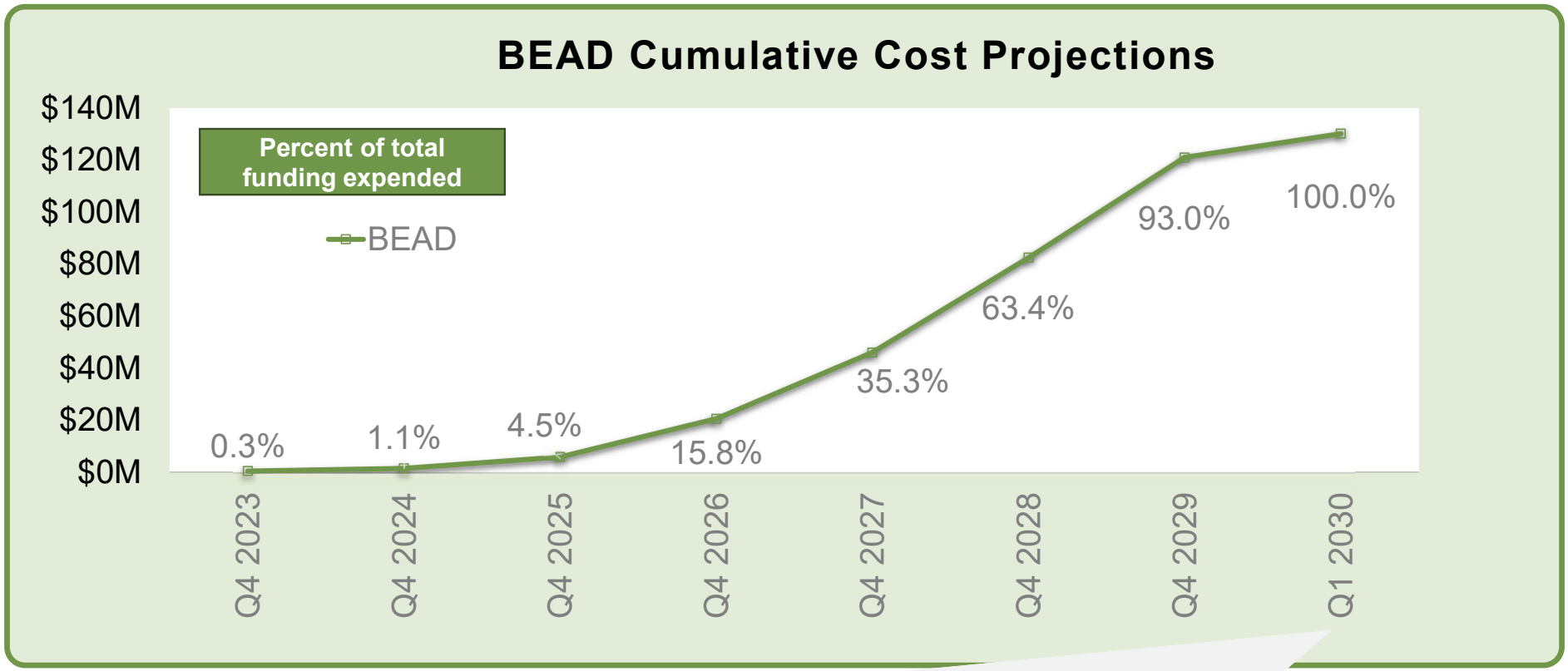
Unserved Underserved Unserved CAIs

1: 1/1 Gbps for Community Institutions (CAIs) such as Libraries and Schools | 2: Does not include locations that will be served through CPF projects

BEAD | North Dakota has made significant strides from initial inception to preparation for final project selection



BEAD | At present, the program is on-track to have delivered broadband service to 100% of all locations in the State by 2030



*Note: Per NOFO, all deployment projects must be completed within 4 years of subgrant. Assuming completion of subgrantee selection in Q2 2025, deployment projects **must conclude by Q1 2030**.*

CPF | Projects are closing out under budget, creating an opportunity to use remaining dollars for connecting locations not addressed by BEAD

Using Remaining Funds for Line Extension Efforts if Projects Come Back Under-Budget

- **Supplant BEAD:** Remaining funds can help address connectivity gaps that do not merit BEAD awards
- **Quick Implementation:** Projects target locations near existing networks, avoiding lengthy start-up phases
- **Efficient Use of Funds:** Ideal for smaller, ad-hoc allocations where full-scale projects are cost-prohibitive
- **Alignment with Deadlines:** Extensions are more readily completed before the fund expiration deadline

Process and Next Steps

- **Establish** program guidelines and finalize eligible locations
- **Draft** solicitation documents and conduct outreach to ISPs
- **Open** application process and evaluate proposals on a rolling basis as funds become available
- **Award** funds to cost-effective projects and monitor completion
- **Emphasize** fiber as the priority technology, consistent with legislative intent

BEAD | Any remaining funds not used during the program may be repurposed for Non-Deployment initiatives

Non-deployment projects are activities beyond last-mile deployment that may include:

- Digital safety; digital literacy training
- Remote learning; computer science, coding, cyber security education
- Digital navigators; broadband adoption support
- Telehealth services
- Digital Equity Plan projects; stakeholder engagement

Process for selecting and finalizing non-deployment projects

- **Develop project long-list**
  Winter/Spring 2025
- **Prioritize and down-select projects**
  Winter/Spring 2025
- **Finalize projects for funding**
  Spring 2026 - 2027
- **Implement non-deployment projects**
  2027 and beyond

We know that certain BEAD non-deployment activities align with 2025-2027 legislative priorities (e.g., digital government transformation, education innovation, economic development)

However, non-deployment projects will not be finalized and selected until 2027, so funds cannot be allocated toward 2025-2027 biennium projects

DE | The DE Act provides $4.5M+ in funding to address North Dakotan's digital opportunity needs; existing programs would benefit from funds

Program Overview

Program Objectives

- Establishes three grant programs that promote digital equity and inclusion

North Dakota's Needs

- Closing broadband access gap among the eight federally defined Covered Populations

Planned Fund Use

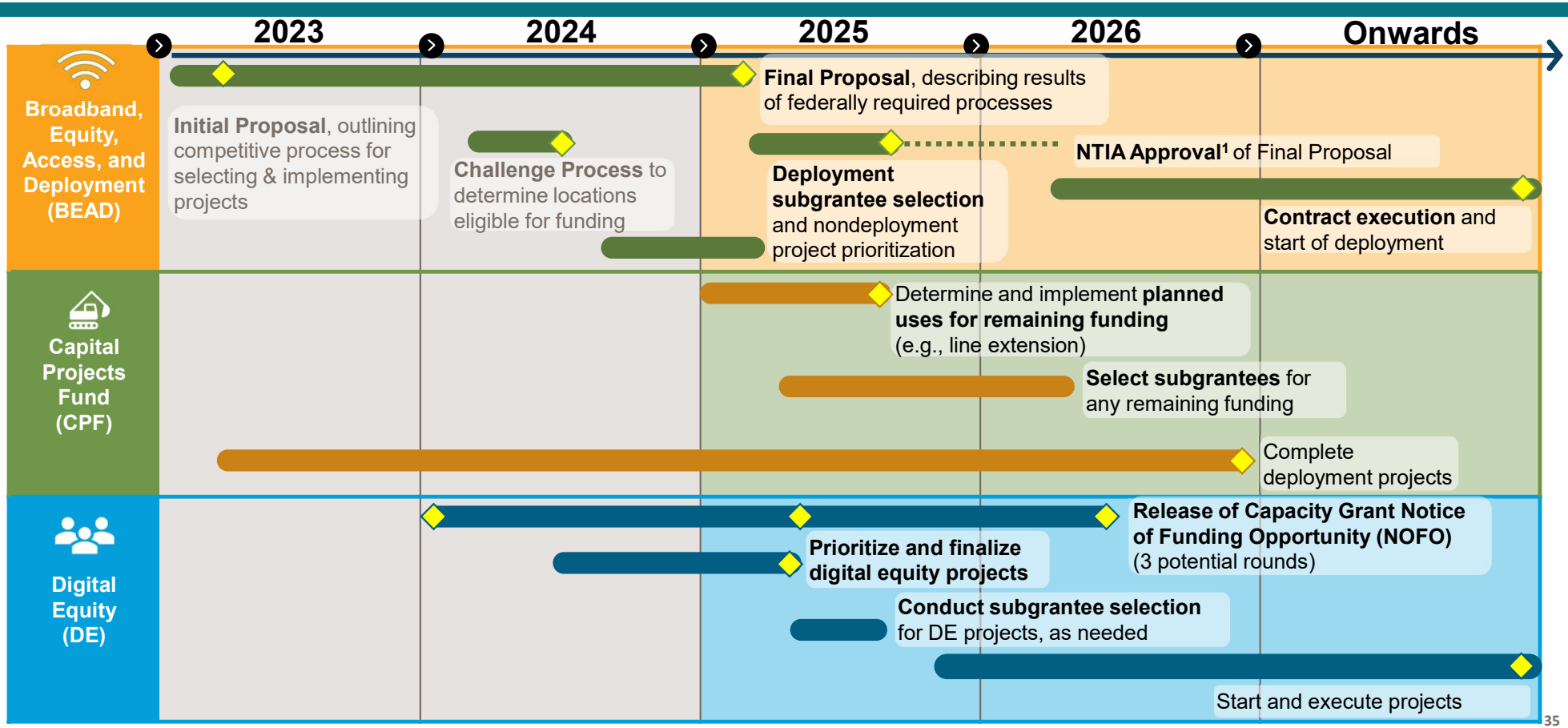
- **Project 1 |** Create one-stop inventory of all digital resources available in the State
- **Project 2 |** Fund existing DE programs run through state agencies / organizations
- **Project 3 |** Work with ISPs and experts to establish cybersecurity certification as a "North Dakota Trusted Source"

What Are Covered Populations?

Congress has identified the following groups as disproportionally impacted by the digital divide:

- Low-Income Individuals
- Incarcerated Individuals
- Veterans
- Racial / Ethnic Minorities
- Aging (60+) Individuals
- Disabled Individuals
- Have Language / Literacy Barriers
- Rural Inhabitants

Over the next few months, NDIT will be focused on deployment and non-deployment efforts across BEAD and CPF



[1]Assumes approval timeline will be similar to that of initial proposal

BEAD | A wide range of projects are being explored as potential uses for non-deployment funding

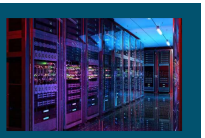
Per NTIA guidance, "non-deployment" projects are activities beyond last-mile deployment that may include:

- ☑ Digital safety training
- ☑ Computer science, coding, cyber security education
- ☑ Broadband sign-up assistance
- ☑ Broadband subscription subsidies
- ☑ Remote learning or telehealth services
- ☑ Digital Equity Plan projects
- ☑ Multilingual outreach to support adoption
- ☑ Stakeholder engagement costs
- ☑ Digital literacy/upskilling
- ☑ Prisoner education to promote digital literacy
- ☑ Digital navigators
- ☑ Other, as approved by NTIA

Ineligible activities may include:

- ☒ Purely administrative activities
- ☒ Activities that don't advance BEAD/DE goals
- ☒ Activities which the state would otherwise fund

Proof of Concept — ***Example Non-Deployment Projects*** — ***Requires Validation***

- (14) **Workforce development** to upskill broadband deployment workers
- (5) **Subsidized broadband** at affordable housing locations
- (4) **Middle Mile Broadband Network**
- (0) **Financial relief** for covered populations that subscribe to broadband
- (8) **Digital literacy programs** to promote broadband adoption
- (4) **Telehealth tech and services** to provide remote health access
- (4) **Precision agriculture** using IoT technology to enhance ag. productivity
- (0) **Data center accelerator** to promote development 

Key: ◯ Number of states that have proposed a similar project in their BEAD and/or DE plans

BEAD | Any remaining funds not used during the program may be repurposed for Non-Deployment initiatives

Per NTIA guidance, "non-deployment" projects are activities beyond last-mile deployment that may include:

- Digital safety; digital literacy training
- Remote learning; computer science, coding, cyber security education
- Digital navigators; multilingual broadband adoption support (e.g., outreach, sign-up assistance, subscription subsidies)
- Telehealth services
- Digital Equity Plan projects; stakeholder engagement costs

We know that certain BEAD non-deployment activities align with 2025-2027 legislative priorities (e.g., digital government transformation, education innovation, behavioral health and addiction, community economic development)

Process for selecting and finalizing non-deployment projects

Develop project long-list (Winter/Spring 2025)
Develop long list of non-deployment projects based on BEAD requirements & ND-specific criteria

Prioritize and down-select projects (Winter/Spring 2025)
Evaluate and score projects to determine short-list of high-impact options

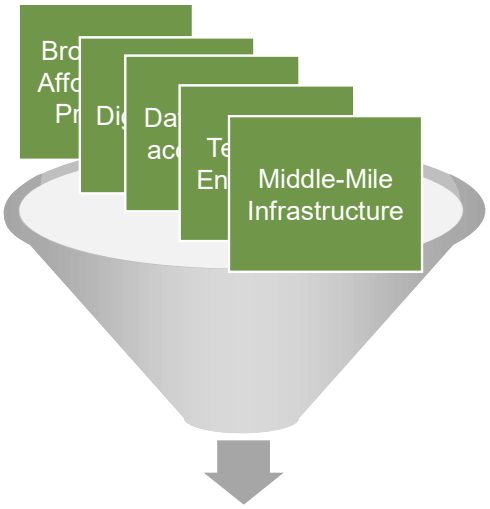
Finalize projects for funding (Spring 2026 - 2027)
Finalize set of projects eligible for funding and conduct sub-grantee selection following start of deployment projects

Implement non-deployment projects (2027 and beyond)
Subgrantees begin implementation of selected non-deployment projects

However, non-deployment projects will not be finalized and selected until 2027, so funds cannot be allocated toward 2025-2027 biennium projects

*Once North Dakota has a plan to deploy service to all unserved and underserved locations within its jurisdiction, it may pursue non-deployment initiatives using BEAD funds before or while deployment projects are underway

BEAD | BEAD non-deployment projects can be evaluated across a series of step-wide questions



Long-list of eligible non-deployment projects

Proxy	Workforce Size (new workers)	Number of Businesses	Total Payroll ($M)	Average Annual Wages ($)	Job Openings	GDP ($M)	Housing Cost-Burdened Households	NE CPI	MHI	Population Below 200% FPL	Persons Experiencing Homelessness
RHP											
Broad band											
BRF											
On-site					SAMPLE						
Healthy Homes											
HRP											

Projects scored and prioritized

Proposed Prioritization Methodology

- Projects will be evaluated based on responses to a **series of questions.**
- A rating of **High, Medium, Low (HML)** will be defined for each scored question (Questions 3-8 below).
- Projects that fail gating criteria will be deprioritized while those that pass will receive a H, M, L rating for each scored question.
- Projects are assigned a summary score and compared.

Example questions

Gating questions (Yes/No)

1. **Permissibility:** Is the project permissible?
2. **Redundancy:** Is this project redundant with other funding sources (e.g., would BEAD funding crowd out other funding sources)?
3. **Timeline:** Does the implementation timeline meet NTIA requirements?

Scored questions (H, M, L)

3. **Proof of concept:** Is there a precedent that demonstrates project success in ND or other states?
4. **Policy Alignment:** Will the project support key priority areas (e.g., NDIT and/or Governor Armstrong's priorities)?
5. **Direct Impact:** Is the project going to generate a positive impact (e.g., social, economic, environmental, workforce)?
6. **Indirect Impact:** Is the project going to augment or amplify the impact of existing programs or projects?
7. **Timeline:** How reasonable is the timeline to realize benefits from this project?
8. **Cost:** What is the project's investment cost?

SIRN

Send and Close
Reset
Exit
Unit
Unit Type
Coverage
Telephone No.
Recall
Officer/Passenger
Password
Code
Portable
Type
813
Radio OK
Em. Kit
MDT OK
Receive copies of dispatches for these coverage areas
Fuel
Mileage
Tires
Vehicle Number
Oil
Radio ID
Light OK
Capabilities
Vehicle Condition
Remarks
The unit ID

History

- **2011** Exploratory Study Focused on Land Mobile Radio Interoperability
- **2015** Legislature Authorizes Feasibility Study
- **2016** Televate Study Conducted; Recommendations Provided
- **2017** Legislature Authorizes and Governor Signs into Law - Execution of SIRN 20/20
- **2017** SIRN 20/20 Program Initiated
- **2018** Requests for Proposals
- **2019** January - Contract Awarded to Motorola
- **2019** April - Legislature Authorizes and Governor Signs SIRN Project Funding into Law
- **2019** May - Project Kick Off
- **2020** December – Backhaul and 10 PSAPs cutover
- **2021** December – 7 additional PSAPs cutover
- **2022** November – 5 additional PSAPs cutover along with approx. 65 sites completed

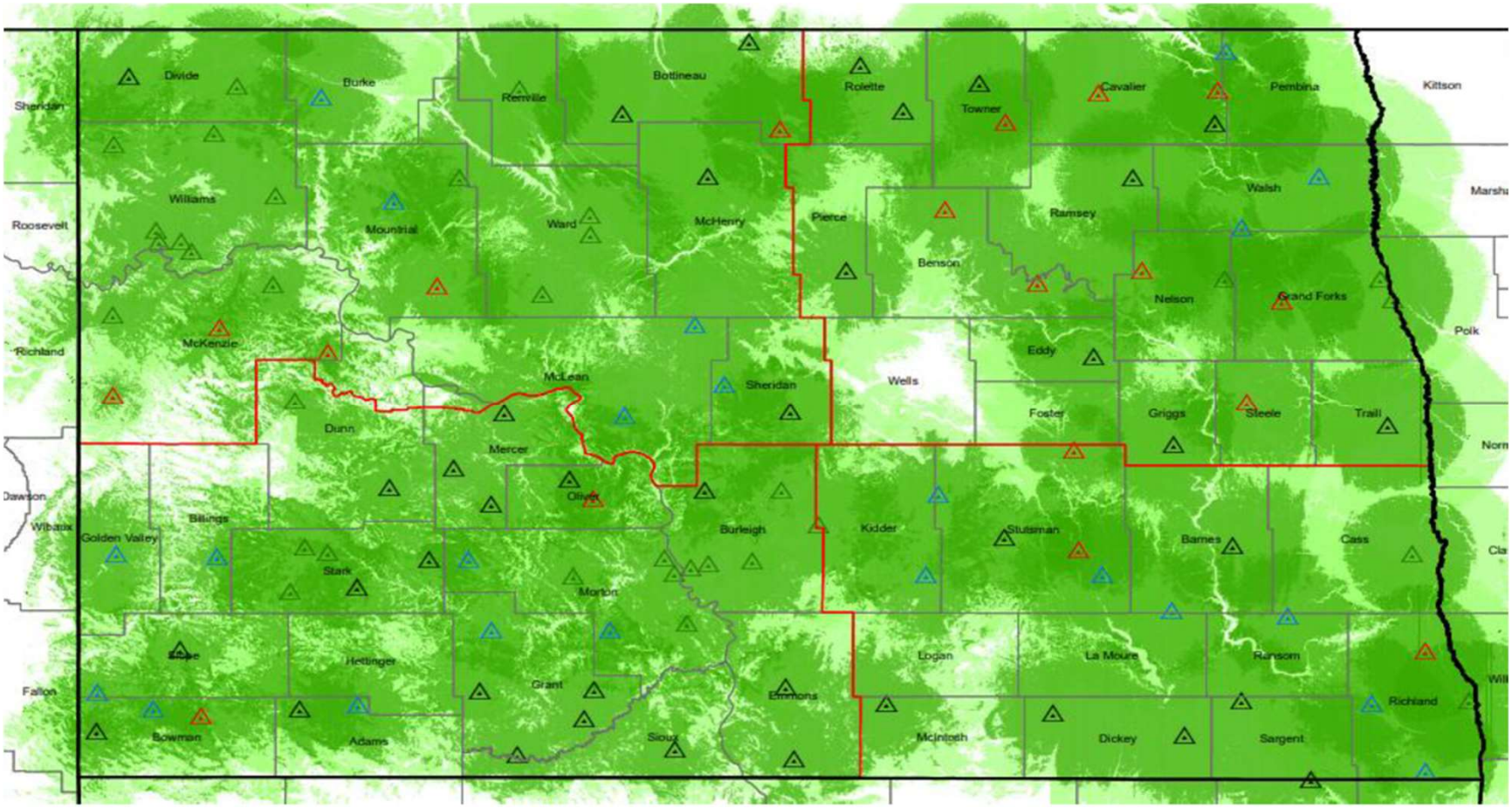
What is SIRN building?

SIRN SOLUTION

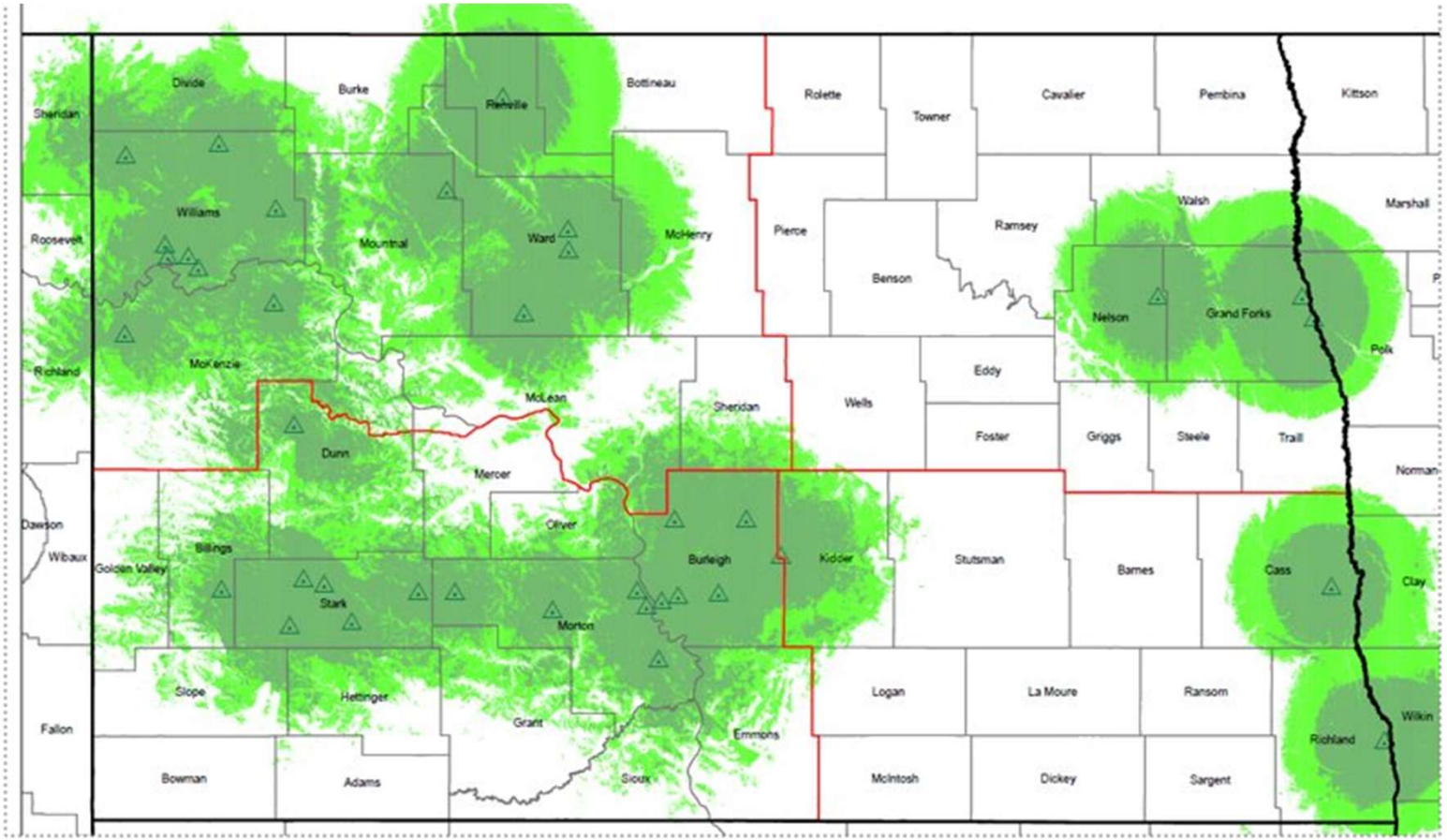
NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

- Shared Infrastructure Utilized by All Public Safety Users
- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System
- Guaranteed Coverage
  - 95% Mobile Coverage / 95% Reliability
  - 85% Portable Coverage / 95% Reliability
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years

Project Maps

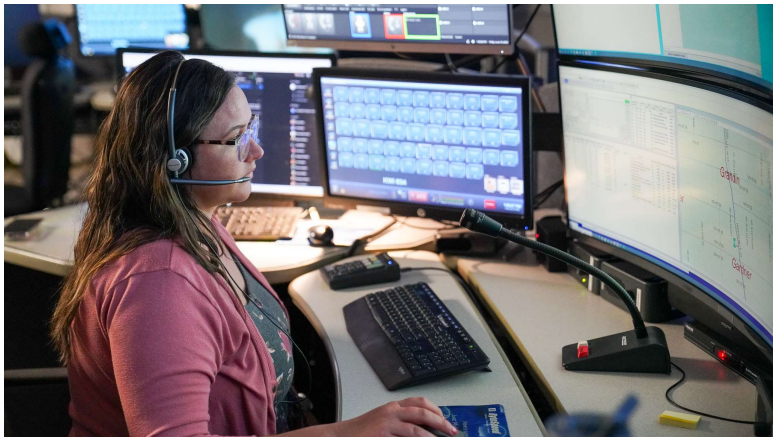


Project Maps



Latest Milestones

- **Law Enforcement Encryption** researched and statewide implementation in progress
  - Over the Air Rekeying in use
- **Radio Management** implemented
  - Over the Air Programming in regular use
  - More than 4000 radios entered



- **NDIT Public Safety Team** fully developed and SIRN responsibilities identified and assigned

- **Continued Tower Completions**
  - 72 complete
    - 33 currently in use
    - 39 not currently in use
  - 10 in civil construction phase
  - 2 awaiting radio equipment
  - 28 awaiting final site work
  - 28 remaining

Future Milestones

- Finish remaining tower buildouts
- Transition remaining PSAPs and agencies
- Begin project closeout activities

2026

2025

2027

- Continued tower buildouts
- Transitions additional PSAPS as coverage allows
- Implement Status Board and Cirrus Central

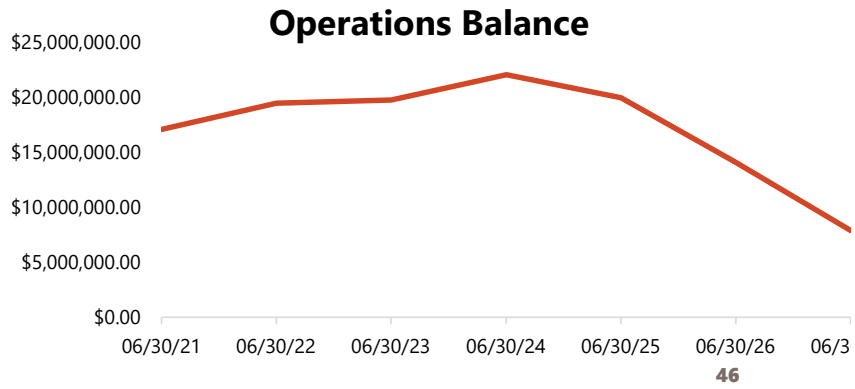
- Complete project closeout (decommission and surplus VHF system components, take down original state-owned towers, divest/surplus purchased towers not needed for SIRN, fully transition to operational status)

Financial Update

Operating Expenses	25-26	26-27
Connectivity & Equipment	2.7M	2.8M
Towers	1.1M	1.2M
Labor (Additional Resources)	1.7M	1.8M
Vendor Maintenance	3.3M	3.3M
NDIT Program Expense*	**8.8M**	**9.1M**
DOT Expense (+1 Additional Resource)	1.6M	1.6M
Total Expense	**10.4M**	**10.7M**
911 Fee Revenue	4.5M	4.5M
Shortfall**	5.9M	6.2M

*Expenses are projected. New operational contracts and project decisions are still impacting the long-term operational expense.

Cash Flow	
911 Fee Balance (January)	~21.9M
Est Rev 23-25 Remaining Biennium	~2.2M
Total Revenue	**23.9M**
Est exp 23-25 Remaining Biennium	~3-4M
End of '23-'25 Biennium Balance	**~20M**



Intelligent Transportation Systems

Intelligent Transportation Systems

- PTZ and Fixed Highway Cameras
- Dynamic Message Boards – Stationary & Portable
- Wrong Way Driver & Collision Warning Systems
- Meteorologic Stations
- Automatic Traffic Recorders/Weigh-in-Motion Systems
- NDDOT Smart Corridor

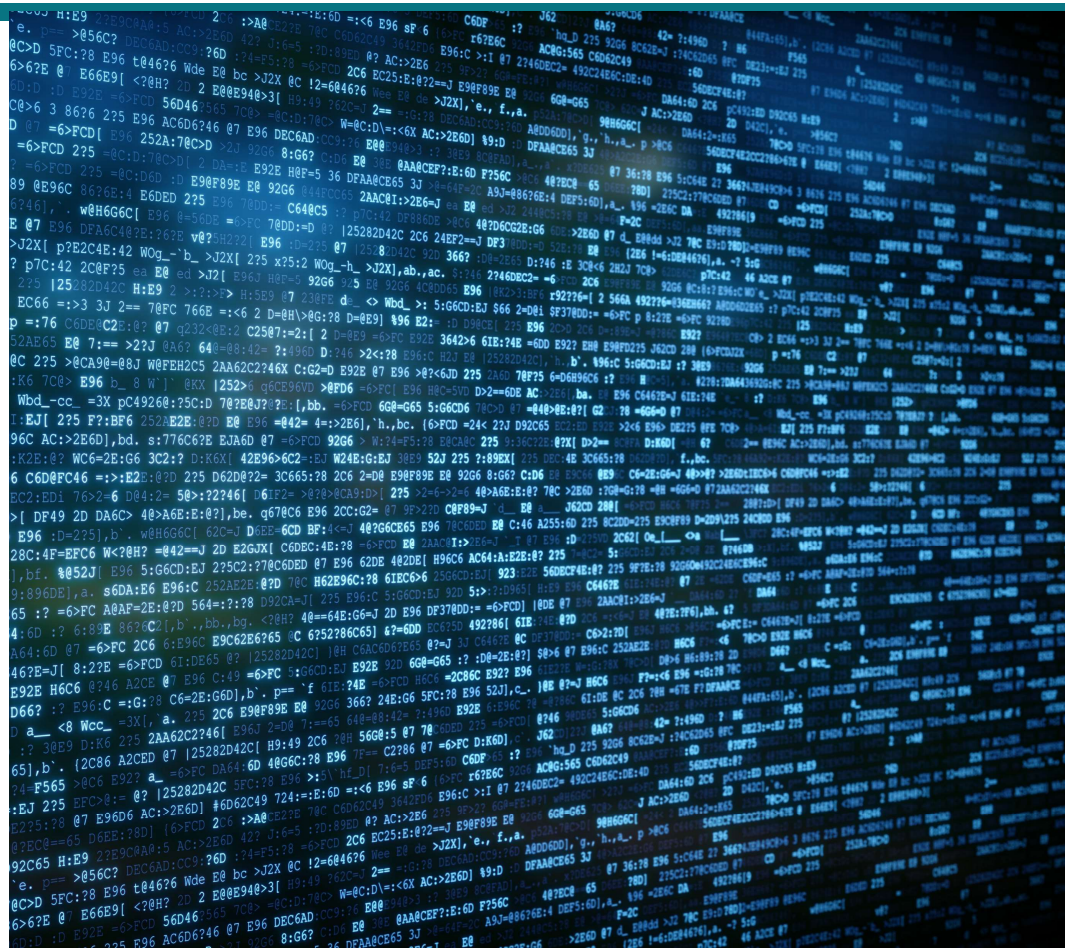
ITS Systems - 2011	ITS Systems - Present	ITS Systems - Planned
47	335 *1800 Individual Devices	~500+

VISION ZERO

Enterprise Digitization and Modernization

Digital Maturity

- Digital Maturity Efforts
  - Call Center
  - Capitol Security/Wiring
  - Enterprise Architecture – Technical Debt
  - AI Support



Call Center

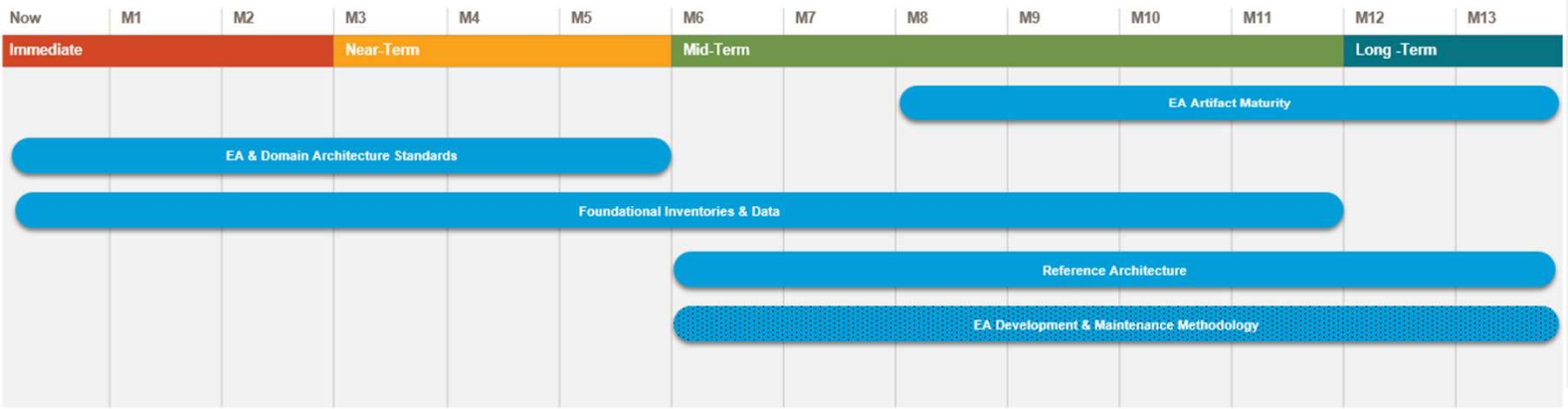
- **Budget:** $3M
- **Accomplishment to Date:**
  - All Migrations Completed
  - Fully Deprecated the Old Solution
  - Industry Leading Solution/No Major Outages
- **Upcoming Activities:**
  - On Track to be wrapped up this biennium
- **Risk/Issues:**
  - Completed

Capitol Security/Wiring

- **Budget:** $2.5M
- **Accomplishments to Date:**
  - Capitol Security Project
    - Implementation Underway
  - Capitol Wiring:
    - Conduits installed in the Capitol Complex.
    - Expected to be completed this biennium.
- **Upcoming Activities:**
  - Capitol Security Project:
    - Execute on SOW with the vendor
  - Capitol Wiring:
    - Run the fiber and install hardware
- **Risk/Issues:**
  - Vendor resource availability

Enterprise Architecture – Digital Maturity

- Enterprise Architecture
  - Where are we?
    - Assessments with 19 Agencies
  - Where are we going and how do we get there?
    - 20 Total Recommendations



20 Total Recommendations

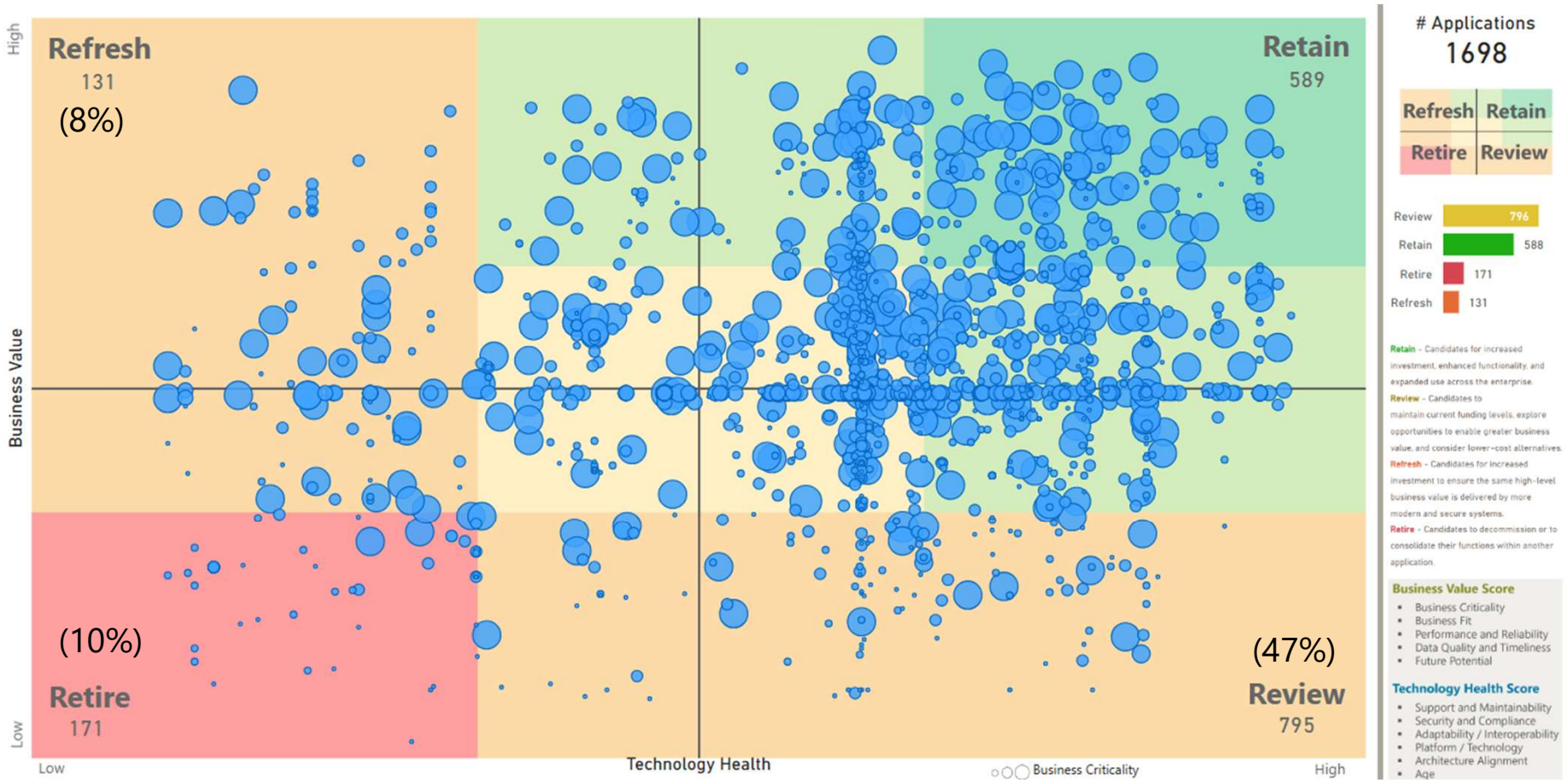
7 People Recommendations
4 Immediate
2 Mid-Term
1 Long-Term

5 Process Recommendations
3 Mid-Term
2 Long-Term

5 Tools & Artifacts Recommendations
3 Near-Term
2 Mid-Term

3 Governance Recommendations
1 Immediate
1 Near-Term
1 Mid-Term

The Output


Refresh
131
(8%)
Retain
589
(10%)
Retire
171
(47%)
Review
795
High
Low
Business Value
Low
Technology Health
High
Business Criticality
Applications
1698
Refresh
Retain
Retire
Review
Review 796
Retain 588
Retire 171
Refresh 131
Retain - Candidates for increased investment, enhanced functionality, and expanded use across the enterprise.
Review - Candidates to maintain current funding levels, explore opportunities to enable greater business value, and consider lower-cost alternatives.
Refresh - Candidates for increased investment to ensure the same high-level business value is delivered by more modern and secure systems.
Retire - Candidates to decommission or to consolidate their functions within another application.
Business Value Score
Business Criticality
Business Fit
Performance and Reliability
Data Quality and Timeliness
Future Potential
Technology Health Score
Support and Maintainability
Security and Compliance
Adaptability / Interoperability
Platform / Technology
Architecture Alignment
Age

Legacy Systems Analysis Project

- **Down to 2 Major Agencies on the Mainframe**
  - High-Level Analysis Project
  - Looking at all options
  - Two Bienniums away from completion
- **Scope**
  - Mainframe – AS400 – Legacy AIX Platforms
- **Use of Applications**
- **Integrations**
- **Application Lifecycle**
- **Feedback Loop with Agencies**

Keys to AI Success In North Dakota

Key 1 **AI is not a magic bullet.**

Instead, it is a tool for speeding up data-driven decision making. A more appropriate description of current AI technology is data-enabled, automated, adaptive decision support. Use when appropriate.

Key 2 **Garbage in, garbage out still applies to AI – and is even more relevant!**

AI technology has its foundations in data. Lots and lots of it. Rich, relevant, accurate, and timely data from interconnected systems is essential to effective use of AI. How good is the data?

Key 3 **Learn from early adopters.**

AI is a rapidly evolving field, and there are many published use cases with documented business value. Using a use case-based approach, we can learn from the successes and failures of others, including other states, to more rapidly narrow down how AI can deliver value for the state.

Key 4 **Start small to gain experience and to lay a solid foundation.**

Too many big projects have failed in the past. Start small with AI and then wash, rinse, repeat. Keep in mind, though, that the real value will come from the enterprise adoption of AI, and for that we will need to create an AI strategy.

Key 5 **Give AI a purpose. Pick the right use cases.**

AI strategy and current exploration activities should closely align with the strategic goals and drivers of the state. The key question you should be asking is not "What can AI technologies do?" but rather "What can they do for us?" and "How much would we benefit from AI if we were to invest in it?"

Data Center

Data Center

- **Secondary Data Center**
  - Cooling Plant is No Longer Supported/Failing Pumps (~$300-400K)
- **Primary Data Center**
  - Single Point of Failure Identified this Biennium (~$1.4-1.7M to remediate)
  - Within Minutes, the data center will shut down
  - Infrastructure Damages to all State Equipment
  - What is the cost in lost productivity if team members, legislature, and Courts are stopped?
- **Risk Assessment completed in December**
  - Identified both risks as *Critical* to the State with a recommendation to either remediate both issues or move 1 location
  - Data Center skillsets are in short supply – We only have 1.5 FTE

Data Center….The Plan

- **The Plan….**
  - Phase I
    - Use one-time funding to shut down 1 data center and partner with private market (leased space)
    - Estimating $500k+ to transition, but full costs are unknown
  - Phase II
    - Shift the roles of the two data centers after deprecation of 1 data center (multiple biennium)
    - Will require temporary hardware and coordination
  - After shifting the roles, the new secondary datacenter would have the cooling risk

Vulnerability Remediation

Funding

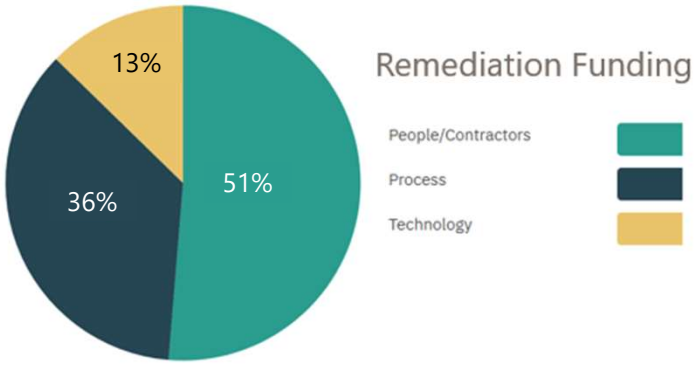
Vulnerability Remediation

Last Biennium NDIT was appropriated $1 million dollars to reduce vulnerabilities. There were three areas where this funding was used. People, Process, and Technology

People – Engaged contractor resources to patch vulnerabilities in applications developed or maintained by NDIT for our agency customers.

Process – Partnered with Guidehouse to continue enhancing the state's vulnerability management program.

Technology – Identified and procured technologies designed to accelerate the remediation of vulnerabilities.



Progress and Challenges

Vulnerabilities

A vulnerability is a weakness, flaw, or shortcoming in a system, infrastructure, database, software, process, or set of controls that can be exploited by a threat actor.

Progress

596k system vulnerabilities patched in 2024

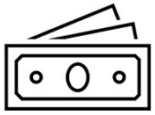
326 application vulnerabilities remediated

Challenges

40,000 new and unique vulnerabilities published in 2024

Legacy technology (tech debt) complicates remediation efforts

Third-party software we don't control

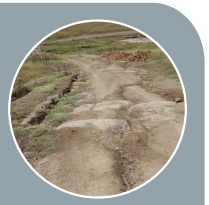


Some agencies lack funding for updating applications or hardware

Vulnerability Program/Process Maturity

We are here

Phase 1
Current State



- Manual process to determine remediation prioritization
- Funding for fixing critical vulnerabilities not defined
- Risk acceptance & exceptions not formalized from agencies

Phase 2
Design Program

- Establish Cyber Risk Board to determine remediation path for critical vulnerabilities
- Risk-based prioritization of vulnerabilities
- Build formal exception process

Phase 3
Implement to State Agencies

- Information Security Officers to educate and align with agencies
- Robust reporting & follow-up on exceptions
- SAST: determine feasibility for future implementation

Proactively address vulnerabilities in reducing cyber risk to systems and citizen data

Static Application Security Testing (SAST)

What it does

- Static Application Security Testing (SAST) scans an application's source code during development to identify vulnerabilities
- Validates code as it is built, ensuring security issues are addressed before deployment

Why it matters

- **Reduces cost:** fixing vulnerabilities during development is significantly more cost-effective than after production
- **Lowers risk:** Identifying vulnerabilities before deployment reduces the likelihood of security incidents in production, protecting sensitive data and services.

Why we should fund it

- Decreases long-term costs by catching vulnerabilities earlier.
- Strengthens application security, reducing risk to critical systems.
- Provides the tools necessary to build secure, reliable applications, that citizens and agencies depend on.

Reactive Incident Response

Reactive Incident Response

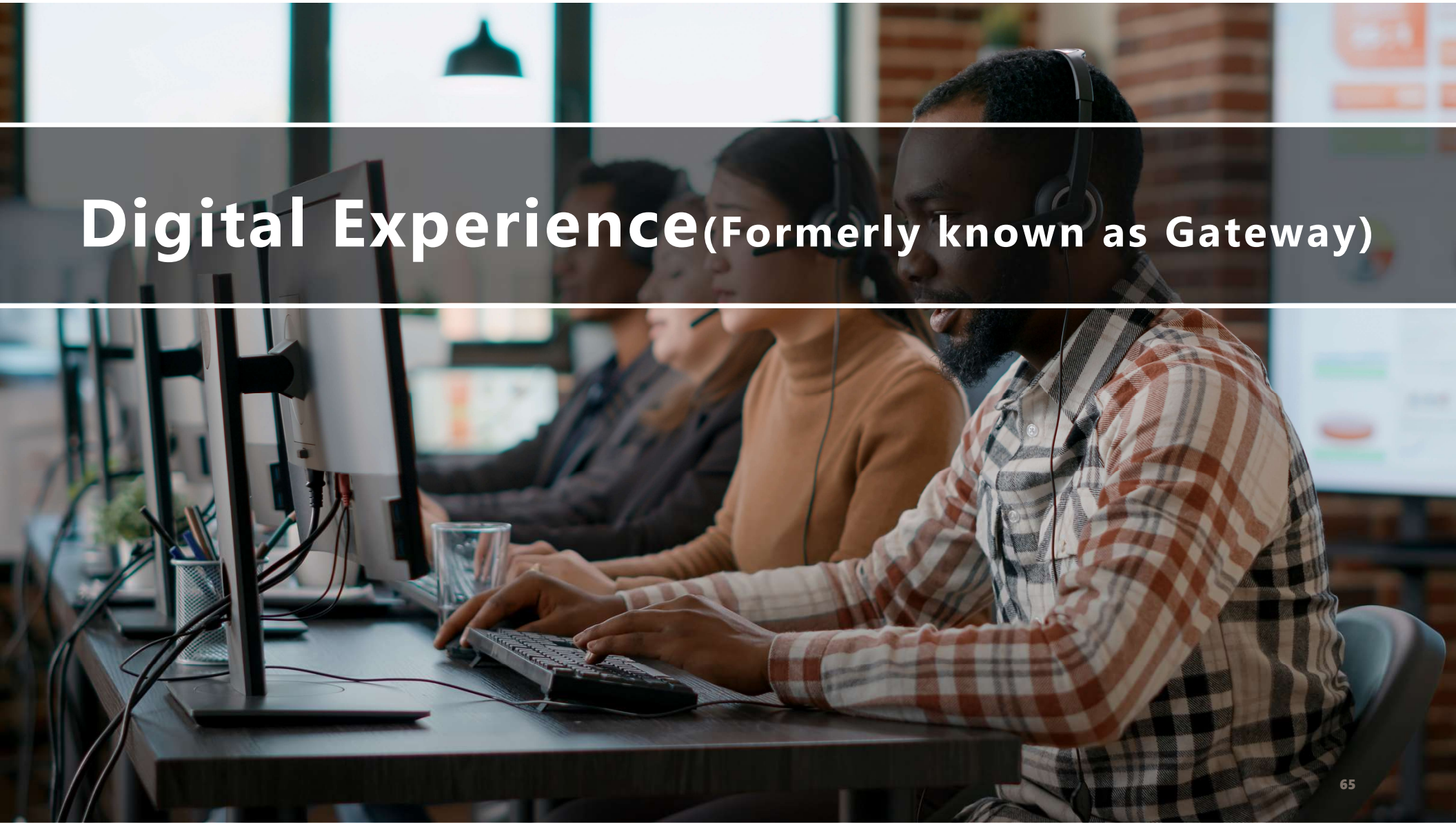
Reactive incident response focuses on addressing and mitigating incidents after they have occurred, with the goal of restoring normal operations and minimizing damage

Cyber Operations works an average of **50,000** incidents per year.

Screen Connect	325 Hours	9+ FTEs
VPN Brute Force	480 Hours	18+ FTEs
Denial of Service	450 Hours	14+ FTEs
Log4J	1098 Hours	20+ FTEs
PowerSchool	350+ Hours	15+ FTEs

In-depth Analysis

In just one incident, Log4j, the NDIT team spent 27 weeks of work on remediation. During this time other critical work for agencies had to be slowed or delayed to prevent a reportable breach



Digital Experience(Formerly known as Gateway)

Program Objectives | *Goals*

Clear Directions

Provide business users with clear direction on the actions they need to take when starting a business, maintaining a business, remaining in compliance with state regulations, and closing a business

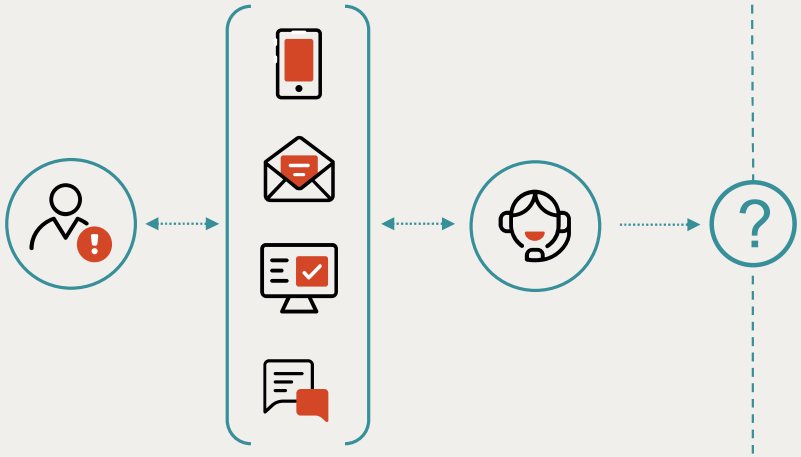
Digitize Data

Digitize the collection of business-related data that can be used by the Gateway and across participating agencies to further enable digital services, growth, compliance, and fraud prevention

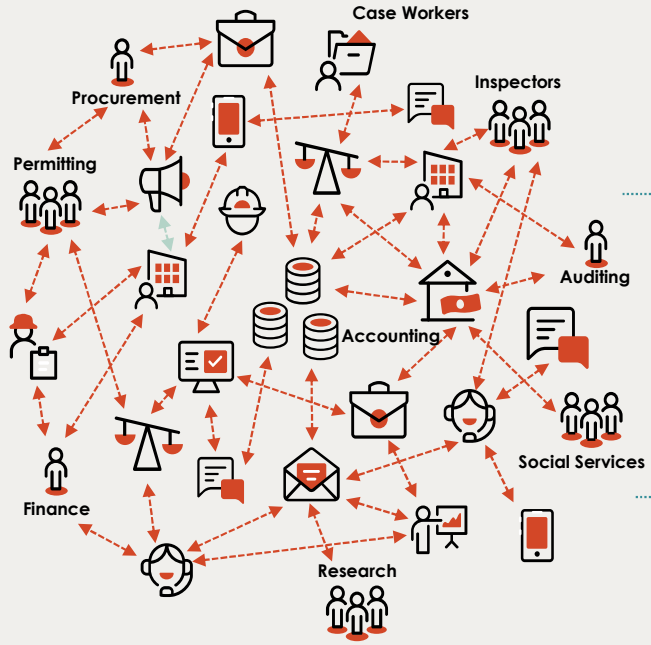
Provide Guidance

Guide users and encourage them to take advantage of available services, help businesses remain compliant with registration, reporting requirements, drive accuracy, auditability and begin to reduce the number of access points businesses rely on today and wrap it in a modern, friendly user interface.

HUMANS STILL DO THE HEAVY LIFTING TO SERVE CUSTOMERS



Engagement-focused Investments



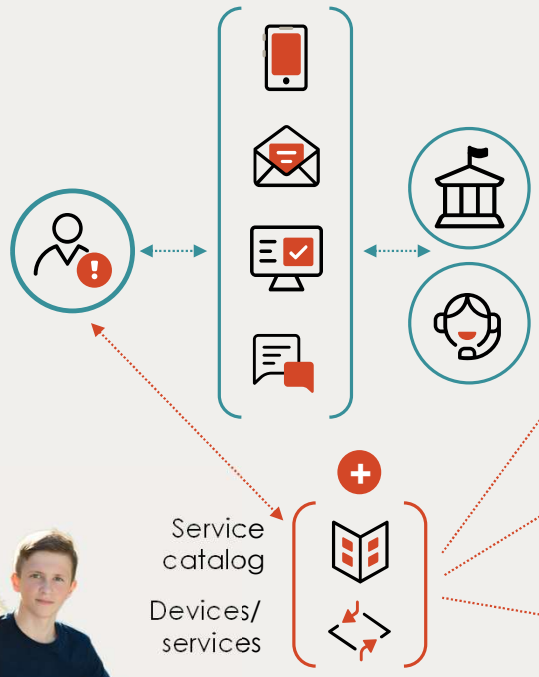
Human middleware bridges people, process and data silos

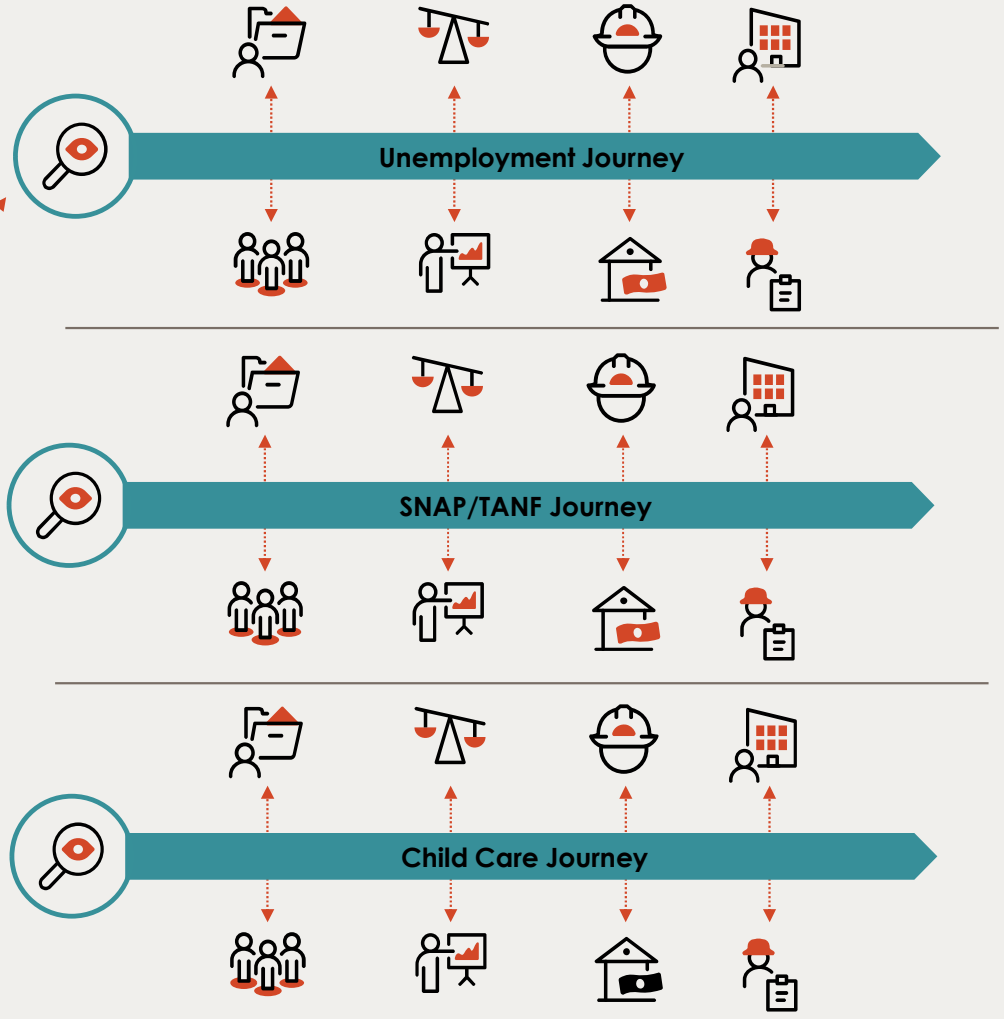
Increased customer expectation leads to bad experience

Slow Delivery of Services

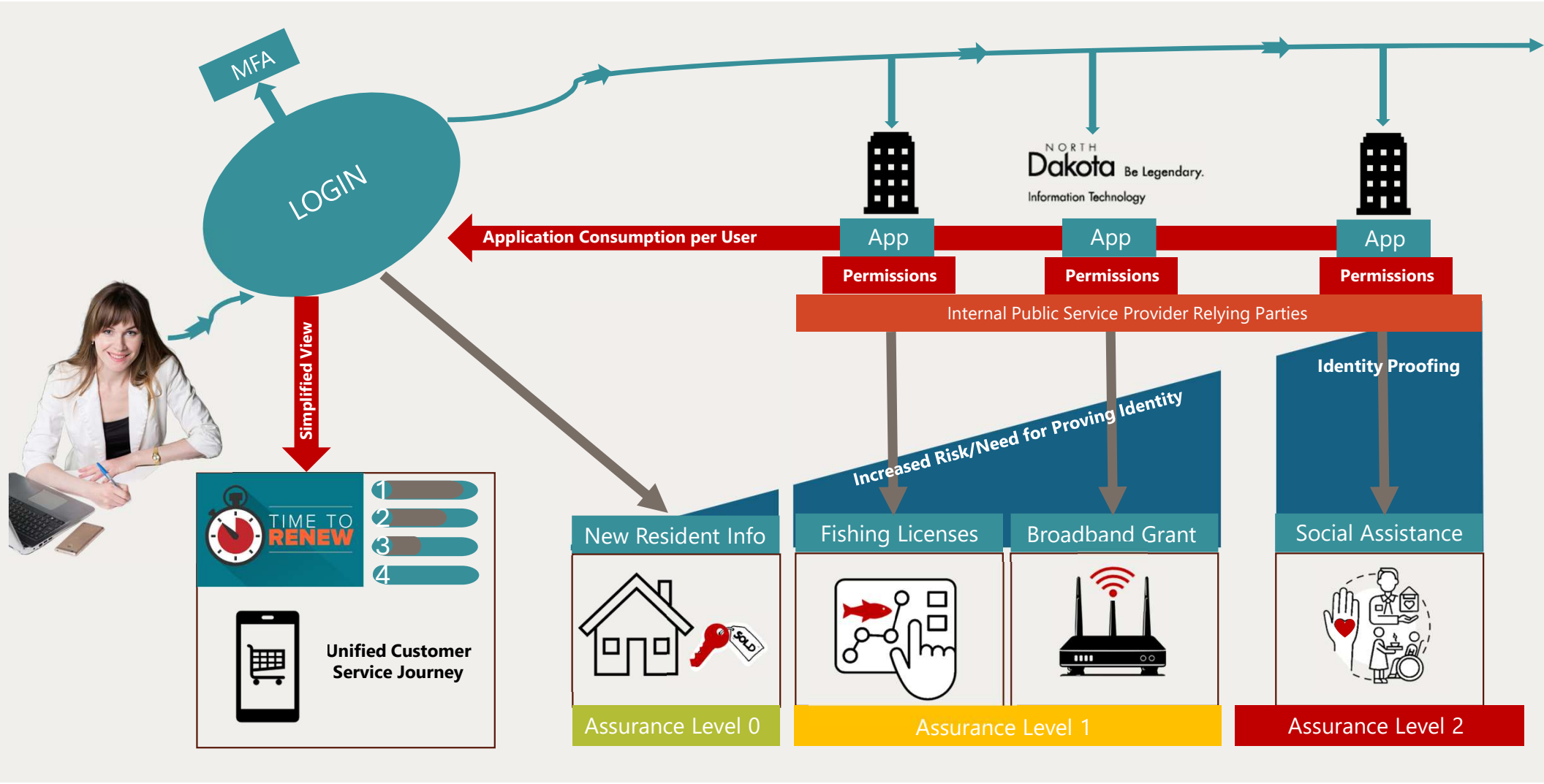
OPERATING AT SCALE

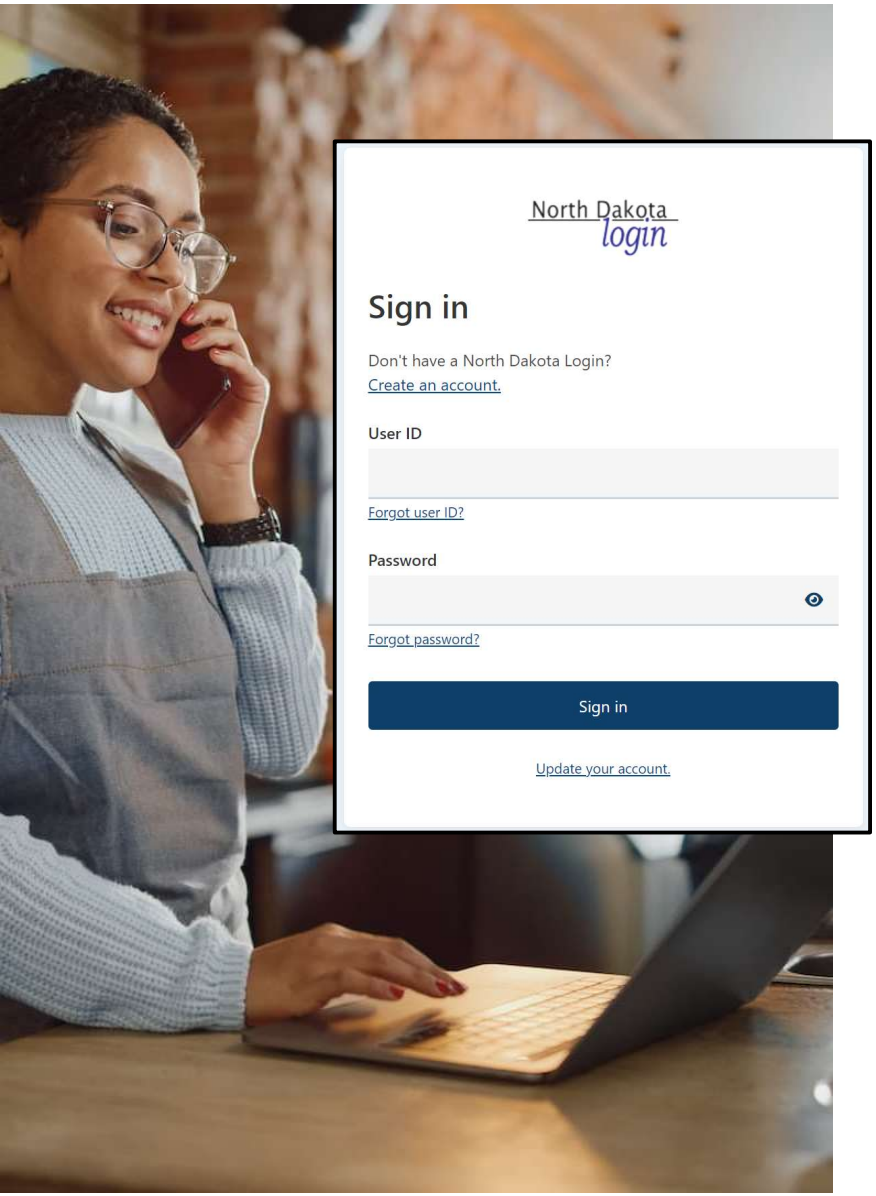
Each Agency or department gets the necessary Citizen information to complete their specific program process





Customer Experience Data





Single Sign On (SSO)

SSO to be completed in Phase 2, but subsequent phases will need to incorporate it.

ND Login

The Gateway will integrate with the existing North Dakota Login functionality, eliminating the need for users to create new registration credentials and helps to achieve the program goal of reducing the need for duplicative identities across State systems. This will improve ease of access and best position the Gateway to continue onboarding additional partner agencies and services.

Single Sign On (SSO)

Users benefit from not having to remember multiple passwords for different services. With a single set of credentials, they can access a variety of governmental and associated services.

Compliance Ease

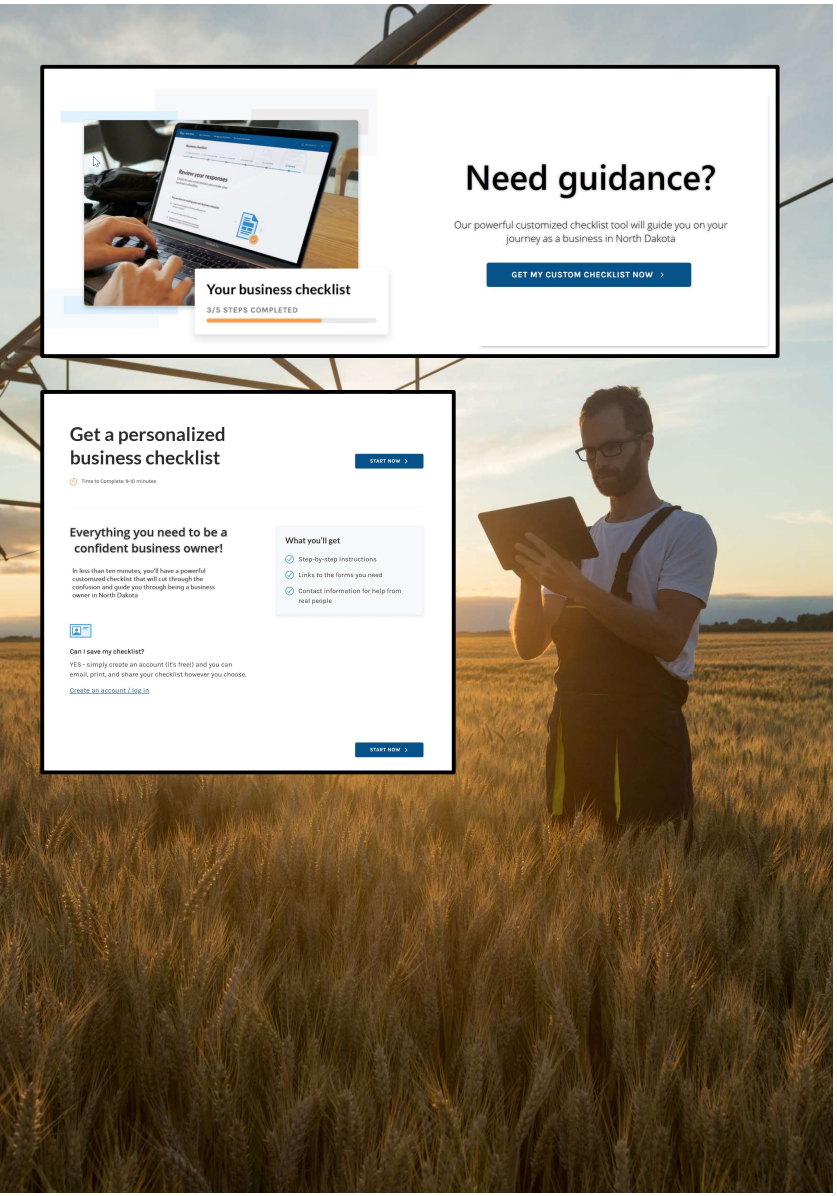
Integrating with North Dakota's login system ensures that the application is in compliance with the State's regulations regarding data security and privacy, having already been designed to meet these standards.

Enhanced Trust and Credibility

Using a state's login system can increase the perceived reliability and credibility of the service, as users often trust governmental systems for security and data protection.

Increased User Adoption

The trust factor can lead to higher adoption rates among users, as they feel more confident in the security and integrity of the service.



Establishing a North Dakota Business

The **web tool will initially act as a digital Green Book** and continue to expand as the Gateway program matures. Clear structured guidance empowers new entrepreneurs and large businesses to take confident steps towards establishing new businesses, operating those businesses, and remaining compliant over time.

Personalized Guidance *The tool provides customized guidance based on specific responses of the user, keeping information relevant to their unique business and needs*

Streamlined Process *By guiding users through a series of conditional questions, the tool streamlines the process of understanding state and department-specific requirements*

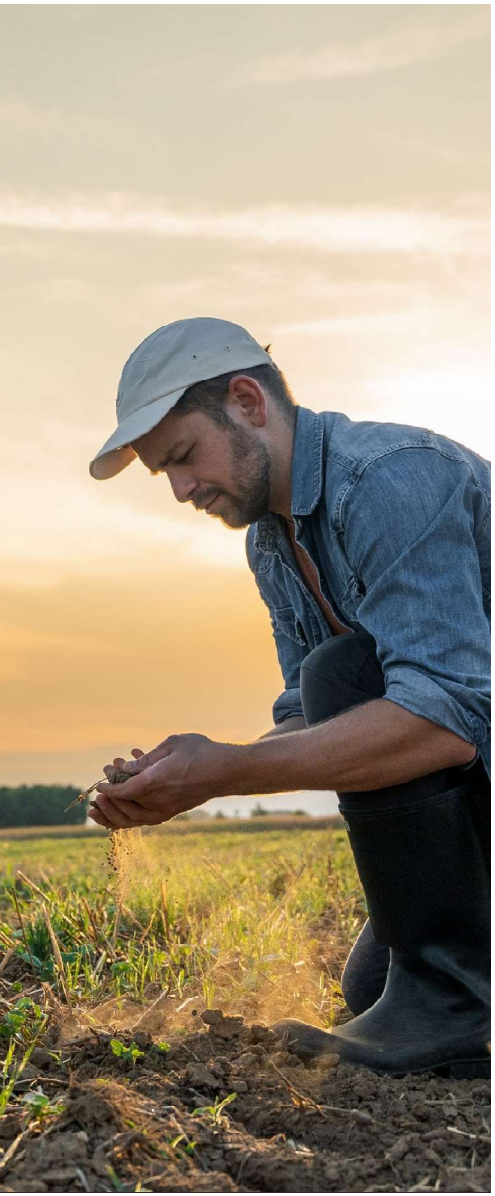
Centralized Resource *Acts as a one-stop resource for the information needed to establish a new business, consolidating data that might otherwise be scattered across various websites*

Enhanced User Experience *A well-designed web tool offers an intuitive and user-friendly interface, making information accessible to include those individuals with limited technical skills or business acumen*

Scalable *The tool can accommodate a wide range of business types and sizes, from sole proprietorships to large enterprises*

Adaptable *Once implemented the tool can be continuously updated with new information and features, it can grow with the evolving needs of businesses and regulatory changes*

Business Profile *The information entered in the tool serves as the foundation for the user's Business Profile*



My Dashboard **Design is currently being finalized*

This feature enhances departmental engagement by linking Gateway users to resources and services previously unknown to them, thereby boosting adoption and participation in services and programs.

Serving as the hub for logged in Gateway users, the My Dashboard section provides the following benefits:

Task and Activity Overview A list or summary of pending tasks, To-Do items, and recent activities to help users manage their business' efficiently

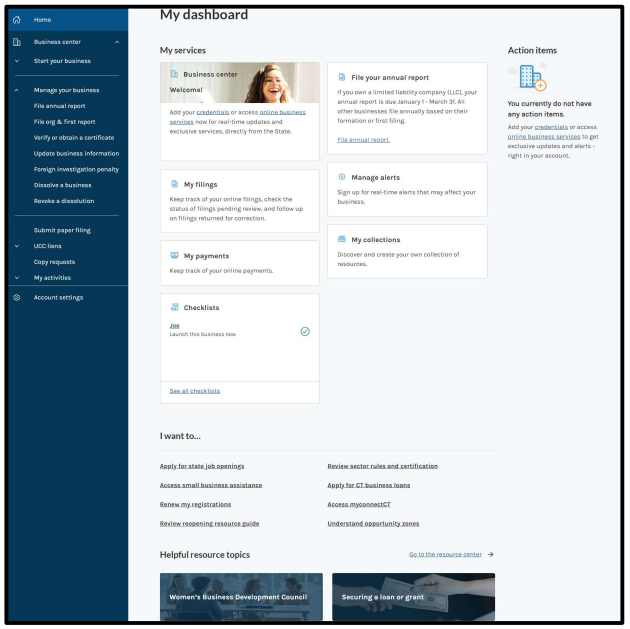
Calendar An integrated calendar displaying upcoming events, deadlines, and important dates to help users remain current and compliant

My Services Information regarding department-specific services currently being used by the logged in user's business

Frequently Used Tools Shortcuts to the most used applications, documents, and resources

Helpful Articles List of most popular knowledge articles

Document Repository A centralized location for storing and accessing documents



Other Applications Using Digital Platform

- In Production
  - QSP (Qualified Service Provider) Enrollment
    - Reduced time to enroll, currently 11 days
  - ND Rent Help
    - Helped over 30,000 renters, 14,666 of those households have children 18 or younger
  - ND Homeowner's Assistance Fund
    - Assisted nearly 6,000 ND Homeowners
  - ND Housing Stability Fund
    - Individualized Case Management for ND households and housing providers
  - Best In Class
    - Implemented in 6 weeks
- Future Projects
  - DFI Enhancements
  - HHS Background Checks
  - Best In Class Enhancements

Statewide Data Strategy

Why does data matter?

- Investing in data allows us to
  - Deliver better, more effective services for our citizens
  - Save taxpayer dollars through cost savings and efficiencies
  - Drive accountability and transparency
  - Shift from reactive government to proactive, better preparing for future challenges

What are we hearing from state agencies?

Key data challenges and pain points…

- Staffing/resource constraints
- Data siloes
- Aging technologies (i.e., tech debt)
- No central data catalog/inventory
- Reliance on institutional knowledge
- Manual processes
- Massive amounts of data
- Data is undocumented
- Lack of trust, leading to redundant efforts
- Challenges in sharing/accessing available data

North Dakota Statewide Data Strategy (implemented through the Lighthouse Program)

Harness the value of data to help North Dakota *thrive*.

Better government data & insights = **Better government decisions & actions** = **Better citizen & community outcomes**

Key Outcomes by Year

Year 1	Establish foundations and strengthen statewide collaboration
Year 2	Facilitate agency-level adoption and expand into more transformational projects and initiatives.
Year 3	Continue transformation efforts, maintain momentum, and sustain stakeholder and agency adoption.

North Dakota Statewide Data Strategy

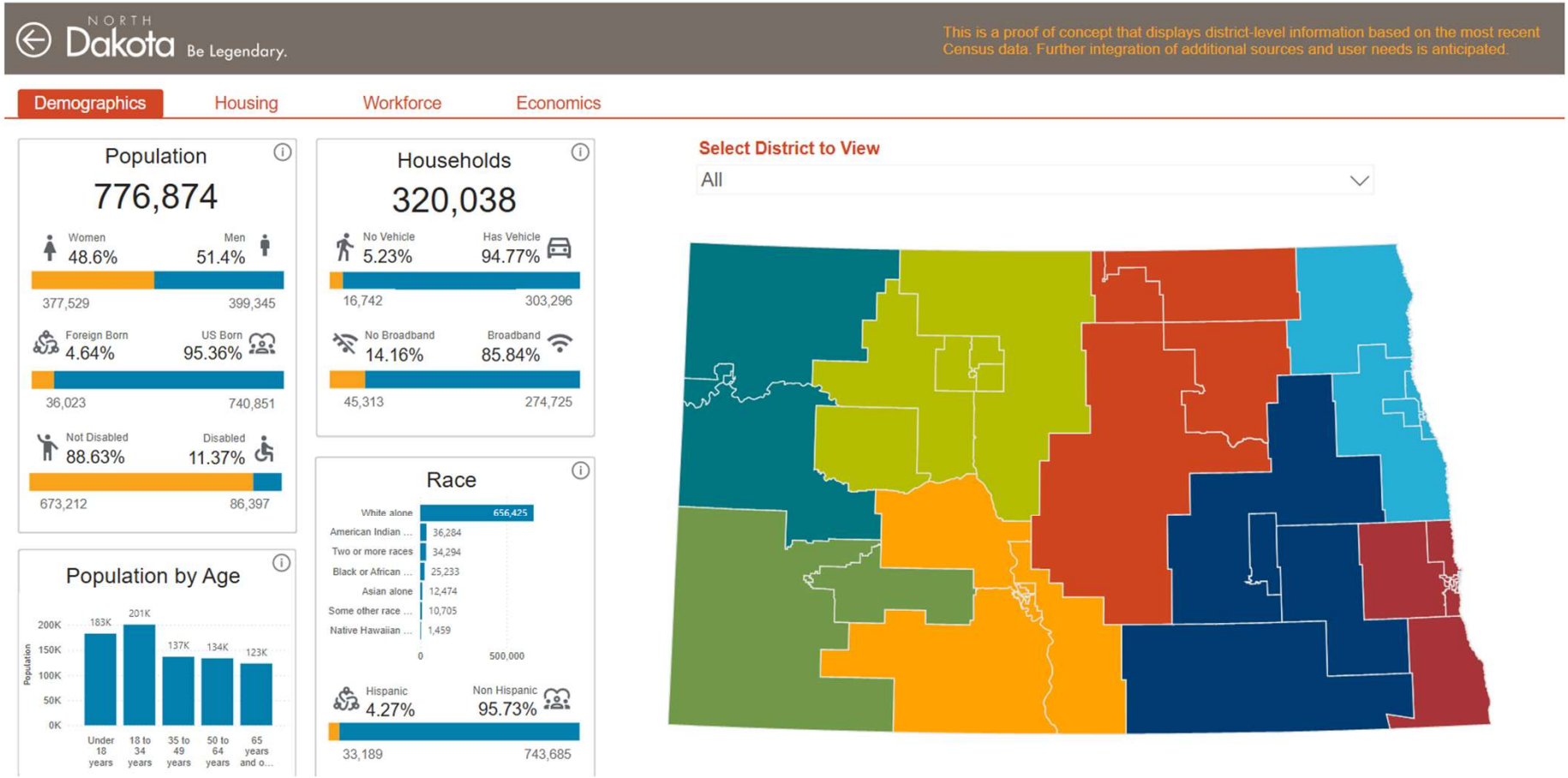
- Budget of $4.89M
  - Phase 1 completed in April 2024: Development of statewide data strategy and implementation roadmap
  - Phase 2 kicked off in April 2024 and currently underway: Implementation of data strategy through June 2025

Data Strategy Roadmap Implementation

Key Accomplishments in 2023-2024

Strategy Rollout and Agency Collaboration *Building agency awareness and plans for adoption*	• Conducted roadshows with various state agencies to promote the statewide data strategy • Developed a comprehensive strategy report to help agencies create their own plans and tailored initiatives • Refined the NDIT Data Division's organizational structure to better align with and support the state's data needs
Statewide Data Governance Program *Establishing the overarching program that directs data management and use practices*	• Defined a statewide data governance operating model and Concept of Operations, outlining the structure, roles, and responsibilities • Established the Statewide Data Governance Council to advise the State on formalizing a data governance program • Initiated the Tactical Data Governance and Stewardship working group to address agency-specific governance needs • Developed the initial release of the Tactical Data Governance Toolkit, providing resources such as accelerators and guides to help agencies implement key data governance actions
Data Catalog *Determining requirements and approach for implementation*	• Defined requirements for a statewide data catalog, including business, functional, technical, and vendor services specifications
Data Literacy *Providing a statewide data skills and literacy curriculum*	• Defined data literacy learning paths for three data personas and an AI learning path to build skills/knowledge in AI
Modern Data Platform *Reimagining the current COVID data lake, creating a solution that is valuable to all agencies*	• Reviewed the current data lake implementation and proposed architectural enhancements. • Conducted testing for the Data Exploration Zone • Created an onboarding framework for agencies to start using the data lake solution
Analytic Proof of Concept *Exploring ways to join data from different agency sources, creating opportunities for greater diagnostic and predictive insights*	• Conducted use case scoping and discovery with the Department of Commerce • Developed the MVP version of the State Data Hub POC dashboards

State Data Hub



What is happening with AI in North Dakota?

NDIT wants to support the vision of AI-enabled Agencies throughout ND but is also committed to doing it in a controlled and considerate fashion that appropriately considers ***data privacy, risk management, ROI realization,*** and ***organizational and workforce readiness.***

AI is not new to the State and has been in use in government in a variety of ways, but in the last two years, the explosion of GenAI and new technologies and capabilities has provided new focus, opportunities, and oversight/governance considerations.

Consideration	Action	Status	Overview
Policy and Oversight	**Statewide AI Policy and Guidance Release**	**Released** *Early 2024*	A first step was establishing an overarching policy The policy's initial focus and supporting guidance is on directing responsible use of commercial tools (e.g., ChatGPT)
Productivity and Efficiency Tools	**Microsoft Copilot Release**	**In Progress** *Release – Q2 2025*	Publicly available tools (i.e., ChatGPT) currently in use by many Team ND members to enhance productivity M365 Copilot technical configuration and technical pilot underway in Q1 2025, with Agency pilot to follow in Q2
Workforce Engagement	**Data and AI Literacy and Training Supports**	**In Progress** *Q1-Q2 2025*	We are curating AI and data literacy learning paths and also developing custom guidance and materials to support building awareness and workforce skills in engaging with AI Consideration for both end-users and technical personas are in the planning
Operationalize AI	**Custom AI Products and Targeted Solutions**	**Started**	**Underway/Complete** • An initial Chatbot pilot has been developed with Commerce • Preliminary use cases were collected this summer **Upcoming** • Prioritization and risk evaluation framework • Broader agency use case collection and analysis • Selection and development of additional pilots • Exploration of commercial AI solutions to address particular organizational needs

What is to come in 2025 and beyond?

Building North Dakota's 'Data Muscle"

Completion of Year 1 activities & Year 2 planning/ implementation

Agency Empowerment

Empowering Agency data governance/stewardship, data literacy, data platform and analytic maturity and capabilities

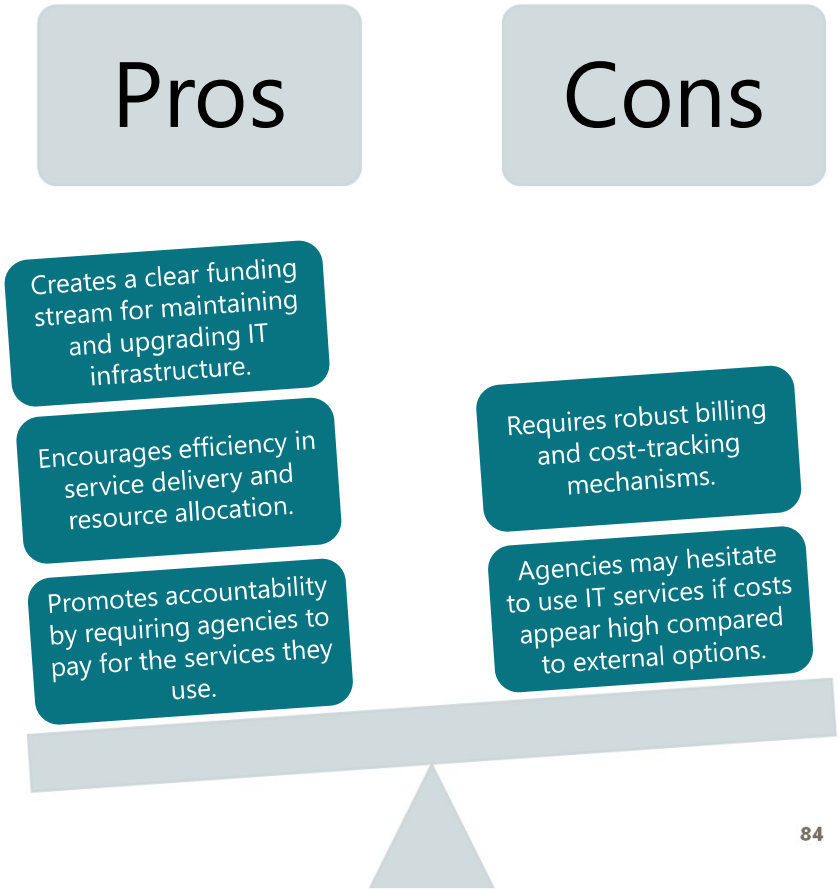
Data in Action

Onboarding and supporting new analytic use cases

Budget Breakdown

Internal Service Fund (ISF)

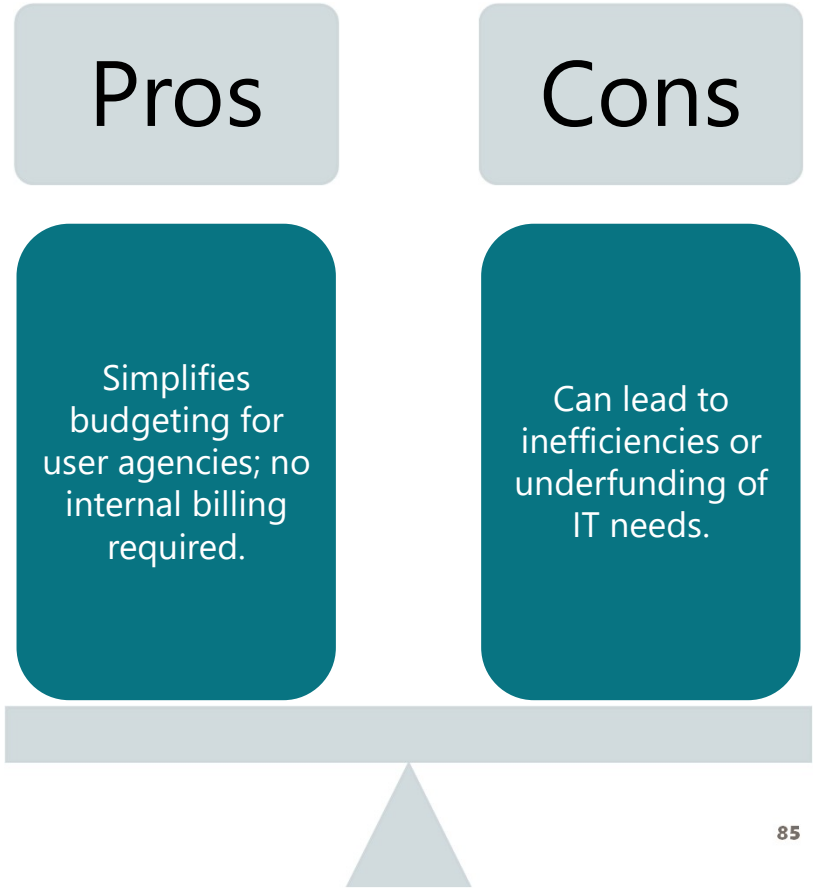
- **Definition:** ISFs are self-sustaining financial models used by government entities to deliver services to other agencies, with costs recovered through chargeback.



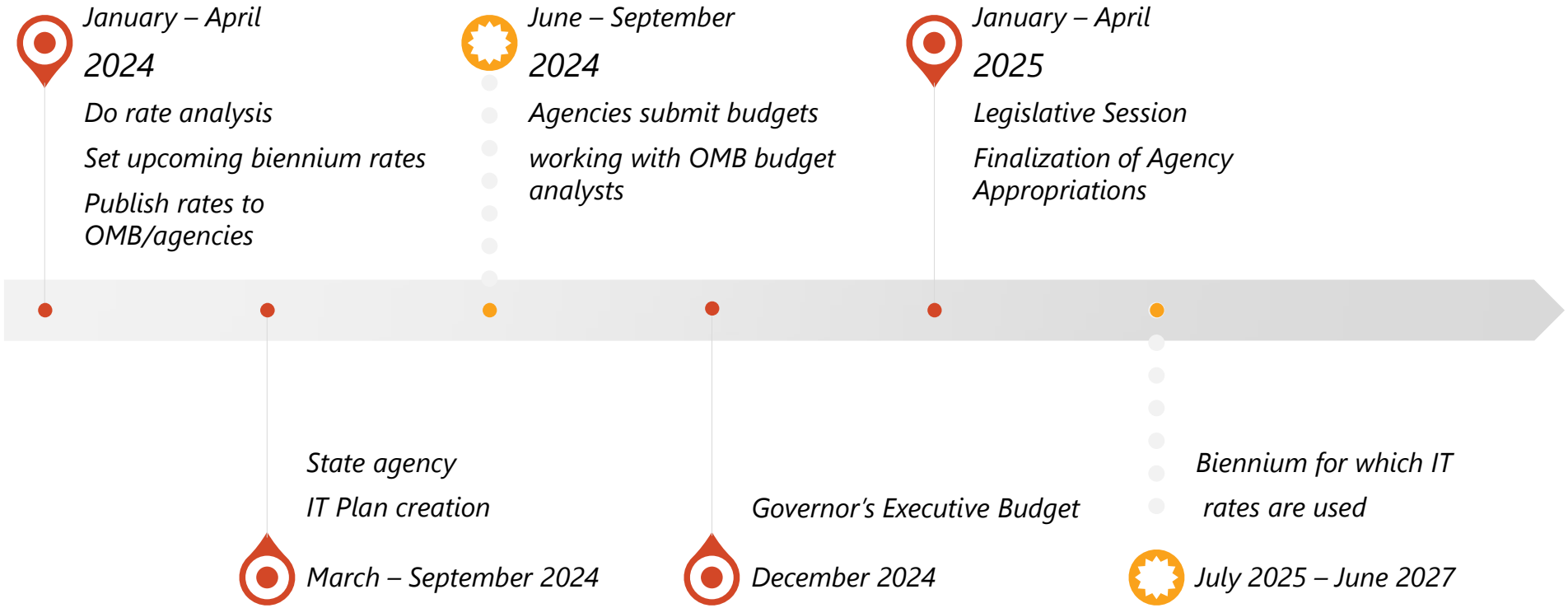
Alternative Models

- **General Fund Allocation:** IT services are funded through appropriations from the state's general fund, often making them appear "free" to the receiving agency.

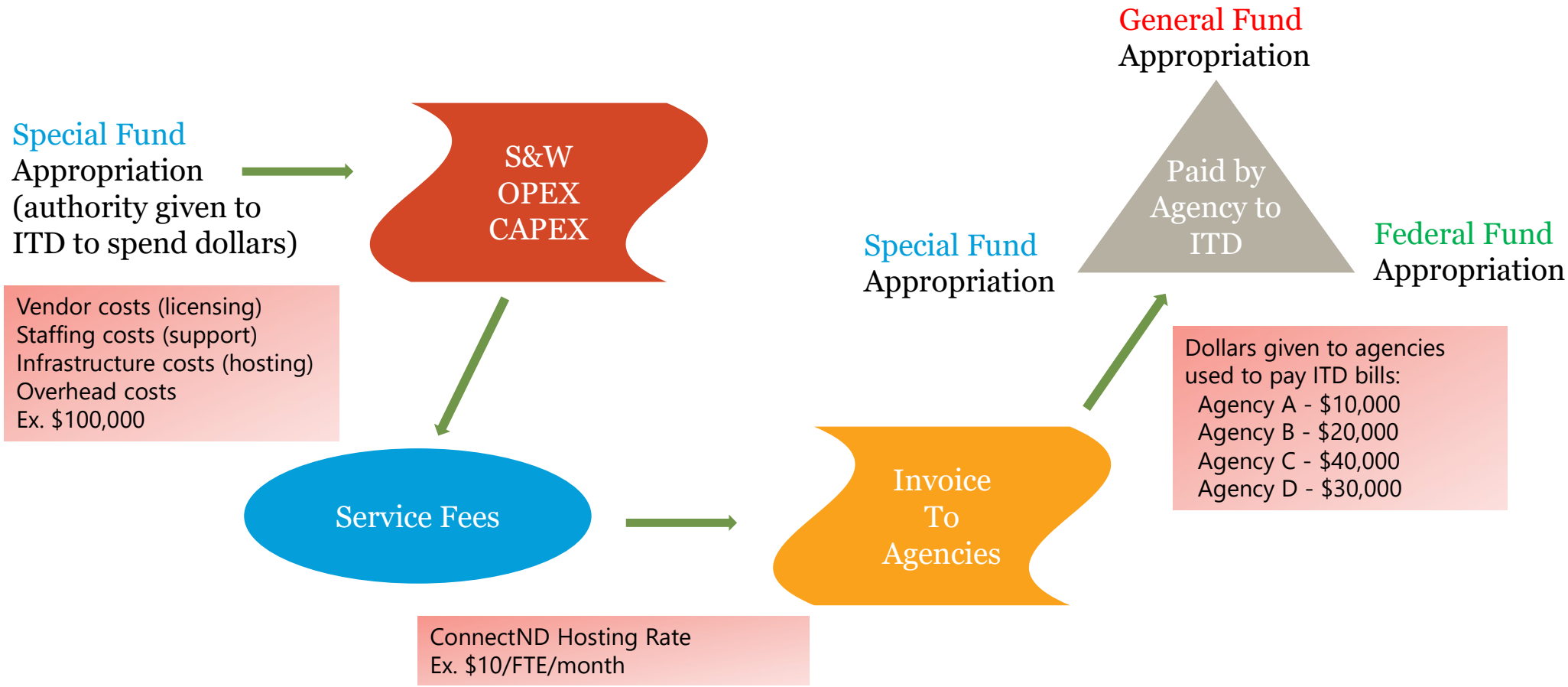
- **Hybrid Models:** Some states use a combination of ISFs and direct appropriations, where certain core services are funded through the general fund and other services operate as ISFs.



Service Fee Timeline



Appropriation & Chargeback Example



Service Fee Example – Legislative IT Committee

What would a service fee for this committee look like?

What happens if you are directed to have 10 meetings?

What if it were an hourly rate per member?

Where does the cost of creating your Legislative Management report go?

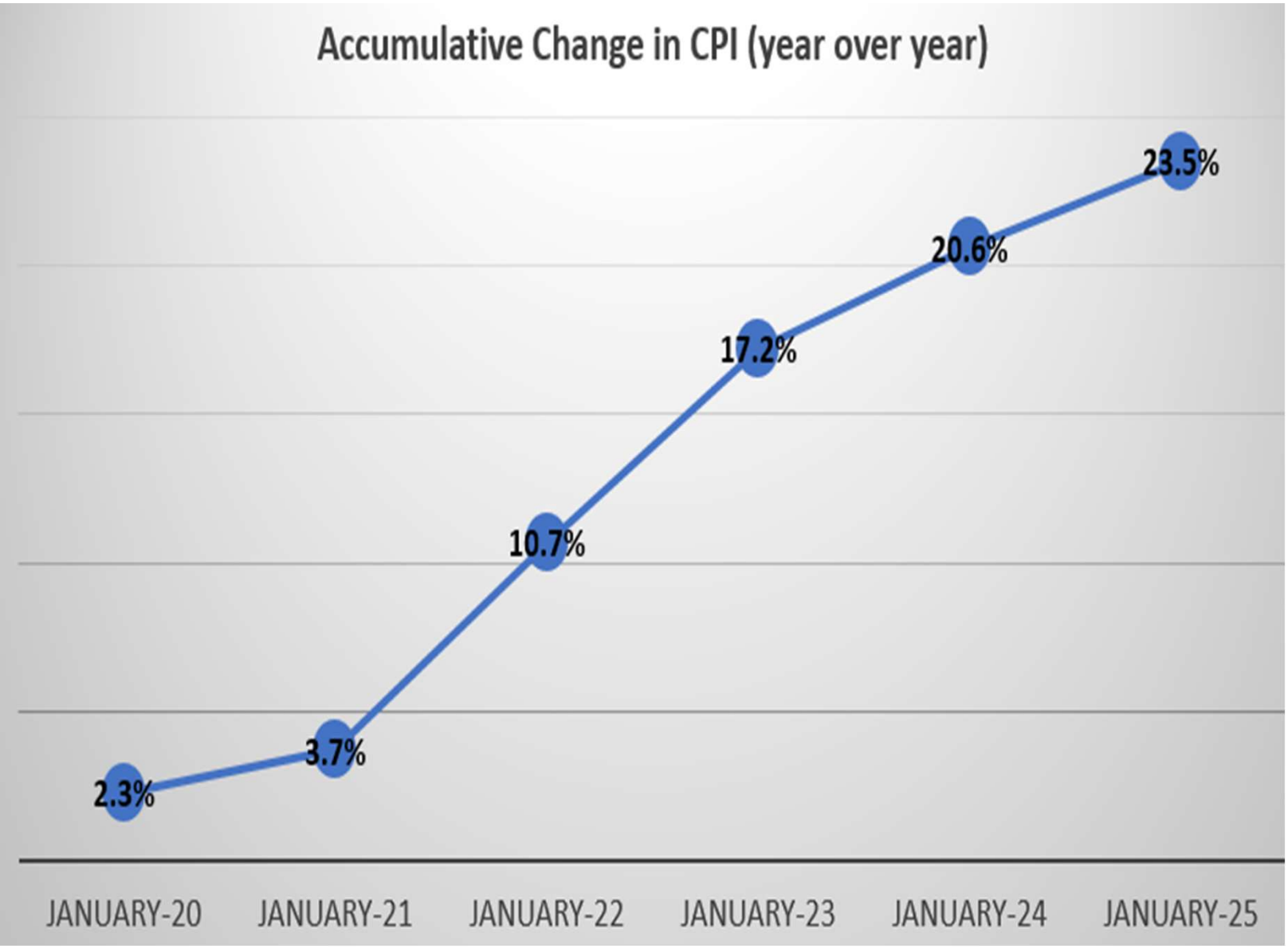
Assumptions:
6 meetings during an interim
11 committee members
1 citizen member
2 support staff

Staffing:
- Portion of salaries/benefits for nine committee members
- Travel costs for nine committee members
- Any direct training needed to serve on the committee

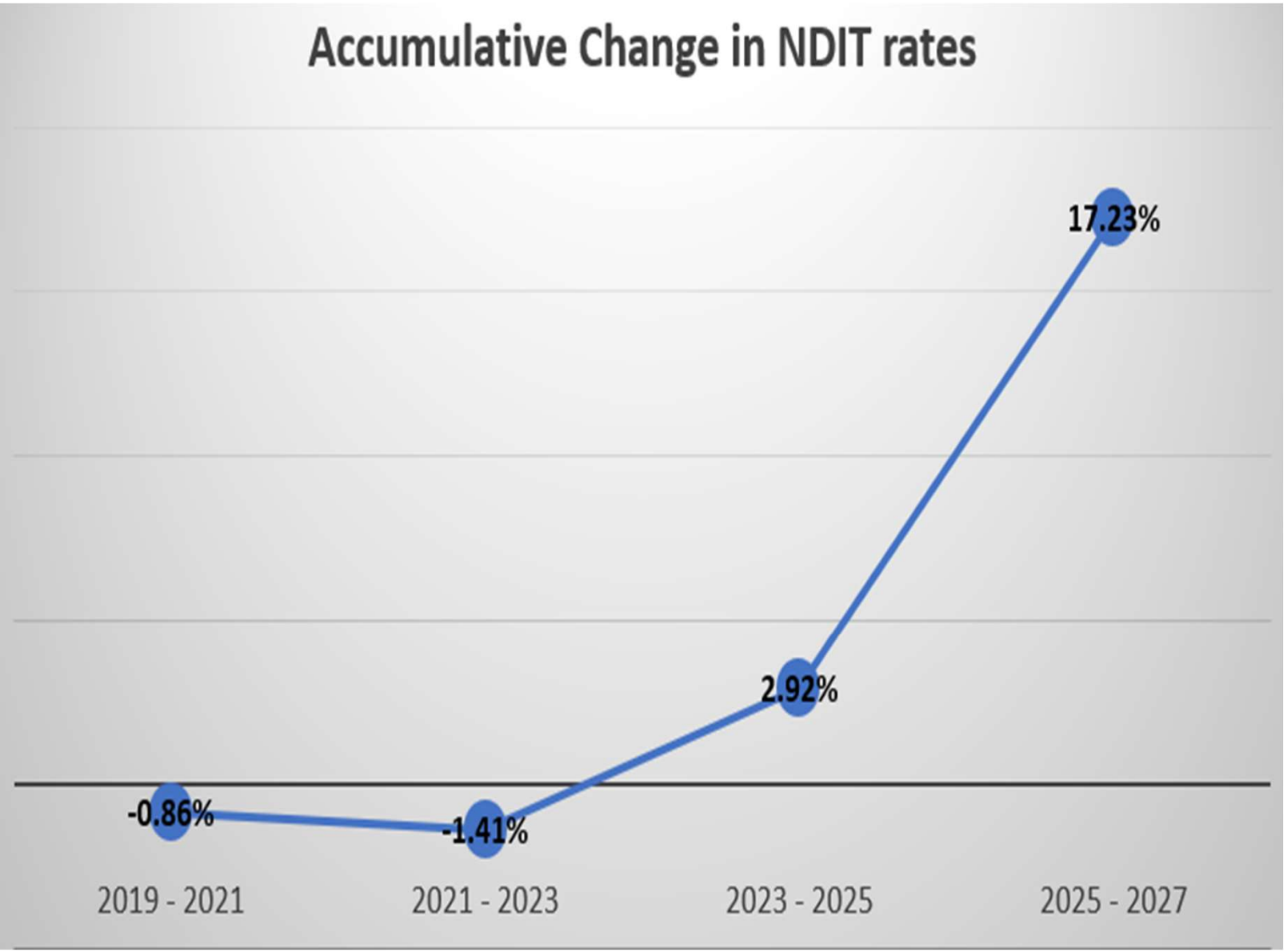
Operational:
- Portion of contractor cost (CIO Mock)
- Portion of end user license costs (M365, Adobe, LC applications)
- Portion of end user equipment
- Cost of Harvest Room (includes technology within room)

Overhead:
- Portion of salaries/benefits for chairman/vice chairman (leadership)
- Portion of salaries/benefits for support staff

Billing metric could be a flat rate per meeting.



Source: Consumer Price Index Data from 1913 to 2025

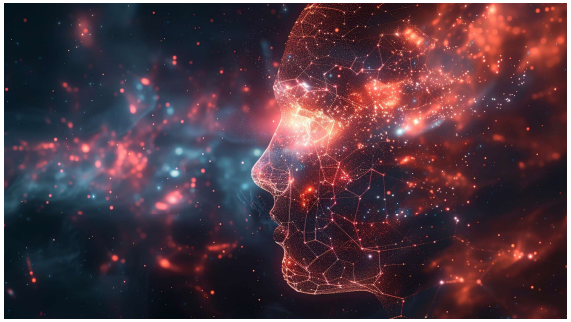


Rates set in April of 2018, 2020, 2022 and 2024 for next biennium services

Costs Absent From 2023-2025 Rates

- Current biennium rates do not include:
  - Equity Package
    - $5.2M, including the 6/4% legislative increase
      - Would increase current rates by 10.2%
  - Legislative Increase of 6/4%
    - Rates only included a 3/3% increase
      - Approx. $1M difference for the biennium
- Efforts to remediate critical security vulnerabilities
  - Unmanaged desktop apps
  - Apps unable to migrate to new hardware

- New technology proof of concepts
  - Artificial Intelligence
  - Robotic Process Automation
  - Low code/No Code platforms



Cost Reduction Considerations

- Request for Information (RFI) for Managed Voice Services:
  - Issued March 2024, only 2 qualifying responses one of which submitted a cost proposal
  - $1.85M/yr. for just managed services (staffing)
  - NDIT staffing is $675,000/year
- Multi-year contract to lock in pricing
- Transition costs to change vendors
  - Network Endpoint Hardware – 1,336 switches
    - Over 7,000 firewall rules would need to be redone
  - Desktop Hardware – 7,350 devices
- Changes to support agreements

Desktop Support Examples

- South Dakota
  - January 2025 User Fee
  - $125.00 User/Month

  User Fee: The user fee is assessed based on each domain account or user name used to sign on to a computer. This fee covers services provided by BIT including statewide technical support for hardware and software on workstations and networks, installation of hardware and software, operating system research and development, cloning or developing a standard workstation set-up, Parts Center services (including warranty repair), application deployment, hardware and software inventory, printer support, and file restores.

- ND Legislative Council (estimate)
  - 3 Information Tech Specialists
  - $5,275 monthly salary (assumes mid-range)
  - 141 Devices – Legislative Assembly
  - 48 Devices – Legislative Council
  - $83.73 per device for support
    - (3 * $5275) / (141 + 48)
    - Does not include benefits, operational costs, management costs
  - NDIT support per device - $62.00

Budget breakdown

NDIT 2023-2025 Total Budget Appropriation (July 2023)					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,312,324	214,962,865	4,011,967	$ 242,287,156
Statewide Longitudinal Data System	3.0	5,082,678	-	500,000	5,582,678
EduTech	26.0	2,905,260	6,759,048	500,000	10,164,308
K-12 Network	4.0	6,272,610	90,000	-	6,362,610
Geographic Information System	1.0	1,142,213	-	65,679	1,207,892
Health Information Technology	4.0	2,000,000	6,742,111	-	8,742,111
Public Safety - (E911/SIRN)	1.0	1,858,240	16,543,229	-	18,401,469
Public Safety - (HB 1242)	0.0	-	20,000,000	80,000,000	100,000,000
Online Tax Portal Grant - (HB 1225)	0.0	300,000	-	-	300,000
IIJA Federal Funds	0.0	487,520	-	147,762,480	148,250,000
One-Time SIIF Funds	0.0	-	15,000,000	-	15,000,000
Total	**507.0**	$ 43,360,845	$ 280,097,253	$ 232,840,126	$ 556,298,224

Budget breakdown

NDIT 2023-2025 Budget Adjustments					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ (2,950,000)	(24,831,876)	(3,499,467)	$ (31,281,343)
Statewide Longitudinal Data System	3.0	(1,075,000)	-	-	(1,075,000)
EduTech	26.0	-	-	-	-
K-12 Network	4.0	-	-	-	-
Geographic Information System	1.0	-	-	-	-
Health Information Technology	4.0	-	(3,000,000)	-	(3,000,000)
Public Safety - (E911/SIRN)	1.0	-	(20,000,000)	(80,000,000)	(100,000,000)
Public Safety - (HB 1242)	0.0	-	-	-	-
Online Tax Portal Grant - (HB 1225)	0.0	(300,000)	-	-	(300,000)
American Rescue Plan Act	0.0	-	-	-	-
IIJA Federal Funds	0.0	(487,520)	-	(147,762,480)	(148,250,000)
One-Time SIIF Funds	0.0	-	-	-	-
Equity & Retirement Additions		2,869,980	5,802,948	-	8,672,928
Total	**507.0**	$ (1,942,540)	$ (42,028,928)	$ (231,261,947)	$(275,233,415)

Budget breakdown

NDIT 2025-2027 Legislative Base Budget					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 23,825,903	210,453,888	512,500	$ 234,792,291
Statewide Longitudinal Data System	3.0	4,125,661	-	500,000	4,625,661
EduTech	26.0	2,738,726	7,110,100	500,000	10,348,826
K-12 Network	4.0	5,825,668	90,000	-	5,915,668
Geographic Information System	1.0	1,044,107	-	65,679	1,109,786
Health Information Technology	4.0	2,000,000	3,822,725	-	5,822,725
Public Safety - (E911/SIRN)	1.0	1,858,240	16,591,612	-	18,449,852
Total	**507.0**	$ 41,418,305	$ 238,068,325	$ 1,578,179	$ 281,064,809

Budget breakdown

NDIT Decision Packages - 2025-2027 Biennium					
Package	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
#4 - Vulnerability Remediation	0.0	$ -	$ 3,042,960	$ -	$ 3,042,960
#5 - Public Safety	6.0	$ 209,520	$ 1,968,491	$ -	$ 2,178,011
#6 - Vendor Toolset Increases	0.0	$ 5,133,174	$ 265,447	$ -	$ 5,398,621
#8 - Continuing Appropriations	0.0	$ -	$ (99,168,477)	$ -	$ (99,168,477)
#11 - Inflationary Increases	0.0	$ 2,841,715	$ (1)	$ -	$ 2,841,714
#12 - Health Information Program	0.0	$ -	$ 8,182,968	$ -	$ 8,182,968
#14 - EduTech Program Funding	0.0	$ -	$ 411,793	$ -	$ 411,793
#15 - Data Center Infrastructure	0.0	$ -	$ 1,719,061	$ -	$ 1,719,061
Total Budget Changes	**6.0**	$ 8,184,409	$ (83,577,758)	$ -	$ (75,393,349)

Contains One Time SIIF Funds

Budget breakdown

NDIT 2025-2027 Senate Changes to Legislative Base					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 10,500,508	(85,138,855)	(512,500)	$ (75,150,847)
Statewide Longitudinal Data System	3.0	(4,904)	-	(500,000)	(504,904)
EduTech	26.0	(8,174)	203,515	(500,000)	(304,659)
K-12 Network	4.0	1,002,665	(90,000)	-	912,665
Geographic Information System	1.0	113,836	-	(65,679)	48,157
Health Information Technology	4.0	(1,356,779)	6,285,296	-	4,928,517
Public Safety - (E911/SIRN)	3.0	209,520	(2,445,835)	-	(2,236,315)
Total	**509.0**	$ 10,456,672	$ (81,185,879)	$ (1,578,179)	$ (72,307,386)

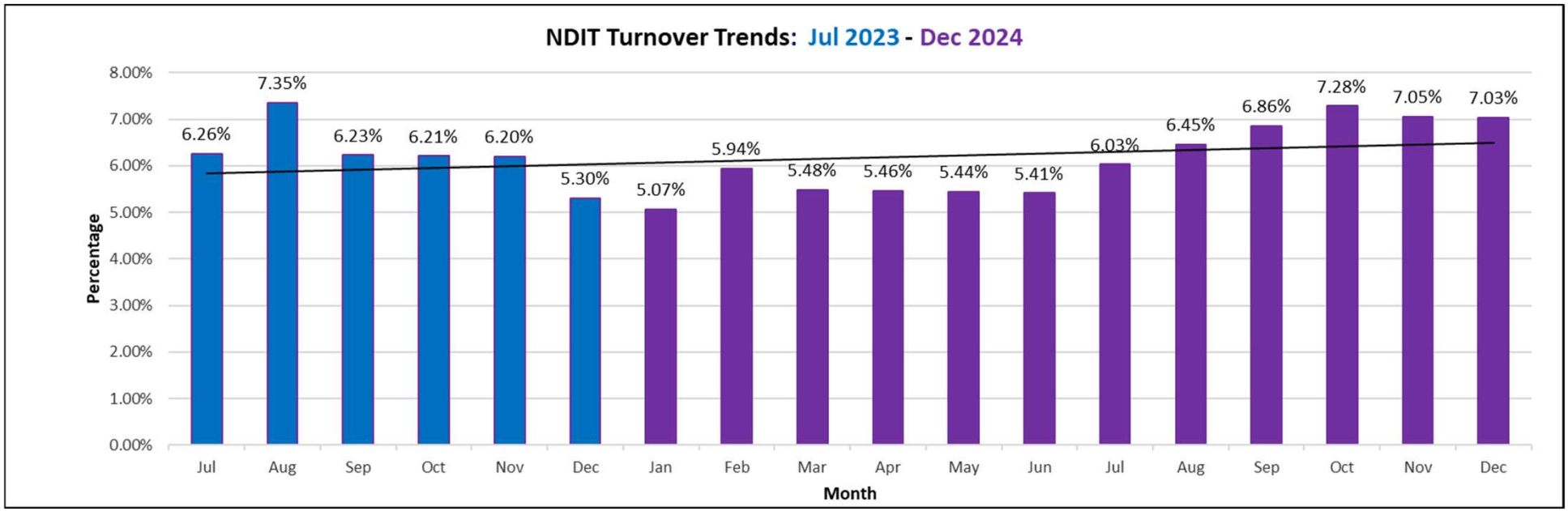
NDIT 2025-2027 Senate Budget					
Program	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	468.0	$ 34,326,411	125,315,033	-	$ 159,641,444
Statewide Longitudinal Data System	3.0	4,120,757	-	-	4,120,757
EduTech	26.0	2,730,552	7,313,615	-	10,044,167
K-12 Network	4.0	6,828,333	-	-	6,828,333
Geographic Information System	1.0	1,157,943	-	-	1,157,943
Health Information Technology	4.0	643,221	10,108,021	-	10,751,242
Public Safety - (E911/SIRN)	3.0	2,067,760	14,145,777	-	16,213,537
Total	**509.0**	$ 51,874,977	$ 156,882,446	$ -	$ 208,757,423

Staffing

NDIT Talent

- 507 FTE
- Mixture of remote, hybrid and in-office
- Staff augmentation
- Apprentice roles

Biennium Turnover



NDIT Retirement Statistics

Years to meet Rule of Eligibility	Total Employees			Management			Non-management		
	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %
Currently Eligible	49	10.32%	10.32%	6	1.26%	1.26%	43	9.05%	9.05%
0-3 years	39	8.21%	18.53%	3	0.63%	1.89%	36	7.58%	16.63%
3.1 - 5 years	23	4.84%	23.37%	4	0.84%	2.74%	19	4.00%	20.63%
5.1 - 10 years	69	14.53%	37.89%	17	3.58%	6.32%	52	10.95%	31.58%
10.1 - 15 years	80	16.84%	54.74%	12	2.53%	8.84%	68	14.32%	45.89%
15.1 - 20 years	70	14.74%	69.47%	10	2.11%	10.95%	60	12.63%	58.53%
20.1 - 25 years	72	15.16%	84.63%	9	1.89%	12.84%	63	13.26%	71.79%
25+ years	73	15.37%	100.00%	0	0.00%	12.84%	73	15.37%	87.16%
Total	475	100.00%		61	12.84%		414	87.16%	

*Management includes all people managers

*Data as of 12/24

Recruitment: 2024 in Review

- 78 Total Hires
- 50 External – from the market
- 6 Transfers
- 22 Promotions within NDIT

Recruitment: What's Going Well

- Applicant pools for remote, entry level and mid level roles are robust
- Applicants for these roles often exceed qualifications
- Early career roles in Bismarck/ND: smaller pools but we have qualified applicants, thus successful sourcing

Recruitment: Pain Points

- Highly skilled/niche roles in ND
  - Small or no applicant pools
  - Cannot afford talent in the marketplace
  - Unable to match salaries & benefits in private sector
- Highly skilled/niche roles remote
  - Quantity over quality
  - Upon interview, many do not have level of knowledge expected/needed

What We're Working On

- People-first culture
  - Culture Roots: Behavior-based leadership
  - Leadership Development
- Workforce Planning
  - Knowledge management
  - Skills matrix/career pathing
  - Staff-aug need/planning

New/Vacant FTE Pool

FTE Pool Calculation	Budget Reduction	Amount in NDIT Pool	Appropriation Reduction
75% of vacant FTE - Special	7,450,404	5,587,803	(1,862,601)
75% of vacant FTE - General	1,469,030	1,101,773	(367,258)
90% of new FTE - Special	2,967,987	2,298,667	(669,320)
90% of new FTE - General	1,998,699	1,725,377	(273,322)
Total	**13,886,120**	**10,713,620**	**(3,172,501)**

	Vacant FTE Pool Calculation
Salaries Permanent	91,481,377
Benefits (30%)	27,444,413
Total Salary Base Calculation	118,925,790
Vacancy Rate Assigned	7.5%
Vacant FTE Budget Reduction	**8,919,434**
New FTE Budget Reduction	**4,966,686**
	13,886,120

Combined New FTE / Vacant FTE pool					
	New FTE - GF	**New FTE - SF**	**Vacant FTE - GF**	**Vacant FTE - SF**	**Total**
Appropriaton Reduction	1,998,699	2,967,987	1,469,030	7,450,404	13,886,120
Pool Redcution	(273,322)	(669,320)	(367,258)	(1,862,601)	(3,172,501)
FTE Pool Available	**1,725,377**	**2,298,667**	**1,101,772**	**5,587,803**	**10,713,619**
Requests:					
July 1, 2023 Vacants			1,333,118	3,786,479	5,119,597
New FTE	1,121,088	1,138,682			2,259,770
Pending Request	*87,969*				*87,969*
Total Pool Requests	1,209,057	1,138,682	1,333,118	3,786,479	7,467,336
Balance Remaining	**516,320**	**1,159,985**	**(231,346)**	**1,801,324**	**3,246,283**

NEW FTE POOL POSITIONS

New FTE Pool			
Position	**Budget Amount**	**New FTE Pool Request**	**Position filled date**
General Fund Positions			
Information Services V, Grade 207	*283,986*	*87,969*	*Dec-24*
Information Services I, Grade 203	138,787	52,045	Oct-24
Manager II, Grade 107	268,434	163,950	Jun-24
Information Services VI, Grade 208	250,054	250,713	May-24
Information Services IV, Grade 206	237,318	175,000	Apr-24
Professional Services III, Grade 107	250,908	207,226	Mar-24
Information Services V, Grade 207	320,289	272,154	Jan-24
General Fund Total	**1,749,776**	**1,209,057**	
Special Fund Positions			
Program Management III, Grade 106	268,430	111,846	Sep-24
Information Serivices III, Grade 205	190,641	71,490	Oct-24
Information Services IV, Grade 206	276,723	142,413	Jun-24
Information Services IV, Grade 206	216,575	118,421	Jul-24
Information Services I, Grade 203	138,787	87,399	Jun-24
Information Services IV, Grade 206	190,646	137,113	Jul-24
Information Services IV, Grade 206	237,318	135,000	May-24
Program Management III, Grade 106	229,540	165,000	Apr-24
Manager II, Grade 107	294,358	170,000	Jun-24
Special Fund Total	**2,043,018**	**1,138,682**	
New FTE Pool Total	**3,792,794**	**2,347,739**	

VACANT FTE POOL POSITIONS

Vacant FTE Pool				
Position	**Budget Amount**	**Vacant FTE Pool Request**	**Position filled date**	**Position vacated date**
General Fund Positions				
Manager II, Grade 107	145,300	86,914	Nov-24	Jun-22
Information Services IV, Grade 206	199,853	137,645	Mar-24	Apr-22
Professional Services III, Grade 107	247,654	226,139	Nov-23	Dec-22
Information Services III, Grade 205	237,568	181,355	Aug-23	Feb-23
Information Services III, Grade 205	233,464	203,166	Jul-23	Mar-23
Information Services IV, Grade 206	295,192	192,600	Jul-23	Jul-22
Manager II, Grade 107	186,328	305,300	Jul-23	Apr-21
General Fund Total	**1,545,359**	**1,333,118**		
Special Fund Positions				
Information Services V, Grade 207	267,389	95,594	Nov-24	Apr-23
Information Services IV, Grade 206	269,895	155,000	Apr-24	Mar-23
Information Services IV, Grade 206	280,880	135,000	May-24	Jun-23
Information Services II, Grade 204	183,896	111,675	Mar-24	Mar-23
Information Services IV, Grade 206	280,911	170,400	Jan-24	Jun-23
Manager II, Grade 107	232,471	259,969	Dec-23	May-23
Information Services V, Grade 207	377,867	222,362	Dec-23	Jun-23
Manager II, Grade 107	185,597	245,071	Dec-23	Jul-21
Information Services IV, Grade 206	211,627	233,155	Nov-23	Jun-23
Profesional Services II, Grade 106	256,471	157,216	Nov-23	May-23
Information Services III, Grade 205	201,789	158,885	Nov-23	Mar-23
Profesional Services II, Grade 106	219,838	185,121	Nov-23	Nov-21
Information Services III, Grade 205	197,964	164,450	Sep-23	Aug-22
Professional Services III, Grade 107	227,113	206,080	Aug-23	May-23
Information Services IV, Grade 206	211,790	293,400	Jul-23	Apr-23
Information Services IV, Grade 206	205,379	195,040	Aug-23	Jul-22
Information Services III, Grade 205	260,420	215,400	Jul-23	Jun-23
Analyst IV, Grade 106	221,245	240,580	Aug-23	Jan-23
Manager III, Grade 108	204,899	342,080	Aug-23	Mar-23
Special Fund Total	**4,497,441**	**3,786,479**		
Vacant FTE Pool Total	**6,042,800**	**5,119,597**		

Appendix

Acronyms and Definitions

- **BAND** - Broadband Association of ND
- **Data governance** is the process of ensuring that data is accurate, secure, and used responsibly. It involves setting rules and responsibilities so everyone knows how to handle data properly and how to protect it.
- **EA** - Enterprise Architecture- the process by which organizations standardize, organize and develop roadmaps for IT infrastructure and applications to align with and facilitate the achievement of business goals and objectives.
- **Low Code-** is a software development approach that requires minimal hard-coding, allowing users to create applications and workflows through visual interfaces, drag-and-drop components, and pre-built templates. It is designed to simplify and speed up the development process, making it accessible to both professional developers and non-technical users (often referred to as "citizen developers").
- **SIRN** - Statewide Interoperable Radio Network
- **SLDS** - Statewide Longitudinal Data System
- **TBP** - Technology Business Partner knows the customer, their business, their technology, where they want to go and what is coming over the horizon.
- **Tech Debt**-happens when quick fixes or older systems are used instead of long-term, efficient solutions. While these choices might save time or money upfront, they eventually lead to more maintenance, slower systems, and higher costs to fix or replace.

Geospatial Acronyms and Definitions

- **Geospatial** - catch-all term for range of tools used for mapping and analysis
- **GIS** - Geographic Information Systems (e.g., the GIS Hub)
- **SGC** - State Geospatial Committee
- **Next Generation 911** - internet-based 911 system that requires GIS layers such as address points and emergency service boundaries

- **NDIT** - ND Information Technology
- **NDGF** - ND Game and Fish
- **NDDES** - ND Department of Emergency Services
- **Web services** - internet-based delivery of data
- **Parcel** - property boundary with associated information such as landowner

IT Procurement

IT Solution Lifecycle for State Government

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Large IT Procurement >$500,000	Funding & Project Start Up	Preliminary Research	RFP Draft, Approval & Issue			Response Period	Evaluations, Demonstrations & Best & Final		Contract Negotiations			Award & Protest Period
IT RFP >$100,000	Funding/ Initiatative Intake	Preliminary Research	RFP Draft & Issue	Response Period		Evals, Demos, & Best & Final	Contract Negotiations			Award & Protest Period		
Invitation for Bid <$100,000	Funding & Project Start Up	Preliminary Research	Draft & Issue	Response Period	Eval	Award & Protest Period						

Things to Consider:

- It is known what is needed.
- Team Availability
- ESC Availability
- Number of Responses
- Demonstrations & Clarification results
- Best and Final Offer
- Protest
- Contract negotiations
  - State Law
  - Retainage
  - Liquidated Damages
  - Deliverables
  - Limitation of Liability
  - Indemnification

5 Months is a unicorn

Transparency and Governance

Advisory Groups

- Enterprise Architecture Group (current) – review of IT standards, policies, guidelines
  - Agency representation
  - Technology domain representation
  - Service Delivery representation
- Data Governance Council (current) – statewide data strategy
  - Agency representation
  - Technology domain representation
- Customer Advisory Group (upcoming) – service feedback, strategic guidance of services
  - Agency representation
  - Service Delivery representation
- Portfolio Steering Committee (upcoming) – work prioritization
  - Agency representation
  - Portfolio Manager
  - Chief Information Officer

Incident Performance

Agency: All | Priority: All | Breach: All | Underlying Cause: All | Assigned To Group: All | Contact Type: All

- Exclude Tickets Resolved by Solarwinds
- Exclude Child Tickets
- Include only tickets assigned to NDIT

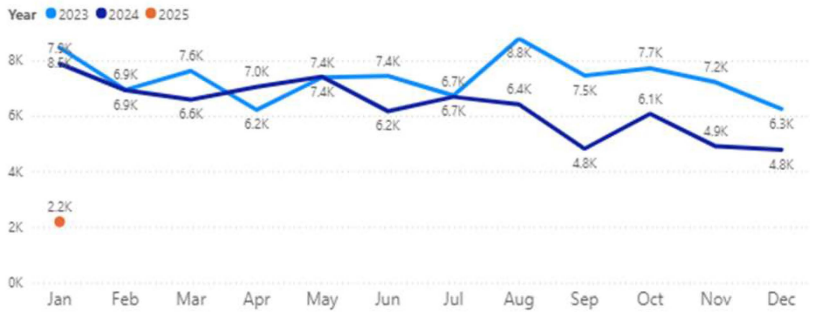
NORTH Dakota — Be Legendary.

Data last refreshed 1/12/25

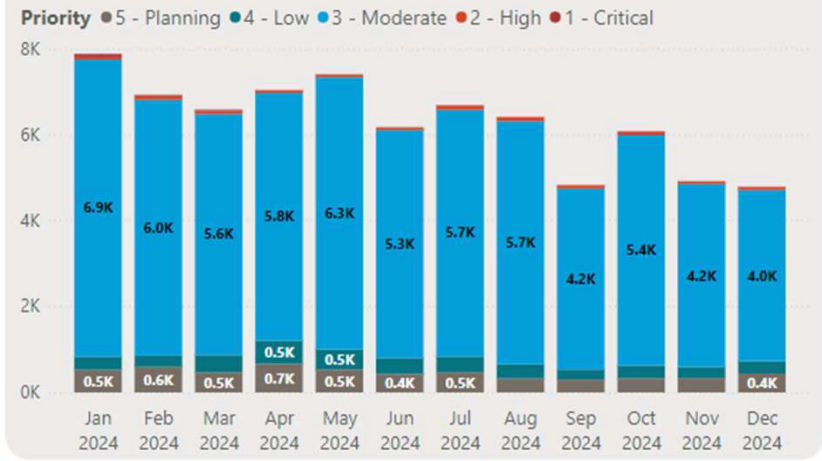
Select Metric: Incidents Created | Incidents Resolved | Incident Backlog | Avg Resolution Time(Mins)

Trend: Incidents Year over Year

Continuous | Year over Year | 3 Metrics



Trend: Incidents by Priority



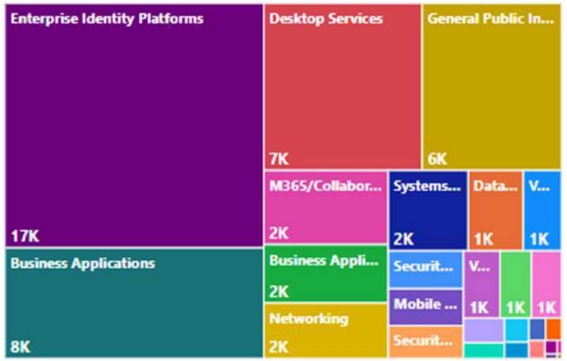
Summary Metrics for 1/1/2024 - 8/20/2024

Click for Video Tutorial

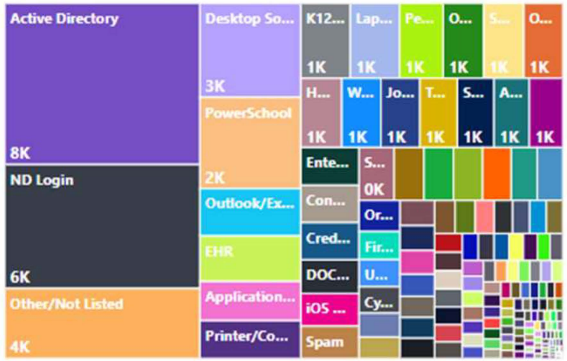
Select Time Period: 1/1/2024 – 8/20/2024

53K	53K	761	790	5.7%
Incidents Created	Incidents Worked	Incidents Outstanding	Avg Resolution Time(Mins)	Pct Tickets Breached

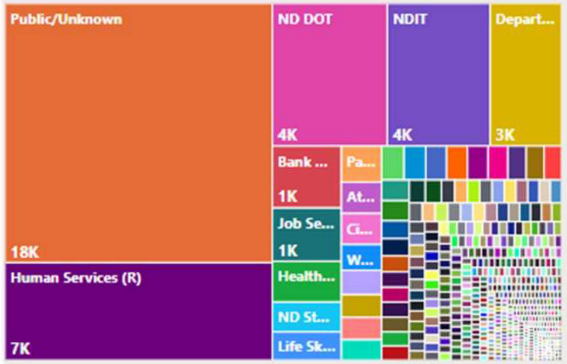
Incidents by Category



Incidents by Subcategory



Incidents by Agency



Incidents by Underlying Cause

Section Changes and Policy Bills

Appropriation Carryover Authority

- Add sections to SB 2021 for the following projects in flight:
  - Statewide Interoperability Radio Network (SIRN)
  - Capitol Security
  - Governance Risk & Compliance (statewide data strategy work)
  - Business Gateway
  - Enterprise Digitization (modernization work)
  - Broadband, Equity, Access and Deployment (BEAD / DE)
- Add ability to transfer funds from HIN Loan Fund to operating

Policy Changes

- Agency sponsored policy changes
  - Change to Statewide Project Plan-SB2048
  - Change to Executive Steering Committee make up-SB 2049

- Legislator sponsored policy changes
  - HB 1265

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations - Government Operations Division
Brynhild Haugland Room, State Capitol

SB 2021
3/24/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

2:51 p.m. Chairman Monson opened the meeting.

Members Present: Chairman Monson, Vice Chair Brandenburg, Representatives: Bosch, Fisher, Kempenich, Meier, Pyle.

Discussion Topics:

- Mainframe Project
- Technical Advisor
- Health and Human Services (HHS)

2:51 p.m. Representative Bosch introduced the amendment 25.0188.02002, #43678.

3:09 p.m. Chairman Monson closed the meeting.

Madaline Cooper, Committee Clerk

25.0188.02002
Title.

Prepared by the Legislative Council staff for Representative Bosch
March 21, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO FIRST ENGROSSMENT

ENGROSSED SENATE BILL NO. 2021

Introduced by

Appropriations Committee

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; to amend and reenact sections 54-35-15.1, 54-59-14, and 54-59-15 of the North Dakota Century Code, relating to membership of the information technology committee and the information technology operating fund; to provide for a transfer; and to provide an exemption.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from other funds derived from special funds and federal funds, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
Salaries and wages	$112,233,364	$16,139,027	$128,372,391
New and vacant FTE pool	0	8,403,424	8,403,424
Operating expenses	119,115,018	(96,380,424)	22,734,594
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
Edutech	10,348,826	(304,659)	10,044,167

K-12 wide area network	5,915,668	912,665	6,828,333
Geographic information system	1,109,786	48,157	1,157,943
Health information technology office	5,822,725	4,928,517	10,751,242
Statewide interoperable radio network	18,449,852	(2,236,315)	16,213,537
Total all funds	$281,064,809	($72,307,386)	$208,757,423
Less other funds	239,646,504	(82,764,058)	156,882,446
Total general fund	$41,418,305	$10,456,672	$51,874,977
Full-time equivalent positions	507.00	2.00	509.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SEVENTIETH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items included in the appropriation in section 1 of this Act which are not included in the entity's base budget for the 2027-29 biennium and which the entity shall report to the appropriations committees of the seventieth legislative assembly regarding the use of this funding:

One-Time Funding Description	General Fund	Other Funds	Total
Vulnerability software licenses	$0	$150,000	$150,000
Health information technology office	0	3,000,000	3,000,000
Total	$0	$3,150,000	$3,150,000

SECTION 3. NEW AND VACANT FTE POOL - LIMITATION - TRANSFER REQUEST. The information technology department may not spend funds appropriated in the new and vacant FTE pool line item in section 1 of this Act, but may request the office of management and budget to transfer funds from the new and vacant FTE pool line item to the salaries and wages line item and other line items with salaries and wages in accordance with the guidelines and reporting provisions included in House Bill No. 1015, as approved by the sixty-ninth legislative assembly.

SECTION 4. OTHER FUNDS - TRANSFER - HEALTH INFORMATION TECHNOLOGY PLANNING LOAN FUND TO ELECTRONIC HEALTH INFORMATION EXCHANGE FUND. Notwithstanding section 6-09-43, the other funds line item in section 1 of this Act includes the sum of $3,000,000, or so much of the sum as may be necessary, which the Bank of North Dakota shall transfer, as requested by the chief information officer, from the health information technology planning loan fund to the electronic health information exchange fund for the

purpose of defraying the expenses of the health information technology office and the health information network during the biennium beginning July 1, 2025, and ending June 30, 2027.

SECTION 5. EXEMPTION - LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 6. AMENDMENT. Section 54-35-15.1 of the North Dakota Century Code is amended and reenacted as follows:

54-35-15.1. Information technology committee - Appointment.

The legislative management, during each biennium, shall appoint an information technology committee in the same manner as the legislative management appoints other interim committees. The legislative management shall appoint six members of the house of representatives and five members of the senate to the committee. The chief information officer of the state ~~is an~~and an individual with information technology-related experience from the department of health and human services, appointed by the commissioner of the department of health and human services, are ex officio, nonvoting ~~member~~members of the committee. The legislative management shall designate the chairman of the committee. The committee shall operate according to the statutes and procedure governing the operation of other legislative management interim committees.

SECTION 7. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology~~,~~ and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.

2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section.

3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 8. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating ~~account~~fund or other ~~accounts~~funds specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 9. EXEMPTION - UNEXPENDED APPROPRIATIONS. The following appropriations are not subject to the provisions of section 54-44.1-11 and any unexpended appropriation authority remaining may be continued into the biennium beginning July 1, 2025, and ending June 30, 2027:

1. The sum of $45,000,000 appropriated from the federal coronavirus capital projects fund for broadband infrastructure grants in section 9 of chapter 548 of the 2021 Special Session Session Laws and continued into the 2023-25 biennium in sections 9 and 10 of chapter 21 of the 2023 Session Laws.

2. The sum of $12,000,000 appropriated from the strategic investment and improvements fund, of which $7,000,000 was for an enterprise digitization project and $5,000,000 was for a business gateway enterprise customer relationship management program, in section 1 of chapter 21 of the 2023 Session Laws.
3. The sum of $4,856,876 appropriated from the information technology operating fund for governance, risk, and compliance costs and the department of public instruction lighthouse project in section 1 of chapter 21 of the 2023 Session Laws.
4. The sum of $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act for the broadband, equity, access, and deployment program, digital equity program, and state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
5. The sum of $487,520 appropriated from the general fund as matching funds for the state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
6. The sum of $80,000,000 appropriated from the federal state fiscal recovery fund for the statewide interoperable radio network project in section 4 of chapter 554 of the 2023 Session Laws.

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations - Government Operations Division
Brynhild Haugland Room, State Capitol

SB 2021
3/26/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

8:58 a.m. Chairman Monson called the meeting to order.

Members Present: Chairman Monson, Vice Chair Brandenburg, Representatives: Bosch, Fisher, Kempenich, Meier, Pyle.

Discussion Topics:

- North Dakota Health Information Network (NDHIN)
- Federal reimbursements for NDHIN
- Statewide Interoperable Radio Network (SIRN)
- Intelligent Transportation System
- Broadband Association of North Dakota (BAND)
- Cybersecurity FTE breakdown
- Vulnerability Program and Process Maturity
- Static Application Security Testing (SAST)
- PowerSchool Data Breach
- Statewide Data Strategy
- State Data Hub

8:59 a.m. Corey Mock, CIO, North Dakota Information and Technology, testified in favor and submitted testimony #44109, #44110, #44111, #44112, #44113, #44126, and #44170.

9:01 a.m. Dr Shila Blend, Director, North Dakota Health information Network, testified in favor and continued with previous testimony #43344.

9:15 a.m. Greg Hoffman, Deputy CIO, North Dakota Information and Technology, testified in favor.

9:31 a.m. Craig Felche, Chief Technology Officer, North Dakota Information and Technology, testified in favor and continued with previous testimony #43344.

9:57 a.m. Chairman Monson recessed the meeting.

10:06 a.m. Chairman Monson reconvened the meeting.

10:06 a.m. Carissa Swenson, Executive Director, Broadband Association of North Dakota, testified in favor.

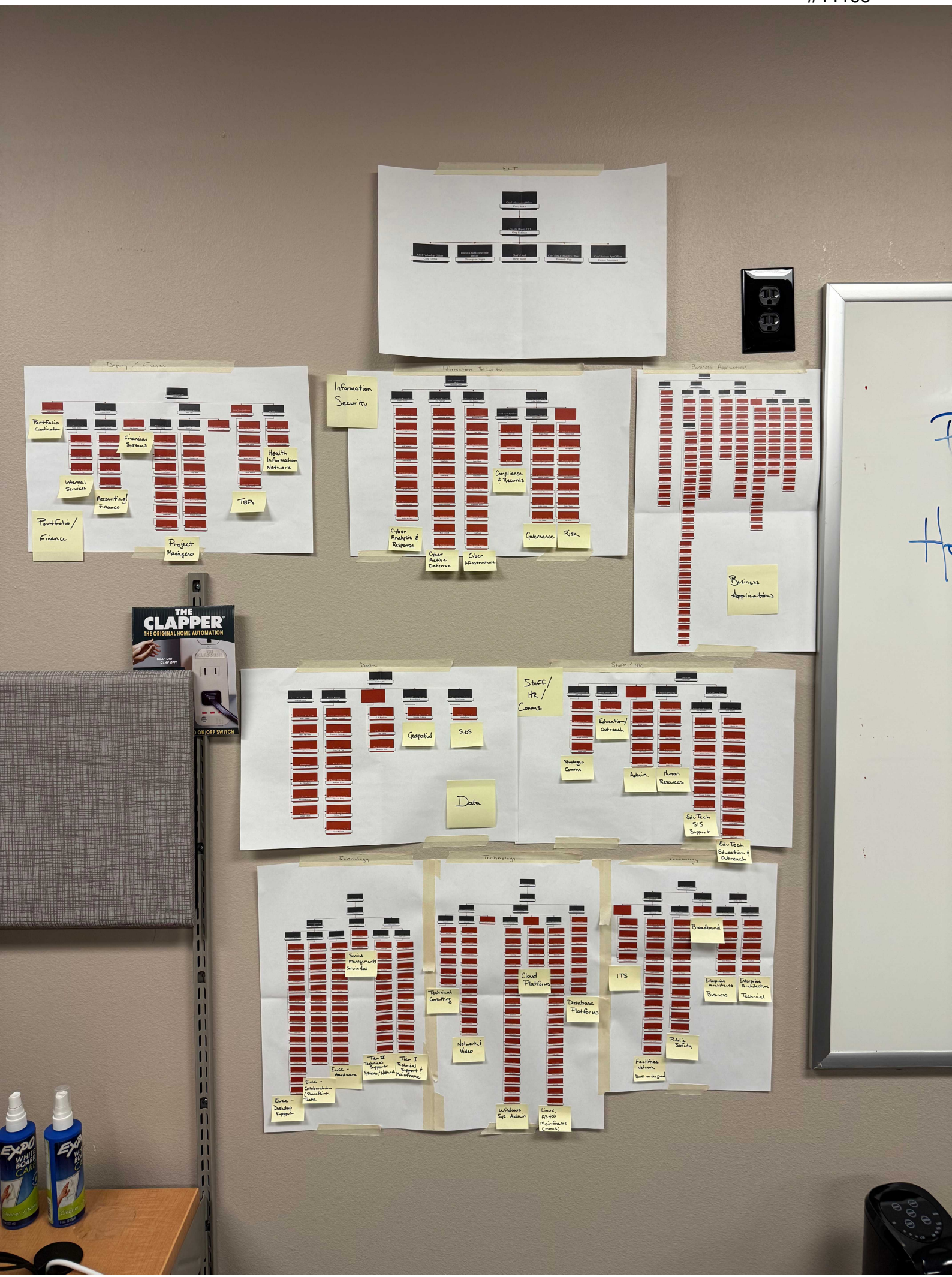
10:08 a.m. Chris Gergen, Director Cyber Operations, North Dakota Information and Technology, testified in favor and continued with previous testimony #43344.

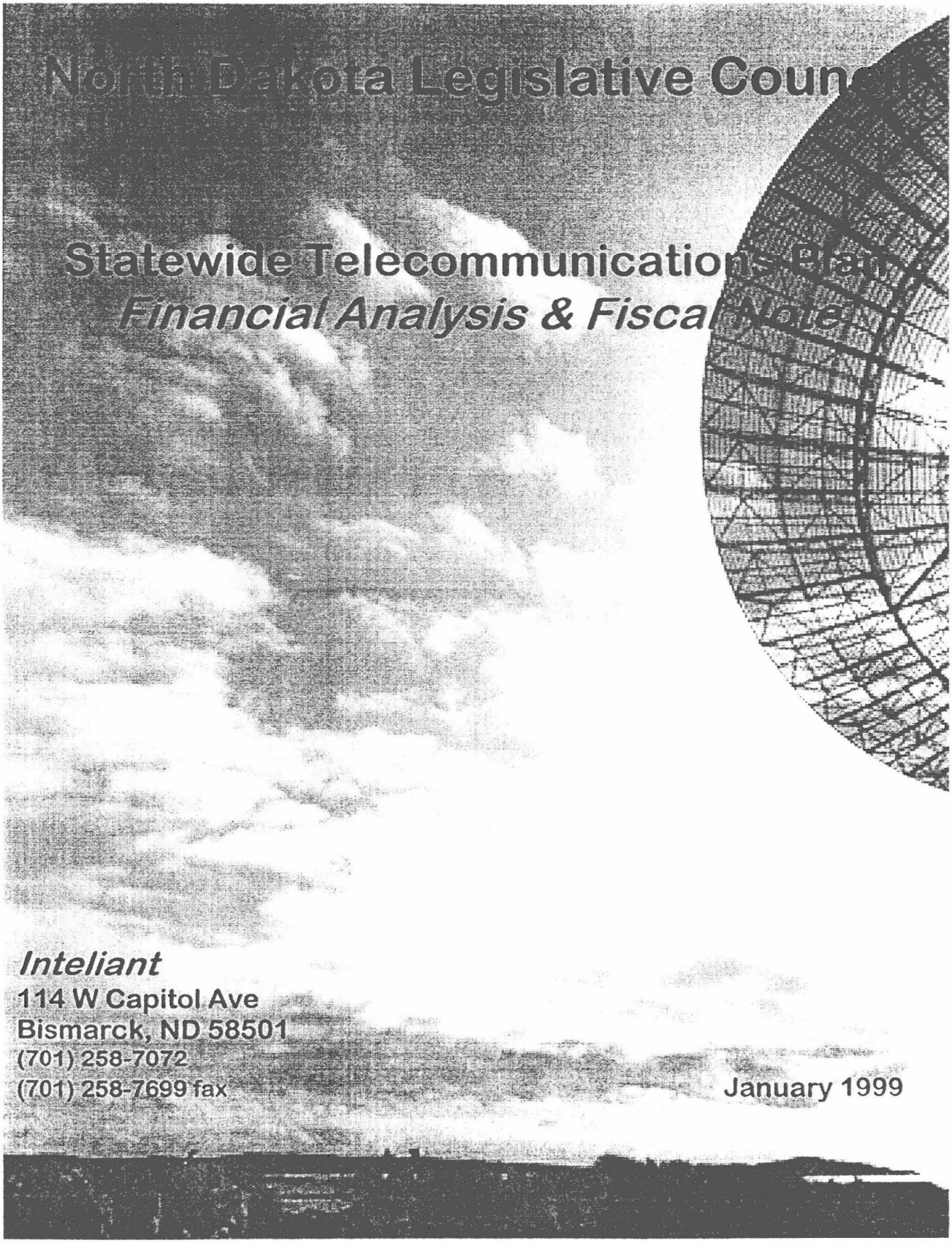
10:54 a.m. Kim Weis, Chief Data Officer, North Dakota Information and Technology, testified in favor and continued with previous testimony #43344.

11:35 a.m. Corey Mock, CIO, North Dakota Information and Technology, testified in favor and explained #44113 and #44170.

11:46 a.m. Chairman Monson closed the meeting.

Madaline Cooper, Committee Clerk


ELT
Portfolio Coordinator
Financial Systems
Internal Services
Accounting/ Finance
Project Managers
Health Information Network
TBPs
Portfolio / Finance
Information Security
Cyber Analysis & Response
Cyber Active Defense
Cyber Infrastructure
Compliance & Records
Governance
Risk
Business Applications
Business Applications
THE CLAPPER
THE ORIGINAL HOME AUTOMATION
CLAP ON! CLAP OFF!
ON/OFF SWITCH
Data
Geospatial
SODS
Data
Staff / HR / Comms.
Education/ Outreach
Strategic Comms
Admin.
Human Resources
EduTech SIS Support
EduTech Education & Outreach
Technology
Technology
Technology
Service Management/ ServiceNow
Exec - Hardware
Exec - Collaboration (SharePoint, Teams)
Exec - Desktop Support
Technical Consulting
Network & Video
Cloud Platforms
Database Platforms
Windows Sys. Admin
Linux, AS400 Mainframe (mmis)
ITS
Broadband
Enterprise Architecture Business
Enterprise Architecture Technical
Public Safety
Facilities Network
EXPO
WHITE BOARD CARE



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(701) 258-7699 fax

January 1999

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I. Executive Summary

In the 1990s, communications have expanded in ways few dreamed of just years ago. These advances have brought about major changes in North Dakota as we look ahead for ways to strengthen our economy and build for our future.

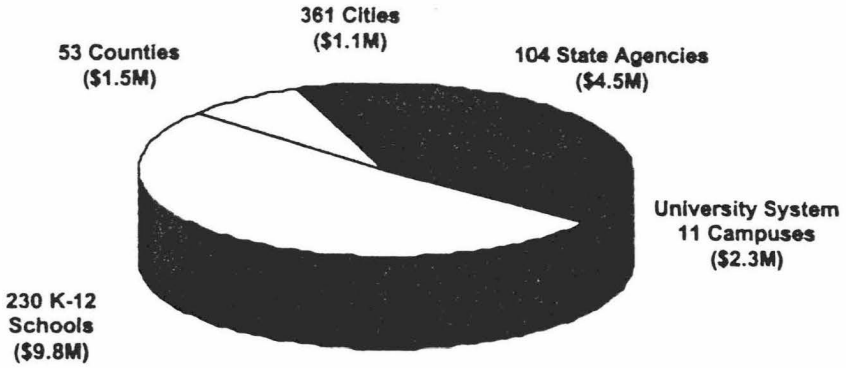
The state's Information Services Division (ISD) has established a solid telecommunications network in conjunction with the university system and the counties. The steps taken by these organizations positions the state to capitalize on advanced improvements in the future. By including key entities such as the K-12 schools, additional libraries, cities and not-for-profit healthcare facilities on this network, the state is in a strong position to leverage its buying power and influence the deployment of advanced technologies throughout the state.

The purpose of this report is to present a fiscal note and supporting information for Senate Bill 2043. The bill has two major objectives:

- Establish the Information Technology Department (ITD)
- Establish a statewide telecommunications network

Financial Analysis Summary

In 1998, the state of North Dakota spent approximately $19.3 million on telecommunications services for state agencies, universities, public schools, counties and municipalities. The breakdown of spending is as follows:



Based on industry data, this spending is expected to increase 20% a year, resulting in telecommunications spending of $57.6 million annually by fiscal year 2005.

Conservatively, the expected financial benefit of implementing an enhanced Information Services Department and establishing statewide telecommunications services is a 3% reduction in spending growth. This translates into savings of $6.7 million over the next six years.

Recommendations

1. Establish **ITD as an enhanced ISD** with a cabinet level Chief Information Officer (CIO) reporting directly to the governor. Additional staff will enable ITD to offer expanded services to its customers.
2. Establish a **statewide telecommunications network** for state agencies, higher education, schools, cities, counties and other not-for-profit organizations.

The network presented in this plan is based on the following:

1. **Expansion of current customer base (schools, cities, healthcare, etc.)**
2. **Increased bandwidth capability to meet continually increasing demand**
3. **Implementation of advanced technologies**

North Dakota can realize tremendous benefits by following a unified network strategy, expanding the customer base and enhancing the network. These benefits include:

1. **New technologies** - The joint purchasing power of the entire group is sufficient to drive the market. This will enable both public and private sector entities to obtain new technologies that would not be available on a timely basis with a disparate approach.
2. **Economic Development** - Economic development capabilities throughout the state will be enhanced. North Dakota's improved telecommunications infrastructure will augment business retention, expansion and growth.
3. **Financial savings** - The financial benefits are substantial (See Section VIII).
4. **Rural areas** - Rural areas will benefit tremendously by joining forces with the more populated regions. Rural areas are currently at a significant disadvantage financially and technically in their pursuit of affordable technologies.
5. **Joint planning** - The networking options facing public entities will continue to become more and more complex. By following a single, statewide plan, public entities within the state can advance together and ensure appropriate communications capabilities are deployed and utilized.
6. **Improved government services** - Government data and services can be made more accessible to the citizens of North Dakota as the network expands and new applications are developed.

Other state governments are making significant investments in their telecommunications capabilities. Economic development and educational opportunities commonly drive this investment.

The state of North Dakota has its own purposes. This study indicates the overriding reason for the state to aggregate buying power is to reduce future telecommunications spending and influence the deployment of advanced telecommunications technology throughout the state. North Dakota must make these advances in the coming years to meet user needs and stay competitive. The most efficient and cost-effective way for the state to proceed is as a united group.

This document provides the legislature with the information required to act on this important initiative.

II. Project Objectives and Project Team

The Legislative Council and the Information Technology Committee (IT Committee) defined the objectives to be accomplished by the project team. The two primary objectives of this project were:

- Create a Fiscal Note (99-01 biennium) for the impending legislation which will establish an Information Technology Department to plan and administer the statewide communications network.
- Perform a financial analysis for the implementation of a statewide network that will include state government, higher education, cities, counties, schools and other not-for-profit organizations.

Project Tasks

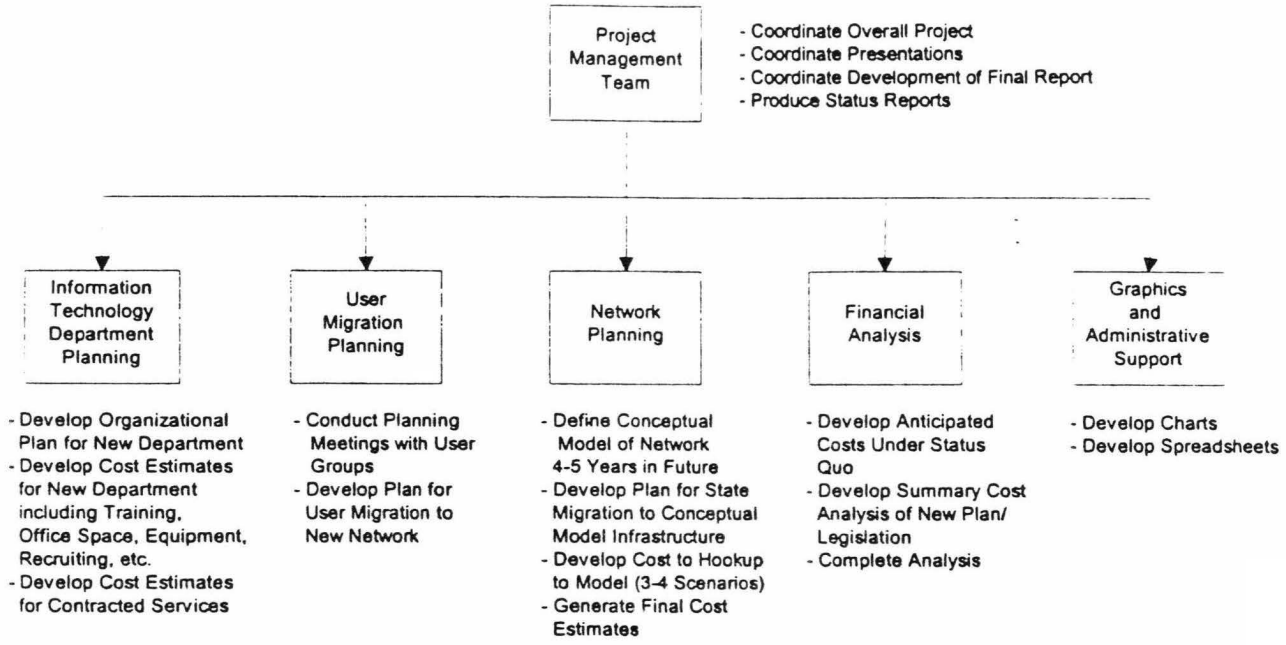
To satisfy the project objectives, the following tasks were accomplished:

- Organized the project and created a Project Team
- Defined the network community
- Defined a conceptual model of the new network as it might exist in the future
- Developed a migration strategy to the new model
- Established costs for migrating to the new network environment over the next six years
- Estimated the cost for each location of converting from the current environment to the new environment
- Defined budget requirements for the new Information Technology (IT) Department and contracted services which might be necessary to deploy the new network
- Summarized the data and developed a summary cost document for the future network
- Developed anticipated costs of telecommunications under status quo
- Developed final conclusions and cost comparisons
- Presented conclusions

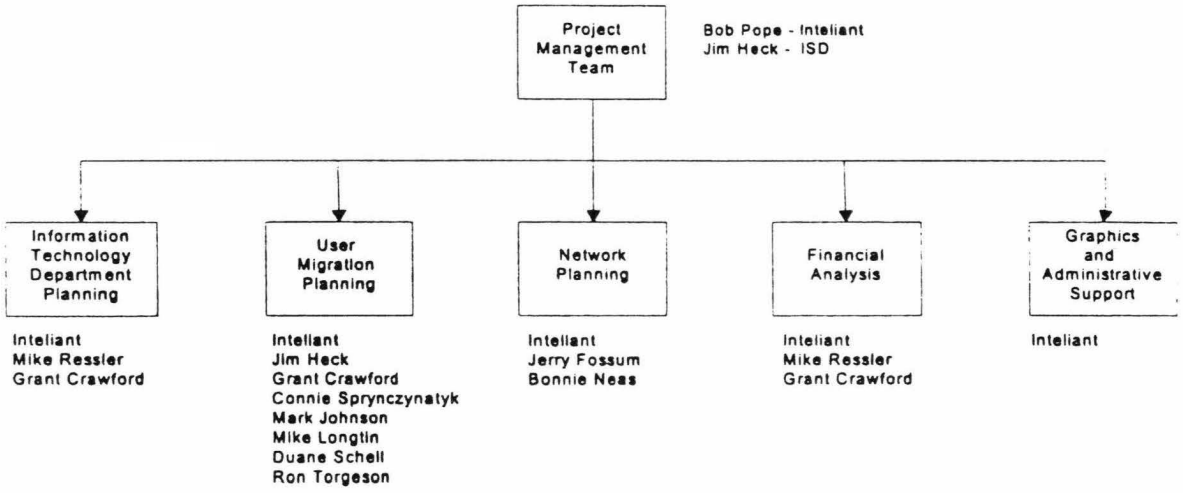
Project Team

Because of the large number of tasks to be accomplished and the various skills needed, a diverse project team was established. The two charts on the following page identify the parts of the team, the primary team members and the functional responsibilities of each part of the team.

Functional Responsibilities



Fiscal Note Project Team



Other Meetings

The project team also met with representatives from the following groups to gather input and comments regarding the proposed recommendations:

- E.T.C. – Education Technology Council
- North Dakota SchoolNet / SENDIT
- ND Council of Education Leaders – Technology Committee
- US West
- Dakota Carrier Network
- Sprint
- AT&T
- Teledesic (Admiral Bill Owens)
- Office of Management & Budget
- Prairie Public Television
- North Dakota Healthcare Association
- St. Alexius Telecare
- Valley City Economic Development

III. Background

From the first state network in 1982, where the Department of Transportation established direct communications with each district office, until recently when North Dakota began using a high-speed ATM/SONET network between Bismarck and Fargo, changes and improvements in telecommunications technology have been constant.

Today, North Dakota is at a new juncture, where advances in technology and new ways of thinking are prompting a hard look at the way the state interacts with its citizens and manages its telecommunications. Telecommunications technology has the potential of fundamentally changing the way we live, work and play.

Recently, the Information Technology Committee of the Legislative Council contracted with Inteliant to develop a Strategic Telecommunications Plan. The committee recognized new processes and a new organization are needed to stay current and effectively deploy technology in North Dakota government.

As part of that effort, Inteliant visited five states that are leaders in the deployment of statewide communications networks: North Carolina, Oklahoma, Arizona, Washington and Kansas. The project team developed recommendations based on the best practices of those leading states.

Reasons For A Change

The decision to explore a new approach for statewide telecommunications services was made for the following reasons:

- The need to encourage economic development in North Dakota through the use of a high-speed statewide communications network.
- The increased demand by citizens and companies for improved government services at decreased costs.
- The need for advanced telecommunications services in rural areas of the state.
- The rapid changes in the technologies and mediums used to provide high-speed communications and the convergence of technologies to provide all services over a single medium.
- The increased demand for high-speed data, voice and video communications.

The rapid emergence of digital technologies in the private sector has created both challenges and opportunities for government, and for state governments in particular. Businesses increasingly demand the ability to interact electronically with state governments, just as they do with other customers and suppliers. Moreover, many observers attribute citizen dissatisfaction with government, at least in part, to their sense governments are running behind in achieving the efficiencies and providing the convenient services digital technologies permit.

At the same time, digital technologies are providing state governments with opportunities to integrate programs, involve citizens and manage information in ways never before possible. Increasingly, states are taking advantage of these opportunities. Via the Internet and other digital technologies, citizens around the country are finding their way to government agencies and services without ever having to leave their homes, offices or cars. States are now providing on-line permit applications, electronic tax filing and personal assistance through e-mail correspondence.

Technology enables changes in work processes that lowers cost and improves service. More importantly, technology drives radical changes in governmental operations and it can serve as an economic engine for the state.

Anticipated Benefits

Through the proposed changes in the network and the organization used to plan, deploy and manage the network, the state anticipates realizing the following benefits:

- Improves communications services for the public sector.
- Allows the private sector to receive these enhancements without state involvement.
- Reduces costs by leveraging the state's buying power.
- Creates greater efficiency due to a planned, synchronous deployment of communications.
- Enhances economic development capabilities in rural areas.
- Creates opportunities to equalize education opportunities between rural and urban areas.
- Streamlines procedures that reduce government costs.
- Improves access to government data and services for the citizens of North Dakota.

Value of a Statewide Network to the Education of Its Children and Citizens

In March 1996, the Washington State Legislature passed Senate Bill 6705 to create a K-20 educational telecommunications network. The purpose of the network was to provide Internet, videoconferencing, and video program services to schools, colleges and universities statewide. It did so for the following reasons:

- Given the demand on limited resources, legislators recognized that distance learning using a high-speed network would be the most cost-effective way to provide quality educational services to students who might miss them otherwise.
- Legislators recognized that students need access to information technology, including advanced networking applications, if they are to obtain the skills needed for jobs in a competitive, high-technology marketplace.
- Legislators wanted to ensure the state's educational institutions would work together to develop access to information technology and avoid duplicating facilities at taxpayer's expense.

The state of Wyoming is currently in the process of implementing the Wyoming Equality Network. This is a statewide, high-speed data and video network that will connect all Wyoming public schools while giving communities the capabilities for economic development, telemedicine, and community outreach applications as well as access to the Internet. This network will impact all Wyoming public schools and every community in Wyoming.

Iowa, North Carolina, Utah, Kansas, Alaska, Oklahoma, and Rhode Island, to name a few, are in the process of implementing similar statewide networks for education.

Other Advantages of Networks to Schools

There are many advantages to students in an online world. With just a district network, students can share their work with others in the same class, in the same building or even in a different building. Networks support a teaching model that provides students the opportunity to learn by solving problems. This aids the teacher in becoming an education facilitator to the students in their search for knowledge and solutions.

Once the district and building connect to the Internet, the opportunities grow even larger. Students can share their work with others around the world, providing them access to diverse cultures and perspectives they would not encounter in everyday experiences. Information is available on the

World Wide Web that can provide students access to materials such as scientific journals and up-to-date research data which takes years for textbooks to offer. The Web can also provide access to mentors and experts that would not normally be accessible to children. Videoconferencing equipment allows a district to offer additional classes or supplements to current classes.

As they use the Internet, students become more familiar and comfortable with technology, facilitating their current education while preparing them for the future job market.

Expanding the Job Market

Policy makers, educators and private companies agree the K-20 educational telecommunications network will enable Washington's schools, colleges and universities to expand current distance learning projects and develop new and innovative uses for educational technology. The network enables educational institutions to operate more efficiently and provide citizens the skills they need to land quality jobs in a competitive global economy.

Barry Murphy of Microsoft Corporation says the network "has great potential for continued economic development in this state." He said that along with technology skills, Microsoft looks for other abilities students can gain from the network, such as thinking on their feet, searching effectively for information and collaborating. "You have to have teamwork. This technology will allow students in K-12 and higher education to work in teams. Not just teams within their own classroom but teams in other classrooms – teams in other schools."

By breaking the barriers of time and distance, telecommunications gives adults the option to pursue education throughout their lives without leaving their communities. These new learning opportunities give workers the choice to retrain for new jobs and better earning opportunities.

Businesses and industries can also take advantage of the network's training capabilities. They can work with the educational system and the network to update their employees' knowledge via videoconference at convenient times and places. There is little doubt that states who offer the right training will attract the jobs and employers that use those skills.

'The network is *critically important* to the high-technology companies in Washington which rely on highly skilled workers", said Mike Brice, Washington chairman of the American Electronics Association. "This is an innovative approach to delivering education, and will enhance the productivity of the state's education system."

Other Reasons to Invest in Rural Telecommunications

According to the *Applied Rural Telecommunications Investment Guide,* there are at least ten good reasons for North Dakota to invest in upgrading telecommunications services to its rural communities. These ten reasons are outlined as follows:

- Telecommunications resources can help diversify rural economies, open regional and global markets, and create economic opportunities.
- Telecommunications can make rural companies or organizations more efficient and more competitive.
- Telecommunications resources can help reduce the impact of vanishing or seasonal jobs.
- Telecommunications-based industries are typically cleaner and safer for their workers, the community and the environment.
- Telecommunications resources can leverage a rural area's best features into competitive advantages in the challenge to attract new businesses.

- Telecommunications resources protect the future. The Internet and other telecom-based resources expand the social, educational and intellectual options for young people, making migration to urban/suburban areas less compelling. By bringing the world to your town or region, you make it less necessary for them to travel or relocate.
- Telecommunications resources help build a more informed citizenry and more efficient and responsive local governments.
- Investment in rural telecommunications assets has a significant ripple effect. Improvements to information infrastructure not only support the business and commercial sectors: they also make possible improvements to other rural assets. Once the "data plumbing" is in place, all manner of uses become possible, including some that haven't been invented yet.
- The network needs the influence and perspective of rural participants.
- Telecommunications can improve the quality of rural life. By providing educational resources, cultural access and opportunities for social interaction, the various forms of telecommunications can reduce the isolation of the wide-open spaces.

Recommendations

The North Dakota Legislative Council published a *Strategic Telecommunications Plan* in October 1998. The report included several recommendations related to the deployment of telecommunications technology. The following list highlights these recommendations:

- Establish an Information Technology Department (ITD) for all telecommunications planning, selection, implementation and management for all state agencies, higher education, schools, cities and counties. Rural hospitals and other not-for-profit organizations should be included as well, if cost justified and desired by the state legislature.
- Establish the director of ITD as the Chief Information Officer (CIO) for the state of North Dakota. Establish the CIO as a cabinet-level position reporting directly to the governor.
- Establish an Information Technology Department Board (ITDB). ITDB should include representatives from the major branches of state government, outside companies and state agencies. ITDB shall have overall responsibility to approve standards and policies related to network technologies in North Dakota.
- Mandate that ITD develop a business plan defining rate plans, missions, roles, policies, transition plans, business objectives, measurements and general procedures.
- Establish a group within ITD for improving personnel productivity and workflow processes for ITD customers.
- Establish a technology development fund to establish the statewide network and to evaluate emerging technologies and implement common, shared components for users of the statewide network.
- Require each entity that will use the statewide network or is a user of ITD services to file a strategic information technology plan.
- Establish a project quality assurance process to provide an independent assessment of the status of major projects.
- Create a department within ITD called Citizen Service Delivery (CSD) to plan and administer access to state information primarily through the Internet.

IV. Guiding Principles for Recommendations

The bill draft is based on the following guiding principles. These principles were originally outlined in the October 1998 Strategic Telecommunications Plan prepared by Inteliant.

- **State information systems and communications networks should accomplish the following**:
  - Move government services to direct delivery
  - Improve collaboration and cooperation among government entities
  - Direct investments in technology from a strategic perspective
  - Invest in common components that may be used by multiple organizations
  - Improve the yield on information and technical resources by managing these as strategic assets from a business perspective
  - Lower employee costs and improve service by reengineering business processes
  - Improve customer service by using leading technology

- **State agencies, grades K-12 and post-secondary institutions should focus on their key competencies**. The agency that has network planning, implementation and support as its key competency and function should do network planning, implementation and support for the entire state.

- Citizen expectations for easy access to information and more responsive services are increasing rapidly. This demand for **hassle-free, convenient interactions with state government** is dictating that information be accessible anytime and anywhere.

- The state must plan, govern and fund the implementation and management of a common technical infrastructure that **facilitates the sharing and exchange of data**.

- **The statewide network should be a state resource** accessible by agencies, universities, K-12 education, cities, counties and nonprofit entities.

- **Eliminate duplication** of administration, deployment and management of the statewide communications network.

- **Clearly define position accountabilities and job roles**. As much as possible, establish the roles and accountabilities of the state CIO and the Information Technology Department Board within law.

- **Establish business partnerships** to meet the needs of government, citizens and industry on an ongoing basis. Input from business and telecommunications professionals from outside state government is healthy for both the state and private industry.

- **Establish an entity that will provide input from all government branches regarding telecommunications issues.** The statewide network is so important to the future economic viability of the state that intense cooperation of the legislative and executive branches of state government will be required on an ongoing basis.

- **Offer convenient access for all individuals regardless of their geographic location**. The state's connectivity infrastructure must be affordable, enabling all citizens and businesses in the state to be consumers and producers of the state's information resources.

V. The State Network of the Future

The main purpose of North Dakota's Network of the Future is to provide North Dakota's public entities with a broadband network that supports voice, data and video communications. The network will give the state the advantages of broadband technology and ways to reorganize government operations to improve service, implement new services and reduce overall costs.

The users of the network would include:

- North Dakota state government agencies
- North Dakota universities
- North Dakota school districts
- North Dakota counties
- North Dakota cities
- Other North Dakota not-for-profit organizations

Conceptual Design

To forecast future networking costs, the team developed a conceptual view of the future network for the state of North Dakota.

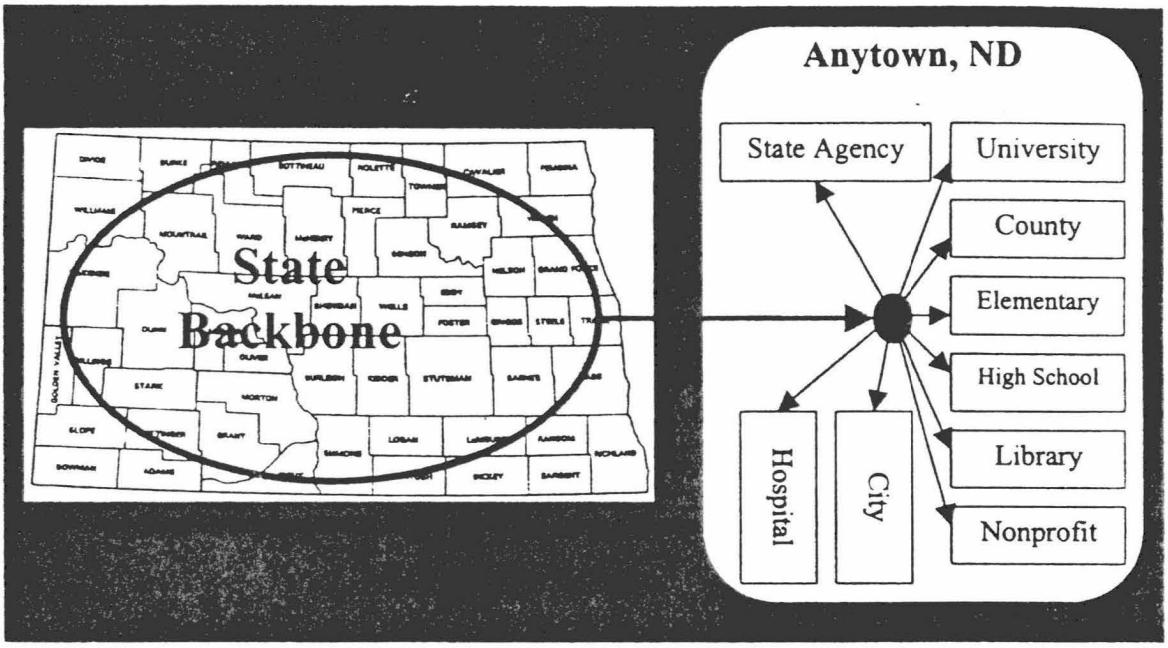
A conceptual model of the network was developed to avoid the problem of technical obsolescence. A conceptual model is defined in terms of requirements and services as opposed to hardware, software, wires and fiber. The conceptual model of North Dakota's Network of the Future has the following characteristics:

- Bandwidth or network capacity is the single most important characteristic of the network. The analysis of other states revealed that most networks were overloaded because demand grew faster than the capacity of the network to supply service. As state agencies, schools, counties and cities all connect to the same network and begin using the network, demand will increase significantly.
- The plan does **not** propose the development of a private, state-owned network for telecommunications services. Instead, the plan suggests the network consist primarily of services procured from private telecommunications service providers. The state would install its own infrastructure only when private providers fail to supply the required services.
- As the largest telecommunications consumer in North Dakota, the state serves the critical role as "anchor tenant." In this role, the state must consider community and economic development issues related to telecommunications and must work with private providers to provide oversight and leadership in the development of the state's future telecommunications infrastructure.
- The Information Technology Department's primary function in relation to the network would include the following major tasks:
  - → Maintain a broad overview of the network requirements of the users of the statewide network. This means ITD should anticipate demand and plan for each future network upgrade before the need is present.
  - → Contract with various telecommunications vendors to supply the bandwidth and functions needed by the customers of the network.
  - → Manage the vendors to ensure compliance with the quality of service issues defined within the telecommunications contracts.
  - → Monitor the network to assist in problem resolution (in conjunction with network service providers), particularly as it relates to customer premise equipment.
- The backbone, or the primary components, of the Network of the Future must be able to support voice, data and video over the same set of media and equipment. The system must also

eventually be able to monitor the volume of use of each user of the network to support fair and equitable allocation of cost when cost recovery is applied.

- The network must be developed on a flexible and scalable architecture with the ability to address a rapidly changing telecommunications environment. Vendor contracts must include the same flexibility and scalability.

The following diagram provides a visual depiction of the conceptual network:



"The State Network of the Future"

Advanced telecommunications would be brought into the community to a network access point and distributed to each eligible entity. Because the state is purchasing this service, private individuals and businesses would be in a position to purchase similar services from the telecommunications provider.

Projected Technologies

The conceptual design intentionally avoids designating specific technologies and is based on desired services and outcomes. The principles for ultimately selecting the technologies for the Network of the Future will be based on a detailed technical design, service provider offerings and the cost effectiveness of the solution.

However, the project team outlined potential technologies that meet the requirements of the conceptual design. These technologies include an ATM-based backbone with local access technologies that include frame relay, Digital Subscriber Lines (xDSL) and wireless systems. Future access technologies may include low-earth orbit satellites (LEOs) to serve those areas that are ill-suited for traditional wireline approaches.

VI. Network Usage

This section of the report identifies the potential additional value of improved network capabilities made possible through the implementation of Senate Bill 2043 and the Strategic Telecommunications Plan of the Legislative Council. The expanded uses of the network are identified for state agencies, universities, schools, counties, cities and healthcare organizations.

It is important to note that, in and of itself, the network is simply a delivery mechanism for applications and services. To maximize the potential value of the network, additional investments will be required to purchase and/or develop new applications and hardware. These costs are not addressed in the proposed legislation or this report. Each of these initiatives should stand on its own merit. Executive and legislative leadership should encourage the exploration and implementation of innovative applications to improve services and reduce costs.

North Dakota State Government Agencies

Most state agencies are connected to a data Wide Area Network and a voice network. Some locations are connected to an interactive video network. After the ITD is created and the capabilities of the network increase, the following additional uses and benefits can be realized:

- Provide the technical environment which can reduce paperwork, increase efficiency and improve government effectiveness.
- Increase legislator access to agency information.
- Promote further cooperation and information sharing among state agencies.
- Give citizens increased access to public records, reducing costly, time-consuming work by state employees, resulting in improved customer service. This capability could include access to information on jobs, unemployment benefits, tax records and other items.
- Make video conferencing more widely available, saving on state employee travel costs.
- Create the opportunity for electronic town meetings between government leaders and constituents.

North Dakota Universities

Advanced technology and telecommunications systems are critical to the on-going mission of the North Dakota University System. Technology is an essential component for the university system to provide *a high quality, high access higher education system.*

The North Dakota University System already shares network services with state agencies. After the Information Technology Department (ITD) is created and the capabilities of the network increase, the following additional uses and benefits can be realized:

- Provide the infrastructure for expanded distance learning applications.
- Offer expanded remote learning opportunities.
- Provide some of the essential infrastructure for the "Virtual University" – education anytime, anywhere.
- Enable increased resource sharing across the university system.
- Strengthen collaboration opportunities in research and development of future applications.
- Enhance professional development and continuing education.
- Enable real-time manipulation of remote research instruments.

North Dakota School Districts

"The value of having access to advanced telecommunications and information services in America's public schools is clear: the work force of the 21st Century will need to be familiar with information technologies, adept at information gathering, and comfortable with the manipulation and interpretation of data. In order to help prepare and train much of tomorrow's labor force, educational institutions will need to be equipped with information technologies and communications networks that are integral to these processes. Students who do not learn to use computers and information technology in schools will not be competitive in the job market."

Emilio Gonzalez, United States Department of Commerce

Section III of the report addresses many of the future benefits of enhanced communication capabilities for the North Dakota's public schools. Accounting for one-half of the state's telecommunications spending, public schools stand to gain the most from the network envisioned within this legislation.

Currently, over 90% of K-12 schools in North Dakota are connected to the Internet via the ND School Net Cooperative, their local telephone company or a local Internet provider. SENDIT and the Center for Innovation and Instruction provide LAN and WAN consulting services to schools to assist them in planning and development. Already, these schools are seeing many of the benefits.

Connecting classrooms to a common network can transform ordinary computers into powerful learning tools. The network will allow education materials and resources to be shared across the state. Access to the network will also introduce students and teachers to people, places and ideas from around the world.

Network-based, interactive video environments will continue to grow in the next few years, making possible the expanded discovery of information and the opportunity for improved schools, learning and student performance. By connecting all of North Dakota's classrooms to a statewide network, the state can ensure that North Dakota students are not left behind.

The network will be used in the following ways:

Student Use	Distance Learning Computer-based Instruction Technology Education Global Learning Research
Teacher Use	Continuing Education / Professional Development Research Curriculum Development Resource Sharing Parent / Teacher Collaboration
Administrative Use	Student Records (reporting / transferring) Fiscal Reporting District and State Collaboration
Community Use	Adult Education (Lifelong learning) Parent / Student / Teacher Collaboration School Information Access

Two critical issues must be addressed to maximize the effectiveness and value of the network for public schools: network support and applications leadership.

SchoolNet and NDSU currently provide support services to the 100+ schools that are part of the ND SchoolNet Cooperative. This arrangement is working well with a high-level of satisfaction by the

member schools. Under a statewide network, it is recommended this arrangement continue on a collaborative basis with the Telecommunications Services Division of ITD. During the 01-03 biennium, it may be necessary to add one support person to SchoolNet to account for additional support requirements.

Applications leadership is critical to realizing the full value of the network. Applications refers to items such as distance-learning courses, computer-based training and resource-sharing applications. Under a statewide network, it is recommended applications leadership be a collaborative arrangement between the new Information Technology Department, the university system, public school representatives, SENDIT, the Center for Innovation and Instruction and the Department of Public Instruction.

North Dakota Counties and Cities

Across America, local governments have struggled to keep up with the technological revolution. High costs and limited expertise have restrained progress in the use of information technology. While several local functions such as libraries, Registers of Deeds and Social Services offices have made significant strides, many other functions have been left behind. Some cities and towns have no connections to the state, other counties or other cities. Others have been able to make considerable strides with their technology. This leaves a huge gap between those with the expertise and those without.

Local governments have a significant need for effective technology and telecommunications capabilities. They are the closest level of government to the people. As government evolves, local governments will be required to provide faster and more convenient services. These changes will require more strategic uses of technology, specifically communications. For this to happen, several things must occur:

- Cities and counties must desire to take advantage of the network and its capabilities.
- A network plan must be developed that serves the needs of cities and counties.
- A complete technical support structure must be implemented.
- Network services that provide maximum financial and operational benefits must be deployed.

Counties and cities will realize the following benefits after the Information Technology Department is created and the capabilities of the network increase:

- Take advantage of state leadership in the selection and deployment of network technology and telecommunications.
- Provide remote employment opportunities by retaining people in rural communities.
- Attract outside technology companies to locate in their communities due to of the presence of an advanced telecommunications infrastructure.
- Allow companies to train employees at colleges and universities through video connections without leaving the work location.
- Provide businesses better access to strategic information and market data.
- Provide a means for statewide library connectivity.
- Allow resource sharing and collaboration opportunities for North Dakota cities and counties.

North Dakota Healthcare

Many opportunities exist within the healthcare industry of North Dakota for use of a high-speed communications network. If desired by the legislature, nonprofit hospitals and clinics could participate in the network to accomplish the following:

- Remote diagnosis for doctors and consultation of patients using real time video and audio telepresence equipment (interactive television). These remote capabilities are used for urgent and routine care.
- Reduced travel time and costs for patients and doctors.
- Improved access to healthcare in rural areas of the state.
- Increased quality by improving physician follow-up care.
- Improved medical education for physicians and other health care professionals.
- Improved access to specialists.
- Improved processing of medical and insurance records.

Although some hospitals and organizations are already using high-speed communications functions (i.e. Telecare Network), their participation with ITD and the state's network will improve their capabilities and increase the telemedicine coverage area.

VII. Information Technology Department

This section of the report defines the assumptions used in developing the anticipated costs of the new Information Technology Department (ITD). The first and most important assumption is that ITD will replace the current Information Services Division (ISD) of OMB. Therefore, the costs reflected in the accompanying analysis are for the costs due to the change. The costs of ISD, which would have been encountered regardless of this change, are not reflected in the analysis.

The anticipated costs include the following areas:

- Staffing Requirements for salary, benefits and associated recruiting for the following new departmental functions:
  - Office of the CIO and Administrative Support Staff
  - Technology Planning
  - Quality Assurance
  - Process Redesign
  - Citizen Service Delivery
  - Statewide Communication Services
- Increased office space requirements for the additional staff
- New furniture and workstation requirements
- Additional training requirements
- Contract costs for contract personnel and board costs

Costs were first calculated for each year of the next biennium. Annual costs are calculated because, in some cases, the staff may not be needed in year one or the staff may not be available until year two. Each new position will also require additional office space, a workstation and will incur training expenses.

The following information summarizes the new positions added to ITD:

Office of the Chief Information Officer (CIO)

This area modifies the current position of Information Services Director within OMB. This area also creates a new position of Administrative Assistant for the office of the CIO.

Staffing: 1 FTE

The CIO position is a critical position for the state of North Dakota. The CIO will provide vision and leadership in the deployment of new technology initiatives. The CIO will provide oversight for the entire state enterprise in a complex and ever-changing marketplace. For the state of North Dakota, the enterprise includes state agencies as well as the NDUS, public schools, counties and cities.

The effective and strategic use of common enterprise-wide information requires someone with a cross-functional perspective. The CIO's role is to provide leadership in reengineering the enterprise business processes and the underpinning IT infrastructures. These activities should achieve more productive, efficient and valuable use of information within the state.

Technology Planning

This department assumes the current responsibilities of ISD in addition to providing proactive technology planning services for all members of the statewide telecommunications network. It will quantify the needs of member organizations and provide forecasting data to ensure the integrity and operational efficiency of the overall network.

Staffing: 3 FTEs (1 in each of the next three years)

Quality Assurance

Quality Assurance (QA) is a process to improve the likelihood of project success. An independent group that reports to the ITD Board should perform the QA process. By conducting the QA process throughout the project, the Board has a chance to respond proactively to problems before the problems are beyond repair. The term independent can include internal ITD personnel who are in a position to provide an unbiased and impartial assessment of the project status.

Staffing: 2 FTEs (1 in year one and 1 in year two)

Process Redesign

This function is a service to the users of ITD to help ensure they receive maximum value for their technology investments and that the technology is being used in its most efficient and effective manner. The goal of this service is to enable government agencies to redesign their internal processes, shed old ways of doing business and re-invent themselves with modern, streamlined processes.

Staffing: 2 FTEs (1 in year one and 1 in year two)

Citizen Service Delivery

CSD is a new function within ITD to provide leadership for the development of Internet-based applications. It is recommended that this group become a department within Software Development Services.

Staffing: 6 FTEs (3 in year one and 3 in year two)

Statewide Telecommunications Services

This group will have complete responsibility for planning, deploying and managing the statewide area network. This group is currently called Telecommunications Services within ISD. This group will have the added responsibility of supporting the wide area network for schools and cities in addition to the support of state agencies, the university system and counties. It is important for this group to work on a collaborative basis with all members of the network user community.

Staffing: 3 FTEs (1 in each of the next three years)

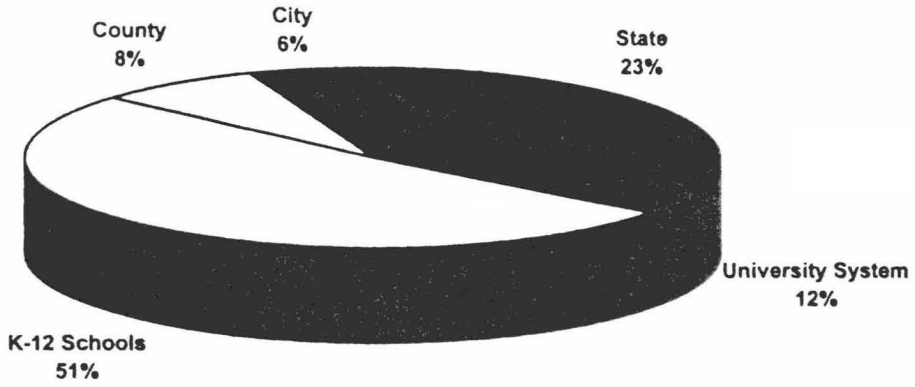
Cost Summary

The estimated first biennial increased costs for establishing the new Information Technology Department are as follows:

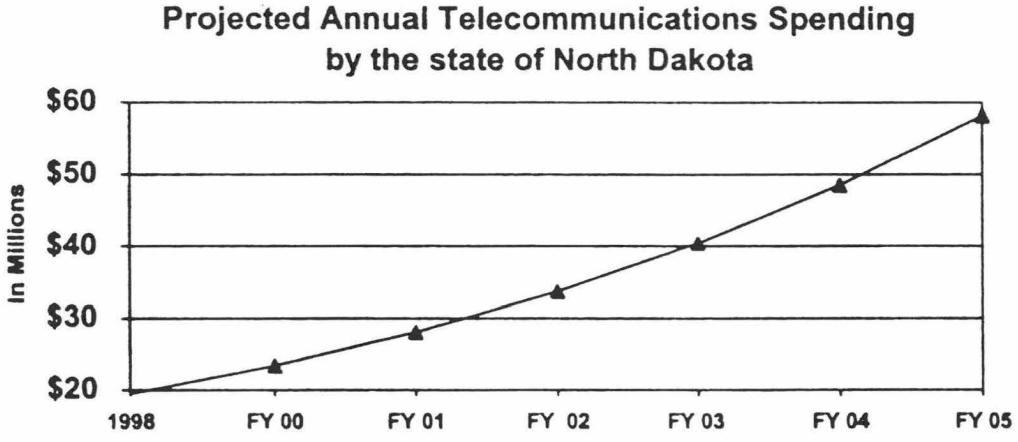
Projected Costs for New ITD	Total Biennium 99-01
Staffing Increases including Recruitment	$1,398,000
Increased Office Space Requirements	$26,400
New Furniture and Workstation Requirements	$36,100
Additional Training Costs	$69,000
Contracting & Board Costs	$310,000
Total	**$1,839,500**

VIII. Telecommunications Financial Analysis

In 1998, the state of North Dakota spent approximately $19.3 million in *wide area network* telecommunications services for state agencies, the university system, public schools, county government and municipal government. A breakdown of the spending is as follows:



Future spending for telecommunications services is expected to grow at a minimum of 20% annually. Demand for network services (bandwidth) is being driven by new applications and the explosion of remote access and Internet access. Industry analysts are predicting network demand growth of 300% or more over the next five years. Using average growth of 20% annually, telecommunications spending will increase from $19.3 million in 1998 to $57.6 million in 2005.



The projected financial benefits of bringing current services and functions under the auspices of ITD were based on the following:

- **Aggregation of Demand.** The addition of schools and municipalities will more than double the state's current telecommunications buying power. The state would be in a powerful and attractive bargaining position with respect to future service requests from telecommunications service providers. It is difficult to target a specific value to each entity of consolidating the state's buying power. However, states that have moved in the direction of aggregation have found they can reduce their overall procurement costs by 20%. Because North Dakota is already aggregating

telecommunications purchases for state government, the university system, and county government, the project team used a much more conservative figure in projecting the benefit.

- **Statewide Strategy.** There is considerable power and value in having a single telecommunications strategy for the entire state. While the value of a single telecommunications strategy is difficult to quantify, it is safe to assume the state will be positioned to direct funding and investments into areas that conform to the overall strategic plan and minimize misappropriated telecommunications dollars.
- **Common Network Model.** By moving to a common network model, the cost of network operations and maintenance can be reduced. Common standards will make networks easier to maintain and reduce training costs. It has been reported that as much as a 50% efficiency in operation and maintenance costs can be achieved on some networks as a result of consolidating network support. The North Dakota networks studied as part of this analysis were running with very efficient staffing levels. Statewide leadership will ensure this continues as the state advances in telecommunications technology and expands the network user community.
- **Standard Purchasing Criteria.** Another area of potential economic benefit is reducing the possibility of errant capital purchases and technical obsolescence. As a result of statewide leadership for standards and procurement decisions, all members of the network community can make technology purchases based on consistent buying criteria. In addition, the state as a whole will be able to more easily integrate applications and services through these common standards.

The following are indirect benefits to consider for the financial analysis:

- Telecommunications development in rural North Dakota is a growing economic development issue. Access to broadband communications services is becoming a necessity for any community, organization or individual to be competitive in today's economy. State government is the single largest telecommunications consumer in the state and can act as a catalyst for the accelerated deployment of these services throughout the state by aggressively pursuing the implementation of these services with telecommunications service providers.
- Networking of all state and local government resources can dramatically impact the cost of delivery of all government services by creating opportunities to reduce administrative costs, aggregate purchasing for all types of products and services, and reduce the costs of delivering government products and services. Government agencies have projected efficiency gains as high as 20-30% in some operations by establishing direct communications with their constituency and reengineering internal business processes.

The following is a summary of the experience of other states in addressing telecommunications issues similar to North Dakota:

Colorado
The state of Colorado has proposed legislation to develop a consolidated network and improve rural telecommunications. The network is based on Asynchronous Transfer Mode (ATM) technology. The state expects to significantly upgrade the capability of the network at the same cost of the current network.

Pennsylvania
Pennsylvania is reviewing a telecommunications strategy that includes the aggregation of telecommunications procurements for all state agencies and related entities. Among other benefits, Pennsylvania's study projects a reduction of overall procurement costs of at least 20%.

Ohio
The state of Ohio is implementing a statewide telecommunications network intended to provide voice, video and data services to state agencies, public libraries, public radio and television, schools, universities and colleges. The projected annual savings is estimated at $12 million based on current usage.

Wisconsin
BadgerNet is the state of Wisconsin's telecommunications initiative. Eligible users are state agencies, universities and colleges, schools, counties and municipalities. The new network has 11 times the capacity of the current network at about one-third of the cost.

San Diego County
San Diego County created a consortium of educational and government entities for the purpose of aggregating buying power. The result was more advanced telecommunications services and a 10% reduction in annual costs.

Oregon
Oregon formed a telecommunications council focused on *"improving the quality of life and economic development in Oregon communities by enhancing the delivery of education, healthcare and government services, and supporting the further development of business through affordable telecommunications."* The major strategies of the council included a consolidation of government networks and a focus on aggregating buying power to serve rural areas.

The table below outlines the analysis used by the project team to determine the overall financial impact of this project. The project team used very conservative numbers in this determination.

Category of Service	% of Total Cost in ND	Plan Impacts	Potential Financial Impact	% used in ND analysis[1]
Lines and Service	51%	Aggregation of demand	Up to 20%	3 to 10%
Hardware / Software	31%	Statewide strategy Aggregation of demand Standard Capital Purchasing	Up to 10%	0 to 3%
Labor	18%	Common Network Model Statewide Strategy	Up to 50%	None[2]
Total	**100%**		**Up to 21%**	**3% to 13%**

[1] Percentages adjusted to reflect impact to all network spending.

[2] Telecommunications services within the state are currently tightly staffed. While some economies of scale may be gained by adding cities and schools, the project team allocated no financial impact in order to remain conservative.

Financial Analysis Summary[3]

The financial analysis includes $6.2 million in capital expenditures that will be required to complete the installation of a new network. Capital expenditures would include site premise equipment, site preparation and equipment installation costs. An average cost of $10,000 per entity was used to cover the anticipated incremental capital expenditures of this effort.

The table that follows outlines the expected financial benefit to the state of North Dakota. The analysis used the most conservative assumption of ITD having a 3% impact on the expected growth in telecommunication costs. The table includes the anticipated costs of establishing ITD and assumes no financial benefit during the first year (FY 99). Using these assumptions, the projected financial impact is a savings of $6.7 million in telecommunications spending over the next six years.

	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	Total (00-05)
Total Annual Cost	$19.3	$23.1	$27.8	$33.3	$40.0	$48.0	$57.6	$229.8
ITD Staffing Costs		$0.8	$1.0	$0.5	$0.5	$0.5	$0.5	$3.8
Projected Capital Costs			$1.0	$1.0	$1.5	$1.5	$1.2	$6.2
Projected Cost Impact	$0.0	$0.8	$1.3	-$0.1	-$0.9	-$2.6	-$5.1	-$6.7

(in millions of dollars)

Industry Input

The project team also gathered input from industry service providers for this analysis. US West, Dakota Carrier Network, AT&T and Sprint were asked to provide financial estimates for the conceptual network. The industry data suggests the state can significantly improve and increase current capabilities while maintaining or reducing costs from its current levels. This is accomplished through the aggregation of demand and providing the service providers with a commitment to moving forward with current and emerging technologies.

This data indicates the numbers used in the financial analysis are extremely conservative in terms of the potential savings and benefits to the state.

[3] This financial analysis assumes, based on industry projections, an annual 20% increase in statewide telecommunications spending. ISD and the University System have expressed concerns with this assumption as their current 99-01 budget projections do not include this level of increased spending. The appendix (page 32) includes a financial analysis using a 10% growth figure.

IX. Questions and Answers

1. **How will this plan affect economic development groups?**

   The project team believes rural economic development and increased educational opportunities are the two major reasons for implementing this plan and legislation. By moving forward with this plan, state government will be in a powerful position to impact the deployment of current and affordable telecommunications services in rural areas. It is recommended all economic development groups be informed regarding the value of this network and how other states are using similar networks in their marketing plans and advertising to attract businesses to their state.

2. **Why is participation in the network mandated and not voluntary?**

   The state needs the participation of all schools, cities and counties to aggregate buying power and maximize the potential benefits described in this plan. The state needs to move forward as a single enterprise to effectively influence the deployment of advanced telecommunications capabilities throughout the state. While some individual entities may end up paying more for telecommunications services under this plan, the state as a whole will benefit from decreased costs, improved services and increased economic development.

3. **How will this plan affect E-rate eligibility?**

   The FCC operates a program under the Universal Services Fund called E-rate. This fund provides a reimbursement of certain telecommunications costs for eligible schools, libraries and rural healthcare organizations. While operating under a single state network does not disqualify these organizations from receiving this funding in the future, it is important for the network and services to be properly organized to maintain funding eligibility. This is very feasible as per the current FCC regulations. Other states doing similar network upgrades are finding ways of addressing this important issue.

4. **How will the university research function be affected?**

   University research functions related to technology and telecommunications are vital to higher education and the entire state. It is anticipated the university system will continue to maintain separate connections for research purposes such as Internet 2 and connectivity to national and international higher education institutions.

5. **How do software applications at the organizational level relate to a statewide network?**

   The value of a common statewide network is in the ability to share applications, resources and information. This network connection will help facilitate email and Internet access. However, new applications or new databases, which might operate on the network, are not addressed within this legislation or plan. The new network will allow the existence of new Internet-based applications, but they will need to be budgeted and developed in the future.

6. **What is the importance of collaborative relationships with the network community and suppliers?**

   As the project team conducted research for this project, it became clear the state must find new and better ways of interacting with the vendors who supply technology. They have valuable insight and knowledge of what is happening in the industry and can provide guidance on future technology opportunities including new services and applications that will become available. These relationships are critical as the state moves forward from a technological perspective.

7. **How does this plan relate to Prairie Public Television plans and the telemedicine initiatives developed by the healthcare community?**

   The project team conducted meetings with both PPTV senior management and those working with telemedicine and concluded there is potential for their needs to be consolidated with the needs of the state. It is recommended the new Information Technology Department and CIO review the situation and present recommendations to the ITD Board regarding the potential to integrate the plans of these groups.

8. **What bandwidth projections were used by the project team?**

   Industry bandwidth projections suggest a 300% to 600% cumulative growth in bandwidth over the next five years. In addition, the project team looked at the state's growth in telecommunications requirements over the recent past. There was concurrence the state would experience substantial growth in the future, particularly in education, where the high-bandwidth requirements are more extensive due to distance education demands and the recognition technology is a fundamental part of today's educational process.

9. **Why is it important to do this now?**

   Currently, all public entities are gearing up for increased wide area communications. Further delays will result in the potential purchase of systems that may not be compatible in the future. In addition, systems may be purchased at a lower cost if done as a group under the leadership of the new Information Technology Department.

10. **Would it not be better for each area to work out their own arrangements on an individual basis?**

    It is true some individual entities may be able to procure lower cost Internet connections on their own. However, when viewed as an enterprise, the entire state wins by aggregating the buying power of all entities. In addition, without a statewide implementation plan, economic development opportunities will not be realized, and rural areas of the state will continue to be under serviced.

11. **Isn't this expensive?**

    The price tag for new communication networks is expensive. This will be true, unfortunately, with or without this plan. Based on the financial analysis performed within the scope of this project, it is anticipated North Dakota taxpayers will spend less under this plan than they will without the plan. Please refer to the Financial Analysis section of this report for a detailed review of this issue.

12. **Will schools be required to replace personal computers as a result of this legislation?**

    No. This legislation only addresses wide area network services such as Internet and ITV access.

13. **Section 2 of the bill (Senate Bill 2043) states that the Information Technology Department is responsible for computer support services, host software development, statewide communications services, standards, technology planning, process redesign, and quality assurance. Do these responsibilities extend beyond state agencies and to other entities such as the University System?**

    Section 5 of the bill defines ITD's responsibilities to include all executive branch state entities *excluding* the institutions under the control of the board of higher education.

Appendix

A. Definitions

B. Financial Analysis

C. Implementation Plan

D. Detailed Position Descriptions for ITD

E. Methodology Used to Develop this Report

A. Definitions

Backbone	The top level or main circuits in a network. Similar to the water mains in a city water system.
Bandwidth	Typically used to describe the amount of data that can be sent through a telecommunications circuit or connection. Bandwidth is measured in bytes per second. The typical home personal computer has a modem that communicates at a speed of 56K or 56,000 bytes per second.
Broadband	A telecommunications medium that is capable of carrying multiple signals and a wide range of frequencies. Broadband technologies allow carrying voice, video and data signals over a single circuit.
Frame Relay	A form of switching protocol for wide area networks that can be purchased in specific data rates or bandwidth.
Internet	The Internet is the largest electronic network in the world.
LAN	A LAN (or Local Area Network) is a network intended to serve a small area (thus Local) and is usually confined to a building or set of contiguous buildings.
LEO	LEO or Low-Earth Orbit satellite, is a proposed broadband satellite system being developed to address the needs of areas with an inadequate telecommunications infrastructure. Analysts believe by 2003, two or more broadband satellite systems will be operational.
Network	A network can be as simple as two computers connected together, or as complex as 30 million connected together (The Internet). Other devices can be connected to a network as well (i.e. printers, disk drives, terminal server and communication servers).
T-1	A T-1 is a type of circuit with a bandwidth capability of 1.544 megabits per second or 1,544,000 bytes per second.
WAN	A WAN (or Wide Area Network) is a network intended to cover a large geographic area.
xDSL	DSL or Digital Subscriber Line is a technology that can handle multi-megabit data services over traditional copper subscriber loops.

B. Financial Analysis

The project team surveyed the following entities to determine the current level of spending for telecommunications services within the state:

- State Agencies
- North Dakota University System
- Counties
- Cities
- Schools

The focus of this financial analysis was on wide area network communications (WAN). For the purposes of the financial analysis, the following definition of a WAN was used:

> "the wide area networks which carry voice, data and video from one location to another. A location is defined as a building or a set of buildings on contiguous property for a particular state organization or a single access point for a political subdivision. The wide area network includes the personnel that deploy and manage the networks. From an equipment standpoint, it includes the equipment up to and including the demarcation equipment. It does not include the local area networks that reside within a political subdivision or a building/set of buildings within a contiguous property."

The following costs were collected as part of the financial analysis:

Line and Services Costs for Voice, Data and Video

- From each non-Capitol campus agency location to the wide area network backbone
- From each school district (K-12 schools) to the wide area network backbone
- From each university or college campus of NDUS to the wide area network backbone
- From each city administration campus to the wide area network backbone
- From each county administration campus to the wide area network backbone
- Wide Area Network Backbone

Hardware and Software Costs

- For multi-function equipment, if the major purpose of the equipment is WAN related, the costs were included. If not, the costs were excluded.
- Associated product costs required to connect each of the locations listed above to the wide area network.
- Associated costs for products used to monitor or repair any part of the wide area network.
- Note: All hardware and software costs were annualized. Annualized costs were determined by dividing original purchase price by three for universities and state agencies. This approach provided a more accurate way of forecasting future purchase costs.

Labor

- All state, NDUS, county, city or school personnel costs associated with planning, administering or maintaining the wide area network or capitol backbone (both full-time and part-time personnel). Time was prorated for personnel who do not spend 100% of their time on WAN-related activities.

Other Contract Costs

- All costs not previously mentioned which are associated with WAN vendors.

Internet

- All costs associated with Internet access services currently encountered (either internal or external costs) by the state, NDUS, counties, cities or schools. These costs included hardware, software, tools, operations, administration, personnel, fees, etc.
- All costs associated with Internet hosting services currently encountered (either internal or external) by the state, NDUS, counties, cities or schools. These costs included hardware, software, tools, operations, administration, personnel, fees, etc.
- These costs also included those currently encountered from the public Internet service providers used by the state, NDUS, schools, cities or counties for any or all of the previously listed services.

PBX and Centrex

- These costs included the line to demarcation and the equipment percentage associated with long-distance services.
- PBX costs
- Centrex costs
- Line costs associated with dial tone function provided by rural telephone companies and US West
- In-state long distance calling costs including inbound 800 services

The following costs were excluded as part of the financial analysis:

- Phone sets
- Remote office (non-capitol campus) PBX costs
- Voice Mail services if the costs can be segregated
- Fax-On-Demand services
- Out-of-state long distance

The following table outlines the estimated 1998 spending for telecommunications services:

State Agencies	$1,538,718	$1,046,666	$989,833	$971,382	$4,546,599
University System	$1,582,560	$330,880	$366,507	$0	$2,279,947
K-12 Schools	$3,019,053	$4,638,115	$1,965,112	$185,095	$9,807,375
Cities	$1,055,473	$26,721	$6,667	$29,163	$1,118,024
Counties	$1,491,908	$0	$6,500	$38,333	$1,536,741
Total	**$8,687,712**	**$6,042,382**	**$3,334,619**	**$1,223,973**	**$19,288,686**

The following table outlines the projected spending for telecommunications services for the next six years (based on 20% growth)[4]:

	FY99	FY00	FY01	FY02	FY03	FY04	FY05
State Agencies	$4,546,599	$5,455,919	$6,547,103	$7,856,523	$9,427,828	$11,313,393	$13,576,072
NDUS	$2,279,947	$2,735,936	$3,283,124	$3,939,748	$4,727,698	$5,673,238	$6,807,885
K-12 Schools	$9,807,375	$11,768,850	$14,122,620	$16,947,144	$20,336,573	$24,403,887	$29,284,665
Cities	$1,118,024	$1,341,629	$1,609,955	$1,931,945	$2,318,335	$2,782,001	$3,338,402
Counties	$1,536,741	$1,844,089	$2,212,907	$2,655,488	$3,186,586	$3,823,903	$4,588,684
Total Annual Cost	$19,288,686	$23,146,423	$27,775,708	$33,330,849	$39,997,019	$47,996,423	$57,595,708
Biennium Costs			$50,922,131		$73,327,869		$105,592,131
Total Next 3 Biennia							$229,842,131
Annual %Cost Increase		20.0%	20.0%	20.0%	20.0%	20.0%	20.0%

The table that follows outlines the expected financial benefit to the state of North Dakota. The analysis presented is based on ITD having a 3%, 8%, or 13% impact on the expected growth in telecommunication costs. The table assumes no financial benefit during the first year (FY 99). Using these assumptions, the projected financial impact is a savings of $6.7 to $54.3 million in telecommunications spending over the next six years.

	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	Total (00-05)
Total Annual Cost	$19.3	$23.1	$27.8	$33.3	$40.0	$48.0	$57.6	$229.8
ITD Staffing Costs		$0.8	$1.0	$0.5	$0.5	$0.5	$0.5	$3.8
Projected Capital Costs			$1.0	$1.0	$1.5	$1.5	$1.2	$6.2
Projected Cost Impact (3%)	$0.0	$0.8	$1.3	-$0.1	-$0.9	-$2.6	-$5.1	-$6.7
Projected Cost Impact (8%)	$0.0	$0.8	$0.1	-$2.8	-$5.5	-$9.6	-$15.1	-$32.0
Projected Cost Impact (13%)	$0.0	$0.8	-$1.0	-$5.3	-$9.6	-$15.7	-$23.4	-$54.3

[4] As stated earlier in the report, the numbers projected are based on industry projections of telecommunications demand and do not reconcile current 99-01 budget projections.

The following table shows the impact to the financial numbers if telecommunications spending growth is slowed to 10% per year.

	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	Total (00-05)
Total Annual Cost	$19.3	$21.22	$23.3	$25.7	$28.2	$31.1	$34.2	$163.7
ITD Staffing Costs		$0.8	$1.0	$0.5	$0.5	$0.5	$0.5	$3.8
Projected Capital Costs			$1.0	$1.0	$1.5	$1.5	$1.2	$6.2
Projected Cost Impact (3%)	$0.0	$0.8	$1.4	$0.1	-$0.2	-$1.3	-$2.7	-$1.9
Projected Cost Impact (8%)	$0.0	$0.8	$0.3	-$2.1	-$3.7	-$6.1	-$9.0	-$19.9
Projected Cost Impact (10%)	$0.0	$0.8	-$2.1	-$4.9	-$7.0	-$9.8	-$13.2	-$36.0

C. Implementation Plan

This section of the report outlines the anticipated approach of eventually serving all of the entities contemplated by the Strategic Telecommunications Plan.

The steps to upgrading and serving all of the cities, schools, counties, universities and agencies with the Network of the Future include at least the following items:

1. Develop a detailed technical design of all of the components of the new network and establish appropriate phases for all of the necessary network changes. This technical design would establish the hardware required for each general category of user to establish communications with the high-speed backbone of the network. This hardware would include any changes of their Local Area Network or PBX equipment needed for interface to the wide area network including routers, CSU/DSU, personality modules, as well as any changes from their current line of demarcation all the way to the backbone.
2. Develop a network RFP that would address the needs of the infrastructure, that is the fiber, hardware, software and tools necessary to maintain a communication network to support the needs of the state.
3. Develop a network equipment RFP for the acquisition and implementation of the hardware and software that the cities, counties and schools would need to connect to the network.
4. Complete the initial staffing plan for the Information Technology Department. This activity would include establishing the Board, the CIO and the key players in the communications department.
5. Develop a business plan for the new Information Technology Department. This plan would establish the operating guidelines for the new organization, pricing models, technical standards for all users of the network, data sharing strategies, security policies, training policies. Most importantly, this plan will focus on how the network can improve the quality of education and the business climate in North Dakota.
6. Upgrade the state's ability (hardware, software, staff, training, capitol backbone) to support the anticipated explosion of Internet-based applications which will proliferate on the new network.
7. Finalize this general plan and establish the exact dates for each city, school, etc. to attach to the new network thus enabling ITD to establish detailed workplans for implementation. ITD can then establish bandwidth requirements for the backbone of the network for each phase of implementation. As more users are added to the network, additional backbone capacity will be necessary.
8. Using the hardware RFP developed earlier, establish a group of vendors that can provide the necessary hookup equipment. This list will enable the entities to buy it using the state contract when necessary.
9. Using the network RFP developed earlier, select a vendor that will take overall responsibility for installing and maintaining the backbone. In addition, this vendor should take responsibility for the local connects that run from the backbone out to each local entity, often referred to as the local Point of Presence (POP).
10. Implement the plan.

D. Detailed Position Descriptions for ITD

Note – The salary ranges used in this study are based on existing salary ranges within ISD for comparable positions. The state may have difficulty attracting experienced personnel for some positions within these existing ranges. This is a problem that extends far beyond the scope of this study and is being addressed by both the executive and legislative branches.

Office of the CIO

Bill Draft: *The governor shall appoint the chief information officer of the state. The governor shall appoint the chief information officer on the basis of education, experience and other qualifications in information technology and administration. The position of chief information officer is not a classified position. The chief information officer services at the pleasure of the governor. The governor shall set the salary of the chief information officer within the limits of legislative appropriations.*

The chief information officer shall:

1. *Administer the department.*
2. *Employ any personnel determined to be necessary to carry out the responsibilities of the department and duties as prescribed by law.*
3. *Fix the salaries of all employees within the department, within the limits of legislative appropriation. All personnel within the department are entitled to actual and necessary travel expenses at the same rate as for other employees of the state.*
4. *Participate on the information technology board as a nonvoting member.*

Background: This area modifies the current position of Information Services Director within OMB. This area also creates a new position of administrative assistant for the office of the CIO.

Staffing Requirements:	New FTEs are required to address the administrative assistant position. Additional compensation dollars are expected to be required to attract a qualified CIO for the state of North Dakota.
Compensation / Fringe:	Grade Level 18 – Administrative Assistant (Average compensation $24,000/year)
	Add $40,000 additional compensation for CIO position
Space Requirements:	120 square feet per person at $10 per square foot
Training Requirements:	$3,000 per year per person
Furniture/Workstation:	$2,100 for furniture per person
	$2,500 for workstation per person
	$200 for shared resources per person
Contracted Costs:	None
Fiscal Note Assumptions:	Year 1 – Add one staff

Technology Planning

Background: This department assumes the current responsibilities of ISD in addition to the following:

- Network planning for the new statewide network which will serve a variety of new users, i.e. cities and schools.
- Working closely with information technology coordinators within each agency to ensure a coordinated approach for the implementation of technology within the state.
- Working closely with NDUS technology personnel to coordinate standards, procedures and technology implementations within the state.
- Planning for the future of the Citizen Service Delivery department.
- Coordinating Process Reengineering efforts within the state.
- Coordinating the activities of the Quality Assurance department.
- Planning for the future training needs of the consolidated ITD staff.
- Working with vendors in creative ways to ensure North Dakota can take advantage of new technologies coming available. This activity will help ensure its citizens can take advantage of the Internet and high-speed networks to lower costs and encourage economic development.
- Reviewing the Strategic Technology Plans for each user entity attached to the statewide network.

Staffing Requirements:	New FTEs are required to address added responsibilities. Initial assumptions allow for three (3) additional FTEs.
Compensation / Fringe:	Grade Level 34 (Average compensation $50,000/year)
Space Requirements:	120 square feet per person at $10 per square foot
Training Requirements:	$3,000 per year per person
Furniture/Workstation:	$2,100 for furniture per person
	$2,500 for workstation per person
	$200 for shared resources per person
Contracted Costs:	$120,000 (900-1,000 hours)
Fiscal Note Assumptions:	Year 1 – Add one staff FTE Year 2 – Add one staff FTE 2001-2003 – Add one FTE staff

Quality Assurance

Bill Draft: *The chief information officer shall establish a project quality assurance process that provides an independent assessment of the status of major projects. The Board shall define a major project, whether by a predefined amount or a determined risk. The personnel responsible for providing the assessment shall report to the Board on a quarterly basis until six months before the actual deployment of a major project. At that time, the personnel responsible for the assessment shall begin providing monthly project status reports to the Board.*

Background: Quality Assurance (QA) is a process to improve the likelihood of project success. Quality Assurance, if implemented correctly, can help projects by identifying requirements for additional resources, training or development tools that might be very difficult for the project manager to request. The QA process should be performed by an independent group that reports to the Board of ITD to enable them to provide the resources ensuring the project's success. By conducting the QA process throughout the project, the Board has a chance to respond proactively to problems before the problems are beyond reparation. The term independent can include internal ITD staff in a position to provide an unbiased and impartial assessment of the project status.

It is recommended the quality assurance personnel report to the Technology Planning function.

Staffing Requirements:	Staffing requirements will depend on the definition of a major project and the number of concurrent major projects. Using an assumption of 30 concurrent major projects, it is anticipated this function will require two (2) new FTEs. This allows for 10-12 hours per project per month.
Compensation / Fringe:	Grade Level 27-31 (Average compensation $45,000/year)
Space Requirements:	120 square feet per person at $10 per square foot
Training Requirements:	$3,000 per year per person
Furniture/Workstation:	$2,100 for furniture per person $2,500 for workstation per person $200 for shared resources per person
Contracted Costs:	$70,000 (500-600 hours)
Fiscal Note Assumptions:	Year 1 – Add one staff FTE / Contracted Assistance Year 2 – Add one staff FTE 2001-2003 – Maintain staff level of two

Process Redesign

Background: This function is a service to the users of the network to help ensure they receive maximum value for its technology investments. Their role is to enable government agencies to redesign their internal processes, shed old ways of doing business and re-invent themselves with modern, streamlined processes.

It is recommended that Process Redesign personnel report to the Technology Planning function.

Staffing Requirements:	Staffing requirements will depend on the acceptance of reengineering within state agencies and the political subdivisions. Initial assumptions allow for two (2) FTEs. This allows 4-5 concurrent reengineering efforts.
Compensation / Fringe:	Grade Level 36 (Average compensation $55,000/year)
Space Requirements:	120 square feet per person at $10 per square foot
Training Requirements:	$3,000 per year per person
Furniture/Workstation:	$2,100 for furniture per person $2,500 for workstation per person $200 for shared resources per person
Contracted Costs:	$100,000 (700-800 hours)
Fiscal Note Assumptions:	Year 1 – Add one staff FTE / Contracted Assistance Year 2 – Add one staff FTE 2001-2003 – Maintain staff level of two

Citizen Service Delivery (CSD)

Background: CSD is a new function within ITD to provide leadership for the development of Internet-based applications. It is anticipated this group would become a department within Software Development Services. CSD will have the following responsibilities:

- Working in conjunction with the university system to develop common Internet standards for all users of the network. The standards should address appearance, accessibility, security and naming conventions.
- Overseeing the development of all state agency web sites. State agencies may have the responsibility of developing and maintaining their own web sites, however, this will be done under the oversight of the CSD group.
- Developing, deploying and maintaining the Internet applications that provide direct citizen accessibility to government services. This would include electronic commerce.

Ideally, these applications can be deployed at minimal cost to the user agency much like the model used in Kansas. Some of the application costs could potentially be paid for through fees that are charged to Internet users or by savings accrued through the use of better technologies. The ITD Board should review these options and consider this pricing model within the next biennium.

Staffing Requirements:	Initial assumptions allow for six (6) FTEs during the first biennium with three (3) additional FTEs added during the second biennium. This allows multiple and concurrent development efforts. The quantity and complexity of the projects in this group is expected to increase significantly over the next five years. However,
Compensation / Fringe:	Grade Level 27-31 (Average compensation $45,000/year)
Space Requirements:	120 square feet per person at $10 per square foot
Training Requirements:	$3,000 per year per person
Furniture/Workstation:	$2,100 for furniture per person $3,000 for workstation per person $200 for shared resources per person
Contracted Costs:	None
Fiscal Note Assumptions:	Year 1 – Add three staff FTE Year 2 – Add three staff FTE 2001-2003 – Add three additional staff FTE

Statewide Telecommunications Services (SCS)

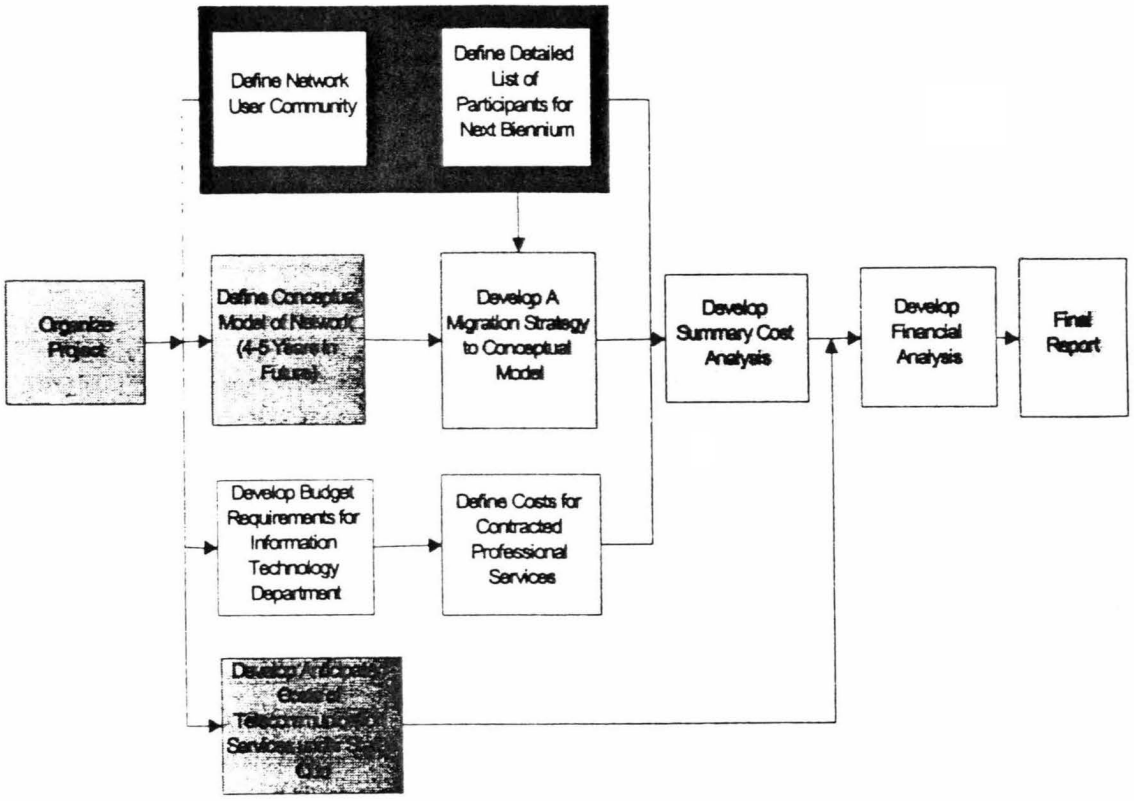
Background: This function has complete responsibility for planning, deploying and managing of the state wide area network. This group is currently called Telecommunications Services within ISD. This group will have the added responsibility of supporting the wide area network for schools, cities, and libraries, in addition to support state agencies, the university system and counties.

It is anticipated that SCS will fulfill its responsibilities by contracting various products and services from hardware, software and network vendors doing business in North Dakota. For example, it is not expected this department will replace the telephone company. Instead, SCS will determine new communication requirements and deploy them through the use of vendor contracts.

Staffing Requirements:	Initial assumptions allow for three (3) additional FTEs in Network Operations. This allows for the design, deployment and support of the statewide communications network.
Compensation / Fringe:	Grade Level 27-31 (Average compensation $45,000/year)
Space Requirements:	120 square feet per person at $10 per square foot
Training Requirements:	$3,000 per year per person
Furniture/Workstation:	$2,100 for furniture per person
	$3,000 for workstation per person
	$200 for shared resources per person
Contracted Costs:	None
Fiscal Note Assumptions:	Year 1 – Add one staff FTE Year 2 – Add one staff FTE 2001-2003 – Add one additional staff FTE

E. Methodology Used to Develop this Report

The following chart outlines the methodology used for this report:



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STATE OF NORTH DAKOTA

IT Organization and Management Study

January 7, 2004

PTI
Pacific Technologies, Inc.

Pacific Technologies, Inc. 14711 NE 29th Place, Suite 216 Bellevue, WA 98007 425-881-3991

PTI Practical Planning Positive Change

January 7, 2004

Mr. Scott Kost
Techwise Solutions LLC
406 Main Ave., Suite 3000
PO Box 2545
Fargo, ND 58108-2545

Dear Scott:

Pacific Technologies, Inc. is pleased to present the *State of North Dakota Information Technology Organization and Management Study*. The report documents the findings, analysis, and recommendations resulting from our work at the State, begun in August, 2003.

We have delivered copies of the report to each member of the Interim Information Technology Committee via overnight mail. We have also included an electronic copy to facilitate broader distribution. Note that Appendix E of the report contains a table that cross-references the contents of the document with the original RFP requirements, as requested by Senator Robinson.

I would like to take this opportunity to thank you, the members of the Interim Information Technology Committee, and members of the State Information Technology Advisory Committee for your efforts and participation in this project.

Please call me at (425) 881-3991 if you have any questions about this deliverable.

Sincerely,

Michael Silverman
Co-CEO
Pacific Technologies, Inc.

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IT Organization and Management Study

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CHAPTER 1

executive overview

A. INTRODUCTION

In August of 2003, the Interim Information Technology Committee of the North Dakota Legislative Council engaged Pacific Technologies, Inc. (PTI) to conduct a state-wide information technology (IT) organization and management study.

The scope of work, as provided for in Section 13 of 2003 House Bill 1505, focused on:[1]

- Analyzing the labor effort devoted to IT at the State of North Dakota (the State)
- Reviewing the State's approach to managing that labor effort
- Evaluating IT-related decision processes
- Reviewing state-wide IT initiatives
- Comparing North Dakota's IT service delivery approach and spending levels to other states
- Making recommendations intended to reduce long-term costs, improve service delivery, enhance visibility into and understanding of the State's IT labor effort, and position the State to effectively manage IT over the long term

Pacific Technologies supported the effort through interviewing representatives from over 35 state agencies, surveying other states, analyzing detailed information about state-wide IT labor effort and management structures, and reviewing relevant budget, planning, and operational documentation. We also provided monthly updates to the Interim Information Technology Committee and to the State Information Technology Advisory Committee (SITAC).

Several long-term IT goals for the State proved central to the study and should be kept in mind in when reviewing this report. The following strategic imperatives – rather than a singular focus on cost savings – drove our recommendations:

- ***Provide basic IT services as a state-wide "utility" – highly available, consistent, and configured to maximize economies of scale***
- ***Performance manage IT at both the agency and enterprise levels***
- ***Adopt best practices, where they make sense***
- ***Favor long-term improvement over short-term considerations***

Within this overall context, the table on the next page distills the major findings, recommendations, and benefits presented in this study.

[1] Note that the scope did not include reviewing the State's application software or technical infrastructure. Our analysis encompassed the Judicial, Legislative, and Executive branches. We did not receive data from the university system. Correspondingly, the university system was excluded from our analysis. Unless specifically noted otherwise, all results assume that staff transitions related to House Bill 1505's consolidation of server administration functions have already occurred.

IT Organization and Management Study Summary

Key Findings	Major Recommendations	Primary Benefits
1. The State has a highly-fragmented approach to help desk services and workstation support	Consolidate all labor associated with installing, maintaining, and supporting personal computers within the Information Technology Department (ITD)	♦ Positions the State's computing environment for the long term ♦ Allows agencies to focus on core business needs – rather than technical infrastructure ♦ Leads to long-term labor cost savings
2. Inconsistent standards and policies surround workstation platforms, configurations, and replacement	Move to a highly standardized workstation environment on a state-wide basis – with ITD managing the replacement cycles	♦ Improves State purchasing power and license management ♦ Enhances information sharing and staff productivity via common, current PC tools ♦ Promotes basic IT service provision as a "utility" across the State
3. The State can achieve additional savings and improve alignment with long-term goals (post-HB 1505) through continued server consolidation efforts	Consolidate all servers into ITD – reducing over 150 servers from the State's inventory and making corresponding reductions to agency and ITD server administration labor	♦ Allows agencies to focus on core business needs – rather than technical infrastructure ♦ Promotes basic IT service provision as a "utility" across the State ♦ Leads to long-term labor and hardware cost savings
4. The State lacks consistent methods, tools, and performance measures to assess and prioritize requests for major IT investments	Build on existing IT governance processes – including mechanisms for cost containment and meaningful state-wide IT management reporting	♦ Better-informed IT decision making ♦ More equitable, business-based, and consistent evaluation of IT initiatives ♦ Best opportunity to manage application portfolio costs

While these recommendations centralize delivery of IT infrastructure-related services, they retain a federated IT service model at the State. In particular, ***this approach leaves the sourcing of business application service labor under the agencies' control.***

The remainder of this chapter highlights associated results of the work, as follows:

B. Strengths

C. Current North Dakota Position

D. Key Recommendations

E. Transition and Implementation Plans

F. Conclusion

B. STRENGTHS

Oftentimes, engagements of this nature focus exclusively on areas for improvement. It is worth noting that our work identified a variety of positive attributes surrounding IT at the State. This section briefly describes several key IT strengths that surfaced from our analysis.

THE STATE THOROUGHLY UNDERSTANDS ITS IT LABOR COSTS AND LABOR DISTRIBUTION

Largely as a result of this study, and building upon the work started by HB 1505, *North Dakota has an in-depth understanding of its IT labor expenditures.* This understanding provides a basis for making informed choices about changes to IT service delivery at the State. It can also serve as a starting point for establishing labor-based performance measures for information technology services. North Dakota is significantly ahead of most other states in this regard. Our external survey did not find any other states that had a complete model of their IT labor expenditures.

NORTH DAKOTA HAS A STRONG COMMITMENT TO INVESTING IN IT SUPPORT

Pacific Technologies analysis found that, on a state-wide basis, *North Dakota adequately staffs virtually all major IT functions.* This willingness to invest has reaped benefits for the State, including high levels of customer satisfaction and an ability to devote significant labor effort to the State's application portfolio.

THE STATE IS AHEAD OF MOST STATES ON A NUMBER OF ENTERPRISE IT INITIATIVES

North Dakota's *extensive wide area network and functional state-wide GIS* bring clear benefits to the State – and place North Dakota ahead of the curve in these areas on a national basis. The ConnectND project, once complete, will also be unique in the breadth of its scope. Our survey did not reveal any other states using a single, integrated, finance and human resources system across all three branches of government and the State University system.

NORTH DAKOTA HAS MADE POSITIVE, INITIAL STRIDES TOWARD EFFECTIVE IT GOVERNANCE

The recently-established State Information Technology Advisory Committee serves as an advisory body to the Chief Information Officer (CIO). This group includes selected agency heads from across the State as well as private sector and legislative representation. In addition, North Dakota has an enterprise architecture project under way. This effort will result in the definition of technical standards across the State. Both of these initiatives reflect *best practices in state IT governance.*

C. CURRENT NORTH DAKOTA POSITION

This section presents our findings regarding IT organization, service delivery, and governance at the State.

1. IT ORGANIZATION AND SERVICE DELIVERY

Pacific Technologies analyzed all IT labor costs at the State (including full-time, part-time, "shadow," and contract effort) and reviewed the distribution of that labor across agencies. We also compared North Dakota's IT operating cost and labor distribution to other states. This section summarizes our findings.

To conduct the labor analysis, we gathered data on IT labor related to over 25 IT activities (e.g., workstation administration, database administration, etc.) based on a staffing model provided by Pacific Technologies and completed by agency personnel.[2] Appendices to this report present the

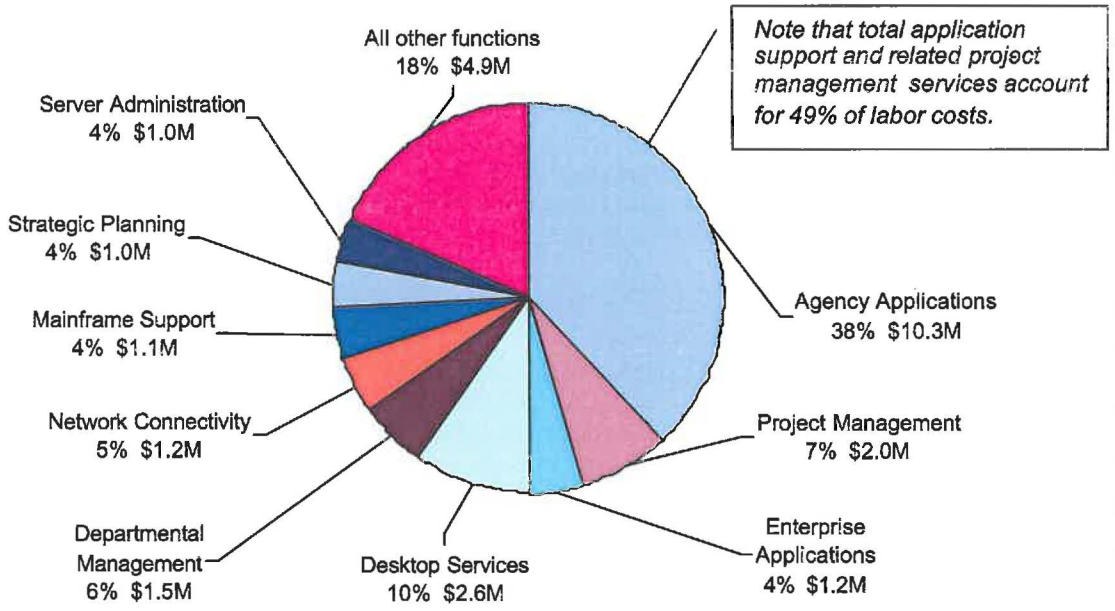
[2] Of the 52 agencies contacted, we received 40 responses. The non-responding agencies were small, no more than 350 FTE in total, so their absence from the analysis does not have a material impact on the results.

detailed labor data. *Please note that this analysis relies on self-reported agency information – and is best viewed as an approximation. The associated figures are likely to change as implementation of our recommendations progresses.*

NORTH DAKOTA IT LABOR COSTS

Pacific Technologies found that the State's annual IT labor expenditure is approximately $26.9 million – split almost evenly between ITD at $13.1 million and the agencies at $13.8 million. The following table summarizes the IT labor cost data:

IT Labor Cost by Category



As the call-out box indicates, almost 50% of the State's IT labor goes toward application development and maintenance (i.e., the combined totals of the Agency Applications, Project Management, and Enterprise Applications categories depicted above). This percentage is higher than our typical experience in the public sector, where we usually see between 35 and 45 percent of IT labor effort devoted to application support.

Labor costs in this area have two primary drivers: agency business need and the architecture of the State's application portfolio. Since IT governance processes serve as the primary mechanism for evaluating agency business need, **North Dakota will need to streamline its application portfolio and refine its approach to IT project approval processes to significantly impact application-related labor expenditures – currently totaling more than $13 million on an annual basis.** As previously indicated, a review of the State's application portfolio was not within Pacific Technologies' scope of work for this study.

Desktop Services, a category that includes all labor associated with installing, maintaining, and supporting the use of the State's personal computers, forms the second largest expenditure area. Our analysis indicated that this labor effort totals approximately 55 full time equivalents (FTEs), representing the full or part-time work of approximately 152 separate individuals spread across virtually all of the responding agencies.

When we consider the number of workstations at the State (approximately 7,700), we find a ratio of 149 PCs to each FTE of support effort. This number falls in the typical range that we observe in the

public sector, where we usually see support ratios ranging from 100 to 150 workstations per support FTE. **Given the highly-fragmented nature of the delivery of this service, and the wide variety of workstation configurations deployed, Pacific Technologies does not believe significant efficiencies can be achieved in this area without radically changing both the service delivery approach and the State's mechanisms for refreshing its workstation inventory.**

The remaining spending categories encompass relatively small individual expenditures spread across a large number of agencies. Potential savings in these areas may not justify the effort required to achieve them.

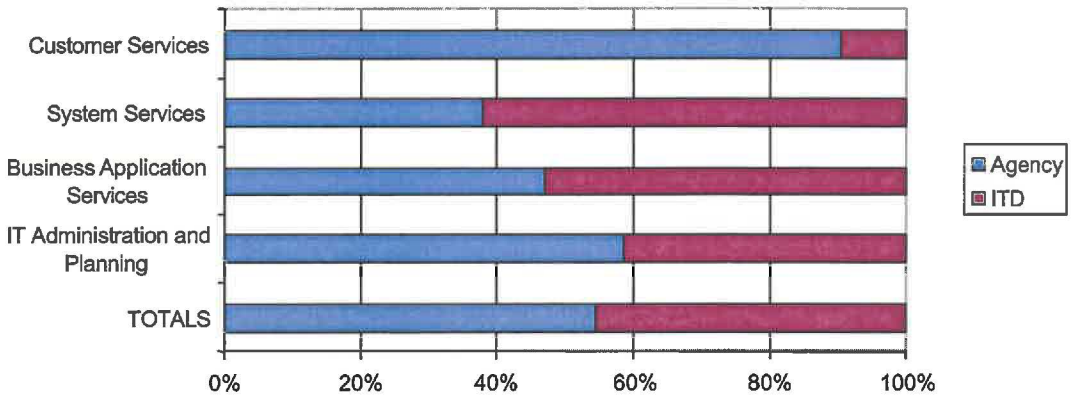
DISTRIBUTION OF IT LABOR

To analyze the State's level of IT labor centralization, we summarized the labor data into four major categories, or IT functional areas:

- Customer Services – functions related to directly supporting users of IT systems and services
- System Services – functions related to implementing, maintaining, and supporting the organization's computers, systems software, and network connectivity
- Business Application Services – functions related to providing, maintaining, and supporting the use of software needed to meet the operational, management, and reporting requirements of the organization
- IT Administration and Planning – functions related to the planning, oversight, security, and day-to-day operations of the technology function at the organization

The following two exhibits compare agency versus ITD labor effort across the above categories.

Percentage ITD Versus Agency Labor Effort by IT Functional Area



Distribution of FTE's[3] by IT Functional Area

IT Functional Area	Agency FTE's	ITD FTE's	Total FTE's
Customer Services	67	7	74
System Services	36	59	96
Business Application Services	90	101	191
IT Administration and Planning	54	38	92
TOTALS	247	205	452

[3] The FTE levels presented in this table, as well as the rest of this document, refer to the complete level of effort encompassing full-time and part-time staff, as well as shadow and contract labor.

As the tables indicate, significant IT support effort occurs in the agencies. **Of the 452 total FTEs of IT labor, agencies deliver approximately 55%, or 247 FTEs of staffing.**

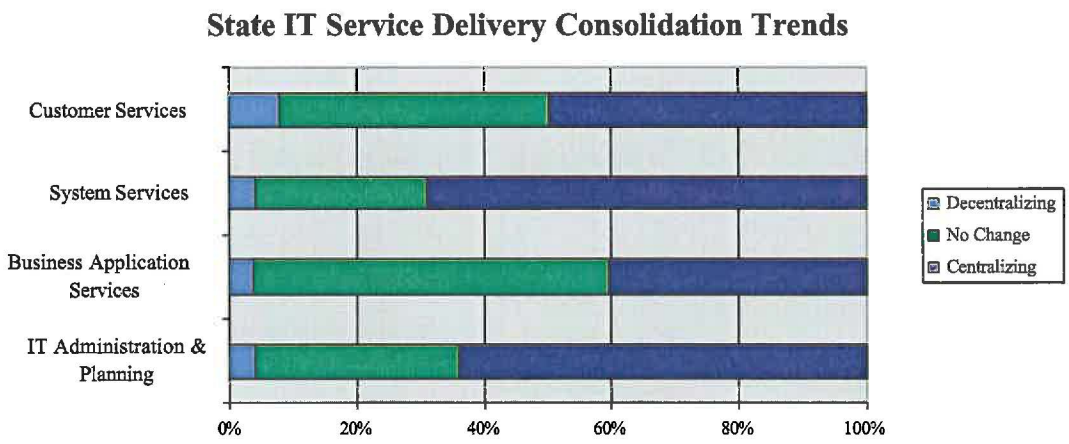
Clearly, Customer Services appears heavily decentralized, while Business Application Services and IT Administration and Planning are more evenly split. It is worth noting that the server consolidation effort resulting from House Bill 1505 has reduced total server administration labor costs by approximately 6 FTEs, with further reductions anticipated as ITD consolidates servers and reduces the associated workload. Approximately 30% of server support effort remains in the agencies, a percentage that will increase as ITD reduces servers and associated support staff.

COMPARISON WITH OTHER STATES

PTI received data from 31 other states regarding trends in IT service delivery related to Customer Services, System Services, Business Application Services, and IT Administration and Planning. We also received more detailed financial and IT labor data from six states, which we used for additional comparisons.

Trends in IT Service Delivery

Overall, the survey results indicate that **IT service delivery is either remaining as-is or is becoming more consolidated** in all but a handful of circumstances, as indicated in the chart below:



A central focus of this study surrounded the question: "Where is North Dakota on the decentralized-to-centralized continuum?" Overall, the survey indicated that:

- **North Dakota's approach to Application Services is already more centralized than many states**
- **North Dakota's approach to Systems Services is on par with survey averages**
- **Both Customer Service and IT Administration and Planning represent areas in which North Dakota is significantly less centralized than other states**

Chapter 2 presents additional supporting information for the above results.

Comparison of Financial and IT Labor Information

Initially, 13 states agreed to provide more detailed information for benchmarking purposes. Ultimately, we received data from the executive branches of six entities. Based on the limited data received, most IT staffing and spending measures ranked North Dakota higher than the other respondents. Please refer to Chapter 2 and Appendix C for more detail. Additionally, it is worth noting that the preponderance of the non-responding states simply were unable to provide the requested information and, correspondingly, could not participate. This represents a finding in itself.

2. IT GOVERNANCE

From a state-wide perspective, Pacific Technologies found that IT governance processes are just beginning to emerge. Recent legislation created the State Information Technology Advisory Committee, and chartered that group to prioritize the State's major IT projects. **SITAC is now developing the methods and tools to accomplish this – and these efforts appear to be on-track.**

At the agency level, we found tremendous variation in formality of IT governance processes. Some agencies have highly-structured approaches that align IT investments with business priorities. Others take less formal routes. All agencies submit IT plans, however most view this as an exercise focused primarily on budget preparation rather than development of strategic IT direction for the agencies.

Three specific areas of IT governance concern surround:

- **The lack of standard processes and tools for project evaluation** – a factor that contributes to the fragmentation of the State's application architecture and creates a barrier to managing the State's application investments from a portfolio view
- **Inconsistent performance measures for IT projects** – making it difficult to quantify the value received for technology-related investments
- **Insufficient IT management and performance reporting mechanisms for the Legislature** – impacting the State's efforts to make informed IT decisions

D. KEY RECOMMENDATIONS

This study identifies four major recommendations:

- **Consolidate Desktop Services within ITD**
- **Standardize workstations across the State**
- **Continue to consolidate servers and server administration in ITD**
- **Improve IT governance processes**

It bears repeating that the strategic IT goals outlined in the introduction of this report served as the guiding force for these recommendations – rather than a sole concentration on cost reduction. In addition, please note that projections of potential labor savings represent estimates derived from a staffing matrix populated by agency personnel. The stated figures represent approximations that most likely will need to be adjusted as implementation proceeds.

Separating operational practice from analytical theory, Pacific Technologies believes that it is unrealistic to expect that the full amount of the potential savings will be achieved in the form of dollars returned to the State's budget. In particular, partial-FTE labor savings will likely be realized as additional productive labor available to the agencies. In addition, these savings will be off-set by some start-up costs and associated ongoing costs. The table at the conclusion of this section summarizes these projections.

These recommendations apply across the State to the Executive, Legislative, and Judicial branches of government. While such an approach has the potential to yield the greatest overall efficiency improvements and possible cost savings for the State, it has raised policy issues regarding separation of powers for some.

As a recommendation, this is not precedent setting – several other states have some aspect of IT service delivery to judicial and legislative branches provided by an executive based IT agency. Indeed, North Dakota already has such an arrangement for networking service provision with StageNet, and will also have all three branches served by ConnectND. What's more, this recommendation focuses on consolidating and streamlining infrastructure support – branch and agency application development,

support, and maintenance remain outside the control of ITD. Nevertheless, the implementation needs to provide mechanisms through which the impacted parties can:

- Effectively elevate service delivery problems and issues for prompt resolution
- Resume provision of their own IT services if ITD proves unable to meet agency needs

The remainder of this section briefly describes each recommendation.

CONSOLIDATE DESKTOP SERVICES WITHIN ITD

Pacific Technologies recommends that the State consolidate all workstation support and associated help desk labor in ITD, including responsibility for:

- Initial problem reporting and resolution
- Maintenance and support of the State's personal computers, personal productivity software (e.g., Microsoft Office), network applications (e.g., calendaring, email, etc.), and related peripherals
- Adds, moves, and changes
- Managing the associated hardware replacement
- Tracking the associated performance measures

Major benefits:

- ***Consistency of service*** **and potential for improved service levels**
- ***Greater specialization of IT skill sets*****, removing small fractional FTE labor efforts from many agencies**
- **Removes IT infrastructure responsibilities from the agencies, allowing them to *concentrate resources on business operations***
- **Positions the State for *provision of IT services as a utility***
- **Potential labor *savings of up to $519,000 per year***

Note that the potential savings assume a significant productivity increase as a result of the centralization and improvements to the State's desktop environment and associated management tools. The saving projections are based on a ratio of approximately 200 workstations per support FTE, in contrast to the State's current ration of approximately 131:1. In practice, the State's ability to capture the full amount of the savings will depend upon several key factors:

- How aggressively the State pursues incremental labor savings associated with removing this labor effort from the small and mid-size agencies
- How successful ITD is at delivering high-quality service
- The State's success at standardizing its desktops
- How many exceptions the State grants that allow agencies to continue providing their own support
- How efficiently the State can provide service to sites outside of Bismarck – accounting for over one-fifth of the State's workstations

Also note that the projected savings do not include reductions in agency IT management labor. It is likely that some savings will also be realized in this area.

STANDARDIZE WORKSTATIONS ACROSS THE STATE

Pacific Technologies recommends that the State mo ve to a highly-standardized workstation environment, limiting the brands and models of workstations installed and tightly controlling the associated configurations.

We recommend making no more than two or three hardware options available, and that the agencies select either a three- or four-year replacement cycle for each machine. We also recommend that ITD manage the replacement cycle, including collecting the necessary funds from the agencies through workstation charges, procuring, configuring, and installing the workstations.

This recommendation is critical to the State's ability to achieve the productivity increase assumed in the consolidation of Desktop Services, as it will greatly reduce the workload associated with desktop support.

Major benefits:

- **A key component of the State's move to *providing basic IT services as* a *utility***
- ***Reduced support costs* as workstation services staff can more effectively and efficiently implement, manage, and troubleshoot a simple environment – thereby requiring fewer FTEs**
- ***Reduced training costs* through limiting the number of technology skills support staff and users must possess**
- ***Reduced workstation costs* through economies of scale in purchasing**
- ***Opportunities for license savings* through economies of scale in purchasing, particularly via the ability to better identify and utilize site licensing opportunities**
- ***Opportunities for outsourcing* will be potentially cost-effective only in a standardized environment**

The State was unable to provide Pacific Technologies with a figure that represents current spending for workstation replacement. **Nevertheless, we believe agency budgets will likely need to be increased to allow for more frequent workstation upgrades.**

Assuming an average workstation cost ranging between $1,100 and over $1,400 per workstation (including workstation, personal productivity software, and monitor) and an average replacement cycle of slightly over three years, this recommendation will cost between $3 million and $3.7 million per year. With an inventory of approximately 7,700 workstations, the monthly per-workstation charge would range from $30 to $36. *The exact configuration options and agency choices will significantly impact the actual cost of this recommendation.*

It is worth noting that several "non-networked" and "non-desktop" computing devices (such as personal digital assistants (PDAs), standalone laptops, etc.) are not included in our analysis and recommendations surrounding workstation standardization and consolidated support.

CONTINUE TO CONSOLIDATE SERVERS AND SERVER ADMINISTRATION IN ITD

We estimate annual labor cost savings of $294K from the first stage of server consolidation accomplished via HB 1505. Our analysis shows that up to $162K of potential additional annual labor savings is available through continued consolidation efforts, building to that number over the next several years.

To accomplish this, we recommend that ITD:

- Assume responsibility for hosting and administering the remaining servers still under agency control, based on a consolidation schedule developed in partnership with the affected areas
- Reduce the total number of servers through aggressive consolidation of similar platforms and sharing applications on servers where possible

- Reduce staff as needed to keep a ratio of approximately 29 servers per administrator
- Establish related performance measures

Major benefits:

- **In combination with the Desktop Services consolidation, removes IT infrastructure responsibilities from the agencies, allowing them to *concentrate resources on business operations***
- **Positions the State for *provision of IT services as a utility***
- ***Greater specialization of IT skill sets*, removing small fractional FTE labor efforts from many agencies**
- **Improves the State's *ability to manage IT security***
- ***Enhanced service consistency* and potential for improved service levels**
- **Potential labor *savings of up to $162,000 per year***
- **Potential additional hardware cost savings due to a reduction in the number of installed servers**

Note that the calculated savings assume a consolidation of all servers into ITD and a related reduction of approximately 150 servers from the State's inventory. Corresponding reductions to both agency and ITD server administration labor would occur. Similar to Desktop Services consolidation efforts, the State's ability to capture the full amount of the savings will depend upon:

- How aggressively the State pursues incremental labor savings associated with removing this labor effort from the small and mid-size agencies
- How successful ITD is at delivering high-quality service
- The State's success at consolidating the servers into ITD and reducing the total server inventory
- How amenable the servers are to standardization– highly standardized servers for email and file/print services may allow further improvements in labor efficiency; a large variety of unique configurations may require labor beyond the projections presented here

Please note that estimated savings do not include recurring hardware savings associated with reducing the number of servers currently in operation. Additionally, projected savings do not count reductions in agency IT labor related to security administration, storage management, or database administration, or IT management activities. It is likely that some economies of scale would also be realized in these areas.

IMPROVE IT GOVERNANCE PROCESSES

Pacific Technologies recommends that the State build on existing IT governance processes by:

- Improving the processes and tools for IT project evaluation
- Improving mechanisms to support cost containment
- Developing meaningful state-wide management and reporting views of IT initiatives
- Implementing IT performance measures
- Establishing an IT innovation fund

Section E of Chapter 3 provides more detailed descriptions of our recommended process adjustments, including related roles and responsibilities. It also contains suggested contents for a standard business case that will help the State consistently evaluate IT projects, as well as recommendations regarding an IT "report card" and related performance measures.

Major benefits:

- **Better-informed IT decision-making**
- **A consistent, structured, business-based approach for evaluating IT initiatives**
- **Provides a mechanism for managing application portfolio costs**
- **Enhanced communication around major IT initiatives**

The following exhibit highlights estimated costs and potential savings associated with each recommended initiative. Refer to Chapter 3, section H for additional detail.

Summary of Estimated Costs and Savings

Consolidate Provision of Desktop Services

Potential Annual Labor Savings:	**$519,000**
Recurring annual expenditures for related goods and services estimated at:	**$60,000-$260,000**
One-time costs for software, hardware, phone systems, etc. estimated at:	**$160,000-$,1010,000**

- Yields a net potential annual savings of $259,000 to $459,000 – depending upon the magnitude of the recurring costs and on how aggressively the State pursues reductions.
- The low-end estimate includes one-time costs of $100,000 for phone system upgrades, along with some monies for procurement assistance and training. Associated recurring costs are likely to be at the upper-end of the range, as the State might have to lease help desk and remote management software.
- The high-end estimate includes system management software costs of $360,000, phone system upgrades for $150,000, and monies for software implementation assistance, training, and procurement. Software maintenance would make up the lion's share of the recurring costs.

Standardize Workstations

Potential Annual Savings:	**Unknown**
Recurring annual expenditures for workstation replacement estimated at:	**$2,950,000-$3,680,000**
One-time costs for consulting assistance estimated at:	**$20,000-$430,000**

- Current annual workstation replacement spending is not known, so incremental investment over today's expenditures could not be calculated. Replacement costs presented are based on conservative estimates and may be lower than indicated.
- Assumptions include a total PC count for the State of 7,700. Replacement costs for PCs used in our estimates are $750, $1200, or $2,500. Assumed refresh interval is a little over three years.
- The low-end workstation replacement figure assumes 25% are low-cost, 70% are mid-level, and 5% are high-end; while the upper end assumes 5% low-cost, 75% mid-level, and 20% high-end.
- One-time cost range assumes varying levels of outside assistance with workstation standards.

Continue Server Consolidation

Potential Annual Labor Savings:	**$162,000**
One-time costs for consulting assistance estimated at:	**$0-$20,000**

- Savings are predicated on how aggressively the State pursues reductions. Savings do not include anticipated hardware savings related to a reduction in total servers.
- Upper end of one-time cost assumes some consulting assistance in developing a consolidation approach and schedule.

Implement IT Governance Recommendations

Potential Annual Savings:	**Unknown**
Recurring annual expenditures for goods, services, and innovation funding:	**$200,000-$340,000**
One-time costs for software and services estimated at:	**$480,000-$1,010,000**

- Savings are largely dependent upon the State's focus on cost containment.
- Low-end of one-time estimate assumes purchase of less expensive portfolio management software and little assistance with implementing the software or the governance recommendations.
- Recurring cost estimate reflects a potential range of software maintenance fees and innovation funding of $137,000 at the low end and $275,000 at the upper end.

E. TRANSITION AND IMPLEMENTATION PLANS

This section outlines the major transition and implementation activities that will be required to actualize each of the study's key recommendations.

CONSOLIDATE PROVISION OF DESKTOP SERVICES WITHIN ITD

We recommend funding these services on a cost-recovery basis, in line with current ITD practices. Customer service targets must be clearly defined, monitored, and managed. ITD will need to develop estimated workstation rates and per-agency charges. The agencies, in turn, must determine the requisite budget reductions to pay the charges.

Our implementation plan asks the state to consider outsourcing as an alternative, although preliminary pricing seemed quite high. If the service is to be delivered in-house, ITD would need to post new position openings, with preferential treatment made for staff reduced from the agencies' workforce. Along the same lines, we envision additional one-time costs related to hiring new staff, setting up the Desktop Services facility, and implementing necessary support tools. These costs should be incorporated in the rate structure and amortized over the first two or three years. As performance improves over time, rate reductions might be possible due to increased service efficiency.

STANDARDIZE WORKSTATIONS ACROSS THE STATE

Because we do not know the status of the current PC inventory or existing replacement expenditures and plans, we cannot recommend the best start-up approach (i.e., wholesale replacement or replacement through attrition). Similar to the previous initiative, our implementation plan asks the State to study the best sourcing alternative. Regardless, it is almost a certainty that budgets will need to increase. This initiative represents a major shift in the desktop funding for the agencies. Rather than a one-time expenditure, PCs will become standard items with a monthly charge. The Legislature may need to provide monetary assistance to some agencies in making the transition to this new funding model. Once accomplished, agencies should be expected and able to budget for PC expenditures in a planned and consistent manner.

CONTINUE SERVER CONSOLIDATION

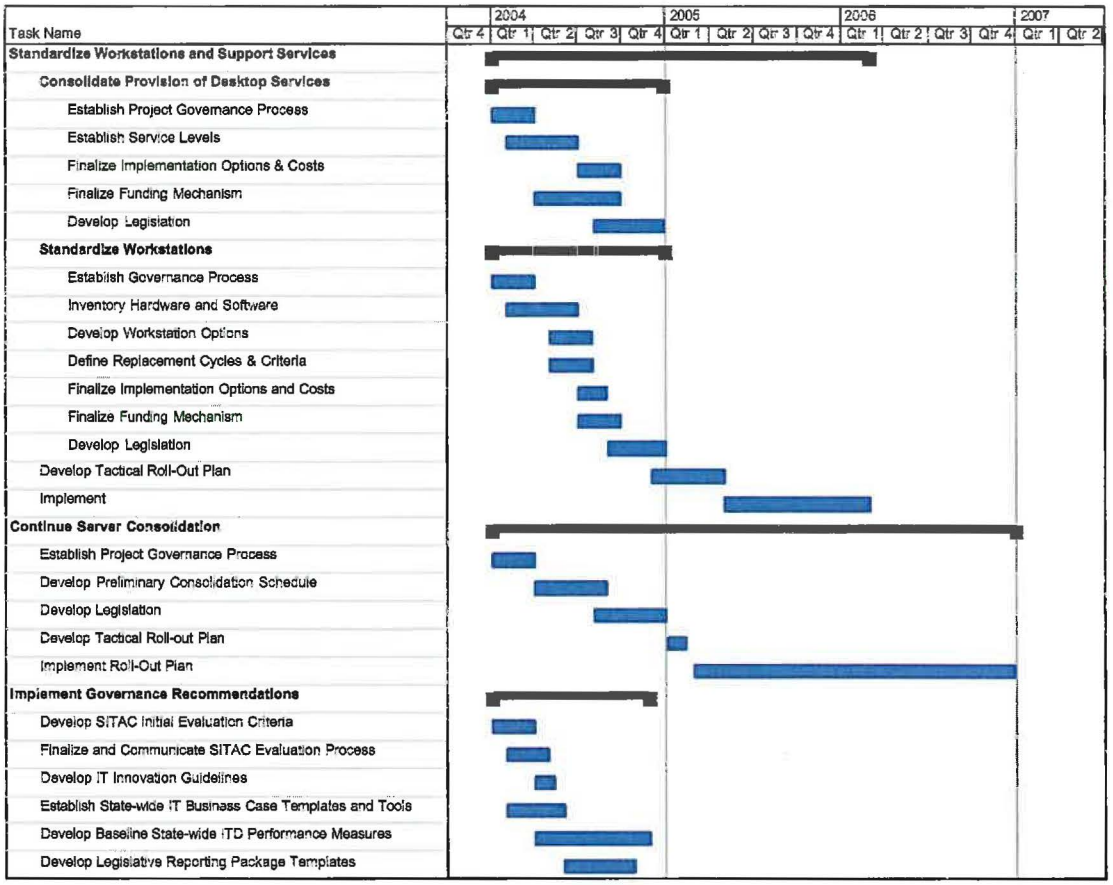
Post HB 1505, only a few agencies remain where server support levels are a concern. For these agencies, replacement cycle timing will serve as the primary driver for centralization. ITD must work cooperatively with the agencies to identify the specific schedule for these transitions. The affected agencies can then plan for and, where appropriate, make associated staff reductions. As ITD reduces the total server inventory, the agency should be able to lower rates based on related staff reductions and smaller equipment replacement costs.

IMPROVE IT GOVERNANCE PROCESSES

The transition and implementation activities surrounding this recommendation build upon and integrate many sound practices in already in place at the State. Primary future efforts must focus on establishing more formal and consistent SITAC evaluation criteria (an activity already underway), guidelines and funding mechanisms for innovation, a state-wide business case template and tools, and meaningful management reports. With respect to the last item, the State will need to baseline a core set of key IT performance indicators and develop associated reporting views of those measures for presentation to the Legislature on a periodic basis (e.g., quarterly or semi-annually).

The following Gantt chart presents a suggested implementation schedule for the activities outlined above. The State will need to refine the overall timeline predicated on more in-depth analysis, other State initiatives, and resource constraints.

Recommended Project Schedule



F. CONCLUSION

Earlier in this executive overview, we presented s everal core IT goals for the State that focus on providing basic IT services as a state-wide "utility," performance managing IT, adopting best practices, and favoring long-term improvement over short-term considerations. To put it another way, while cost-savings and efficiency improvements are the ultimate goal, short-term investments will be required to reap any long-term benefit. By implementing the strategic recommendations outlined in this report, the State can expect to make demonstrable progress toward that end. In fact, our recommendations will fundamentally shift the dynamics of IT service delivery in North Dakota. At a basic level, our work transitions IT infrastructure responsibilities out of the agencies and re-focuses their IT efforts on business applications – where they receive the largest return on their investment.

In many respects, however, this study represents the "easy part." The real work lies ahead: translating these recommendations into *results*. Beyond making staff allocation changes and developing better management tools, these recommendations point toward a significant culture shift – moving to a performance managed environment. This is not a trivial task.

To successfully move forward and realize the benefits of these projects, the State must make a commitment to change – to build upon its successes, learn from its mistakes, and work cooperatively toward becoming more efficient and effective than ever before in its delivery and management of information technology. **This effort ultimately belongs to the State; it will require the active involvement of legislators, management, and staff to see these initiatives to their fruition.**

CHAPTER 2

findings

A. INTRODUCTION

This chapter provides Pacific Technologies' findings regarding IT service delivery, organization, and management at the State of North Dakota. Pacific Technologies developed these findings based on data gathered from State documents, a staffing model completed by agency personnel, interviews with representatives from over 35 state agencies and several members of the Interim Information Technology Committee of the Legislative Council, and phone surveys with IT representatives from 31 other states.

The remainder of this chapter presents our findings, organized as follows:

B. IT Organization & Service Delivery

C. IT Governance

D. Additional Findings

E. Survey Results

F. Review of State-wide Initiatives

B. IT ORGANIZATION & SERVICE DELIVERY

This section summarizes the current approach for delivering IT services to state agencies, and provides an overview of the associated ITD and agency IT labor costs. It concludes by discussing service quality, noting recent IT cost-saving accomplishments, and identifying major IT service areas where additional cost savings may be achieved.

Appendix B presents a detailed staffing matrix for each State agency participating in this effort, along with additional analysis.

1. OVERVIEW

The State presently uses a mixture of centralized IT services provided by ITD and distributed IT services provided by the agencies. ITD operates on a cost recovery basis for its services. These costs are recovered through several mechanisms:

- Usage charges – such as mainframe CPU seconds consumed, pages printed, disk storage utilized, etc.
- Flat fees – such as device charges, application hosting charges, web hosting charges, etc.
- Hourly charges – for services such as programming, database administration, etc.
- Actual cost plus administrative overhead – for costs not otherwise recovered

During the budget cycle, ITD works closely with the Office of Management and Budget (OMB) and the agencies to estimate centralized IT needs and costs over the next biennium so that the agencies can include ITD charges in their budget requests. The agencies also estimate costs for IT services not provided by ITD to include in their budget requests.

In these times of spending cutbacks, both distributed and centralized IT expenditures have come under scrutiny. Our analysis of the State's IT operating spending shows that labor accounts for about half the annual total. Accordingly, if reductions must occur, IT labor presents a logical target for potential cost savings.

These cost reductions might take one of several forms:

- ITD could improve its service efficiency enough to reduce staff, thereby lowering costs and ultimately the rates charged to the agencies

- Agencies could similarly improve their own IT service efficiency enough to reduce staff and reap the cost savings directly
- For services which could be more efficiently provided centrally, agencies could utilize ITD, more than offsetting the increased ITD charges by reductions in their own staff costs
- ITD and the agencies could outsource certain IT functions if this delivered lower total costs and/or reduced demand for a particular service

The next subsection highlights current labor costs for ITD and agency IT services.

2. CURRENT IT LABOR COST

We asked each North Dakota state agency to fill out an IT staffing matrix. The model captured time spent on 26 specific functions, intended to represent all IT labor effort at the State. Agency responses included full- and part-time IT staff, contractors, and any non-IT-titled "shadow staff" (i.e., individuals without IT job titles who spend more than 10% of their time on IT support). **Note that *all* of this effort was incorporated into our presentation of FTE allocations.**

Responses also included annual salary plus benefits for each staff member – as reported by the agencies – and annual costs for contractors. This allows us to analyze labor cost per function from a variety of perspectives.

Of the 52 agencies contacted, we received 40 responses. The non-responding agencies were small and represent no more than 3050 total FTE, so their absence from the analysis does not have a material impact on the results. Overall costs shown in this section would likely be about 3% higher had all agencies responded.

The subsections below present an analysis of the State's IT labor costs as follows:

- Overall Cost
- Cost by Service
- Server Provider Comparison

OVERALL COST

Our analysis indicates that the State's overall annual IT labor cost is $26.9 million. This is split almost evenly between ITD at $13.1 million and the agencies at $13.8 million.

To facilitate our analysis and enhance our ability to compare North Dakota's IT labor with other states, we grouped the 26 individual IT activities into four functional areas:

- **Customer Services** – those functions related to directly supporting users of IT systems and services
- **System Services** – those functions related to implementing, maintaining, and supporting the organization's computers, systems software, and connectivity
- **Business Application Services** – those functions related to providing, maintaining, and supporting the use of software needed to meet the operational, management, and reporting requirements of the organization
- **IT Administration and Planning** – those functions related to the planning, oversight, security, and day-to-day operations of the technology function at the organization

The following chart summarizes the State's IT labor costs by these areas. As the chart clearly shows:

- Customer Services are mostly distributed
- System Services are mostly consolidated

- Business Application and IT Administration and Planning services are mixed
- Business Application support represents the largest IT labor cost

OVERALL IT LABOR COSTS BY FUNCTIONAL AREA

COSTS BY SERVICE

The following table summarizes the total labor effort (including contractors and "shadow" staff) and cost for each IT service. *Appendix B presents a similar table for each state agency.*

IT STAFFING LEVELS AND COST BY SERVICE

IT Functions	ITD FTE	ITD Cost	IDT cost per FTE	Agency FTE	Agency Cost	TOTAL FTE	TOTAL Cost
Customer Services							
Help Desk (Tier 1)	4.20	$ 236,600	$ 56,333	17.87	$ 855,359	22.07	$ 1,091,959
Workstation support (Tier 2)	1.80	$ 108,000	$ 60,000	20.03	$ 937,790	21.83	$ 1,045,790
End user application support	0.40	$ 24,750	$ 61,875	24.27	$ 1,134,810	24.67	$ 1,159,560
Training	0.70	$ 41,400	$ 59,143	5.19	$ 260,981	5.89	$ 302,381
System Services							
Network connectivity (WAN/LAN/wireless)	17.90	$ 1,109,500	$ 61,983	1.81	$ 104,666	19.71	$ 1,214,166
Email administration	2.30	$ 157,600	$ 68,522	0.50	$ 26,704	2.80	$ 184,304
File/print administration	1.50	$ 91,500	$ 61,000	1.99	$ 101,702	3.49	$ 193,202
Other server administration	7.45	$ 492,875	$ 66,158	1.86	$ 100,089	9.31	$ 592,964
Workstation administration	0.30	$ 18,200	$ 60,667	7.37	$ 350,830	7.67	$ 369,030
Storage management	1.90	$ 148,000	$ 77,895	0.91	$ 52,302	2.81	$ 200,302
Data center operations	14.30	$ 731,900	$ 51,182	7.46	$ 396,827	21.76	$ 1,128,727
Database administration	6.00	$ 418,500	$ 69,750	5.51	$ 337,339	11.51	$ 755,839
Security administration	3.00	$ 213,500	$ 71,167	3.16	$ 190,567	6.16	$ 404,067
Telephone systems support	4.70	$ 244,200	$ 51,957	2.66	$ 119,018	7.36	$ 363,218
Business Application Services							
- Finance	4.36	$ 270,335	$ 62,003	4.01	$ 233,648	8.37	$ 503,983
- Payroll	4.06	$ 251,935	$ 62,053	2.75	$ 132,619	6.81	$ 384,554
- HR	2.08	$ 132,230	$ 63,572	2.12	$ 145,721	4.20	$ 277,951
Agency applications	90.25	$ 5,624,325	$ 62,319	82.06	$ 4,686,225	172.31	$ 10,310,550
IT Administration and Planning							
Strategic planning	6.10	$ 540,250	$ 88,566	7.36	$ 508,708	13.46	$ 1,048,958
Research and development	2.30	$ 183,150	$ 79,630	4.41	$ 256,515	6.71	$ 439,665
Disaster recovery management	1.10	$ 76,800	$ 69,818	2.32	$ 150,652	3.42	$ 227,452
Asset management	0.70	$ 42,700	$ 61,000	2.29	$ 122,117	2.99	$ 164,817
IT procurement	0.80	$ 47,700	$ 59,625	3.89	$ 222,907	4.69	$ 270,607
Project management	9.70	$ 739,900	$ 76,278	17.80	$ 1,279,076	27.50	$ 2,018,976
Administrative support	7.90	$ 446,900	$ 56,570	5.69	$ 236,536	13.59	$ 683,436
Departmental management	9.40	$ 740,850	$ 78,814	10.41	$ 757,900	19.81	$ 1,498,750
TOTAL	205.20	$ 13,133,600		245.69	$ 13,701,606	450.89	$ 26,835,206

Desktop Services

Server Administration

The callout boxes above indicate the IT services required for Desktop Services and Server Administration. This allows us to compute PC-to-support staff and server-to-support staff ratios. The table below presents these metrics for the State of North Dakota. Refer to Section D in this chapter for additional detail.

DESKTOP SERVICES & SERVER ADMINISTRATION IT SUPPORT STAFF RATIOS

Support FTE's			Support Ratios per FTE
51.57	No. Workstations	7,674	149 to 1
15.60	No. Servers	503	32 to 1

Overall, these ratios indicate a reasonable degree of efficiency and are in line with our experience for public sector IT support services.

SERVICE PROVIDER COMPARISON

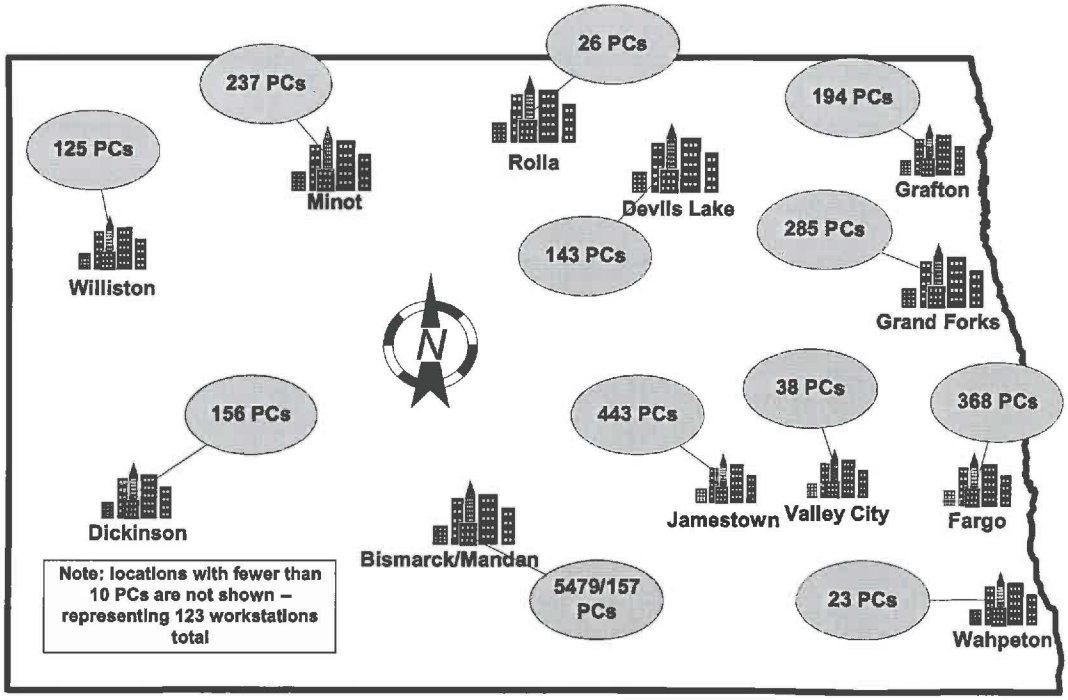
This subsection takes a more detailed look at some key IT services, comparing agency and ITD staffing and costs. Please see Appendix B for additional analysis of mainframe hosting, disaster recovery management, storage management, and state-wide applications.

The following table provides more detail regarding the distribution of labor between the agencies and ITD for server and desktop support services. It shows that Desktop Services are largely an agency responsibility, while server support has shifted mostly to ITD following the implementation of HB1505.

IT SUPPORT STAFF DISTRIBUTION

	ITD Staff		Agency Staff		TOTALS	
	FTE's	Dollars	FTE's	Dollars	FTE's	Dollars
Desktop Services	6.30	$ 362,800	45.27	$ 2,143,979	51.57	$ 2,506,779
Server Support	11.25	$ 741,975	4.45	$ 233,870	15.70	$ 975,845

The exhibit below shows the geographic distribution of the State's workstations. Note that approximately 73% of the workstations are in the Bismarck/Mandan area. Please see Appendix B for agency detail about workstations located outside Bismarck.



	Count	% of Total
Total Bismarck/Mandan:	5636	73%
Total Other:	2038	27%
Total Workstations:	7674	100%

HB1505 IMPACT

The table below analyzes the impact of HB1505 on server support staffing levels and costs. It leads us to conclude that:

- There are still about 45 servers in the non-consolidated agencies
- Some opportunities for savings through consolidation still exist at the seven agencies with negotiated exemptions from HB1505
- For the eight agencies successfully consolidated, very few servers remain and total costs are small
- Annual labor savings from consolidation are significant, but will provide only about 42% of the $700,000 in annual cost reductions mandated by HB1505

SERVER ADMINISTRATION STAFFING AND COSTS

Agency	Number of Servers	Server Administration FTE	Servers per FTE	Server Administration Labor Cost	Server Administration Unit Cost	Labor Cost per Server
Agencies Exempt from HB 1505:						
Judicial Branch	26	0.61	43	$34,486	$56,535	$1,326
Attorney General	4	0.33	12	$15,630	$47,362	$3,907
20 small agencies (total)	15	0.96	16	$50,092	$52,343	$3,339
7 negotiated exemptions (total)	42	1.86	23	$97,898	$52,634	$ 2,331
Agencies Included in HB 1505:						
8 consolidated agencies (total)	7	0.59	12	$30,388	$51,505	$ 4,341
Information Technology Department	409	11.25	36	$741,975	$ 65,953	$ 1,814
TOTAL (post-consolidation)	**503**	**15.60**	**32**	**$ 970,470**	**$ 62,222**	**$ 1,929**
TOTALS: 15 agencies pre-consolidation	**202**	**11.63**	**17**	**$619,228**	**$ 53,244**	**$ 3,065**

15 HB 1505 agencies' server administration labor cost pre-consolidation	**$619,228**
15 agencies' server administration labor cost post-consolidation	$128,287
ITD additional server administration labor post-consolidation	$196,500
Total ITD and 15 agencies' server administration post-consolidation	**$324,787**
Annual labor savings from server consolidation	**$294,442**
Percent of HB1505 mandated annual cost reduction	42%

The final table below presents agency cost and staffing data for application development and maintenance.

AGENCY APPLICATION STAFFING AND COSTS

Agency	Agency Applications		
	Agency FTE	Agency labor cost	Cost per FTE
Parks and Recreation	0.25	$12,019	$48,075
Department of Commerce	0.26	$20,154	$77,515
Insurance Commissioner	0.35	$15,050	$43,000
Department of Corrections	0.35	$38,401	$109,717
Mill and Elevator	0.40	$29,460	$73,650
Water Commission	0.50	$30,383	$60,766
Council on the Arts	0.65	$16,639	$25,598
Land Department	0.70	$25,176	$35,965
Housing Finance Agency	0.75	$44,583	$59,444
Public Service Commission	0.80	$44,211	$55,263
Public Employees Retirement System	0.86	$41,144	$47,842
Industrial Commission	0.93	$53,430	$57,451
Subtotals for agencies with < 1 FTE	**6.80**	**$370,648**	**$54,507**
Highway Patrol	1.25	$61,445	$49,156
Retirement and Investment Office	1.55	$79,260	$51,136
Department of Health	1.59	$88,700	$55,786
Department of Human Services	2.30	$117,378	$51,034
Judicial Branch	2.44	$131,731	$53,988
Secretary of State	2.45	$144,793	$59,099
Legislative Council	2.60	$273,805	$105,490
Tax Department	3.47	$174,412	$50,331
Office of Management and Budget	3.65	$205,278	$56,223
Attorney General	3.95	$182,187	$46,123
Department of Public Instruction	4.00	$295,592	$73,898
Subtotals for agencies with 1 - 5 FTE	**29.24**	**$1,754,581**	**$60,002**
Job Service	8.59	$490,954	$57,154
Department of Transportation	9.30	$524,497	$56,398
Workforce Safety and Insurance	12.88	$731,795	$56,838
Bank of North Dakota	15.25	$813,749	$53,361
Subtotals for agencies with > 5 FTE	**46.02**	**$2,560,995**	**$55,656**
Information Technology Department	**90.25**	**$5,624,325**	**$62,319**
TOTAL	172.31	$10,310,550	$59,838

Note: ten agencies reported 0 FTE

To reiterate, the FTE count includes all State IT staff, IT contractors, and shadow staff, as reported by the agencies on the IT staffing matrix

From this table we conclude that:

- Agency application development and maintenance is about evenly split between ITD and the agencies
- ITD's per-FTE costs are somewhat higher than agency costs for this service
- The Legislative Council's reliance on contractors for application development makes their per-FTE cost high – this is also true of Department of Public Instruction (DPI), although to a lesser extent

A key measure of staff allocation efficiency, developed by Pacific Technologies, is the Cooks number – from the old saying "Too many cooks spoil the broth." This number counts the excess individuals beyond the FTE effort level required for a particular function. For example, an agency might have 5.5 FTE of server administration performed by 8 staff. This amount of service could be provided by as few as 6 individuals, so the Cooks number would be 2.

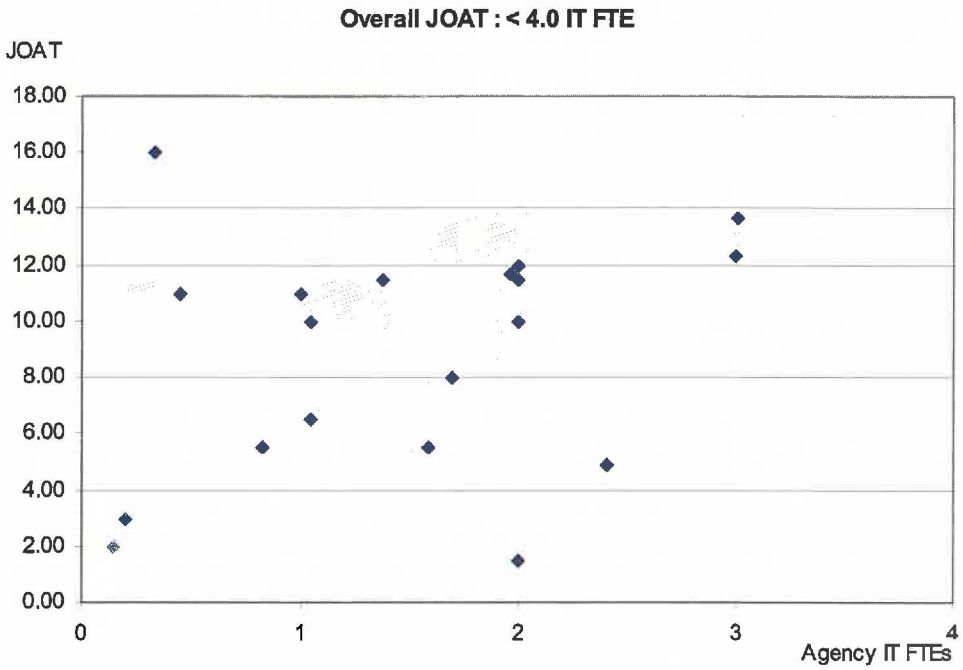
This number does not provide meaningful analysis for small agencies for several reasons. Primarily, there simply aren't enough staff on hand for Cooks to be an issue – even if everyone in a small organization was contributing effort to a specific function. Additionally, small agencies often must rely on IT generalists for support, naturally increasing the number of IT staff that might be providing a specific function. Appendix B supplies this information for all of the agencies, and includes a summary analysis for those agencies where we have identified Cooks as a specific concern.

Several agencies showed high Cooks numbers for Desktop Services – leading to the conclusion that this key service might benefit from a reduction in the total number of individuals assigned to it.

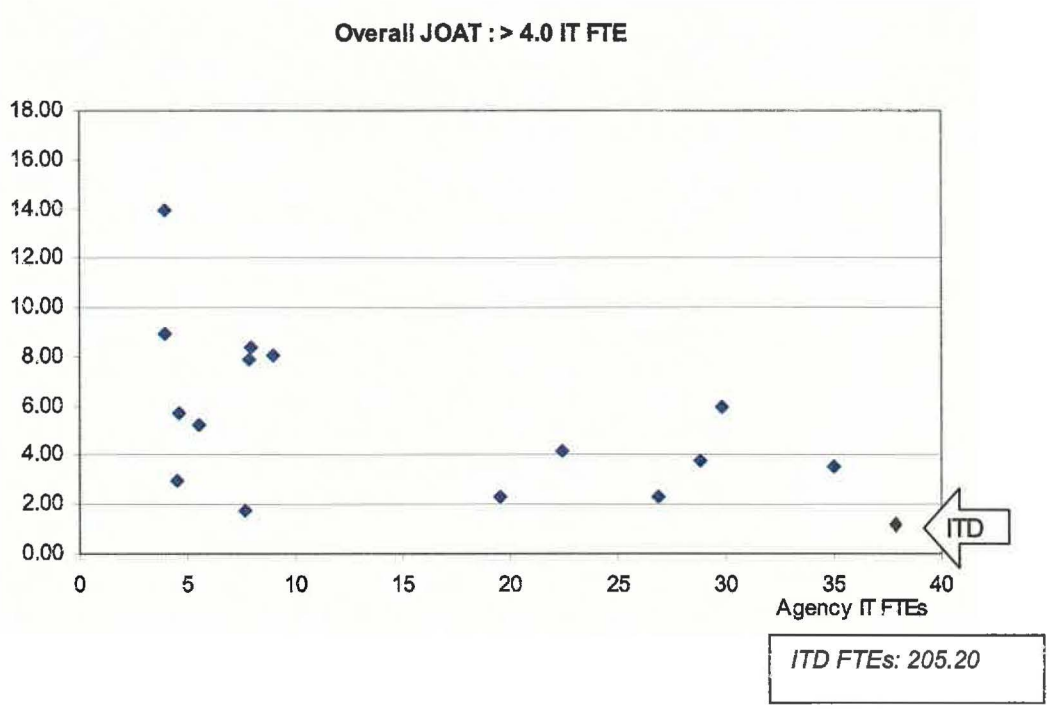
Another key Pacific Technologies-developed measure, the "Jack Of All Trades" (JOAT) factor, focuses on staff skill specialization. This counts the number of IT service functions performed by each individual – for instance, one person might perform e-mail administration, database administration, help desk, and project management; giving that individual a JOAT number of 4. The overall JOAT number for an agency is the average JOAT number for all of its staff. Simply, this number provides an indication of how many multiple IT service "hats" are worn by each individual within an organization, and highlights where greater levels of specialization may be warranted.

In our experience, small agencies often have high JOAT numbers, because they have only a few IT staff who are expected to act as IT generalists and perform many functions. This can be an effective way of staffing a small organization. But, when viewed at the enterprise-wide level for an organization the size of North Dakota, it is frequently accompanied by lower levels of service quality. It is difficult for one individual to be expert in multiple IT disciplines.

The chart below plots the overall JOAT numbers for agencies with less than 4 IT FTE. **North Dakota's small agencies fall into two categories – those with high JOAT numbers and those that do not support a full set of IT services with their own staff.**



The next chart plots the overall JOAT numbers for agencies with great than 4 IT FTE. **Note the clear trend of decreasing JOAT as agency IT staff size increases.** The larger agencies have succeeded in making their IT staff concentrate on doing fewer things so they can do them better. **With an average JOAT of 1.64, ITD has achieved greater skill specialization than any of the agencies. The State should be able to derive service quality improvements from taking advantage of ITD's ability to specialize – particularly for the smaller agencies.**



3. SERVICE QUALITY

ITD's current focus is on application development and "back end" services such as WAN, data center operations, server hosting, etc. The success measures for these services tend to be either cost centered (i.e., project came in under budget) or technically oriented (e.g., server uptime, WAN bandwidth used, etc.). ITD tracks a number of performance measures related to these areas. ITD also has related performance targets associated with many of these measures, including percentage of strategic initiatives completed successfully (75%), percentage of reported problems resolved within the Support Center (75%), median time working hours required to resolve reported and assigned problems (2.25 hours), etc. While some adjustment to the measures and targets may be desirable, in general they are on the right track. **Performance, as reported in ITD's annual report, gives no indication of significant quality issues in the areas being tracked.**

Generally, the agencies are much less structured in their approach to measuring service quality. A small number of the larger agencies track problem resolution times for their Desktop Services, but quality measures such as number problems per workstation or cost-per-call are not collected. With a few exceptions, problem frequencies are not analyzed.

Anecdotally, our interviews indicated that agencies are very happy with their internal IT service. **Ultimately, Pacific Technologies had no quantitative data available to broadly assess the quality of IT service in the agencies. In addition, instituting the quantitative measurements necessary to provide metrics would require too much overhead for most agencies, given their small staff sizes.**

4. STRENGTHS

Our labor cost analysis highlighted several areas of strength worthy of note:

- **The State's workstation-to-support-staff ratio falls within acceptable ranges for government agencies.** We usually encounter ratios between 100 to 150 PC's per support staff FTE, and North Dakota falls within this at 1349 PC's. *Note that in some highly-standardized environments we have seen support ratios reach 200 or more PC's per support FTE.*
- **Similarly, the State has achieved a good ratio of servers to support staff.** Our benchmark number in the public sector is 25 servers per support staff, very close to the State level of 26. *Note that as servers are consolidated, staffing levels will need to come down to maintain this ratio.*
- **The State has chosen to devote significant resources to its application portfolio.** Ultimately this area is where the State can expect to see the most business benefits to the agencies. While our study did not review the business value of each component in the application portfolio, clearly the State should expect major productivity or service quality gains given the resources expended.
- **The recent server consolidation effort has saved the State money.** The changes reduced total labor devoted to server administration by approximately six FTEs, with additional savings expected as ITD reduces the number of servers.
- **Agencies generally report that they are happy with their IT services.** This is an indication that appropriate resources are being applied and that business units perceived value in their IT investments.

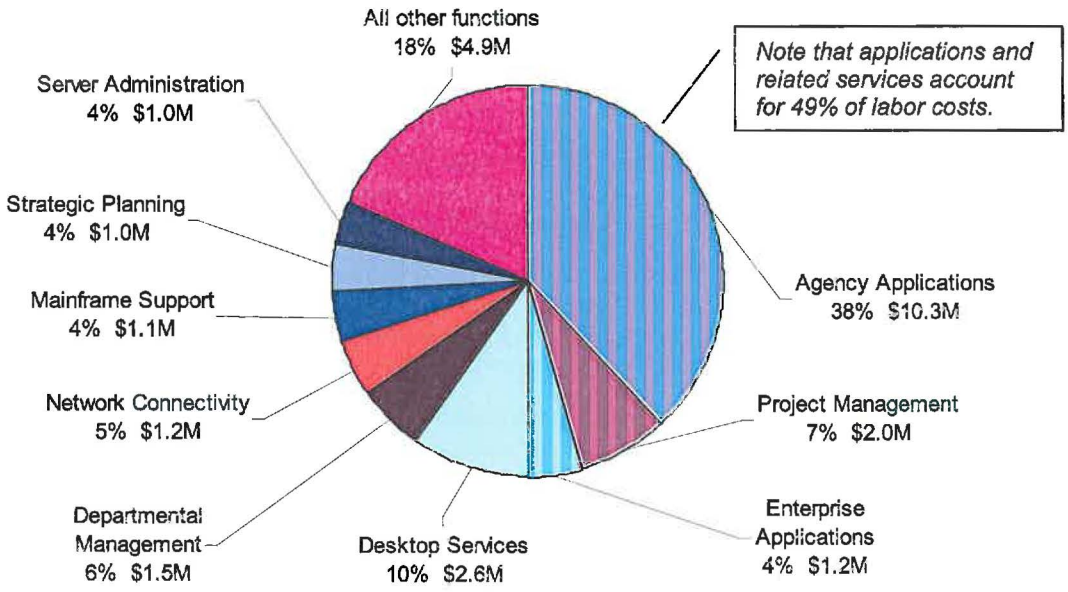
5. OPPORTUNITIES FOR IMPROVEMENT

We believe the following areas should be the State's focus as it strives to improve IT services:

- **Desktop Services** is the second-most costly IT service provided, and the one most broadly distributed across multiple staff. While overall efficiency is reasonable today, improvements in both cost and service quality can be realized.
- **Application support** is by far the largest single IT service. Quantifying the business value of the State's applications was outside the scope of our study – but, given the large sums involved, this area may be fertile ground for long-term cost reductions.
- **Server administration** has already seen cost savings as a result of HB1505. ITD believes (and we concur) that additional savings can be obtained over time through reductions in the number of servers. There are also additional opportunities to move servers from the agencies to ITD.
- **Large agencies with "Cooks" issues** can look for ways to reduce the number of individuals performing certain IT services. Approaches might include reassignment of duties, outsourcing, and shifting workload to ITD.
- **Small agencies with "JOAT" problems** may find their limited staff resources would be better concentrated on doing a few tasks well. Potential approaches to this would also include outsourcing and shifting workload to ITD.

The chart on the following page summarizes the "Top 10" IT service areas by labor cost. Note that these constitute more than 80% of the State's $26.9M in IT labor costs. As the State looks for further cost reductions in IT service delivery, these should serve as a guide to where the biggest opportunities may exist.

IT SERVICE LABOR COST RANKINGS



C. IT GOVERNANCE

IT governance includes all aspects of technology-related decision making, including processes, tools, roles and responsibilities, and related standards and policies. Pacific Technologies conducted an analysis of the State's IT governance approach – focusing primarily on investment-related decisions – by distilling data gathered through our interview and document review processes. We also evaluated these practices in light of information received through our nation-wide survey. This section presents our findings, organized as follows:

1. Current Approach
2. Strengths and Opportunities for Improvement

1. CURRENT APPROACH

The State's approach to IT decision making is in the midst of significant change. This analysis examines existing processes as well as recent examples of major IT decisions. To the degree possible, we note areas where consequential adjustments are in progress or are expected in the near future.

STATE-WIDE

State-wide IT decision-making processes are currently going through substantial revision. Previously, IT governance at this level was conducted on an ad-hoc basis, typically being created to meet the specific requirements of a project (e.g., ConnectND) and relying heavily on existing non-IT-specific processes. While the State has effectively made IT decisions using this approach, it has not provided a mechanism for taking a state-wide view of IT. Recent legislation has attempted to address this by making ITD responsible for reviewing and approving IT plans from every agency and by creating the SITAC. Among other responsibilities, the SITAC is chartered with prioritizing IT projects on a state-wide basis.

Currently, state-wide IT governance responsibilities include:

- **CIO** – The State CIO has broad, statutorily defined responsibilities for IT governance and oversight for the State. By virtue of having the ultimate responsibility for IT at the State, the CIO position plays a significant role in recommending and prioritizing IT initiatives – as well as their execution.
- **SITAC** – This relatively recently formed group includes representation from a variety of state agencies, as well as participation from industry and legislative groups, and is intended to serve as an advisory body for the CIO. The governance processes for this group are still in development. SITAC has not yet had an opportunity to participate in evaluating a major IT initiative.
- **Interim IT Committee of the Legislative Council** – This committee has the primary evaluation and oversight responsibilities for technology-related issues at this level of government.
- **Enterprise Architecture Committees** – This set of bodies is in the process of defining state-wide IT standards. The committees include working "domain" teams, an architecture approval board, and an executive steering committee. The collective group is still establishing the initial standards, but will eventually evolve into a set of standing committees for directing the evolution of IT standards at the State.

It is worth noting that several legislators indicated that they do not receive sufficient information to make informed IT decisions. A related finding is that state IT governance lacks standard requirements, tools, and methods for defining and tracking tangible business outcomes for projects. Given North Dakota's relatively large investment in applications, such tools could provide valuable insight into the actual return on these expenditures.

AGENCY

Most IT investment decisions are made – at least initially – at the agency level. While ITD is developing tools for standardization, such as a business case approach, agencies are predominantly allowed to define the level of formality and rigor for these processes. Some agencies report having very formal, IT-specific processes, others use their general budgeting processes. Examining these individual processes in any level of detail was beyond the scope of this effort.

The primary exception to this distributed process is that each agency is required to submit a formal IT plan to ITD for review at the beginning of the budget cycle. Among other data elements, these forms ask agencies to identify IT projects and initiatives that will be part of their budget. Currently these plans are reviewed at a high level – ITD does not yet have mechanisms in place to examine them in detail or holistically as a group. While the plans do ask agencies to link IT investments to business objectives, most agencies reported viewing the plans as budget documents rather than strategic planning documents. Small agencies also indicated that the requirements were oriented toward large organizations and did not scale down well.

2. STRENGTHS AND OPPORTUNITIES FOR IMPROVEMENT

This section presents Pacific Technologies' analysis of strengths related to the current IT governance approach – as well as opportunities for improvement.

IT GOVERNANCE STRENGTHS

The State is in the process of developing the fundamental elements of an effective IT governance process. As mentioned previously, the efforts to deploy a standardized business case approach will assist decision makers at all levels with fairly and equitably evaluating competing projects. Also, efforts are underway to further define and refine the governance roles and responsibilities of SITAC.

Another example of an evolving governance tool is the State's Enterprise Architecture (EA) project. This inclusive process is well on the way toward establishing enterprise-wide IT standards for the State. Once approved, those standards will allow the IT decision-analysis to focus on the business issues – not the technology issues – and will accordingly improve the effectiveness and efficiency of IT decision making.

The State has also done an admirable job in IT-related data collection. Agencies' IT plans not only provide a structure on which to build decision-making processes, they also collect a wealth of data that could be used for planning and analysis. This IT organization and management project has provided the State with in-depth insight into its IT labor distribution and governance practices. Most states involved in the nationwide survey (described in section E of this chapter) lacked access to such critical data.

Finally, this planning effort is indicative of an organization that is putting serious effort and consideration into improving its approach to state-wide IT management.

IT GOVERNANCE OPPORTUNITIES FOR IMPROVEMENT

Despite the IT governance-related advances the State has already made, several opportunities for improvement remain.

While the State should be commended for its data collection efforts, meaningful management information is still lacking. As previously noted, some legislators interviewed as part of this effort expressed concern that they do not have sufficient information to make informed IT decisions. Although IT expenditure data can easily be aggregated – making it one of the largest single expenditure items at the State – limited information is available regarding the attendant value of those investments.

Without requiring each agency to develop business plans, IT plans are not clearly linked – in a standardized way – to agency goals and missions. The absence of these linkages makes it difficult for external decision makers to evaluate investment requests. This should not imply that agencies do not create their own business plans or that they are not in fact aligned with agency IT plans – from our interviews it was clear that some agencies did just that. Instead, the State simply lacks a standard way for an external party to evaluate those linkages and overall performance-to-plan over a given time frame.

In evaluating and prioritizing the plans that are provided, reviewers lack a standard set of criteria for making decisions, and the agencies do not know the basis for evaluation that might be applied to their initiatives. Further, measures and targets for IT project and operational success are not well-defined, even though much of the data may already be available. Of particular note, there is no standardized mechanism for establishing cost-benefit performance targets and collecting performance-to-plan data – critical requirements to ensure that initiatives are achieving their targeted return on investment.

The application approval and oversight process also has contributed to fragmentation of the State's application architecture, and has not led to IT cost containment as it lacks a mechanism for taking a state-wide view. The State has yet to finalize standards that, when enforced through the approval process, would lead toward a more homogeneous application environment.

Although internal resources are generally available and often utilized, there are also no mechanisms in place to require effective project management or provide ongoing third party oversight – a critical requirement for major application initiatives. While ITD has established a planning and project management function within the agency, it is still developing and has not yet been made a required resource on major projects.

D. ADDITIONAL FINDINGS

In the course of conducting this assessment, Pacific Technologies identified several findings that – while important – do not fit neatly within the primary scope of this contract: IT organization and governance. This section provides a brief summary of those findings, as follows:

1. Lack of Workstation Standardization
2. Complex Application Architecture
3. No IT Innovation Funding Mechanism

1. LACK OF WORKSTATION STANDARDIZATION

North Dakota does not yet have a complete set of technology standards. Over the years the State has seen the proliferation of a wide range of technologies, applications, development environments, and operating systems across the enterprise.

This is particularly problematic in the area of workstations. Desktop computing environments around the State were reported to vary significantly between agencies. That variability included the full range of Microsoft operating systems from Windows 95 through Windows XP, as well as Apple Macintosh. Some agencies were very standardized, others mirrored the State-wide level of inconsistency internally. Workstation hardware has similar issues, with some agencies keeping very current with hardware, and others taking a slower and more piecemeal approach to replacement. Hardware also came from a broad range of vendors.

Some diversity is necessary – a single workstation standard would either not meet the needs of the State's "heavier users" or it would have to be vastly over-powered (and over-priced) for the majority of users. Additionally, there are a handful of special purpose/special use workstations, as well as non-networked devices that an organization the size of the State will always require. However, the current level of volatility in even the basic desktop environment prevents the State from most effectively leveraging its buying power in the form of reduced costs. Perhaps more significantly, the configuration hodge podge further increases support costs as well as training costs for both users and service providers.

2. COMPLEX APPLICATION ARCHITECTURE

Section C of this chapter notes that the application approval process has not fostered cost containment. Specifically, the approval process (and lack of enforced standards) has done little to put controls on the computing systems and tools used in development. The resulting environment not only prevents the State from leveraging better license agreements through volume purchasing, but also requires a wide range of computing skills for users and application developers alike, which can, in turn, be expensive to maintain. The variety of development environments also fosters the need for unique workstation configurations, contributing to the problems noted above.

The State also lacks a comprehensive application inventory that could help identify opportunities for sharing investments and technologies, potentially contributing to cost savings through reducing redundancy.

3. NO IT INNOVATION FUNDING MECHANISM

The State lacks a mechanism for supporting pilot projects using new and emerging technologies. Public sector organizations typically do not operate on the cutting edge of technology, but they must keep up with technological advances and skills to effectively plan for using these emerging technologies in the future. Instead, these projects are largely initiated and conducted on a departmental basis, if at all, making them difficult to justify and fund, and impairing the State's ability to gather broader "lessons learned."

E. SURVEY RESULTS

In support of this project, PTI surveyed state IT executives. The survey was performed to identify staffing trends and key state IT spending and service delivery metrics for comparison with North Dakota.

Pacific Technologies contacted all 49 other states, and a total of 31 responded. Participants (either the CIO/CTO or their designate) were surveyed by telephone. We asked a subset of this group to participate in a more detailed data-gathering effort. With input from the National Association of State Chief Information Officers (NASCIO) and North Dakota's CIO, Pacific Technologies identified thirteen states to receive the more detailed survey. Of these, twelve agreed to participate; from this group of twelve, at least partial responses were received from:

- Kansas
- Kentucky
- Missouri
- North Carolina
- South Dakota
- Wyoming
- Texas

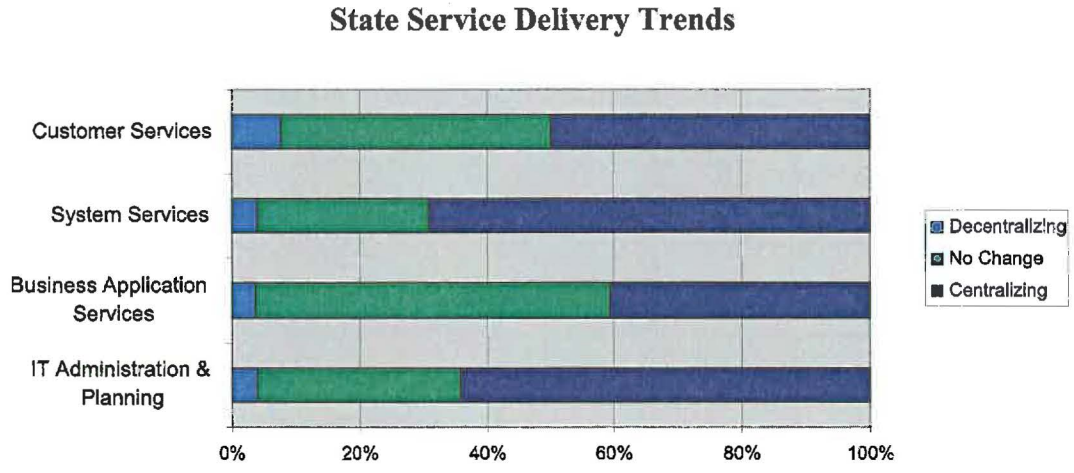
It is worth noting that *inability to provide the requested data* was the principle reason the remaining six states did not participate in the detailed survey – not unwillingness or lack of interest. In addition to direct contact with survey respondents, our consulting team also did its best to corroborate the findings utilizing publicly available information.

This subsection presents the results of the surveys. It also includes information about IT governance and industry trends. It is organized as follows:

1. Service Delivery Trends
2. Benchmarks
3. Governance Trends
4. IT Industry Trends

1. SERVICE DELIVERY TRENDS

The survey results indicate that **IT service delivery is either remaining as-is or is becoming more consolidated** in all but a handful of states, as indicated in the chart below:

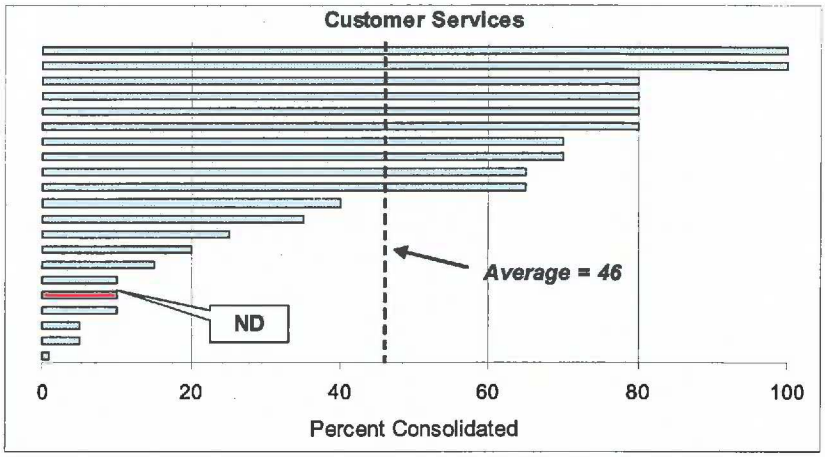


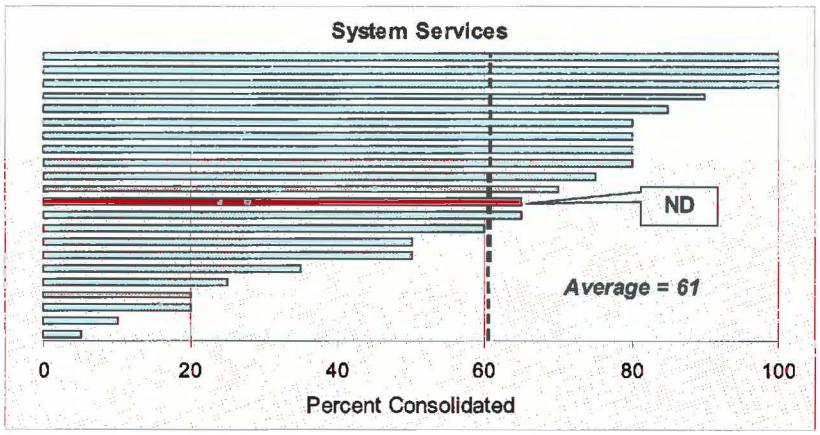
In fact, several states have recently completed or are in the process of initiating efforts similar to North Dakota's. For instance:

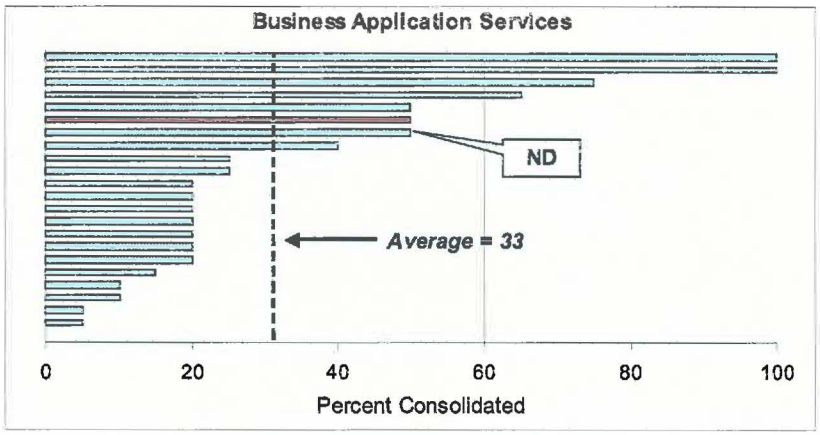
- Virginia finished a consolidation study in December of 2002
- Illinois, Iowa, and Oregon have all released consolidation RFP's
- New Hampshire and Michigan are in the process of consolidating through either executive or legislative action
- Nevada and Alaska have studies in process

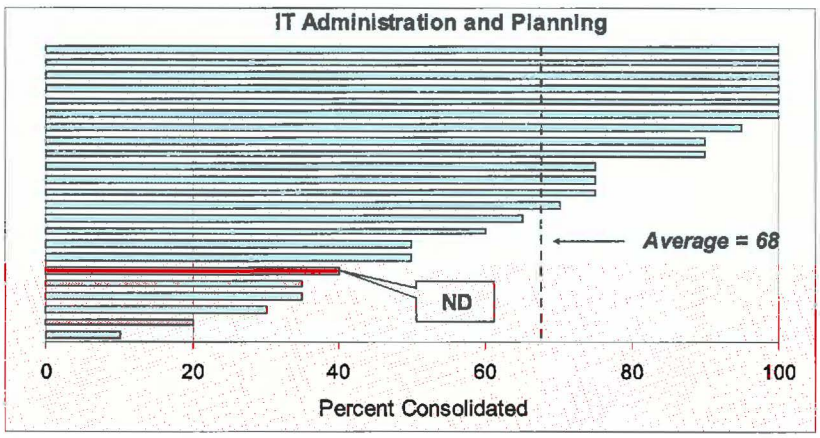
A central focus of this engagement surrounded the question: "Where is North Dakota on the decentralized-to-centralized continuum?" In response to that question, the following charts present **expected levels of consolidation** across the four major IT functional areas for the surveyed states, highlighting North Dakota's position on this continuum.

Expected Levels of Consolidation









Overall, we find that:

- North Dakota's approach to application services is already more centralized than many states
- North Dakota's approach to systems services is on par with survey averages
- Both customer service and IT administration and planning represent areas in which North Dakota is significantly less centralized than other states

Appendix C includes more specific results from the survey.

2. BENCHMARKS

This subsection presents the results of our more detailed survey. It also includes a comparison of ITD's rates for key services with rates from other states.

For the detailed survey, participants were asked to provide information on state demographics, staffing levels, and operating budgets. The data we received is restricted to the executive branches of the responding states. We validated the information through multiple phone calls to our contact at each state and independent budget research.

We did not adjust the data from other states to account for differences in services across jurisdictions. Because none of the respondents included a bank, we did remove the Bank of North Dakota's budget and FTE figures from the analysis. Both ITD and the North Dakota office of management and budget reviewed our North Dakota data.

The following table summarizes the key IT metrics collected by the survey. **In interpreting the information please bear in mind that, due to the relatively small sample size, the results are not statistically significant.** As such, Pacific Technologies cautions against placing undue emphasis on the rankings.

Performance Metric Comparison

Metrics & Ratios	Average of All States	ND Relative to the Group Average	ND Rank in Group	North Dakota	Connecticut	Kansas	Kentucky	Missouri	North Carolina	South Dakota
State Population	3,580,524	-82%	7	634,110	3,300,000	2,688,418	4,041,769	5,595,211	8,049,313	754,844
Total Executive FTEs	38,641	-82%	7	7,097	50,000	35,225	39,000	52,517	73,355	13,294
Total Executive IT FTEs	1,262	-65%	6	443	1,030	1,561	1,624	1,449	2,450	276
Total IT FTEs as % Total FTEs	3.6%	+74%	1	6.2%	2.1%	4.4%	4.2%	2.8%	3.3%	2.1%
Total Executive Operating Budget	10,090,809,702	-83%	7	$ 1,742,476,912	$ 13,000,000,000	$ 9,800,000,000	$ 14,000,000,000	$ 17,842,800,000	$ 12,005,000,000	$ 2,245,391,000
Total Executive IT Budget	209,579,281	-74%	6	$ 55,154,058	$ 245,000,000	$ 150,600,000	$ 262,000,000	$ 168,126,910	$ 548,000,000	$ 38,174,000
Total IT Oper Budget as % Total Operating Budget	2.2%	+41%	2	3.2%	1.9%	1.5%	1.9%	0.9%	4.6%	1.7%
Total Citizens per Executive FTEs	87	-3%	4	89	66	76	104	107	110	57
Total IT Operating Budget per FTE	$5,315	+46%	1	$7,771	$4,900	$4,275	$6,718	$3,201	$7,471	$2,872
Ttl IT Operating Budget per Citizen	$62	+41%	1	$87	$74	$56	$65	$30	$68	$51
Total Operating Budget per Citizen	$3,064	-10%	6	$2,748	$3,939	$3,645	$3,464	$3,189	$1,491	$2,975

The table illustrates several points:

- North Dakota ranks last in the group in population, total Executive branch FTEs, and total Executive operating budget, and next-to-last in total Executive branch IT FTEs, total Executive IT budget, and total operating budget per citizen
- Based on calculated metrics, North Dakota spends more on IT, in general, than most of the other states in the survey:
  - North Dakota ranks 1st in IT FTEs as a percentage of total FTEs (approximately 75% more than the average), meaning that North Dakota has relatively more IT FTEs than the other respondents
  - North Dakota ranks 2nd in total IT operating budget as a percentage of total operating budget (approximately 40% more than the average), meaning that North Dakota spends somewhat more on IT than the other respondents
  - North Dakota ranks 1st in total IT operating budget per FTE and total IT operating budget per citizen (approximately 45% and 40% more than the average respectively), again indicating that North Dakota spends relatively more on IT than the other respondents
- The greater numbers of IT FTEs is consistent with the level of application investment at the State
- The relatively lower operating budget per citizen in contrast with the higher IT budget per citizen may indicate that the State is gaining efficiencies from IT investments, perhaps showing that the State's IT investments allow North Dakota to "do more with less" in other areas

The table below presents comparison rate data gathered by ITD regarding services provided by counterparts in other states.

IT Rate Comparison

State	CPU Time per second(1)				Service Rates - Hourly			Telecom Monthly			Long Distance(2)	
	Batch	ADABAS	CICS	TSO	Systems Analysis	Programming	Project Management	T-1	Voice Mail	Phone Line	In-state	Out of State
AK	0.07	0.07	0.06	0.11				$840	$3		0.060	0.060
ND	0.69	0.74	0.69	0.69	$56.25	$52.00		$495	$6	$21	0.080	0.090
SD	0.16	0.16	0.16	0.16	$48.00			$650	$10	$11	0.105	0.105
MT	1.24	0.88	0.25	1.52				$450	$4	$20	0.059	0.059
VA	0.01	0.01	0.01	0.01			$97.00		$10			
AR	0.8					$59.00	$67.00		$2			

(1) Mainframe models – and associated processing speed – varies between states making direct comparisons of cost per second misleading

(2) Rate is based per minute

Note that it is difficult to ascertain comparability of the rates presented above without much greater insight into how rates are calculated, what services are provided for the rate, what services may be provided elsewhere, how overhead is applied, and where associated charges such as facilities are accounted for. Given this uncertainty, the metrics presented on the previous page may serve as a better comparison tool.

3. GOVERNANCE TRENDS

The following information regarding IT governance at the states is summarized from several sources, including the 2002 NASCIO Compendium of Digital Government in the States.

CIO LOCATION WITHIN THE ORGANIZATION

At the time of the survey, a plurality of the states (23) place the CIO within independent IT departments or offices, as opposed to being housed within another department (e.g., the administrative or finance department). At 17 of the states, the CIO manages an IT function that is a division within a department. In seven states the CIO is located in the governor's office, with the IT function housed within a department; in these cases, the CIOs oversee offices that are primarily policy and/or standards-setting oriented and do not have direct operational responsibility.

IT GOVERNING BOARDS

Most of the states utilize a governing body, usually a commission or committee, to oversee the IT function. While in a few cases (including North Dakota) the body serves as an advisory group, most of these boards provide review and approval of enterprise-wide standards, policies, and procedures. The CIO usually acts as chair or leader of the committee, and several sub-groups may exist as well to handle specific issues (e.g., digital government, security, etc.) under the umbrella of the IT governing body.

STATEWIDE IT PROCUREMENT RESPONSIBILITY

About 25% of the state CIOs hold responsibility for procurement on a state-wide level for IT services, hardware, and software. This generally occurs above an established threshold amount. Half report sharing this responsibility with a central procurement office, and others report having no direct responsibility for procurement.

SERVICES PROVIDED AND OUTSOURCING

The services most commonly offered by state IT functions include architecture development, network administration, project management, and website/portal development. Fewer than 10% of the states are outsourcing any service entirely (for example, the State of Alaska has entirely outsourced the provision of its wide area network to a telecommunications vendor). About 30% of the states report providing a combination of direct services and outsourced services. The most commonly outsourced service is training – approximately half of the states are providing training services in-house.

In the private sector, outsourcing remains one of the few growing sectors in IT and networking. While the term "outsourcing" can mean almost any type of contracting for outside services to meet organizational IT needs, in its strictest form outsourcing involves the formal transfer of an IT or network operation to an external service provider, including the physical assets and personnel. Most outsourcing contracts involve "selective outsourcing" or "out-tasking;" these deals are generally worth less than $100 million each. This form of outsourcing, while the most common, makes up just four percent of the nearly $390 billion total value of the outsourcing contracts signed during the last 14 years. A recent survey of companies found that 55 percent of respondents are either currently outsourcing some IT functions (40 percent) or considering outsourcing in the next twelve months (15 percent).

4. IT INDUSTRY TRENDS

This section presents a brief overview of the most significant IT industry trends that will impact IT spending over the next five years, organized as follows:

- Network
- Application
- Governance
- Other

NETWORK

Wireless – As the wireless market evolves and matures, new opportunities and challenges will continue to present themselves to the State. Given North Dakota's low population and relatively large area, it is likely that North Dakota will receive these services after most of the rest of the country. Commercial vendors will offer new services and eliminate others, as faster, more robust protocols are designed, approved, and deployed. For example, in many areas of the country, public safety agencies have relied on vendor-supplied CDPD (cellular digital packet data) service for wide area transmission of data. This is being phased out in favor of GSM/GPRS (Global System for Mobile/General Packet Radio Service), which will provide greater bandwidth for users.

VoIP (Voice over IP) – This technology has been waiting in the wings, but is now being deployed in the public sector more commonly. Telecom vendors are phasing out their PBX offerings in favor of systems that allow voice traffic to be carried over the same infrastructure as data. In addition to consolidating equipment and support skills, many organizations save money on long distance phone service by utilizing this technology.

Speed – Greater network bandwidth and higher data transmission speeds will continue to become available, which will require IT infrastructure to be upgraded for compatibility. Furthermore, as buildings are remodeled and new construction takes place, the State will need to understand the options and potential complications to compatibility of existing and new infrastructure components.

Single Sign-on – Continually-evolving software, networks, and business processes can lead to a complex environment. Security and convenience needs are pointing to a world in which users are given a single password to access the resources they require to perform their jobs.

Open Source – Operating systems other than those provided by Microsoft are becoming viable options for many tasks, and, significantly, are finding their way into major corporate environments (Ford Motor Company, for example). Security concerns and smaller budgets are driving increasing public sector interest in these alternatives.

APPLICATIONS

Digital Signature – Several key barriers remain to expanding the services that are offered by government on the Internet. Authentication (verification of identity) is one of these, and digital signatures are a way to ensure that people are who they say they are, as well as enforcing non-repudiation (denial that one has agreed to a contract). Since the passage of the Esign Act in 2000, the use of digital signature technologies in the public sector has been slowly increasing.

Web Services – This term refers to the middleware that enables and simplifies application-to-application connectivity over the Web. Web services differ from other forms of middleware in that they are based on standards that arose and continue to be developed in the wake of the Internet. This way of looking at constructing applications is demanding a new set of skills, and promises to ease data sharing between organizations.

Business intelligence & integration – This category represents a broad range of software and solutions for gathering, consolidating, analyzing, and providing access to data that includes data warehousing, database querying, and data mining. As applications are upgraded and new software is

added to an organization's portfolio, integration of data between applications and various elements of the organization is expected to increase.

Cross-jurisdiction cooperation – Cost savings and service improvement benefits are driving public sector organizations to share infrastructure, applications, and facilities when possible, especially in the areas of public safety, permitting, licensing, and recreation. Regional dispatch centers for public safety, Web portals, and on-line permits, licenses, and park reservations represent common examples of this type of cooperation.

GOVERNANCE

Accountability/Performance Management – Government organizations, like the private sector, continue to look for ways to quantify the benefits of their IT investments. Disciplined approaches to the improvement of performance in public sector IT activities (such as performance and program-based budgeting) are receiving increasing attention, especially as organizations are faced with budget shortfalls and IT service providers seek to demonstrate the value that they provide.

Expanded Replacement Funding – While ongoing replacement funding for IT assets is well-established in the public sector as a way to ensure that PCs remain up-to-date, public sector organizations are expanding the notion of replacement funding to include core components of the IT infrastructure and major application software.

OTHER

Personal Digital Assistants (PDAs) – The growing use of PDAs is forcing the issue of whether to bring them into the IT fold. They tend to drive up the workload of IT support staff as users seek assistance with configuration, and synchronization with their desktop PCs – despite the lack of standards and support agreements with users.

Privacy – Homeland security concerns, HIPPA regulations, and the ongoing debate over public use of personal information point to a continuing need for attention to this area.

Storage Requirements and Management – Recently, the State has embraced alternatives to server-based disk storage such as storage area networks (SANs), network attached storage (NAS) devices, and other "storage appliances" which are becoming a popular response to exploding storage requirements. As the State consolidates servers, these technologies will play an increasing role in the provision of affordable, reliable, and secure data storage.

F. REVIEW OF STATEWIDE INITIATIVES

In addition to reviewing the State's IT organization and governance function, this study involved an evaluation of state-wide IT initiatives currently underway, including:

1. Geographic Information System (GIS)
2. Wide Area Network (WAN)
3. Criminal Justice Information System (CJIS)
4. ConnectND
5. Enterprise Architecture (EA)

The first four initiatives were specifically identified in the initial scope of work for this project. Pacific Technologies identified EA as a fifth state initiative to be included in this analysis.

North Dakota has made significant progress in some of these areas, less progress in others. Comparatively, the State is better off than many of the other states that participated in our benchmarking analysis. The table below summarizes the other states' progress with initiatives similar to North Dakota's.

Status of Surveyed States on Similar Initiatives

Initiative	States with Initiative In Place*	States with Initiative In Progress	States with No Initiative
Wide Area Network	28 (ND)	2	0
Enterprise Resource Planning (ConnectND)	17 (ND)	2	11
Criminal Justice Information Sharing	11	10 (ND)	7
Geographic Information Systems	8 (ND)	4	18
Enterprise Architecture	18 (ND)	3	8

(ND) indicates North Dakota in survey

* "In Place" includes states with at least some major aspect of the initiative in production

The remainder of this section provides a summary analysis of each initiative.

1. GIS

The State recently undertook a major effort to create a unified state-wide database for its geospatial data. The goal of the project was to provide a single source for common data elements, rather than to replace agency-specific efforts. Our nation-wide survey indicated that North Dakota was ahead of most other States in this arena. This project is largely complete and now in an operations and maintenance mode.

GOVERNANCE

Governance for this project is provided by a cross-agency governance committee and a GIS coordinator in ITD.

RISKS

The most significant risk relates to funding. There is no dedicated fund or guaranteed revenue stream (such as from internal cost recovery or external map sales). The majority of the dollars come from the general fund. If that source were to decline, the GIS project would need to identify additional sources of revenue – or reduce service.

Additionally, though a much lower risk factor, project participation is voluntary. The value of this effort is in having all key players participating and contributing to the base data set. If a contributor elected to opt out, the result would be a reduction in quality for all users. The likelihood of this risk coming to fruition or of the impact being significant are both relatively low.

FUTURE REQUIREMENTS

The State should explore options for ensuring that revenue streams can be guaranteed in the future. This could be through establishing a dedicated fund or creating products based on the data or services that can be sold for a fee. Additionally, the State might consider making participation in the governance process a requirement for all agencies with a GIS function.

North Dakota also should periodically evaluate its performance in this area. This evaluation would include an environmental scan of new technologies, as well as a survey of other jurisdictions to ensure the State remains at the forefront in developing and utilizing this valuable enabling technology.

2. WAN

The State's WAN initiative, like the GIS initiative, is largely completed. It has moved into maintenance- and enhancement-related activities. The State's goal for the WAN focused on telecommunication cost savings, improved remote connectivity, and linking political sub-divisions state-wide. Currently the Wan connects State agencies as well as nearly all of its political subdivisions (e.g., counties, school districts, etc.). Beyond basic connectivity, it has provided significant benefit for certain users. For example, smaller and remote school districts are effectively using this tool to provide distance learning opportunities. Similar to the GIS initiative, North Dakota is farther along than many other states, particularly with regard to the breadth of connected organizations.

GOVERNANCE

This project has two cross-agency governance bodies; one is executive and the other is technical. They include representation from several agencies, ITD, and the university system.

RISKS

Risks facing the project are largely technical in nature. The magnitude of the project – both in cost and complexity – required the State to accept higher-than-normal levels of risk in some areas. Specifically, this includes single points of failure for some of the remote connections (i.e., if one circuit were to fail, the connected region would be cut off from the rest of the network, and potentially other organizations within the region).

Additionally, the high level of interconnectivity inherent in the system – a core benefit of this project – makes the entire system susceptible to slow downs or – potentially – failures as a result of individual problem incidents (e.g., a virus attack) within one of the connected networks. The high connection cost also makes it difficult for small, remote offices to justify linking to the network.

A more strategic risk for this effort is the lack of use. State agencies are required by law to use the network for telecommunications. However, many of the advanced applications the system was designed to accommodate (e.g., video conferencing, video-on-demand, etc.) have seen little utilization.

FUTURE REQUIREMENTS

To increase use and to ensure the State realizes the greatest return on this ongoing investment, ITD should increase customer outreach. These marketing efforts should be targeted at providing current and potential system users with a clear delineation of possible services and the attendant benefit to the business units. In support of an outreach effort, ITD should explore options for making resources available that allow users to take advantage of the network's advanced functionality, including broader availability of videoconferencing equipment for state agencies and political subdivisions.

Finally, the State must continue investment in this asset to ensure it maintains its value as technologies, applications, and user requirements change and adapt.

3. CJIS

The State's CJIS efforts are still in their nascent stages and, accordingly, are somewhat in flux. The State has identified a "hub" approach for this initiative, which calls for North Dakota to be responsible for creating the infrastructure necessary to let the numerous justice-related applications in use across the State exchange data. For agencies without adequate or appropriate applications, the State has purchased a system that it will run for interested agencies as a service.

The State previously commissioned a study to examine options for this initiative. The current approach is a result of that engagement. North Dakota's limited progress on this initiative is similar to other states in our survey.

GOVERNANCE

Project governance is provided primarily through two multi-jurisdictional planning groups – the CJIS Board and the CJIS Executive Committee. The Board sets overall policy and direction for CJIS at the

State and is comprised of the Chief Justice of the North Dakota Supreme Court (or designee), the North Dakota Attorney General (or designee), and the State CIO. The Executive Committee addresses specific technical and tactical issues, including budget allocation and defining exactly what data is shared and how. It is comprised of representatives from ITD, the Judicial Branch, the Attorney General's office, the Department of Corrections, North Dakota State Radio, the Highway Patrol, the North Dakota Attorney's Association, the North Dakota Chief of Police Association, and the North Dakota Sheriff's Association.

RISKS

The project faces numerous, significant risks that will need to be addressed if this effort is to be successful.

The project architecture is ambitious and labor-intensive. Very few states claim to have successfully implemented state-wide criminal justice information systems – an indicator that these efforts are difficult. In addition, taking on the added responsibility for running a records management system as a service is a significant, extra body of work. The State also must somehow recoup that investment, which will be difficult if it cannot sell the service to enough justice organizations in North Dakota.

The consultants hired by the State estimated project costs to approach $5 million, however only $2 million in funding has been identified from over 50 agencies. The overall shortfall, combined with the diluted funding approach, ties the success of this initiative to the outcome of future fund raising efforts – a difficult prospect given current economic conditions. Additionally, no funding source has been identified for the operations and maintenance costs.

As with GIS, agencies are not required to participate. As each agency brings a piece of the overall data set to the table, agencies choosing to opt out of the project could result in significant holes in the data model. Different funding levels and differing desired benefits across the participating agencies present a significant governance barrier to this project.

FUTURE REQUIREMENTS

If CJIS is a state priority, it must have adequate funding and a clear mandate for participation and use.

Given the complexity of the effort, the State should also establish management requirements for early issue identification, allowing the project team to course correct before problems become large – and expensive. In addition to ensuring the use of experienced and trained project management resources, the State should also employ third party oversight at key check-points throughout the project. Participants should also identify success measures and outcomes *now* – and begin gathering baseline data if necessary – to help determine the ultimate success of the effort and identify areas for future improvement.

Finally, a reliable method for providing ongoing maintenance funding must be identified before the project is too far along. If the State cannot identify an adequate source for these funds in the near term, the value delivered by the project will rapidly dissipate.

4. CONNECTND

ConnectND is the State's project to implement PeopleSoft financial management, human resources management, and student information management software. The project is a joint effort between state administration and the State's university system.

The effort aims at implementing PeopleSoft with as few modifications as possible, adjusting state business practices to meet the software's functionality. Seventeen of the thirty-one states surveyed as part of this engagement indicated that they had modern ERP systems in place. Two more of the surveyed states have projects in progress.

GOVERNANCE

The project has a well-established governance model. An executive committee is responsible for internal project oversight. The decision-making process to initiate the project also had several key elements of good governance, including employment of decision-support tools, such as return on investment (ROI) analysis.

RISKS

Projects of this size and complexity inherently entail significant risk – there is a long history of major project failures in this industry. Additionally, North Dakota's reliance on implementing the system "vanilla" (i.e., with minimal modifications) to stay within budget – while commendable – requires a level of restraint and acceptance of change that often is difficult to achieve. Of particular concern in this regard is the potential lack of user acceptance with a new system – especially one implemented vanilla – that will be very different from current systems and associated processes.

Additionally, while the project's internal governance appears sound – indeed, the effort is reported as being on-time and within budget – the State must pay additional attention to this project. Specifically, the State not using third party oversight – at least at key milestones – could lead to large (and expensive) surprises if the project begins to go off track.

Finally, the State has not measured "before" baselines to enable tracking of success measures for the project.

FUTURE REQUIREMENTS

The State must start collecting baseline measures *now* to ensure that performance improvements are realized – and adjustments can be made as appropriate.

The project team must continue to focus on ensuring that "vanilla" implementation remains a high priority. Modifications can be expensive and the project neither has the time nor the funding to absorb anything but the most minor of modifications.

Finally, the State should explore bringing in an objective third-party at key milestones of the project to evaluate progress and identify specific areas of concern. Any project has some risk of deviating from plan. A project of this complexity increases that risk, and the size of the project makes even the smallest deviations potentially expensive. Third party evaluations reduce the likelihood that something is missed by the project team and help mitigate the myopia that can bloom in project teams focused on completion.

5. EA

The State's EA project is aimed at establishing a set of state IT standards. North Dakota's approach is very similar to that in use by other states and recommended by the National Associated of State CIOs (NASCIO). Beyond just reducing the sheer number of technologies in place at the State, the long-term goal of this effort is increased efficiencies, both in support and procurement costs.

The project is mid-path. Project domain teams have already created several work products including initial summaries of existing technologies and related goal states. Unfortunately, the introduction of HB 1505's server consolidation effort slowed EA progress. Many of the agency staff involved in HB 1505 negotiations also served on the EA teams, and the focus on the consolidation project took attention away from EA, and generally diminished enthusiasm for ITD-led projects.

Compared to other states, North Dakota appears slightly behind in establishing enterprise IT standards. That may be partly driven by North Dakota's effort being more comprehensive and inclusive than the projects in some of the other states. Nonetheless, we did survey states that had successfully gone through a nearly identical effort.

GOVERNANCE

Governance was established early on as part of the EA process. It is somewhat complex due to the number of domain teams involved. An executive committee oversees the project, with an architecture review board managing most of the high-level decision making. The remainder of the governance structure relies on a set of working teams that make recommendations for the State's IT architecture.

RISKS

The primary risk is that the State cannot reestablish EA as a state-wide priority and deliver product in a reasonable time frame. As the effort takes more time, its value and its potential for success begin to decline.

There is also a risk that, once the standards are finally established, the State will have been unable to effectively limit the number of products and technologies. This was a concern raised and evidenced in some states included in our survey.

Another significant risk with the final product may be the State's ability to implement the chosen standards. This engagement identified a great deal of variation in the State's application and technology architectures. If adhering to a standard would require mass changes in the existing software and infrastructure, the State will be faced with making a potentially-daunting investment – perhaps too costly to implement in a timely manner.

Agency perception is also a concern. Some agencies interviewed for this project indicated that the time demands were too great and that little progress had been achieved. Some agencies also felt the process was too ITD dominated and that the architecture review board has proven to be a bottleneck.

FUTURE REQUIREMENTS

The State must re-focus its efforts on EA to move it quickly toward an approved and finalized set of standards. This requires continuing participation at all levels, as well as a stronger push to resolve conflicts and get to effective compromises. It will also require greater scrutiny into implementability to ensure the end product provides value to the State.

Additionally, the State must ensure that, once the "final" standards are in place, mechanisms for keeping those standards maintained, enforced, and up-to-date, are established; and that adequate resources are applied to those functions. Specifically, the State has barely begun developing the long-term organizational and decision-making aspects of the full EA process it is attempting to follow.

CHAPTER 3

recommendations

A. INTRODUCTION

The following strategic IT imperatives framed our recommendations for the State of North Dakota:

- ***Provide basic IT services as a state-wide "utility" – highly available, consistent, and configured to maximize economies of scale***
- ***Performance-manage IT at both the agency and enterprise levels***
- ***Adopt best practices, where they make sense***
- ***Favor long-term improvement over short-term considerations***

This chapter presents Pacific Technologies' IT organization and management recommendations. We developed these recommendations through an iterative process, including preliminary presentations to SITAC and the Interim Information Technology Committee of the Legislative Council.

We have organized the remainder of this chapter as follows:

B. Consolidation Recommendations

C. Cost Impacts

D. Organizational Impacts

E. Governance Recommendations

F. Additional Recommendations

G. Transition Approach

H. Implementation Plan Outline

B. CONSOLIDATION RECOMMENDATIONS

This section recommends an overall direction for IT organization at the State, specifying which IT functions should be consolidated and which should remain decentralized. It also recommends the infrastructure changes needed to support this approach, and summarizes our analysis of alternative approaches.

These recommendations apply to the Executive, Legislative, and Judicial branches of government across the State.

1. OVERALL DIRECTION

We recommend that the State:

1. **Centralize all aspects of Desktop Services**
2. **Continue consolidation of servers and server administration in ITD**
3. **Leave provision of Business Application Services unchanged**

Centralization of other IT services should be left to agency discretion. *In theory,* this approach could deliver more than $680K in annual labor savings, along with smaller but significant amounts in equipment replacement savings. This figure does not include amounts related to reduced IT labor effort in the agencies for IT management and services related to server administration, such as storage management and security administrations. Savings will accrue in these areas. This amount also does not account for the recurring annual costs associated with the purchase of software that is included in the recommendation. In addition, there will be various one-time costs associated with any implementation of these recommendations. Section H of this chapter provides estimates of the additional expenditures.

While this recommendation centralizes delivery of IT infrastructure-related services, it retains a federated IT service model at the State. In particular, it leaves the sourcing of business application service labor up to the agencies.

There are two other possible directions which we do not recommend, but which merit discussion:

- **Decentralization** would move some or all of current ITD services out to the agencies. We believe this would increase state-wide IT costs, and in some cases seriously degrade service. Application support is currently either centralized or decentralized at agency discretion. We assume that the agencies are already making rational economic choices in this area, so forced decentralization would likely increase costs. Many other ITD services (WAN, mainframe, e-mail, etc.) are enterprise in nature. Attempting to decentralize these functions would diminish service quality – and run counter to best practices.
- **Complete centralization** would remove all IT functions from the agencies and turn them over to ITD. This would achieve some further staff reductions in the IT administrative and planning areas, but no savings would be gained in agency application support because this workload would not benefit from economies of scale. Our analysis shows the higher costs of ITD staff would likely cancel out any savings from staff reduction. More importantly, taking application support staff away from the agencies would weaken the relationship between IT staff and end users, making applications less supportive of agency business needs. Appendix D presents a potential model of centralized IT service delivery for the State.

2. FUNCTIONS TO BE CONSOLIDATED

The following outlines our specific consolidation recommendations for two key functions:

- Desktop Services
- Server Administration

DESKTOP SERVICES

At $2.6 million in annual labor expenditure, this function is second only to agency-specific application support in state-wide costs. ITD's support of this function is limited to the WAN help desk – otherwise the State's desktops are supported by a mix of agency help desks, application support staff, shadow staff, and the Association of Counties. This patchwork support model largely mirrors the diversity of desktop configurations and standards that have resulted from decentralized workstation deployment.

Our analysis shows that up to $519K in annual labor savings could be achieved by centralizing and automating Desktop Services. (This figure is not inclusive of the costs of purchasing and maintaining software that would be required to support this effort.) In addition, following the best practices trend toward a "managed desktop" approach will lower long-term equipment costs and maximize end-user productivity.[1]

To accomplish this, we recommend that the State:

- Establish a fully-functional help desk for Tier 1 (i.e., call center) support in ITD
- Have ITD establish a Tier 2 (i.e., dispatched technical staff for workstation-related problems) support unit with staff appropriately co-located in major agencies and key remote sites
- Have ITD work with impacted agencies to arrange for shared, contracted, or ad hoc support in remote locations as necessary
- Deploy a standardized desktop with appropriate management tools for centralized administration, as further described in subsection 4 – Related Infrastructure Recommendations

[1] Note: This recommendation does not apply to special devices, including PDAs, stand-alone laptops, etc.

- Centrally support the standard desktop software and state-wide applications (i.e., MS Office, email, calendaring, and ConnectND)
- Mandate agency use of the desktop standard and the ITD desktop support services, with exceptions granted by ITD when necessary
- Target a ratio of approximately 200 workstations per desktop support FTE, managing toward a higher ratio as standardization occurs, tools are deployed, and support skills mature
- Identify standard exceptions, such as lab machines, special-purposes computers (e.g., point of sale), non-networked and rarely-networked devices (such as some laptops and PDAs), etc.

SERVER ADMINISTRATION

HB 1505 has been a major step in the direction of consolidating server administration at the State, resulting in significant cost savings. However, much work remains to be done in proceeding methodically toward the goal of maximizing efficiency in this area.

We estimate annual *labor cost* savings of $294K from the first stage of consolidation. **Our analysis shows that up to $162K of potential additional annual labor savings is available through continued consolidation efforts, building to that number over the next several years.**

To accomplish this, we recommend that ITD:

- Assume responsibility for hosting and administering the remaining servers still under agency control, including the Judicial and Legislative branches
- Reduce the total number of servers through aggressive consolidation of similar platforms and sharing applications on servers where possible
- Reduce staff as needed to keep a ratio of approximately 29 servers per administrator

In addition, to the potential labor savings in server administration, this recommendation will reduce the State's server replacement costs.

Note that cost savings do not serve as the primary driver behind our desktop services and server administration recommendations. We also make them within the context of:

- **Positioning the State for the long term, including the ability to performance-manage IT and improve IT service levels**
- **A desire to move the agencies out of the IT infrastructure business, allowing them to focus on core business operations**
- **Best practices for geographically-compact organizations**
- **Viability, in light of the current allocation of related responsibilities across agency IT staff[2]**

3. FUNCTIONS TO REMAIN UNCHANGED

We recommend that end-user application support and agency-specific application development and maintenance remain as-is. Agencies will continue to choose between ITD programming staff, their own staff, and contractors as needed. This gives agencies maximum flexibility in finding the best support alternative for their core business automation needs.

[2] It would be difficult to centralize Tier 1 activities exclusively, as only seven agency staff spend 50% or more of their time on related activities. Centralizing all of Desktop Services is more viable, as 30 agency staff spend 50% or more of their time across those functions. If we also include server administration, it is worth noting that 41 agency staff spend 50% or more of their time in the combined capacity. See Appendix B for a more detailed staffing breakdown.

Long-term, we recommend that the State move toward a limited set of application development tools defined by the EA process, eliminating the use of non-standard development tools. This will improve the utilization of programmer skills, lessen dependence on contractors, make it easier to interface between systems, and reduce development platform costs.

IT Planning and Administration functions should remain a mix of centralized and decentralized support, but will be affected by the other recommendations in this report. Specifically, the processes of IT strategic planning will be improved by the governance recommendations in Section E of this report. IT procurement and IT asset management have a current labor cost of $435K per year, most of it in the agencies. While our analysis has not identified a specific savings amount, we would expect to see this figure reduced in a managed desktop environment.

Other System Services will continue as-is, but may also be affected by the centralization of Desktop Services and Server Administration. We would expect total labor effort devoted to services such as storage, database, and security administration to drop due to economies of scale, reduction in the number of servers, and a simplified desktop environment. Agency IT management labor should also go down as the number of IT staff decreases. *Note that our calculated available cost savings do not include savings in these areas.*

4. RELATED INFRASTRUCTURE RECOMMENDATIONS

Gaining the full benefits from centralizing Server Administration and Desktop Services will require server upgrades, desktop standardization, and deployment of centralized management tools as summarized below.[3]

SERVER UPGRADES

Achieving the recommended reduction in the number of servers will require significant work over time from ITD. Each server shifted from agency to ITD control will require analysis to determine whether its functions can be moved to a shared server. In some instances, server platforms and applications will need to be upgraded to current versions. In other instances, it may be best over the long term to migrate the application to ITD's standard platform.

To the extent practical, ITD should time these upgrades to the normal server replacement cycle, minimizing the extra capital outlay required. However, there will be some instances where the benefits of migrating to ITD's standard platform will require an out-of-cycle investment. As capacity requirements grow, ITD may also need to purchase a few additional shared servers.

DESKTOP STANDARDIZATION

One key to achieving the recommended PC-to-support staff ratio is a *standardized desktop*. ITD and the agencies must develop a limited number of standard configurations for the State. The State will choose a single vendor to supply the equipment to the agencies, preloaded with the appropriate standard configuration and any chosen options. ITD will charge additional fees to support non-standard desktops after the transition period. The agencies will be responsible for managing non-standard and business-specific applications (e.g., Photoshop, Pagemaker, etc.) as well as the replacement cycle for non-networked computers defined as exceptions to the consolidated support service recommendation. In addition, a means of allowing for exceptions from the standard should be provided to ensure that specialized needs can be met.

Investments in the standard desktop will also be timed to equipment replacement cycles where practical. However, completing the standardization in a timely manner may require some out-of-cycle equipment purchases, as well. We suggest that the State define between 2 and 4 specific hardware configurations intended to meet the needs of all levels of desktop computing at the State.

[3] Please see section D of this chapter for the organizational impacts of these recommendations, and section G of this chapter for more detail on transitioning to them.

Hardware roll-out can either be conducted en masse, or spread out over time as existing computers require replacement. Further study is needed to determine the best implementation approach. Funding and staff availability will be important constraints that will inform the final roll-out schedule.

The system operating environment (i.e., operating system, common applications such as MS Office, and the configuration of each) should be tightly controlled. Specific agency requirements are likely to dictate a handful of configuration variations, however software and operating systems should be identical across the State.

These standards should be set and rolled-out in conjunction with the hardware standardization. Effectively implementing this standard will require a great deal of participation and testing on behalf of the agencies.

To maintain standardization at the State over the long term, North Dakota must implement a process for keeping the technology refreshed (i.e., updating the workstation and software configurations to meet current market offerings). Workstations typically have a three- to four-year lifespan, depending on the exact business function and technological demands. Accordingly, Pacific Technologies recommends giving agencies the option of selecting between replacement schedules – whichever will best meet their business and fiscal requirements.

The mechanism for this process will need to be resolved separately. The State can either use a replacement fund, with an appropriate fraction of the replacement cost of each workstation (i.e., either one-third or one-fourth) set aside each year into a fund for payout at replacement, or alternatively, the State can choose to contract with a third party to manage PC life -cycle as a service with a monthly charge. Traditionally the second option has often proven more expensive and less flexible, but ITD has been in exploratory discussions with vendors that make this alternative appear promising. Combining a service fee-based option with a help desk outsourcing proposal could potentially provide additional cost savings on one or both sides of the equation.

CENTRALIZED MANAGEMENT TOOLS

Another critical success factor for consolidation of Desktop Services is *centralized management of the desktop*. Help desk staff will need remote control software to effectively diagnose problems. To keep the standard desktops up-to-date, workstation administration staff will need a suite of management tools that automate deployment of software upgrades. These tools will also help automate virus protection, centralize some parts of workstation security, and allow ITD (or the agencies) to monitor acceptable use policies.

5. RECOMMENDED IT SERVICE PROVIDER

To expand upon the recommendations described on the preceding pages of this chapter, the following table identifies the recommended (i.e., "target") provider for the array of IT services currently in place at the State.

IT Function	Target Provider	Current Provider
Customer Services		
Help Desk (Tier 1)	ITD	Mixed
Workstation support (Tier 2)	ITD	Mixed
End user application support	Agencies*	Mixed
Training	Mixed	Mixed
System Services		
Network connectivity	ITD	ITD
Email administration	ITD	ITD
File/print administration	ITD	Mixed
Other server administration	ITD	Mixed
Workstation administration	ITD	Mixed
Storage management	ITD	Mixed
Data center operations	Mixed	Mixed
Database administration	Mixed	Mixed
Security administration	Mixed[4]	Mixed
Telephone systems support	Mixed	Mixed
Business Application Services		
ConnectND	ITD	N/A
Agency applications	Agencies*	Mixed
IT Administration and Planning		
Strategic planning	Mixed	Mixed
Research and development	Mixed	Mixed
Disaster recovery management	Mixed	Mixed
Asset management	ITD	Mixed
IT procurement	ITD	Mixed
Project management	Mixed	Mixed
Administrative support	Mixed	Mixed
Departmental management	Mixed	Mixed

* While ultimately responsible, agencies may choose to contract with ITD to provide this effort.

Based on our experience, quantitative analysis, and best practices research, we believe **utilizing he "target provider" for each identified service will result in the best balance of cost efficiency and service quality for the State of North Dakota.**

Please see Section D of Chapter 3 for additional detail on agency versus ITD roles and responsibilities under the recommended service approach.

The remainder of this subsection discusses the applicability of outsourcing.

APPLICABILITY OF OUTSOURCING

While Pacific Technologies believes that outsourcing may be a viable alternative for providing workstation replacement and Desktop Services in North Dakota, it is premature to make such a recommendation at this time.

As part of our work, we reviewed informal outsourcing pricing received by the State from one vendor. The services included workstation replacement and aspects of Desktop Services. This vendor suggested a hardware replacement cost of $750 per workstation (approximately $21 per month on a

[4] Agencies will provide Security Administration for applications and database management systems (DBMS) only.

three-year cycle, $17 per month on a four-year cycle). The preliminary bid also included pricing for the Microsoft Office suite, remote desktop management software, and on-site staff to provide support. It did not specify service levels.

Pacific Technologies contacted the vendor, who indicated that the costs for on-site staff were calculated at approximately $90,000 per year. Given that the State's cost to provide this service internally would be in the vicinity of $56,000 per year, it would be difficult for the State to save money in this arena, even if the vendor offered a significant reduction from the preliminary price.

Nevertheless, aspects of the initial pricing are attractive enough to warrant further investigation. Outsourcing offers the additional benefits of service level penalties and concrete performance measures – *management tools that are not viable with a completely cost-recovered internal service provider.* Correspondingly, our implementation plan asks the State to study this issue, comparing the costs and benefits of this option against other alternatives, before making a final determination as to the best approach to standardizing workstations and providing related services.

6. SERVER AND WORKSTAT ION ALTERNATIVES ANALYSIS

This section presents our server administration and workstation support labor cost analysis for the recommended and alternative scenarios.

SERVER ADMINISTRATION

The first chart below summarizes current server support levels and associated costs at the State.

Current Server Support

Current server support	ITD FTE	ITD Cost	ITD cost per FTE	Agency FTE	Agency Cost	Agency cost per FTE	TOTAL FTE	TOTAL Cost	Overall Cost per FTE
Email administration	2.30	$ 157,600	$ 68,522	0.50	$ 26,704	$ 53,407	2.80	$ 184,304	$ 65,823
File/print administration	1.50	$ 91,500	$ 61,000	1.99	$ 101,702	$ 51,184	3.49	$ 193,202	$ 55,406
Other server administration	7.45	$ 492,875	$ 66,158	1.86	$ 100,089	$ 53,811	9.31	$ 592,964	$ 63,691
FTE Sum	11.25	$ 741,975	$ 65,953	4.35	$ 228,495	$ 52,564	15.60	$ 970,470	$ 62,222

Agency servers per support staff	22
ITD servers per support staff	36
Annual support cost	$ 970,470

Agency managed servers	94
ITD managed servers	409
Current total of servers	503

The charts that follow summarize our analysis of scenarios for further cost reductions in server administration.

Scenario A leaves the servers under agency control as-is, and expects ITD to reduce the number of servers under its administration from 300 to 200. ITD staff are reduced by one, bringing the ratio of servers to staff within ITD to 30:1, which is more aligned with our typical experienced. This staff reduction delivers a potential savings of up to $266K per year.

Scenario A

Scenario A - reduce ITD server admin staff by 1, reduce number of ITD managed servers by 100	ITD FTE	ITD Cost	ITD cost per FTE	Agency FTE	Agency Cost	Agency cost per FTE	TOTAL FTE	TOTAL Cost	Overall Cost per FTE
Email administration	2.30	$ 157,600	$ 68,522	0.50	$ 26,704	$ 53,407	2.80	$ 184,304	$ 65,823
File/print administration	1.50	$ 91,500	$ 61,000	1.99	$ 101,702	$ 51,184	3.49	$ 193,202	$ 55,406
Other server administration	6.45	$ 426,717	$ 66,158	1.86	$ 100,089	$ 53,811	8.31	$ 526,806	$ 63,394
FTE Sum	10.25	$ 675,817	$ 65,933	4.35	$ 228,495	$ 52,564	14.60	$ 904,312	$ 61,952

Agency servers per support staff	22
ITD servers per support staff	30
Annual savings	$ 66,158

Agency managed servers	94
ITD managed servers	309
Future total of servers	403

Scenario B moves all of the remaining agency servers to ITD, reduces those servers by half through consolidation, and reduced total server admin labor by 3.35 FTE. The ration of servers to support staff within ITD is brought down to 29:1. These changes yield a potential total savings of up to $162K per year. Note that these savings correlate directly with the ratio of servers to ITD server administration staff. For instance, if this ITD function is staffed at 35:1, potential savings increase to approximately $295K. As indicated in the Current Server Support chart, ITD presently staffs this activity with a ratio of 36 servers per administrator.

Scenario B

Scenario B - increase ITD server admin staff by 1, reduce number of ITD managed servers by 100, centralize remaining agency server support, reduce number of agency servers by 50% (=47)

	ITD FTE	ITD Cost	ITD cost per FTE	Agency FTE	Agency Cost	Agency cost per FTE	TOTAL FTE	TOTAL Cost	Overall Cost per FTE
Email administration	2.30	$ 157,600	$ 68,522	0.00	$ -	$ 53,407	2.30	$ 157,600	$ 68,522
File/print administration	1.50	$ 91,500	$ 61,000	0.00	$ -	$ 51,184	1.50	$ 91,500	$ 61,000
Other server administration	8.45	$ 559,033	$ 66,158	0.00	$ -	$ 53,811	8.45	$ 559,033	$ 66,158
FTE Sum	12.25	$ 808,133	$ 65,970	0.00	$ -	N/A	12.25	$ 808,133	$ 65,970

Agency servers per support staff	N/A
ITD servers per support staff	29
Annual savings	$ 162,337

Agency managed servers	0
ITD managed servers	356
Future total of servers	356

We recommend Scenario B to:

- **Maximize labor savings**
- **Provide the best opportunity for achieving additional efficiency in the future**
- **Shift agency focus away from infrastructure support**
- **Maximize savings in equipment replacement and maintenance costs as server counts are reduced.**

WORKSTATION SUPPORT

The first chart below summarizes current desktop service support levels and associated costs at the State.

Current Desktop Services Support

Current Desktop Services	ITD FTE	ITD Cost	ITD cost per FTE	Agency FTE	Agency Cost	Agency cost per FTE	TOTAL FTE	TOTAL Cost	Overall Cost per FTE
Help Desk (Tier 1)	4.20	$ 236,600	$ 56,333	17.87	$ 855,359	$ 47,863	22.07	$ 1,091,959	$ 49,475
Workstation support (Tier 2)	1.80	$ 108,000	$ 60,000	20.03	$ 937,790	$ 46,817	21.83	$ 1,045,790	$ 47,904
Workstation administration	0.30	$ 18,200	$ 60,667	7.37	$ 350,830	$ 47,602	7.67	$ 369,030	$ 48,113
FTE Sum	6.30	$ 362,800	$ 57,587	45.27	$ 2,143,979	$ 47,358	51.57	$ 2,506,779	$ 48,607

Current count of PC's	7674
Number of PC's per support staff	149
Annual support cost	$ 2,506,779

The charts that follow summarize our analysis of scenarios for further cost reductions in Desktop Services.

Scenario A establishes a Tier 1 help desk in ITD with 10 additional FTE, freeing 19 agency FTE for redeployment or reduction. This delivers a potential net labor savings of up to $176K per year.

Scenario A

Scenario A Summary		
Desktop Support Levels	Current	Future
Agency desktop support FTE	45.27	27.40
ITD desktop support FTE	6.30	19.00
TOTAL	**51.57**	**46.40**
PC's Per Support FTE	**149**	**165**
Desktop Support Costs	Current	Future
Agency desktop support	$ 2,143,979	$ 1,288,619
ITD desktop support	$ 362,800	$ 1,041,893
TOTAL	**$ 2,506,779**	**$ 2,330,512**
Savings (1.41 burden)		**$ 176,266**

Scenario B builds on this by centralizing workstation administration using automated tools. ITD adds 4.7 FTE, freeing up 9.5 additional agency FTE currently performing this function. Potential annual labor savings for this scenario are up to $343K per year.

Scenario B

Scenario B Summary		
Desktop Support Levels	Current	Future
Agency desktop support FTE	45.27	20.03
ITD desktop support FTE	6.30	23.00
TOTAL	**51.57**	**43.03**
PC's Per Support FTE	**149**	**178**
Desktop Support Costs	Current	Future
Agency desktop support	$ 2,143,979	$ 937,790
ITD desktop support	$ 362,800	$ 1,225,193
TOTAL	**$ 2,506,779**	**$ 2,162,983**
Savings (1.41 burden)		**$ 343,796**

Scenario C adds centralization of Tier 2 support adding 14.2 FTE to ITD and freeing up 19.8 agency FTE. Total potential net labor savings under this scenario are up to $518K per year.

Scenario C

Scenario C Summary		
Desktop Support Levels	Current	Future
Agency desktop support FTE	45.27	0.00
ITD desktop support FTE	6.30	38.00
TOTAL	**51.57**	**38.00**
PC's Per Support FTE	**149**	**202**
Desktop Support Costs	Current	Future
Agency desktop support	$ 2,143,979	$ -
ITD desktop support	$ 362,800	$ 1,988,003
TOTAL	**$ 2,506,779**	**$ 1,988,003**
Savings (1.41 burden)		**$ 518,776**

We recommend Scenario C to maximize potential labor savings. We believe that the additional benefits of standardized desktop configuration, automated workstation updates, and a consistent state-wide service approach will, over the long term, allow State employees to use their computers more effectively in their daily work.

Note that ITD costs used to calculate potential savings assume a mixture of skill sets and experience levels. A burden rate of 1.41 was applied to assumed base salaries to arrive at fully-loaded costs. See Appendix B for additional detail. In addition, savings related to reduced administration and management effort are not included in the estimates. Finally, further savings may be realized, as a workstation-to-support-staff ratio greater than 200:1 is possible in a highly-standardized, well-automated environment.

C. COST IMPACTS

This section explains the potential cost savings associated with our recommendations, and describes some of the expenditures that may be required to accomplish them. The following exhibit presents estimated cost ranges for each initiative, divided into one-time and recurring costs.

Summary of Estimated Costs and Savings

Consolidate Provision of Desktop Services

Potential Annual Labor Savings:	**$519,000**
Recurring annual expenditures for related goods and services estimated at:	**$60,000-$260,000**
One-time costs for software, hardware, phone systems, etc. estimated at:	**$160,000-$,1010,000**

- Yields a net potential annual savings of $259,000 to $459,000 – depending upon the magnitude of the recurring costs and on how aggressively the State pursues reductions.
- The low-end estimate includes one-time costs of $100,000 for phone system upgrades, along with some monies for procurement assistance and training. Associated recurring costs are likely to be at the upper-end of the range, as the State might have to lease help desk and remote management software.
- The high-end estimate includes system management software costs of $360,000, phone system upgrades for $150,000, and monies for software implementation assistance, training, and procurement. Software maintenance would make up the lion's share of the recurring costs.

Standardize Workstations

Potential Annual Savings:	**Unknown**
Recurring annual expenditures for workstation replacement estimated at:	**$2,950,000-$3,680,000**
One-time costs for consulting assistance estimated at:	**$20,000-$430,000**

- Current annual workstation replacement spending is not known, so incremental investment over today's expenditures could not be calculated. Replacement costs presented are based on conservative estimates and may be lower than indicated.
- Assumptions include a total PC count for the State of 7,700. Replacement costs for PCs used in our estimates are $750, $1200, or $2,500. Assumed refresh interval is a little over three years.
- The low-end workstation replacement figure assumes 25% are low-cost, 70% are mid-level, and 5% are high-end; while the upper end assumes 5% low-cost, 75% mid-level, and 20% high-end.
- One-time cost range assumes varying levels of outside assistance with workstation standards.

Continue Server Consolidation

Potential Annual Labor Savings:	**$162,000**
One-time costs for consulting assistance estimated at:	**$0-$20,000**

- Savings are predicated on how aggressively the State pursues reductions. Savings do not include anticipated hardware savings related to a reduction in total servers.
- Upper end of one-time cost assumes some consulting assistance in developing a consolidation approach and schedule.

Implement IT Governance Recommendations

Potential Annual Savings:	**Unknown**
Recurring annual expenditures for goods, services, and innovation funding:	**$200,000-$340,000**
One-time costs for software and services estimated at:	**$480,000-$1,010,000**

- Savings are largely dependent upon the State's focus on cost containment.
- Low-end of one-time estimate assumes purchase of less expensive portfolio management software and little assistance with implementing the software or the governance recommendations.
- Recurring cost estimate reflects a potential range of software maintenance fees and innovation funding of $137,000 at the low end and $275,000 at the upper end.

Please refer to section H-3 for additional cost information. The remainder of this subsection discusses potential labor cost savings and how they might be captured, and the potential for equipment cost savings.

LABOR COST SAVINGS

Pacific Technologies utilized a staffing analysis model, incorporating input from state personnel, to quantify potential cost savings. The model assumes that savings from partial FTE reductions would be captured. On this basis, as explained in the previous section, **we project annual labor savings of up to $519K from centralizing workstation support, and up to $162K from additional consolidation of server administration.**

Capturing these savings will be challenging. To do so, ITD must charge the agencies for the costs of the newly-centralized services, so the agencies will be forced to cut staff (or find other savings) in order to pay the charges. Our analysis shows that, at most agencies, the value of staff time freed up from centralization will exceed the increased ITD charges. But **unless the agencies reduce their budgets in excess of the increased ITD charges, savings will not be realized.**

One potential alternative to this approach would be to increase ITD rates in line with the projected savings, and return the surplus to the general fund – in essence, run these service lines at a "profit." But this would run counter to federal guidelines for retained earnings, creating many difficulties for grant-funded agencies. It would also create severe budget pressure on the agencies. Another alternative would be to cut agency budgets by the amount they currently spend on these services – similar to the approach taken by HB1505. This solution places a significant hardship on the agencies that rely on a small portion of an FTE for these services. For example, a 0.15 FTE reduction in force would be quite difficult to effect.

A key advantage to centralizing all of Desktop Services (rather than exclusively Tier 1) is that it reduces the number of small, fractional FTE's that agency managers must contend with in reallocating labor. As noted earlier, we estimate that there are only about seven staff across the agencies who spend more than 50% of their time in Tier 1 support. But when Tier 2 and workstation administration are included, we find *30 agency staff who spend more than 50% of their time on Desktop Services* – making it much easier for agency managers to decide on position cuts needed to achieve savings targets.

Note that the previous discussion does not apply to ITD. A key benefit of centralizing these services is that, once they are under ITD's control, efficiency gains *can* be captured. **Future ITD cost reductions should show up as rate *decreases* for the agencies.** The services should be actively performance managed to ensure that they are delivered with maximum efficiency.

The following chart models the potential impact of our Desktop Services recommendation on the agencies. It calculates ITD's labor cost for providing Desktop Services and divides it among the agencies based on how many PCs they have. It then subtracts current agency costs to arrive at the net cost (or savings) for each agency.

For the 7,702 PCs shown here, the estimated per-PC labor charge from ITD would be approximately $258 per year, or about $22 per month. For each agency, we multiply the per-PC charge by the number of PCs to arrive at the number shown in the *Assumed ITD Desktop Services Cost* column. The figure in the *Current Agency Desktop Services Cost* column came from staffing information supplied to us by the agencies. The current cost attributed to the agencies in the *Allocation of Existing ITD Help Desk Labor* column represents an approximation. It allocates existing ITD Network Help Desk labor (currently included in per-device charges) to the agencies based on workstation counts. We would expect the current per-device charges to go down by a total of $362,800 after these staff move to the new service desk. The final column shows the *net cost or (savings)* obtained by subtracting the total current costs from ITD charges.

1. POTENTIAL COST SAVINGS

Agency	PC Count	Assumed ITD Desktop Services Cost	Current Costs: Current Agency Desktop Services Cost	Current Costs: Allocation of Existing ITD Help Desk Labor	Total Current Costs	Net Cost (Savings)
Office of Administrative Hearings	8	$ 2,065	$ -	$ 377	$ 377	$ 1,688
Agriculture Department	103	$ 26,586	$ 12,938	$ 4,852	$ 17,790	$ 8,796
Council on the Arts	6	$ 1,549	$ 2,156	$ 283	$ 2,439	$ (890)
Attorney General	182	$ 46,977	$ 33,717	$ 8,573	$ 42,290	$ 4,687
Bank of North Dakota	200	$ 51,623	$ 49,219	$ 9,421	$ 58,640	$ (7,017)
Department of Commerce	66	$ 17,036	$ 32,324	$ 3,109	$ 35,433	$ (18,397)
Department of Corrections	550	$ 141,963	$ 111,000	$ 25,908	$ 136,907	$ 5,056
Children's Services Coordinating Committee	1	$ 258	$ -	$ 47	$ 47	$ 211
Division of Emergency Management	49	$ 12,648	$ 9,210	$ 2,308	$ 11,519	$ 1,129
Department of Financial Institutions	8	$ 2,065	$ -	$ 377	$ 377	$ 1,688
Game and Fish Department	176	$ 45,428	$ 23,925	$ 8,290	$ 32,215	$ 13,213
Department of Health	409	$ 105,569	$ 95,219	$ 19,266	$ 114,485	$ (8,915)
Highway Patrol	182	$ 46,977	$ 48,301	$ 8,573	$ 56,874	$ (9,898)
Historical Society	50	$ 12,906	$ 4,811	$ 2,355	$ 7,167	$ 5,739
Housing Finance Agency	40	$ 10,325	$ 8,579	$ 1,884	$ 10,463	$ (138)
Department of Human Services	1865	$ 481,385	$ 598,171	$ 87,850	$ 686,022	$ (204,637)
Indian Affairs Commission	3	$ 774	$ 6,147	$ 141	$ 6,289	$ (5,514)
Industrial Commission	77	$ 19,875	$ 24,269	$ 3,627	$ 27,896	$ (8,021)
Insurance Commissioner	50	$ 12,906	$ 17,200	$ 2,355	$ 19,555	$ (6,649)
Job Service	830	$ 214,236	$ 247,757	$ 39,097	$ 286,854	$ (72,619)
Judicial Branch	485	$ 125,186	$ 87,711	$ 22,846	$ 110,557	$ 14,629
Labor Department	11	$ 2,839	$ -	$ 518	$ 518	$ 2,321
Land Department	18	$ 4,646	$ 6,183	$ 848	$ 7,031	$ (2,385)
Legislative Council	268	$ 69,175	$ 51,338	$ 12,624	$ 63,962	$ 5,213
Office of Management and Budget	104	$ 26,844	$ 37,147	$ 4,899	$ 42,045	$ (15,202)
Mill and Elevator	42	$ 10,841	$ 15,720	$ 1,978	$ 17,698	$ (6,858)
School for the Blind	30	$ 7,743	$ 22,500	$ 1,413	$ 23,913	$ (16,170)
Parks and Recreation	8	$ 2,065	$ 27,805	$ 377	$ 28,182	$ (26,117)
Public Employees Retirement System	33	$ 8,518	$ 14,741	$ 1,554	$ 16,295	$ (7,777)
Department of Public Instruction	141	$ 36,394	$ 48,110	$ 6,642	$ 54,752	$ (18,358)
Public Service Commission	50	$ 12,906	$ 10,965	$ 2,355	$ 13,320	$ (415)
Retirement and Investment Office	21	$ 5,420	$ 5,155	$ 989	$ 6,144	$ (723)
Secretary of State	28	$ 7,227	$ 23,907	$ 1,319	$ 25,226	$ (17,999)
Tax Department	196	$ 50,591	$ 4,243	$ 9,233	$ 13,476	$ 37,115
Department of Transportation	943	$ 243,403	$ 367,916	$ 44,420	$ 412,336	$ (168,933)
Vocational and Technical Education Board	34	$ 8,776	$ 6,061	$ 1,602	$ 7,663	$ 1,113
Water Commission	115	$ 29,683	$ 24,253	$ 5,417	$ 29,670	$ 13
Workforce Safety and Insurance	320	$ 82,597	$ 65,278	$ 15,073	$ 80,351	$ 2,246
TOTAL	7702	$ 1,988,003	$ 2,143,979	$ 362,800	$ 2,506,779	$ (518,776)

Note that while this represents a state-wide efficiency improvement, some agencies would not save money. Smaller agencies simply don't have the staff to support their workstations, so their current costs are almost nil. Other agencies have users who are largely self-supporting and who place little demands on their IT staff.

These numbers will need to be refined as centralization proceeds. While we believe the overall analysis and associated conclusions are sound, some of the detail is certain to contain errors that will need to be corrected in the process of calculating the final PC labor charge. In addition, some agencies did not respond to our data request and will need to be included in the final tally. Finally, the estimated ITD charges do not include management, overhead, or costs related to help desk software.

EQUIPMENT REPLACEMENT COST SAVINGS

We did not include estimates of potential savings from equipment replacement in our analysis because the State does not track these costs well enough at the agency level to provide credible data. However, some rough estimates are possible based on the number of servers and workstations used by the State. **We recommend that North Dakota begin tracking these replacement costs as part of their move to performance measurement.**

The State has roughly 7,700 PC workstations. If we assume an average costs of approximately $1,000 per workstation (including personal productivity software, monitor, configuration, delivery, and

installation) and use ITD's current recommended replacement cycle of 4 years, the State makes an expenditure of approximately $1.9M per year. Efficiently centralizing desktop support would require **moving the state to a single-vendor, managed desktop environment.** This should deliver lower total cost of ownership. Estimating this improvement at 10% over the life of a PC, **could save $190K per year.**

Centralizing the State's servers will allow ITD to consolidate similar functions onto fewer servers. Our analysis suggests that about 150 servers will be eliminated. Assuming these have a replacement cycle of 5 years and a replacement cost of $5000 each, **the State could save about $150K per year.**

2. POTENTIAL EXPENDITURE REQUIREMENTS

Centralizing workstation support will require ITD to dedicate approximately 38 FTE to this activity, although five of these positions are assumed already exist. It will also require management, likely a Desktop Services Manager and two FTEs of supervision. These staff will need facilities and computers. In addition North Dakota must invest in help desk software and automated desktop management tools.

Completing the server consolidation may also require the purchase of some new, higher-capacity servers to replace multiple smaller ones. Additionally, there will be costs of relocating the servers, along with moving applications and data to the new platforms.

Section G of this report describes the projects needed to accomplish our recommendations. These include cost estimates which encompass the hardware, software, installation, consulting, training, and other items needed. Please refer to this section for more specific expenditure figures.

D. ORGANIZATIONAL IMPACTS

This section summarizes the position changes needed at the agencies and ITD, recommends changes to the ITD organizational structure, discusses roles and responsibilities under the new service delivery model, and highlights attendant human resources and management issues.

1. IMPACTED POSITIONS

The following describes impacts to both ITD and the agencies associated with our recommendations.

ITD IMPACTS

The primary staffing impact of our recommendations will be the creation of a Service Desk division within ITD to handle all aspects of help desk, workstation support, and workstation administration services. Fully implemented, this will result in a net increase of approximately 33 FTEs, plus two FTEs of additional management. Skills needed in each of these areas are summarized below:

- **Help desk** staff will need proficiency in solving customer problems over the telephone and using remote access software, with a focus on either quick solution or dispatching the appropriate Tier 2 technician
- **Workstation support** staff may be co-located at customer agency sites, and must be skilled at on-site hardware and software problem resolution; they must also possess strong customer service abilities
- **Workstation administration** staff must be skilled in the use of centralized desktop management tools to administer access, update virus protection, keep configurations current, etc.

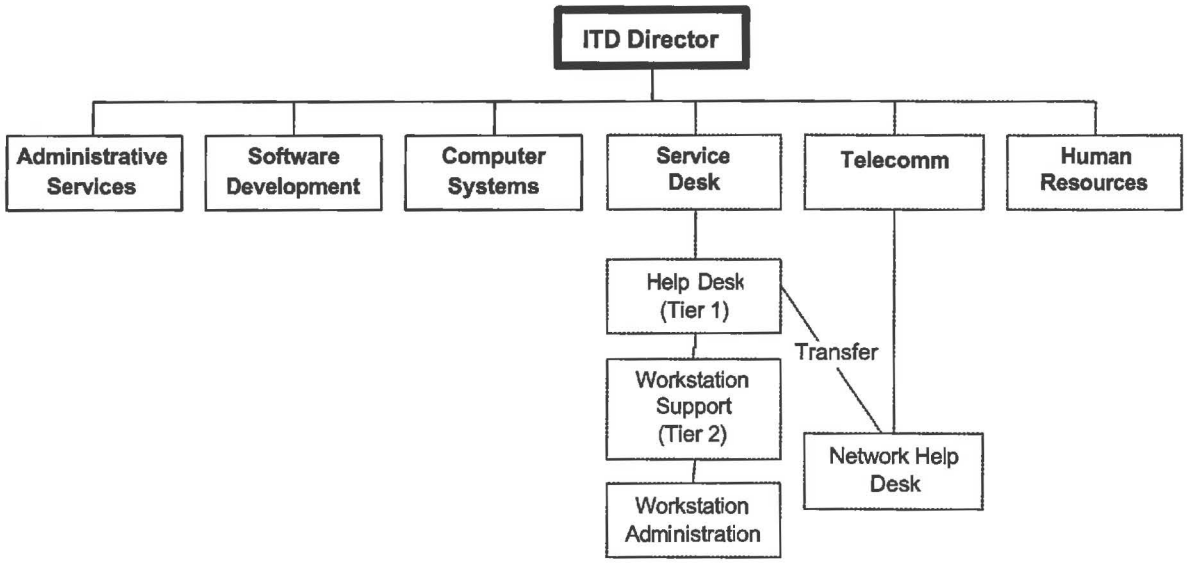
Our model assumes that ITD adds one FTE of server administrator effort to support a staffing ration of 29 servers per administrator. It may also be necessary for help desk staff to undergo security clearance checks as a prerequisite to accessing some agency systems.

AGENCY IMPACTS

Our recommended approach leaves staff cuts to agency discretion – commensurate with Desktop Services charges. Most likely the agencies will look at staff currently performing server administration and workstation support when searching for positions to eliminate. Alternatively, they may come from adjustments to other programs or services. *This choice is ultimately up to agency management.* In addition to facing difficult staffing decisions, the agencies may experience some service level degradation – at least over the short term.

2. FUTURE ORGANIZATIONAL MODEL

The diagram below depicts recommended changes to the ITD organizational structure. We recommend the creation of a Service Desk group at the director level, with the functions shown beneath. Note that this would entail transfer of the Network Help Desk (currently 4 FTE) from the Telecommunications group to the new Service Desk division.



3. ROLES AND RESPONSIBILITIES

The table below recommends the target provider for each IT service, and briefly notes the associated responsibilities. **These responsibilities will migrate to the defined "target provider" over time – in some instances ITD may not fully assume services for two to three years.** *Please see Section G of this report for a discussion of staffing and funding transitions, and refer to the Glossary in Appendix A for definitions of each IT function.*

IT Function	Target Provider	Notes
Customer Services		
Help Desk (Tier 1)	ITD	Tier 1 staff will be centrally located in ITD, Tier 2 staff will be co-located as needed in agency buildings and remote offices
Workstation support (Tier 2)		
End user application support	Agencies*	Agencies will continue to support and train their own staff in the use of agency-specific applications
Training		
System Services		
Network connectivity	ITD	Already largely centralized, remaining effort should migrate to ITD
Email administration	ITD	Partially centralized by HB1505, complete centralization is key to achieving cost savings originally envisioned
File/print administration		
Other server administration		
Workstation administration	ITD	Will be centrally located in ITD, using managed desktop tools to administer configurations and upgrades
Storage management	ITD	Will be included in ITD's file/print service, should disappear from agencies over time
Data center operations	Mixed	Will move to ITD as agencies relinquish servers and retire obsolete platforms
Database administration	Mixed	Remains at agency discretion, but ITD's offering may become more attractive as centralization proceeds
Security administration	Mixed	Agencies are responsible for application and database security (for those databases they administer) but all other aspects of security move to ITD
Telephone systems support	Mixed	Will remain at agency discretion
Business Application Services		
ConnectND	ITD	End-user support for this will be included in ITD's workstation support offering
Agency applications	Agencies*	Will continue to be at agency discretion, with ITD largely acting as a contract resource provider
IT Administration & Planning		
Strategic planning	Mixed	See Section E of this report for recommended changes
Research and development	Mixed	Innovation continues to be encouraged both at ITD and the agencies
Disaster recovery management	Mixed	Not much done now – needs agency involvement, but ITD could provide structure and oversight
Asset management	ITD	Should become almost entirely an ITD responsibility with infrastructure standardization and managed desktop
IT procurement		
Project management	Mixed	Will remain at agency discretion
Administrative support	Mixed	Balance will shift slightly to ITD with centralization, but overall levels will remain about the same
Departmental management		

*While ultimately responsible, agencies may choose to contract with ITD to provide this effort

4. HUMAN RESOURCES AND MANAGEMENT ISSUES

To assure the success of the changes recommended in this report, ITD and the agencies must address several significant issues, outlined as follows:

- **ITD must build a new Desktop Services capability – with strong and credible customer support skills**

  To date, ITD has concentrated on infrastructure support and application development. These are vital functions, but not ones that require daily customer contact. Centralizing desktop services support will require staff who both enjoy and are proficient at interacting with customers, and who can work effectively and competently as part of the ITD team even when placed in the field.

- **Agencies must "let go" of services provided by ITD**

  While our recommended approach is designed to give agencies maximum flexibility in looking for cost savings to pay for the new workstation support charges, it will serve the State's best interests as a whole if they look first to their staff who have been supporting their workstations. This will help ensure that cost savings are captured, and will also provide a pool of IT staff with agency experience that ITD can hire for its new position needs.

- **ITD and the agencies must agree on appropriate performance measures**

  For both server administration and workstation support, ITD will need to track performance in ways that the agencies can understand and respond to. This will require the crafting of service level agreements with targets that link to agency business goals.

- **ITD must ensure that long-term efficiency gains translate into rate reductions**

  We expect that, as IT services are centralized, over time, ITD will find additional ways to automate services and reduce the need for IT staff. As this happens, ITD must commit to making the associated staff reductions, and ultimately reducing rates charged to the agencies.

- **Have SITAC appoint a transition team to "own" the transition process**

  Transitioning to the new service model and rate structures will require a significant amount of time and effort. While ITD will assume much of the responsibility for seeing this through, agency cooperation is a must. Accordingly, we recommend identifying a cross-agency team as the formal "owner" of the transition process, responsible for the key decisions that must be made along the way.

E. GOVERNANCE RECOMMENDATIONS

This section presents governance recommendations aimed at improving existing processes and better positioning the State for achieving greater return on its IT investments. Our recommendations provide the State with a model for making rational, informed prioritizations and decisions regarding information technology.

The section presents our recommendations as follows:

1. Recommended Governance Model
2. Roles and Responsibilities
3. Supporting Tools
4. Performance Measures

1. RECOMMENDED GOVERNANCE MODEL

Pacific Technologies' governance recommendations focus on improving IT decisions across the State. The changes refine specific roles for existing IT decision makers and provide explicit linkages with the existing budget processes surrounding IT.

Three primary objectives drove the creation of these models:

- **The need for a consistent, structured, business-based approach, with associated supporting tools, to making informed IT investment decisions**
- **A desire to improve mechanisms to support cost containment**
- **The requirement for meaningful state-wide management and reporting views of IT initiatives**

The following subsections present two process models:

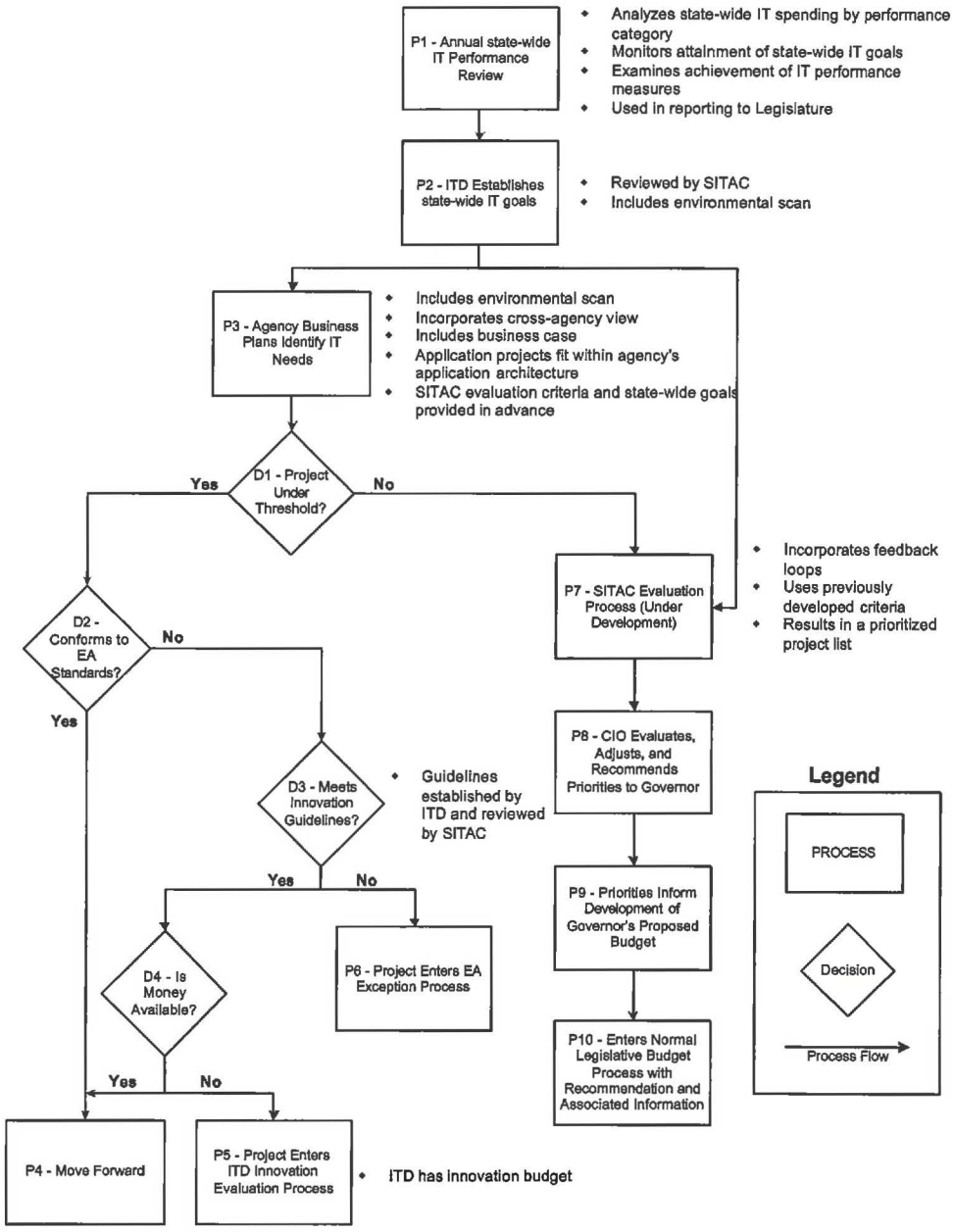
- IT Project Investment Review
- SITAC Evaluation Criteria Development

Detailed process descriptions follow the models.

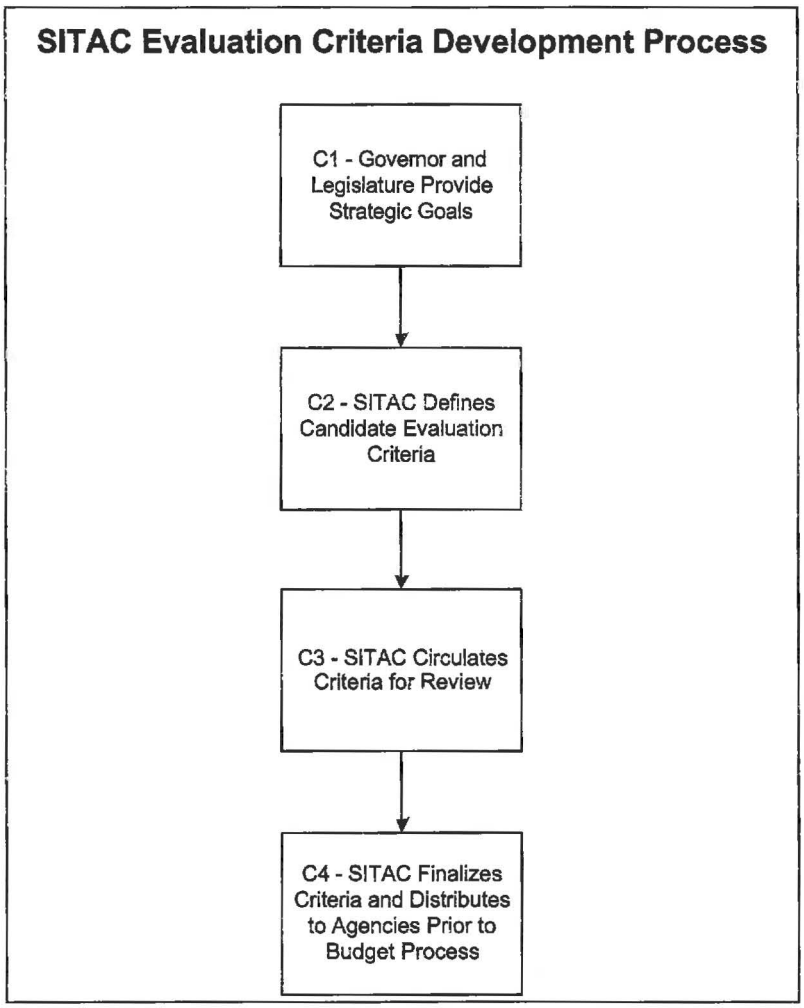
PROCESS MODELS

The model below presents Pacific Technologies' recommendations for IT project investment governance. It builds upon several initiatives already underway, including the enterprise architecture project and the SITAC's movement toward a portfolio management approach to IT asset management.

IT Project Investment Review



The following model depicts the recommended process for developing the evaluation criteria to be used by SITAC:



PROCESS DESCRIPTIONS

The following narrative describes the specific processes in each model:

IT PROJECT INVESTMENT REVIEW PROCESS

This process outlines the evaluation and prioritization path IT initiatives at the State will follow – moving from agency-based governance through the legislative process.

P1 - Annual State-wide IT Performance Review
ITD will conduct an evaluation of past performance-to-plan for IT initiatives and efforts over the previous year. Generally, this evaluation reviews baseline performance in spending, effort, and project completion. It will also look at performance with regard to targets, trends, and alignment with agency and state-wide goals.

P2 - ITD Establishes State-wide IT Goals
Based on an overall strategic direction from policy makers, and informed by an environmental scan of industry trends and efforts in other states and jurisdictions, ITD will establish state-wide IT goals for the next year. SITAC will review and recommend refinements to these goals.

P3 - Agency Business Plans Identify IT Needs
This step assumes that a significant amount of planning occurs in the agencies prior to initiatives entering the State-wide process. Currently agencies are required to complete IT plans, but no similar requirement exists for business plans. We recommend implementing a state-wide business planning approach that includes an IT component with specific linkages to agency IT plans. The goal is to ensure that business needs are being met by technology – and to ensure that technology expenditures have a business-based purpose.

These efforts will require agencies to conduct an environmental scan at an agency level, taking into account new and evolving business goals, external mandates and requirements, and external activities (both in other agencies as well as in similar states). Preliminarily-identified initiatives should receive further analysis in a business case. Part of this evaluation should include the state-wide goals and SITAC evaluation criteria. The final agency IT plan should include a prioritized set of proposed IT initiatives and associated business cases.

D1 - Project Under Threshold?
Projects under a monetary threshold defined by SITAC need not go through a broader project evaluation process. Accordingly, this decision point breaks the process into two paths – one for the smaller projects, and one for all other projects.

D2 - Conforms to EA Standards?
Projects under the threshold must be evaluated for compliance with the standards developed through the EA process. Projects that are within the standards move forward, projects that are outside of existing standards move to an innovation evaluation process.

D3 - Meets Innovation Guidelines?
Standards will never completely keep up with advances in technology. While most public sector organizations are relatively conservative in their adoption of technology, there are times when innovative solutions merit consideration. To help the State foster this process, and at the same time provide some necessary structure, ITD will be responsible for maintaining a SITAC-informed set of criteria for evaluating potential projects for innovation funding. The criteria will establish specific characteristics of an acceptable project (e.g., ability to demonstrate a concrete ROI in a reasonable timeframe, using technologies that have been successfully implemented in other jurisdictions, etc.). This step in the overall process determines whether the project conforms to those specifications.

D4 - Is Money Available?
This decision point splits the process – if an agency has funds available, the initiative moves forward. If not, the project moves into an innovation project evaluation.

P5 - Project Enters ITD Innovation Evaluation Process
ITD will maintain a fund to help innovative projects get off the ground. This process evaluates the merits of the project and, if approved, will provide some level of funding for the project.

P6 - Project Enters EA Exception Process
Projects that do not conform to either the EA standards or the criteria of the innovation list move into the EA exception process.

P7 - SITAC Evaluation Process (Under Development)
Projects not under the threshold move to the SITAC for evaluation. SITAC is currently working to develop a detailed approach for handling these activities (e.g., portfolio management). The resulting sub-process should be iterative, incorporating feedback loops and allowing for complete and open communication. The process will leverage the business case already developed for each initiative and evaluate it using the predetermined set of criteria (see the SITAC Evaluation Criteria Development Process below). The output of this process is a recommended prioritized project list.

P8 - CIO Evaluates, Adjusts, and Recommends Priorities to Governor
In this step, the CIO fulfills his or her statutory responsibility in evaluating the SITAC recommendations, and after making refinements, forwards his or her recommendations to the Governor. In some respects, this is a *pro forma* exercise; the CIO is heavily involved in the SITAC

evaluation process. If there is a disagreement, the CIO still maintains the final recommendation authority.

P9 - Priorities Inform Development of Governor's Proposed Budget
The CIO/SITAC prioritized set of projects are now used as planning tools in developing the Governor's recommended budget.

P10 - Enters Normal Legislative Budget Process with Recommendation and Associated Information
At this point, the projects enter the regular budget process. The fundamental change at this level is that decision makers now have a set of priorities established by a cross-enterprise group, as well as a wealth of supporting detail and summary data (refer to subsection 3, Supporting Tools, for additional detail) by which to evaluate those priorities.

SITAC EVALUATION CRITERIA DEVELOPMENT PROCESS

This process develops the criteria used by SITAC in the IT Project Investment Review activities.

C1 - Governor and Legislature Provide Strategic Goals
The State's strategic goals should provide a basis for the SITAC evaluation criteria. Accordingly, this task elicits perspectives from the key decision makers to serve as an input for criteria development.

C2 - SITAC Defines Evaluation Criteria
Using the strategic goals provided by the Governor and Legislature as a basis, along with their understanding of specific agency goals, SITAC identifies its evaluation criteria. These criteria will apply to each project evaluated to ensure initiatives align with State business and IT goals, as well as make fiscal and technological sense.

C3 - SITAC Circulates Criteria for Review
In this step, SITAC elicits comments and feedback from agencies and policy makers on the criteria to ensure they truly align with strategic goals and provide a fair and reasonable set of tools for evaluating IT proposals.

C4 - SITAC Finalizes Criteria and Distributes to Agencies Prior to Budget Process
SITAC incorporates feedback from the review process and refines the criteria and principles as appropriate. SITAC will distribute them to the agencies prior to the budget process.

2. ROLES AND RESPONSIBILITIES

The processes presented in the previous section assume specific roles and responsibilities for the following participants:

- Agencies
- OMB
- SITAC
- CIO
- Governor
- Legislature

The following provides related descriptions for each participant.

AGENCIES

Agencies identify IT projects to support their business needs. They conduct initial project evaluations using a standard business tool, and, to the degree possible, rely on state standards in defining their projects. For large projects, agencies will develop a business case with the assistance of OMB and ITD, using a standardized approach and associated tools and templates. Agencies will take into account state-wide goals and SITAC evaluation criteria. They will serve as sponsors for their project and work with SITAC throughout the evaluation process.

OMB

OMB provides support for financial analysis and review throughout the process – from initial business case development through legislative review.

ITD

ITD serves as a technical resource for all parties. ITD is responsible for creating and maintaining the innovation guidelines, with input from SITAC. ITD also administers the innovation technology fund and the evaluation process for providing innovation dollars. ITD provides administrative and logistic support to the SITAC, and is responsible for collecting, collating, analyzing and presenting IT performance data.

SITAC

SITAC serves as the key advisory group in the decision model. Using input from all interested parties, it establishes IT project evaluation criteria. It also provides input on the innovation guidelines. Primary responsibilities involve evaluating proposed IT projects and identifying a recommended prioritization of those projects to the CIO.

CIO

The CIO has final responsibility for recommending IT projects and priorities to the Governor. He or she is also responsible for overseeing ITD through their efforts as described above. The CIO is a member of the SITAC and is instrumental in providing input to its agenda.

GOVERNOR

The Governor accepts, evaluates, and incorporates as appropriate the priority recommendations from SITAC and the CIO. He or she also provides input into developing and refining evaluation criteria, including setting strategic goals.

LEGISLATURE

The Legislature has its normal role in molding the State budget, including IT projects. It also provides input into developing and refining evaluation criteria, including identifying the State's strategic goals.

3. SUPPORTING TOOLS

A key component of the governance recommendations is a move toward a more consistently structured IT decision-making process at the State. In support of this effort, the State will need to develop a set of supporting tools, including:

- Business Case Template
- Evaluation Criteria
- IT Report Card
- Business Plan Template

The following provides a summary description of each recommended tool.

BUSINESS CASE TEMPLATES

ITD has made significant progress in developing guidelines for large-project business cases. It includes key elements, such as how to identify the business requirements, examine the cost implications of the proposal, identify and mitigate risk, and establish agency commitment.

The next step is developing the associated templates – both narrative documents and spreadsheets – that will provide standardized tools for establishing the business justification for an IT initiative.

In addition, the templates must also incorporate performance measurements and associated goals, as well as a measurement plan for identifying a baseline and post-implementation success. They will also need to incorporate the current SITAC evaluation criteria and a provision for ensuring compliance with IT standards.

EVALUATION CRITERIA

As described in the Section E-2, SITAC will be responsible for identifying evaluation criteria for IT projects prior to each budget cycle. These criteria will be shaped largely by state policies and goals, but they should be clear, concise, and easily measured. The more tangible and clear they are, the easier it will be for agencies to present their business cases and the more likely self-selection may occur, reducing the number of inappropriate candidates for SITAC to review.

IT REPORT CARD

State decision makers have grappled with their ability to effectively evaluate North Dakota's IT expenditures – to distinguish sound expenditures from those that may not be in the State's best interest. To address this issue, Pacific Technologies recommends that the State develop an IT Report Card that summarizes State IT expenditures and overall performance.

The report card should:

- Provide a set of performance measures outlining IT efforts
- Summarize IT expenditures across a variety of dimensions (e.g., by type of expenditure, by agency, etc.)
- Present life-to-date performance of major projects (e.g., schedule and budget information, as well as business goal attainment for recently completed projects)
- Outline attainment of state-wide IT goals

Section E-4 that follows below provides more specific performance measurement recommendations.

BUSINESS PLAN TEMPLATE

To support the goal of linking IT initiatives to agency mission and objectives in a easily discernable way, the State will need to create a standardized tool for capturing agency business plans. This could be a simple template developed by OMB that identifies agency strategies, missions, goals, and objectives for the coming biennium. Conversely, the State could use this as an opportunity to move toward performance budgeting and management, requiring that agencies tie all efforts – IT and otherwise – to specific, measurable goals and objectives.

This by no means represents a comprehensive set of tools the State could use to support its decision processes. Software is emerging that could help automate the portfolio management and prioritization process across the State. Once the State has implemented these recommendations and begins to refine the approach, ITD and SITAC should explore such tools with an eye toward making continued improvements to IT governance.

4. PERFORMANCE MEASUREMENT

Pacific Technologies recommends that the State significantly increase its performance measurement efforts to improve insight into IT operations and expenditures

Performance-based decision making relies heavily on data analysis. The effort required to gather and analyze this data can be significant, and should not be underestimated. However, such analysis is required to truly understand the *value* being achieved from IT investments.

To put in place a process for performance measurement, the State will need to identify areas for measurement, expected or desired targets for those metrics, and a method for collecting the data. The following outlines Pacific Technologies specific recommendations in that regard.

Broadly speaking, performance measures fall into three categories:

- **Input** – Track resources used in producing an output or an outcome
- **Output** – Calculate or record the activity that occurred
- **Outcome** – Indicate progress toward achievement of business goals

We recommend that the State emphasize development of outcome measures, as they relate most directly to accomplishment of business and policy objectives.

AREAS FOR MEASUREMENT

Pacific Technologies recommends that the State implement performance measures in the following four categories:

- IT Customer Satisfaction
- IT Financial and Management Performance
- IT Project Performance
- Consolidation Transition Performance

IT CUSTOMER SATISFACTION

These measures help the State understand how well Desktop Services meet customer needs. Metrics for customer-centric services (such as help desk) also help service providers and customers understand service trends and areas of concern. Service level target commitments must be determined in a collaborative effort between customers and IT staff to ensure measures address customer demand – and are attainable. Suggested measures include:

- Customer satisfaction survey (expanding on what is currently conducted by ITD)
- Tier 1 and Tier 2 help desk metrics:
  - Percent of problems resolved by Tier 1 staff
  - Percent of problems responded to within a fixed time frame (e.g., 30 minutes)
  - Percent of Tier 2 problems resolved within a fixed time frame of the initial Tier 1 call (e.g., 2 hours)
  - IT incidents per workstation
  - Cost per call

If Service Desk implements a phone system that supports call queuing and related features, additional measures might include:

- Percent of phone calls answered within 20 seconds
- Call abandonment rate

IT FINANCIAL AND MANAGEMENT PERFORMANCE

While the previous set of measures provide qualitative insight into service delivery, the financial and management measures help decision makers take a broad look at IT service delivery and efficiency. Suggested measures include:

- IT Labor Expenditures by category (as defined by Pacific Technologies):
  - Business Application Services
  - Customer Services
  - System Administration
  - IT Administration and Planning
- Goods and services expenditures:
  - Software licenses
  - Hardware
  - Contract labor
- IT operating budget as a percentage of total state-wide operating budget
- IT expenditures per citizen
- PC to PC-support-staff ratios
- Server to server-administration-staff ratios

IT PROJECT PERFORMANCE

In addition to increased mid-project oversight, Pacific Technologies recommends increased data gathering for completed projects. Information on past project performance is critical to identifying "lessons learned" and highlighting whether project promises are kept – or broken. Suggested measures include:

- Percentage of projects completed on-time
- Percentage of projects completed within budget
- Percentage of planned business outcomes attained after one year's time

CONSOLIDATION TRANSITION PERFORMANCE

The measures presented in the previous paragraphs are expected to be evaluated on an ongoing basis – most likely annually. Additionally, Pacific Technologies recommends that the State conduct performance measurement on a quarterly basis to track progress toward completing the recommendations in this report. Suggested measures include:

- Percentage of defined primary tasks of the implementation plan completed (refer to section H for additional detail)
- Percentage of Desktop Services delivered centrally (by FTE)
- Percentage of workstations deployed with one of the state-wide standard configurations
- Total number of servers
- Percentage of servers managed centrally

The following outlines additional considerations related to performance measures – desired targets and collection methods.

DESIRED TARGETS

In establishing the performance measures, the State must:

- Define performance targets (e.g., ratio of workstations to support-staff-FTE's, etc.)
- Capture baseline measures *now* to ensure that an accurate picture of current performance exists

METHOD FOR COLLECTING DATA

If possible, the State should use consistent coding in ConnectND to facilitate collection and analysis of:

- Labor cost measures
- Goods and services measures
- Overall expenditure measures

Other measures will require manual data collection, or the aggregation of data from a variety of other systems. We expect some evolution of these measures over time. Additionally, the State most likely will create more streamlined data collection and reporting processes based on lessons learned.

F. ADDITIONAL RECOMMENDATIONS

Projects of this nature provide the consultant with broad exposure to IT issues and concerns beyond the immediate scope of the engagement. This section offers Pacific Technologies' related recommendations, including the following:

1. Complete the EA process
2. Conduct a similar consolidation study within the universities
3. Perform an application cost analysis
4. Implement an innovation fund

1. COMPLETE THE EA PROCESS

Pacific Technologies recommends that the State re-focus its attention on EA by applying adequate resources and increasing management attention to ensure that the process completes in a timely manner. Given the *de facto* standardization that will occur as servers are further consolidated and the workstation environment is brought under control, we suggest that specific attention be paid to application-related standards.

The final standards should move the State toward a significantly more limited set of application development environments, databases, and related tools. This will align the State with best practices, increase opportunities for data sharing, and allow the State to standardize its hardware environments more effectively. Eventually, it could also provide modest cost savings through license and tool cost reductions.

The State should also ensure this process includes identifying governance mechanisms for keeping the standards up-to-date.

Once standards are defined, the much more difficult (and expensive) process of implementing these standards will begin. Workstation standardization is presented in the previous section. Additional efforts regarding servers and application development will require longer-term transition plans, but are likely to provide similar long-term benefits through better interoperability, improved management, reduced staff requirements, more effective purchasing, and lower training costs.

2. CONDUCT A SIMILAR CONSOLIDATION STUDY WITHIN THE UNIVERSITIES

The State's university system was excluded from this exercise – an appropriate approach given their size, general autonomy, and extremely different mission. However, within the universities, similar opportunities and issues are likely to exist, though successful solutions for that environment may be very different than what is presented above.

Accordingly, Pacific Technologies recommends that the universities conduct a similar exercise aimed at improving overall efficiency of IT expenditures and IT governance. The Roundtable sessions and report provide a starting point, broadly moving higher education toward performance and accountability measurement practices. This recommendation also suggests the university system provide additional performance management efforts specifically targeted at IT.

3. PERFORM AN APPLICATION COST ANALYSIS

Pacific Technologies found that the State has limited insight into its application portfolio and associated costs – even though it accounts for approximately 50% of the IT operating labor. This recommendation calls for the State to gather baseline data on application spending, labor effort, expected life, and asset value. Specifically, North Dakota should conduct a survey of each agency, gathering a listing of each application, associated current and historical spending, business use, and labor requirements.

This information would then be consolidated to provide a summary of the State's application environment. It could serve as a starting point for identifying potential areas for cost savings and/or improved efficiencies. If an analysis of this data indicates significant duplication of functions or applications, the State should conduct a further study to examine the practicality of having agencies share applications. Once the EA process finalizes application standards, this information will also identify for State decision makers where future investment will be required.

This process could also provide the State with the opportunity to gather additional information, including a listing of the State's data assets and associated storage mechanisms. This information then could be used to improve data sharing between agencies.

4. IMPLEMENT AN INNOVATION FUND

With the goal of fostering the advancement of technology at the State of North Dakota, Pacific Technologies recommends the establishment of an innovation fund, outlined earlier within the context of future IT governance enhancements. The fund would be available to provide agencies incentives to pilot – on a small scale – new technologies that might be useful to the State on a broader basis at some point in the future. This will provide state IT staff an early experience with skills it may need in the future and reduce the likelihood that larger expenditures are made on ill-suited, untested technologies.

To implement this fund, the State will need to:

- Seed the fund with start-up monies
- Identify a mechanism (such as captured cost savings) for replenishing these funds as they are spent

ITD will use a set of pre-established criteria to allocate these funds to qualifying projects, as described in this study's governance recommendations.

G. TRANSITION APPROACH

This section describes the staffing and management transitions needed to accomplish the study's four major recommendations:

1. Consolidate Provision of Desktop Services
2. Standardize Workstations
3. Continue Server Consolidation
4. Improve IT Governance Processes

1. CONSOLIDATE PROVISION OF DESKTOP SERVICES

STAFFING TRANSITIONS

The key decision regarding staffing surrounds whether or not these positions should be provided internally by ITD or by an outsourced provider. If the selected approach recommends the creation of ITD workstation support positions, our implementation plan (Section H of this chapter) suggests a phased approach, with a few pilot agencies going first. To make this transition as smooth as possible, we recommend that ITD and the agencies agree on a plan with specific dates for accomplishing the following steps:

- ITD develops estimated workstation rates and per-agency charges
- Agencies determine which positions will be eliminated to pay for the workstation charges
- ITD posts the new position openings, with preferential treatment for staff laid off from the agencies
- ITD announces position hires

Note that this assumes the majority of agency workstations can support remote access and managed desktop tools. If agencies have a preponderance of old equipment, they may have to be consigned to a second round of centralization until their workstations are replaced.

MANAGEMENT TRANSITIONS

The new workstation support service will be funded on a cost-recovery basis, in line with current ITD practices. Agencies will be charged based on the number of workstations supported. Assuming internal service provisions we expect some one-time costs related to hiring new staff, setting up facilities, and implementing the necessary software, phone systems, etc. These costs should be incorporated into the rate structure, and amortized over the first two or three years, after which time the agencies should expect to see a rate reduction.

The specific steps needed to implement Desktop Services are:

- In concert with the desktop standardization initiative, select and deploy the remote access, call logging, knowledge base, and desktop management tools needed
- Develop service level targets and performance measures
- Set up centralized Tier 1 help desk support with appropriate training and facilities for staff
- Deploy Tier 2 staff to be near clusters of agency buildings in Bismarck, with a staff person or two in Fargo, Minot, and possibly other remote sites
- As the standard desktop is rolled out, move desktop maintenance responsibility to the central workstation administration group
- Closely monitor workload so that the balance of Tier 1, Tier 2, and workstation administration staff can be adjusted to meet customer service targets and overall cost goals

2. STANDARDIZE WORKSTATIONS

STAFFING TRANSITIONS

Implementing the standard desktop will require a large amount of effort over a short period of time. **We recommend that the State further analyze service alternatives (i.e., staffed internally, or outsourced), attendant costs and benefits, as well as installed hardware and existing replacement budgets before finalizing the replacement approach and schedule.**

MANAGEMENT TRANSITIONS

This initiative will represent a major shift in the desktop funding model for the agencies. Instead of being a one-time expenditure, desktops will become standard items with a monthly charge – much like office space, or a leased copy machine. The Legislature will need to appropriate monies for some agencies to help them with this transition. **Agencies should not be forced to make these additional expenditures with their existing budgets.** Once shifted to this model, the agencies will be able to consistently plan for PC expenditures in their budgets.

Specific steps needed by ITD and the agencies to accomplish this are:

- Agencies must discontinue purchasing new PCs until the standard is in place
- ITD will work with agency technical staff to develop the standards and a limited set of options for specialty users, with SITAC providing validation and approval – alternatively, the State could use the EA process to define these standards as long as it happens timely and effectively limits the number of configurations
- ITD will work with agency management to develop an overall funding model, including options for a variable PC replacement cycle
- ITD will spearhead the selection of a vendor to supply the equipment and (perhaps) do the rollout, with SITAC having the final approval

3. CONTINUE SERVER CONSOLIDATION

STAFFING TRANSITIONS

The considerations here are similar to Desktop Services centralization but on a much smaller scale. Post HB1505, there are only a few agencies where server support levels are high enough to be a management concern. For these agencies, the timing of technology replacement cycles will be the primary driver for centralization. ITD and the agencies will need to work out concrete timelines for when these transitions will occur, so that the agencies can make the staff cuts necessary.

MANAGEMENT TRANSITIONS

From a funding perspective, consolidation of server administration efforts may require some one-time expenditures to purchase new, higher-capacity servers. Over time, we expect that ITD will be able to lower rates in line with internal staff reductions and lower equipment replacement costs.
Specific steps needed for ITD to accomplish the server consolidation are:

- Analyze all of the servers centralized by HB1505 to see which ones can be consolidated onto shared servers
- Work with the agencies to determine where it is cost-effective for them to upgrade to newer software versions or migrate to ITD standard platforms in order to help reduce the total server count
- Centralize the remaining servers not affected by HB1505 unless such centralization would imperil an agency's finances, security, or business operations
- Analyze the servers brought in through the second round of centralization for additional consolidation opportunities

4. IMPROVE IT GOVERNANCE PROCESSES

STAFFING TRANSITIONS

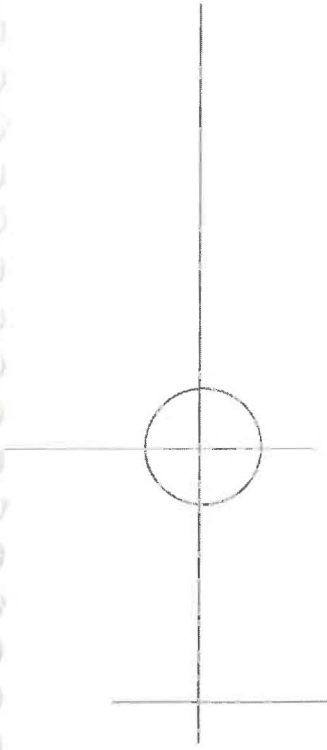
We believe that the State currently expends sufficient effort on strategic IT planning and governance. ITD and the agencies must ensure that the staff do this work within the new governance framework recommended in Section E of this report.

MANAGEMENT TRANSITIONS

This recommendation largely connects a set of existing governance projects and structures into a cohesive IT decision-making structure. Accordingly, the required transition tasks are minimal. The primary effort associated with this recommendation is establishing the tools called for in the process.

Specific steps for completing this recommendation are:

- SITAC finalizes the process timeline to align it with the State budget process
- The Governor and State legislators will need to provide SITAC with their vision and goals for IT at the State
- Using that information, SITAC establishes the initial criteria and circulates them in draft form to decisions makers at the agency and State level for feedback into a final set o f criteria
- ITD and SITAC develop guidelines for innovation fund allotment
- The CIO's office and the Legislature establish the initial innovation fund
- OMB and ITD develop the final business case and supporting financial models for IT initiatives
- ITD and OMB, under the direction of SITAC and the CIO finalize the performance measures and begin the baseline data gathering process
- ITD will develop the final report card format and content for presentation of s tate IT performance and begin gathering any additional required data



H. IMPLEMENTATION PLAN OUTLINE

This section presents a proposed approach for implementing the recommendations outlined in this study, organized as follows:

1. Recommended Projects
2. Proposed Timelines
3. Cost Impacts

1. RECOMMENDED PROJECTS

Pacific Technologies' recommendations fall into two primary categories: organizational and governance-related. The following table highlights the tasks necessary to implement those recommendations, as well as the key participants responsible for each task.

Major Recommendation	Primary Activities	Responsible Party
Consolidate Provision of Desktop Services	Establish Project Governance Process	ITD
	Establish Service Levels	ITD
	Finalize Implementation Options & Costs	ITD
	Finalize Funding Mechanism	SITAC
	Develop Legislation	Interim IT Committee
	Develop Tactical Roll-Out Plan	ITD
	Implement Consolidated Desktop Services	ITD
Standardize Workstations	Establish Project Governance Process	ITD
	Inventory Hardware and Software	Agencies
	Develop Workstation Options	ITD or EA
	Define Replacement Cycles & Criteria	ITD or EA
	Finalize Implementation Options & Costs	SITAC
	Develop Legislation	Interim IT Committee
	Develop Tactical Roll-Out Plan	ITD
	Implement Roll-Out Plan	ITD
Continue Server Consolidation	Establish Project Governance Process	ITD
	Develop Preliminary Consolidation Schedule	ITD
	Develop Legislation	Interim IT Committee
	Develop Tactical Roll-out Plan	ITD
	Implement Roll-Out Plan	ITD
Implement Governance Recommendations	Develop SITAC Initial Evaluation Criteria	SITAC
	Finalize and Communicate SITAC Evaluation Process	SITAC
	Develop IT Innovation Guidelines	SITAC
	Establish State-wide IT Business Case Templates and Tools	ITD
	Develop Baseline State-wide ITD Performance Measures	ITD
	Develop Legislative Reporting Package Templates	ITD

Descriptions of each task follow.

CONSOLIDATE PROVISION OF DESKTOP SERVICES

Establish Project Governance Process
This task involves the effort required to charter the project, identify participants and decision mechanisms, and finalize the workplan. ITD will be responsible for the logistics of this task, utilizing input from SITAC.

Establish Service Levels
This task establishes performance commitment levels for Desktop Services. ITD will develop these levels in collaboration with agencies to ensure they meet existing business needs. ITD should also leverage industry best practices to help define the commitment areas as well as to inform adequate service levels.

Finalize Implementation Options & Costs
This task incorporates the effort necessary to come to conclusion on the service delivery approach and associated costs. *The key decision is whether to provide these services internally or through an outsourcing arrangement.* ITD would first need to establish the viability of contracting for these services and, if it is viable, identify costs required to meet the identified service levels. ITD would then need to model the different cost and service level options. SITAC would make a final recommendation on the direction the State should pursue. If the selected course of action is outsourcing, there would likely need to be additional approvals.

Finalize Funding Mechanism
This task defines the State's approach to funding provision of the services. In addition, this task identifies a mechanism to identify and allocate cost savings that accrue over time. Options include returning the dollars to associated revenue funds, distributing some monies to agencies that will have a net-negative financial impact from this recommendation, or building a fund for state-wide IT initiatives.

Develop Legislation
If legislation is required to implement the consolidation, the Interim IT Committee, working with SITAC, will develop any legislation required to statutorily support the selected course of action. The legislation may cover a variety of topics, including authorization of outsourcing (if it is the selected option) or any major changes to state governance and/or funding structures.

Develop Tactical Roll-Out Plan
This activity involves the effort required of ITD and the agencies to plan the specific, granular tasks required to implement the selected approach for this recommendation. Note: *the roll-out plan must also concurrently address the workstation standardization recommendations to enable Desktop Services to operate efficiently and effectively.*

The output of this task will be a workplan that identifies and documents each task, establishes associated managerial responsibilities and staffing, identifies the timelines and precedence, establishes key milestones and check points, and defines success measures and targets.

Pacific Technologies suggests the State take a phased approach in this workplan – first implementing in a small number of agencies that are likely to achieve a significant individual benefit from this effort (e.g., Transportation, Human Services). This approach will allow the State to identify key lessons and refine the method for implementing consolidating desktop support on a state-wide level. The tactical plan should include the appropriate tasks and mechanisms for incorporating changes based on experiences learned in the first phase.

Implement Roll-Out Plan
In this task, ITD and the agencies execute the roll-out plan identified in the previous step. In addition to implementing any staff transfers or executing an outsourcing contract, this task includes purchasing and implementing additional licenses of existing software (such as the State's help desk application) as well as new software products necessary to remotely manage and support users' computers. It also includes purchasing and configuring new hardware. This task concludes with a post-implementation review to document lessons learned and identify achievement of success measures.

STANDARDIZE WORKSTATIONS

Establish Project Governance Process
This task involves the effort required to charter the project, identify participants and decision mechanisms, and finalize the workplan. ITD will be responsible for the logistics of this task, utilizing input from SITAC.

Inventory Hardware and Software
This task incorporates the effort to create two separate inventories of state assets – workstations and business applications. For the workstations, ITD and the agencies will work together to document key information – to be determined as part of this process – about each workstation in use, including a listing of each workstation, performance and configuration information, and asset life data.

Similarly, the agencies and ITD will document each business application in use, associated workstation configuration requirements (e.g., client requirements), underlying technologies, etc.

Develop Workstation Options
Given the data collected in the previous task, as well as input from market sources and best practices, ITD will work with agencies to identify between two and four hardware configurations that will be sufficient to meet the needs of all state workstation users. This task also involves defining software configuration requirements, with the goal of minimizing the number of standard configurations. As noted previously, the appropriate EA domain team might also assume responsibility for this effort.

Define Replacement Cycles & Criteria
This task encompasses the ITD and agency effort necessary to establish the replacement cycle options (likely between three and four years). It also establishes the criteria that must be met for a given replacement cycle. For example, the bottom-level workstation option may not be allowed on the longest replacement cycle to avoid machines that are grossly underpowered at the end of their expected life. The appropriate EA domain team may be given responsibility for this effort, as well.

Finalize Implementation Options & Costs
Based on the all collected data and associated decisions, SITAC, ITD, and the agencies come to final agreement on the matrix of workstation options and associated replacement timelines. Given that number, ITD will finalize cost estimates on a per-workstation basis.

Finalize Funding Mechanism
This task identifies the approach the State will take to funding this project. The initiative will likely require a significant initial outlay of dollars beyond amounts already budgeted for workstation replacements. This money would be required for a major initial procurement and/or to establish a fund for annual replacement expenditures costs. This task also establishes the means for maintaining adequate dollars in the fund (e.g., monthly workstation charges, etc.).

Develop Legislation
This task creates the legislation necessary to establish the one-time funds and ongoing funding mechanism – as well as any additional new statutory parameters. The Interim IT Committee, working with SITAC, will develop the legislation.

Develop Tactical Roll-out Plan
This task involves the effort necessary to develop the specific steps necessary to execute the plans developed in the previous tasks. Given the close linkages between this recommendation and the Desktop Services consolidation, we recommend planning for and implementing those two tasks as a single project. See the roll-out plan for *Consolidate Provision of Desktop Services* for additional detail.

Implement Roll-Out Plan
As indicated above, we recommend implementing this recommendation in lock-step with the Desktop Services recommendation. Once again, refer to the implementation task *Consolidate Provision of Desktop Services* for additional detail.

CONTINUE SERVER CONSOLIDATION

Establish Project Governance Process
This task involves the effort required to charter the project, identify participants and decision mechanisms, and finalize the workplan. ITD will be responsible for the logistics of this task, utilizing input from SITAC.

Develop Preliminary Consolidation Schedule
This task incorporates the agency and ITD effort required to identify remaining agency-based servers and their expected replacement timeline. That timeline, informed by additional information such as major state and agency projects, will provide a basis for the consolidation schedule ITD will develop.

Develop Legislation
This task creates any legislation necessary to support this project, including governance regulations and funding and personnel transfers. The Interim IT Committee, working with SITAC, will develop the legislation.

Develop Tactical Roll-out Plan
This task creates the approach agencies and ITD will take to execute the consolidation schedule created above. In addition to timing, the plan will spell out responsibilities for transferring data and applications, technical management requirements, and establishing baseline and future post-move performance measures.

The plan will also identify the approach for moving impacted staff, if any.

Implement Roll-Out Plan
This task involves the effort necessary to execute the tactical plan over the course of the project. This effort will likely last several years as servers are retired over that time horizon.

IMPLEMENT GOVERNANCE RECOMMENDATIONS

Develop SITAC Initial Evaluation Criteria
In this task, SITAC– with support of ITD – develops a candidate set of criteria to serve as yardstick for evaluating future IT initiatives and plans. A key input to this effort will be gathering state-wide and IT-specific visions and goals from the Governor and the Legislature. Based on that input, SITAC will develop a set of evaluation measures that distill a single vision for IT at the State of North Dakota. The criteria should be measurable, discrete, and concise.

Once developed, ITD will circulate the draft criteria to the Governor, Legislature, and agencies for comment. SITAC will evaluate that feedback, making changes as appropriate, and distribute the finalized criteria.

Finalize and Communicate SITAC Evaluation Process
Using the criteria as well as legislative and gubernatorial input as guidelines, SITAC will refine the process to apply the criteria. This effort will further refine the approach outlined in section E of this chapter, as well as establish the internal SITAC procedures and protocols necessary to perform the evaluation and prioritization tasks. ITD and SITAC are currently developing a "portfolio-management"-based approach. This methodology is consistent with best practice efforts we have seen at other public entities, and should result in an effective project evaluation methodology.

Develop IT Innovation Guidelines
Working with ITD and the agencies, SITAC establishes a set of guidelines for evaluating non-standard projects. The need to deploy emerging technologies and innovative approaches to technology is inevitable, even in the relatively conservative public sector environment. The purpose of the innovation guidelines is to put structure around determining which of these initiatives will be considered.

The guidelines should identify specific acceptable risk tolerances and minimum levels of industry acceptance for candidate projects. Theses guidelines must also identify business-based requirements, such as minimum return-on-investment (ROI).

These guidelines should go through a review/refinement process with IT representatives in the agencies and ITD before finalization.

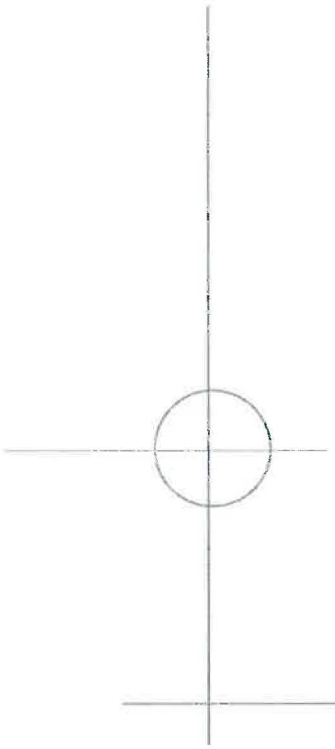
Establish State-wide IT Business Case Templates and Tools
This task creates the specific documentation and mechanisms that agencies will use in evaluating potential IT initiatives, and that will become part of the SITAC evaluation process. These tools will include the financial models necessary to identify total cost and ROI, as well as help identify project performance measures and targets. They will also facilitate the agencies in linking projects to agency and state operational and IT goals. Finally, the tools will assist in linking initiative benefits and outcomes to the SITAC criteria and guiding principles.

Section E of this chapter further outlined components of these tools.

Develop Baseline State-wide ITD Performance Measures
This task identifies key IT metrics for evaluation and collects baseline data associated with current state performance. These metrics should be both operationally and technologically focused.

Additionally, the State needs to identify and collect data for aggregate measures that identify overall staffing levels and expenditures for a variety of different tasks and goods. These can include effort and associated costs for server administration and user support, as well as expenditures for various types of hardware and services. ITD should collect this data at the lowest level of detail possible to allow a variety of approaches to analysis. See Section E, subsection 4 of this chapter for more information on recommended performance measures.

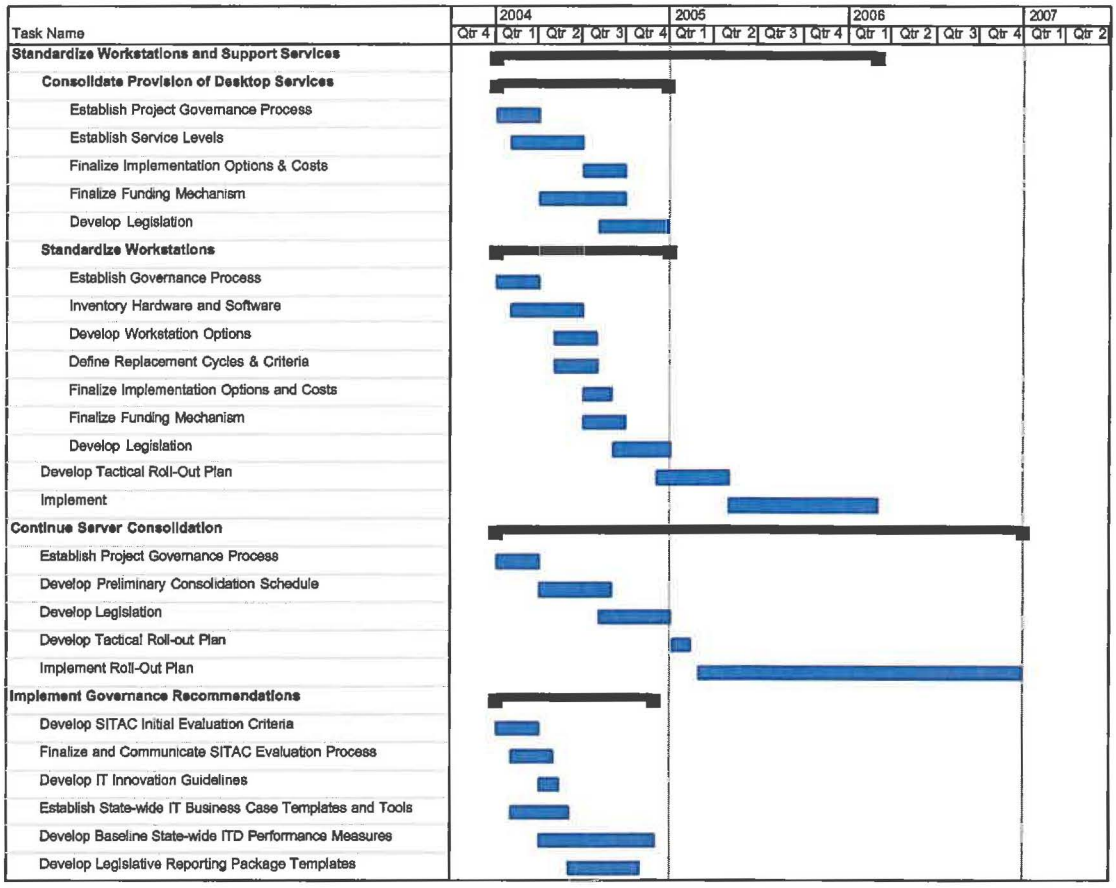
Develop Legislative Reporting Package Templates
To assist legislative and other high-level decision makers in evaluating the State's overall IT progress, this task creates a template that can be used to assemble key metrics that present a broad picture of IT at the State. This template should leverage heavily the measures identified in the previous task. ITD should work closely with legislative staff to ensure that the resulting document will effectively convey the information most important to state decision makers.



2. PROPOSED TIMELINE

The following Gantt chart presents a suggested implementation schedule for the activities outlined above. The State will need to refine the overall timeline predicated on more in-depth analysis, other State initiatives, and resource constraints.

Proposed Project Schedule



3. COST IMPACTS

The table below summarizes a range of goods and services costs the State can expect to incur through implementing this study's major recommendations.

Goods and Services Project Costs

	Low Estimate		High Estimate	
Consolidate Provision of Desktop Services	*One-Time*	*Recurring*	*One-Time*	*Recurring*
Consulting Services for Service Levels, Options/Costs, Rollout Plan	$ -	$ -	$ 130,000	$ -
Help Desk and Remote Management Software	$ 100,000	$ 280,000	$ 530,000	$ 70,000
Help Desk and Remote Management Implementation	$ 30,000	$ -	$ 290,000	$ -
Help Desk Staff Training	$ 30,000		$ 60,000	
Subtotal	$ 160,000	$ 280,000	$ 1,010,000	$ 70,000
Standardize Workstations				
Consulting Services for Inventory and Imaging	$ 20,000	$ -	$ 430,000	$ -
Statewide Average Annual Workstation Cost	$ -	$ 2,950,000	$ 11,030,000	$ 3,680,000
Subtotal	$ 20,000	$ 2,950,000	$ 11,460,000	$ 3,680,000
Continue Server Consolidation				
Consulting Services for Consolidation Schedule	$ -	$ -	$ 20,000	$ -
Subtotal	$ -	$ -	$ 20,000	$ -
Implement Governance Recommendations				
Consulting Services for Templates & Tools	$ -	$ -	$ 50,000	$ -
Innovation Fund	$ -	$ 140,000	$ -	$ 280,000
Portfolio Management Software	$ 480,000	$ 60,000	$ 960,000	$ 60,000
Subtotal	$ 480,000	$ 200,000	$ 1,010,000	$ 340,000
Total - All Projects	$ 660,000	$ 3,430,000	$ 13,500,000	$ 4,090,000

* The relatively high recurring cost reflects a lease, rather than a one-time purchase, of the necessary software.

The remainder of this section provides further information on the cost components for each major recommendation.

CONSOLIDATE PROVISION OF DESKTOP SERVICES

This project reflects the most significant organizational impact of all the recommendations. To be successful, and result in a net cost reduction in ongoing expenditures, a well planned implementation is critical. The cost components include:

Consulting Services for Service Levels, Options/Costs, Roll-out Plan
This set of consulting services are included to cover potential assistance the State might need in planning for establishing the help desk, the roll-out, and the intended service levels. It could also incorporate an options analysis of alternative costs and benefits – if necessary. Naturally, the State could take the approach it has taken with previous efforts and conduct this effort in-house.

Help Desk and Remote Management Software
One-time costs include the procurement and implementation of the software and management tools necessary to drive down state staffing levels for these services while maintaining required service levels. Ongoing costs include maintenance fees associated with these tools.

Help Desk and Remote Management Implementation
This includes the one-time costs for assistance with the implementation of the help desk and remote management software.

Help Desk Staff Training
This separate activity is included to underscore the importance of providing adequate training in the new help desk and support tools for ITD staff.

STANDARDIZE WORKSTATIONS

While the dollars presented for this project are significant, they reflect the aggregation of costs that are largely already being expended. The State can expect that the amount depicted to likely result in a net increase – though the exact current expenditures were not available to confirm this assertion. That fact, in itself, highlights the need for better understanding this core, ongoing cost. Cost components include:

Consulting Services for Inventory and Imaging
This range of costs reflects the variety of options the State can take in supporting the roll-out of this effort. At the low end, a small amount of consulting is used for establishing the roll-out plan. At the upper end, the State is contracting with a third party to assist in creating the workstation "images" (i.e., standard workstation configurations) and in the roll-out of the initial implementation.

State-wide Average Annual Workstation Cost
This cost component reflects an annualized view of money the State is likely to spend once the replacement cycle has stabilized. Its range reflects a blend of workstations that cost approximately $1000 per PC, replaced on a cycle averaging slightly longer than every three years. In fact, the actual amount spent will be driven by the actual workstation options and replacement cycles selected by the agencies to meet their business needs.

CONTINUE SERVER CONSOLIDATION

Given that server consolidation is largely complete, this effort will require minimal expenditures. We have not accounted for purchasing any new servers, as we expect the consolidation to save money in this arena. This project assumes the State is capable of performing this project in-house with internal staff. Accordingly, the only external expenditure might be to contract with a third party to assist in developing the consolidation schedule. The State could choose to forgo this expenditure.

IMPLEMENT IT GOVERNANCE RECOMMENDATIONS

Governance recommendations will require relatively modest expenditures – most of them derived from implementing new tools to help manage the State's decision-making processes. The specific cost components – consulting, the innovation fund, and portfolio management software – are described below.

Consulting Service for Templates and Tools
This cost component captures the specific expenditures the State might choose to make to support development of the business case and other governance tools. As the cost table indicates, the State could elect to do these functions in-house – a process that is already underway – thereby avoiding this cost altogether.

Innovation Fund
This component captures the expenditures necessary to establish and maintain an innovation fund. The State will need to determine exactly how it will replenish this fund and how much it wants to devote to this effort. For planning purposes, we used a range between .25% and .5% of the adjusted Executive IT budget. There are a variety of alternatives the State could use for creating this fund, including general fund monies, capturing IT project cost savings, potential cost savings from this plan, or pursuing relevant grant monies.

Portfolio Management Software
Pacific Technologies recommends that the State continue to explore using software to help manage and automate its project portfolio and associated prioritization. This component captures the associated costs. The State could also choose to forgo this expenditure.

APPENDIX A

glossary

This appendix provides a glossary offering explanations and definitions of key terms and acronyms used in this report.

GLOSSARY

ADMINISTRATIVE SUPPORT – the activities related to the provision of clerical, administrative, and related services required for the ongoing operation of the it department

APPLICATION DEVELOPMENT, DEPLOYMENT, AND MAINTENANCE – the activities related to developing, installing, integrating, interfacing, and testing business-specific packaged applications and their associated data, including managing vendor relationships, and providing necessary business context for integration. Includes installing new releases and bug fixes, extracting data for use by other applications, updating and making enhancements to existing software applications to meet new requirements, customizing reports for users, and interfacing with vendor staff as required. Engineering new software to meet business needs, integrate third party software, and accommodate special requests. Development phases include design, coding, testing, and implementation.

ASSET MANAGEMENT – the activities related to managing the IT properties of the organization, include tracking serial number, warranty, and inventory.

BUSINESS APPLICATION SERVICES – those functions related to providing, maintaining, and supporting the use of software needed to meet the operational, management, and reporting requirements of the organization.

CAPITAL BUDGET – funds allocated to one-time expenses, usually for depreciable assets

CENTRALIZED SERVICE DELIVERY MODEL – a model of IT service delivery that places all responsibility for IT support with a single, centralized service provider.

CJIS – criminal justice information sharing

COMPUTING AND NETWORKING INFRASTRUCTURE CONSOLIDATION – the efficient concentration or convergence of divergent and diverse IT Systems.

COOKS – this number counts the individuals required for a particular function, as opposed to the FTE effort level. For example, an agency might have 5.5 FTE of server administration performed by 8 staff. This amount of service could be provided by as few as 6 individuals, so the Cooks (as in "too many cooks spoil the broth") number would be 2.

CURRENT IT MODEL – North Dakota's current IT architecture, governance, organization and environment (i.e., the current information processing environment, including technical, staffing, and cost data).

CUSTOMER SERVICES – those functions related to directly supporting users of IT systems and services.

DATA CENTER OPERATIONS – the activities related to administering the operation of the host/mainframe computing platforms, managing their operating systems to keep functionality at optimal performance levels, performing data backups and restoration, and managing associated peripheral devices.

DATABASE ADMINISTRATION – the activities related to planning, implementing, and administering the data structures required to support the organization's applications portfolio, and to maintaining the data contained within the organization's defined data structures. Includes data synchronization, validation, backup, and recovery.

DBMS – database management system. Computer software that is used to create, access, and control the database.

DEPARTMENTAL MANAGEMENT – the activities related to management and oversight of the organization's technology functions: including personnel management, quality assurance, policies and procedures, standards, and budgeting. Includes supporting the organization's management on matters

related to it decision-making. Activities may include coordinating meetings, establishing agendas, providing background materials and recommendations, keeping minutes and preparing presentations.

DESKTOP SERVICES – the IT support services related to support and maintenance of end users and their computing equipment, e.g., PCs.

DISASTER RECOVERY MANAGEMENT – the activities related to developing, maintaining, updating, and testing the organization's it disaster recovery/business resumption plan, and to activating and managing the plan in the event of a disaster.

DISTRIBUTED SERVICE DELIVERY MODEL – a model of IT service delivery that completely decentralizes support for IT.

EA – Enterprise Architecture

END USER APPLICATION SUPPORT – the activities related to the desktop setup and installation and maintenance, and to supporting the day-to-day use of, the organization's business applications. For instance, helping a user accomplish a specific business function, or updating value in a validation table would qualify as business application support.

ENTERPRISE – a business organization or entity in its entirety

ERP – enterprise resource planning. A term originally used to describe enterprise-wide systems that include financial, human resource, and materials management functions in a production environment, but is often used to describe an enterprise-wide implementation of a single, complex, and completely integrated system that can automate virtually every business process within the organization.

FEDERATED SERVICE DELIVERY MODEL – a model of IT service delivery which places the responsibility for shared resources (e.g., network infrastructure) with a centralized service provider, while users of non-shared services are responsible for maintaining the resources and applications that are particular to them.

FTE – full time equivalency for a job, or the relative percentage to "full time" which an employee or contractor is scheduled to work. For example, an employee or contractor who is scheduled to work 80 hours per bi-weekly pay period is considered 1.0 FTE, whereas an employee or contractor who works 40 hours per bi-weekly pay period is considered .50 FTE.

GIS – geographic information systems

FUTURE IT MODEL – North Dakota's recommended future it architecture and environment

GANTT CHART – a bar graph or other graph that helps plan and monitor project development or resource allocation on a horizontal time scale. Gantt charts are used to indicate and monitor diverse aspects of project management, including without limitation: the exact duration of specific tasks, the relationship between tasks, planned and actual completion dates, cost of each task, the person or persons responsible for each task, and the milestones in a project's development.

HELP DESK – a source of technical support for hardware or software. Help desks are staffed by people that can either solve the problem directly or forward the problem to someone else.

INFORMATION TECHNOLOGY (IT) – the profession concerned with all aspects of managing and processing information via computers and computer systems.

IT – information technology (see above)

IT ADMINISTRATION AND PLANNING – those functions related to the planning, oversight, security, and day-to-day operations of the technology function at the organization.

ITD – Information Technology Department

IT PROCUREMENT – the activities related to acquisition of goods and services in support of all it functions; including the development of RFPs, evaluation and selection of vendors, management of purchasing activities, receipt and inventory of goods, and tracking of warranty information and performance guarantees.

JOAT – "jack of all trades." This counts the number of IT service functions performed by each individual – for instance, one person might perform e-mail administration, database administration, help desk, and project management; giving that individual a JOAT number of 4. The overall JOAT number for an agency is the average JOAT number for all of its staff. Simply, this number provides an indication of how many multiple IT service "hats" are worn by each individual within an organization.

LAN – local area network, a collection of computers and/or computing devices (e.g., printers, wireless PDAs) that are connected to allow the sharing of resources; generally within a building or a floor of a building.

NETWORK CONNECTIVITY (WAN/LAN/WIRELESS) – the activities related to implementing and maintaining the operational integrity of the organization's local and wide-area networks, both wired and wireless. Technologies include building wiring, fiber optic data circuits, and point-to-point technologies such as laser and microwave. These activities include responding to user requests for assistance, performance monitoring, coordinating with external network service providers, and taking appropriate corrective actions as needed.

NETWORK CONSOLIDATION – the unification of two or more similar networks for the purpose of efficiency in transport or management.

OPERATING BUDGET – funds allocated for ongoing expenses, generally used for such items as salary, maintenance contracts, etc.

PC – personal computer. A single-user computing device that does not necessarily rely on another computer to perform data processing.

PERFORMANCE MEASURE – A quantitative indicator [measure] that can be used to track progress toward an objective

RESEARCH AND DEVELOPMENT – the activities related to evaluation and testing of current and future it products and services, and to the deployment of pilot projects to test the viability of these technologies for the organization. Includes dis semination of relevant information to appropriate parties.

PROJECT MANAGEMENT – those activities related to the oversight and coordination of major technology initiatives.

RFP – Request for Proposals

SECURITY ADMINISTRATION – the activities related to developing, maintaining, and administering the security plan and overall security approach for the organization's host processors, servers, personal computers, communication devices, and networks. Includes detection of intrusions and intrusion attempts, monitoring of network events, operating and maintaining firewalls.

SERVER – a computer which provide shared files, applications, connectivity, or print services to users of a network

SERVER ADMINISTRATION – the activities related to implementing and maintaining network servers. These activities also include administration, account management, and operation of file, print, and application servers and other logical network devices; performance management; tuning; applying operating system patches and upgrades; and administering configuration data.

SHADOW STAFF – non-IT-titled staff who spend 10% or more of their time performing IT support tasks

SITAC – State Information Technology Advisory Committee

STATE AGENCY – every board, commission, department, or agency of the State of North Dakota, whose costs are paid, in whole or in part, from funds held in the State Treasury.

STORAGE MANAGEMENT – the activities related to deploying, upgrading, managing, and maintaining centralized enterprise storage devices and networks. Includes aggregating and consolidating data, applying retention and destruction policies, performance tuning, monitoring and reporting on utilization.

STRATEGIC PLANNING – the activities related to identifying and evaluating the future directions for it application, networks, and hardware for the organization. Includes capacity planning, strategic planning, technology research, and feasibility studies.

SYSTEM – any computer, computer system, computer network, computer program or combination of other data processing or communication device along with the business processes they are intended to support.

SYSTEM SERVICES – those functions related to implementing, maintaining, and supporting the organization's computers, systems software, and connectivity.

TELEPHONE SYSTEMS SUPPORT – the activities related to implementing and maintaining the operational integrity of the organization's voice network. This includes responding to user requests for assistance, administering data associated with the voice network, performance monitoring, coordinating with telecommunications providers, and taking appropriate corrective actions as needed.

TIER 1 – activities related to providing a first point of contact for users to report problems. Includes initial problem resolution, triage, and problem escalation.

TIER 2 – the activities related to maintenance and support of the organization's personal productivity software (e.g., Microsoft office), network applications (e.g., calendar, email, etc.), desktop computers, mobile computing devices (e.g. Laptops, PDAs, etc.), and peripherals.

TRAINING – the activities related to providing technology-related instruction to staff aimed at enhancing their skills, knowledge, and performance. Includes training requirement analysis, course design and development, and training delivery.

WAN – wide area network. A collection of computers and/or computing devices that are connected to permit sharing of resources either with cables or a variety of other non-cabled methods; generally over a large geographic area, such as a city, state, or region.

WORKSTATION ADMINISTRATION – the activities related to the setup, configuration, original installation, and scheduled maintenance of end users' desktop computers and peripherals. Includes installation and configuration of PC operating systems and software, such as personal productivity tools and anti-virus applications. Includes the creation and maintenance of disk images, application of patches and updates, and all scheduled maintenance.

WORKSTATION – single user computing device, such as a PC or terminal

APPENDIX B

IT staffing detail

State of North Dakota
IT Organization & Management Study
January 7, 2004

PTI
Pacific Technologies, Inc.

This appendix contains underlying data and additional charts from our IT staffing analysis, organized as follows:

A. Summary charts

B. Agency-specific COOKS analysis

C. ITD and agency labor costs for IT services

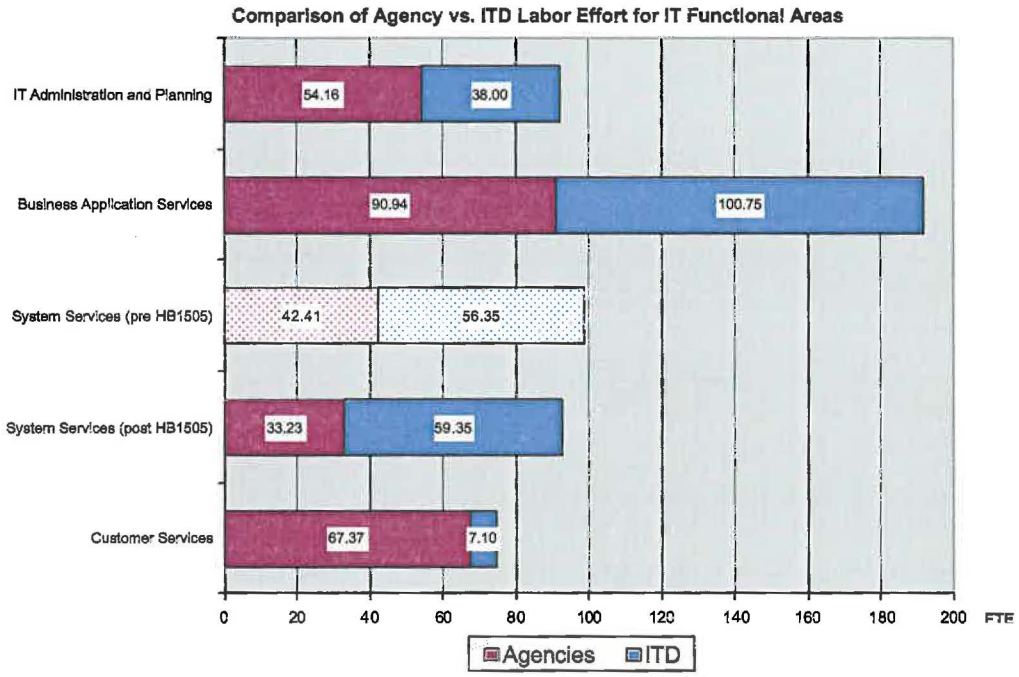
D. Staffing summary sheets

E. Desktop services analysis detail

A. SUMMARY CHARTS

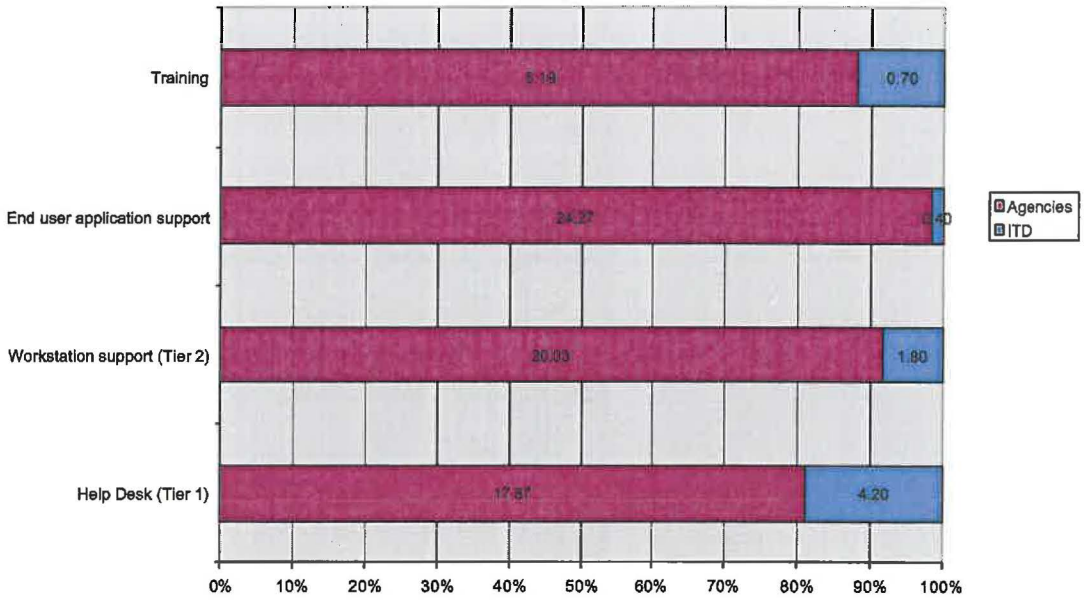
STAFFING ANALYSIS

The following charts summarize some of the key analysis conducted in support of our staffing findings and recommendations.



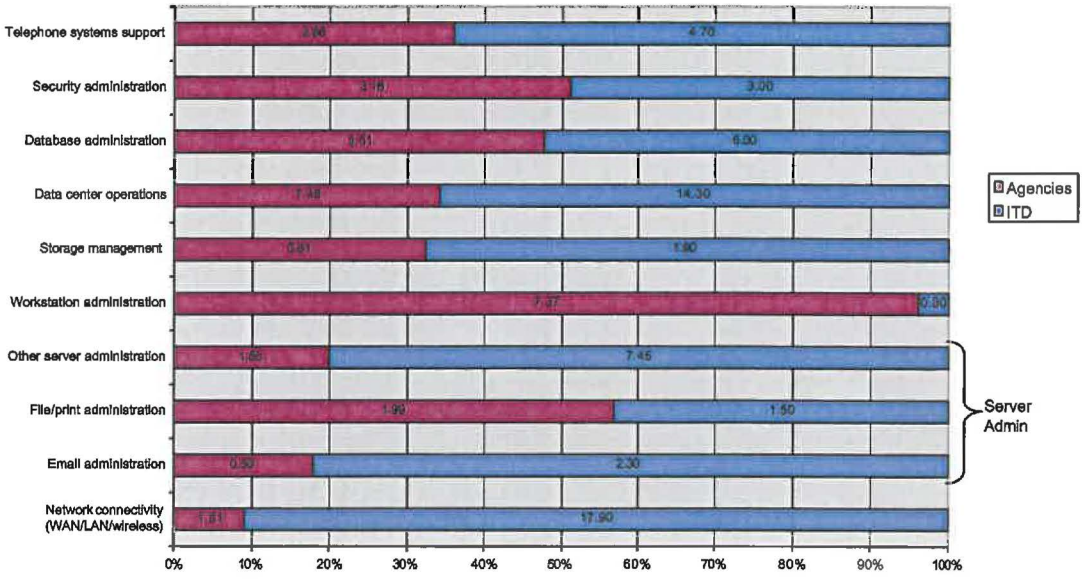
Comparison of Agency vs. ITD Labor Effort for Customer Service Functions

- ITD performs these functions only for itself and the Governer's Office, with the agencies largely providing their own support
- Tier 1 and Tier 2 support does not include 1 FTE of effort provided to the smaller agencies under a contract with the Association of Counties



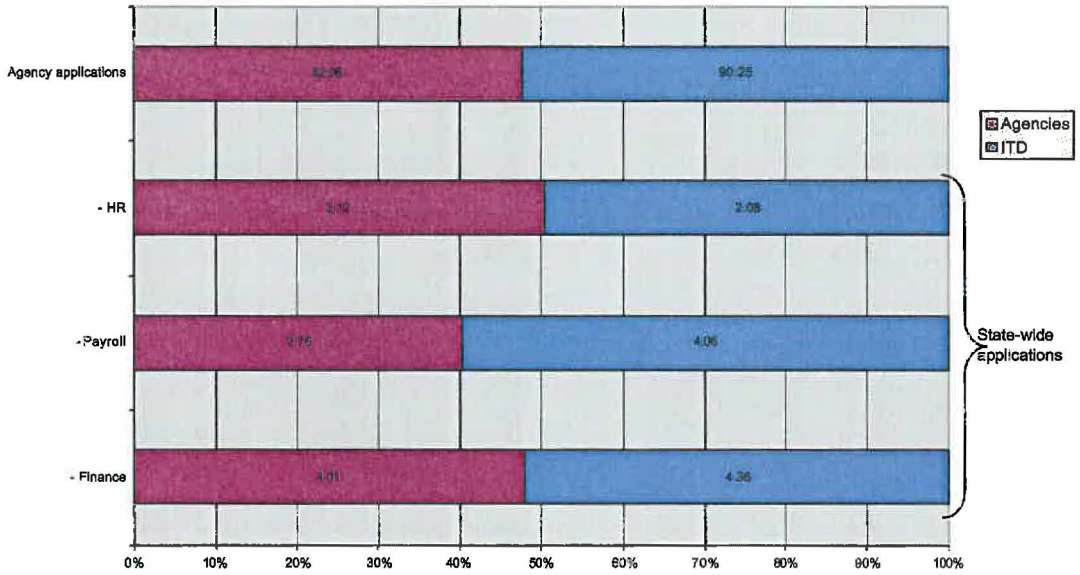
Comparison of Agency vs. ITD Labor Effort for System Services Functions

- Network connectivity and server administration are largely centralized within ITD
- Workstation administration is performed almost exclusively by the agencies, and should be considered part of Customer Service
- The remaining functions are supported by both ITD and the agencies



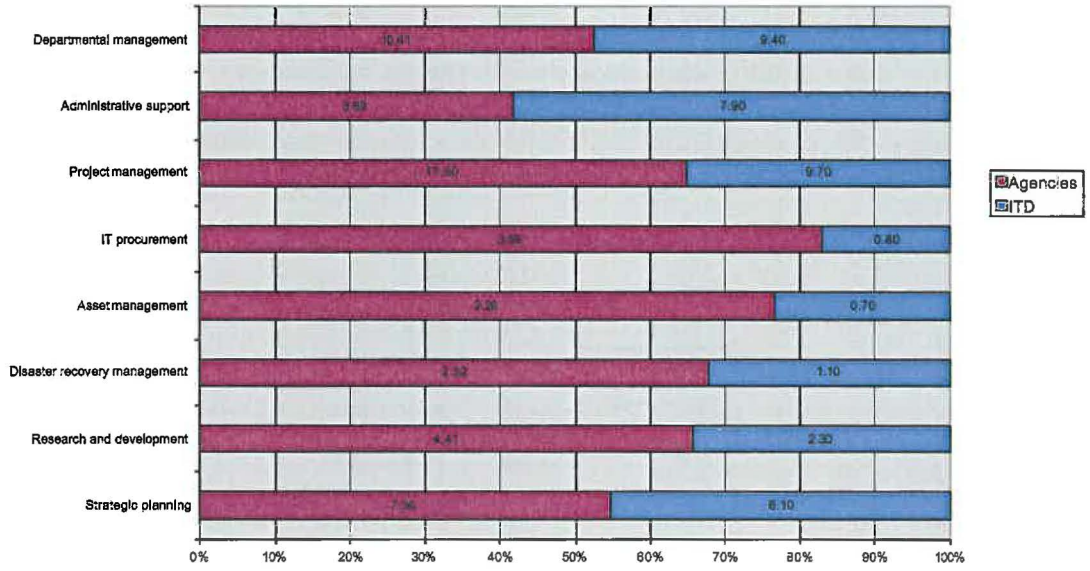
Comparison of Agency vs. ITD Labor Effort for Business Application Services Functions

- Effort is about evenly split between the agencies and ITD for agency-specific application development and maintenance
- This appears to be true for the state-wide applications as well; however virtually all of the "agency" effort comes from OMB



Comparison of Agency vs. ITD Labor Effort for IT Planning & Administration Functions

- IT procurement and asset management are largely performed by the agencies
- Other functions are split between the agencies and ITD



The table on the following page presents the number of staff at each agency that are applying greater than a 50% FTE effort to tier 1 (help desk) support, tier 2 (workstation) support, workstation administration, and server administration.

Count of Staff with >= 50% FTE

Agency	Tier 1 Staff	Tier 1 + Tier 2 + Workstation Admin Staff	Tier 1 + Tier 2 + Workstation Admin + Server Admin Staff
Adjutant General			
Office of Administrative Hearings			
Aeronautics Commission			
Agriculture Department			
Council on the Arts			
Attorney General			
Auditor's Office			
Bank of North Dakota	1	1	1
Department of Commerce			1
Department of Corrections			
Children's Services Coordinating Committee			
Division of Emergency Management			
Department of Financial Institutions			
Game and Fish Department			
Governor			
Department of Health			1
Highway Patrol			
Historical Society			
Housing Finance Agency			1
Department of Human Services		13	14
Indian Affairs Commission			
Industrial Commission			
Information Technology Department	n/a	n/a	n/a
Insurance Commissioner			
Job Service	1	5	5
Judicial Branch	1	1	3
Labor Department			
Land Department			1
Legislative Council			1
State Library			
Office of Management and Budget			1
Mill and Elevator			
School for the Blind			
Parks and Recreation			1
Protection and Advocacy Project			
Public Employees Retirement System			
Department of Public Instruction		2	2
Public Service Commission			
Retirement and Investment Office			
School for the Deaf			
Secretary of State			
Securities Commissioner			
Tax Department			
Department of Transportation	3	5	5
State Treasurer			
Forest Service			
Seed Department			
Department of Veterans Affairs			
Veterans Home			
Vocational and Technical Education Board			
Water Commission			
Workforce Safety and Insurance	1	3	4
Totals	**7**	**30**	**41**

WORKSTATION DISTRIBUTION

The following table provides additional detail about the distribution of workstations across the State. Only locations with ten or more PCs are included.

Workstations Located Outside Bismarck

Location	DHS	DOT	Job Svc.	Industrial	DOCR	TOTALS
Devils Lake	72	38	26		7	143
Dickinson	92	27	23	6	8	156
Fargo	193	59	86		30	368
Grafton	165	4	23		2	194
Grand Forks	150	49	75		11	285
Jamestown	340	13	22		68	443
Mandan					157	157
Minot	132	42	49	5	9	237
Rolla		2	20		4	26
Valley City		27	11			38
Wahpeton		6	14		3	23
Williston	64	33	19	4	5	125
TOTALS	1208	300	368	15	304	2195

The following table presents information regarding the State offices with fewer than ten workstations.

Locations with Fewer than Ten Workstations

	DHS	DOT	Job Svc.	Industrial	DOCR	TOTALS
Total PC's in locations with fewer than 10 workstations	0	185	17	15	43	260
Percentage of Agency's total workstations located outside Bismarck	0%	62%	5%	100%	14%	12%

B. AGENCY-SPECIFIC COOKS ANALYSIS

The chart below presents additional COOKS analysis and commentary for those agencies with 4 or more IT staff.

Agency Cooks Analysis

Agency	IT FTE total	Overall Round COOKS
Department of Public Instruction	7.70	0.30
Tax Department	4.51	0.40
Highway Patrol	4.00	0.80
Bank of North Dakota	26.81	1.48
Legislative Council	5.60	1.37
Department of Corrections	4.00	1.50
Workforce Safety and Insurance	22.42	1.70
Office of Management and Budget	19.49	2.88
Attorney General	8.00	3.35
Secretary of State	4.61	3.58
Department of Health	7.85	3.65
Judicial Branch	9.00	2.14
Information Technology Department	205.20	4.69
Job Service	28.75	5.17
Department of Human Services	35.00	4.88
Department of Transportation	29.85	7.86

"COOKS" measures the excess count of individuals beyond the FTE effort level required for a particular function. For example, an agency might have 5.5 FTE of server administration performed by 8 staff. Because a minimum of 6 individuals could do the work, the COOKS number would be 2.

This number is not meaningful for very small IT organizations. We present the average number here for ND agencies with 4 or more IT FTE, including shadow staff.

Discussion of each agency with an average COOKS number greater than 2 follows.

Discussion			
Office of Management and Budget	**19.49**	**2.88**	Has only 2 IT staff, relies heavily on shadow staff for most IT support functions
Attorney General	**8.00**	**3.35**	Largely due to allocation of IT staff for agency applications and end-user application support
Secretary of State	**4.61**	**3.58**	Has no IT staff, relies on 8 shadow staff for all IT support except development of agency applications
Department of Health	**7.85**	**3.65**	The department has chosen to distribute most IT functions very broadly across IT staff
Judicial Branch	**9.00**	**2.14**	Again, COOKS numbers are relatively high for most functions
Information Technology Department	**205.20**	**4.69**	Given the large size of this department, COOKS numbers are low with the exception of the following IT planning and administrative functions:
Strategic planning	6.10	19	
Project management	9.70	15	
Administrative support	7.90	16	
Departmental management	9.40	22	
Job Service	**28.75**	**5.17**	This department has 14 shadow staff, mostly at the field offices, who perform small amounts of customer service functions
Help Desk (Tier 1)	2.73	19	
Workstation support (Tier 2)	2.39	17	
End user application support	2.00	17	
Training	0.39	10	
Department of Human Services	**35.00**	**4.88**	DHS has chosen to distribute customer service and IT procurement functions widely across its IT staff
Help Desk (Tier 1)	6.00	21	
Workstation support (Tier 2)	6.95	8	
End user application support	11.25	15	
Training	0.40	7	
IT procurement	0.80	13	
Department of Transportation	**29.85**	**7.86**	This agency has chosen to distrubute nearly every IT function it performs across multiple staff

C. ITD AND AGENCY LABOR COSTS FOR IT SERVICES

This section presents additional analysis regarding ITD and agency labor costs for certain IT services. Our first chart looks at mainframe hosting service, also know as data center operations.

Data Center Operations Labor Costs

	Data Center Ops		
Agency	DCO FTE	DCO labor cost	DCO cost per FTE
TOTALS: 23 agencies w/o DCO staff	0.00	$0	$0
TOTALS: agencies with < 0.25 FTE DCO staff	0.70	$42,439	$60,628
TOTALS agencies with >0.25 FTE DCO staff	6.76	$354,388	$52,419
Information Technology Department	14.30	$731,900	$51,182
TOTAL	21.76	$1,128,727	$51,870

Many agencies reported no data center operations (DCO) staff to support their distributed hosting requirements. Only three agencies reported any significant levels of DCO staff.

Conclusions:

1) Data Center Operations is already largely centralized in the state.

2) DCO costs at Job Service and BND reflect their use of proprietary platforms to run key agency applications.

3) OMB's DCO costs are high due to its reliance on shadow staff to perform this function.

4) ITD's DCO costs are largely a function of operating its IBM mainframe environment.

Our next chart analyzes storage management services.

Storage Management Labor Costs

Agency	Storage Management		
	Storage Mgt. FTE	Storage Mgt. labor $	Cost per FTE
TOTALS: 24 agencies with 0 FTE	**0.00**	**$0**	**$0**
TOTALS: agencies with <0.10 FTE	**0.36**	**$21,244**	**$59,012**
Water Commission	0.10	$6,182	$61,822
Workforce Safety and Insurance	0.10	$7,833	$78,333
Job Service	0.35	$17,042	$48,691
TOTALS: agencies with >0.10 FTE	**0.55**	**$31,057**	**$56,468**
Information Technology Department	**1.90**	**$148,000**	**$77,895**
TOTAL	2.81	$200,302	$71,282

Many agencies report no storage management labor at all, and only 3 of them report greater than 0.10 FTE.

Conclusions:
1) Storage management is fairly centralized at the state.
2) ITD has a higher labor cost per FTE to provide this service than the agencies.
3) Given the low overall labor effort assigned to this function, decisions around consolidation will have little overall labor cost impact.

This final chart takes a look at disaster recovery management.

Disaster Recovery Management Labor Costs

	Disaster Recovery Management		
Agency	DRM FTE	DRM labor cost	DRM cost per FTE
TOTALS: 11 agencies with 0 DRM staff	**0.00**	**$0**	**$0**
TOTALS: agencies with < 0.10 FTE DRM staff	**0.66**	**$41,982**	**$64,094**
Bank of North Dakota	0.10	$7,089	$70,890
Housing Finance Agency	0.10	$5,607	$56,067
Water Commission	0.13	$7,576	$58,280
Judicial Branch	0.15	$9,264	$61,759
Attorney General	0.18	$9,379	$52,108
Office of Management and Budget	0.18	$9,245	$51,360
Workforce Safety and Insurance	0.30	$23,292	$77,641
Department of Transportation	0.50	$36,215	$72,430
TOTALS: agencies with > 0.10 FTE DRM staff	**1.64**	**$107,667**	**$65,651**
Information Technology Department	**1.10**	**$76,800**	**$69,818**
TOTAL	**1.76**	**$149,649**	**$85,270**

Several agencies reported no labor assigned to IT disaster recovery management (DRM) and only eight agencies reported more than 0.10 FTE.

Conclusions:
1) Agencies do not devote much labor effort to DRM.
2) Cost per FTE at the agencies is somewhat higher for this function than most others, in large part because it appears to be done by senior staff.

D. STAFFING SUMMARY SHEETS

The remainder of this appendix presents summary sheets for each participating agency.

Some small agencies which responded have no IT staff, and have no one person who spends more than 10% of his or her time on IT support. These agencies, exempted from the analysis, were:

- Children's Services Coordinating Committee
- Department of Financial Institutions
- Labor Department

The Office of the Adjutant General was exempted because their computer systems are under military control. Higher Education was exempted because they could not provide data in a timely manner, and because they will likely do a similar consolidation study on their own.

We did not receive responses from the following agencies:

Agency	2003-05 Budget FTE
Veterans Home	89
Auditor's Office	55
School for the Deaf	51
Seed Department	32
State Library	29
Protection and Advocacy Project	24
Governor	18
Forest Service	18
Securities Commissioner	8
Aeronautics Commission	6
State Treasurer	6
Department of Veterans Affairs	5

Summary staffing information for the remaining agencies is presented on the following pages.

Agriculture

IT Functions	FTE	Cost
Customer Services		
Help Desk (Tier 1)	0.10	$ 4,462
Workstation support (Tier 2)	0.09	$ 4,015
End user application support	0.10	$ 4,462
Training	0.05	$ 2,231
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.05	$ 2,231
File/print administration	0.10	$ 4,462
Other server administration	0.00	$ -
Workstation administration	0.10	$ 4,462
Storage management	0.00	$ -
Data center operations	0.01	$ 446
Database administration	0.14	$ 13,115
Security administration	0.02	$ 892
Telephone systems support	0.05	$ 2,231
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.01	$ 446
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.00	$ -
IT Administration and Planning		
Strategic planning	0.01	$ 446
Research and development	0.03	$ 1,338
Disaster recovery management	0.01	$ 446
Asset management	0.03	$ 1,338
IT procurement	0.05	$ 2,231
Project management	0.05	$ 2,231
Administrative support	0.05	$ 2,231
Departmental management	0.00	$ -

Ttl FTE	1.05
Ttl burdened cost	$ 53,715
Average unit cost	$ 51,157
Average JOAT	10

Arts Council

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.05	$ 1,198
Workstation support (Tier 2)	0.02	$ 479
End user application support	0.00	$ -
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.02	$ 479
Storage management	0.02	$ 479
Data center operations	0.02	$ 479
Database administration	0.02	$ 479
Security administration	0.00	$ -
Telephone systems support	0.01	$ 240
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.65	$ 16,639
IT Administration and Planning		
Strategic planning	0.01	$ 240
Research and development	0.00	$ -
Disaster recovery management	0.00	$ -
Asset management	0.00	$ -
IT procurement	0.01	$ 240
Project management	0.00	$ -
Administrative support	0.00	$ -
Departmental management	0.00	$ -

Ttl FTE	0.83
Ttl burdened cost	$20,952
Average unit cost	$ 25,243
Average JOAT	6

Attorney General

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.27	$ 10,264
Workstation support (Tier 2)	0.38	$ 17,094
End user application support	0.75	$ 34,265
Training	0.12	$ 5,120
System Services		
Network connectivity (WAN/LAN/wireless)	0.15	$ 6,961
Server administration:		
Email administration	0.05	$ 2,188
File/print administration	0.20	$ 9,446
Other server administration	0.08	$ 3,996
Workstation administration	0.14	$ 6,358
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.06	$ 2,923
Security administration	0.23	$ 10,726
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	3.95	$ 182,187
IT Administration and Planning		
Strategic planning	0.22	$ 14,426
Research and development	0.24	$ 13,846
Disaster recovery management	0.18	$ 9,379
Asset management	0.19	$ 9,190
IT procurement	0.11	$ 6,678
Project management	0.40	$ 25,832
Administrative support	0.02	$ 743
Departmental management	0.26	$ 16,998

Ttl FTE	8.00
Ttl Burdened cost	$388,620
Average unit cost	$ 48,578
Average JOAT	8

Bank of North Dakota

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.30	$ 11,141
Workstation support (Tier 2)	0.70	$ 29,893
End user application support	0.70	$ 29,893
Training	0.10	$ 4,644
System Services		
Network connectivity (WAN/LAN/wireless)	0.20	$ 10,125
Server administration:		
Email administration	0.00	$ -
File/print administration	0.30	$ 14,392
Other server administration	0.15	$ 7,788
Workstation administration	0.20	$ 8,185
Storage management	0.00	$ -
Data center operations	2.00	$ 81,238
Database administration	0.00	$ -
Security administration	0.70	$ 47,093
Telephone systems support	0.11	$ 3,595
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.05	$ 3,039
- Payroll	0.10	$ 6,077
- HR	0.05	$ 3,039
Agency applications	15.25	$ 813,749
IT Administration and Planning		
Strategic planning	0.15	$ 11,633
Research and development	0.40	$ 21,481
Disaster recovery management	0.10	$ 7,089
Asset management	0.10	$ 3,714
IT procurement	0.10	$ 5,450
Project management	2.25	$ 266,842
Administrative support	1.00	$ 31,884
Departmental management	1.80	$ 121,922

Ttl FTE	26.81
Ttl Burdened cost	$1,543,904
Average unit cost	$ 57,587
Average JOAT	2

Commerce

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.15	$ 7,304
Workstation support (Tier 2)	0.20	$ 10,008
End user application support	0.20	$ 9,806
Training	0.02	$ 1,001
System Services		
Network connectivity (WAN/LAN/wireless)	0.01	$ 500
Server administration:		
Email administration	0.00	$ -
File/print administration	0.05	$ 2,502
Other server administration	0.01	$ 1,800
Workstation administration	0.30	$ 15,012
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.40	$ 23,102
Security administration	0.05	$ 2,502
Telephone systems support	0.05	$ 2,502
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.26	$ 20,154
IT Administration and Planning		
Strategic planning	0.10	$ 5,309
Research and development	0.05	$ 2,300
Disaster recovery management	0.01	$ 500
Asset management	0.02	$ 1,001
IT procurement	0.03	$ 1,501
Project management	0.20	$ 9,353
Administrative support	0.10	$ 5,309
Departmental management	0.20	$ 11,327

Ttl FTE	2.41
Ttl burdened cost	$ 132,793
Average unit cost	$ 55,101
Average JOAT	5

Corrections

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	1.19	$ 99,205
Workstation support (Tier 2)	0.12	$ 11,795
End user application support	0.96	$ 77,242
Training	0.14	$ 14,568
System Services		
Network connectivity (WAN/LAN/wireless)	0.16	$ 14,788
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.00	$ -
Storage management	0.03	$ 2,778
Data center operations	0.13	$ 12,277
Database administration	0.05	$ 7,059
Security administration	0.07	$ 7,309
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.35	$ 38,401
IT Administration and Planning		
Strategic planning	0.05	$ 7,059
Research and development	0.07	$ 9,139
Disaster recovery management	0.06	$ 8,099
Asset management	0.11	$ 12,065
IT procurement	0.05	$ 7,059
Project management	0.03	$ 4,235
Administrative support	0.23	$ 30,160
Departmental management	0.20	$ 28,236

Ttl FTE	4
Ttl burdened cost	$391,473
Average unit cost	$97,868
Average JOAT	14

Emergency Management

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.10	$ 4,605
Workstation support (Tier 2)	0.10	$ 4,605
End user application support	0.10	$ 4,605
Training	0.05	$ 2,303
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.00	$ -
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.00	$ -
Telephone systems support	0.03	$ 1,382
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.00	$ -
IT Administration and Planning		
Strategic planning	0.01	$ 461
Research and development	0.00	$ -
Disaster recovery management	0.01	$ 461
Asset management	0.01	$ 461
IT procurement	0.02	$ 921
Project management	0.00	$ -
Administrative support	0.01	$ 461
Departmental management	0.01	$ 461

Ttl FTE	0.45
Ttl burdened cost	$20,723
Average unit cost	$46,052
Average JOAT	11

Game & Fish

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.25	$ 13,325
Workstation support (Tier 2)	0.00	$ -
End user application support	0.30	$ 16,050
Training	0.10	$ 5,375
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.10	$ 5,375
Other server administration	0.00	$ -
Workstation administration	0.20	$ 10,600
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.10	$ 5,300
Telephone systems support	0.10	$ 5,300
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.00	$ -
IT Administration and Planning		
Strategic planning	0.09	$ 4,905
Research and development	0.05	$ 2,725
Disaster recovery management	0.01	$ 545
Asset management	0.01	$ 545
IT procurement	0.17	$ 9,265
Project management	0.40	$ 21,725
Administrative support	0.12	$ 6,465
Departmental management	0.00	$ -

Ttl FTE	2
Ttl burdened cost	$107,500
Average unit cost	$53,750
Average JOAT	10

Health

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.46	$ 22,532
Workstation support (Tier 2)	0.97	$ 49,981
End user application support	1.32	$ 68,632
Training	0.56	$ 28,480
System Services		
Network connectivity (WAN/LAN/wireless)	0.04	$ 2,093
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.24	$ 11,816
Workstation administration	0.45	$ 22,705
Storage management	0.06	$ 3,107
Data center operations	0.02	$ 975
Database administration	0.35	$ 18,313
Security administration	0.07	$ 3,645
Telephone systems support	0.01	$ 495
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	1.59	$ 88,700
IT Administration and Planning		
Strategic planning	0.63	$ 35,663
Research and development	0.07	$ 3,450
Disaster recovery management	0.07	$ 3,668
Asset management	0.07	$ 3,563
IT procurement	0.10	$ 5,138
Project management	0.62	$ 33,226
Administrative support	0.00	$ -
Departmental management	0.15	$ 9,005

Ttl FTE	7.85
Ttl burdened cost	$ 415,188
Average unit cost	$ 52,890
Average JOAT	8

Highway Patrol

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.15	$ 7,271
Workstation support (Tier 2)	0.60	$ 28,816
End user application support	0.40	$ 20,853
Training	0.20	$ 10,033
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.25	$ 12,215
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.05	$ 2,508
Telephone systems support	0.05	$ 2,424
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	1.25	$ 61,445
IT Administration and Planning		
Strategic planning	0.20	$ 12,283
Research and development	0.04	$ 2,232
Disaster recovery management	0.02	$ 1,003
Asset management	0.13	$ 6,690
IT procurement	0.06	$ 3,572
Project management	0.35	$ 20,370
Administrative support	0.00	$ -
Departmental management	0.25	$ 15,354

FTE Sum	4
Burdened cost	$207,068
Average unit cost	$51,767
Average JOAT	9

Historical Society

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.00	$ -
Workstation support (Tier 2)	0.10	$ 4,811
End user application support	0.00	$ -
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.00	$ -
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.00	$ -
Telephone systems support	0.05	$ 2,406
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.00	$ -
IT Administration and Planning		
Strategic planning	0.00	$ -
Research and development	0.00	$ -
Disaster recovery management	0.00	$ -
Asset management	0.00	$ -
IT procurement	0.00	$ -
Project management	0.00	$ -
Administrative support	0.00	$ -
Departmental management	0.00	$ -

Ttl FTE	0.15
Ttl burdened cost	$7,217
Average unit cost	$48,113
Average JOAT	2

Housing

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.05	$ 2,803
Workstation support (Tier 2)	0.10	$ 5,776
End user application support	0.65	$ 37,119
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.02	$ 1,121
File/print administration	0.02	$ 1,121
Other server administration	0.08	$ 4,485
Workstation administration	0.00	$ -
Storage management	0.06	$ 3,364
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.02	$ 1,121
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.75	$ 44,583
IT Administration and Planning		
Strategic planning	0.10	$ 5,607
Research and development	0.01	$ 561
Disaster recovery management	0.10	$ 5,607
Asset management	0.01	$ 561
IT procurement	0.03	$ 1,682
Project management	0.00	$ -
Administrative support	0.00	$ -
Departmental management	0.00	$ -

Ttl FTE	2
Ttl burdened cost	$115,511
Average unit cost	$57,756
Average JOAT	2

Human Services

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	6.00	$ 282,145
Workstation support (Tier 2)	6.95	$ 316,027
End user application support	11.25	$ 479,330
Training	0.40	$ 20,726
System Services		
Network connectivity (WAN/LAN/wireless)	0.10	$ 5,306
Server administration:		
Email administration	0.00	$ -
File/print administration	0.30	$ 15,919
Other server administration	0.05	$ 2,653
Workstation administration	0.00	$ -
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.15	$ 7,960
Telephone systems support	0.05	$ 2,391
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	2.30	$ 117,378
IT Administration and Planning		
Strategic planning	0.55	$ 39,613
Research and development	0.10	$ 5,371
Disaster recovery management	0.00	$ -
Asset management	0.10	$ 5,109
IT procurement	0.80	$ 37,711
Project management	3.70	$ 223,501
Administrative support	0.90	$ 28,335
Departmental management	1.30	$ 91,622

Ttl FTE	35.00
Ttl burdened cost	$1,681,098
Average unit cost	$ 48,031
Average JOAT	4

Indian Affairs

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.02	$ 878
Workstation support (Tier 2)	0.07	$ 3,074
End user application support	0.05	$ 2,195
Training	0.01	$ 439
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.05	$ 2,195
Storage management	0.01	$ 439
Data center operations	0.01	$ 439
Database administration	0.00	$ -
Security administration	0.01	$ 439
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.00	$ -
IT Administration and Planning		
Strategic planning	0.01	$ 439
Research and development	0.01	$ 439
Disaster recovery management	0.01	$ 439
Asset management	0.01	$ 439
IT procurement	0.01	$ 439
Project management	0.01	$ 439
Administrative support	0.01	$ 439
Departmental management	0.03	$ 1,317

Ttl FTE	0.33
Ttl burdened cost	$14,490
Average unit cost	$43,909
Average JOAT	16

Industrial & Commercial

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.20	$ 10,132
Workstation support (Tier 2)	0.12	$ 5,371
End user application support	0.26	$ 12,817
Training	0.25	$ 11,186
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.18	$ 8,767
Storage management	0.04	$ 1,789
Data center operations	0.03	$ 1,341
Database administration	0.05	$ 2,234
Security administration	0.10	$ 4,946
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.93	$ 53,430
IT Administration and Planning		
Strategic planning	0.08	$ 3,577
Research and development	0.27	$ 14,441
Disaster recovery management	0.07	$ 3,368
Asset management	0.03	$ 1,343
IT procurement	0.05	$ 2,237
Project management	0.23	$ 13,841
Administrative support	0.02	$ 895
Departmental management	0.09	$ 6,158

Ttl FTE	3.00
Ttl burdened cost	$ 157,871
Average unit cost	$ 52,624
Average JOAT	12

Information Technology

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	4.20	$ 236,600
Workstation support (Tier 2)	1.80	$ 108,000
End user application support	0.40	$ 24,750
Training	0.70	$ 41,400
System Services		
Network connectivity (WAN/LAN/wireless)	17.90	$ 1,109,500
Server administration:		
Email administration	2.30	$ 157,600
File/print administration	1.50	$ 91,500
Other server administration	7.45	$ 492,875
Workstation administration	0.30	$ 18,200
Storage management	1.90	$ 148,000
Data center operations	14.30	$ 731,900
Database administration	6.00	$ 418,500
Security administration	3.00	$ 213,500
Telephone systems support	4.70	$ 244,200
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	4.36	$ 270,335
- Payroll	4.06	$ 251,935
- HR	2.08	$ 132,230
Agency applications	90.25	$ 5,624,325
IT Administration and Planning		
Strategic planning	6.10	$ 540,250
Research and development	2.30	$ 183,150
Disaster recovery management	1.10	$ 76,800
Asset management	0.70	$ 42,700
IT procurement	0.80	$ 47,700
Project management	9.70	$ 739,900
Administrative support	7.90	$ 446,900
Departmental management	9.40	$ 740,850

Ttl FTE	205.20
Ttl burdened cost	$ 13,133,600
Average unit cost	$ 64,004
Average JOAT	2

Job Services

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	2.73	$ 117,966
Workstation support (Tier 2)	2.39	$ 105,321
End user application support	2.00	$ 92,285
Training	0.39	$ 16,478
System Services		
Network connectivity (WAN/LAN/wireless)	0.13	$ 7,509
Server administration:		
Email administration	0.00	$ -
File/print administration	0.03	$ 1,861
Other server administration	0.10	$ 7,434
Workstation administration	0.50	$ 24,471
Storage management	0.35	$ 17,042
Data center operations	2.51	$ 103,632
Database administration	1.85	$ 115,511
Security administration	0.30	$ 16,511
Telephone systems support	0.99	$ 41,152
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.28	$ 17,182
- HR	0.00	$ -
Agency applications	8.59	$ 490,954
IT Administration and Planning		
Strategic planning	1.15	$ 81,427
Research and development	0.05	$ 3,856
Disaster recovery management	0.05	$ 3,325
Asset management	0.09	$ 6,298
IT procurement	0.24	$ 14,214
Project management	2.64	$ 179,082
Administrative support	0.40	$ 14,670
Departmental management	0.99	$ 65,738

Ttl FTE	28.75
Ttl burdened cost	$1,543,920
Average unit cost	$53,702
Average JOAT	4

Judicial

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	1.15	$ 46,281
Workstation support (Tier 2)	0.63	$ 28,509
End user application support	1.14	$ 55,422
Training	0.65	$ 25,142
System Services	0	$ -
Network connectivity (WAN/LAN/wireless)	0.15	$ 8,436
Server administration:		
Email administration	0.16	$ 9,012
File/print administration	0.23	$ 13,004
Other server administration	0.22	$ 12,470
Workstation administration	0.23	$ 12,921
Storage management	0.07	$ 3,987
Data center operations	0.21	$ 11,810
Database administration	0.05	$ 2,764
Security administration	0.05	$ 2,882
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	2.44	$ 131,731
IT Administration and Planning		
Strategic planning	0.27	$ 18,409
Research and development	0.29	$ 16,641
Disaster recovery management	0.15	$ 9,264
Asset management	0.02	$ 1,400
IT procurement	0.10	$ 6,174
Project management	0.39	$ 25,095
Administrative support	0.10	$ 7,002
Departmental management	0.30	$ 20,268

Ttl FTE	9
Ttl burdened cost	$468,623
Average unit cost	$52,063
Average JOAT	8

Land

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.03	$ 928
Workstation support (Tier 2)	0.07	$ 2,164
End user application support	0.20	$ 6,436
Training	0.02	$ 618
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.06	$ 1,855
Other server administration	0.00	$ -
Workstation administration	0.10	$ 3,092
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.12	$ 3,962
Security administration	0.10	$ 3,092
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.70	$ 25,176
IT Administration and Planning		
Strategic planning	0.11	$ 3,906
Research and development	0.10	$ 3,597
Disaster recovery management	0.00	$ -
Asset management	0.07	$ 2,164
IT procurement	0.02	$ 618
Project management	0.00	$ -
Administrative support	0.00	$ -
Departmental management	0.00	$ -

Ttl FTE	1.7
Ttl burdened cost	$57,607
Average unit cost	$33,886
Average JOAT	8

Legislative

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.41	$ 22,609
Workstation support (Tier 2)	0.28	$ 15,235
End user application support	0.30	$ 16,924
Training	0.57	$ 35,131
System Services		
Network connectivity (WAN/LAN/wireless)	0.05	$ 2,470
Server administration:		
Email administration	0.06	$ 3,064
File/print administration	0.06	$ 3,064
Other server administration	0.06	$ 3,064
Workstation administration	0.26	$ 13,495
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.06	$ 3,064
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	2.60	$ 273,805
IT Administration and Planning		
Strategic planning	0.16	$ 11,928
Research and development	0.12	$ 7,385
Disaster recovery management	0.06	$ 4,019
Asset management	0.10	$ 6,197
IT procurement	0.15	$ 10,476
Project management	0.10	$ 7,455
Administrative support	0.10	$ 6,749
Departmental management	0.10	$ 7,455

Ttl FTE	5.60
Ttl burdened cost	$ 453,586
Average unit cost	$ 81,062
Average JOAT	5

Mill

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.05	$ 3,930
Workstation support (Tier 2)	0.10	$ 7,860
End user application support	0.05	$ 3,930
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.01	$ 786
Server administration:		
Email administration	0.01	$ 786
File/print administration	0.01	$ 786
Other server administration	0.03	$ 2,358
Workstation administration	0.05	$ 3,930
Storage management	0.05	$ 3,930
Data center operations	0.04	$ 3,144
Database administration	0.13	$ 9,330
Security administration	0.05	$ 3,930
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.40	$ 29,460
IT Administration and Planning		
Strategic planning	0.05	$ 3,930
Research and development	0.05	$ 3,930
Disaster recovery management	0.05	$ 3,930
Asset management	0.05	$ 3,930
IT procurement	0.05	$ 3,930
Project management	0.05	$ 3,930
Administrative support	0.05	$ 3,930
Departmental management	0.05	$ 3,930

Ttl FTE	1.38
Ttl burdened cost	$ 105,600
Average unit cost	$ 76,800
Average JOAT	12

Office of Management and Budget

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.27	$ 10,759
Workstation support (Tier 2)	0.40	$ 16,019
End user application support	0.45	$ 17,639
Training	0.10	$ 4,074
System Services		
Network connectivity (WAN/LAN/wireless)	0.25	$ 13,365
Server administration:		
Email administration	0.07	$ 2,740
File/print administration	0.08	$ 3,185
Other server administration	0.00	$ -
Workstation administration	0.26	$ 10,370
Storage management	0.00	$ -
Data center operations	2.25	$ 169,517
Database administration	0.00	$ -
Security administration	0.02	$ 759
Telephone systems support	0.24	$ 12,370
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	3.87	$ 224,866
- Payroll	2.35	$ 108,164
- HR	2.00	$ 138,268
Agency applications	3.65	$ 205,278
IT Administration and Planning		
Strategic planning	0.28	$ 16,916
Research and development	0.23	$ 14,920
Disaster recovery management	0.18	$ 9,245
Asset management	0.15	$ 6,297
IT procurement	0.28	$ 15,784
Project management	0.45	$ 36,448
Administrative support	1.10	$ 31,134
Departmental management	0.56	$ 35,313

Ttl FTE	19.49
Ttl burdened cost	$ 1,103,430
Average unit cost	$ 56,610
Overall Average JOAT	2

Parks and Recreation

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.13	$ 5,295
Workstation support (Tier 2)	0.40	$ 16,371
End user application support	0.08	$ 3,274
Training	0.05	$ 2,046
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.05	$ 2,046
Other server administration	0.00	$ -
Workstation administration	0.15	$ 6,139
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.01	$ 409
Telephone systems support	0.13	$ 5,254
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.25	$ 12,019
IT Administration and Planning		
Strategic planning	0.03	$ 1,376
Research and development	0.02	$ 819
Disaster recovery management	0.04	$ 1,933
Asset management	0.02	$ 819
IT procurement	0.02	$ 614
Project management	0.07	$ 3,161
Administrative support	0.02	$ 808
Departmental management	0.13	$ 6,799

Ttl FTE	1.60
Ttl burdened cost	$ 69,182
Average unit cost	$ 43,374
Average JOAT	6

Public Instruction

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.10	$ 4,418
Workstation support (Tier 2)	1.00	$ 43,692
End user application support	0.70	$ 29,927
Training	0.50	$ 21,090
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.00	$ -
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.00	$ -
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	4.00	$ 295,592
IT Administration and Planning		
Strategic planning	0.10	$ 7,037
Research and development	0.00	$ -
Disaster recovery management	0.00	$ -
Asset management	0.10	$ 4,418
IT procurement	0.10	$ 4,418
Project management	0.30	$ 17,357
Administrative support	0.00	$ -
Departmental management	0.80	$ 56,294

Ttl FTE	7.70
Ttl burdened cost	$ 484,244
Average unit cost	$ 62,889
Average JOAT	2

Public Service Commission

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.05	$ 2,746
Workstation support (Tier 2)	0.02	$ 1,370
End user application support	0.20	$ 11,663
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.01	$ 685
Server administration:		
Email administration	0.01	$ 685
File/print administration	0.10	$ 6,849
Other server administration	0.01	$ 685
Workstation administration	0.10	$ 6,849
Storage management	0.01	$ 685
Data center operations	0.00	$ -
Database administration	0.03	$ 1,783
Security administration	0.02	$ 1,370
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.80	$ 44,211
IT Administration and Planning		
Strategic planning	0.15	$ 10,274
Research and development	0.12	$ 8,219
Disaster recovery management	0.05	$ 3,425
Asset management	0.02	$ 1,370
IT procurement	0.05	$ 3,425
Project management	0.10	$ 6,849
Administrative support	0.05	$ 3,425
Departmental management	0.10	$ 6,849

Ttl FTE	2.00
Ttl Burdened cost	$ 123,415
Average unit cost	$ 61,708
Average JOAT	12

Public Employees Retirement System

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.08	$ 3,875
Workstation support (Tier 2)	0.10	$ 4,873
End user application support	0.15	$ 7,368
Training	0.00	$ 129
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.07	$ 3,224
Other server administration	0.05	$ 2,495
Workstation administration	0.12	$ 5,993
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.06	$ 3,019
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.86	$ 41,144
IT Administration and Planning		
Strategic planning	0.08	$ 3,977
Research and development	0.52	$ 24,498
Disaster recovery management	0.05	$ 2,380
Asset management	0.03	$ 1,452
IT procurement	0.06	$ 2,879
Project management	0.57	$ 27,543
Administrative support	0.10	$ 5,240
Departmental management	0.10	$ 5,240

Ttl FTE	3.00
Ttl Burdened cost	$ 145,329
Average unit cost	$ 48,395
Average JOAT	14

Retirement and Investment Office

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.04	$ 2,061.84
Workstation support (Tier 2)	0.02	$ 1,030.92
End user application support	0.06	$ 3,007.98
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.01	$ 557.85
Server administration:		
Email administration	0.00	$ -
File/print administration	0.03	$ 1,588.76
Other server administration	0.01	$ 557.85
Workstation administration	0.04	$ 2,061.84
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.02	$ 1,030.92
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	1.55	$79,260.30
IT Administration and Planning		
Strategic planning	0.08	$ 4,293.22
Research and development	0.03	$ 1,673.54
Disaster recovery management	0.02	$ 1,115.69
Asset management	0.01	$ 557.85
IT procurement	0.01	$ 557.85
Project management	0.00	$ -
Administrative support	0.02	$ 946.14
Departmental management	0.05	$ 2,789.23

Ttl FTE	2.00
Ttl Burdened cost	$ 103,092
Average unit cost	$ 51,546
Average JOAT	12

School for the Blind

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.05	$ 2,400
Workstation support (Tier 2)	0.00	$ -
End user application support	0.00	$ -
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.02	$ 960
Server administration:		
Email administration	0.02	$ 960
File/print administration	0.02	$ 960
Other server administration	0.04	$ 1,920
Workstation administration	0.50	$ 20,100
Storage management	0.00	$ -
Data center operations	0.05	$ 2,400
Database administration	0.15	$ 7,200
Security administration	0.05	$ 2,400
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.00	$ -
IT Administration and Planning		
Strategic planning	0.05	$ 2,400
Research and development	0.00	$ -
Disaster recovery management	0.00	$ -
Asset management	0.00	$ -
IT procurement	0.00	$ -
Project management	0.00	$ -
Administrative support	0.05	$ 1,750
Departmental management	0.05	$ 2,400

Ttl FTE	1.05
Ttl burdened cost	$ 45,850
Average unit cost	$ 43,667
Average JOAT	7

Transportation

IT Functions	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	2.39	$ 114,401
Workstation support (Tier 2)	3.00	$ 157,686
End user application support	0.39	$ 22,204
Training	0.35	$ 19,341
System Services		
Network connectivity (WAN/LAN/wireless)	0.45	$ 25,145
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	1.90	$ 95,829
Storage management	0.01	$ 686
Data center operations	0.00	$ -
Database administration	0.83	$ 45,447
Security administration	0.13	$ 8,326
Telephone systems support	0.65	$ 32,623
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.08	$ 5,297
- Payroll	0.02	$ 1,196
- HR	0.07	$ 4,414
Agency applications	9.30	$ 524,497
IT Administration and Planning		
Strategic planning	1.42	$ 100,140
Research and development	1.27	$ 76,100
Disaster recovery management	0.50	$ 36,215
Asset management	0.65	$ 33,033
IT procurement	0.79	$ 47,470
Project management	2.93	$ 193,275
Administrative support	0.80	$ 37,368
Departmental management	1.92	$ 151,556

Ttl FTE	29.85
Ttl burdened cost	$ 1,732,249
Average unit cost	$ 58,032
Average JOAT	6

Vocational Education

IT Functions: "Shadow" Staff	FTE TOTAL	Cost TOTAL
Customer Services		
Help Desk (Tier 1)	0.08	$ 3,255
Workstation support (Tier 2)	0.08	$ 2,806
End user application support	0.04	$ 1,515
Training	0.00	$ -
System Services		
Network connectivity (WAN/LAN/wireless)	0.00	$ -
Server administration:		
Email administration	0.00	$ -
File/print administration	0.00	$ -
Other server administration	0.00	$ -
Workstation administration	0.00	$ -
Storage management	0.00	$ -
Data center operations	0.00	$ -
Database administration	0.00	$ -
Security administration	0.00	$ -
Telephone systems support	0.00	$ -
Business Application Services		
Application development, deployment, & maintenance:		
State-wide applications:		
- Finance	0.00	$ -
- Payroll	0.00	$ -
- HR	0.00	$ -
Agency applications	0.00	$ -
IT Administration and Planning		
Strategic planning	0.00	$ -
Research and development	0.00	$ -
Disaster recovery management	0.00	$ -
Asset management	0.00	$ -
IT procurement	0.00	$ -
Project management	0.00	$ -
Administrative support	0.00	$ -
Departmental management	0.00	$ -

Ttl FTE	0.20
Ttl Burdened cost	$ 7,576
Average unit cost	$ 37,881
Average JOAT	3

E. DESKTOP SERVICES ANALYSIS DETAIL

The table presented below provides the salary ranges and burden assumptions for help desk staff that PTI used to perform the desktop services analysis.

Help Desk Salary Ranges				
Position	Base	OMB low (1.38)	OMB mid (1.41)	ITD (1.45)
Existing Network Help Desk	$ 38,534	$ 53,178	$ 54,334	$ 55,875
Existing Tier 2	$ 33,621	$ 46,397	$ 47,405	$ 48,750
Existing Help Desk Manager	$ 45,172	$ 62,338	$ 63,693	$ 65,500
New Support Tech II	$ 30,000	$ 41,400	$ 42,300	$ 43,500
New Support Tech III	$ 35,000	$ 48,300	$ 49,350	$ 50,750
New Help Desk Supervisor	$ 43,000	$ 59,340	$ 60,630	$ 62,350
New Help Desk Manager	$ 50,000	$ 69,000	$ 70,500	$ 72,500

The following section presents the detail behind the desktop services analysis, organized as follows:

- Scenario A
- Scenario B
- Scenario C

SCENARIO A

Scenario A Help Desk Organization					
FTE	Position	Base	OMB low (1.38)	OMB mid (1.41)	ITD (1.45)
4	Existing Network Help Desk	$ 154,138	$ 212,710	$ 217,334	$ 223,500
1	Existing Tier 2	$ 33,621	$ 46,397	$ 47,405	$ 48,750
1	Existing Help Desk Manager	$ 45,172	$ 62,338	$ 63,693	$ 65,500
7	New Support Tech II	$ 210,000	$ 289,800	$ 296,100	$ 304,500
6	New Support Tech III	$ 210,000	$ 289,800	$ 296,100	$ 304,500
2	New Help Desk Supervisor	$ 86,000	$ 118,680	$ 121,260	$ 124,700
0	New Help Desk Manager	$ -	$ -	$ -	$ -
21	TOTALS	$ 738,931	$ 1,019,725	$ 1,041,893	$ 1,071,450

FTE Percentage Assigned to Desktop Support			
FTE	Position	Percentage	Desktop FTE
4	Existing Network Help Desk	100%	4.00
1	Existing Tier 2	100%	1.00
1	Existing Help Desk Manager	0%	0.00
7	New Support Tech II	100%	7.00
6	New Support Tech III	100%	6.00
2	New Help Desk Supervisor	50%	1.00
0	New Help Desk Manager	0%	0.00
21	TOTALS		19.00

Scenario A Summary		
Desktop Support Levels	Current	Future
Agency desktop support FTE	45.27	27.40
ITD desktop support FTE	6.30	19.00
TOTAL	51.57	46.40
PC's Per Support FTE	149	165

Desktop Support Costs	Current	Future
Agency desktop support	$ 2,143,979	$ 1,288,619
ITD desktop support	$ 362,800	$ 1,041,893
TOTAL	$ 2,506,779	$ 2,330,512
Savings (1.41 burden)		$ 176,266

Savings Range	
Savings (1.38 burden)	$ 198,434
Savings (1.45 burden)	$ 146,709

SCENARIO B

Scenario B Help Desk Organization					
FTE	Position	Base	OMB low (1.38)	OMB mid (1.41)	ITD (1.45)
4	Existing Network Help Desk	$ 154,138	$ 212,710	$ 217,334	$ 223,500
1	Existing Tier 2	$ 33,621	$ 46,397	$ 47,405	$ 48,750
1	Existing Help Desk Manager	$ 45,172	$ 62,338	$ 63,693	$ 65,500
9	New Support Tech II	$ 270,000	$ 372,600	$ 380,700	$ 391,500
8	New Support Tech III	$ 280,000	$ 386,400	$ 394,800	$ 406,000
2	New Help Desk Supervisor	$ 86,000	$ 118,680	$ 121,260	$ 124,700
0	New Help Desk Manager	$ -	$ -	$ -	$ -
25	**TOTALS**	**$ 868,931**	**$ 1,199,125**	**$ 1,225,193**	**$ 1,259,950**

FTE Percentage Assigned to Desktop Support			
FTE	Position	Percentage	Desktop FTE
4	Existing Network Help Desk	100%	4.00
1	Existing Tier 2	100%	1.00
1	Existing Help Desk Manager	0%	0.00
9	New Support Tech II	100%	9.00
8	New Support Tech III	100%	8.00
2	New Help Desk Supervisor	50%	1.00
0	New Help Desk Manager	0%	0.00
25	**TOTALS**		**23.00**

Scenario B Summary		
Desktop Support Levels	Current	Future
Agency desktop support FTE	45.27	20.03
ITD desktop support FTE	6.30	23.00
TOTAL	**51.57**	**43.03**
PC's Per Support FTE	**149**	**178**

Desktop Support Costs	Current	Future
Agency desktop support	$ 2,143,979	$ 937,790
ITD desktop support	$ 362,800	$ 1,225,193
TOTAL	**$ 2,506,779**	**$ 2,162,983**
Savings (1.41 burden)		**$ 343,796**

Savings Range	
Savings (1.38 burden)	$ 369,864
Savings (1.45 burden)	$ 309,039

SCENARIO C

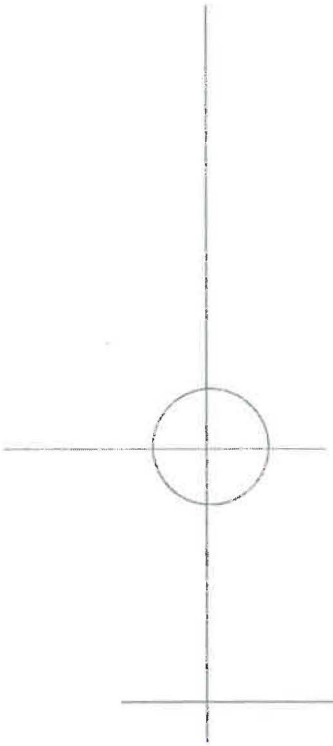
Scenario C Help Desk Organization					
FTE	Position	Base	OMB low (1.38)	OMB mid (1.41)	ITD (1.45)
4	Existing Network Help Desk	$ 154,138	$ 212,710	$ 217,334	$ 223,500
1	Existing Tier 2	$ 33,621	$ 46,397	$ 47,405	$ 48,750
1	Existing Help Desk Manager	$ 45,172	$ 62,338	$ 63,693	$ 65,500
16	New Support Tech II	$ 480,000	$ 662,400	$ 676,800	$ 696,000
15	New Support Tech III	$ 525,000	$ 724,500	$ 740,250	$ 761,250
4	New Help Desk Supervisor	$ 172,000	$ 237,360	$ 242,520	$ 249,400
0	New Help Desk Manager	$ -	$ -	$ -	$ -
41	**TOTALS**	**$ 1,409,931**	**$ 1,945,705**	**$ 1,988,003**	**$ 2,044,400**

FTE Percentage Assigned to Desktop Support			
FTE	Position	Percentage	Desktop FTE
4	Existing Network Help Desk	100%	4.00
1	Existing Tier 2	100%	1.00
1	Existing Help Desk Manager	0%	0.00
16	New Support Tech II	100%	16.00
15	New Support Tech III	100%	15.00
4	New Help Desk Supervisor	50%	2.00
0	New Help Desk Manager	0%	0.00
41	**TOTALS**		**38.00**

Scenario C Summary		
Desktop Support Levels	Current	Future
Agency desktop support FTE	45.27	0.00
ITD desktop support FTE	6.30	38.00
TOTAL	**51.57**	**38.00**
PC's Per Support FTE	**149**	**202**

Desktop Support Costs	Current	Future
Agency desktop support	$ 2,143,979	$ -
ITD desktop support	$ 362,800	$ 1,988,003
TOTAL	**$ 2,506,779**	**$ 1,988,003**
Savings (1.41 burden)		**$ 518,776**

Savings Range	
Savings (1.38 burden)	$ 561,074
Savings (1.45 burden)	$ 462,379



APPENDIX C

survey results

State of North Dakota
IT Organization & Management Study
January 7, 2004

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Pacific Technologies, Inc.

This appendix provides additional data behind the nation-wide survey analysis presented in Chapter 2 of this report. Pacific Technologies conducted in-depth surveys with seven states, and a high-level survey with an additional 24 states. This appendix is organized as follows:

- In-depth survey data
- High-level survey data

A. IN DEPTH SURVEY DATA

The following pages present the state-by-state summaries of data collected from the 7 in-depth survey respondents. Note that most tables are incomplete – they present the data made available from the respondents.

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Connecticut

Metric	Statewide
Population	3,300,000
Executive FTEs	50,000
Executive Ops Budget	13,000,000,000
Judicial FTEs	
Judicial Ops Budget	
Legislative FTEs	
Legislative Budget	
Self-supporting Executive Departments	

	Central IT			Executive IT		
	Values	Per Capita	Per FTE	Values	Per Capita	Per FTE
FTEs	240	0.0001	0.0048	790	0.0002	0.0158
Salary	-	-		-	-	
Ops Budget	45,000,000	13.6364	900.0000	200,000,000	60.6061	4,000.0000
Supported Workstations		-	-		-	-
Customer Support FTEs		-	-		-	-
Customer Support Salary		-	-		-	-
Customer Support Outsource		-	-		-	-
Number of File/Print Servers		-	-		-	-
Number of E-mail Servers		-	-		-	-
Number of Web Servers		-	-		-	-
Number of Mainframes		-	-		-	-
Number of Midrange Servers		-	-		-	-
Number of Other Intel Servers		-	-		-	-
Number of Data Centers		-	-		-	-
Number of State Employees with Direct Network Access		-	-		-	-
System Services FTEs		-	-		-	-
System Services Salary		-	-		-	-
System Services Outsource		-	-		-	-
Application Support FTEs		-	-		-	-
Application Support Salary		-	-		-	-
Application Support Outsource		-	-		-	-
Administration Support FTEs		-	-		-	-
Administration Support Salary		-	-		-	-
Administration Support Outsource		-	-		-	-

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Kansas

Metric	Statewide
Population	2,688,418
Executive FTEs	35,225
Executive Ops Budget	9,800,000,000
Judicial FTEs	1,820
Judicial Ops Budget	93,300,000
Legislative FTEs	109
Legislative Budget	23,700,000
Self-supporting Executive Departments	Transportation, Health & Environment, Human Resources, Social & Rehab

	Central IT			Executive IT		
	Values	Per Capita	Per FTE	Values	Per Capita	Per FTE
FTEs	219	0.0001	0.0062	1,342	0.0005	0.0381
Salary	7,117,000	2.6473	202.0440	36,600,000	13.6140	1,039.0348
Ops Budget	34,600,000	12.8700	982.2569	116,000,000	43.1481	3,293.1157
Supported Workstations	816	0.0003	0.0232	58944	0.0219	1.6734
Customer Support FTEs	30	0.0000	0.0009		-	-
Customer Support Salary		-	-		-	-
Customer Support Outsource		-	-		-	-
Number of File/Print Servers		-	-	1500	0.0006	0.0426
Number of E-mail Servers		-	-		-	-
Number of Web Servers		-	-		-	-
Number of Mainframes	1	0.0000	0.0000	5	0.0000	0.0001
Number of Midrange Servers		-	-	175	0.0001	0.0050
Number of Other Intel Servers		-	-		-	-
Number of Data Centers		-	-	10	0.0000	0.0003
Number of State Employees with Direct Network Access		-	-		-	-
System Services FTEs		-	-		-	-
System Services Salary		-	-		-	-
System Services Outsource		-	-		-	-
Application Support FTEs		-	-		-	-
Application Support Salary		-	-		-	-
Application Support Outsource		-	-		-	-
Administration Support FTEs		-	-		-	-
Administration Support Salary		-	-		-	-
Administration Support Outsource		-	-		-	-

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Kentucky

Metric	Statewide
Population	4,041,769
Executive FTEs	39,000
Executive Ops Budget	14,000,000,000
Judicial FTEs	
Judicial Ops Budget	
Legislative FTEs	
Legislative Budget	
Self-supporting Executive Departments	

	Central IT			Executive IT		
	Values	Per Capita	Per FTE	Values	Per Capita	Per FTE
FTEs	424	0.0001	0.0109	1,200	0.0003	0.0308
Salary	30,000,000	7.4225	769.2308	62,400,000	15.4388	1,600.0000
Ops Budget	62,000,000	15.3398	1,589.7436	200,000,000	49.4833	5,128.2051
Supported Workstations		-	-		-	-
Customer Support FTEs		-	-		-	-
Customer Support Salary		-	-		-	-
Customer Support Outsource		-	-		-	-
Number of File/Print Servers		-	-		-	-
Number of E-mail Servers		-	-		-	-
Number of Web Servers		-	-		-	-
Number of Mainframes		-	-		-	-
Number of Midrange Servers		-	-		-	-
Number of Other Intel Servers		-	-		-	-
Number of Data Centers		-	-		-	-
Number of State Employees with Direct Network Access		-	-		-	-
System Services FTEs		-	-		-	-
System Services Salary		-	-		-	-
System Services Outsource		-	-		-	-
Application Support FTEs		-	-		-	-
Application Support Salary		-	-		-	-
Application Support Outsource		-	-		-	-
Administration Support FTEs		-	-		-	-
Administration Support Salary		-	-		-	-
Administration Support Outsource		-	-		-	-

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Missouri

Metric	Statewide
Population	5,595,211
Executive FTEs	52,517
Executive Ops Budget	17,842,800,000
Judicial FTEs	3,809
Judicial Ops Budget	
Legislative FTEs	680
Legislative Budget	
Self-supporting Executive Departments	

	Central IT			Executive IT		
	Values	Per Capita	Per FTE	Values	Per Capita	Per FTE
FTEs	99	0.0000	0.0019	1,350	0.0002	0.0257
Salary	4,019,198	0.7183	76.5314	62,615,773	11.1910	1,192.2953
Ops Budget	12,544,000	2.2419	238.8560	155,582,910	27.8064	2,962.5247
Supported Workstations	806	0.0001	0.0153	29082	0.0052	0.5538
Customer Support FTEs	46	0.0000	0.0009		-	-
Customer Support Salary	2,001,448	0.3577	38.1105		-	-
Customer Support Outsource		-	-		-	-
Number of File/Print Servers		-	-		-	-
Number of E-mail Servers	2	0.0000	0.0000	145	0.0000	0.0028
Number of Web Servers		-	-		-	-
Number of Mainframes	2	0.0000	0.0000		-	-
Number of Midrange Servers		-	-	57	0.0000	0.0011
Number of Other Intel Servers		-	-	1451	0.0003	0.0276
Number of Data Centers	1	0.0000	0.0000		-	-
Number of State Employees with Direct Network Access	44,000	0.0079	0.8378		-	-
System Services FTEs		-	-		-	-
System Services Salary		-	-		-	-
System Services Outsource		-	-		-	-
Application Support FTEs	46	0.0000	0.0009		-	-
Application Support Salary	3,181,425	0.5686	60.5790		-	-
Application Support Outsource		-	-		-	-
Administration Support FTEs	7	0.0000	0.0001		-	-
Administration Support Salary	351,475	0.0628	6.6926		-	-
Administration Support Outsource	-	-	-		-	-

North Carolina

Metric	Statewide
Population	8,049,313
Executive FTEs	73,355
Executive Ops Budget	5,575,000,000
Judicial FTEs	5,540
Judicial Ops Budget	374,000,000
Legislative FTEs	1,000
Legislative Budget	36,200,000
Self-supporting Executive Departments	Transportation, Human Services, Corrections, Revenue, Public Instruction, Natual Resources

	Central IT			Executive IT		
	Values	Per Capita	Per FTE	Values	Per Capita	Per FTE
FTEs	424	0.0001	0.0058	2,026	0.0003	0.0276
Salary	29,400,000	3.6525	400.7907	14,700,000	1.8262	200.3953
Ops Budget	145,000,000	18.0140	1,976.6887	403,000,000	50.0664	5,493.8314
Supported Workstations	364	0.0000	0.0050	46176	0.0057	0.6295
Customer Support FTEs	35	0.0000	0.0005		-	-
Customer Support Salary	2,000,000	0.2485	27.2647		-	-
Customer Support Outsource	100,000	0.0124	1.3632		-	-
Number of File/Print Servers	2	0.0000	0.0000	850	0.0001	0.0116
Number of E-mail Servers	23	0.0000	0.0003		-	-
Number of Web Servers	50	0.0000	0.0007		-	-
Number of Mainframes	2	0.0000	0.0000	1	0.0000	0.0000
Number of Midrange Servers	-	-	-	107	0.0000	0.0015
Number of Other Intel Servers	17	0.0000	0.0002	1426	0.0002	0.0194
Number of Data Centers	1	0.0000	0.0000	1	0.0000	0.0000
Number of State Employees with Direct Network Access	400	0.0000	0.0055		-	-
System Services FTEs	276	0.0000	0.0038		-	-
System Services Salary	19,500,000	2.4226	265.8306		-	-
System Services Outsource	700,000	0.0870	9.5426		-	-
Application Support FTEs	20	0.0000	0.0003		-	-
Application Support Salary	200,000	0.0248	2.7265		-	-
Application Support Outsource	-	-	-		-	-
Administration Support FTEs	93	0.0000	0.0013		-	-
Administration Support Salary	5,900,000	0.7330	80.4308		-	-
Administration Support Outsource	400,000	0.0497	5.4529		-	-

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South Dakota

Metric	Statewide
Population	754,844
Total State FTEs	13,294
Total State Ops Budget	2,245,391,000
Judicial FTEs	
Judicial Ops Budget	
Legislative FTEs	
Legislative Budget	
Self-supporting Executive Departments	Regents (University)

	Central IT			Executive IT		
	Values	Per Capita	Per State FTE	Values	Per Capita	Per State FTE
FTEs	276	0.0004	0.0208	-	-	-
Salary	14,874,000	19.7047	1,118.8506	-	-	-
Ops Budget	38,174,000	50.5720	2,871.5210	-	-	-
Supported Workstations	7,913	0.0105	0.5952		-	-
Customer Support FTEs	60	0.0001	0.0045		-	-
Customer Support Salary	2,858,702	3.7871	215.0370		-	-
Customer Support Outsource		-	-		-	-
Number of File/Print Servers		-	-		-	-
Number of E-mail Servers		-	-		-	-
Number of Web Servers		-	-		-	-
Number of Mainframes	1	0.0000	0.0001		-	-
Number of Midrange Servers	12	0.0000	0.0009		-	-
Number of Other Intel Servers	29	0.0000	0.0022		-	-
Number of Data Centers	1	0.0000	0.0001		-	-
Number of State Employees with Direct Network Access	7,913	0.0105	0.5952		-	-
System Services FTEs	72	0.0001	0.0054		-	-
System Services Salary	3,979,000	5.2713	299.3080		-	-
System Services Outsource		-	-		-	-
Application Support FTEs	112	0.0001	0.0084		-	-
Application Support Salary	6,388,000	8.4627	480.5175		-	-
Application Support Outsource	6,000,000	7.9487	451.3314		-	-
Administration Support FTEs	16	0.0000	0.0012		-	-
Administration Support Salary	6,879,000	9.1131	517.4515		-	-
Administration Support Outsource		-	-		-	-

B. HIGH-LEVEL SURVEY DATA

This section summarizes data collected in support of the high-level survey. In conducting the surveys, Pacific Technologies asked all participants (high-level and detailed) a set of questions intended to gather information on expected, near-term changes in level of consolidation of IT services, as well as the expected level of consolidation. The table below presents a state-by-state summary of direction of change and expected level centralization. Note that not all respondents provided data in all areas.

Direction and Level of Consolidation by State

	Customer Service		System Services		Application Support		IT Administration	
State	*Direction*	*% Cent.*	*Direction*	*% Cent.*	*Direction*	*% Cent.*	*Direction*	*% Cent.*
Arkansas	No Change	70	No Change	60	No Change	20	No Change	100
California	Consolidating	80	Consolidating	80	No Change	20	Consolidating	100
Colorado	No Change	25	No Change	35	No Change	15	No Change	10
Conneticut	N/A	65	N/A	70	N/A	40	N/A	100
Florida	Consolidating	80	Consolidating	80	Consolidating	75	Consolidating	75
Georgia	No Change	35	No Change	90	No Change	20	No Change	95
Idaho	Consolidating		Consolidating		No Change		Consolidating	
Iowa	No Change	20	No Change	20	No Change	20	No Change	20
Kansas	N/A		N/A		N/A		N/A	
Kentucky	N/A		N/A		N/A		N/A	
Louisiana	Consolidating		Consolidating		No Change		Consolidating	
Maine	Consolidating	65	Consolidating	65	Consolidating	65	Consolidating	65
Minnesota	No Change	1	Consolidating		Consolidating	5	Consolidating	35
Missouri	N/A		N/A		N/A		N/A	
Montana	No Change	100	No Change	50	No Change	10	No Change	100
Nevada	N/A	40	N/A	80	No Change		No Change	75
New Hampshire	Consolidating	10	Consolidating	100	Consolidating	100	Consolidating	100
New Jersey	No Change		Consolidating	85	No Change		No Change	
New Mexico	No Change		Consolidating	25	Consolidating	25	Consolidating	35
New York	No Change		Consolidating	75	No Change	25	Consolidating	75
North Carolina	Consolidating		Consolidating		No Change		N/A	
NORTH DAKOTA	Consolidating	10	Consolidating	65	No Change	50	Consolidating	40
Ohio	Consolidating	80	No Change		Consolidating	20	Consolidating	70
Oklahoma	No Change		Consolidating		Consolidating	50	Consolidating	60
Oregon	Consolidating	10	Consolidating	10	No Change		Consolidating	30
Pennsylvania	Consolidating	15	Consolidating	50	Consolidating	10	Consolidating	50
Rhode Island	Consolidating	80	Consolidating	80	Consolidating	50	Consolidating	90
South Carolina	Decentralizing	5	Consolidating	20	Consolidating	20	Decentralizing	
South Dakota	No Change	100	No Change	100	No Change	100	No Change	100
Utah	Decentralizing	5	Decentralizing	5	Decentralizing	5	N/A	50
West Virginia	Consolidating	70	Consolidating	100	Consolidating		Consolidating	90
Wyoming	N/A		N/A		N/A		N/A	

The table below presents a summary of the respondents' progress on projects similar to North Dakota's enterprise-wide initiatives.

Progress Toward North Dakota's Enterprise Initiatives by State

STATE	PROJECT				
	WAN	*ERP*	*CJIS*	*GIS*	*EA*
Arkansas	In Place	In Place	In Progress	In Place	In Place
California	In Progress	Not Started	Not Started	Not Started	Not Started
Colorado	In Place	Not Started	In Place	Not Started	In Place
Conneticut	In Place	In Place	In Progress	Not Started	In Place
Florida	In Place	In Place	In Place	Not Started	In Place
Georgia	In Place	In Place	In Progress	Not Started	In Progress
Idaho	In Place	In Place	Not Started	In Progress	In Place
Iowa	In Place	In Place	In Place	Not Started	Not Started
Kansas	In Place	In Place	In Place	In Progress	In Place
Kentucky	In Place	In Place	In Place	In Progress	In Place
Louisiana	In Place	In Place	Not Started	Not Started	In Place
Maine	In Place	Not Started	In Place	In Place	In Place
Minnesota	In Place	Not Started	In Progress	In Progress	In Progress
Missouri	In Place	In Place	In Place	Not Started	In Place
Montana					
Nevada	In Place	Not Started	In Progress	Not Started	Not Started
New Hampshire	In Place	Not Started	In Progress	Not Started	Not Started
New Jersey					
New Mexico	In Place	Not Started	Not Started	Not Started	In Place
New York	In Place	In Progress	In Place	In Place	In Progress
North Carolina	In Place	Not Started	Not Started	In Place	In Place
NORTH DAKOTA	In Place	In Place	In Progress	In Place	In Place
Ohio	In Place	In Progress	In Progress	Not Started	Not Started
Oklahoma	In Place	In Place	Not Started	Not Started	In Progress
Oregon	In Place	In Place	Not Started	In Place	Not Started
Pennsylvania	In Place	In Place	In Place	Not Started	In Place
Rhode Island	In Place	In Place	In Place	Not Started	Not Started
South Carolina	In Place	In Place	In Place	Not Started	In Place
South Dakota	In Place	Not Started		In Place	In Place
Utah	In Place	Not Started		In Place	
West Virginia	In Progress	Not Started	In Progress	Not Started	In Place
Wyoming	In Place	In Place	In Progress	Not Started	Not Started

APPENDIX D

full consolidation analysis

State of North Dakota
IT Organization & Management Study
January 7, 2004

PTI
Pacific Technologies, Inc.

This appendix provides a brief summary of a service delivery alternative not discussed in the report – complete consolidation of IT services at the State.

As part of this planning effort, Pacific Technologies was asked to explore several options for providing IT services at the State, including a federated approach, a completely centralized approach, and a completely distributed approach. The majority of this report discusses variations on the federated model. The completely distributed model was deemed impractical, against current public sector trends, and only useful from an academic viewpoint – and therefore we left it largely unexamined.

We also did not choose to pursue a completely consolidated approach, though it warranted some level of examination. The table below presents an analysis of how adding the consolidation of IT Planning and Administration and Business Application functions would impact the scenarios presented in Chapter 3 of this report:

Complete Consolidation Impacts

Consolidated Functions	NEW FTE's	NEW Labor Costs	Savings	Comments
Business Application Services				
Agency applications	171.35	$ 10,678,237	$ 62,319	
IT Administration and Planning				
Strategic planning	7.45	$ 659,814	$ 88,566	* reduced by 6 FTE
Research and development	6.80	$ 541,168	$ 79,630	
Disaster recovery management	3.29	$ 229,423	$ 69,818	
Asset management	2.95	$ 180,011	$ 61,000	
IT procurement	2.65	$ 157,768	$ 59,625	* reduced by 2 FTE
Project management	27.30	$ 2,082,399	$ 76,278	
Administrative support	8.57	$ 485,028	$ 56,570	* reduced by 5 FTE
Departmental management	19.93	$ 1,570,838	$ 78,814	
Total before centralization	**263.28**	**$ 16,610,764**		
Total after centralization	**250.28**	**$ 16,584,686**		
NET	**13.00**	**$ 26,078**		

The net impact of the recommendation is a mere **savings of approximately $26,000.** Even though staffing costs are reduced in this scenario, the higher average salary in ITD compared to the agencies offsets most of the associated cost savings opportunity.

Pacific Technologies elected to not examine this alternative for several reasons:

- The resulting cost savings is very small – well within the margin of error inherent in the self reported data
- Consolidating agency application support is not a widely embraced practice
- Agency involvement in IT Administration and Planning functions is necessary to ensure IT continues to support business objectives

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APPENDIX E

cross-reference of report to RFP requirements

State of North Dakota
IT Organization & Management Study
January 7, 2004

PTI
Pacific Technologies, Inc.

This appendix cross references the RFP requirements to the contents of Pacific Technologies' report.

RFP Requirement	Report Reference
RFP Section 5.2 – IT Organization Study	
5.2.1. Identification of the cost and benefits of a centralized information technology structure and the cost and benefits of a decentralized information technology structure. This must also address quality of service issues and the advantages/disadvantages of a federated approach.	Chapter 3 of the report addresses consolidation issues, including full centralization/decentralization. Appendix D includes a model of a fully centralized service delivery approach. In discussion with the Interim IT Committee's project manager, we agreed not to model a fully decentralized approach based on the clear impracticality of such an approach. Chapter 2, Section B (IT Organization and Service Deliver), addresses quality of IT service at the State. Our recommended IT service delivery model is federated. The Executive Overview describes the benefits of this approach, while Chapter 3, Section D (Organizational Impacts) describes the associated human resources and management issues.
5.2.2. Identification of the cost of providing electronic mail administration, file and print server administration, seat management and desktop personal computer support, mainframe and distributed computing hosting services, consolidated storage management and disaster recovery, and software development.	Chapter 2, Section B (IT Organization and Service Delivery) provides summarized costs of service, while Appendix B offers detailed costs for all specific areas listed except software development. Software development costs have been grouped with overall agency business application support – a figure that includes maintenance as well as development work.
5.2.3. Identification of the roles and responsibilities of agency personnel providing information technology services under a centralized information technology structure, a decentralized information technology structure, and a federated information technology structure.	Chapter 3, Section D (Organizational Impacts) describes roles and responsibilities relative to our recommendations (i.e., a federated structure). As a centralized model would have ITD responsible for virtually all activities and a decentralized model would have the agencies responsible for virtually all activities, we have not provided additional role and responsibility information for these scenarios.
5.2.4. Identification of the employee positions and competencies needed by the Information Technology Department to provide the information technology services on a centralized basis, including the related organizational changes required within the department. This should also address the employee positions and competencies need by the Information technology Department to provide services on a federated basis.	Chapter 3, Section D (Organizational Impacts) describes the impacted positions, necessary skills, future ITD organization model, and associated roles and responsibilities related to our recommendations.
5.2.5. Identification of the related human resource management issues, including change in management, training, and employee compensation, to be addressed for a successful centralization.	Chapter 3, Section D (Organizational Impacts) describes the human resource and management issues related to our recommendations.
5.2.6. Review the adequacy and quality of the services currently being provided and appropriate performance measures. This includes a review of agencies and the Information Technology Department.	Chapter 2, Section B (IT Organization and Service Delivery) includes a subsection on service quality. This section also includes information on performance measures and adequacy of staffing. Chapter 2, Section E (Survey Results) presents additional performance measure data, including comparisons with other states.
5.2.7. Comparison of current information technology costs to industry data and data from other states. This comparison must clearly define what is included in IT costs and rate structures.	Chapter 2, Section E (Survey Results) compares North Dakota's IT spending, staffing, charges for services, and service delivery position to other states.
5.2.8. Identification of the information technology services that should be performed by individual agency personnel.	Chapter 3, Section D (Organizational Impacts) describes roles and responsibilities of agency staff related to our recommendations.

RFP Requirement	Report Reference
5.2.9. Development of a plan to either centralize or decentralize the services identified, including the reorganization tasks, personnel transfers, and changes required for information technology budgeting and cost allocation processes and rate design.	Chapter 3, Section B (Consolidation Recommendations) provides our recommended changes to the State's IT service delivery approach. Chapter 3, Sections G (Transition Approach) and H (Implementation Plan Outline) detail the changes required and the steps necessary to implement the recommendations.
RFP Section 5.3 – IT Management Study	
5.3.1. Review of the technology management processes of other states and private industry with respect to prioritizing information technology budget requests, establishing information technology standards and policies, and overseeing information technology expenditures.	Chapter 2, Section E (Survey Results) presents the results of our survey of other states and research into practices regarding governance, standards and policies, and IT oversight.
5.3.2. Review of the role of other states in providing information technology services to non-state government entities.	Chapter 2, Sections E (Survey Results) and F (Review of State-wide Initiatives) presents the results of our survey of other states and includes information on provision of IT services to non-state government entities.
5.3.3. Review of the level of information technology outsourcing in other state governments and the private sector and the applicability of outsourcing to the state of North Dakota.	Chapter 2, Section E (Survey Results) includes a discussion of outsourcing. Chapter 3, Section B (Consolidation Recommendations) discusses the applicability of outsourcing. Determining whether or not North Dakota should outsource services related to our recommendations is an activity included in our recommended implementation plan in (Chapter 3, Section H (Implementation Plan Outline).
5.3.4. Review of the industry trends that will impact technology deployment and spending in the next 5 to 10 years.	Chapter 2, Section E (Survey Results) includes a subsection on IT industry trends.
5.3.5. Review of the level of coordination in the management of North Dakota enterprise initiatives, such as the statewide wide area network, the enterprise resource planning system initiative, the geographic information system initiative, and the criminal justice information-sharing initiative, compared to other states, including recommendations regarding the appropriate governance structure to provide the maximum benefits to North Dakota.	Chapter 2, Section F (Review of State-wide Initiatives) includes discussion of each listed initiative and related recommendations.
5.3.6. Identify the potential changes to the organization structure of the Information Technology Department and other state government entities as related to information technology management.	Chapter 3, Section D (Organizational Impacts), includes a recommended organization chart for ITD and discusses related issues.
RFP Section 5.5 – Final Report	
5.5 The final result of this study will be a written report. The Legislative Council will also require a formal presentation of the study results to be given to the Information Technology Committee. The content of the report is expected to address all of the areas outlined in Sections 5.2 and 5.3 of this RFP including the following: Specific recommendations related to the organization of information technology services for State of North Dakota including projected costs, benefits, and methods of measuring the results. This includes recommendations as to the services that should be centralized and the services that should be decentralized.	This report documents the results of Pacific Technologies' work, including recommendations in all the areas cited.

Information Technology Hardware Relocation and Consolidation Study

Addressing the Requirements of SB 2021

Presented to:

North Dakota

Office of Management and Budget (OMB)

by

UmmelGroup International, Inc.

January 29, 2014

Agenda

- The Study
- Study Findings
- Recommendations
  - Benefits of Consolidation
  - Risks of Consolidation
  - Consolidation Process
  - Critical Success Factors for Consolidation
- Questions and Discussion

The Study

- Must include input from the attorney general and representatives from the exempted agencies and review the feasibility and the desirability of relocating and consolidating information technology hardware of the attorney general and the agencies exempted by the office of management and budget to the information technology department's secure data center
- Must address the issues of:
  - Cost
  - Security (physical and cyber)
  - Redundancy
  - Staffing
  - Impact on service to stakeholders, and
  - Impact on contractual relationships for software and hardware with federal partnerships

Study Findings

Cost	• No significant hard dollar cost savings could be identified by a consolidation effort. • Increased costs are expected in ITD service fees to the agencies.

Study Findings

Physical Security	• Physical presence of staff. ITD's data centers are staffed 24 x 5.5 • Comprehensive Fire suppression • Facility Access Control procedures • ITD Background and Fingerprint Security Checks
Cyber Security	• ITD controls all of the networks for the state to the point where devices are connected to the network • Exposure to cyber security attacks not specifically affected by proposed consolidation initiatives • ITD currently provides support for intrusion detection and prevention • ITD's automated patch management facilities will provide greater protection from virus and malware attacks

Study Findings

Redundancy	• A level of redundancy of skill sets exists between ITD and agency IT staff. • Estimated 15% time recovery for agency IT staff to address application development and customer service activities.
Staffing	• Each of the agencies have capable and talented IT staff. • Agency IT staff accomplish great results with relatively limited budgets.
Impact on Service to Stakeholders	• Consolidation will allow more focus on application development and customer service activities for agency IT staff.
Contractual Relationships	• Any application software licensing issues will be administrative in nature requiring simple coordination with the respective Federal partners

Recommendations

Agency	Recommended for Consolidation
Attorney General	No
PSC	Yes
Oil & Gas	Yes
State Water Commission	Yes

Benefits of Consolidation

- Opportunity for More Active Cyber Security Monitoring
  - Ongoing Intrusion Detection
  - Virus and Malware Protection
- Better backup up for data and operations
  - Environmental Controls
  - Power
  - Data Backup Hardware and Software
  - Business Continuity Hardware and Software
- Free up current IT personnel in Agencies for critical functions such as:
  - Application Development
  - End User Support

Risks of Consolidation

- UmmelGroup found no technical reasons the proposed consolidation could not work
- Personalities, History, Temperaments, and Habits, could lead to failure
- No Single Point of Organizational Convergence
- Loss of Key Agency IT Personnel
- Loss of Critical Knowledge
- Learning Curve (Agencies and ITD)
- Additional Time and Cost

Keys to Making Consolidation Process Work

- Current IT staff for those agencies to be consolidated remain assigned to their respective agency.
- ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
- ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity via the "virtual server environment" that quickly responds to changing business requirements.
- ITD provide the agency IT staff with sufficient administrative rights and control over their virtual servers to facilitate development and testing activities to include the capability to install new software and reboot virtual servers as required.
- Agency budgets should be adjusted to minimize impact of projected increases in ITD service fees following consolidation.

Critical Success Factors for Consolidation

- A Sense of Mission
- Trust and Cooperation
- Marketing
- Planning
- Communications
- Serving the Ultimate Customer

Questions and Discussion

State of North Dakota

Office of Management and Budget

IT Hardware Relocation/Consolidation Study

Final Report

12/29/2013

Professional Consulting and Advisory Services Provided By

UmmelGroup International, Inc.

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I. EXECUTIVE SUMMARY

A. Background

Ten years after a 2003 information technology consolidation effort, the North Dakota legislature adopted Senate Bill 2021. Section 8 of that bill called for an independent study to reexamine the potential of consolidation of four state agencies that were exempted from the 2003 consolidation. The State of North Dakota issued a Request for Proposal (RFP) in July of 2013 and selected the UmmelGroup International, Inc. to complete an information technology relocation and consolidation study.

"The study:

a. Must include input from the attorney general and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the attorney general and the agencies exempted by the office of management and budget to the information technology department's secure data center.
b. Must address the issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships.
c. Must be completed before December 31, 2013."

(Excerpt from Senate Bill No. 2021 – Section 8.)

This report represents UmmelGroup's findings and recommendations based on an analysis of the existing systems and IT hardware resources currently supporting the Office of the Attorney General, the Industrial Commission (Department of Mineral Resources - Oil and Gas Division), the State Water Commission, and the Public Service Commission.

B. Recommendations

Having found no specific value in a simple relocation of their IT hardware resources to ITD's Agency Data Center, the focus of UmmelGroup's recommendation is on the potential of consolidation for the four agencies studied.

UmmelGroup recommends that the Attorney General, as the focal point for FBI CJIS activity for the State of North Dakota, should not be considered for this consolidation initiative. The servicing of criminal history information retrieval requirements of law enforcement agencies statewide, and their information exchange responsibilities with and between the FBI, adds a level of complexity to their operations that creates unique challenges. The following list of responsibilities would end up adding additional unwarranted complexity to the current FBI CJIS communications structure and additional un-needed FBI mandated CJIS control structures and procedures to the ITD staff and Data Center if the AG's Office were consolidated.

1. Interaction and partnership with the FBI for the management and dissemination of criminal history information.
2. The storage and administration of sensitive CJIS data storage as defined by FBI CJIS policy.
3. Administration of access to CJIS data by criminal justice agencies statewide in compliance with FBI CJIS policy.

UmmelGroup further recommends that the other three agencies, (Public Service Commission, DMR Oil & Gas, and State Water Commission) should be considered for consolidation under the following stipulations:

1. Current agency IT staff remains assigned to their respective agency.
2. ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
3. ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity that allows the agency to quickly respond to changing business requirements without sacrificing ITD management and security controls.
4. ITD provides agency IT staff with sufficient administrative rights and control over their own virtual servers to facilitate development and testing activities and to include the capability to install new software and reboot virtual servers as needed.
5. Agency budgets are adjusted accordingly to account for impact of projected increases in ITD service fees following consolidation.

C. Key Findings

The four agencies evaluated have small, well run data centers in place with typical department level attention to security, power protection, air conditioning needs, and backup and recovery procedures

1. Cost

Based on review of agency computer facilities, staff, and work environments, UmmelGroup concluded that *no specific current hard dollar cost savings could be identified by a consolidation effort*. There are three cost factors to be taken into consideration when considering a consolidation of IT hardware resources for the Attorney General, Public Service Commission, DMR Oil & Gas, and the State Water Commission.

a) Server Environment

Based on our analysis, a total of 18 new server instances in ITD would be anticipated to serve the three agencies. According to ITD's rate structures, $36,000 ($2,000 per server) in one time set up cost would be charged to the agencies to initially implement these servers. After initial setup, ITD would charge the agencies $390 per month per server for ongoing operation and maintenance totaling $84,240.

b) Data Storage Facilities

Data storage would also have an initial one time anticipated set up cost of $3,900 per terabyte (TB) of storage which would be charged to the agencies totaling $663,000 for all agencies for their 170 TB of data to be migrated. After this initial setup, ITD would charge, at current rates, $50 per TB per month for ongoing operation and maintenance of the storage facilities totaling $102,000 annually.

c) Staffing Resources

UmmelGroup anticipates that a consolidation of the three recommended agencies would have the effect of freeing up as much as 15% of each agency's IT staff from time spent doing routine hardware planning, installations, trouble shooting, repair, and maintenance activities. These activities would end up being shifted to ITD and the agency IT staff would have the opportunity to redirect that time toward focusing on application specific issues, business intelligence activities, and customer support requirements within their agency and on behalf of their agency's customers. OMB provided an average benefit loaded hourly salary rate of $54 for agency IT staff. We have extrapolated the potential 15% of time saving for agency IT staff, which could be redirected to other activities, as an annual value of $178,200.

2. Physical Security

UmmelGroup believes consolidation provides the opportunity to increase over-all physical security for the State's computing resources and reduce exposure to vulnerabilities.

Considerations:

(1) **Physical presence of staff**. In each case, servers supporting the agency, while under their control, are not staffed around the clock. While ITD's data centers do not supply 24 x 7 staffing, they are staffed 24 x 5.5 – which is much closer than a normal 8 x 5 commitment used by the study agencies.
(2) **Fire suppression**. Only one of the four agency data centers (the Attorney General) was observed to have a supplemental fire extinguisher close by their server room. ITD has up-to-date automatic fire suppression systems in both the capitol data center and at the remote disaster recovery facility.
(3) **Access procedures**. All four of the study agencies plus ITD have varying levels of access control. In all cases we were escorted in our visits. We were required to sign in to create a log of our visit when visiting ITD's data center facilities.
(4) **Employee Security Clearance.** An evaluation of the personnel and administrative security posture indicated the AG required the highest level of background checking of their IT personnel to satisfy the FBI's CJIS requirements. AG's background checks for staff include agent interviews with family, friends, and neighbors in addition to electronic checks for wants, warrants and fingerprints. FBI CJIS security policies preclude employees from having any evidence of felony conviction, and the AG adds the requirement of no evidence of misdemeanor theft or drug arrests or charges. Additionally, employee fingerprints are recorded in the AFIS system so the AG will be notified of any ongoing arrest activity for employees.

3. Cyber security

ITD controls all of the networks for the state to the point where devices are connected to the network. In general, since all of the agencies involved use ITD's network security, consolidation would not change the cybersecurity penetration and intrusion profile of any of the agencies.

Overall, our impression was that network security "due diligence" is being exercised by the ITD's networking professionals.

The State's exposure to cybersecurity attacks are not specifically affected by potential consolidation initiatives however, from past experience, UmmelGroup concluded that all of the agencies would be better positioned to ward off virus and malware exposure with ITD's automated patch management program for server operating systems.

4. Redundancy

Currently, there is a level of redundancy of skill sets between ITD and all four of the exempted agencies. All of these entities, for example, are involved with the selection, installation, and maintenance of server class computer equipment. The scope of ITD's server administration environment is extensive and the addition of the anticipated 18 servers needed to support a consolidation effort should have a minimal impact on the current ITD staff. However, we anticipate the agencies will be able to recover approximately 15% of their time now dedicated to the "care and feeding" of their respective server platforms to be redirected to more application development and customer service activities.

5. Staffing

It became clear that even though the relocation/consolidation study was focused specifically on the IT hardware, that agency management staff was primarily concerned about having their IT staff consolidated to ITD and losing their ability to be able to administer that staff to quickly establish priorities and respond to the very dynamic business environments each agency faces. It appeared that the IT hardware itself was really a secondary issue but, none the less, one where considerable concern was expressed in that the installed base of hardware provides the tools the agency IT staff utilize in their pursuit of just "getting the job done". All of the agencies expressed concerns about potential impacts to their need for agility in their operations if their IT hardware was relocated or consolidated to ITD's data center.

Each of the agencies appears to have capable and talented IT staff with entrepreneurial attitudes. This shows in what they have been able to accomplish with relatively limited budgets, the quality of the products they produce, and the respect they have garnered by members of their agencies and external customers of their products and work efforts.

6. Impact on Service to Stakeholders

The scope of ITD's server administration environment is extensive and the addition of the proposed virtual server environment and the anticipated 18 virtual servers needed to support the consolidation effort should have a minimal impact on the current ITD staff. Therefore, we anticipate the agencies will be able provide more focus on application development and customer service activities.

7. Impact on Contractual Relationships

The Attorney General's office and the DMR Oil and Gas Division expressed concerns about the possibility of licensing issues for application software obtained via the Federal Government. With all of the variety of organizational alignments and IT support scenarios that exist in states across the country, we are confident any application software licensing issues will be administrative in nature requiring simple coordination with the respective Federal partners.

II. BACKGROUND

On September 15, 2003, in response to the 58th Legislative Assembly's passage of House Bill 1505 (Appendix A), the IT Functional Consolidation Project presented its Final Recommendation Report. The result of their study was an implementation plan for the consolidation of information technology facilities and services for 48 state agencies. The result of this effort included a consolidation of email and file and print services for all agencies, however, the Attorney General's office, the State Water Commission, the Oil and Gas Division of the Department of Mineral Resources (Industrial Commission), and the Public Service Commission were exempted from a consolidation of hardware required to support their primary business applications.

The 63rd Legislature passed Senate Bill 2021 (Appendix C), which requires a private consultant to conduct information technology relocation and consolidation study of information technology equipment operated by the Attorney General and by agencies that have been exempted under N.D.C.C. § 54-59-22 (Appendix B) by the Office of Management and Budget (OMB). Exempted agencies include the Industrial Commission Department of Mineral Resources - Oil and Gas Division (DMR), the State Water Commission (SWC), and the Public Service Commission (PSC).

On July 25, 2013, the State of North Dakota issued a Request for Proposal (RFP) to solicit proposals for a consultant to conduct information technology relocation and consolidation study of information technology equipment operated by the Attorney General and agencies that have been exempted under N.D.C.C. § 54-59-22.

On September 9, 2013, the State of North Dakota entered into a contract with UmmelGroup International, Inc to complete an information technology relocation and consolidation study and develop a report resulting from the study.

As stated in the RFP, this study will:

a. Include input from the Office of the Attorney General, and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the Attorney General and the agencies exempted by the Office of Management and Budget to the Information Technology Department's secure data center;
b. Address issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships;

III. CRITICAL SUCCESS FACTORS

There is no foolproof blueprint for consolidation of IT resources, however, UmmelGroup has found that there are a set of critical success factors that seem to be present in most successful relocation and consolidation projects.

A. A Sense of Mission

One of the key elements to the success of a consolidation project is a sense of mission. All of the parties involved have some very important things in common: they work for people of the State of North Dakota and they are charged with doing the very best they can with the resources at hand. IT systems play a big role in the delivery of services to the people and this role is growing. The mission of consolidation, therefore, is large as well.

It is a given that not everyone involved in a consolidation project will be entirely committed in the beginning of the project, but if the project management can instill the sense of mission to everyone involved in the project, then a strong basis exists for building trust and cooperation.

B. Trust and Cooperation

"Trust is the bandwidth of communication" K-E Sveiby

From the interviews with all of the parties involved, the UmmelGroup team, which has experience on both sides of a number of similar consolidations, has found a certain lack of mutual trust. This is critical since trust and cooperation are, perhaps, the most important critical success factors in consolidations such as this. If both parties trust each other, then small problems, even large ones, can be overcome. If trust is lacking, however, then cooperation is much more difficult. The bottom line is that trust takes time to establish and if, for whatever reasons, trust is lacking between organizations with a long relationship, then conscious effort must be made to rebuild and renew that trust.

C. Marketing

IT managers and professionals are not famous for their marketing skills, but marketing, continuous and persistent marketing, has proved to be a major success factor in relocation and consolidation efforts. Those involved in managing this project must be constantly thinking of how to demonstrate to the others in the project what the benefits are and how they and their organization can benefit by its success.

D. Planning

Relocation and Consolidation projects are by their very nature complicated. This means that extensive data gathering and planning at the beginning of the project are extremely important. Often, some seemingly trivial item will be overlooked that will cause significant difficulties. While time is an important element in any project of this nature, relocation and consolidation projects result in very long term relationships that will span years or as in this case decades. UmmelGroup has found that planning is a very critical success factor.

E. Communications

On projects of this nature, UmmelGroup has found that there needs to be clear lines of communication between and within all of the agencies involved. Often, IT professionals are not great communicators,

but in order to be successful, they need to learn to communicate better. Regular communication to and among all the management and staff involved is imperative.

F. Serving the Ultimate Customer

In the end, the success or failure of the relocation or consolidation effort will be determined by the people served. Are the end users, i.e., the public, managers, employees or contractors, happy with the IT systems that the State provides and the costs of those services? Do changes get made to those systems promptly and are the systems robust and bulletproof? Does everyone work to ensure responsiveness? These are the questions that need to be on everyone's mind.

IV. Current IT Environment Summary

The following examines each of the study agencies for strengths and challenges found in their current IT environments. It should not be construed that indicated strengths would be lost nor challenges overcome by a relocation or consolidation effort.

A. Attorney General

1. Overview

"The Attorney General is the chief legal counsel and advisor to state government in North Dakota. He represents and defends the interests of the state (and, therefore, the people) of North Dakota in civil and criminal actions. He may take legal action to protect the state's rights, defend the actions of state officials, and ensure public order. State law prohibits the Attorney General and his staff from providing legal advice to, or representing, members of the public.

(http://www.ag.state.nd.us/About/AboutOffice.htm, accessed 10/10/2013)

2. Current IT Environment

- The AG's office is authorized a staff of over 213 which includes a full-service IT staff of 14, not including contractors.
- The AG operates six separate sites in the Bismarck area and eight remote locations.
- Windows Server® based Intel servers support application processing requirements.
- The Automated Fingerprint Information System (AFIS) is managed by the AG.
- Federal CJIS-compliant communications must be maintained between the AG, State Radio, the Crime Lab, and the State Patrol.
- Secure CJIS inquiries for Individual Identifying Information (III) and Criminal History information, and AFIS traffic passes through the AG systems to the CJIS switch located at State Radio.
- The AG operates a VMware® based virtual server farm.
- AG is pursuing a two year plan to develop a more robust disaster recovery (DR) and business continuity site at the Crime Lab location to take advantage of the backup power that is already in place at that location.

- VMware® is used to provide replicated servers to enhance business continuity and disaster recovery.
- Email, wide area network services, anti-virus, and VPN services for external users are currently provided by ITD.

3. Strengths of Current Environment

- Industry standard Windows Server® based servers support AG operations.
- Servers and storage are currently housed in a secured CJIS-qualified facility.
- AG has a remote disaster recovery (DR) facility which operates on a separate power grid.
- Generator backup to commercial power is available at the DR site.
- Daily and weekly tape backups are maintained at the DR site.
- AG's server room is configured with raised flooring and integrated supplemental power and air conditioning.
- Uninterruptible power systems (UPS) are installed which condition power and provides protection from power spikes, brown out, and approximately 2 hours of protection for power outage.

4. Challenges in Current Architecture

- Lack of auxiliary (generator) power backup at the AG's server room location.
- Extended power outage will exhaust capacity of UPS facilities. Because of the difficulty of locating a backup generator at the primary site, auxiliary power beyond UPS is available only at their current DR site. Consequently, the backup site should be tested routinely to make certain fail-over capability is adequate and robust.
- The AG has a complicated computing environment which provides data communications to a large network of law enforcement agencies across the State. The AG's network must support Federal CJIS compliant communications between the AG, State Radio, the Crime Lab, the State Patrol, and other criminal justice entities and provide access to a diverse set of CJIS related applications.
- UmmelGroup observed a single, hand-operated fire extinguisher located inside of the server room. This is inadequate to cover incidents that may occur outside of normal business hours.
- As noted above, the AG is developing a disaster recovery (DR) and business continuity site at a remote location.
- The AG must provide life-cycle management for replacing servers and is responsible for manually scheduling OS updates and security patch management.

5. Threats and Risks of Consolidation

- The laboratory management system, FA-LIMS, at the Crime Lab may need to be recertified for the integrity of information exchanged with other CJIS systems.
- A relocation or consolidation of IT hardware would necessitate a reconnection of Crime Lab instruments with the FA-LIMS, NCIC, NLETS, AFIS facilities, and the DNA Database.
- Internet Protocol (IP) address based security requirements would have to be re-architected and re-certified for integrity.

- Concerns for the confidentiality of FBI CJIS data would have to be addressed and audited by the FBI.
- A relocation or consolidation would create the potential for service outage to all North Dakota criminal justice agencies during transition. An outage for the AG is more critical than for the other studied agencies because there are law enforcement staff relying on these data for their safety and protection – lives could be on the line.

B. Public Service Commission

1. Overview

"The Public Service Commission is a constitutional agency with varying degrees of statutory authority over abandoned mine lands, coal mine reclamation, electric and gas utilities, telecommunications companies, energy conversion facility locations, transmission facility locations, railroads, grain elevators, facility-based grain buyers, roving grain buyers, and hay buyers, auctioneers, auction clerks, weighing and measuring devices, pipeline safety, and underground damage prevention." (http://www.psc.nd.gov/index.php accessed 10/10/2013)

"The Legislature has given the commission broad jurisdiction over several industries. In some cases the commission functions like a court, in other instances it operates like a licensing board, and sometimes it serves as an environmental regulatory inspection agency"

(http://www.psc.nd.gov /public/newsroom/2011/2011%20PSC%20Biennial%20Report.pdf, accessed 10/10/2013)

2. Current IT Environment

- The PSC office is located in the Capitol building.
- There are three IT staff allocated as a part of the total of 44 PSC employees.
- Three Windows Server® based Intel application servers installed. One server is running VMware® which supports a number of virtual server instances.
- One Mandriva Linux® server is installed which supports the GIS function.
- PSC uses open source PostGIS with a PostgrSQL database to supplement ESRI GIS capability.
- PSC has approximately 25 TB of RAID 5 server attached storage is installed.
- PSC's primary application software has been supplied by the Federal Office of Surface Mining.

3. Strengths of Current Environment

- PSC has a relatively simple IT architecture and computer network with no remote locations.
- PSC servers are physical located within the Capitol building.
- PSC uses industry standard Windows Server based servers to support primary PSC operations.
- Data are backed up to tape locally on a daily basis.
- Archival backup tapes are stored at an offsite location.
- PSC replicates some of their data to a storage facility located at the State Water Commission.

4. Challenges in Current Environment

- The network diagram indicates an off-site tape backup however; this facility used to be located at a PSC office in Minot but, since a recent major flood, is currently located at the PSC central office.
- One Mandriva Linux server installed (Mandriva is not supported in State Enterprise Architecture). According to UmmelGroup's research, the last official release of Mandriva was made in 2011 and is based on the 3.4.30 version of the Linux kernel. According to Linux archives, the most recent stable Linux kernel is 3.12.5. This indicates the continued use of Mandriva should not be considered appropriate and a plan should be developed for the replacement of this software.
- No supplemental fire protection / suppression suitable for a computer room environment was observed in the server room. This puts significant data and equipment at risk, especially during hours of limited staffing (nights and weekends). Water has recently been accepted as a fire suppressant in data centers, but it usually installed with dry piping. While water sprinklers are in the PSC server room, drenched equipment has to go through special treatment to thoroughly dry it before use, and any perishable material, especially paper, is likely to be ruined. In some cases, electrical work is required to make certain power is removed from the equipment prior to discharging water spray.
- During non-business hours, personnel would not be available to intervene in an extended power outage would result in an exhaustion of the battery backup capacity of UPS facilities.
- Supplemental air conditioning is provided by a portable unit which is temporarily vented into the building's above ceiling return air plenum via a hose stuck through a removed ceiling tile. Installation did not appear to have been done in a "workmanlike manner".
- PSC must provide their own life-cycle management for replacing servers and is responsible for scheduling OS updates and security patch management.

5. Threats and Risks of Consolidation

- Increased cost to PSC for ITD services – particularly for servers and storage. See section V.B.2 of this report for a more in-depth cost analysis.
- PSC fears consolidation would cause losing IT efficiency and agility in supporting their clients.

C. Department of Mineral Resources (Oil and Gas Division)

1. Overview

"The Legislature created the Industrial Commission of North Dakota (the "Commission") in 1919 to conduct and manage, on behalf of the State, certain utilities, industries, enterprises and business projects established by state law. The members of the Commission are the Governor, the Attorney General and the Agriculture Commissioner of the State. The Governor is the Chairman, and a quorum for the transaction of business consists of the Governor and one additional member. The Attorney General serves as general counsel."

(http://www.nd.gov/ndic/ accessed 10/10/2013)

The Department of Mineral Resources is one of twelve organizations that the Industrial Commission oversees (http://www.nd.gov/ndic/ accessed 10/10/2013). The Department is made up of three areas. Of primary interest to this study is the Oil and Gas Division and Geotech Support.

Oil and Gas Division

"The Oil and Gas Division regulates the drilling and production of oil and gas in North Dakota. Our mission is to encourage and promote the development, production, and utilization of oil and gas in the state in such a manner as will prevent waste, maximize economic recovery, and fully protect the correlative rights of all owners to the end that the landowners, the royalty owners, the producers, and the general public realize the greatest possible good from these vital natural resources"

(https://www.dmr.nd.gov/oilgas/, accessed 10/10/2013)

Geotech Support

The Geotech Support group is a smaller division of the department that provides critical administration, budget, and IT support to the other divisions.

(https://www.dmr.nd.gov/ndgs/, accessed 10/10/2013)

2. Current IT Environment

- The Department of Mineral Resources Oil and Gas Division is located in two separate buildings in the northern part of Bismarck. Physical location of the DMR server room is in a separate building from the location of the IT staff offices.
- The Industrial Commission (which includes the Oil & Gas Division) has a staff of 98 who are supported by an IT staff of 4.
- DMR has an estimated 30 TB of server attached storage installed.
- The agency is supported by four Windows Server® based servers.
- One server drives a tape backup facility.
- A primary application, RBDMS, was obtained from the Ground Water Protection Council (GWPC) and funded by Federal grant funds.
- The RBDMS application architecture is based on Microsoft Access running against a MS SQL Server database management system that has been heavily modified to suit departmental needs. UmmelGroup was not able it identify solid documentation on the changes which will make it difficult to move to newer releases of the software.
- The RBDMS application and database model is used by all 25 oil producing states.
- Remote users of RBDMS require data to be replicated to a local instance of SQL Server Express.
- Old documents have been scanned and made available via a web portal to land owners and mining companies.
- Drilling companies are able to submit permit requests, production reports, and spill reports online.

3. Strengths of Current Environment

- DMR has a relatively simple IT architecture and computer network with no remote locations (although they have substantial numbers of remote clients).
- Industry standard Windows Server® based servers support DMR operations.
- Current backup tapes are stored on site. Archived backup tapes are stored in multiple off site locations.
- Daily backups are kept for five weeks.
- IT funding for hardware acquisitions is supplemented by data access subscription fees.

4. Challenges in Current Environment

- During non-business hours, personnel would not be available to intervene in an extended power outage would result in an exhaustion of the battery backup capacity of UPS facilities.
- The RBDMS application architecture is based on Access programming against SQL Server.
- This RBDMS architecture impacts network loading and design.
- Because local access to RBDMS data is via Microsoft Access, remote access to RBDMS requires data replication of the entire RBDMS from the central SQL Server to the remote user.
- Data replication processing is subject to potential port lockout which can create corruption in the data which requires daily manual intervention to correct.
- Staff knowledge depth and resource backup are thin due to small number of staff.
- Although charging mechanisms are in place (three tiers), the amounts charged could be greater based on the value received.

5. Threats and Risks of Consolidation

- Slower application response is a concern for local users who are not set up with data replication capability, like those for remote users, because servers would be located at a greater distance than current configuration.
- Some additional coordination of potential software license (GWPC) may be required.
- Anticipated increased cost to DMR in ITD service fees – particularly for servers and storage. See section V.B.2 of this report for a more in-depth cost analysis.
- Agency concern for potential loss of efficiency and agility.

D. State Water Commission

1. Overview

"The State Water Commission (SWC) is responsible for the management and regulation of the water resources in the State of North Dakota. The mission of the agency and the State Engineer

… is to improve the quality of life and strengthen the economy of North Dakota by managing the water resources of the state for the benefit of its people…"

"The SWC utilizes information technology to support almost all facets of the business operations surrounding water resource management. Agency IT requirements are generally driven by the scientific applications used for water resource analysis. Advanced data analysis, research, data modeling, and engineering applications are routinely combined with customized applications that are developed internally. Because of the wide range and diversity of applications used, the IT infrastructure must be open and extensible. An open framework supports a wide range of diverse applications, which makes it possible to easily scale and evolve the IT infrastructure to accommodate changes in current initiatives as well as any new initiatives."

(ND State Water Commission - IT Strategic Plan 2013-2015 - IT Architecture Review)

2. Current IT Environment

- The State Water Commission's main office is located in a separate building on the Capitol complex grounds.
- SWC has a total staff of 90 supported by 4 IT staff.
- SWC provides IT services to 6 remote locations.
- SWC utilizes Apple workstations.
- SWC has four Apple Xserve servers supporting applications and data, five Mac Pro desktops running as servers supporting backups and SCADA, and twelve Mac Mini desktop computers configured as servers providing web server, file services, imagery, and directory services.
- SWC is using the BSD distribution of Linux® for a couple of servers.
- Apple's virtual services are used to support creation of virtual server instances.
- Approximately 100 TB of RAID 5 server attached storage is installed at the primary location.
- Apple Xgrid is utilized to provide parallel computing clusters for large modeling requirements.
- All applications have been developed using open-source technologies.
- SWC provides IT support for SCADA (Supervisory Control And Data Acquisition) systems located at reservoirs.
- Support is provided for RADAR (RAdio Detection and Ranging) and LIDAR (LIght Detection and Ranging -- a remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light) supplementation, and cloud-seeding flight operations.

3. Strengths of Current Environment

- IT costs are somewhat contained through the use of open source software and development tools.
- SWC has developed the ability to use parallel processing by spreading large processing requirements across multiple servers and desktop devices to significantly reduce time required for modeling scenarios. This capability utilizes unused CPU cycles when clients are doing other tasks or are away from their workstation during nights and weekends. This is a fine example of SWC's innovation that has saved significant staff hours.
- SWC's development for the cloud-seeding application is another notable innovation.
- Daily and weekly tape backups are maintained off site.
- Data are replicated to servers and storage facilities located at an SWC off site location that is being used to host disaster recovery capabilities.

- Uninterruptable power systems (UPS) condition power and protect from power spikes, brown outs, and provide approximately 15 minutes of protection for power outage.

4. Challenges in Current Environment

- Open source software typically has no commercial support systems, and must rely on other users for support.
- Apple announced that the Xserve server hardware products would no longer be manufactured as of January 31, 2011 requiring a conversion to a different platform (likely Linux) in the near future. This is a significant effort that produces no tangible return – other than the ability to keep processing. Failure to do the conversion results in the inability to do other future updates because prerequisites cannot be met.
- A conversion of applications and tools from Apple server environment, the environment staff know and with which they are comfortable working, will be needed in the near future.
- Apple Xgrid needs to be replaced; SWC is looking at the open source Pooch product.
- No observed fire protection in the server room.
- There is a lack of auxiliary (generator) power at the SWC main office to support the server room.
- During non-business hours, personnel would not be available to intervene in an extended power outage would result in an exhaustion of the battery back capacity of UPS facilities.
- Management of the growing application library is placing stress on IT staff resources as business demands grow.
- SWC IT staff expressed a need for two additional IT staff during the budget process but, apparently, these were not requested beyond the agency level.
- There is a duplication of effort because ITD provides life-cycle management for replacing servers and is responsible for scheduling OS updates and security patch management.

5. Threats and Risks of Consolidation

- Anticipated increased cost to SWC in ITD service fees – particularly for servers and storage. See section V.B.2 of this report for a more in-depth cost analysis.
- SWC has a concern for loss of efficiency and agility in their IT support in a consolidated IT hardware configuration.

E. Information Technology Department (ITD)

1. Overview

The Information Technology Department exists for the purpose of creating and operating a centralized IT facility, leading state agencies in discovering, assessing, and implementing information technologies. ITD is committed to better understanding state agency needs and in assisting in the implementation of the proper technology solution to accomplish these needs. It is organized to provide a broad range of technologies including mainframe and desktop computing, local and wide area networks, voice and data technologies, web, client server and mainframe software development, video conferencing, and emerging technologies. This is accomplished by investing in the development of highly skilled employees along with

contracting outside vendors who maintain a level of expertise that is not available in-house or is limited due to the demands for a particular service.

(http://www.nd.gov/itd/about-us/organizational-structure)

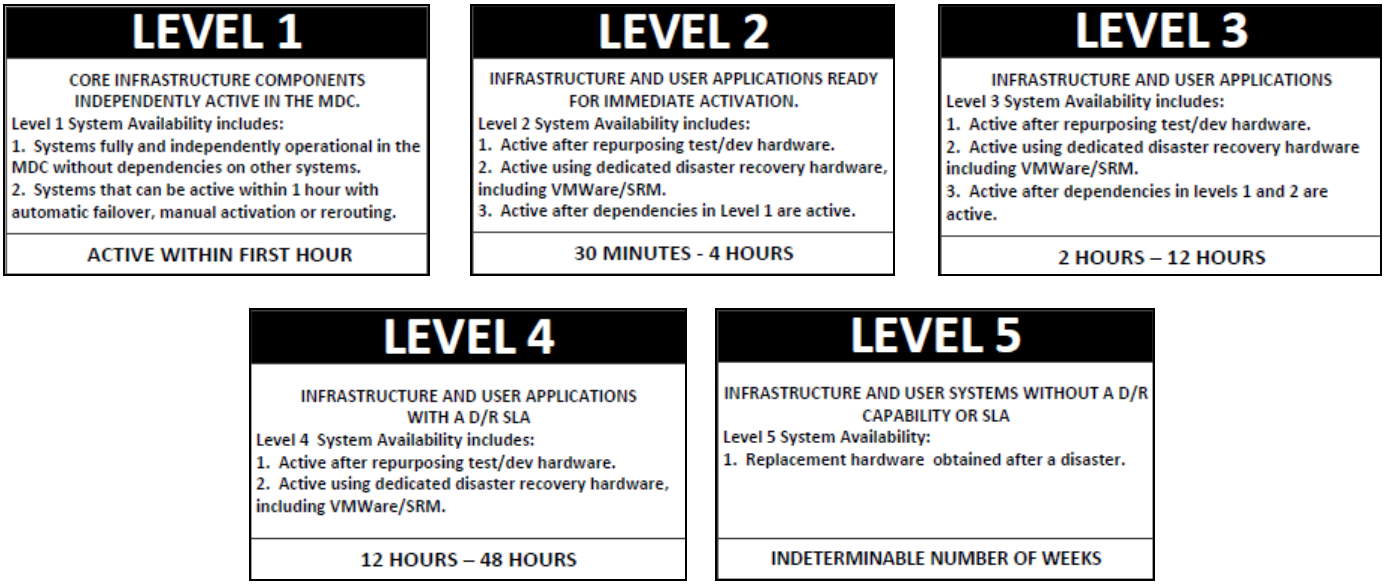
2. Domain Capabilities

a) Computer Systems
b) Enterprise Architecture and Strategic Planning
c) Criminal Justice Information Sharing (CJIS) Coordination. This should not be confused with the National FBI CJIS program. The ND-CJIS Board has a key role in approving and enabling strategic planning activity focusing on public safety issues in the State of North Dakota. The ITD Chief Information Officer (CIO) is the chairman of this board, and the ITD provides funding for the activities of the CJIS Coordinator.

d) Network Administration
   (1) Wide Area Network (WAN)
   (2) Local Area Network (LAN)
   (3) STAGEnet Wireless Network
      (a) Guest
      (b) Member
   (4) Charges for network traffic:
      (a) Port connection for all network attachable devices.
      (b) Bandwidth usage for data transmission.
      (c) Included in ITD's monthly chargeback billing.
e) Security
   (1) Microsoft's Active Directory is used for identity management and authentication services for access to the network and common open systems applications.
   (2) IBM's RACF provide security management for the State's central enterprise server.
   (3) Firewalls at network points of entry and for separation of network segments.
   (4) Virtual Private Network (VPN) – has to be requested by the agencies for remote access into the State's network (STAGEnet).
   (5) Anti-virus software for workstations and servers.
   (6) SPAM guard for e-mail.
   (7) All ITD staff is subject to a background check which includes fingerprints which are sent to the FBI for evaluation.
      (a) Performed through the Attorney General's (AG) office.
      (b) Level & quality of check is set by the AG.
   (8) Disaster Recovery and Business Continuity

      ITD operates a full service disaster recovery site at a remote location. This site has comparable power (with UPS and generator backup), fire suppression, air conditioning, and humidity controls in place at this site similar to those servicing the main data center at the Capitol complex. At this disaster site, servers are in place that provide for rapidly replacing the processing capability of their Level 1 processing capabilities within one hour. They have identified the following five disaster recovery levels. Each level indicates the recovery activity and the timeframe for recovery. ITD will work with

agencies to identify a recovery level that best meets the agencies' needs for the cost they are willing to pay. Disaster recovery is an added service to an agency's service level agreement and would be provided at an additional monthly cost.



Information source: ITD

3. Current IT Environment

- A comprehensive statewide communications network, STAGEnet, provides protection against most single points of failure.
- ITD operates a central IBM mainframe computer system.
- Storage Area Network (SAN) data storage facilities have the ability to support high volumes of data and high processing demands.
- VMware based Virtual server environment supporting a high percentage of open systems server requirements.
- A secure and comprehensive disaster recovery facility is capable of supporting business continuity initiatives.
- UmmelGroup found ITD to be more than competent to handle the additional load proposed by any or all of the agencies under study.

4. Strengths of Current Environment

- Size of the department - At 340 FTE, ITD outnumbers the IT staff of the four subject departments combined by a factor of 30. The combined IT experience of this team can be measured in centuries, not just years.
- Breadth of experience - With the number of individuals on staff, there is a broad base of experience upon which to draw for almost any reason, and the odds are that someone on staff has either "done it" or knows someone who has.
- Economies of scale - There is considerable "depth of staff." Just based on workloads, there are few areas where a skill is known by only one individual.
- The State has clearly invested heavily in ITD. UmmelGroup is impressed with the recent remodeling of the data center, the emphasis on resolving the relatively recent power problems, and the capabilities of the backup center.
- The data center well laid out, organized, and neat. Wiring was mostly hidden, what was visible was neatly bundled and carefully routed.
- Fire protection was professionally installed, and the ceiling was being used as a return-air plenum.
- Data center security was obviously thought through and efforts had been taken to plug any security "holes." We were signed-in, checked against our driver's license, given badges, escorted, and the whole thing logged on camera.
- Professionalism is a major strength. Without exception, with the individuals we interviewed, there were the traits of people confident in their positions, knowledge, and commitment to "doing the job right." It speaks well for the managers of ITD over years of operation.
- Procedures have been developed to ensure up-to-date documentation and an enterprise view of potential impacts of actions taken that can prove extremely valuable during a major outage.

V. RECOMMENDATIONS

A. Summary of Recommendations

The focus of UmmelGroup's recommendation is on the issue of consolidation for the four agencies studied, having found no specific value in a simple relocation of their IT hardware resources to ITD's Agency Data Center (see Recommendation Details below).

UmmelGroup recommends that the Attorney General, as the focal point for FBI CJIS activity for the State of North Dakota, servicing of criminal history information retrieval requirements of law enforcement agencies statewide, and their information exchange responsibilities with the FBI, their operations are unique and complex within the State, should not be considered for consolidation. The following list of responsibilities would end up adding additional unwarranted complexity to the current CJIS communications structure and additional un-needed CJIS control structures and procedures to the ITD Data Center.

1. Interaction and partnership with the FBI for the management and dissemination of criminal history information.
2. The storage and administration of sensitive CJIS data storage as defined by FBI CJIS policy.
3. Administration of access to CJIS data by criminal justice agencies statewide in compliance with FBI CJIS policy.

While not recommended for consolidation, the Attorney General's Office should be considered "partners for the long run" with ITD for consulting, advice, and assistance on a regular basis. Over time, the Attorney General's office may find certain ITD services an attractive option to continuing to grow their own computing capability for non-CJIS information processing needs.

UmmelGroup further recommends that the other three agencies, (Public Service Commission, DMR Oil & Gas, and State Water Commission) should be considered for consolidation under the following stipulations:

1. Agency IT staff remains assigned to their respective agency.
2. ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
3. ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity that quickly responds to changing business requirements.
4. ITD provides the agency IT staff with sufficient administrative rights and control over their virtual servers to facilitate development and testing activities to include the capability to install new software and reboot virtual servers as needed.
5. Agency budgets are adjusted accordingly to account for impact of projected increases in ITD service fees following consolidation.

B. Recommendation Details

1. Hardware Relocation or Consolidation Considerations

a) Relocation

ITD operates a facility referred to as the Agency Data Center where they provide raised floor space, conditioned power, fire suppression, and regulated environmentals (cooling and humidity). This space is available to agencies that have a need to install servers that support unique functions that have been determined to be managed by the agency rather than ITD. The facility is physically and securely separated from the main data center and agency personnel are given access to enter so they may perform whatever installation or support activities needed. This facility can also be used for hardware that has been purchased by the state that needs direct vendor "hands on" support.

Relocation of the IT hardware of the study agencies would largely involve moving the equipment currently installed at the agencies into this Agency Data Center, and would technically satisfy the scope of the RFP. However, UmmelGroup finds no intrinsic value in just doing this.

If the IT hardware were relocated to the Agency Data Center, agency staff would still have to perform all maintenance activities, and would have to travel to the Capitol complex for some of them, wasting valuable time in the process. No specific savings are identified for power conditioning and cooling (other operating costs) at this time since all of the agencies have already invested in uninterruptable power supplies (UPS) and have supplemented the air conditioning capabilities in the small server rooms within their agency. At best, future costs associated with replacement of these investments could be avoided. An in-depth analysis of the age and potential life expectancy of the existing equipment would be needed to determine the level of cost avoidance that could be anticipated and the potential timeframe.

b) Consolidation

Consolidation of IT Hardware would involve the retirement of existing server and storage equipment by re-hosting the applications currently on agency servers to virtual servers in the main ITD data center. This option positions agencies to take advantage of ITD services for basic hardware management and support in addition to being located in a more restricted secure facility with enhanced power management and business continuity resiliency than where they are currently housed.

Opportunities, challenges and issues in taking advantage of this type of IT consolidation will be the focus of the following recommendations.

2. Does Proposed Consolidation Save Money?

Based on review of agency computer facilities, staff, and work environments, UmmelGroup concluded that no specific current hard dollar cost savings could be identified by a consolidation

effort. In fact, a primary stumbling block to a proposed hardware consolidation, from the agencies' perspective, is increased cost to the agencies in the form of ITD service fees, primarily for computer servers, and disk storage space. Each of the agencies has large volumes of data stored in their systems. The majority of this data is historical and extremely valuable but is not accessed on a frequent basis. Much of the concern for increased costs, UmmelGroup believes, stems from the agencies' lack of consideration for a total life-cycle costing when they compare ITD's billing rates to direct purchasing of IT assets employed by their respective agencies.

The table below examines three cost factors to be taken into consideration when considering a consolidation of IT hardware resource for the Public Service Commission, DMR Oil & Gas, and the State Water Commission. The primary increases in cost that would be passed along to these agencies through increased ITD service fees come from charges for server instances and data storage facilities that would be provided by ITD.

a) There are currently a total of 35 servers installed between PSC, DMR, and SWC.
   (1) Five of these servers are located at remote locations supporting specialty processing capabilities and are not candidates for consolidation.
   (2) Ten servers are providing data backup services for the agencies and should be able to be replaced by existing ITD backup services.
   (3) Two servers are providing website hosting capabilities and should be folded into the State's website strategies.
   (4) Eighteen servers are supporting application and database management support for these three agencies.
b) Based on our analysis, 18 new virtual server instances would be anticipated to serve the three agencies. According to ITD's rate structures, $36,000 ($2,000 per server) in one time set up cost would be charged to the agencies to initially implement these servers. After initial setup, ITD would charge the agencies $390 per month per server for ongoing operation and maintenance totaling $84,240 annually.
c) Data storage would also have an initial one time anticipated set up cost of $3,900 per terabyte (TB) of storage which would be charged to the agencies totaling $663,000 for the 170 TB of active storage installed at the agencies. After this initial setup, ITD would charge, at current rates, $50 per TB per month for ongoing operation and maintenance of the storage facilities totaling $102,000 annually.
d) The third cost factor for consideration is staff costs. We anticipate that a consolidation of the three recommended agencies would have the effect of freeing up as much as 15% of the each agency's IT staff from time spent doing routine hardware planning, installations, trouble shooting, repair, and maintenance activities. These are activities that would end up being shifted to ITD and the agency IT staff would have the opportunity to redirect that time toward focusing on application specific issues, business intelligence activities, and customer support requirements within their agency and on behalf of their agency's customers. OMB provided an average benefit loaded hourly salary rate of $54 for agency IT staff. We have extrapolated the potential 15% of time saving for agency IT staff, which could be redirected to other activities, as an annual value of $178,200.

ESTIMATED COSTS OF PROPOSED CONSOLIDATION

#	Costs to Agencies from ITD's Service Rates	DMR	PSC	SWC	TOTAL
1	Anticipated Virtual Servers Required	4	6	8	18
2	Data Storage Required (TB)	30	40	100	170
	Initial Costs				
3	ITD Server Acquisition Fee @ $2,000/ea	$8,000	$12,000	$16,000	$36,000
4	Data Storage Install Fee @ $3,900/TB	$117,000	$156,000	$390,000	$663,000
	Total Initial Costs	$125,000	$168,000	$406,000	$699,000
	Annual Ongoing Costs				
5	ITD Server Monthly Fee @ $390/server	$18,720	$28,080	$37,440	$84,240
6	Data Storage Monthly Fee @ $50/TB	$18,000	$24,000	$60,000	$102,000
	Total Annual Ongoing Costs	$36,720	$52,080	$97,440	$186,240

#	Potential Cost Avoidance for Agencies	DMR	PSC	SWC	TOTAL
7	IT Allocated Staff (FTE)	4	3	4	11
8	Annual IT Staff Hours Available	8,000	6,000	8,000	22,000
9	Annual Hours Available for Reallocation @ 15%	1,200	900	1,200	3,300
10	Average IT Staff Hourly Rate	54	54	54	
11	Annual Value of Reallocated IT Staff Hours	$64,800	$48,600	$64,800	$178,200

Notes by Line Number

2 Number of TB of storage in use; growth projections not included.

3 ITD's standard rate.

4 ITD's standard rate. Projected volume of data equals approximately 50% of ITD's current installation. Recommend re-examining opportunities for volume discounts.

5 ITD's standard rate.

6 Rate from ITD as of 11/26/13; published rate is $175/mo/TB.

8 40 hours/week * number of staff members * 50 weeks (two weeks annual vacation)

9 Estimated time devoted to researching / solving server hardware-related issues = 15%. This does not mean an over-staffed condition exists. Each of these agencies is currently understaffed. These are hours that could be redirected to other assignments or activities.

10 Average "fully-burdened" (includes benefits) hourly IT staff rate. Source: OMB.

11 Line 9 * Line 10 to show the value of making agency IT staff available for other work.

3. Does Proposed Consolidation Enhance Security?

UmmelGroup decided to use ITD's security profile as the baseline to compare each of the study agencies. This created a very high bar for the comparison for the agencies. From a physical security standpoint, the ITD data center is well designed, fully staffed 24 X 5.5 days per week, environmentally controlled and monitored for air conditioning and humidity, configured with significant UPS and generator power backup, and carefully designed data backup and recovery capabilities when paired with the offsite disaster recovery facility.

a) Physical Security

UmmelGroup believes consolidation provides the opportunity to increase over-all physical security for the State's computing resources and reduce exposure to vulnerabilities.

(1) The ITD data center provides better physical security than was found at the study agencies.
(2) In terms of personnel security, AG has a more stringent access system than the other exempted agencies, and they are required to have a more extensive FBI CJIS compliant security clearance of all of its employees than what is currently used for ITD staff. According to the AG their staff must pass a more in-depth background test to qualify for CJIS certification than background tests used for other personnel in the State.
(3) In terms of administrative security, the FBI insists that all state and local systems connected to sensitive FBI systems (e.g., NCIC, etc.) be under the administrative control of a bona fide criminal justice agency.

Considerations:

(1) **Physical presence of staff**. In each agency's case, servers supporting the agencies, while under their control, are not staffed around the clock. While ITD's data centers do not supply 24 x 7 staffing, they are staffed for support 24 x 5.5.
(2) **Fire suppression**. Only one of the four agency data centers (the Attorney General) was observed to have a CO_2 based fire extinguisher close by their server room. None of the server rooms for the study agencies was observed to have fire suppression beyond typical water sprinkler systems which, without being tied to an ability to cut power to the computer equipment prior to the sprinkler deploying, meets the needs of a data center. ITD has up-to-date automatic fire suppression systems in both the capitol data center and at the remote disaster recovery facility.
(3) **Access procedures**. All four study agencies plus ITD have varying levels of access control. In all cases we were escorted in our visits.

    (a) DMR and ITD had us sign in. Only ITD verified our names with our driver's licenses, as we signed in, and provided visitor badges so it was obvious to all that we were not employees. (This was not a significant issue with the others because: the rooms were very limited in size, and other than our escorts, no one else was present.)
    (b) Only ITD had multiple security doors with proximity cards through which entrance had to be gained. Only ITD had a mixture of security cameras in place throughout all critical areas, both inside and out, of the data center. Videos are retained for 30 days.
    (c) We were particularly concerned about the data center used by the DMR Oil and Gas Division. It is our understanding their buildings were recently renovated and the IT staff moved to their current location in the building

next door, while their data center remained behind. There is limited staff members assigned to the building, there is ample glass on the outside, and while key locks are used, they did not give the appearance of being more secure than a normal office environment from a security standpoint. In addition, the building location is such that it could be a relatively easy target to access during non-business hours. The value of their information provides to external entities contributed to our concerns.

(d) ITD has additional security audits as part of their requirements for hosting HIPPA and PCI-DSS-sensitive data.

(e) None of the study agency server rooms were configured with manual "panic alarms" to enable notifying local law enforcement.

None of the study agencies really came close when compared to the physical security attributes of the ITD data center. Access to the buildings that housed the agencies' data centers were no more secure than a normal office building, with the exception of the AG's computer center at the BCI building.

An evaluation of the personnel and administrative security posture indicated the AG required the highest level of background checking of their IT personnel to satisfy the FBI's CJIS requirements. AG's background checks for staff include agent interviews with family, friends, and neighbors in addition to electronic checks for wants, warrants and fingerprints. FBI CJIS security policies preclude employees from having any evidence of felony conviction, and the AG adds the requirement of no evidence of misdemeanor theft or drug arrests or charges. Additionally, employee fingerprints are recorded in the AFIS system so the AG will be notified of any ongoing arrest activity for employees.

The AG's Office has signed MOUs with the FBI, regarding the administration, personnel, and computer security for all systems that interact with the FBI and other federal agencies.

UmmelGroup's observations concluded that DMR, PSC and SWC would be significantly improved from a security, backup, and continuity of operations standpoint by a consolidation of IT hardware resources.

b) Cybersecurity

ITD controls all of the networks for the State to the point where devices are connected to the network. In general, since all of the agencies involved use ITD's network security, consolidation would not change the cybersecurity profile of any of the agencies. Overall, our impression was that network security "due diligence" is being exercised by the ITD's networking professionals to isolate computing resources from external attack. The State's exposure to cybersecurity penetration attacks should not be specifically affected by potential consolidation initiatives.

That said, several of the agencies are operating individual websites. These web servers appear to be appropriately firewalled and protected from cybersecurity attacks but vulnerability tests should be performed to validate these assumptions.

ITD also manages a virus protection program that includes an automated patch management facility which ensures workstation and server operating systems are kept current with updates from the manufacturer. UmmelGroup's evaluation did not include an evaluation of patch levels maintained by the agencies for their distributed computing environments.

4. Redundancy

Currently, there is a level of redundancy of skill sets between ITD and all four of the study agencies. All of these entities are involved with the selection, installation, and maintenance of server class computer equipment. The scope of ITD's server administration environment is extensive and the addition of the proposed virtual server environment and the anticipated 18 virtual servers needed to support the consolidation effort should have a minimal impact on the current ITD staff. However, we anticipate the agencies will be able to recover approximately 15% of their time now dedicated to the "care and feeding" of their respective server platforms to be redirected to more application development and customer service activities.

5. Staffing and Impact of Relocation/Consolidation on Customer Service?

During the course of this study, each department expressed the value of having a small, dedicated staff performing IT functions for their department. Each agency management expressed a very high level of satisfaction with the level of service and support that was being provided by their existing IT staff and operations, and stressed that their IT staff:

a) Know the individuals they support.
b) Know the data involved – its format and limitations.
c) Provides excellent service to their department.
d) Are knowledgeable concerning the operating systems, programming languages, database systems, and other software used in their core applications.
e) Has expertise as members of their respective departments – they can communicate with the business staff and customers they support "in their native language" – in many cases, they are fellow engineers and scientists who have taken the time to learn computing and programming skills. The AG's office has a considerably larger IT staff that appears to consist of mostly IT professionals rather than repurposed "business" staff members.

Any consolidation effort must strive for zero negative impact on customer service, both to the agency and to the agency's customers and constituents.

a) UmmelGroup concluded that a large part of the satisfaction expressed by the study agencies with IT staff was due to the quality of their small, experienced IT teams.
b) All of the agencies reviewed, with the possible exception of the AG's IT, are operating with limited IT staffing resources. Agencies' IT staff is able to produce quite good results due to their extensive business experience and good communication with the users in their agencies.

c) On the other hand, some of the agency IT staff are nearing retirement age or possess knowledge about systems and software tools that are no longer in wide usage. As a result, all of these agencies are at risk of losing key staff and capabilities.
d) Based on the review of IT staff in DMR, PSC, and SWC, the IT staffs appear to be stretched quite thin and these agencies have been considering adding additional IT staff. While the amount of server operation and administration by these three agencies is not excessive (estimated at up to 15% of available time), moving the responsibility for computer operations and administration to ITD would free up time for agency IT staff to focus on other pressing challenges, application development, and business intelligence activities.
e) As a result, viewed from an Agency and State perspective, there is a strong long-term need to augment/enhance these existing staffs.

Therefore, UmmelGroup recommends leaving the agencies' IT staff intact and assigned to their respective agencies.

6. Operational Impacts on Federal Partnerships

The Attorney General's office and the DMR Oil and Gas Division expressed concerns about the possibility of licensing issues for software obtained via the Federal Government. With all of the variety of organizational alignments and IT support scenarios that exist in states across the country, UmmelGroup is confident any licensing issues will be administrative in nature requiring simple coordination with the respective Federal partners.

C. Benefits of this recommendation:

1. Better positioning to ward off virus exposure and malware attacks with ITD's intrusion detection and automated patch management programs.
2. Critical equipment supporting agency operations will be located in a more secure environment, with industry best-practice security, up-to-date environmental controls (temperature and humidity), robust power, fire protection, and opportunities to participate in high-quality data backup, disaster recovery, and business continuity programs.
3. The three agency's massive data resources would be provided enterprise class protection.
4. ITD's Data Center is staffed 24 x 5 plus Saturday mornings and can provide closer monitoring of computer operations.
5. Agencies would receive access to improved staffing depth for server support.
6. ITD would provide life cycle management for server replacement budgeting and scheduling.
7. Consolidation would present a more accurate view of the computing costs to the State because a greater percentage of IT expenditures are all in the "same bucket."
8. Knowledgeable staff is retained within their respective agencies to continue to provide excellent service. No changes are recommended at this time, to these staffs other than minimal procedural ones concerning how they perform tasks associated with virtual servers running remotely from their location. Indeed, there should be some staff time saving because of the virtualization of the servers and the overall ease with which new ones can be created by ITD.
9. The agencies IT staff members bring some excellent innovation, creativity, and a deep understanding of what their clients need to do their work which can be better leveraged for the

good of the State. In many cases, these agencies can be leveraged to try new approaches and technologies.

10. Some reallocation of IT duties (server support) to ITD staff would off-load these tasks from agency staff enabling them to concentrate on supporting their clients.
11. Agencies will have access to ITD's current virtual server functionality and remote control capabilities.
12. ITD's Citrix or VDI facilities provide the agencies with the opportunity to address remote control needs and can be used to address the data replication issues for DMR.
13. By moving to virtual servers on ITD equipment, there is reduction of risk to current servers during a move and the majority of required testing should be able to be accomplished during normal working hours because the virtual environment can be created while existing equipment continues to support production workloads. The impact should be the same as if new servers were to be purchased by the department. ITD should provide assistance in the defining requirements of these virtual servers so they would perform as well as, and ideally better than the current physical servers. ITD would create the virtual servers and turn them over to agency IT staff for software installation, operation, and testing.
14. Access to ITD's current virtual server functionality should aid the conversion from Apple servers to alternative servers for the SWC.

D. Considerations for this Recommendation:

1. In each of the subject agencies, there is a perceived lack in the depth and backup of staff. The staff is knowledgeable but, the number of staff members is such that the loss of any one could create a significant restriction of the staffing resource. If a consolidation were implemented, the agency IT staff will still be doing some of the same tasks, just on different (virtual) servers.
2. During the discovery sessions we identified a weakness in the study agencies' documentation of processing schedules and operational procedures. We recommend the agencies work with ITD to establish documentation standards and work toward implementing those standards for existing and future applications.
3. IT staffs of the study agencies, in general, do not consider ITD as a partner or ally.
4. In order for consolidation to be a success, both ITD and the agency staff must work together toward a common goal for success.
5. A lack of cooperation or desire for success by either side of this effort could have serious implications on the level of success of this recommended consolidation effort.
6. While ITD outnumbers the agency staffs almost 30 to 1, size has its drawbacks as well. ITD, by nature of its size, does not "turn on a dime." On the positive side, procedures have been developed to ensure up-to-date documentation and an enterprise view of potential impacts of actions taken that can prove extremely valuable during a major outage.
7. Consolidation will lead to increased costs to the study agencies in terms of ITD's billings which are a significant concern to the four subject agencies, particularly charges for data storage and server hosting. Much of this, UmmelGroup believes, stems from the agencies' lack of consideration for a total life-cycle costing when they compare ITD's billing rates to direct purchasing of IT assets employed by their respective agencies.

E. Threats and Risks of Consolidation

1. UmmelGroup was unable to identify any technical reasons the proposed consolidation could not work, there are potentially very real reasons based on personalities, history, temperament, habits, etc. that could lead to failure. This is undoubtedly the greatest risk to the proposed consolidation.
2. Any consolidation effort will involve intense activity because of the differences in philosophy, lack of standards among the agencies, perception of service response from ITD, and general feelings of "win-lose" that will inevitably come with the project. Therefore, very careful selection of staff for a consolidation team is critical.
3. There is no single point of organizational reporting convergence where ITD and a subject agency come together. Consequently, staff members on either side who don't seek cooperation could sabotage the success of the project.
4. There will be additional work for some ITD staff should a consolidation be undertaken. For example, during the early stages there will be the need to carefully study requirements, purchases, installations, and equipment and network configurations. It is especially important to consider these workloads early on in the planning phases. Over time, this work should ease, as time goes by and the relationships firm up as to responsibilities.
5. Staff turnover in the agencies due to retirements or job changes spurred by the proposed consolidation can pose significant problems. This is where any lack of documentation can be a real risk with ITD being left "holding the bag" on the project.

F. Implementation Approach

UmmelGroup recommends a serial implementation approach with the three exempted agencies recommended for consolidation.

1. Public Service Commission.

We recommend that the PSC should be considered as the first agency for consolidation. UmmelGroup's review suggests that PSC has the simplest IT infrastructure and the least volume of data to be migrated and a consolidation effort would consist of a relatively straight forward re-hosting effort of their applications to the new virtual server platform. This would facilitate the development of a "proving ground" for consolidation recommendations.

2. Department of Mineral Resources, Oil and Gas Division.

We recommend that the DMR be considered as the second agency for consolidation. Like PSC, DMR has a relatively simple IT infrastructure but has a more complex application support environment. Their consolidation effort would also consist of a relatively straight forward re-hosting effort. In addition to the support benefits for their server environment, the RBDMS application at DMR would benefit from the opportunity to take advantage of ITD's Citrix or VDI investments which would simplify application architectural complexities and reduce network data replication traffic. A longer term solution to this issue lies with a migration to one of a number of different web based efforts being worked on around the country to access the RBDMS database via web technologies.

3. State Water Commission.

We recommend that the State Water Commission be the third and final agency to be considered for consolidation. SWC primarily uses Apple workstations and servers in their computing architecture. Apple has discontinued production of server class hardware. Therefore, SWC is facing more than a simple re-hosting effort. All of their applications will need to be either converted to run on a different operating platform (presumably LINUX) or their existing software will need to be replaced with an alternative solution that performs the same function and will run on the new platform. This effort will require much more research and development, conversion, and implementation time than the other agencies.

4. Information Technology Division.

ITD briefly discussed their explorations and directions toward offering a hosted "internal cloud." This holds significant promise and opportunity for ITD's entire customer base, including the four agencies under study. These agencies need to be provided information and guidance so they can understand how this concept may impact them or enhance their capabilities.

a) ITD must be willing to create and administer a virtual server environment which supports:

(1) An agreeable "standard server" definition for each supported agency.
(2) A virtual server environment where administrative rights to the virtual server they create can be given to the agencies. Specifically, agency IT staff must be provided the ability to reboot the virtual server as needed, load software on it, etc.
(3) A "virtual server sandbox" where agencies can have extensive freedom with development and testing activities for new software solutions.

b) ITD should run network statistics to gather end-to-end response times serving each agency before and after any moves. This should be conducted over a sufficient time – at least a week – to gain a significant bench-mark for comparison. If more than one of these can be run the better, and ideally, the department should not be aware when at least one of these studies is being conducted.

c) Agencies should be heavily involved in the planning of the virtual move to ITD's data center. Some considerations:

(1) Adequate staff and resources must be allocated by ITD to a conversion team.
(2) Where possible, the agencies should be converted serially so lessons can be learned and applied to the next conversion effort.
(3) There should be high-level visibility given to the conversion team.
(4) Schedule – demands on the departments fluctuate and must be taken into account.
(5) Since simple server relocation is not recommended, a plan should encompass a parallel virtual setup where agency systems can be fully set up and tested prior to a "cutover" from the distributed servers to the centralized virtual server environment. Care must be exercised to ensure recently changed data are not left behind during the cutover.

5. Office of Management and Budget

A major objection voiced by the agencies to any hardware consolidation or relocation initiative was the perception that doing so would force very deep budget cuts in the non-IT portions of the agencies' budgets to cover anticipated increases in ITD service fees. It is our recommendation that OMB work closely with the agencies to develop strategies to assist the agencies to work toward a neutral impact to the non-IT portions of their budgets.

VI. APPENDICIES

A. Fifty-eighth Legislative Assembly - House Bill No. 1505

Document begins on the following page.

Fifty-eighth Legislative Assembly of North Dakota
In Special Session Commencing Monday, May 5, 2003

HOUSE BILL NO. 1505
(Representative Berg)
(Senator Stenehjem)
(Approved by the Delayed Bills Committee)

AN ACT to provide an appropriation for defraying the expenses of the information technology department, the judicial branch, and the legislative council; to authorize the industrial commission to issue and sell evidences of indebtedness for connectND; to provide for the purchase of information technology equipment and software; to provide for the transfer of state agency information technology employees; to provide for reports to the budget section; to provide for a legislative council study; to create and enact a new section to chapter 54-10, a new section to chapter 54-35, two new sections to chapter 54-59, and a new subsection to section 54-59-05 of the North Dakota Century Code, relating to information technology responsibilities of the state auditor, information technology committee responsibilities, information technology services, and information technology department powers and duties; to amend and reenact sections 54-59-02, 54-59-05, and 54-59-09 of the North Dakota Century Code, relating to responsibilities of the information technology department and information technology standards; to repeal section 54-59-13 of the North Dakota Century Code, relating to information technology reviews; and to provide an effective date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from special funds derived from other income, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2003, and ending June 30, 2005, as follows:

Salaries and wages	$25,715,694
Operating expenses	33,120,860
Capital assets	5,323,000
Division of independent study	5,625,480
Educational technology council	793,818
EduTech	2,540,348
Wide area network	7,436,223
Enterprise resource planning system (connectND)	20,000,000
Geographic information system	678,343
Prairie public broadcasting	1,337,138
Criminal justice information sharing	4,741,200
Less budget adjustment	(1,000,000)
Total all funds	$106,312,104
Less estimated income	98,117,301
Total general fund appropriation	$8,194,803

SECTION 2. ESTIMATED INCOME - SPECIAL FUNDS TRANSFERS. The estimated income line item in section 1 of this Act includes $862,059 from the special funds of various state agencies resulting from information technology reductions, for the biennium beginning July 1, 2003, and ending June 30, 2005. Notwithstanding any other provisions of law, the office of management and budget shall transfer to the information technology department the following amounts available from the special funds of the agencies listed, for the biennium beginning July 1, 2003, and ending June 30, 2005.

AGENCY	AMOUNT
State department of health	$11,108
Aeronautics commission	6,942
Veterans' home	6,046
Department of financial institutions	7,881
Highway patrol	9,450
Department of transportation	350,000
Industrial commission	4,034
Bank of North Dakota	300,000
Housing finance agency	24,080
Mill and elevator association	23,230
Department of corrections and rehabilitation	24,567
Office of administrative hearings	4,311
Secretary of state	19,550
Attorney general	12,929
State auditor's office	1,465
Department of agriculture	1,329
Insurance commissioner	37,368
Vision services - School for the blind	2,725
Seed department	10,050
Parks and recreation department	4,994
Total	$862,059

SECTION 3. APPROPRIATION AUTHORITY - REDUCTIONS. The office of management and budget shall reduce the special funds appropriation authority for the aeronautics commission, the department of financial institutions, the insurance commissioner, and the seed department, for the biennium beginning July 1, 2003, and ending June 30, 2005, by the amounts listed in section 2 of this Act relating to information technology reductions. The amounts will be available in the special funds for transfer as provided in section 2 of this Act.

SECTION 4. BOND ISSUANCE AUTHORIZATION - PURPOSES - APPROPRIATION. The industrial commission, acting as the North Dakota building authority, shall arrange through the issuance of evidences of indebtedness under chapter 54-17.2 from the effective date of this Act and ending June 30, 2005, for the funding in an amount not to exceed $20,000,000 to be loaned to the information technology department for the purchase or lease of computer hardware and software and for the costs of the implementation services for the enterprise resource planning system commonly known as the connectND project. ConnectND is declared to be in the public interest and is, for the purpose of this Act, a project as that term is defined in chapter 54-17.2. The amount of the evidences of indebtedness may be reduced by any moneys made available from the higher education institutions. The proceeds of the evidences of indebtedness and other available funds, as appropriated in section 1 of this Act, may be used for connectND project costs, debt service repayment, and refunding of connectND interim borrowings. The industrial commission shall issue evidences of indebtedness under this section with the condition that repayment on the evidences of indebtedness need not begin until July 1, 2005. For purposes of this Act, loan or debt service repayments are equivalent to lease rental payments as that term is used in chapter 54-17.2. ConnectND student fee revenues and other available funds are appropriated to the North Dakota university system for the North Dakota university system's share of the connectND project costs, debt service repayment, refunding of connectND interim borrowings, and other costs incidental to connectND implementation.

The authority of the industrial commission to issue evidences of indebtedness under this section ends June 30, 2005, but the industrial commission may continue to exercise all other powers granted to it under chapter 54-17.2 and this Act and comply with any covenants entered into before that date.

The limitation provided in section 54-17.2-23 does not apply to repayments allocable to the evidences of indebtedness issued for the connectND project.

SECTION 5. EVIDENCES OF INDEBTEDNESS ISSUANCE REPAYMENT RESPONSIBILITY. Debt service on the evidences of indebtedness issued under section 4 of this Act must be available from charges made and collected by

the information technology department from users of the system with twenty-nine percent of the debt service being the responsibility of state agencies and seventy-one percent of the debt service being the responsibility of higher education.

SECTION 6. APPROPRIATION. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of $45,999, or so much of the sum as may be necessary, to the judicial branch for the purpose of defraying costs associated with information technology, for the biennium beginning July 1, 2003, and ending June 30, 2005.

SECTION 7. PURCHASE OF INFORMATION TECHNOLOGY EQUIPMENT AND SOFTWARE - REPORTS TO THE INFORMATION TECHNOLOGY COMMITTEE. After receiving input from executive branch state agencies, departments, and institutions, the information technology department shall establish information technology equipment and software product specifications and shall provide the product specifications to the office of management and budget to be used for procuring equipment and software as provided for in chapter 54-44.4. The office of management and budget, after receiving advice from the information technology department, shall establish policies and guidelines for the purchase of information technology equipment and software and related accountability reporting. All executive branch state agencies, departments, and institutions, excluding institutions under control of the state board of higher education, shall comply with the policies and guidelines unless exempted by the office of management and budget. The office of management and budget, in conjunction with the information technology department, shall aggregate information technology equipment and software purchases and administer contracts to achieve the most cost-effective results for the state. The information technology department shall provide periodic reports to the information technology committee regarding budgeted and actual information technology equipment and software purchases and estimated savings by funding source.

SECTION 8. TRANSFER OF APPROPRIATION AUTHORITY BETWEEN LINE ITEMS. Notwithstanding section 54-16-04, the director of the office of management and budget and the state treasurer shall make transfers of funds between line items for state agencies, departments, and institutions as may be requested to accommodate information technology funding reductions made by the fifty-eighth legislative assembly. The office of management and budget shall report to the budget section regularly on transfers made pursuant to this section.

SECTION 9. TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items of appropriations in section 1 of this Act for the information technology department as may be requested by the chief information officer.

SECTION 10. TRANSFER OF STATE AGENCY INFORMATION TECHNOLOGY EMPLOYEE POSITIONS - CONSOLIDATION OF INFORMATION TECHNOLOGY FUNCTIONS. On November 1, 2003, the following number of authorized full-time equivalent employee positions relating to information technology services, including electronic mail, file and print server administration, data base administration, storage, application server, and hosting services must be reduced and transferred from the named agencies to the information technology department, except as otherwise provided under this section or unless exempted by the chief information officer:

AGENCY	FULL-TIME EQUIVALENT EMPLOYEE POSITIONS
Office of management and budget	1
Tax department	1
Department of public instruction	1
State department of health	1
Department of human services	5
Job service North Dakota	3
Industrial commission	1

Bank of North Dakota	1
Housing finance agency	1
Workers compensation bureau	2
Highway patrol	1
Department of corrections and rehabilitation	2
Game and fish department	1
State water commission	1
Department of transportation	2

After consultation with the information technology department, each affected agency shall identify the specific positions for reduction and transfer. The agency shall conduct any reduction-in-force analysis that may be required.

Each agency shall limit its consideration to information technology related positions and shall identify for reduction and transfer those positions most closely associated with services assumed centrally by the information technology department.

Each affected agency shall establish an information technology services accounting code consisting of funding related to the salaries and wages for the identified employee positions and related funding for equipment, training, office rent, travel, contracted services, or other related costs. Each agency shall use the funding contained in the information technology services account to purchase information technology services from the information technology department. The information technology department may receive any funding relating to the purchase of information technology services under this section, which is hereby appropriated. Each agency is entitled to receive from the information technology department the equivalent in services that would have been performed by employees in the transferred positions at a cost not exceeding the amounts transferred to the agency's information technology services account.

The information technology department shall determine the number of full-time equivalent positions necessary to provide the related information technology functions to state agencies. The department is authorized to employ the number of necessary employees and require all persons interested in filling the employee positions to apply with the department. In filling the employee positions, the department shall give preference to current state employees working in information technology. The department may make arrangements with the agency from which an employee was transferred to transfer any leave accrued by that employee.

In furtherance of the consolidation of information technology functions under this section, the supreme court and the attorney general shall continue to collaborate with the information technology department to implement the criminal justice information sharing program.

SECTION 11. INFORMATION TECHNOLOGY FUNCTION CONSOLIDATION - ACCUMULATED SAVINGS - TRANSFER TO THE GENERAL FUND. The office of management and budget and the information technology department shall achieve efficiencies during the biennium beginning July 1, 2003, and ending June 30, 2005, relating to the required consolidation of information technology functions, including electronic mail, file and print server administration, data base administration, storage, application server, hosting services, and related equipment. Notwithstanding the provisions of section 10 of this Act, the office of management and budget in conjunction with the information technology department, may exercise full discretion in achieving efficiencies and cost-savings expected from the proposed consolidation of information technology services, including any such modifications deemed advisable. The office of management and budget and the information technology department through efficiencies resulting from this consolidation shall achieve accumulated net savings totaling $1,400,000 for the 2003-05 biennium. The director of the office of management and budget shall transfer the savings accumulated as a result of these efficiencies in the amount of $1,400,000 to the general fund by June 30, 2005.

SECTION 12. INFORMATION TECHNOLOGY SERVICE - REPORTS TO THE INFORMATION TECHNOLOGY COMMITTEE AND THE BUDGET SECTION. The information technology department shall document information relating to the delivery of the consolidated services to agencies, including service dependability, agency complaints, and information technology department responsiveness, and shall report that information and the status of the accumulated savings to the information technology committee and the budget section as requested. Any agency receiving consolidated services may provide information to the information technology committee with respect to service availability, service

dependability, complaints of the agency or of persons receiving services from the agency or the department, department responsiveness, and any additional costs incurred by the agency as a result of the consolidated services.

SECTION 13. INFORMATION TECHNOLOGY LEGISLATIVE COUNCIL STUDY - APPROPRIATION - REPORTS TO THE BUDGET SECTION. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of $350,000, or so much of the sum as may be necessary, to the legislative council for the biennium beginning July 1, 2003, and ending June 30, 2005, for the purpose of contracting with consultants to conduct an information technology organizational study and an information technology management study and to provide assistance with the preparation of the request for proposals and consultant oversight. The studies must be completed by October 1, 2003, and periodic progress reports on the status of the studies must be provided to the information technology committee. The information technology committee may extend the October 1, 2003, deadline as it deems appropriate. A final report must be presented to the budget section upon completion of the studies.

The information technology organizational study must include a review and identification of:

1. The cost and benefits of a centralized information technology structure and the cost and benefits of a decentralized information technology structure.
2. The cost of providing electronic mail administration, file and print server administration, seat management and desktop personal computer support, mainframe and distributed computing hosting services, consolidated storage management and disaster recovery, and software development.
3. The roles and responsibilities of agency personnel providing information technology services under a centralized information technology structure and a decentralized information technology structure.
4. The positions and competencies needed by the information technology department to provide the information technology services on a centralized basis, including the organizational changes required within the department to provide the centralized services.
5. The human resource management issues, including change management, training, and employee compensation, to be addressed for a successful centralization.
6. The adequacy and quality of the services as currently provided and proper performance measures.
7. The comparison of current costs to industry data and data from other states.
8. Information technology services appropriate to be performed by individual agencies.
9. A plan to either centralize or decentralize the services identified, including the reorganization tasks, personnel transfers, and the changes required for information technology budgeting and cost allocation processes.

The information technology management study must include a review of:

1. The technology management processes of other states and private industry with respect to prioritizing state agency information technology budget requests, establishing information technology standards and policies, and overseeing information technology expenditures.
2. The role of other states in providing information technology services to nonstate government entities.
3. The level of information technology outsourcing in other state governments and the private sector and the applicability to the state of North Dakota.
4. The trends that will impact technology deployment and spending in the next five to ten years.
5. The level of coordination in the management of enterprise initiatives, such as the statewide wide area network, the enterprise resource planning system initiative, the geographic information system initiative, and the criminal justice information sharing initiative, compared to other states, including a recommendation regarding the appropriate governance structure to provide the maximum benefits to the state.
6. The potential changes to the organizational structure of the information technology department and other state government entities as related to information technology.

SECTION 14. A new section to chapter 54-10 of the North Dakota Century Code is created and enacted as follows:

Information technology responsibilities. The state auditor shall:

1. Conduct information technology compliance reviews, as determined necessary by the information technology committee, by conducting individual agency audits of information technology management, information technology planning, compliance with information technology plans, and compliance with information technology standards and policies and conducting statewide agency audits of compliance with specific information technology standards and policies.
2. Consult with the information technology department on audits of compliance with information technology plans and compliance with information technology standards and policies.
3. Participate in the information technology department's enterprise architecture process for developing information technology standards and policies.
4. Monitor major information technology projects for compliance with project management and information technology standards and policies.
5. Present results of information technology compliance reviews to the information technology committee and the information technology department's enterprise architecture committee.

SECTION 15. A new section to chapter 54-35 of the North Dakota Century Code is created and enacted as follows:

Information technology committee - Information technology reviews. The information technology committee may request the state auditor to conduct an information technology compliance review. The review may consist of an audit of an agency's information technology management, information technology planning, compliance with information technology plans, and compliance with information technology standards and policies or an audit of statewide compliance with specific information technology standards and policies.

SECTION 16. Two new sections to chapter 54-59 of the North Dakota Century Code are created and enacted as follows:

Department shall establish certain standards for agencies - Advisory committee - Exceptions. The department shall appoint an advisory committee consisting of representatives of state agencies for the purposes of prioritizing major computer software projects and establishing policies, standards, and guidelines for executive branch state agencies, departments, and institutions, excluding institutions under control of the state board of higher education and agencies of the judicial and legislative branches with respect to the purchase of computer software and computer systems. The chief information officer shall submit recommendations of the advisory committee regarding major software projects to the information technology committee for consideration by the committee and the drafting of appropriate legislation to implement the recommendations. The judicial and legislative branches shall annually notify the advisory committee on their major computer software projects and priorities. The chief information officer may exempt an agency from the policies, standards, and guidelines established by the committee to address situations unique to that agency.

Required use of electronic mail, file and print server administration, data base administration, application server, and hosting services. Each state agency and institution, excluding the legislative and judicial branches, the institutions under the control of the state board of higher education, the public employees retirement system, the retirement and investment office, the attorney general, and any entity exempted by the office of management and budget after advisement by the information technology department, shall obtain electronic mail, file and print server administration, data base administration, storage, application server, and hosting services through a delivery system established by the information technology department in conjunction with the office of management and budget. The office of management and budget, after receiving advice from the information technology department, shall establish policies and guidelines for the delivery of services, including the transition from existing systems to functional consolidation, with consideration given to the creation of efficiencies, cost-savings, and improved quality of service.

SECTION 17. AMENDMENT. Section 54-59-02 of the North Dakota Century Code is amended and reenacted as follows:

54-59-02. Information technology department - Responsibility - Public policy. The information technology department is established with the responsibility for all wide area network services planning, selection, and implementation for all state agencies, including institutions under the control of the board of higher education, counties, cities, and school districts in this state. With respect to a county, city, or school district, wide area network services are those services necessary to transmit voice, data, or video outside the county, city, or school district. In exercising its powers and duties, the department is responsible for computer support services, host software development, statewide communications services, standards for providing information to other state agencies and the public through the internet, technology planning, process redesign, and quality assurance. The department may not exercise its powers and duties in a manner that competes or otherwise interferes with the provision of telecommunications services to private, charitable, or nonprofit entities by privately or cooperatively owned telecommunications companies.

SECTION 18. A new subsection to section 54-59-05 of the North Dakota Century Code is created and enacted as follows:

May provide wide area network services to a state agency, city, county, school district, or other political subdivision of this state. The information technology department may not provide wide area network service to any private, charitable, or nonprofit entity except the information technology department may continue to provide the wide area network service the department provided to the private, charitable, and nonprofit entities receiving services from the department on January 1, 2003. The department shall file with the state auditor before September 1, 2003, a description of the wide area network service the department provided to each private, charitable, and nonprofit entity receiving services from the department on January 1, 2003.

SECTION 19. AMENDMENT. Section 54-59-05 of the North Dakota Century Code is amended and reenacted as follows:

54-59-05. Powers and duties of department. The department:

1. Shall provide, supervise, and regulate information technology of all executive branch state entities, excluding the institutions under the control of the board of higher education.
2. Shall provide network services in a way that ensures the network requirements of a single entity do not adversely affect the functionality of the whole network, facilitates open communications with the citizens of the state, minimizes the state's investment in human resources, accommodates an ever-increasing amount of traffic, supports rapid detection and resolution of problems, protects the network infrastructure from damage and security breaches, provides for the aggregation of data, voice, video, and multimedia into a statewide transport mechanism or backbone, and provides for the network support for the entity to carry out its mission.
3. May review and approve additional network services that are not provided by the department.
4. May purchase, finance the purchase, or lease equipment or software or replace, including by trade or resale, equipment or software as may be necessary to carry out this chapter. An agreement to finance the purchase of software, equipment, or implementation services may not exceed a period of three years. The department shall submit any intended financing proposal for the purchase of software, equipment, or implementation services under this subsection, which is in excess of one million dollars, to the budget section of the legislative council before executing a financing agreement. If the budget section does not approve the execution of a financing agreement, the department may not proceed with the proposed financing arrangement. The department may finance the purchase of software, equipment, or implementation services only to the extent the purchase amount does not exceed the amount appropriated to the department during that biennium for equipment.
5. Each executive branch agency or institution, excluding the institutions under the control of the board of higher education, shall submit to the department, in accordance with guidelines established by the department, a written request for the lease, purchase, or other contractual acquisition of information

technology. The department shall review requests for conformance with the requesting entity's information technology plan and compliance with statewide policies and standards. If the request is not in conformance or compliance, the department may disapprove the request or require justification for the departure from the plan or statewide policy or standard.

6. Shall provide information technology, including assistance and advisory service, to the executive, legislative, and judicial branches. If the department is unable to fulfill a request for service from the legislative or judicial branch, the information technology may be procured by the legislative or judicial branch within the limits of legislative appropriations.
7. Shall request information on or review information technology, applications, system development projects, and application development projects of executive branch agencies.
8. Shall study emerging technology and evaluate its impact on the state's system of information technology.
9. Shall develop guidelines for reports to be provided by each executive branch agency, institution, or department, the institutions under the control of the board of higher education, and agencies of the judicial and legislative branches on information technology in those entities.
10. Shall review the information technology management of executive branch agencies or institutions.
11. Shall perform all other duties necessary to carry out this chapter.

SECTION 20. AMENDMENT. Section 54-59-09 of the North Dakota Century Code is amended and reenacted as follows:

54-59-09. Information technology standards. Based on information from state agencies and institutions, the department and the office of management and budget shall develop statewide information technology policies, standards, and guidelines. The policies, standards, and guidelines must recognize the uniqueness of certain agencies and state which agencies are included or exempted from the policies, standards, and guidelines. The policies, standards, and guidelines must be reviewed by the state information technology advisory committee. Unless an exemption is granted by the chief information officer, each executive branch state agency and institution, excluding the institutions under the control of the board of higher education with respect to academic and research uses of information technology, shall comply with the policies and standards developed by the department and the office of management and budget. Unless an exemption is granted by the chief information officer, each entity receiving wide area network services provided by the department shall comply with the policies and standards developed by the department with respect to access to or use of wide area network services.

SECTION 21. REPEAL. Section 54-59-13 of the North Dakota Century Code is repealed.

SECTION 22. EFFECTIVE DATE. The enterprise resource planning system line item in section 1 of this Act and sections 4, 5, and 13 become effective May 16, 2003, and the remainder of the Act becomes effective on July 1, 2003.

Speaker of the House

President of the Senate

Chief Clerk of the House

Secretary of the Senate

This certifies that the within bill originated in the House of Representatives of the Fifty-eighth Legislative Assembly of North Dakota and is known on the records of that body as House Bill No. 1505.

House Vote: Yeas 65 Nays 28 Absent 1

Senate Vote: Yeas 31 Nays 15 Absent 1

Chief Clerk of the House

Received by the Governor at _____M. on _____, 2003.
Approved at M. on , 2003.

Governor

Filed in this office this _____ day of _____, 2003,

at _____ o'clock _____ M.

Secretary of State

B. N.D.C.C. 54-59 Information Technology Department

Document begins on the following page.

CHAPTER 54-59
INFORMATION TECHNOLOGY DEPARTMENT

54-59-01. Definitions.

As used in this chapter:

1. "Agency" or "entity" does not include any agricultural commodity promotion group or any occupational or professional board.
2. "Department" means the information technology department.
3. "Information technology" means the use of hardware, software, services, and supporting infrastructure to manage and deliver information using voice, data, and video.
4. "Network services" means the equipment, software, and services necessary to transmit voice, data, or video.

54-59-02. Information technology department - Responsibility - Public policy.

The information technology department is established with the responsibility for all wide area network services planning, selection, and implementation for all state agencies, including institutions under the control of the board of higher education, counties, cities, and school districts in this state. With respect to a county, city, or school district, wide area network services are those services necessary to transmit voice, data, or video outside the county, city, or school district. In exercising its powers and duties, the department is responsible for computer support services, host software development, statewide communications services, standards for providing information to other state agencies and the public through the internet, technology planning, process redesign, and quality assurance. The department may not exercise its powers and duties in a manner that competes or otherwise interferes with the provision of telecommunications service to a private, charitable, or nonprofit entity by a privately or cooperatively owned telecommunications company.

54-59-02.1. Prioritization of proposed major information technology projects.

The department shall submit information regarding proposed major information technology projects for executive branch state agencies, departments, and institutions, excluding institutions under control of the state board of higher education and agencies of the judicial and legislative branches to the state information technology advisory committee. The committee shall review the projects and rank those projects that receive the committee's affirmative recommendation. The chief information officer shall submit recommendations of the committee regarding the prioritization of major information technology projects to the information technology committee, the office of management and budget, and the appropriations committees of the legislative assembly. The judicial and legislative branches shall notify biennially the committee on their major information technology projects and priorities.

54-59-03. Chief information officer of the state.

The governor shall appoint the chief information officer of the state. The governor shall appoint the chief information officer on the basis of education, experience, and other qualifications in information technology and administration. The position of chief information officer is not a classified position. The chief information officer serves at the pleasure of the governor. The governor shall set the salary of the chief information officer within the limits of legislative appropriations.

54-59-04. Duties of chief information officer.

The chief information officer shall:

1. Administer the department.

2. Employ any personnel determined to be necessary to carry out the responsibilities of the department and duties as prescribed by law.
3. Fix the salaries of all employees within the department, within the limits of legislative appropriation. All personnel within the department are entitled to actual and necessary travel expenses at the same rate as for other employees of the state.

54-59-05. Powers and duties of department.

The department:

1. Shall provide, supervise, and regulate information technology of all executive branch state entities, excluding the institutions under the control of the board of higher education.
2. Shall provide network services in a way that ensures the network requirements of a single entity do not adversely affect the functionality of the whole network, facilitates open communications with the citizens of the state, minimizes the state's investment in human resources, accommodates an ever-increasing amount of traffic, supports rapid detection and resolution of problems, protects the network infrastructure from damage and security breaches, provides for the aggregation of data, voice, video, and multimedia into a statewide transport mechanism or backbone, and provides for the network support for the entity to carry out its mission.
3. May review and approve additional network services that are not provided by the department.
4. May purchase, finance the purchase, or lease equipment, software, or implementation services or replace, including by trade or resale, equipment or software as may be necessary to carry out this chapter. An agreement to finance the purchase of software, equipment, or implementation services may not exceed a period of five years. The department shall submit any intended financing proposal for the purchase of software, equipment, or implementation services under this subsection, which is in excess of one million dollars, to the budget section of the legislative management or the legislative assembly before executing a financing agreement. If the budget section or the legislative assembly does not approve the execution of a financing agreement, the department may not proceed with the proposed financing arrangement. The department may finance the purchase of software, equipment, or implementation services only to the extent the purchase amount does not exceed seven and one-half percent of the amount appropriated to the department during that biennium.
5. Shall review requests for lease, purchase, or other contractual acquisition of information technology as required by this subsection. Each executive branch agency or institution, excluding the institutions under the control of the board of higher education, shall submit to the department, in accordance with guidelines established by the department, a written request for the lease, purchase, or other contractual acquisition of information technology. The department shall review requests for conformance with the requesting entity's information technology plan and compliance with statewide policies and standards. If the request is not in conformance or compliance, the department may disapprove the request or require justification for the departure from the plan or statewide policy or standard.
6. Shall provide information technology, including assistance and advisory service, to the executive, legislative, and judicial branches. If the department is unable to fulfill a request for service from the legislative or judicial branch, the information

technology may be procured by the legislative or judicial branch within the limits of legislative appropriations.

7. Shall request and review information, including project startup information summarizing the project description, project objectives, business need or problem, cost-benefit analysis, and project risks and a project closeout information summarizing the project objectives achieved, project budget and schedule variances, and lessons learned, regarding any major information technology project of an executive branch agency. The department shall present the information to the information technology committee on request of the committee.
8. May request and review information regarding any information technology project of an executive branch agency with a total cost of between one hundred thousand and five hundred thousand dollars as determined necessary by the department. The department shall present the information to the information technology committee on request of the committee.
9. Shall study emerging technology and evaluate its impact on the state's system of information technology.
10. Shall develop guidelines for reports to be provided by each agency of the executive, legislative, and judicial branches, excluding the institutions under the control of the board of higher education, on information technology in those entities.
11. Shall collaborate with the state board of higher education on guidelines for reports to be provided by institutions under control of the state board of higher education on information technology in those entities.
12. Shall perform all other duties necessary to carry out this chapter.
13. May provide wide area network services to a state agency, city, county, school district, or other political subdivision of this state. The information technology department may not provide wide area network service to any private, charitable, or nonprofit entity except the information technology department may continue to provide the wide area network service the department provided to the private, charitable, and nonprofit entities receiving services from the department on January 1, 2003.
14. Shall assure proper measures for security, firewalls, and internet protocol addressing at the state's interface with other facilities.
15. Notwithstanding subsection 13, may provide wide area network services for a period not to exceed four years to an occupant of a technology park associated with an institution of higher education or to a business located in a business incubator associated with an institution of higher education.

54-59-06. Business plan.

The department shall develop and maintain a business plan. The business plan must:

1. Define the department's overall organization, mission, and delivery of services.
2. Define the department's short-term and long-term goals and objectives based on customer needs.
3. Outline the strategies and activities necessary to meet the goals and objectives of the department while improving the efficiency of the department and improving service to customers.
4. Define rates and funding mechanisms necessary to finance the proposed activities of the department.
5. Define a method for evaluating progress toward the goals outlined in the business plan.

6. Determine the specific strategies and processes to ensure that agencies share information, systems, and the statewide network.
7. Address the processes that will be put in place to ensure that the department exercises its powers and duties with minimal delay, cost, and procedural burden to an entity receiving services from the department; to ensure that the department provides prompt, high-quality services to an entity receiving services from the department; to ensure that an entity receiving services from the department is aware of the technology available and to ensure training on its use; and to foster information technology innovation by state entities.

54-59-07. State information technology advisory committee.

The state information technology advisory committee consists of the chief information officer; the commissioner of higher education or the commissioner's designee; the attorney general or the attorney general's designee; the secretary of state or the secretary of state's designee; the tax commissioner or the commissioner's designee; the chief justice of the supreme court or the chief justice's designee; two members of the legislative assembly appointed by the legislative management; a minimum of eight members representing state agencies, appointed by the governor; and two members with technology management expertise representing private industry, appointed by the governor. The appointees of the governor serve at the pleasure of the governor. The governor shall designate the chairman of the committee. Additional members may be asked to participate at the request of the chairman. The department shall provide staff services to the committee. The members of the committee representing private industry are entitled to be compensated for time spent in attendance at meetings of the committee and for other travel as approved by the chairman of the committee at the rate of sixty-two dollars and fifty cents per day and are entitled to reimbursement for actual and necessary expenses incurred in the same manner as other state officials. The compensation and expenses are to be paid from appropriations for the department. The committee shall advise the department regarding statewide information technology planning and budgeting, services of the information technology department, and statewide information technology initiatives and policy and shall review reports on major information technology projects as required by this chapter and policies, standards, and guidelines developed by the department. The chief information officer shall submit recommendations of the committee regarding information technology issues to the information technology committee for its consideration.

54-59-08. Required use of wide area network services.

Each state agency and institution that desires access to wide area network services and each county, city, and school district that desires access to wide area network services to transmit voice, data, or video outside that county, city, or school district shall obtain those services from the department. The chief information officer may exempt from the application of this section a county, city, or school district that demonstrates its current wide area network services are more cost-effective for or more appropriate for the specific needs of that county, city, or school district than wide area network services available from the department. For purposes of enhanced 911 and next generation 911 communications services, governmental entities are exempt from the provisions of this section. In selecting enhanced 911 and next generation 911 communication network providers, governmental entities shall select providers that are cost-effective, demonstrably reliable, and which follow interoperable standards set by the emergency services communications coordinating committee.

54-59-09. Information technology standards.

Based on information from state agencies and institutions, the department and the office of management and budget shall develop statewide information technology policies, standards,

and guidelines. The policies, standards, and guidelines must recognize the uniqueness of certain agencies and state which agencies are included or exempted from the policies, standards, and guidelines. The policies, standards, and guidelines must be reviewed by the state information technology advisory committee. Each executive branch state agency and institution, excluding the institutions under the control of the board of higher education, shall comply with the policies and standards developed by the department and the office of management and budget unless the chief information officer exempts an agency from the policies, standards, and guidelines to address situations unique to that agency. Unless an exemption is granted by the chief information officer, each entity receiving wide area network services provided by the department shall comply with the policies and standards developed by the department with respect to access to or use of wide area network services.

54-59-10. Information technology coordinators.

Each agency or institution shall appoint an information technology coordinator. The coordinator shall maintain liaison with the department and assist the department in areas related to making the most economical use of information technology.

54-59-11. Information technology plans.

Each executive branch state agency or institution, excluding the institutions under the control of the board of higher education, unless the chief information officer grants an exemption, shall participate in the information technology planning process based on guidelines developed by the department. The plan must be submitted to the department by August fifteenth of each even-numbered year unless the chief information officer grants an extension. The department shall review each entity's plan for compliance with statewide information technology policies and standards and may require an entity to change its plan to comply with statewide policies or standards or to resolve conflicting directions among plans. Agencies of the judicial and legislative branches shall file their information technology plans with the department by August fifteenth of each even-numbered year. Based on the plans, the department shall prepare a statewide information technology plan and distribute copies of that plan to members of the legislative assembly as requested by the legislative council. The statewide information technology plan must be developed with emphasis on long-term strategic goals, objectives, and accomplishments.

54-59-11.1. Information technology project planning.

Each executive branch state agency, excluding entities under the control of the state board of higher education, considering the development of an information technology project with an estimated cost of one hundred thousand dollars or more shall involve the information technology department in the planning and study of the project. A state agency must receive a recommendation from the information technology department prior to proceeding with any study relating to the project.

54-59-12. Coordination of activities - Reports.

The department shall cooperate with each state entity providing access to any computer database or electronically filed or stored information under subsection 4 of section 44-04-18 to assist in providing economical, efficient, and compatible access. The chief information officer shall conduct conferences and meetings with political subdivisions to review and coordinate information technology. The chief information officer and the commissioner of the board of higher education shall meet at least twice each year to plan and coordinate their information technology. The chief information officer and commissioner shall consider areas in which joint or coordinated information technology may result in more efficient and effective state government operations. Upon request, the chief information officer shall report to the legislative

management regarding the coordination of services with political subdivisions, and the chief information officer and commissioner shall report to the legislative management regarding their findings and recommendations.

54-59-13. Compliance reviews.

Repealed by S.L. 2003, ch. 665, § 21.

54-59-14. Information technology operating account.

The department shall establish a state information technology operating account in the state treasury to be used, in accordance with legislative appropriation, for procuring and maintaining information technology and network services and for providing information technology, network services, and central microfilm unit services to state entities and network services to users of the state network. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges as determined by the department. The department shall deposit the amounts received in the information technology operating account or the information technology development account, as appropriate.

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating account or other accounts specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

54-59-16. Confidentiality.

The department may receive from various agencies and various agencies may provide to the department any information from the agencies necessary to effect the purposes of this chapter without regard to the confidential nature of the information. Each agency shall notify the department regarding the confidential nature of any information submitted to the department. The department is subject to the same restrictions and penalties regarding the dissemination of this information as the entity involved. Except for a request for access authorized by section 54-10-22.1 or a request to access information collected to carry out section 54-59-09, 54-59-11, or 54-59-13, the department shall refer a request for access to or inspection of information provided by an agency to that agency for response. Referral to the agency satisfies any responsibility of the department to provide that information under open records requirements. Upon court order, the department shall provide access to or inspection of this information in accordance with restrictions of that entity involved governing dissemination of that information.

54-59-17. Educational technology council - Meetings - Compensation.

1. The educational technology council is responsible for coordinating educational technology initiatives for elementary and secondary education.
2. The educational technology council consists of:
    a. The chief information officer.
    b. The superintendent of public instruction or the superintendent's designee.
    c. The commissioner of higher education or the commissioner's designee.
    d. A representative appointed by the state board for career and technical education.
    e. A representative appointed by the governor from a list of three nominees submitted by the North Dakota association of technology leaders.

f. A representative appointed by the governor from a list of three nominees submitted by the North Dakota council of educational leaders.
g. A representative appointed by the governor from a list of three nominees submitted by the North Dakota school boards association.
h. A representative appointed by the governor from a list of three nominees submitted by the North Dakota association of special education directors.
i. A school district representative who is appointed by the governor and who represents a school district that has an enrollment in kindergarten through grade twelve of fewer than four hundred.
j. A school district representative who is appointed by the governor, who is licensed to teach by the educational standards and practices board, and who is employed by a public school district in this state as a classroom teacher.
k. The director of technology for the department of public instruction.
l. A representative appointed by the governor from a list of three nominees submitted by the state association of non public schools.

3. The council shall select a chairman from among its members.
4. The term of office for the members appointed by the governor is four years.
5. The members of the educational technology council appointed by the governor are entitled to receive as compensation sixty-two dollars and fifty cents per day and to reimbursement of expenses as provided by law for state officers while attending meetings of the council.

54-59-18. North Dakota educational technology council - Powers and duties.

The educational technology council shall:

1. Coordinate the use of technology and the development of technology systems to enhance educational opportunities for elementary and secondary education.
2. Cooperate with state agencies and other organizations to develop statewide educational technology systems.
3. Adopt bylaws for the conduct of its affairs.
4. Publish the informational material it deems necessary.
5. Conduct a continuing study to assess the needs, resources, and facilities that are available or which may be required to establish educational technology systems throughout the state.
6. Solicit and receive moneys from public and private sources and expend the moneys for educational technology.
7. Appoint a technology director who shall serve at the will of the council.
8. Hire the director of the center for distance education.

54-59-19. Information technology department annual report.

The department shall prepare and present an annual report to the information technology committee. In addition to the presentation of the annual report to the information technology committee, the department shall present a summary of the annual report to the budget section. The report must contain:

1. A list of all projects for which financing agreements have been executed.
2. A comparison of the department's rates charged for services compared to rates charged for comparable services in other states and in the private sector.
3. Information regarding the delivery of services to agencies, including service dependability, agency complaints, and information technology department responsiveness.
4. A description of the status and progress of programs established pursuant to chapter 54-46 and as specifically required by section 54-46-11.

54-59-20. Security background information.

The chief information officer shall require as a condition of employment with the department that individuals who have unescorted physical access to the facilities or other security-sensitive areas of the department designated by the chief information officer submit to a criminal history record check in accordance with section 12-60-24. The chief information officer may require as a condition of contracting with the department or other state agency or department with respect to an information technology project that any individual employed by the contractor or a subcontractor to perform the work under the contract submit to a criminal history record check in accordance with section 12-60-24.

54-59-21. Criminal justice information sharing board - Membership - Duties and powers - Director - Exempt records.

1. The criminal justice information sharing board consists of:
   a. The chief justice of the supreme court or the chief justice's designee.
   b. The attorney general or the attorney general's designee.
   c. The chief information officer of the state.
   d. The director of the department of emergency services or the director's designee.
   e. The director of the department of corrections and rehabilitation or the director's designee.
   f. The superintendent of the state highway patrol or the superintendent's designee.
   g. The chief of the bureau of criminal investigation.
   h. The director of the department of transportation or the director's designee.
   i. A representative of a city police department, appointed by the governor from a list of two or more nominees from the North Dakota chiefs of police association.
   j. A representative of a county sheriff's office, appointed by the governor from a list of two or more nominees from the North Dakota sheriffs and deputies association.
   k. A state's attorney, appointed by the governor from a list of two or more nominees from the North Dakota state's attorneys association.
   l. One at-large member appointed by the governor.
2. The chief information officer is chairman of the board. Board members who are not permanent full-time state employees are entitled to compensation of seventy-five dollars per day and mileage and expenses as provided by law for state employees to be paid by the information technology department. A state employee who is a board member must receive that employee's regular salary and is entitled to mileage and expenses, to be paid by the employing agency. Board members who are appointed by the governor under this section serve for a term of three years.
3. The information technology department, at the direction of the board, shall maintain a criminal justice data information sharing system to facilitate the exchange of criminal justice information among judicial, law enforcement, and emergency personnel. Only a criminal justice agency, as defined in section 12-60-16.1, and any other person designated by the board may access the system. The system only may be accessed for the purposes set forth by the board. Any law enforcement record in the possession of the department is an exempt record.
4. The board may appoint and employ a director who serves at the pleasure of and under the direct supervision of the board. The information technology department shall provide staff and other necessary support to the board. The board or director

may acquire support staff and employ personnel who are under the direct supervision of the director and the board.

5. The board shall set policy and adopt rules relating to the access to and the collection, storage, and sharing of criminal justice information and the systems necessary to perform those functions. The board shall provide operational oversight for criminal justice information sharing activities and shall approve and provide oversight of criminal justice information sharing budgets. The board may appoint such committees as it deems necessary.
6. The director may contract with the bureau of criminal investigation for the processing of federal fingerprint identification.

54-59-22. Required use of electronic mail, file and print server administration, database administration, application server, and hosting services.

Each state agency and institution, excluding the legislative and judicial branches, the institutions under the control of the state board of higher education, the attorney general, and any entity exempted by the office of management and budget after advisement by the information technology department, shall obtain electronic mail, file and print server administration, database administration, storage, application server, and hosting services through a delivery system established by the information technology department in conjunction with the office of management and budget. The office of management and budget, after receiving advice from the information technology department, shall establish policies and guidelines for the delivery of services, including the transition from existing systems to functional consolidation, with consideration given to the creation of efficiencies, cost-savings, and improved quality of service.

54-59-23. Information technology projects - Reports.

1. An executive, legislative, or judicial branch agency, except for institutions under the control of the state board of higher education, shall report to the state information technology advisory committee according to guidelines developed by the department and reviewed by the state information technology advisory committee regarding the plan for and status of any information technology project that is estimated to cost more than five hundred thousand dollars.
2. During the life of the project, the agency shall notify the state information technology advisory committee if:
    a. At a project milestone, the amount expended on project costs exceeds the planned budget for that milestone by twenty percent or more; or
    b. At a project milestone, the project schedule extends beyond the planned schedule to attain that milestone by twenty percent or more.
3. A report under subsection 2 must specify corrective measures being undertaken to address any cost or time of completion issue. If the agency has not taken adequate corrective measures within ninety days after the report, the agency shall submit a report to the legislative management's information technology committee regarding the project.
4. Upon completion of the project, the agency shall notify the state information technology advisory committee if:
    a. The budget for the project exceeded the original budget by twenty percent or more; or
    b. The final project completion date extended beyond the original project scheduled completion date by twenty percent or more.

54-59-24. Borrowing authority - E-rate funding - Emergency commission approval.

Notwithstanding the limitations provided in section 54-59-05 and upon the approval of the emergency commission, the department may borrow from the Bank of North Dakota an amount necessary to pay telecommunications costs for connecting approved schools and libraries in the event e-rate funding is not received by the department from the schools and libraries division of the universal service administrative company. In addition to the principal repayment, the Bank of North Dakota is entitled to receive interest on the loan at a rate equal to other state agency borrowings. If at the end of the biennium a balance exists on any loan obtained pursuant to this section and funds are not anticipated to be available from the schools and libraries division of the universal service administrative company to repay the loan, the department shall request a deficiency appropriation from the legislative assembly to repay the loan.

54-59-25. Health information technology advisory committee - Duties.

1. The health information technology advisory committee consists of the state chief information officer or the chief information officer's designee, the state health officer or the state health officer's designee, the governor or the governor's designee, the executive director of the department of human services or the executive director's designee, the chairman of the house human services committee and the chairman of the senate human services committee or if either or both of them are unwilling or unable to serve then the chairman of the legislative management shall appoint a replacement who is a member of the same legislative chamber as the individual being replaced, and individuals appointed by the governor to represent a broad range of public and private health information technology stakeholders.
2. The health information technology advisory committee shall collaborate with and make recommendations to the health information technology office, as provided under sections 6-09-42, 6-09-43, 54-59-26, and 54-59-27.
3. As requested by the health information technology advisory committee, the department shall provide or arrange for administrative services to assist the health information technology advisory committee.
4. The health information technology advisory committee may employ an executive director who serves at the pleasure of and under the direct supervision of the health information technology advisory committee. The executive director may employ personnel as necessary for the administration of this section.
5. The health information technology advisory committee may accept private contributions, gifts, and grants from any source to carry out the purposes of the committee and the health information technology office.

54-59-26. Health information technology office - Duties - Loan and grant programs.

1. The health information technology office is created in the department. The health information technology advisory committee shall make recommendations to the health information technology office for implementing a statewide interoperable health information infrastructure that is consistent with emerging national standards; promote the adoption and use of electronic health records and other health information technologies; and promote interoperability of health information systems for the purpose of improving health care quality, patient safety, and the overall efficiency of health care and public health services.
2. The health information technology office director, in collaboration with the health information technology advisory committee, shall:

a. Apply for federal funds that may be available to assist the state and health care providers in implementing and improving health information technology.
b. Implement and administer a health information exchange that utilizes information infrastructure and systems in a secure and cost-effective manner to facilitate the collection, storage, and transmission of health records.
c. Adopt rules under chapter 28-32 for the use of health information, use of the health information exchange, and participation in the health information exchange.
d. Adopt rules under chapter 28-32 for accessing the health information exchange to ensure appropriate and required privacy and security protections and relating to the authority of the director to suspend, eliminate, or terminate the right to participate in the health information exchange.
e. Establish a health information technology loan program to provide loans to health care providers for the purpose of purchasing and upgrading certified electronic health record technology, training personnel in the use of such technology, and improving the secure electronic exchange of health information, and for any other purpose under section 6-09-42.
f. Establish a health information technology planning loan program to provide low-interest loans to health care entities to assist those entities in improving their health information technology infrastructure under section 6-09-43.
g. Facilitate and expand electronic health information exchange in the state, directly or by awarding grants.
h. Establish an application process and eligibility criteria for and accept and process applications for loans and grants under subdivisions e, f, and g. The eligibility criteria must be consistent with federal requirements associated with federal funds received under subdivision a. The eligibility criteria for loans under subdivision f must include a requirement that the recipient's approved health information technology be strategically aligned with the state's health information technology plan and the associated federal standards and that the recipient has passed an onsite electronic medical record readiness assessment conducted by an assessment team determined by the health information technology advisory committee and the health information technology office director.
i. Determine fees and charges for access and participation in the health information exchange. Any moneys collected under this subdivision must be deposited in the electronic health information exchange fund.
j. Consult and coordinate with the state department of health and the department of human services to facilitate the collection of health information from health care providers and state agencies for public health purposes, including identifiable health information that may be used by state agencies, departments, or institutions to comply with applicable state or federal laws.

3. If the health information technology advisory committee determines that establishing a health information exchange with another state or states will assist in providing health information exchange services in a cost-effective manner, the health information technology office director, in collaboration with the health information technology advisory committee, may join with another state or states to

establish, implement, and administer a health information exchange consistent with other provisions of this chapter.

54-59-27. Health information technology office - Electronic health information exchange fund.

1. There is created an electronic health information exchange fund. The fund consists of moneys deposited in the fund from federal or other sources or moneys transferred into the fund as directed by the legislative assembly. The health information technology office shall administer this fund and shall distribute moneys in the fund accordingly. The moneys in the fund must be used to facilitate and expand electronic health information exchange. Moneys in the fund may be used, subject to legislative appropriations, to provide services directly, for grants as provided under this section, and for the costs of administration of the fund.
2. A grant applicant shall submit an application to the health information technology office, which shall determine the applicant's eligibility based upon criteria established by the health information technology office director in collaboration with the health information technology advisory committee.
3. This section does not create an entitlement to any funds available for grants under this section. The health information technology office may award these grants to the extent funds are available and, within the office's discretion, to the extent such applications are approved.

54-59-28. Participation in the health information exchange by executive branch state agencies and institutions of higher education.

1. Before January 1, 2015, each executive branch state agency and each institution of higher education that implements, acquires, or upgrades health information technology systems shall use health information technology systems and products that meet minimum standards adopted by the health information technology office for accessing the health information exchange. A state agency or institution of higher education that participates in or has health information that supports or develops the health information exchange shall provide access to patient-specific data to complete the patient record within the health information exchange. Notwithstanding any other provision of law, each participating agency and institution shall provide patient-specific data to the health information exchange.
2. Participation in the health information exchange by a state agency or institution has no effect on the content, use, or disclosure of health information of patient participants which is held in locations other than the exchange. This section does not limit or change the obligation of an agency or institution to exchange health information in accordance with other applicable federal and state laws or rules.

54-59-29. Health information exchange - Confidential records.

Any individually identifiable health information, as defined under the federal Health Insurance Portability and Accountability Act of 1996 [Pub. L. 104-191], submitted to, stored in, or transmitted by the health information exchange under this chapter and any such data or record in the possession of the health information technology office is confidential. Any other information relating to patients, individuals, or individually identifiable demographic information contained in a master client index submitted to, stored in or transmitted by the health information exchange or in the possession of the health information technology office is an exempt record.

54-59-30. Immunity for reliance on data from the health information exchange.

A health care provider that relies in good faith upon any information provided through the health information exchange in the treatment of a patient is immune from criminal or civil liability arising from any damages caused by that good-faith reliance. The immunity granted under this section does not apply to acts or omissions constituting gross negligence or reckless, wanton, or intentional misconduct.

54-59-31. (Effective after December 31, 2014) Certified electronic health records systems.

An executive branch state agency, an institution of higher education, and any health care provider or other person participating in the health information exchange may use only an electronic health record system for use in the exchange which is certified under rules adopted by the office of the national coordinator for health information technology.

54-59-32. Major information technology projects - Appointment of executive steering committees.

1. An executive branch state agency, excluding institutions under the control of the state board of higher education, proposing to conduct a major information technology project as described in subsection 10 of section 54-35-15.2, the department, and the office of management and budget, in consultation with the attorney general, shall collaborate on the procurement, contract negotiation, and contract administration of the project. The agency, the department, and the office of management and budget, in consultation with the attorney general, shall approve the solicitation, contract, or agreement, and any amendments relating to the project before submission to the executive steering committee as provided in subsection 3.
2. The procurement officer and primary project manager for a major information technology project must meet the qualifications established by the department and the office of management and budget.
3. An executive steering committee must be appointed to oversee each major information technology project. The agency project sponsor shall serve as chairman of the committee. The executive steering committee must consist of the director of the office of management and budget or a designee of the director, the chief information officer or a designee of the officer, the head of the agency contracting for the project or a designee, the project sponsor, and a large project oversight analyst designated by the chief information officer. The executive steering committee shall monitor the overall status of the project and review project decisions, including negotiation and execution of contracts, approval of project budgets, implementation of project schedules, assessment of project quality, and consideration of scope changes. Any project
4. decision declared by a member of the committee to be a major project decision requires at least four affirmative votes.
5. An agreement or contract, including an amendment, revision, or scope change, for a major information technology project may not be entered unless signed by the head of the contracting agency or a designee and the chief information officer or a designee of the officer.

C. 2013 Senate Bill 2021

Document begins on the following page.

Sixty-third Legislative Assembly of North Dakota
In Regular Session Commencing Tuesday, January 8, 2013

SENATE BILL NO. 2021
(Appropriations Committee)
(At the request of the Governor)

AN ACT to provide an appropriation for defraying the expenses of the information technology department; to create and enact a new section to chapter 54-59; to amend and reenact sections 54-59-15 and 54-59-22 of the North Dakota Century Code, relating to acceptance of funds and to agencies exempted from certain services of the information technology department; to provide for studies; to provide for a report to the budget section; to provide an appropriation for the office of management and budget; and to provide for various transfers.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from special funds derived from federal funds and other income, to the information technology department for the purpose of defraying the expenses of that agency, for the biennium beginning July 1, 2013, and ending June 30, 2015, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
Salaries and wages	$47,383,177	$4,170,074	$51,553,251
Accrued leave payments	0	2,626,084	2,626,084
Operating expenses	69,218,477	(4,383,834)	64,834,643
Capital assets	15,035,666	(2,535,066)	12,500,600
Center for distance education	6,649,238	(780,847)	5,868,391
Statewide longitudinal data system	1,869,243	1,511	1,870,754
Educational technology council	1,075,403	739,206	1,814,609
EduTech	7,926,447	125,647	8,052,094
K-12 wide area network	5,206,992	(278,815)	4,928,177
Geographic information system	1,112,065	348,229	1,460,294
Health information technology office	13,959,238	(9,208,515)	4,750,723
Criminal justice information sharing	2,781,394	1,087,967	3,869,361
Federal stimulus funds	0	6,800,000	6,800,000
Total all funds	$172,217,340	($1,288,359)	$170,928,981
Less estimated income	153,165,136	(3,490,583)	149,674,553
Total general fund	$19,052,204	$2,202,224	$21,254,428
Full-time equivalent positions	336.30	4.00	340.30

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SIXTY-FOURTH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items approved by the sixty-second legislative assembly for the 2011-13 biennium and the 2013-15 one-time funding items included in the appropriation in section 1 of this Act:

One-Time Funding Description	2011-13	2013-15
Criminal justice information sharing projects	$200,000	$800,000
Statewide longitudinal data system	1,757,624	0
Eligibility system	1,500,000	0
Federal fiscal stimulus	8,000,000	0
Educational technology council grants	0	200,000
Archiving study	0	100,000
Geographic information system projects	0	215,000

Total all funds	$11,457,624	$1,315,000
Less estimated income	11,257,624	0
Total general fund	$200,000	$1,315,000

The 2013-15 one-time funding amounts are not a part of the entity's base budget for the 2015-17 biennium. The information technology department shall report to the appropriations committees of the sixty-fourth legislative assembly on the use of this one-time funding for the biennium beginning July 1, 2013, and ending June 30, 2015.

SECTION 3. TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects.

SECTION 4. DEPARTMENT OF PUBLIC INSTRUCTION - STATEWIDE LONGITUDINAL DATA SYSTEM EXPENDITURES - APPROVAL. The department of public instruction may spend only the federal funds for costs associated with the statewide longitudinal data system upon approval of the expenditures by the information technology department, for the biennium beginning July 1, 2013, and ending June 30, 2015.

SECTION 5. A new section to chapter 54-59 of the North Dakota Century Code is created and enacted as follows:

Information technology project planning.

Each executive branch state agency, excluding entities under the control of the state board of higher education, considering the development of an information technology project with an estimated cost of one hundred thousand dollars or more shall involve the information technology department in the planning and study of the project. A state agency must receive a recommendation from the information technology department prior to proceeding with any study relating to the project.

SECTION 6. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating account or other accounts specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 7. AMENDMENT. Section 54-59-22 of the North Dakota Century Code is amended and reenacted as follows:

54-59-22. Required use of electronic mail, file and print server administration, database administration, application server, and hosting services.

Each state agency and institution, excluding the legislative and judicial branches, the institutions under the control of the state board of higher education, the attorney general, and any entity exempted by the office of management and budget after advisement by the information technology department, shall obtain electronic mail, file and print server administration, database administration, storage, application server, and hosting services through a delivery system established by the information technology department in conjunction with the office of management and budget. The office of management and budget, after receiving advice from the information technology department, shall establish policies and guidelines for the delivery of services, including the transition from existing systems to functional

consolidation, with consideration given to the creation of efficiencies, cost-savings, and improved quality of service.

SECTION 8. APPROPRIATION - OFFICE OF MANAGEMENT AND BUDGET – INFORMATION TECHNOLOGY HARDWARE RELOCATION AND CONSOLIDATION STUDY. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of $200,000, or so much of the sum as may be necessary, to the office of management and budget for the purpose of contracting with a private consultant to conduct an information technology relocation and consolidation study of information technology equipment operated by the attorney general and by agencies that have been exempted by the office of management and budget under section 54-59-22, for the biennium beginning July 1, 2013, and ending in June 30, 2015.

1. The study:

   a. Must include input from the attorney general and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the attorney general and the agencies exempted by the office of management and budget to the information technology department's secure data center.
   b. Must address the issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships.
   c. Must be completed before December 31, 2013.

2. The office of management and budget shall report its findings and recommendations to the budget section and the legislative management's information technology committee by March 31, 2014, and submit any proposed legislation necessary to implement the consolidation or relocation to the legislative management's information technology committee by July 1, 2014. If the findings of the study indicate that a partial or full consolidation of information technology services or relocation of information technology hardware, are feasible and desirable, the office of management and budget and the information technology department shall assist any affected agency in developing an implementation plan as a part of the agency's 2015-17 budget request.

SECTION 9. INFORMATION TECHNOLOGY DESKTOP SUPPORT STUDY - REPORT TO BUDGET SECTION. Prior to January 1, 2014, the information technology department shall conduct a study of all state agencies' information technology desktop support to determine the feasibility and desirability of centralization of desktop support services through the information technology department for all state agencies. The study must include a review of the support staff, associated costs to the respective agency, use of third-party information technology contractors, and a cost-benefit comparison of current state agencies' desktop support self services and desktop support services provided by the information technology department. The information technology department shall report its findings and recommendations to the office of management and budget, the budget section, and the interim information technology committee prior to January 1, 2014. The office of management and budget shall provide a report to the budget section regarding the findings, recommendations, and any legislation required to implement the recommendations of the study.

President of the Senate

Speaker of the House

Secretary of the Senate

Chief Clerk of the House

This certifies that the within bill originated in the Senate of the Sixty-third Legislative Assembly of North Dakota and is known on the records of that body as Senate Bill No. 2021.

Senate Vote:	Yeas 47	Nays 0	Absent 0
House Vote:	Yeas 76	Nays 14	Absent 4

Secretary of the Senate

Received by the Governor at _____M. on _____, 2013.

Approved at _____M. on _____, 2013.

Governor

Filed in this office this _____day of _____, 2013,

at _____ o'clock _____M.

Secretary of State

The Evolution of North Dakota's Enterprise IT:

From Fragmentation to Unification (1995–2024)

I. Origins and Foundational Years (1995–1999)

See the "Enterprise IT Evolution Timeline" visual for a quick reference of milestones from the creation of LITC through the establishment of ITD.

North Dakota's enterprise IT journey began with growing concerns over fragmented technology systems and unsustainable costs. In 1995, the Legislature created the **Legislative Information Technology Committee (LITC)** and began requiring agencies to submit biennial IT plans. The **Information Services Division (ISD)** within OMB coordinated early efforts, but lacked enterprise authority.

A pivotal moment came with the **1998 Inteliant Statewide Telecommunications Study**, which identified redundant infrastructure, isolated networks, and inconsistent service levels across government. The result: a call for centralized IT governance.

In response, the 1999 Legislature passed **Senate Bill 2043**, creating the **Information Technology Department (ITD)** as a cabinet-level agency. ITD assumed responsibility for network services, infrastructure, and long-term IT planning across state agencies.

II. Enterprise Vision and Growing Pains (2000–2010)

The 2000s marked the rise of the **enterprise IT model**. ITD developed statewide architecture, promoted shared services, and implemented project oversight structures. IT became more visible in service delivery, including early e-government initiatives.

However, the **2004 PTI Organization and Management Study** revealed growing tensions:

- Agencies viewed ITD as a utility, not a strategic partner.
- Project and service delivery were inconsistent.
- Governance lacked clarity.

Recommendations included separating policy from operations, strengthening the CIO role, and introducing formal customer relationship models. While not fully implemented at the time, these ideas shaped later reforms.

III. Performance, Security, and Digital Demands (2011–2016)

As technology matured, so did expectations. From 2011 to 2016, LITC prioritized:

- Cybersecurity risk management
- Enterprise data sharing
- IT performance dashboards
- Customer service improvement

The **2014–15 Eide Bailly Desktop Support Consolidation Study** confirmed inefficiencies in duplicated support teams, outdated ticketing systems, and inconsistent service quality. The study recommended full consolidation of desktop support under ITD, with standardized tools, SLAs, and accountability measures. These findings helped fuel a statewide appetite for more ambitious reform.

By 2016, agencies increasingly criticized ITD's cost transparency, procurement agility, and responsiveness. LITC called for a comprehensive review of the IT model.

IV. The Great Recalibration and Unification (2017–2020)

In 2017, the Legislature commissioned a study on **executive branch IT unification**, examining inefficiencies from decentralized staffing, inconsistent security practices, and high operational costs.

Its findings led to **House Bill 1021 (2019)**, which launched the formal unification of IT:

- Over 400 IT staff were centralized under **North Dakota Information Technology (NDIT)**.
- NDIT became responsible for planning, service delivery, cybersecurity, and project portfolio management.

This transformation was the most significant since ITD's founding. It established clear enterprise authority, centralized service delivery, and created the state's first **Chief Information Security Officer (CISO)** role.

IV.a Challenges and Lessons Learned from Unification (2017–2020)

Despite the structural gains of IT unification, the transition period revealed several challenges:

- **Communication Gaps:** Many agency leaders and staff reported a lack of consistent communication around what unification meant, how it would be implemented, and what services would change.
- **Employee Displacement:** During the COVID-19 pandemic and ensuing remote work directives, many IT staff who had been embedded within agencies were reassigned or removed without coordinated planning. This created operational strain, weakened agency confidence, and disrupted longstanding working relationships.
- **Cultural Resistance:** The shift from agency-controlled IT to centralized service delivery introduced tensions around autonomy, responsiveness, and perceived loss of influence over IT priorities.

These lessons underscore the importance of clear expectations, change management, and sustained engagement with agency partners in future IT governance evolution.

V. Post-Unification: Stabilization and Maturity (2021–2024)

Following unification, NDIT focused on rebuilding trust and delivering value. Key priorities included:

- **Customer Success Manager / Technology Business Partner strategic planning program**
- Refinement of service level agreements and cost models
- Performance dashboards and agency engagement
- Advanced cybersecurity operations, audits, and COG planning

However, challenges persisted. The 2024 LITC report acknowledged agency frustration with billing transparency, service flexibility, and communication gaps. Additional concerns included:

- The **Customer Success Manager / Technology Business Partner (CSM/TBP) program** was launched without sufficient agency buy-in or communication.
- The program introduced a **fee-for-service funding model** that was unplanned and poorly understood by client agencies.
- The program lacked **dedicated technical support teams** for each agency, hindering service responsiveness and continuity.

Legislators and stakeholders called for a recalibrated model focused on shared ownership, responsiveness, and measurable outcomes.

VI. Consultant Study Milestones

1999 Inteliant Plan

- Led to ITD's creation
- Unified backbone recommended and built

2004 PTI Study

- Called for CIO empowerment, customer service reforms, governance clarity
- Foreshadowed structural realignments adopted post-2015

2014–15 Eide Bailly Study

- Identified fragmentation in desktop support
- Catalyzed consolidation efforts and influenced IT unification language

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VII. Implemented Recommendations

- Creation of ITD (1999): Established centralized IT governance, resulting in statewide cost savings through shared infrastructure and reduced duplication.
- Centralized project oversight and lifecycle governance: Improved project delivery timelines and reduced risks associated with unmanaged initiatives.
- Statewide cybersecurity strategy with CISO leadership: Strengthened security posture and improved audit outcomes across all executive branch agencies.
- Adoption of enterprise architecture and IT planning standards: Enabled long-term strategic alignment and efficiency in technology procurement.
- Full IT staff unification (2019–2020): Led to economies of scale and more consistent IT support, though accompanied by transitional challenges.
- Launch of digital citizen services, unified portals, and mobile access: Significantly enhanced public access to government services, with measurable improvements in service delivery satisfaction and user engagement.
- Creation of ITD (1999)
- Centralized project oversight and lifecycle governance
- Statewide cybersecurity strategy with CISO leadership
- Adoption of enterprise architecture and IT planning standards
- Full IT staff unification (2019–2020)
- Launch of digital citizen services, unified portals, and mobile access

VIII. Major Projects Completed

- Statewide network backbone
- Medicaid MMIS; early stages of human services system modernization
- PeopleSoft / ConnectND development and implementation
- Small application migration off mainframe
- Statewide licensing, tax, and procurement platforms
- Statewide Active Directory and identity management

IX. Unfulfilled Recommendations

- Full adoption of chargeback model transparency
- Universal satisfaction with service delivery and billing clarity
- Formal separation of planning and operations within NDIT
- Continuous performance benchmarking against peer states

X. Application Portfolio Analysis and Technical Debt Insights (2024–2025)

In 2024–2025, North Dakota launched a statewide application rationalization initiative, evaluating the technical and business value of **1,722 applications** across agencies. These figures reflect the inventory as of March 25, 2025. The findings revealed:

Category	Number of Applications	Percentage
Review	834	48%
Retain	591	34%
Retire	166	10%
Refresh	130	8%

- **16% of applications** carry some degree of **technical debt**, indicating legacy technology, low scalability, or limited maintainability. These systems are costly to maintain, increasingly unreliable, and dependent on a shrinking pool of skilled programmers. Over time, the burden of supporting them compounds, placing increasing demands on budget, staffing, and risk management resources.
- **84% of applications** were classified as technical "assets" (modern, secure, high-value). Most of these applications provide medium to high business and technical value. They should continue to be maintained and updated while they retain value. New iterations of these solutions should be consolidated under a single license, duplicative programs removed, and future development should prioritize low-code/no-code platforms.

The analysis offers a foundation for:

- Prioritizing modernization investments
- Identifying consolidation opportunities
- Aligning IT resources with business criticality
- Reducing long-term support costs and security risk

This data-driven inventory will shape North Dakota's future enterprise architecture, procurement strategy, and digital service transformation roadmap.

In 2024–2025, North Dakota launched a statewide application rationalization initiative, evaluating the technical and business value of **1,722 applications** across agencies. These figures reflect the inventory as of March 25, 2025. The findings revealed:

- **16% of applications** carry some degree of **technical debt**, indicating legacy technology, low scalability, or limited maintainability. These systems are costly to maintain, increasingly unreliable, and dependent on a shrinking pool of skilled programmers. Over time, the burden of supporting them compounds, placing increasing demands on budget, staffing, and risk management resources.
- Applications were categorized as:
    - **Review** – 834 applications (48%)
    - **Retain** – 591 applications (34%)
    - **Retire** – 166 applications (10%)
    - **Refresh** – 130 applications (8%)
- The distribution of assets and liabilities varied significantly by agency, with some entities relying heavily on outdated systems, while others had modern, enterprise-grade platforms.
- **84% of applications** were classified as technical "assets" (modern, secure, high-value). Most of these applications provide medium to high business and technical value. They should continue to be maintained and updated while they retain value. New iterations of these solutions should be consolidated under a single license, duplicative programs removed, and future development should prioritize low-code/no-code platforms.

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📏 How We Got to Now

North Dakota's IT journey began with fragmented systems and isolated efforts. The Legislature responded with oversight (LITC), structure (ITD), and eventually, transformation (NDIT). Along the way, decades of reports, consultant insights, and user frustrations created a roadmap for a modern enterprise.

Today, NDIT is no longer just a service provider—it is a **strategic enabler** of digital government, cybersecurity resilience, and statewide innovation. But this evolution is ongoing. The next phase will require balancing structure with flexibility, cost control with service value, and unification with empowerment.

The question is no longer whether IT should be unified. The question is: **how do we make this model thrive for every citizen and agency it serves?**

Legislative Priorities for the Appropriations Committee:

- Support long-term funding for modernizing high-value, high-use applications.
- Invest in scalable platforms that reduce technical debt and increase system resilience.
- Align IT service funding models with agency needs and strategic outcomes.
- Improve oversight and transparency through dashboards and performance metrics.
- Prioritize continued cybersecurity maturity and incident preparedness.
- Ensure that customer engagement, service delivery, and technical support structures are sustainable and measurable.

ND GATEWAY

NORTH Dakota
Be Legendary.

There is a growing trend in Government, to create a service delivery system on one platform to manage and connect requests and provide information. The ND Gateway is North Dakota's portal solution to provide a single, common portal to obtain the services of North Dakota's agencies.

ND GATEWAY

Technology

The ND Gateway is built on ServiceNow's **Public Sector Digital Services platform** (**PSDS**). PSDS is a market leader platform designed specifically to help governments modernize their services by unifying services, operations, and infrastructure in a single low code platform with the capability to integrate with software tools and third-party applications.

NDIT in partnership with Deloitte, configured and developed the state's PSDS instance into a modernized digital portal using human centered design principles to provide a digital experience that is intuitive and easy to use.

By developing the ND Gateway on the PSDS low-code platform, NDIT was able to realize the benefit of acceleration of digital transformation.

Benefits of PSDS

The state's adoption of the PSDS platform will provide the following benefits:

Increase efficiency and save time

Helps grow North Dakota's economy

Reduces confusion amongst users

Advance the State's digital presence

- **Improved customer experience**
  Provide faster, more convenient services, and support customers outside of government hours
- **Increased public trust**
  Deliver services faster, provide transparency, and safeguard sensitive data
- **Streamlined operations**
  Create workflows that help government employees work together and deliver services efficiently
- **Reduced citizen effort**
  Provide an easy, personalized experience that improves citizen satisfaction
- **Proactive issue detection**
  Use advanced analytics and event management to plan for and avoid disruptions
- **Faster service delivery**
  Connect frontline personnel to the teams that can take action

Business Gateway Proof of Concept

The 1st digital experience implemented on the ND Gateway is a Proof of Concept (POC) for new business owners to engage with State Government. This was envisioned 17 years ago, due to an overarching need of a streamlined process for business owners and aspiring entrepreneurs to access information required to start a business in North Dakota. As a result, the Gateway reduced what previously took hours of research, phone calls and speculation, into a one stop shop to get detailed guidance, step by step of what is required to explore, start and grow their business in North Dakota.

A single online experience for exploring, starting and growing a business in North Dakota

Key Features of the Business Gateway POC

- **Business Interest Form:** Created a means for constituents to advise the state of their business idea!
- **Business Checklist:** Coordinated and aggregated disparate information from 5 primary agencies on what is required to start a business within the state of North Dakota, to result in an easy to personalize cohesive experience via the Business Checklist!
- **Starting a Business Form:** Digitized and optimized the Department of Commerce's "Starting a Business" web form by adding workflow to immediately connect constituents to resources at the Small Business Development Center and North Dakota of Commerce Community Development and Economic Development & Finance teams.

Benefits of the Business Gateway POC

Pro Business
Helping North Dakota businesses succeed.

Grow ND's Economy
Providing businesses easier access to funding and resource opportunities.

Increase Efficiency
Simplifying the way to conduct business with the state of North Dakota.

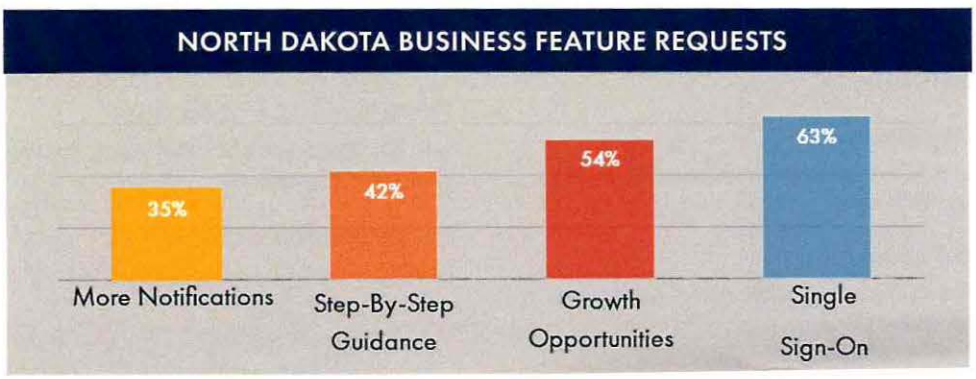
Features Survey

In 2022, over 250 North Dakota Businesses participated in a survey and reported their desires to make researching the starting of a business more feasible.

"Being sent reminders of things I should be aware of as a new or small business would save me time and lessen my stress."

"It would be great if instead of having to log into different places, there was a spot or a link to all of them in one place. If everything was under the same umbrella and it told you there was an action item, that would be all you would really need."

"As a business owner, starting a business there are many things to worry about. I would appreciate having an overall startup guide or links to necessary resources."



Low-Code Application Development

What are Low-Code Application Platforms?

Low-code application platforms are development environments that allow the creation of software applications with minimal coding. These platforms provide a visual interface with drag-and-drop components, pre-built templates, and other "technology artifacts" to help streamline and speed up the development process.

While these platforms reduce the need for traditional coding, they do still allow for customizations through access to the underlying code.

NORTH Dakota | Information Technology
Be Legendary.

Benefits of Low-Code:

Low-code platforms empower the acceleration of digital transformation while also keeping costs and complexity in check. They offer a range of benefits to transform how organizations build and deploy applications. Key advantages include:

- **Accelerated Development**
  Drag-and-drop interfaces allow for reduced in coding effort
- **Cost Efficiency**
  Minimized traditional coding efforts allows for a reduction in development and maintenance costs
- **Empowerment of Agency User Development**
  Business users are enabled to build solutions, reducing dependency on IT.
- **Enhanced Agility & Scalability**
  Help businesses quickly adapt to changing needs and scale solutions to accommodate growth and new business requirements
- **Reduced Technical Debt**
  The visual nature of development encourages better design practices, resulting in more maintainable applications over time.
- **Security & Compliance**
  Built-in security frameworks and governance features help ensure that applications adhere to compliance standards throughout their lifecycle

Low-Code at the State:

NDIT has standardized on two Low-code platforms, ServiceNow and Microsoft Power Platform. These platforms have become the technical platforms of choice for incoming application build projects within the State and therefore have been utilized for several builds over the past 4-5 years.

Most recently NDIT and/or partner vendors have collaborated with State agencies on the implementation of the following applications, which utilize one or both of the standardized platforms.

- ND Gateway
- HHS Best in Class
- DFI Banking Universe
- HHS Criminal Background Check
- HHS Recovery Housing Assistance Program

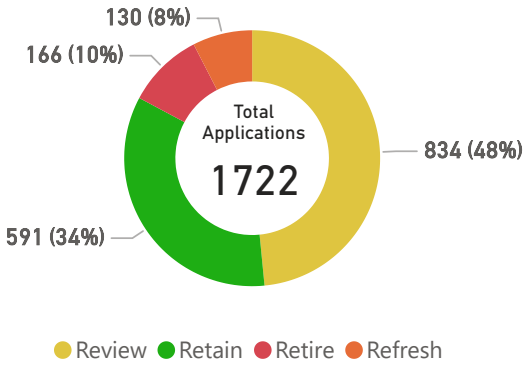
Low-code platforms aim to simplify development, reduce complexity and improve agility in responding to business needs

Portfolio Summary

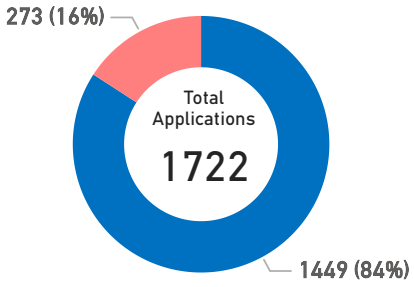
 # Applications
1722

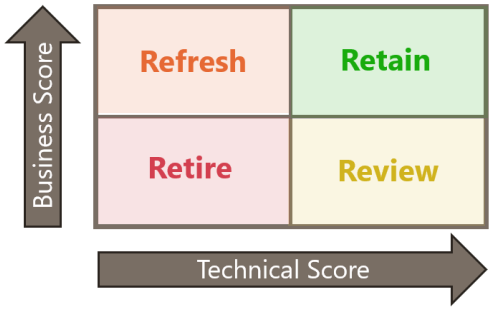
Agency: All | Division / Section: All | Status: All

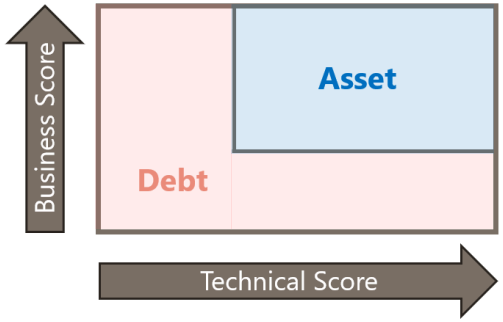
Application Rationalization Summary



Technical Debt Rank Summary







Application Rationalization Dispositions

The descriptions below indicate the outputs of the review and the recommendation for how the application should be addressed in the agency IT strategic plan and lifecycle management.

Retain - Candidates for increased investment, enhanced functionality, and expanded use across the enterprise.

Review - Candidates to maintain current funding levels, explore opportunities to enable greater business value, and consider lower-cost alternatives.

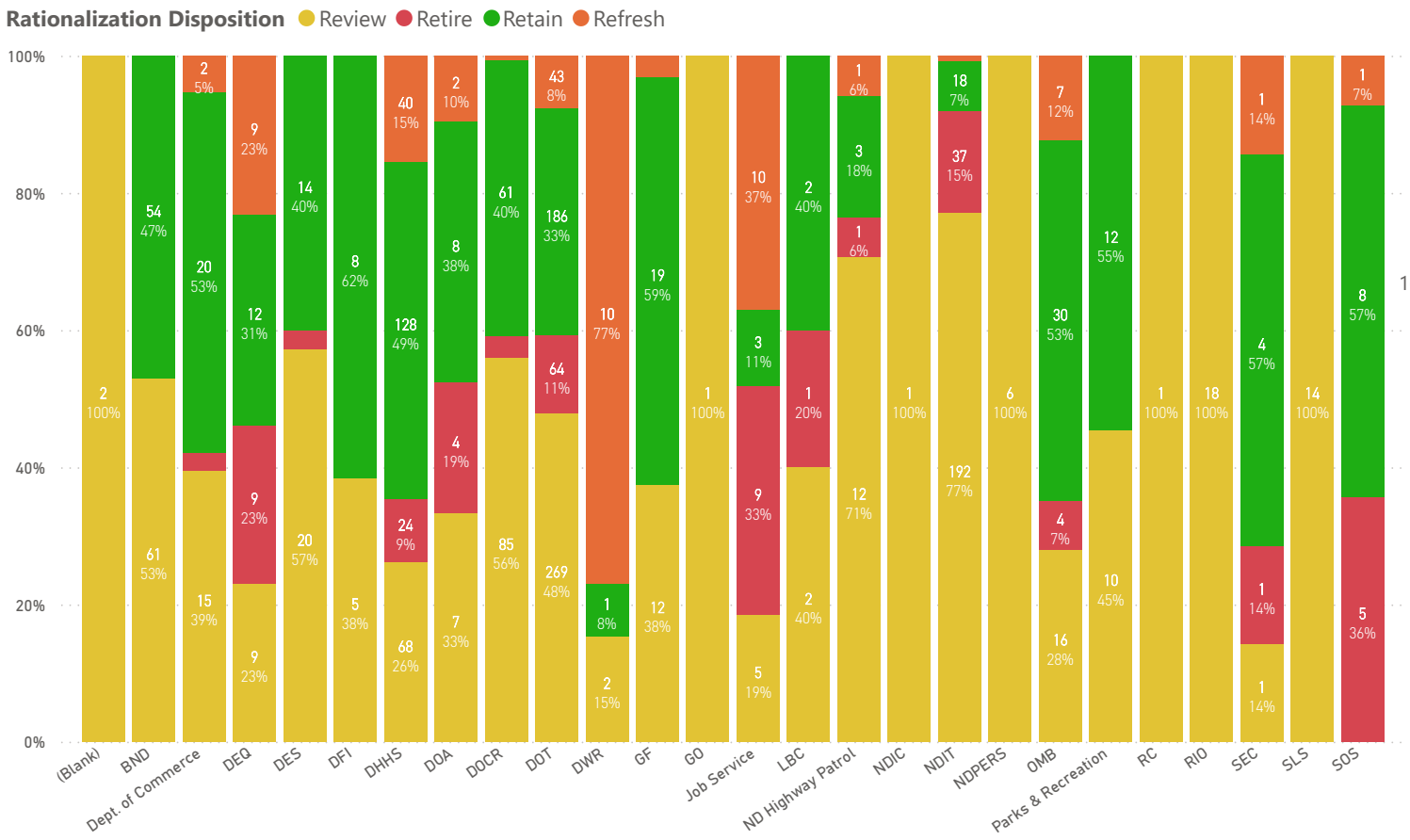
Refresh - Candidates for increased investment to ensure the same high-level business value is delivered by more modern and secure systems.

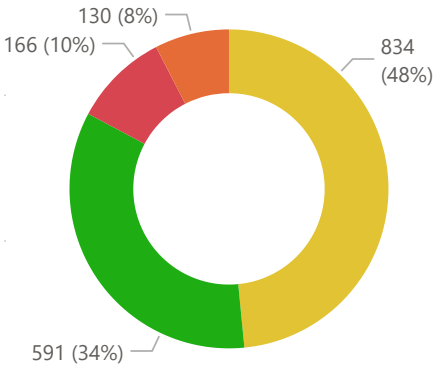
Retire - Candidates to decommission or to consolidate their functions within another application.

Technical Asset – Candidates with a medium to high business and technical score.

Technical Debt – Candidates with a low business or technical score.

Statewide Application Portfolio Rationalization





Applications
1722

Refresh	Retain
Retire	Review

Review	834
Retain	591
Retire	166
Refresh	130

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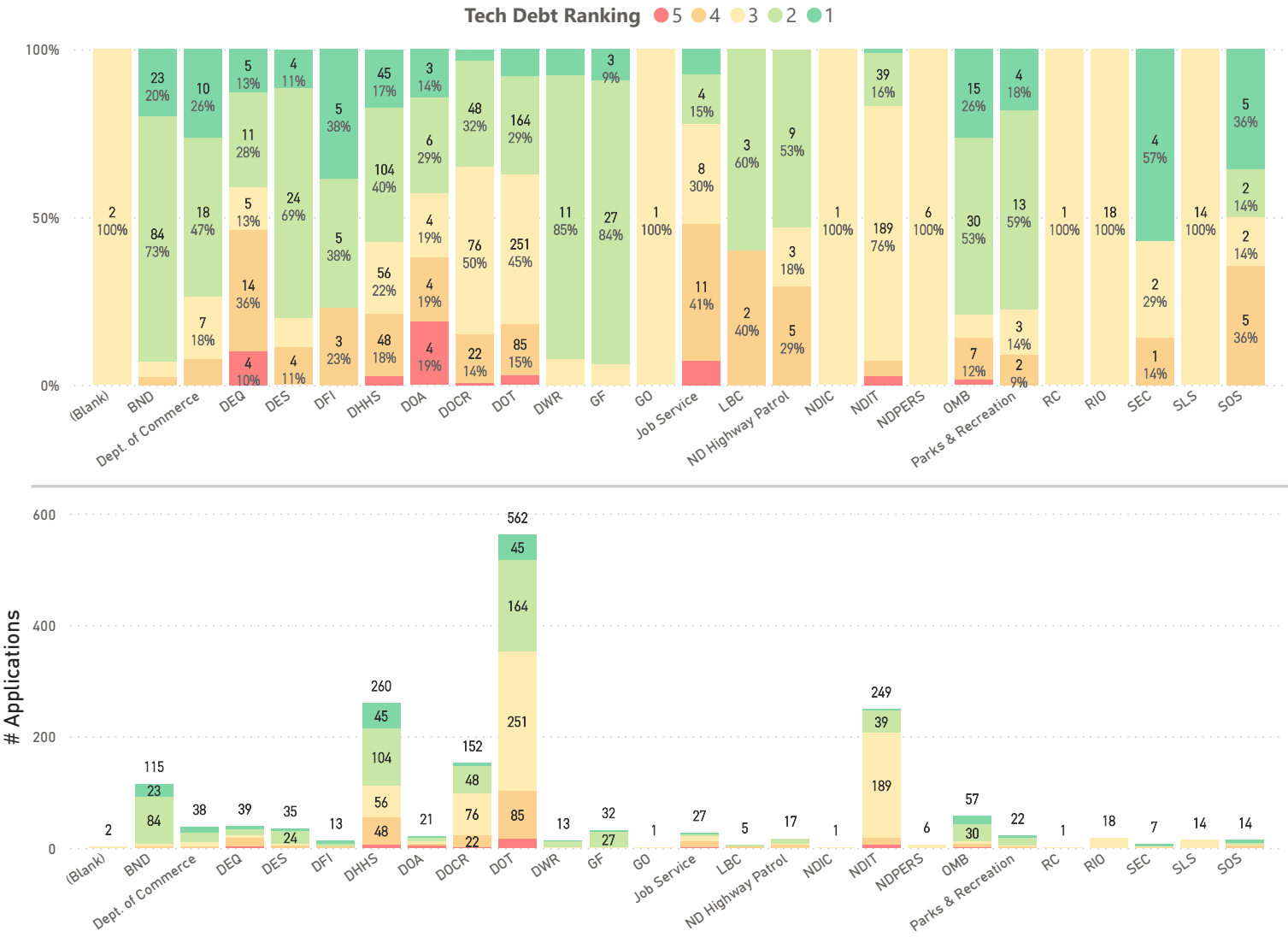
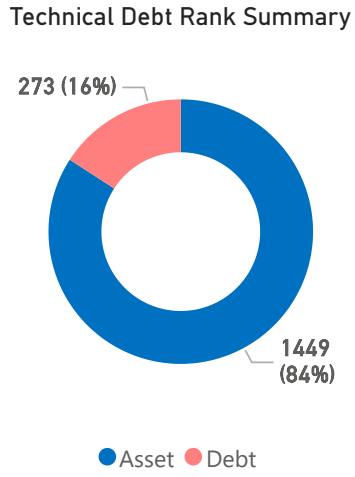
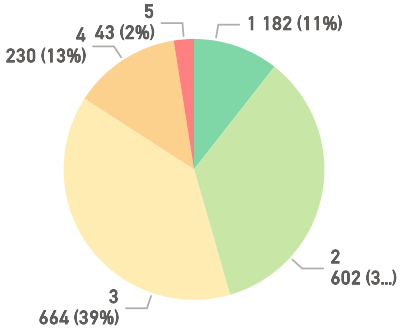
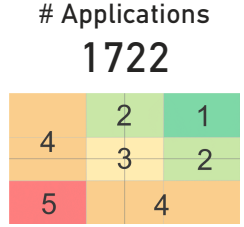
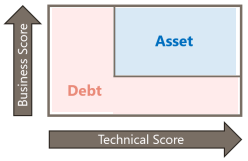
Statewide Application Technical Debt











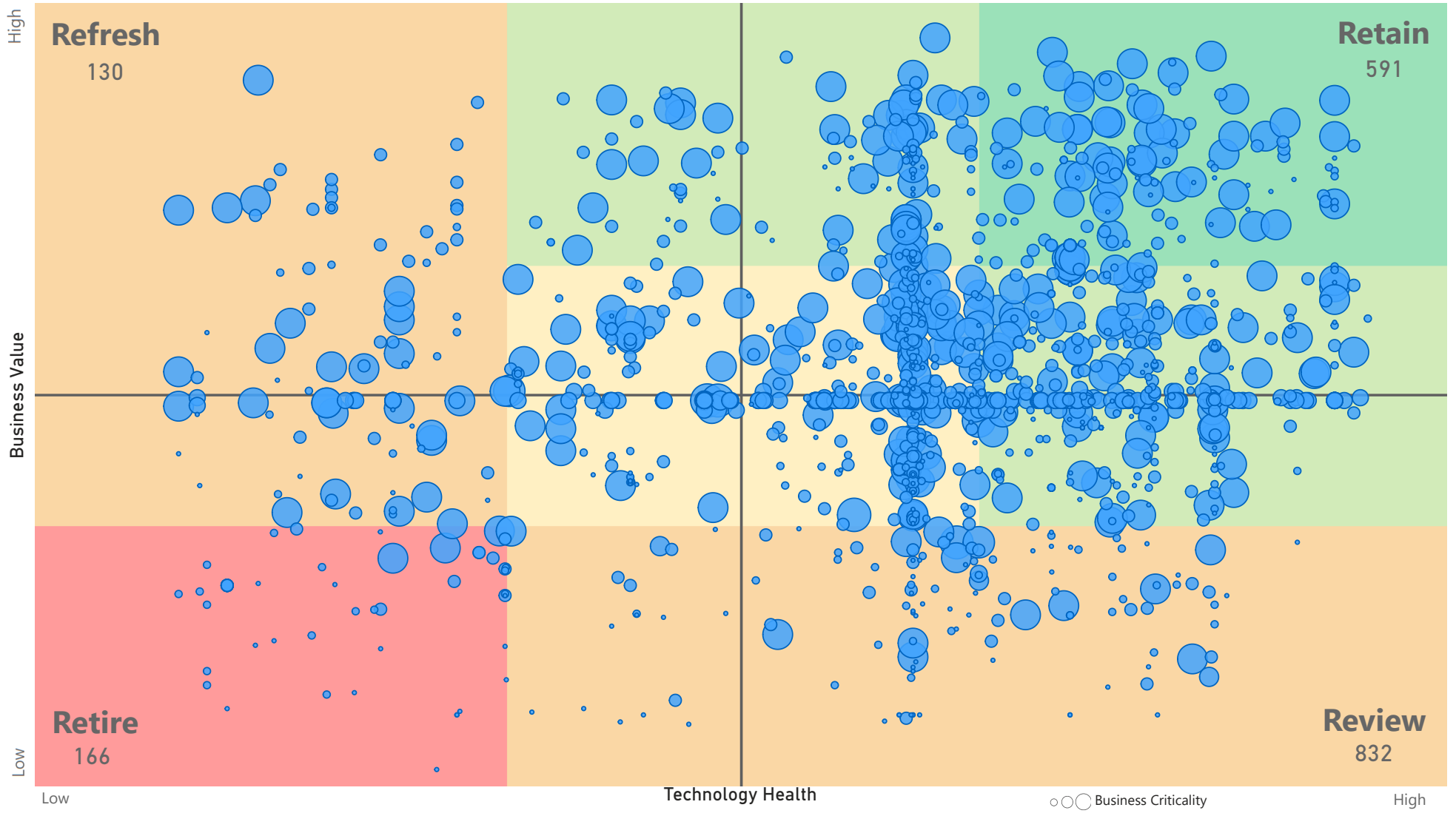
Technical Asset
Ranking Score: 1,2,3
Applications with a medium to high business and technical score.

Technical Debt
Ranking Score: 4,5
Applications with a low business or technical score.

Application Portfolio Rationalization

Agency: All

Division / Section: All



Applications
1722

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Business Value Score

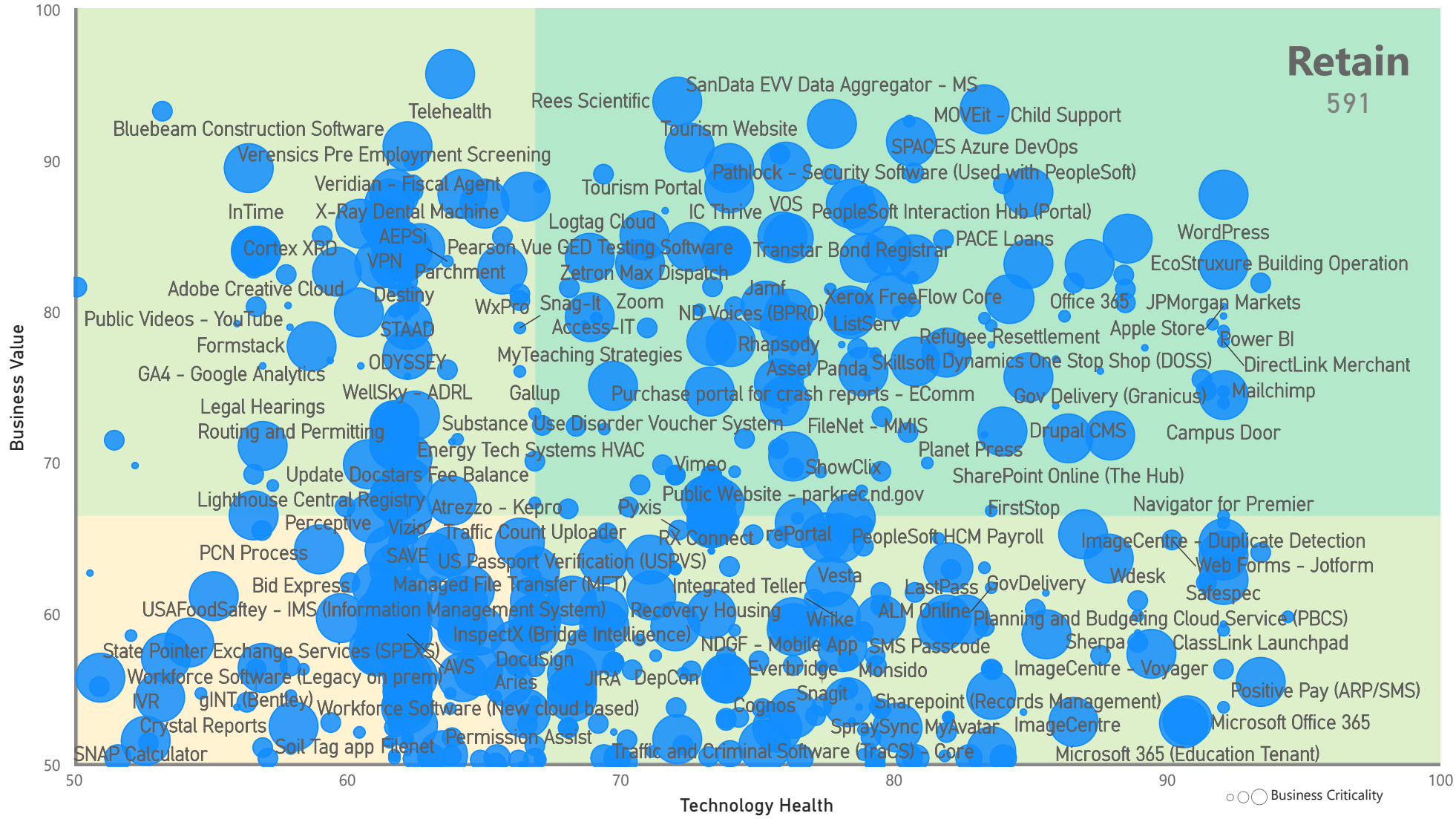
- Business Criticality
- Business Fit
- Performance and Reliability
- Data Quality and Timeliness
- Future Potential

Technology Health Score

- Support and Maintainability
- Security and Compliance
- Adaptability / Interoperability
- Platform / Technology
- Architecture Alignment
- Age

Application Portfolio Rationalization

Agency: All | Division / Section: All | Status: All

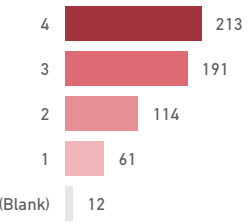


Applications
591

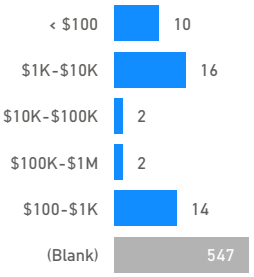
Refresh	Retain
Retire	Review

Full View

Business Criticality

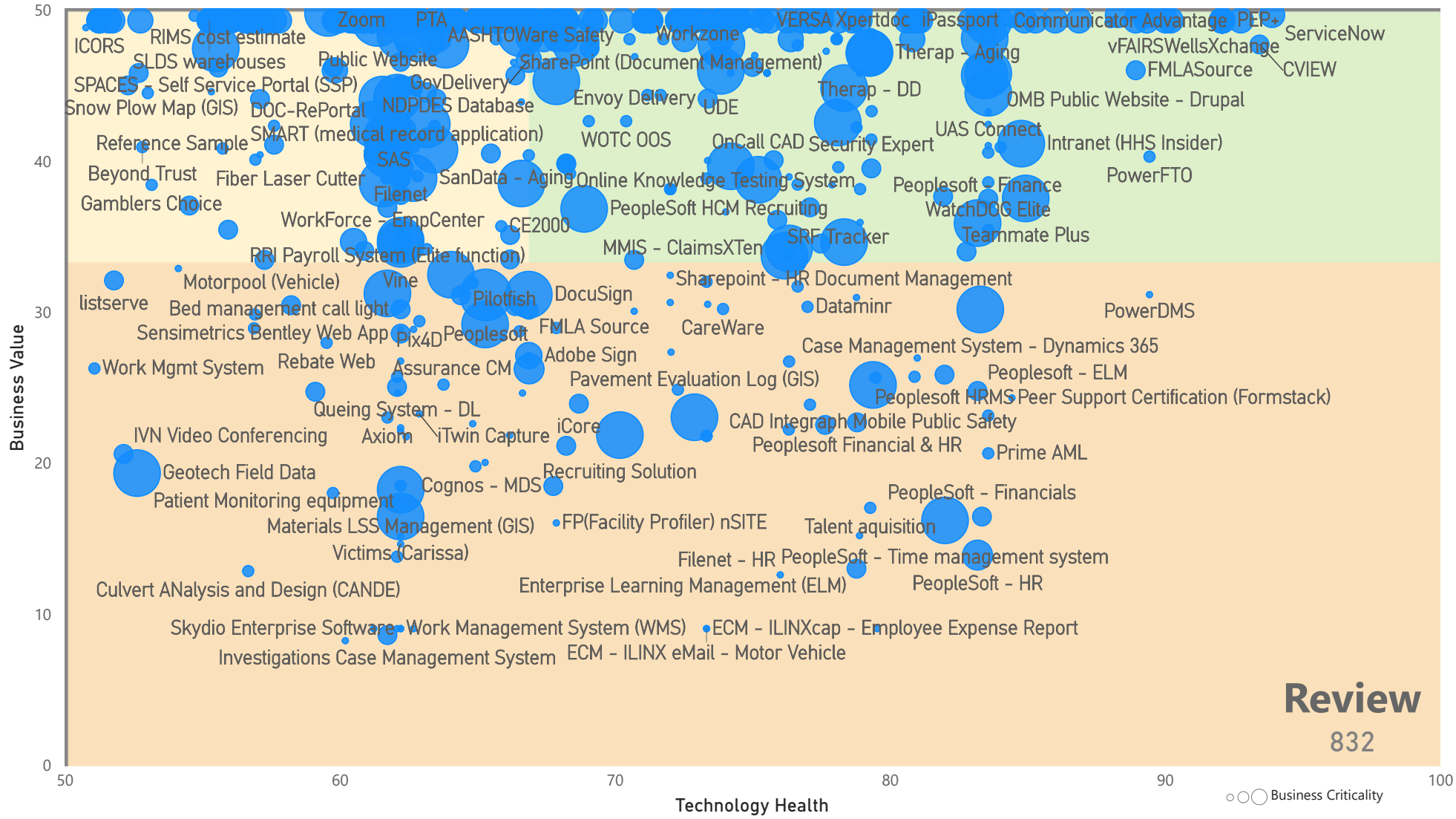


Monthly Op Cost



Application Portfolio Rationalization

Agency: All | Division / Section: All | Status: All



Applications
835

Refresh | Retain | Retire | Review

Full View

Business Criticality

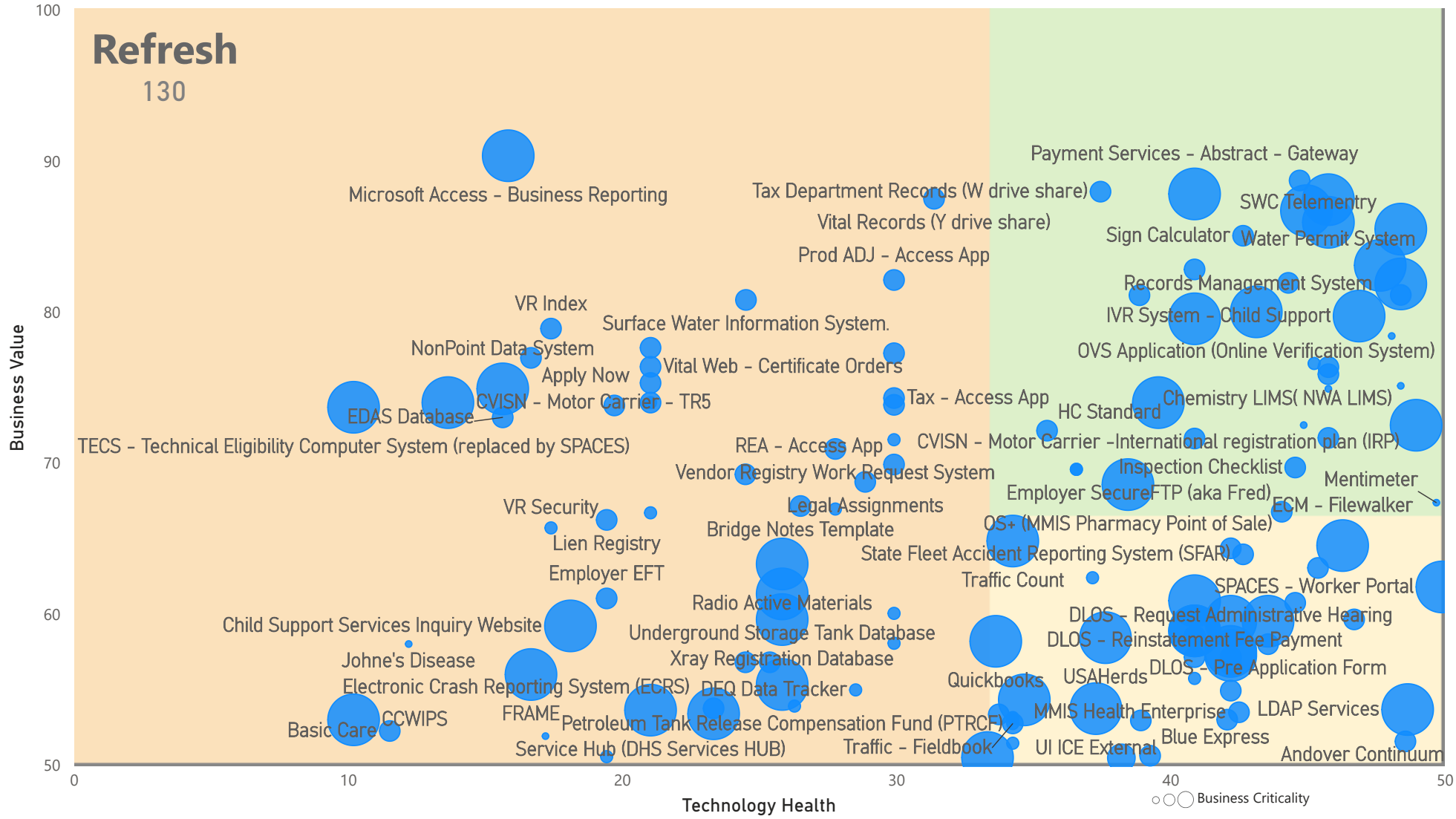
4	56
3	97
2	97
1	95
(Blank)	489

Monthly Op Cost

< $100	12
$1K-$10K	6
$10K-$100K	7
$100-$1K	8
(Blank)	801

Application Portfolio Rationalization

Agency: All | Division / Section: All | Status: All

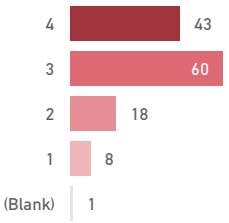


Applications
130

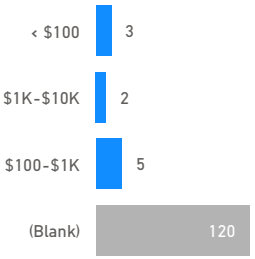
Refresh | Retain | Retire | Review

Full View

Business Criticality

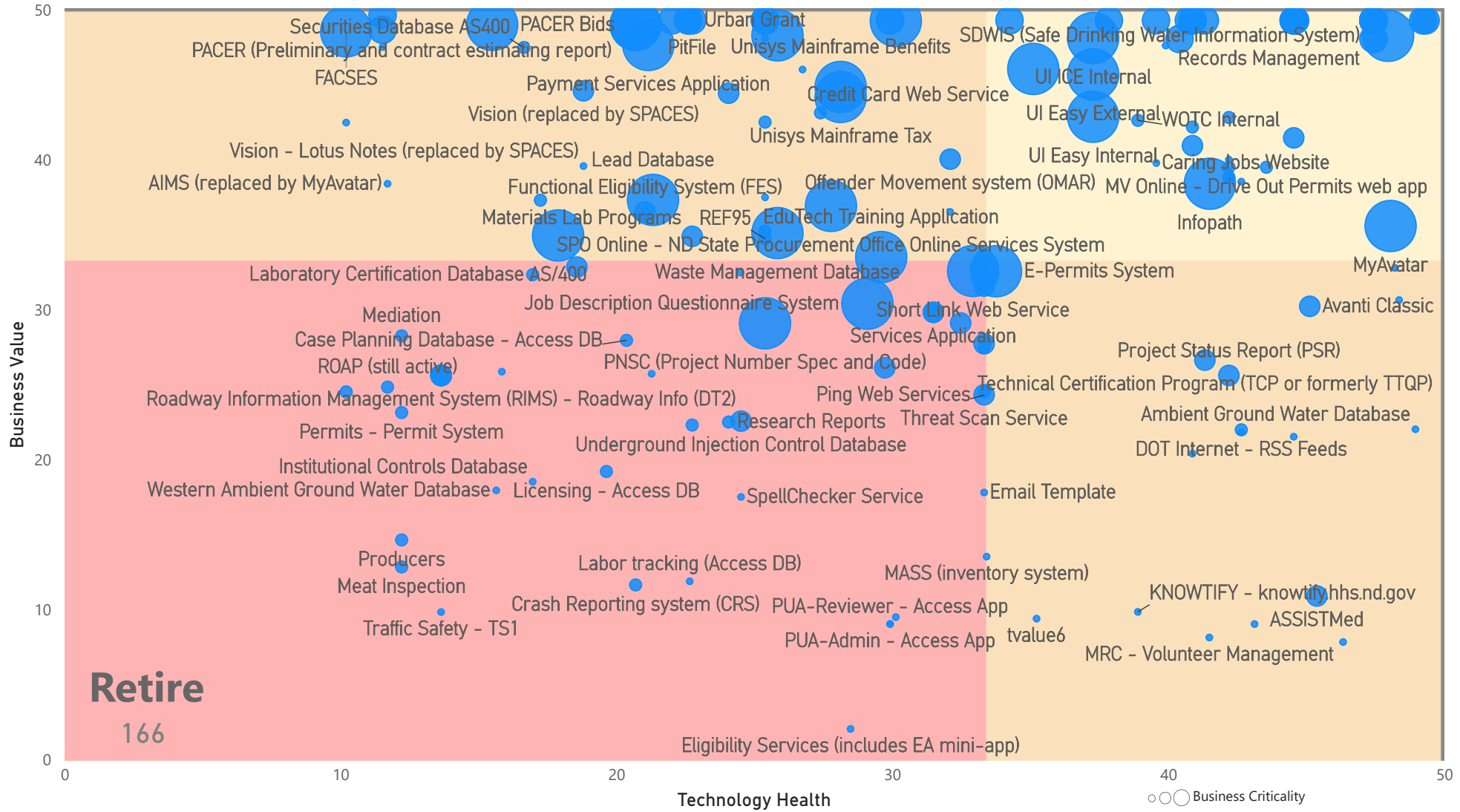


Monthly Op Cost



Application Portfolio Rationalization

Agency: All | Division / Section: All | Status: All

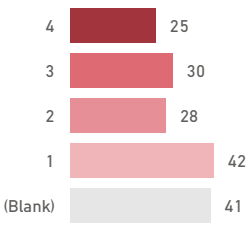


Applications
166

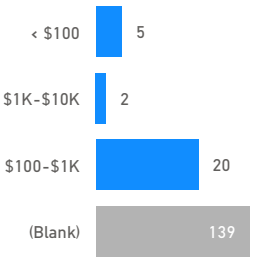
Refresh | Retain | Retire | Review

Full View

Business Criticality



Monthly Op Cost



Application Rationalization Disposition Heatmap

Agency: All

Division / Section: All

Status: All

This visual does not support exporting.

Rationalization Disposition Retain Review Refresh Retire

Applications: 1715

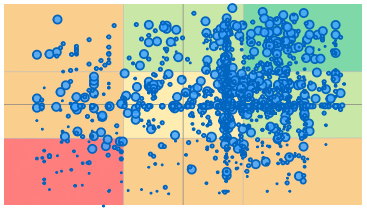
Rationalization Details

 # Applications
1722

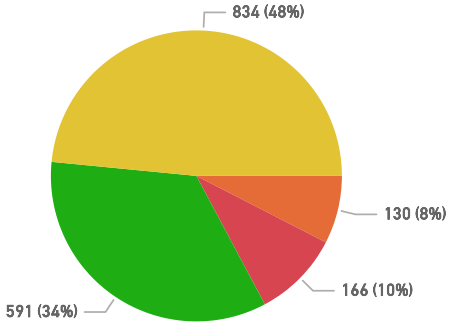
Agency: All | Division / Section: All | Status: All

Applications

1722

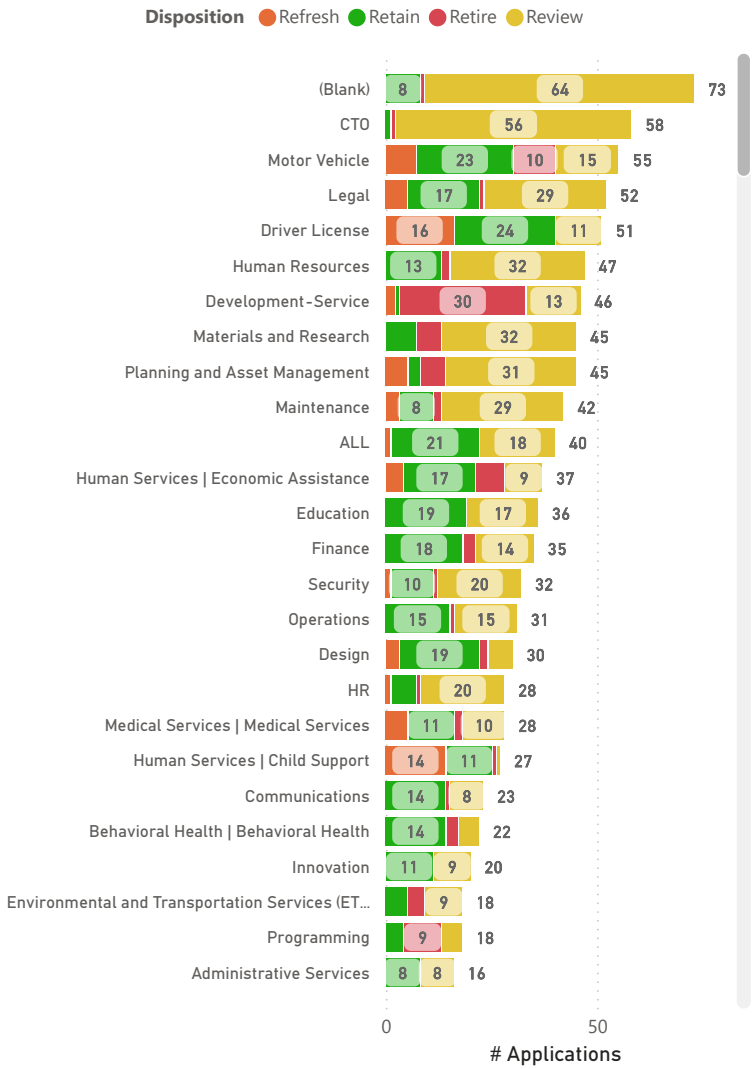


Disposition - # Applications



Disposition ● Refresh ● Retire ● Retain ● Review

Disposition by Division/Section



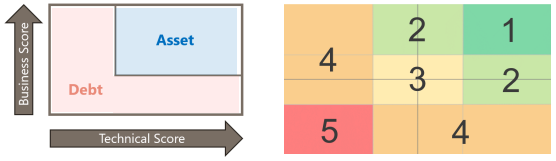
APP_ID	Application Name	Division | Section	Business	Tech	Rationalizatio
BA1745	Eligibility Services (include...	Human Services | Econ...	2.04	28.49	Retire
BA2735	Dymo Label Maker	Operations	7.84	46.34	Retire
BA1817	MRC - Volunteer Managem...	Public Health | Emerge...	8.14	41.49	Retire
BA1913	COGNOS Reporting	Administrative Services	8.24	60.21	Review
BA2083	Investigations Case Manage...	Professional Standards	8.61	61.74	Review
BA1091	ATMS (Automated Traffic Ma...	Maintenance	9.04	62.69	Review
BA1170	Digital Image Exchange	Driver License	9.04	62.09	Review
BA2763	DocClass - ACA Standards	Administrative Services	9.04	79.54	Review
BA1227	ECM - Avrio Intellego Conn...	Legal	9.04	61.24	Review
BA1232	ECM - Avrio Intellego Conn...	Legal	9.04	61.24	Review
BA1265	ECM - Graham Process Cha...	Legal	9.04	43.13	Retire
BA1289	ECM - ILINX eMail - Motor ...	Motor Vehicle	9.04	73.34	Review
BA1302	ECM - ILINXcap - Employe...	Human Resources	9.04	73.34	Review
BA2853	PUA-Admin - Access App	UI	9.04	29.92	Retire
BA2854	PUA-Reviewer - Access App	UI	9.04	29.92	Retire
BA1586	Skydio Enterprise Software	Bridge | Bridge Inspect...	9.04	62.22	Review
BA1649	Work Management System ...	Legal	9.04	62.22	Review
BA1065	tvalue6	DCS	9.40	35.23	Retire
BA2546	Future Downtime Web Serv...	Development-Service	9.50	30.13	Retire
BA1626	Traffic Safety - TS1	Highway Safety	9.84	13.65	Retire
BA1789	KNOWTIFY - knowtify.hhs.n...	Communications | Publ...	9.85	38.90	Retire
BA2111	ASSISTMed	Medical	10.91	45.39	Retire
BA1153	Crash Reporting system (C...	Highway Safety	11.65	20.70	Retire
BA2244	Labor tracking (Access DB)	Finance	11.89	22.66	Retire
BA2231	Filenet - HR	Human Resources	12.60	76.02	Review
BA1011	Meat Inspection	Livestock	12.85	12.22	Retire
BA1160	Culvert ANalysis and Desig...	Bridge | Bridge Manag...	12.85	56.68	Review
BA1335	Enterprise Learning Manag...	Human Resources	13.01	78.79	Review
BA1950	MASS (inventory system)	Business office	13.54	33.42	Retire
BA1517	Queing System - MV	Motor Vehicle	13.80	62.09	Review
BA2379	PeopleSoft - HR	ALL	13.91	83.35	Review
BA2158	MASS Pre-Processing	Business office	14.64	62.22	Review
BA1020	Producers	Livestock	14.65	12.22	Retire
BA1355	Fortran	Bridge | Bridge Design,...	15.14	62.22	Review
BA1734	COVID Emergency Rent Ass...	Human Services | Econ...	15.20	78.90	Review
BA1519	R18Lab QMS	Materials and Research	15.84	62.42	Review
BA1669	FP(Facility Profiler) nSITE	Office of the Director	16.04	67.88	Review
BA2104	PeopleSoft - Time manage...	Human Resources	16.21	82.01	Review
BA2755	PeopleSoft - Financials	ALL	16.46	83.35	Review
BA2783	Victims (Carissa)	Victims Services	16.46	62.22	Review
BA1612	Talent aquisition	Human Resources	17.04	79.29	Review
BA2570	SpellChecker Service	Development-Service	17.52	24.52	Retire
BA2538	Email Template	Development-Service	17.82	33.33	Retire
BA1692	Western Ambient Ground W...	Division of Water Quality	17.96	15.65	Retire
BA1905	BigAnt Office Messenger 5	Rough Rider Industry	18.02	59.76	Review
BA2739	Materials LSS Management...	Materials and Research	18.24	62.22	Review

Technical Debt Ranking

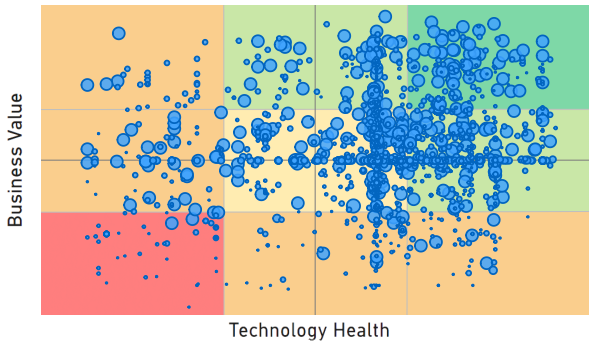
Agency: All | Division / Section: All | Status: All

Applications

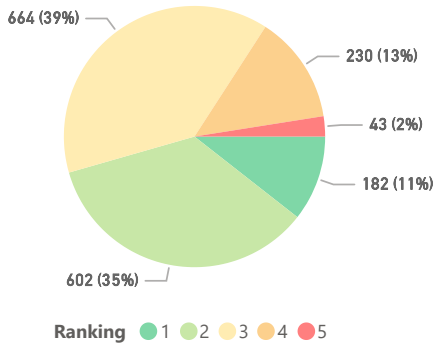
1722



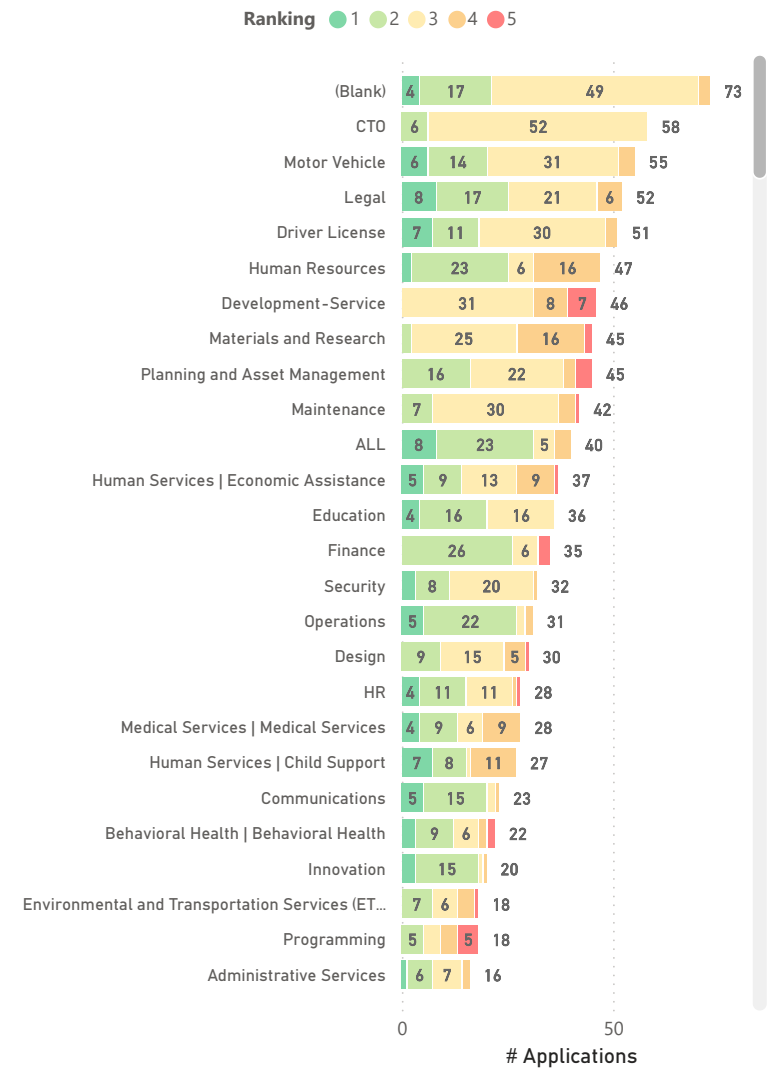
Technical Debt Ranking



Technical Debt Rank - # Applications



Technical Debt Rank by Division/Section



APP_ID	Application Name	Division | Section	Business	Tech	Ranking
BA1081	Annual Oil Storage Tank Inspec...	Maintenance	32.49	24.50	5
BA1908	Case Planning Database - Acc...	Case Planning	27.97	20.37	5
BA1732	Contract System	Finance	24.53	10.21	5
BA1153	Crash Reporting system (CRS)	Highway Safety	11.65	20.70	5
BA1745	Eligibility Services (includes E...	Human Services | Econ...	2.04	28.49	5
BA2539	Email Validation Service	Development-Service	26.14	29.73	5
BA2546	Future Downtime Web Service	Development-Service	9.50	30.13	5
BA2547	Generic File Transfer System	Development-Service	29.13	32.48	5
BA1369	Highmast Lighting/Overhead Si...	Bridge | Bridge Inspect...	25.74	21.28	5
BA1671	Institutional Controls Database	Division of Water Quality	18.54	16.97	5
BA2319	Job Description Questionnaire ...	HR	30.42	29.10	5
BA2244	Labor tracking (Access DB)	Finance	11.89	22.66	5
BA1672	Laboratory Certification Datab...	Division of Chemistry	32.35	16.97	5
BA2282	Licensing - Access DB	Behavioral Health | Be...	19.22	19.64	5
BA1417	Maint Costs	Materials and Research	22.32	22.75	5
BA1011	Meat Inspection	Livestock	12.85	12.22	5
BA1012	Mediation	Administration	28.27	12.22	5
BA2248	Money Follows the Person - M...	Human Services | Agin...	32.86	18.57	5
BA1016	Permits - Permit System	Animal Health	23.15	12.22	5
BA1501	PNSC (Project Number Spec an...	Environmental and Tra...	29.11	25.39	5
BA1020	Producers	Livestock	14.65	12.22	5
BA2853	PUA-Admin - Access App	UI	9.04	29.92	5
BA2854	PUA-Reviewer - Access App	UI	9.04	29.92	5
BA2201	Random Moment Time Study (...	Finance	25.88	15.85	5
BA1533	Research Reports	Materials and Research	22.52	24.07	5
BA1563	Roadway Information Manage...	Programming	25.63	13.65	5
BA1564	Roadway Information Manage...	Programming	25.63	13.65	5
BA1565	Roadway Information Manage...	Programming	25.63	13.65	5
BA1566	Roadway Information Manage...	Planning and Asset Ma...	25.63	13.65	5
BA1567	Roadway Information Manage...	Planning and Asset Ma...	25.63	13.65	5
BA1568	Roadway Information Manage...	Planning and Asset Ma...	25.63	13.65	5
BA1570	Roadway Information Manage...	Design	25.63	13.65	5
BA1571	Roadway Information Manage...	Programming	25.63	13.65	5
BA1572	Roadway Information Manage...	Programming	25.63	13.65	5
BA1573	Roadway Information Manage...	Planning and Asset Ma...	25.63	13.65	5
BA1859	ROAP (still active)	Behavioral Health | Be...	24.85	11.71	5
BA2567	Server Utilities Application - J...	Development-Service	29.84	31.49	5
BA2568	Services Application	Development-Service	29.84	31.49	5
BA2569	Short Link Web Service	Development-Service	32.60	32.93	5
BA2570	SpellChecker Service	Development-Service	17.52	24.52	5
BA1626	Traffic Safety - TS1	Highway Safety	9.84	13.65	5
BA1688	Underground Injection Control ...	Division of Water Quality	22.58	24.52	5
BA1692	Western Ambient Ground Wate...	Division of Water Quality	17.96	15.65	5
BA1072	Accessibility Testing	Civil Rights	21.84	66.18	4
BA2606	Adobe Sign	Innovation	27.12	86.90	4
BA1703	AIMS (replaced by MyAvatar)	Behavioral Health | Sta...	38.42	11.71	4

Application Portfolio Rationalization

Agency: All | Division / Section: All | Status: All

APP_ID	Application_Name	Agency	Division	Division_Section	Business_Owner	Technical_Owner	Business_Function_Description	Statu
BA1008	Johne's Disease	DOA	Animal Health		Ethan Andress	Kent Theurer	Disease Data	In Pr
BA1021	USAHerds	DOA	Animal Health		Ethan Andress	Kent Theurer	Disease Reporting	In Pr
BA1057	Quickbooks	Dept. of Commerce	Tourism, DCS, Fiscal		Deanne Cunningham	Peggy Weiss	Sales Invoicing	In Pr
BA1062	Survey Monkey	Dept. of Commerce	ALL		Tricia Miller	Tricia Miller	Survey builder for agency, various data collection	In Pr
BA1076	Adobe Experience Manager (AEM)	DOT	Legal		Steve Barreth	Treva Beard/Ivy Phillips		In Pr
BA1099	Billboard Inventory Record - SFN 6728	DOT	Maintenance		Greg Doll	Treva Beard/Ivy Phillips		In Pr
BA1100	Billboard Inventory Update	DOT	Maintenance		Greg Doll	Treva Beard/Ivy Phillips	Update RIMS Inventory	In Pr
BA1102	Billing Usage System (BUS)	DOT	State Fleet(301)		Leisa Borstad	Lindsay Dykins	State Fleet Vehicle Usage Billing, Driver ID Request, Agency Cost Reports Submission	In Pr
BA1106	Bridge Notes Template	DOT	Design		Travis Cork		Microsoft Word document used as template for the notes sheets used in plans by the Bridge Division. Contains macros and VBA programming.	In Pr
BA1134	Card Access Issue and Return - SFN 2354	DOT	Maintenance		Dylan Seitz	Ivy Phillips		In Pr
BA1148	Corner Recordation Entry - Corner Admin	DOT	Design		Kris Johnson	Kai Christensen	Application used to enter corner recordation forms into the GIS database. Allows to publish Corner Recordation forms to website and maintain existing Corner Recordation database.	In Pr
BA1163	CVISN - Motor Carrier - International Fuel Tax agreement (IFTA)	DOT	Motor Vehicle		Damir Bicanic	Scott Moran	IFTA is an agreement between all the U.S states except Alaska and Hawaii and most of the provinces/territories of Canada. This agreement establishes the concept of one fuel use license and one administering base jurisdiction for each licensee. The licensee's base jurisdiction will be the administrator of this agreement and execute all the provisions with respect to the licensee	In Pr
BA1164	CVISN - Motor Carrier - TR5	DOT	Motor Vehicle		Damir Bicanic	Scott Moran	Contains MC info	In Pr
BA1166	CVISN - Motor Carrier -International registration plan (IRP)	DOT	Motor Vehicle		Damir Bicanic	Scott Moran	IRP is an agreement among 48 states, 10 Canadian Provinces and the District of Columbia whereby a motor carrier can register commercial vehicle fleets for travel in all IRP jurisdictions by filing the paperwork with the home (base) jurisdiction.	In Pr
BA1173	DL Photo Capture - Photo First	DOT	Driver License		Rachel Mount	Jen Weigel	This service provides NDDOT Drivers License examiners to take a picture of the customer at the counter. There is also an admin piece to review/delete those images.	In Pr
BA1176	DLOS - Address Verification web app - DL	DOT	Driver License		Rachel Mount	Jen Weigel	This service provides the option to verify ND drivers addresses. It reads data from DOT LEGEND.	In Pr
BA1177	DLOS - Address/Email change web app - DL	DOT	Driver License		Rachel Mount	Jen Weigel	This service provides ND drivers the ability to change their Resident and/or Mailing address, however a new license will NOT be sent. They also have the option to change their email address	In Pr
BA1178	DLOS - CDL Medical Certificate Status	DOT	Driver License		Rachel Mount	Jen Weigel	This service provides ND drivers the ability to verify if they have a valid CDL and verify their medical certificate status	In Pr
BA1179	DLOS - Date of Birth Check	DOT	Driver License		Rachel Mount	Jen Weigel	This service provides ND drivers the ability to verify if the DOB is correct when provided the DriverID.	In Pr
BA1180	DLOS - Donor Registry Change	DOT	Driver License		Rachel Mount	Jen Weigel	This service provides ND drivers the ability to change their donor designation on our driver license database.	In Pr
BA1181	DLOS - Driver License Renewal	DOT	Driver License		Rachel Mount	Jen Weigel	This service provides North Dakota drivers the ability to renew their drivers license online. DOT will validate the renewal information the following day.	In Pr
BA1182	DLOS - Driver License Substitute License	DOT	Driver License		Rachel Mount	Jen Weigel	This system provides North Dakota drivers the ability to obtain a substitute license	In Pr

Application Contacts

Agency: All | Division / Section: All | Status: All

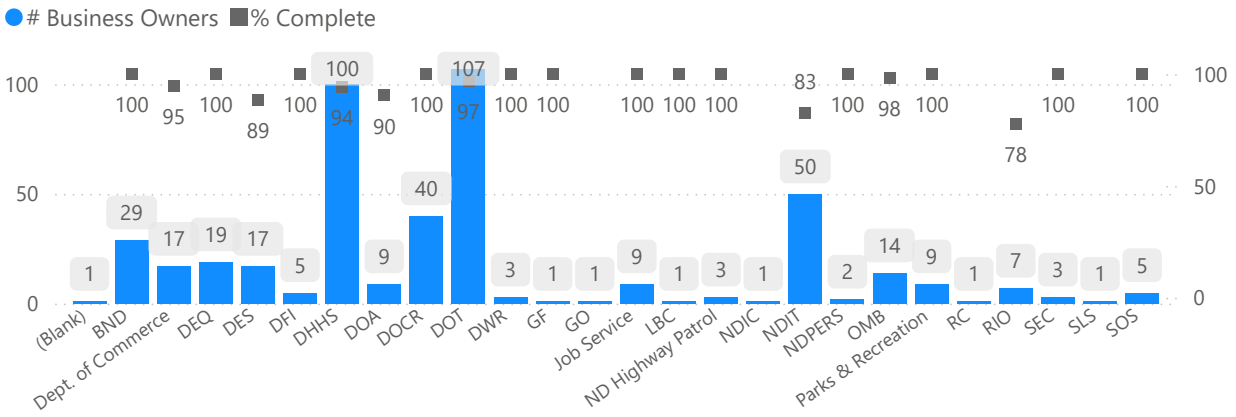
Applications: 1715

Business Owners

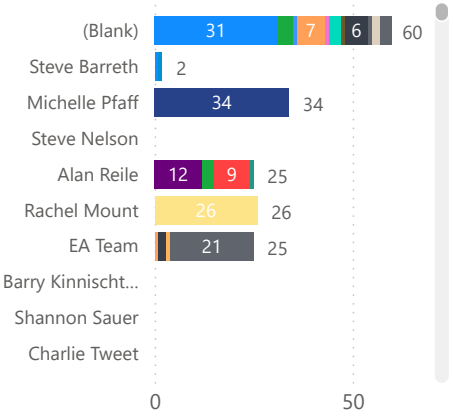
439

% Apps w/ Owner

% of Apps w/ Business Owners



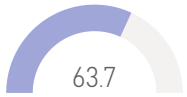
Apps by Business Owner



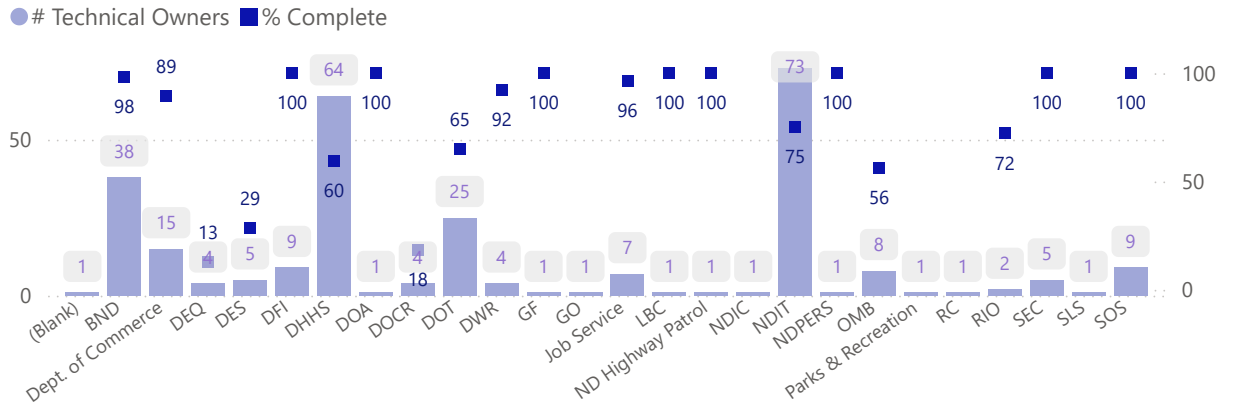
Technical Owners

252

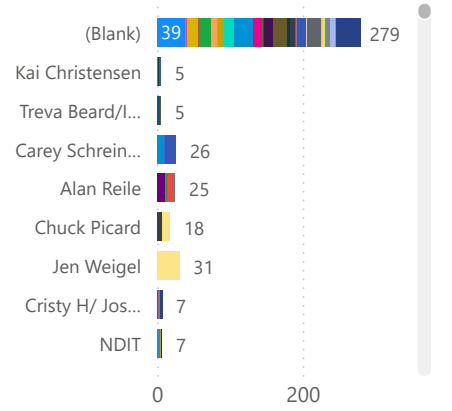
% Apps w/ Owner



% of Apps w/ Tech Owners



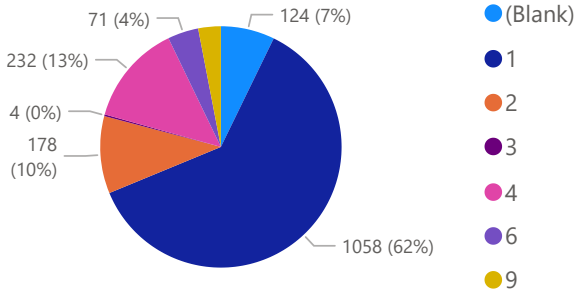
Apps by Technical Owner



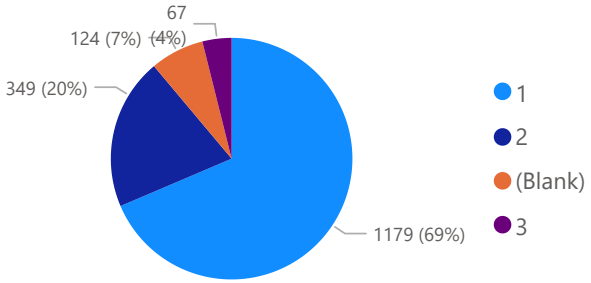
Application Complexity

Agency: All | Division / Section: All | Status: All

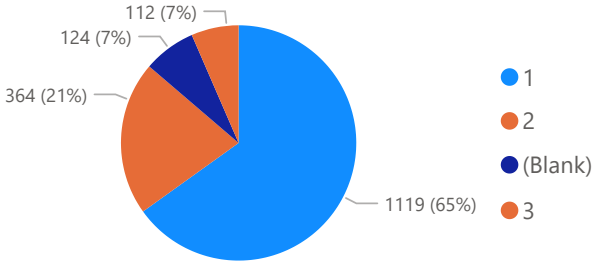
#Apps by Complexity Score



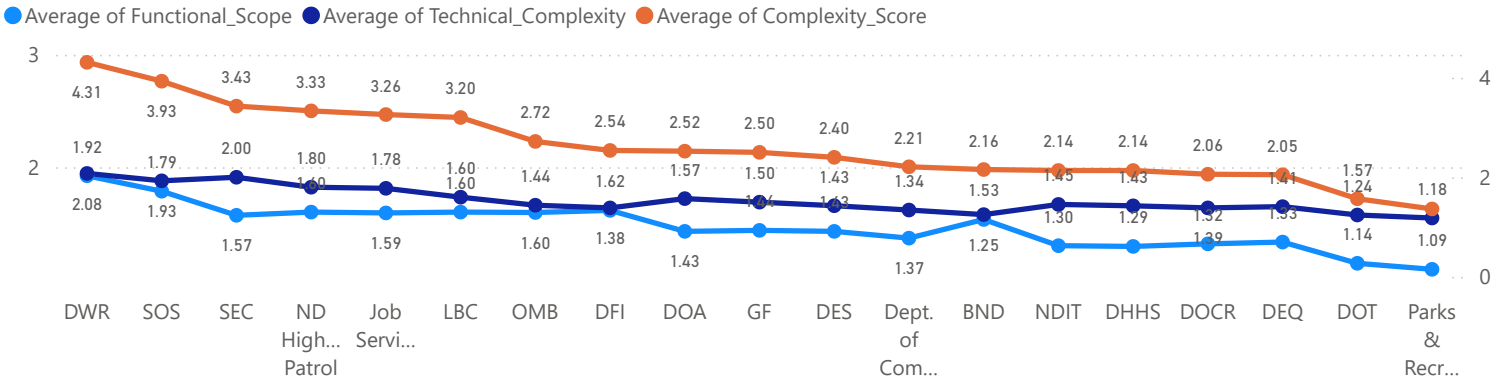
Apps by Functional Scope

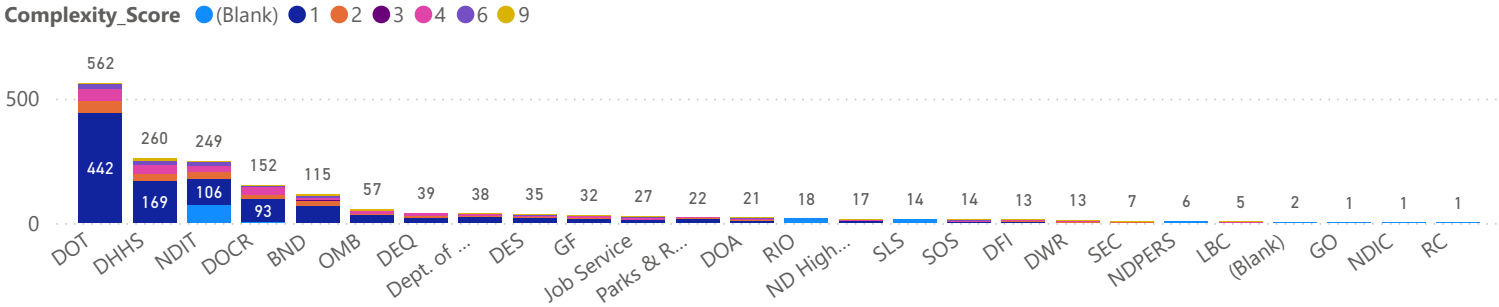


#Apps by Technical Complexity



Applications: 1715





APP_ID	Agency	Application Name	Division | Section	Business Criticality	Implementation Type	Pla
BA2599	NDIT	KnowBe4	Security	1	SaaS	Clo
BA2310	OMB	PeopleSoft HCM Payroll	Fiscal	4	COTS	Pe
BA2576	NDIT	Appsian SSO and Insight analytics - Peoplesoft?	Systems	(Blank)	COTS	
BA2861	NDIT	ClassLink OneSync	EduTech	4	SaaS	Clo
BA2302	OMB	FMLASource	HR	3	SaaS	Clo
BA2598	NDIT	ID.me	CTO	2	SaaS	Clo
BA2587	NDIT	Microsoft Power Platform/Dynamics	AppDev	1	COTS	MS
BA2829	NDIT	MS Project Online	PMO	(Blank)	SaaS	Clo

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations - Government Operations Division
Brynhild Haugland Room, State Capitol

SB 2021
4/1/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

8:30 a.m. Chairman Monson called the meeting to order.

Members Present: Chairman Monson, Representatives: Bosch, Fisher, Meier, Pyle.

Members Absent: Representatives: Brandenburg and Kempenich.

Discussion Topics:

- Inflationary increases explanation
- Higher Education Budget
- Continuing Appropriation and Spending Authority
- EduTech Funding
- PowerSchool
- Federal Funds for IT
- Funding for SIRN
- Common Schools Trust Fund
- Recruitment Process for NDIT
- Vacant FTEs for NDIT
- Application Process for NDIT
- Cybersecurity for State Agencies
- Data Centers in North Dakota

8:31 a.m. Representative Bosch reviewed the previous long sheet #41310.

8:34 a.m. Greg Hoffman, Deputy CIO, North Dakota Information Technology Department, testified in favor and continued with previous testimony #43344.

8:42 a.m. Representative Bosch presented testimony #44505 and #44507.

8:48 a.m. Chris Gergen, Interim Chief Information Security Officer, North Dakota Information Technology Department, testified in favor.

9:33 a.m. Chairman Monson recessed the meeting.

9:40 a.m. Chairman Monson reconvened the meeting.

9:57 a.m. Craig Felchle, Chief technology Officer, North Dakota Information Technology Department, testified in favor and continued with previous testimony #43344.

10:05 a.m. Corey Mock, Chief Information Officer, North Dakota Information Technology, testified in favor and submitted testimony #44467.

10:20 a.m. Shelly Miller, Chief of Staff, North Dakota Information Technology, testified in favor and continued with #43344.

11:00 a.m. Chairman Monson closed the meeting.

Madaline Cooper, Committee Clerk

ERP MODERNIZATION

ANALYSIS FINDINGS

Overview of Consulting Team

Rob Cardelli

- 29 years of education and government consulting experience
- Former executive from Accenture and Ernst & Young Consulting
- 300+ public sector customers
- Led Cloud Readiness assessment for North Dakota University System
- Led Cloud Readiness assessment and all procurement for State of Georgia
- Strategic Planning expertise | Program Management expertise | Change Management expertise
- Worked with over 100+ PeopleSoft clients

Brad Lord

- 25+ years of ERP implementations, upgrades and stabilization projects
- PeopleSoft Enterprise Architect
- Cloud Technology Architect
- Data Management Expertise
- Education and Government Expertise
- Multiple state government clients (Georgia and Maine)

Peak's ERP Experience

Vendor agnostic

Experience with hundreds of PeopleSoft clients

Led 75 ERP selections in last 5 years

State Government Experience

Cloud ERP Expertise

Currently managing implementations for many cloud ERP platforms

- Workday, Oracle Cloud, Ellucian, Jenzabar, Student First, Anthology

Recent Public Sector Expertise

- Federal Reserve
- IRS
- Department of Treasury
- Department of Agriculture
- Department of Forest Services
- Department of Homeland Security
- North Dakota University System
- State of Florida (older)
- State of New Mexico (older)
- State of New York (older)
- State of South Carolina
- State of Tennessee (older)
- State of Indiana (older)
- City of Atlanta
- Dekalb County Georgia
- Forsyth County Georgia
- Edgefield County, SC
- McCormick County, SC
- Marion County, SC
- Pickens County, SC
- Newberry County, SC
- Oconee County, SC
- Spartanburg County, SC
- Dorchester County, SC
- Horry County, SC
- Union County, SC
- Lexington County, SC
- Dillon County, SC
- Lee County, SC
- Anderson County, SC
- Richland County, SC
- Anderson County, SC
- Maricopa Community Colleges
- Arizona State University
- Iowa Centra Community College
- Harford Community College
- Washington County Maryland
- Lancaster County, PA
- Weld County, CO
- Clemson University
- University of South Carolina
- University of North Carolina
- North Carolina State University
- Greenville Technical College
- Bucks Community College
- City of St. Paul, MN
- Pittsburgh Port Authority
- City or Orlando
- Merrimack College
- Olin School of Engineering
- Newman University
- NW Mississippi Comm College
- Texas Women's University
- South Texas College
- Pensacola State College
- PASCO Hernando State College
- College of Southern Idaho
- Meharry Medical College
- Quinsigamond Comm College
- Medical University of S. Carolina
- University of Vermont
- College of Lake County
- St. Lawrence College
- City Universities of NY

Analysis Components

- ❑ Measures of Success, Strategic Goals
- ❑ Change Willingness & Readiness
- ❑ Operational Pain Points
- ❑ Opportunities for Improvement
- ❑ Current State Capabilities & Gaps
- ❑ IT Maturity & Value Position
- ❑ Peer/Competitor Analysis
- ❑ PeopleSoft Solution Alignment
- ❑ Software Selection Assistance
- ❑ Staffing Analysis
- ❑ Recommend Next Steps

ERP Modernization Roadmap

Analysis Focus Areas

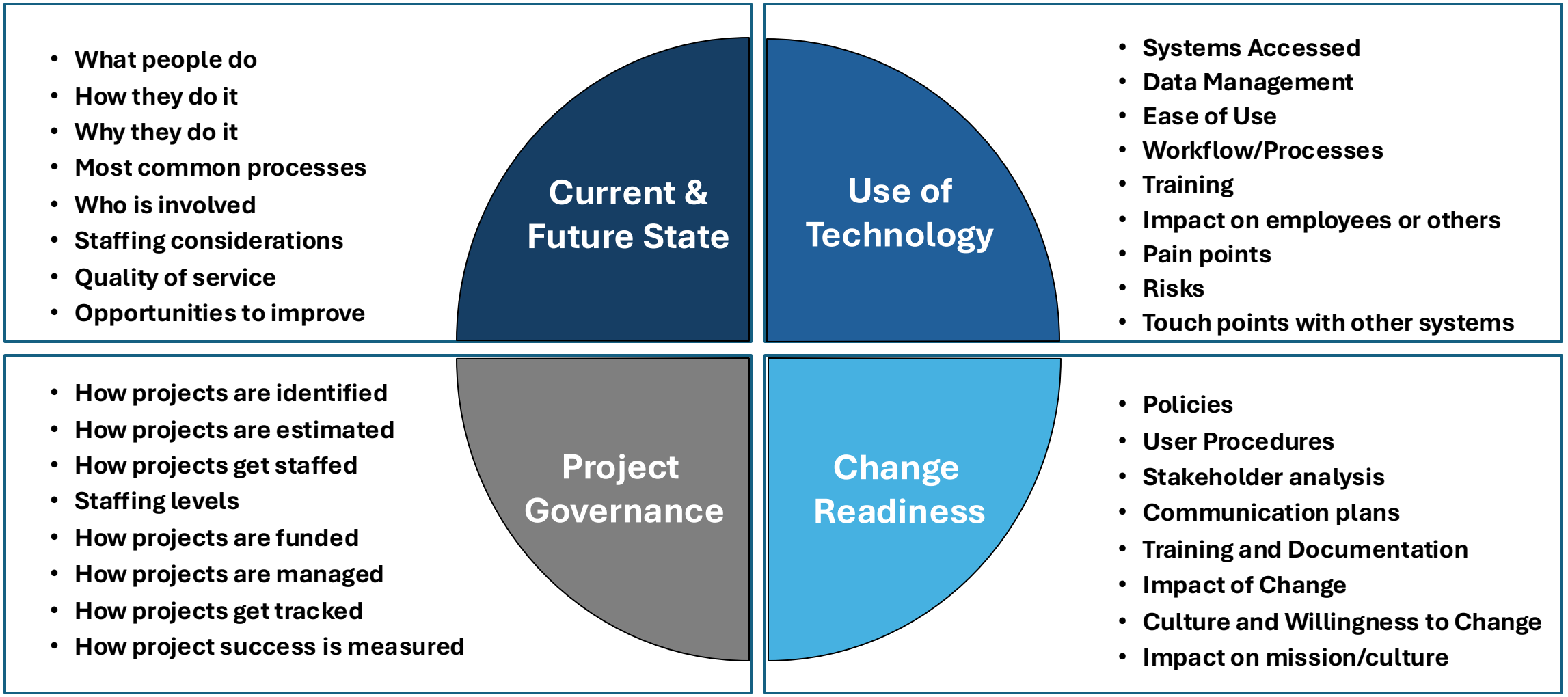
Finance and Accounting

- General Ledger
- Financial Reporting
- Core Accounting
- Accounts Payable and Purchasing
- Strategic Sourcing
- Grants Management
- Capital Projects
- Business Assets
- Travel and Expense Management
- Financial Planning/ Budgeting/ Forecasting

Human Capital Management

- Recruiting and Onboarding
- Performance Management
- Career Development & Succession Planning
- Learning Management
- Core HR Transactions
- Benefits, Leave Accrual
- Faculty Load and Compensation
- Payroll and Time and Attendance
- HR Reporting
- Employee and Manager Self Service

Example of Areas of Analysis



What We Heard from Interviews

"My team and many in other departments will move mountains to help others"

"We are proud of what we have done with our PeopleSoft platform. We know from talking to other public sector users we are leaders. We also realize we have outgrown PeopleSoft"

"I'm not evolving with my career. The technology and operating model here is at least 10 years outdated"

"I rely on Excel for most things. I don't have a choice"

"We are very lucky our technical developers know so much. They know more than most of the business users"

"When our current technical developers leave, we will likely go off a cliff. Possibly for a little while. Possibly longer but we are definitely going off a cliff. They do so much for us I don't think even they know what all they do."

"We need to rethink our policies and procedures. We have outdated processes and many of our policies are inadequate for the challenges we face today"

"Every time someone new comes into our department they laugh because our technology and processes are so outdated compared to where they came from."

"We have a lot of technology we never implemented or possibly didn't implement all of. We need to agreed to why?"

"We are very siloed. It's not because we want to be. It's because our departments can't collaborate easily with our clunky technology and inadequate processes"

What We Heard (continued)

"Our technology is ugly. It's not user friendly and it doesn't look modern. New employees take too long to get up to speed because of how cumbersome our technology and processes are"

"We have too many competing priorities. Leadership needs to plan accordingly for any cloud project. The staffing levels won't allow us to keep the lights on, implement a new platform and work on dozens of other key initiatives at the same time.."

"When potential candidates see our recruiting process and compare us to modern corporations it's apparent, we are out of alignment with other types of organizations. Our recruiting system looks old and clunky."

"There is great mistrust of the HR data across many agencies. This hinders effective data driven decision making"

"We have so many issues with recruiting and talent management its unlikely we will see any relief until we move away from PeopleSoft"

"We get our work done despite PeopleSoft. It's our biggest hurdle. "

"We have a customer service issue. Everyone is short staffed and overworked and we can't do what needs to be done."

"OMB is grossly understaffed considering the demands placed on them."

"I'm not kidding- We've gotten efficient at doing things manually.

Summary of Current State ERP Ecosystem

Technology	People	Processes
Stable	Dedicated and Trusted	Fragmented
Fragmented	Skills Gaps	Not Efficient
Aging	Knowledgeable	Manual
Inefficient	Retirement Cliffs	Overly Complicated
Limited Workflow	Not enough in key areas	Not Intuitive
Reporting Limitations	Inefficient	Lack of Automation
Not intuitive	Reactive vs Proactive	Challenges managing compliance

Primary Observations

- The PeopleSoft HCM and Finance platforms are largely “current”
  - Underlying PeopleTools and associated PUM images are current
  - NDIT has an exceptional process to maintain these platforms to keep them current
  - NDIT follows an industry best practice model
- The PeopleSoft platform has a large number of customizations to the delivered code
  - HCM 4,320 | Finance 2,200 | ELM 706 | Technology 126
- Numerous other bolt on applications and modifications
- NDIT has an exceptionally well-run PeopleSoft development team. These resources are key to the stability of the existing platform, and several are approaching retirement
- NDIT staff are largely viewed in a positive light. There is evidence customers don’t fully realize the roles, responsibilities and workload of NDIT staff
- Evidence many agencies and departments have exhausted PeopleSoft’s capabilities

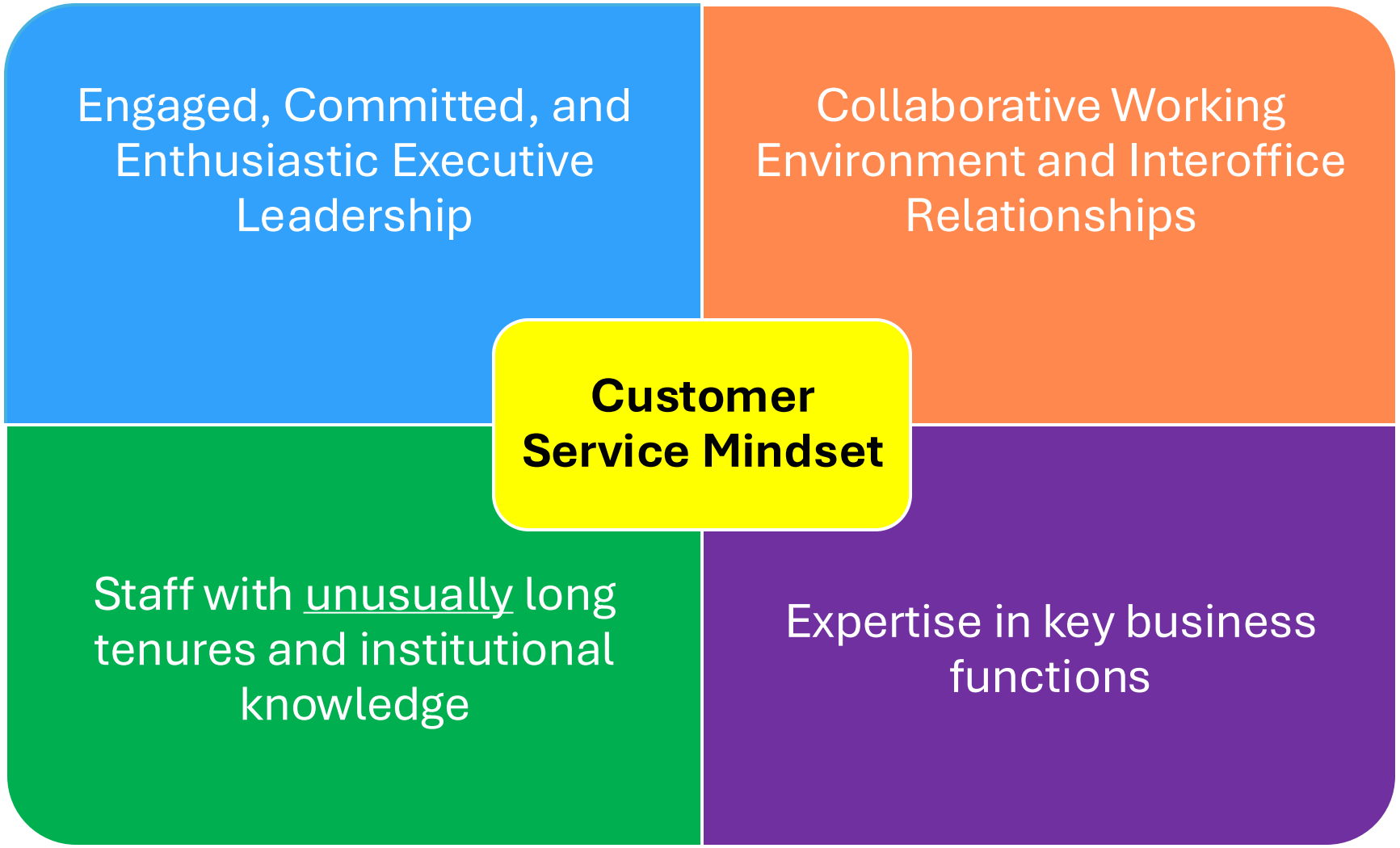
Primary Observations

- A common theme is a lack of up-to-date standard operating procedures with detailed step by step guides for new employees to perform their job duties utilizing the ERP technology
- Most interviewees struggle with manual work and the desire to be data driven leaders
- Many users are **not** getting data needed to get their jobs done
- Users require shadow systems (Excel) to validate, update, and manage data
  - There are challenges with the consistency of data and there is no single source of truth in many cases
- Many job functions are heavily manual and repetitive due to lack of system integration
- Senior tenure of many staff is a double-edged sword . It's possible, certain staff won't want to change systems, nor processes as they approach retirement
- Risk of a snowball effect of staff departures is significant. Several interviewees mentioned that if so and so leaves they are leaving and so on and so forth. Many teams are tight knit and feel if one leaves, several might follow suit

Primary Observations

- New hires in many areas are lacking the skill sets expected for the position including critical thinking skills and the ability to be “strategic”
- Most interviewees stated the systems are not user friendly and there are too many clicks
- Most interviewees believe the documentation is not as accurate as it could be, and this causes delays and issues with processing transactions
- Most users complained they can’t get summary level data easily nor can they drill down to get details to make informed decisions easily
- Enterprise architecture and the fragmented nature of 3rd party systems not talking to each other was a common theme across agencies and departments
- Over complicated reporting due to multiple data sources. Employees focus on manual processes and chase data on a regular basis
- **Daily operations are successful because of dedicated, resourceful employees in spite of ERP shortfalls**

Primary Observations



I/T is seen as a trusted partner to the business community

These resources are retiring, and the new resources lack historical knowledge

NDIT PeopleSoft developers are world class

Strengths

- Compared to peers, The State of North Dakota is an extraordinarily well-run PeopleSoft ecosystem with internal subject matter expertise in many key areas
- ND has continued to deploy new features and functionality and has leveraged most of existing investment
- The team does an excellent job keeping PeopleSoft current
- Organization has leveraged most of the features and functionality in the PeopleSoft platform. There are certain missing elements but OMB and NDIT have done a good job leveraging assets
- Compared to peers the staff have significant experience and tenure. This affords the opportunity to transform with intimate knowledge of the state's history, challenges, culture and opportunities to change
- IT is a trusted partner for many areas of the organization. This is a rarity!
- North Dakota appears to have a culture of change. Cloud modernization requires robust change, and a committed and strong leadership. Staff will follow effective and visible leaders
- Current Peoplesoft platform is well managed. The technology is clunky, but staff have done and continue to maintain a largely stable platform

Top 10 Challenges

1.	Fragmented Technology, Processes, Data, Reporting, Services, & User Experience
2.	Current vendor's tools are complex to deploy and time consuming to maintain
3.	Current architecture contributes to fragmentation. Modern cloud could reduce or eliminate many issues.
4.	Current vendor's capabilities do not meet many agency requirements. Multiple 3rd party applications required. This is especially true with gaps in PeopleSoft HCM
5.	Current Finance/Accounting/Procurement platform includes complex integrations with 3rd party applications. Evolving with existing tools is difficult.
6.	Existing platform lacks the communication capabilities (alerts, notifications, texting, mobile) of modern cloud ERP platforms.
7.	Reporting and analytics are difficult to obtain with the existing fragmented environment. Users rely on "shadow systems".
8.	Current technology enables organization silos. Modern cloud architecture helps break down silos and supports data governance.
9.	Current operating model is largely technical and makes it difficult to enable a culture of continuous process optimization.
10.	Current environment and tools lack the agility leadership requires to remain competitive.

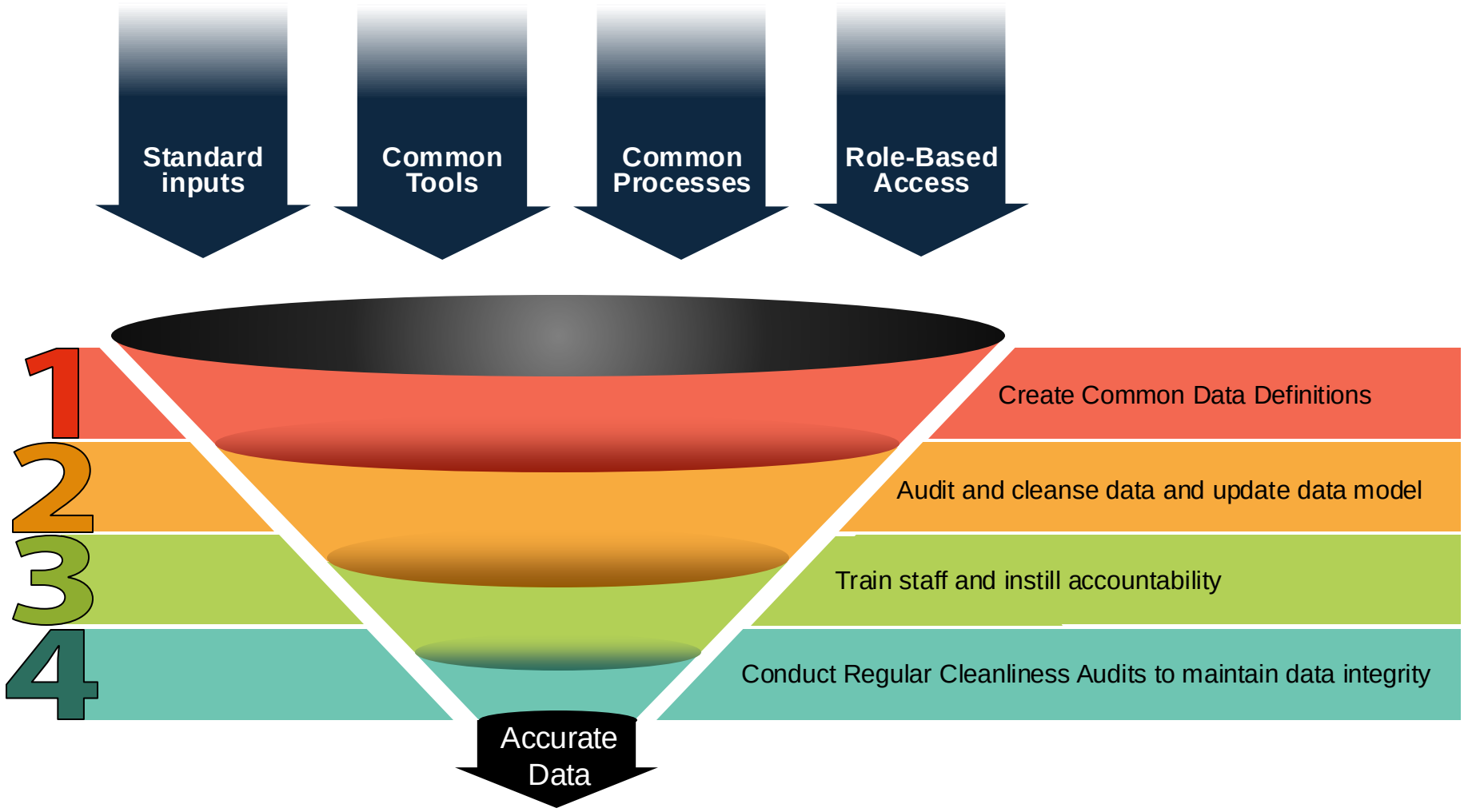
Summary of Challenges

- Agencies have lost a lot of institutional knowledge over the last several years. OMB is relied on too heavily given their staffing levels. The OMB team are having to train and support key personnel in the agencies more than expected.
- North Dakota has a fragmented technological ecosystem where agencies and departments struggle to perform basic job duties in a seamless manner.
- PeopleSoft HCM and Finance have been customized throughout the years to solve problems. These customizations complicate support and will need to be evaluated prior to moving to a new platform.
- Over the last several years key staff have retired. There has been a significant knowledge drain which has directly led to many departments and users not being able to work strategically. They are tactical at best due to knowledge gaps and severe workloads.
- The state government has undergone significant growth in staff and expected services. The complexity of today's operating environment exceeds the ability of existing technologies and associated processes to deliver modernized efficiencies.

Summary of Challenges (continued)

- The fragmented nature of the current technology and processes makes it hard to support disparate applications. This in turn makes it difficult to streamline business processes
- Different agencies use the technology different in many cases. This makes supporting it difficult.
- Over complicated reporting due to multiple data sources.
- PeopleSoft's current technical platform lacks the agility required to innovate in a timely manner to meet the changing expectations of the different agencies. The current enterprise architecture makes it difficult to align disparate systems and directly complicates data management.
- Level of customizations in finance are so high it takes at least two weeks just to reapply customizations
- NDIT has several resources at or near retirement. Detailed analysis into what they do is required and a cross training or backfill plan implemented as quickly as feasible.
- **Based on current staffing levels and competing priorities, the staff that support the current ERP ecosystem will require targeted consulting assistance to proactively prepare for cloud**

Need For Simplified Data Governance



Readiness to Begin Cloud Project

Readiness Factors to Transform

Governance	Processes	People	Platforms	Improvement Opportunities
• Structure	• Standardization	• Morale	• Enterprise architecture	• Time to value
• Strategic planning	• Adoption	• Skills/Training	• Integrations	• Collaboratively prioritized
• Decision making	• Efficiencies	• Collaboration	• Data management	• Grouped based on areas of impact
• Project management	• Inefficiencies	• Roles & responsibilities	• Security/Access management	• Required staff/consultants
• Change management	• Trained Staff	• Segregation of duties	• Software applications	• Impact on state or agency
• Culture	• Integration with technology	• Adherence to policies	• Usability	• Impact on employee
• Leadership	• Usability	• Tactical vs Strategic	• Acquisition	• Impact on culture/mission
• Skills	• Compliance and Accountability	• Willingness to change	• Support/Staffing	• Timing of procurement
• Collaboration	• Support model	• Comfort level with technology	• Funding	• Preparing for Cloud
• Outcome driven results	• Customer service			
• Tools				

Cloud Readiness – Risk Scorecard

- This model was created by the University System of Georgia – Peak has used variations of it for over a decade.
- Intended to identify key business areas, proactively analyze current state of the organization, and document where improvements are needed to help ensure transformation has a more realistic opportunity of being successful.
- Total potential risk score of 120 points.
- Higher Score = Higher Risks
- A score over 60 highlights the need to address specific areas in advance of transformative projects.

State of North Dakota Initial Risk Score = 59

Readiness Scores

Lower Risk ⟷ Higher Risk

Categories	1	2	3	4	5	Areas Analyzed
Technical Readiness	X					Relevant Tech Skills. Good skills. Respected by business. Know a lot about the functional side of the house and actually do quite a bit of support.
				X		Availability of staff. Staff are extraordinarily busy. Backfill is likely needed here.
	X					Staff's knowledge of the business.
			X			ERP Modernization Experience.
			X			Number of platforms that need modernized and eventually integrated. Note – this depends on what can be woven into a new platform.
	X					I/T role in the organization as a trusted advisor.
		X				Level of Complexity of known technical activities.
Functional Readiness		X				Functional Team Knowledge.
			X			Functional Documentation of Existing Systems.
	X					Focus on agency specific requirements and employee experience
		X				Level of Complexity of Functional Work.
				X		Availability of staff to work on a modernization project.
	X					Ability of future systems to meet functionality requirements of different systems/processes.

Readiness Scores

Lower Risk ⟷ Higher Risk

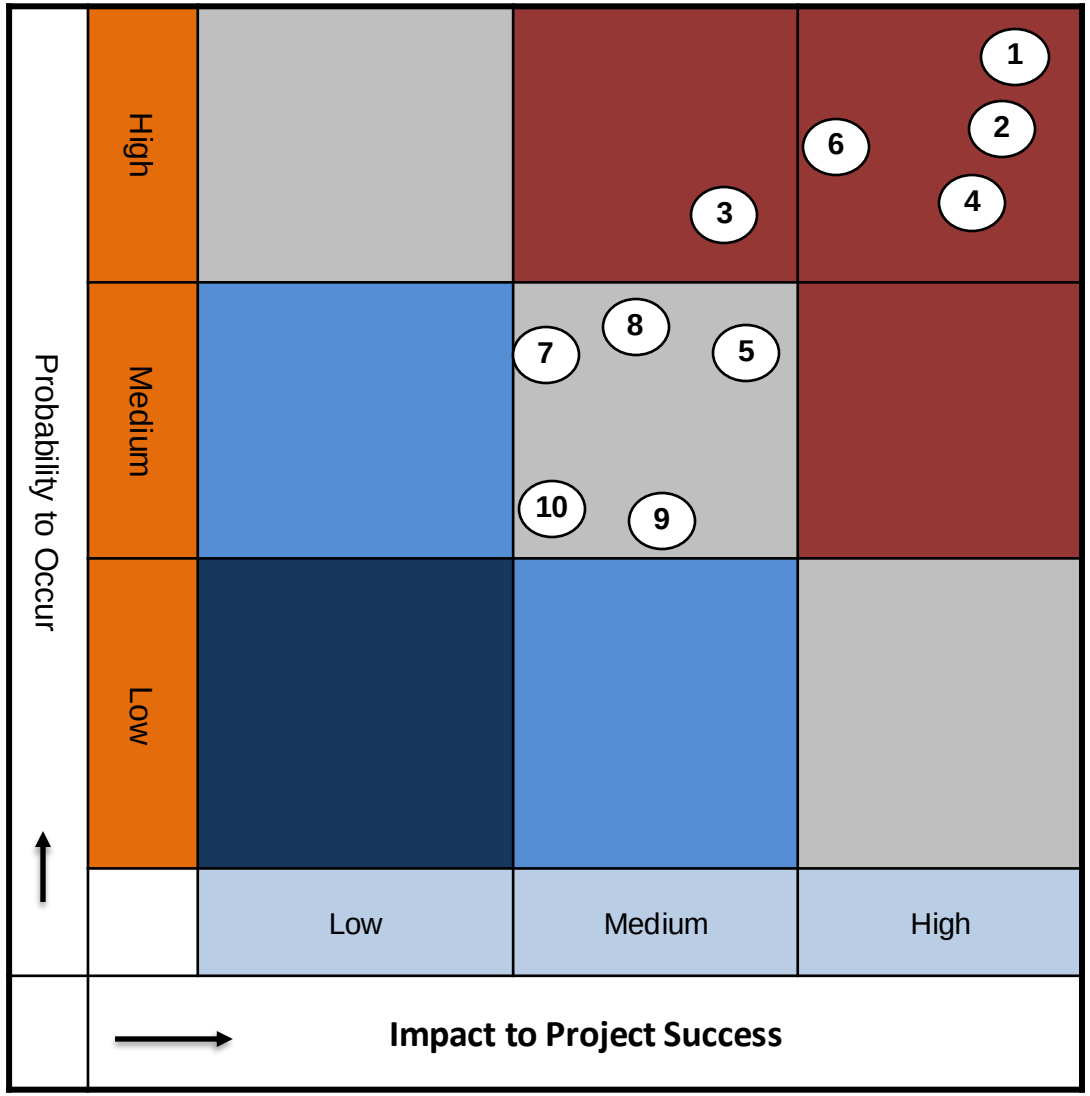
Categories	1	2	3	4	5	Areas Analyzed
Project Readiness		X				Internal Program Management Capabilities/Availability
			X			Internal change management resources and plan
				X		Volume/complexity of change required for success
			X			Ability to integrate this scope of work into existing projects
			X			Ongoing or new projects that could compete for resources
					X	Funding Support for Scope of Work
Cultural & Organizational Readiness		X				Willingness of organization to collaborate and change (sense of urgency)
			X			Client experience managing large/complex business transformation
		X				Leadership team's commitment to driving business transformation
			X			Ongoing business growth and likelihood of change
	X					Focus of organization on improvements and work/life/balance

Supporting Readiness Details

- One of the variables that helps determine the level of preparedness has to do with changes/updates needed for the foundation tables within PeopleSoft. Client has already started or in many cases, completed analysis and modernization of critical tables and data elements. This work takes several months to complete, and it's largely been completed. This is a positive sign the organization could move more rapidly into a cloud ERP procurement. The business users should be commended.

  - Market analysis of compensation models and structure
  - Job Code cleansing and consolidation
  - Aligning new salary with compensation bands. ND has implemented best practice Broad Band model
  - Ongoing analysis and cleansing of action/reason codes
  - Ongoing analysis and cleansing of earning codes
  - Recent analysis and cleansing of deduction codes
  - The Chart of Accounts will not require a complete overhaul. Just modernization and expansion for better reporting
  - Year end close process while complicated and time consuming is well thought-out. Tools can only enhance this process
  - Currently modernizing strategic sourcing/e-Procurement processes. These could be enhanced by modern technology

Primary Risks To Address During Planning



Project Risks

#	Probability	Description	Impact
1	High	Availability of staff to work on project	High
2	High	Complexity of Process Analysis/Standardization	High
3	Medium	Data Governance (fragmented data today)	High
4	High	Different requirements across different agencies	High
5	High	Elimination of customized features	Medium
6	High	Retirement Cliff (i.e., PS Developers)	High
7	Medium	Project Timeline/Budget	Medium
8	Medium	Unwillingness to change to leverage new technology	Medium
9	Medium	College and State Unknown Future Model	Medium
10	Medium	Competing Projects	Medium

Business Case for Modernization

Technology Evolution

Google, LLC Formed

Netscape Navigator

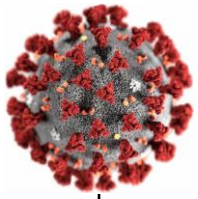
State of ND Implements PeopleSoft

First iPhone

Zoom Formed

Microsoft Hololens Mixed Reality

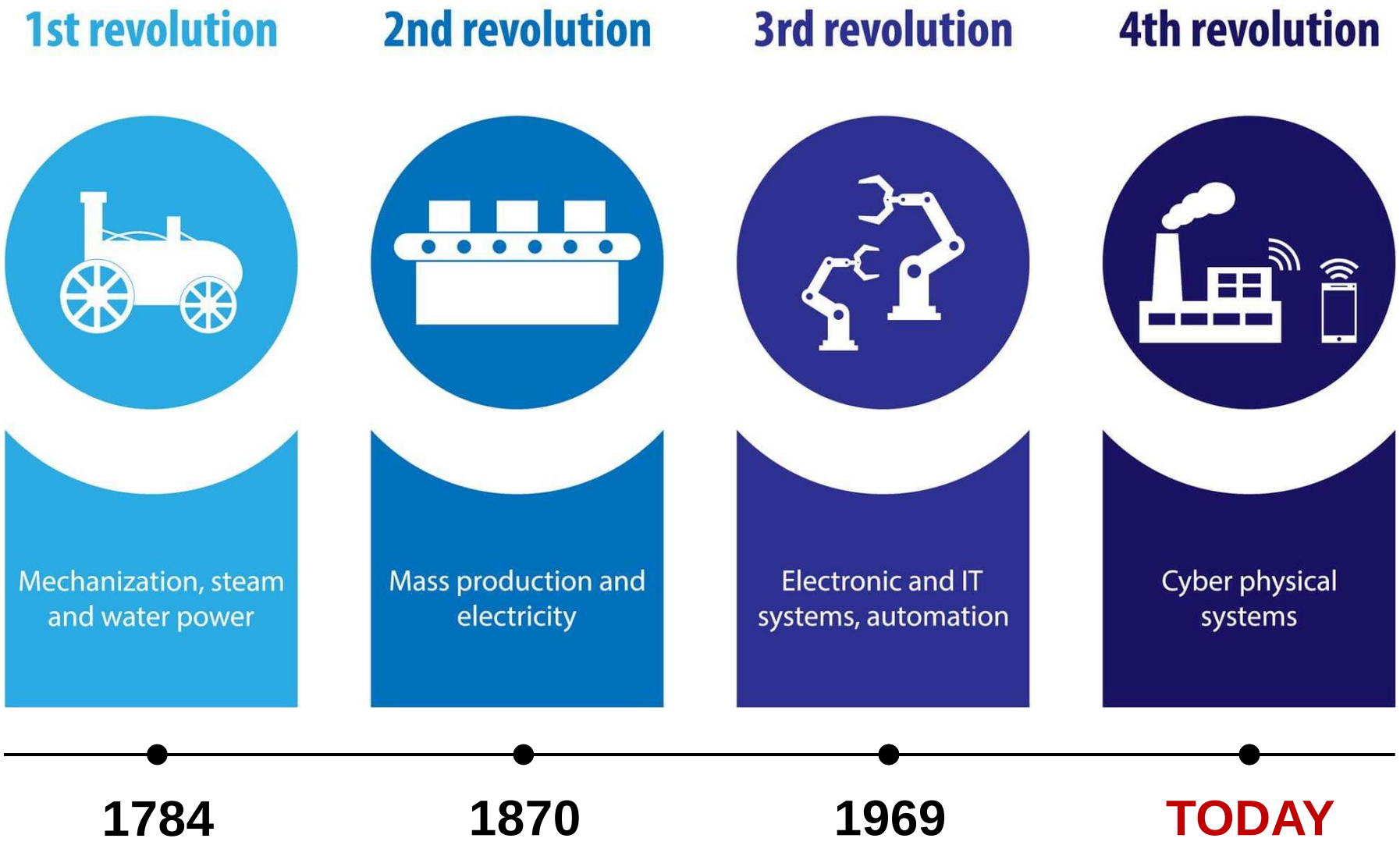
COVID-19



ChatGPT OpenAI

1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Agility to Align With 4th Industrial Revolution



Industry 4.0: Preparing for Workforce of Tomorrow

Generation Alpha- Born 2010-2025

- Expect interconnectivity, automation, machine learning, real-time data
- Compared with older **generations**, millennials and alphas are more likely to look for career development (by 17 percentage points) and more likely to seek remote work (by eight percentage points) and greater work-life balance and better wellbeing (by seven percentage points). These are compared to Generation Z and Baby Boomers. These trends are critical to ensure your technology and processes support this kind of model
- Workforce and government must align with colleges and universities to "grow" the right type of talent

KEY ATTRIBUTES OF MILLENIALS AND GENERATION ALPHA
Expect mobile connectivity. Businesses must meet the employee where they live. On mobile.
Expect to leverage data in everything they do. These generations will have access to virtually unlimited data.
Expect simple to use technology and business processes- Think Amazon or Apple Pay!!
Will expect to work remotely a large portion of their careers. Technology, business processes and culture must be aligned
Limited loyalty compared to past generations. You must demonstrate you want these employees. Otherwise, they will leave

Business Case for ERP Modernization

- The State of North Dakota has grown significantly since the original implementation in 2003 and 2004. The number of employees across all state agencies have increased. Complexities have increased. The labor market has changed dramatically. Talent management, career development and succession planning tools are critical to the success of a modern organization. Agility is necessary to enable transformation.
- Underlying enterprise architecture is inferior to some (not all) of other available platforms
- Talent management requirements for many agencies exceed what current tools can provide
- Current platform is fragmented with multiple third-party tools. Modern ERP platforms could simplify processes and data reporting significantly and help align the HR and Finance departments for state-wide and cross agency efficiencies
- A modern platform with a properly aligned data model could enable users to make data driven decisions
- PeopleSoft workflow/automation tools are weak compared to other tools in the market
- The large number of customizations makes it more difficult to fully leverage other features in the platform

Business Case for ERP Modernization

- The number of resources in the marketplace with PeopleSoft skill sets is rapidly declining. Consultants have migrated to other modern tools. Costs of labor are increasing and there is already a shortage of qualified experts. This will continue and accelerate in the next couple of years as large vendors hire these resources for backfill or conversion projects

- The NDUS is already in the planning phase for a cloud modernization project. The State Government is better prepared than NDUS. Going first could give the State more leverage in the future design

- The existing PeopleSoft platform will go out of support in the early 2030's

  - The State's R1 institutions will likely be moving first given their business challenges and a critical need to solve operational problems

  - Less than 10% of PeopleSoft customers have migrated to cloud

  - The wave will begin to build in 2025, and implementation firms estimate costs can be 50% higher for services in 5 years. Waiting will cost you

  - The State should consider you want at least a 2-year buffer from end of support. You still have about 2 years before you would buy anything. It will take at least 3 years to fully migrate to cloud so starting a procurement in 2025 is warranted with the implementation activities timed to begin sometime in 2026

Modernization Considerations

- *The State is a good candidate for accelerating the path to cloud. Waiting too long could lead to negatives on the staffing model. Key resources are approaching retirement. If they leave before this ERP modernization project is complete it will require additional bodies to fill their voids.*
- Much like the staffing situation with NDUS, there is ample evidence that the State **can not** start moving to cloud until a well thought-out and fully funded backfill strategy is in place. Not planned but in place
- It will be almost impossible to backfill many of the NDIT and OMB staff fully. They wear too many hats and are too important to pull away from all of their duties. Careful analysis of what CAN and SHOULD be taken off their place is the key to the backfill strategy
- There are star resources out in some of the agencies and departments that should be brought on to the cloud modernization project. Backfilling them will be tricky but it should be considered
- Analysis of retirees with specific skill sets is required and where possible, they should be given contracts to step in and help with the support of the production environments while full time staff focus on the new cloud implementation
- If the State and NDUS decide to move in the same direction the organizations should synchronize their cloud readiness activities along with procurement steps

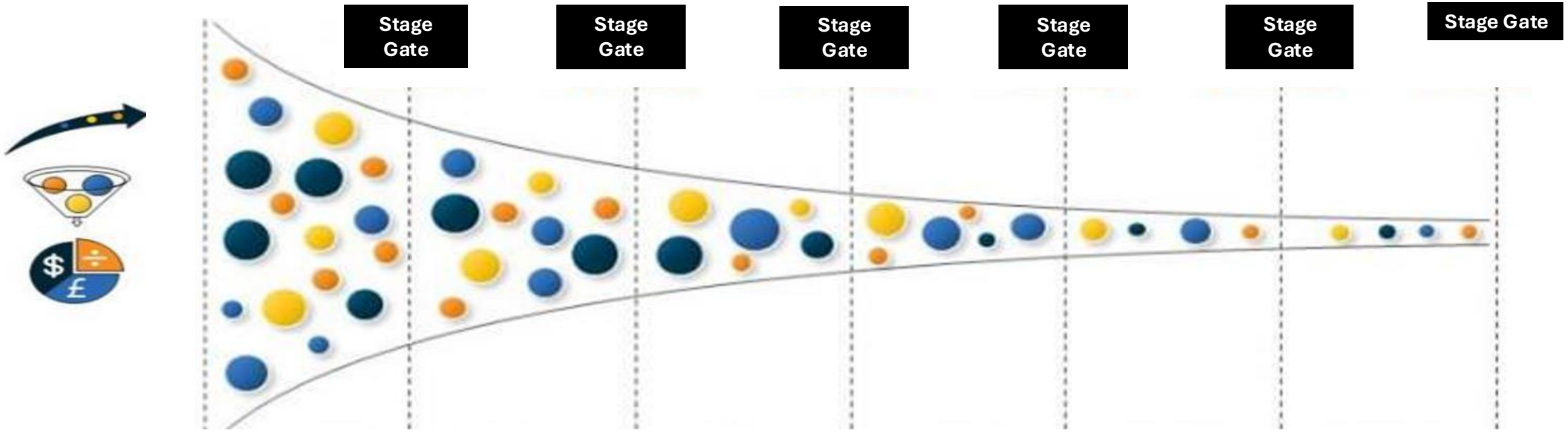
Recommended Next Steps

Questions That Require Answers

- How many employees are approaching retirement and what is the plan to analyze the impact of losing that institutional knowledge?
- What can be done to ensure the agencies with unique requirements and processes are addressed? When will separate 3rd party products be allowed?
- Role of the State versus NDUS. Remain tied to a single platform or share license costs but have separate cloud environments?
- How would ND pay for ERP modernization?
- Should we explore more shared services across agencies?
- Are we better off doing the ERP modernization project WHILE we still have the subject matter expertise OR should we wait until they retire and start fresh with new staff? *Best practice is to hire the new staff and let them grow into the new roles WHILE the expertise is still employed at NDUS.*
- When to start a cloud modernization project? Clients should plan for at least 2 years of buffer from the noted Oracle end of life date for PeopleSoft.

Cloud Readiness Strategic Planning Process

Analysis → **Prioritization** → **Validation** → **Sponsorship & Governance**



- Interview stakeholders
- Document pain points
- Document improvement opportunities
- Document wish lists by department

- Survey Agencies To Gather Additional Data
- Agency/Department Representatives Prioritize

- Group Improvements into Logical Categories
- Reprioritize With Key Stakeholders
- Review and Replan if needed

- Estimate Level of Effort For Improvement Opportunities
- Map to staff availability and Skills

- Estimate Budget and Procurement Implications
- Map to Strategic Plan

We are here

- Approve and communicate to team
- Create Project Plans

User Built Plan

- This roadmap is being built by a diverse group of functional and technical representatives across key agencies
- Roadmap will be aligned with all strategic plans (Agency and Department)
- Started with over hundreds of improvement opportunities based on data gathered. It's being grouped based on different variables:
  - Number of agencies and/or users the improvement positively impacts
  - Time and level of effort needed to implement improvement
  - Analysis to determine if implementing improvement is worth effort knowing a new ERP is coming
  - If improvement could be implemented internally or required consulting assistance (i.e., dollars)
- Work broken out into categories:
  - Stabilization activities (4-6 months)
  - Process Improvements That Will Benefit Short Term and Longer Term (6 – 18 months)
  - Cloud Readiness Tasks will be taking place in parallel will impact the future implementation but likely have little value in the short term
  - All work integrated into NDIT and OMB Support staff's regular "day jobs"

Stabilization First

- The data gathered during this analysis identified several topics that need to be addressed to stabilize the current operating model. During the prioritization activities, staff will identify/confirm these topics, and a plan should be put in place to address the critical items (i.e., Training, Expanded Oracle Guided Learning…)

- Stabilization activities might require external consulting assistance. The analysis will map out what areas require attention and NDIT and OMB staff will identify the following:

  - Skills needed
  - Estimated number of hours
  - Estimated market rate for specific skills
  - How to pay for these services
  - When they are required
  - Expected tasks/deliverables expected of these resources
  - Plan to manage these activities

- NDUS identified several stabilization projects they needed to address. It's likely NDIT and NDUS could work collaboratively on some of these topics and share the costs.

Focus on Process and Data

- Many of the documented pain points and improvement requirements can be grouped into either a Process related category or a Data related category. It's likely, many of the short term and longer-term cloud preparation activities will need to focus on process and data

- Processes should be analyzed first. Data moves within the process. If you focus on the process first, it's much easier to address data issues.

- Examples of process work that will likely be included in the upcoming plan include:
  - Documentation of consistent and inconsistent processes across agencies
    - Analysis of why there is a variance and whether these can be further standardized

- Identify where workflow and automation could improve a process

- Document paper that's included in the process and put plans in place to digitize where applicable

- Identify where training on these processes is required/necessary

- Identify where expanded usage of Oracle Guided Learning could help support staff

High Level Product Analysis

- October HEUG conference in North Dakota will provide insights into the HCM and Finance platforms from Oracle and Workday
- Schedule webinars over next several months to analyze platforms in greater detail to identify potential gaps and help staff reimagine what cloud could mean for their agency
- Continue value analysis to identify future cost models and potential savings and expected efficiencies
- Document business requirements and prioritize
- Work with NDUS possibly to schedule joint software analysis activities
- Fit gap analysis to determine where existing customizations need to be accommodated in future ERP

Cloud Readiness Resource Requirements

- NDIT and OMB will require assistance to prepare the organization for a migration to a cloud ERP platform. Examples of the types of resources that are needed include:
  - Project management assistance
  - Assistance managing procurement activities:
    - Software procurement
    - Implementation partner procurement
    - Backfill vendor procurement
  - Organizational change management assistance
  - Data governance consulting to help prepare the data model for modernization
  - Functional subject matter experts
  - Business analysts
  - Technical development assistance

Might want to consider pulling NDIT technical developers from commoditized work to focus on ERP planning. Might want to consider a single high end PS Developer to take work off of staff's plate. Not sure if you would need two. Need to evaluate. The NDIT staff are rock stars and can add immense value elsewhere.

Cloud Readiness Resource Requirements

- ND has solid project management capabilities. Part time assistance to help create a plan and manage a portfolio of mini projects could be beneficial
  - 10 hours per week on average should be enough. Some weeks might require 15-20 but average 10 hours per week over an 18-month period. This would not need to begin until early 2025 more than likely
    - Assume PM would also help with organizational change management activities
- ND would benefit from proactive data governance work. This is a common cloud readiness activity and can be done slowly and methodically using industry experts on a part time basis:
  - Assume 15-20 hours per week for approximately 6-9 months to cover most of what's needed
- ND will need help preparing for vendor analysis much like NDUS requires. Budgeting a part time resource (who could be the same as the PM resource above) is justified
  - Document business requirements by agency
  - Manage vendor reference discussions and detailed product analysis
  - Manage software vendor demonstrations when the time comes including scoring
  - If it's the same resource as the PM listed above simply add 5 -10 hours per week to that resource for consistent assistance

Cloud Readiness Resource Requirements

- ND will require a well-thought-out staffing/backfill plan before embarking on a cloud ERP modernization project. The existing staffing levels will make it very difficult to maintain current operations AND implement a new ERP properly
- NDUS plans on identifying a backfill vendor via public procurement to help augment current staffing levels
- NDUS and the State should collaborate during this procurement to achieve economies of scale with a single vendor
- This new vendor needs to be identified and key staff starting to engage NO LESS than 6 months before the start of any new ERP implementation
    - Assuming a software vendor is identified in summer of 2026
    - Assuming a formal procurement for an implementation partner with selection in fall of 2026
    - Assume procurement for backfill vendor starts March 2026 with contract in place before June 2026
    - Assume new implementation would likely begin in late 2026 to early 2027
    - (Peak will provide an RFP for State and NDUS to leverage that should provide 75-90% of what's needed)

Cloud Readiness Resource Requirements

Type of Resource	Estimated Hours	Estimated Rate	Estimated Costs
• Project Manager With Change Management Expertise. Assumes this resource will also help with vendor analysis. Assumed 90 weeks with 20 hours per week	1,800	$150	$270,000
• Data Governance Consulting Expertise • (Assumed 9 months and 20 hours per week (720 hours estimated)	720	$165	$118,800
• Reporting Lead to deploy Pivot Grids. Short term pain relief. Will help instill data governance and policies and processes that will be useful in future cloud • Assumed 9 months of effort creating and testing reports and training staff	720	$140	$100,800
• Agency Analysis (Assumed 65 agency meetings x 50 hours each) • Part time work to help align agencies and explore shared services	3,250	$150	$487,500
• Full time resource to lead training of new staff on policies, processes and technology utilization at different agencies. This is position-based training • 1 FTE at $125,000 per year for two years			$252,000
• PeopleSoft High End Technical Developer • Assumed full time at 40 hours/week for 90 weeks (worst case 140/hour)	3,600	$140	$504,000
• HCM Functional Process Mapping Expert • Assumed 20 hours per week and assumed 6 months	500	$165	$82,500
• Finance Functional Process Mapping Expert • Assumed 20 hours per week and assumed 6 months	500	$165	$82,500
• HCM Business Analyst • Help with documentation and process work. Help with data gathering tasks	4,000	$140	$560,000
• FSCM Business Analyst • Help with documentation and process work. Help with data gathering tasks	3,200	$140	$448,000
• Help Desk Modernization strategy, plan and staffing model • This will help free up key staff who currently focus significant effort on Tier 1 help desk triaging taking them away from more strategic work activities • Two FTE's with some working knowledge of PeopleSoft to supply Tier **1+** support. Two FTE's at $58k each for two years =(58*2)*2=$232k			$232,000
• Assistant Director of OMB to help lead tactical activities during modernization project • Hire early and let them work with the organization on readiness • Should help drive transformation later • Full time salaried role that should be budgeted now ($250k per year includes all benefits)			$450,000
• Contingency/Other (10%) o Staff attrition requiring contractors o Help such as HR transformation or Finance Transformation help from Gartner o Other??			$358,810
			$3,946,910

Resource Expected Tasks/Deliverables

- **Project Manager**
  - Help create RFP for software vendor and manage procurement tasks
  - Help create RFP for system integrator and manage procurement tasks
  - Help create RFP for backfill vendor and manage procurement tasks
  - Work with State teams to map out staffing models
  - Work with leadership to map out competing projects and align staff to each project
  - Help create change management strategy including marketing and branding of cloud project
  - Help align State and NDUS teams and activities (if needed)
  - Mentor client team on how to manage a project
  - Help identify change champions within each agency
  - Possibly organizational change management training for key staff
  - Assumed part time assistance for total of 1,800 hours over two calendar years

Resource Expected Tasks/Deliverables

- **Data Governance Consulting Assistance**
  - Review of current data governance model
  - Review policies and legislation and document implications on cloud ERP implementation
  - Help document systems that feed and/or are fed by new cloud ERP platform
  - Analysis of data quality in all relevant areas (HR, Benefits, Payroll, GL, Procurement…)
  - Identify data stewards / owners in each area to insert into future project plan
  - Analysis of data terminology and proactive work on standardizing terminology (i.e., data dictionary)
    - Codes in drop downs
    - Usage of different dates
  - Analysis of any data lakes / warehouse capabilities or requirements
  - Proactive definition of reports each agency/department requires to insert into statement of work for services
  - Proactive analysis of data security model and document any new requirements
  - Assumed 720 hours over two calendar years. This might not all be needed and could be done internally

Resource Expected Tasks/Deliverables

- **Reporting Lead / PeopleSoft Developer**
  - Review current reporting needs
  - Leverage tools such as Pivot Grids to provide features/functionality and reporting that business users desire
  - Assist with configuration and deployment of Pivot Grids and Insight Dashboards
  - Assist with configuration and development of other reports that will benefit the business users
  - Train staff on how to properly utilize reporting tools
  - Help ensure policies and processes and data models are scalable for any new Cloud ERP reporting platform
  - Assuming part-time consulting from an expert spread over several months
  - Assumed worst-case of 720 hours
  - Used bill rate for known vendors with expert level PeopleSoft Reporting/Development resources $140/hour
  - Total = $100,800

Resource Expected Tasks/Deliverables

- **Agency Alignment Assistance**
  - Review of agency's operating models. Work done in the past and unique operating requirements
  - Identify existing or future shared services that need to be considered
  - Document policies that vary between agencies and proactively attempt to standardize
  - Document processes that vary between agencies and proactively attempt to standardize
  - Document requirements that require an agency to have a unique data model or set of processes
  - Group agencies into "cohorts" of similar operating modes to use in future design activities
  - Identify/validate key subject matter experts in each agency for future staffing model
  - Potentially identify services/processes that could be outsourced
  - Analysis of service level agreements or expectations that agencies struggle with today
  - Analysis of future support model expectations or opportunities

Resource Expected Tasks/Deliverables

- **Full Time Training Coordinator/ Process Expert**
  - Recommend hiring new employee to help the State prepare for Cloud ERP project (could also be internal recruit but it might be a new position that needs funding)
  - This resource would reside within OMB
  - This resource will work with the agencies to define position-based training needs including what technology different positions require as part of their job assignments
  - This data will feed into training services that can be delivered to each agency when new employees are hired
  - This data and the associated processes will help prepare the organization for a future ERP deployment
  - This resource can help lead the analysis of agency processes and variances with the contractors and slowly assume ownership of this area
  - Assumed this resource will be senior and polished with excellent written and communication skills
  - Assumed salary of $90,000 per year with 40% benefit cost $90K or $126,000/year x 2 years ($252,000)

Resource Expected Tasks/Deliverables

- **PeopleSoft Technical Development**
  - Intended to free up experienced NDIT staff to assist functional business users
  - Help with stabilization efforts of HCM and Finance platforms
  - Help with upgrades and applying patches/fixes/tax updates
  - Assist with help desk support tickets and triage activities
  - Help analyze and document customizations to the HCM and Finance platforms
  - Budgeted for 3,600 hours of assistance over the next two years

Resource Expected Tasks/Deliverables

- **Business Process Mapping Assistance for HR and Finance Teams**
  - Help teams with stabilization activities around PeopleSoft HCM and Finance
  - Help with documentation of business requirements for upcoming procurements
  - Analysis of most common/critical business processes. Identify improvement opportunities
  - Proactively identify opportunities to embed workflow or notifications in key business processes
  - Review of segregation of duties and work with agencies/departments to streamline operations in the short term where feasible
  - Assist with documentation of "shadow" systems such as Excel spreadsheets
  - Assist with documentation of reporting needs
  - Estimated 500 hours for an HCM consultant and 500 for a Finance. It's likely HCM will require more help.

Resource Expected Tasks/Deliverables

- **HCM and Finance Business Analysis**
  - Help key NDIT, OMB and other team members with commoditized activities such as:
    - Business process documentation
    - Creation of flow charts
    - Analysis of interface and reporting requirements
    - Documentation of business requirements (the Process Experts will lead this work)
    - Assisting with analysis of paper throughout the business processes and identification of where e-Forms with eSignature are required
    - Assist with documentation of key staff members segregation of duties and technology utilization
    - Assumed 7,200 hours of assistance from multiple business analysts

Resource Expected Tasks/Deliverables

- **Deputy Director**
  - Need for a senior resource to help drive ERP transformation on behalf of OMB
  - Need to hire this resource and let them have time to learn the current operating model
  - This resource will be responsible for the day-to-day oversight of a new ERP modernization project and drive tactical (and some strategic) decisions
  - This resource will also be involved with alignment of agencies and potentially NDUS data models
  - This resource will be empowered to drive policy and process changes across the state
  - This resource will be the owner of the ERP platform after go live and be responsible for continuous process optimization across all agencies
  - Assumed a new position in the org structure that needs new funding. Could hire from within if the right candidate exists
  - Assumed salary of $160k plus benefits ($225,000) x 2 years = $450,000

Resource Expected Tasks/Deliverables

- **Help Desk Resources**
  - Need two resources to free OMB staff up to work on the readiness project and eventually implementation
  - These are two functional/technical business analyst types to field incoming calls from agency personnel
  - These resources will need training if they are hired from outside the organization. Should consider hiring internal from agencies if possible so they have experience with the organizational structure
  - Assume these resources have low to mid level PeopleSoft skills
  - These resources are estimated to cost approximately $60,000 per year
  - Assumed two are needed for two years
  - $232,000

Recommended Peer Discussions

Organization	LEGACY ERP	CLOUD ERP
State of Georgia	PeopleSoft	Workday
State of Iowa	Home Grown	Workday
State of Oklahoma	PeopleSoft	Workday
State of Oregon	Home Grown	Workday
State Maine	PeopleSoft	Workday
State of Washington	Homegrown	Workday
State of Rhode Island	Home Grown	Workday
State of Massachusetts	PeopleSoft	Workday
State of North Carolina	N/A	Oracle Cloud Finance –Workday HCM
State of Idaho	Home Grown	Infor
State of Nevada	N/A	SAP
State of Missouri	N/A	Oracle Cloud
District of Columbia	PeopleSoft	Oracle Cloud
State of Vermont	PeopleSoft	Workday
State of Maryland	Homegrown	Workday HCM only

Critical Evaluation Variables

Risks of ERP Modernization (Gartner Group & Peak's Lessons Learned)

- Lift and shift versus true transformation
- Improper staffing leads to delays and cost overruns
- Lack of consistent executive sponsorship
- Inaccurate vendor selection/product match with requirements & culture
- Lack of focus on organizational change management
- Poorly structured project teams
- Unrealistic schedule
- Inaccurate and/or incomplete requirements definition
- Data integrity/conversion/validation
- Scope creep and poor change control
- Poorly executed user testing and validation of future platform
- Ineffective user documentation
- Poorly trained staff
- Big bang vs phased-cohort deployment
- Future state support model not well thought-out and not prepared for new cloud software

Readiness Assessment:

- People
- Processes
- Governance
- Technology

Prioritized Projects:

- Short term/stabilization
- Process Analysis
- Data Analysis
- Staffing Analysis
- Budget/Time to Value

Roadmap To Modernization

Create individual project plans and run as an Integrated PROGRAM

Revamped Governance Model

- Project Management
- Change Management
- Data Governance
- Decision Making

Common Data Framework

- Create data team
- Common data definitions
- Foundation code cleanup
- Role based access
- Audit/cleansing of existing data
- Identify what data feeds and is fed by ERP

Standard & Simplified Business Processes

Create teams to standardize and streamline processes and align with the people and technology across the state

Standardize processes where possible and align those that are required to be unique with a common data model:

- HR, Benefits, Payroll, TL
- Accounting/Finance/Procurement
- Projects/Contracts/Grants
- Budgeting/Planning/Forecasting

Modern Cloud Technology Framework

- Modern Enterprise Architecture Framework
- Modern HCM and Finance
- Trusted Data
- Trusted Processes
- Personalized Process
- Workflow/Automation
- Tools standardized
- Workflow
- E-Forms
- Chat Bots/Automation
- Analytics

Realigned Support Teams

- Skills Gaps Addressed
- Realigned staff
- Trained staff
- Empowered staff
- Realistic workloads
- Outcome driven accountability
- Agency specific requirements and challenges addressed
- SLA's
- Standard Operating Procedures
- Operation built to handle continuous process automation

Modern ERP Deployed

Business Transformation Committee

Responsible for identifying transformation initiatives and leading the implementation and optimization of these efforts on behalf of their respective agency or department. Should likely include representatives from NDUS

Business Transformation:

- The Right Leadership
- The Right Strategy
- The Right Team
- The Right Sequence
- The Right Execution

RFP For Software and Implementation Firm	Implement New Cloud ERP *Design/Configuration/Testing/Training*	Stabilization and Optimization

List of Projects or Requests From Interviewees

Finance Platform Pain Points and Roadmap Items

- Users commented that there is a large backlog of items for finance. A review of backlogged development is warranted, and a new prioritization conducted to include data from this study
- Several requests for PeopleSoft Query training. Beginners, Intermediate and Advanced might be warranted
- PeopleSoft security is clunky, overly technical and very complex. It directly hinders many user's productivity
- Bank verification automation will save significant time
- Challenges managing interdepartmental journal entries and charge backs
- Challenges with billing. Agencies want e-Billing and credit card utilization and integration
- Customizations are not thoroughly documented. This needs to happen before the cloud ERP project
- Consider accounts receivable and billing process analysis and try to standardize across all agencies
- Review Century Code and what it says about OMB's charter and expected duties if agencies can't perform certain output
- Need a review of agencies capabilities. Agencies must take more ownership of technology and processes.
- Need a review of how agencies collaborate. Need more agencies support each other.
- Need to identify the top 15-20 business processes in each area and engage all agencies to determine WHY they can't do a specific process in a consistent manner.
- Evaluate if more FLUID can be deployed. This will help with preparing staff for cloud if it's done effectively
- Consider an overview of PeopleSoft and what all is owned, what is deployed and what is NOT deployed. Many don't know this
- Business process documentation is not up to date in all areas
- Time spent on standard operating procedures will be valuable later
- Finance users have seen heavy turnover. There appears to be a need for more business analysts and cross training
- Implementation of Ivalula should help alleviate pain in many areas. This was a smart move. Focus on this is needed.
- Those agencies that charge time to projects need to be grouped and analysis done on how to better train them or enhance processes

Finance Platform Pain Points and Roadmap Items

- Identify where agencies are not utilizing the Purchase Order functionality the same. Determine why. Identify where deploying this can help in the short term.
- Review the customized supplier portal and ensure it's properly documented for future ERP vendors to demonstrate their capabilities
- Working group to analyze all agencies tracking of Assets. Can more standardization take place? Review of state policies and use of technology is needed.
- Review of how bank reconciliation takes place. Can short term improvements be identified?
- Examine if a mobile scanning device to help manage inventory is warranted. Several agencies utilize PS Inventory, and scanning tools will help immensely. Other agencies NOT using Inventory but rather utilizing Asset Management can use these tools. Future ERP platforms expect you to scan and load into their cloud finance platform
- Training on how to leverage Pivot Grids and create basic dashboards will be appreciated. Will any of the Insight Tools for Finance help? Do all the agencies know what Insights are? Do they need training?
- Analysis of how 2- and 3-way matching takes place and identify opportunities to improve. This likely includes training.
- Review of PeopleSoft T&E module. Who needs it? What are they doing today?
- Review of agencies federal reporting requirements. Where are they different and why? This needs to be mapped out for later.
- The different agencies have different budget processes. This over complicates transfers from one agency to the other. What canbe done to clean this up.
- HHS has already adopted one of Oracle's cloud products. They are using Oracle's EPM-Budgeting & Cloud Services. HHS Uses Oracle's EPM cloud product to perform budget forecast, scenarios, etc. throughout the biennium then use OMB's Sherpa system to create their upcoming budget requests.

Finance Platform Pain Points and Roadmap Items

- ND is one of the few clients using PeopleSoft Lease Management. It integrates to AP, AR and AM and any new vendor selection will need to dive deeply into these business requirements. There is a separate "bolt on" from another vendor called SpearMC that will also need to be evaluated that ties into the Receivables functionality
- Agencies are using PeopleSoft to specifically track GASB 87 requirements surrounding lease payments
- The state also has agencies that use this module to track software subscriptions and contract terms
- The Lease Management module has a lot of different screens and is generally seen as "clunky" and difficult to navigate. Creating vouchers is difficult. It requires jumping in and out of PeopleSoft and interacting with Filenet and other manual processes
- There is little workflow or automation around the Lease functionality.
- Multiple agencies track vehicles from their "fleets" inside the Asset Management module.
- Multiple agencies desire tracking and attaching documents inside of the ERP
- The state should consider deploying PeopleSoft e-Settlements for a short term (next 3 years) solution. At least do a cost / benefit analysis to determine the value it could bring to agencies
- Agencies expressed interest in "web grants" capabilities. Need to flush out these requirements and identify if PeopleSoft has these features
- Review of year end closing packages and reports. Identify if there are opportunities to improve in the short term
- Identify if agencies such as State Library can track federal funds within PeopleSoft. This needs to be a requirement in any new ERP
- Requests for the ability to have a single dashboard to acknowledge receipt of a form and that shows where you have approved a process. Single dashboards were a common request.
- Identify whether there is value in creating any new dashboards within PeopleSoft in the short term
- Analysis of the ITD reviews process. New laws require new tracking
- Can PeopleSoft allow you to generate the contract and automatically feed AP? If so, please deliver training
- Review the AP process and how invoices are uploaded. Are they uploaded into PS or into File Net. Why not PeopleSoft?

Finance Platform Pain Points and Roadmap Items

- Multiple questions about assigning a budget to a contract and doing budget check.
- Are there reports that can break out appropriated funds and track expenditures?
- Is there a way to link File Net to specific PeopleSoft pages to simplify usability
- Is there a report that shows your direct reports AND indirect reports? If so, please market this.
- Comments that the monthly budget reports are not always accurate. What can be done to help improve the accuracy?
- Analyze how agencies receive and deposit checks. Can this be streamlined?
- Survey question to all users of PeopleSoft to identify where there are duplication of data entry. Many comments about having to enter data multiple times for the same data set
- Survey question to agencies asking what disparate data could be combined into a single data set (or view) to report off of
- Within grants there is a desire to set a budget amount and use projects and activity ID's to track spend. The users want an early report/ notification when they are 50% of the grant and 40 and 30 and 20 and 10% left for alerts.
- Find out more about what Oracle and NDIT said is the problem with trusted/accurate data. Heard Oracle said it can't be fixed? (mineral services)
- Consider a terminology list for new employees.
- Review data retention policies across agencies. Are they consistent?
- Training across multiple agencies for those that require managing federal grants. Terminology. Processes. Reporting…
- Can agencies personalize / configure approval processes more flexibly? What about delegating to others when needed?
- Review AP vendor file. What can be done to clean it up. Can we simplify adding and managing vendors?
- Survey questions asking what can be done to improve the 1098t and/or 1096 process
- Can state centralize 1098 and 1099 processing and questions/answers?
- Easier way for users of PS to identify/validate project id codes. This is an issue especially for those tracking grants and certifying grants

Finance Platform Pain Points and Roadmap Items

- Survey question requesting specific data fields that are not used consistently. Multiple comments that different users utilize different data fields. This creates inconsistent data. Examples of complicated terminology
- Specific analysis where automation could help improve the payroll process
- Review of payroll audits. Identify if new audits could be worth it for agencies who are requesting better auditing capabilities
- Identify who own reporting access. Multiple comments that OMB controls and holds HR/Payroll hostage on reporting and access to data
- Identify what can be done to simplify invoice submission process
- Confirm what future payrolls should be. Biweekly?
- Build a plan to deploy future payroll schedules
- Multiple requests for Cognos Reporting training (intro and intermediate) classes
- Review combo edits within PeopleSoft. Can we deliver training? Can this functionality be expanded?
- Desire to identify audits that catch BAD TYPING where possible. Edit checks?

- Identify challenges users have uploading documents into PS. AR/Billing specifically said this is an issue
- Can system deliver a notification when a vendor received payment
- Review of where agencies bill. Counties or other entities. Analyze the policy and identify improvement opportunities
- Review the process for identifying and tracking overpayments.
- Audit of how agencies use PeopleSoft and their usage of terminology. Many statements that different agencies use it differently.
- Agencies requested a dashboard to show vouchers paid. If it exists they need to see it
- Agencies would like the Tax ID for a vendor tied to a VENDOR NUMBER
- OMB offers training to key people at the agency. The key people at the agencies don't appear to be training others at the agency
- Create a plan to move more vendor payments to ACH. Agencies said there are too many manual checks still
- Show agencies how to tie a payment to a Purchase Order

Finance Platform Pain Points and Roadmap Items

- Review of PeopleSoft's encumbrance tracking capabilities. Are we using everything to its fullest extent?
- Survey question asking if agencies struggle tracking and managing encumbrances
- Survey question asking for top 5 types of training needed
- Review "vendor registry" and identify how to simplify management and reporting out of. Multiple comments about needing dup checking
- Agencies want a process that defaults payment to ACH with few exceptions allowed for checks
- Review which agencies use Speed Charts. Are they using them effectively? Any training needed?
- Can efficiencies be identified to better map speed charts to payroll
- Review agencies using Web Grants. Can they use PeopleSoft instead?
- Multiple agencies still track grants in Excel. Can they piggyback on Web Grants or PeopleSoft grants?
- Review agency codes used for cash management (and other purposes)- Can this be cleaned up. Can the Department and Project ID codes be somehow coded into the agency code?
- Review the "outstanding check request process" Where is it manual? Is there a way to sort or manage by groups such as individuals or businesses?
- Within Asset Management- can the Profile ID be searchable?
- Review of how agencies manage purchasing. Where can policies/processes be standardized?
- Training on PeopleSoft purchasing was requested. Position based training
- OGL for asset management training
- Review of how Expenses are tracked all the way through to payroll reimbursement
- Requests for reviewing how P Cards integrate with other PS Modules. Specifically, Account Codes. The names and descriptions are too vague and need better explanation
- Review of how expenses tied to a grant are tracked. Make sure training is standardized and staff are trained
- Comments that when a report is approved the approver can't see it anymore? (might need more info from T&E group meeting)

Finance Platform Pain Points and Roadmap Items

- Training on how to do a return to inventory process
- Identify if bread crumbs can be used around Inventory module. Example where someone needs to follow disposal of inventory process
- Review of the default values in the Inventory Module. Review of ITEM number and processes and defaulting
- Users that buy something over and over again . They want defaults when they order same stuff over.
- Identify who needs training on how to replenish inventory in PS
- Review of interagency processes. Examples where shipping between agencies is cumbersome or other processes
- Does a report that shows what items are on the shelf

HCM Platform Pain Points and Roadmap Items

- Working group to analyze different pay frequencies. The benefits. The negatives and a plan to move forward is needed
- A review of the chart of accounts is needed. The team should attempt to redesign it prior to a cloud ERP project
- A review of the vendor file to identify duplicates and cleanse the data is warranted. This doesn't appear to be a big effort.
- Review of how the state utilizes positions. A redesign if needed should take place and ensure alignment between finance and HR
- Review of all employees with multiple jobs. Audit their records and make adjustments if needed
- Need to audit how the agencies utilize location codes and try to standardize usage going forward
- Identify where "position sharing" is taking place. Determine if this will continue. Cleanse data if needed
- Review states active-duty personnel. Audit and cleanse their data if needed
- Review "resident workers" from the state hospitals and audit and cleanse data if needed
- Review of talent management process flows. It appears as though training can solve several issues. The technology issues likely can't be resolved with this current platform.
- Examine where shared services for recruiting and onboarding could exist across agencies. These duties are commoditized and can easily be centralized
- Explore resume parsing technology costs and feasibility.
- PeopleSoft Insight dashboards are well received. Many might need training on them and if possible, expand usage.
- Consider standardization of background check technology and processes. Certain agencies have unique requirements, but these are commoditized functions that could be centralized
- Review of onboarding processes across agencies. How could this be further standardized. Identify exactly why certain agencies require own model.
- Analysis into all out of state workers. What states are they in? Do you have standardized policies for hiring/managing these workers? Could this be centralized? The NDUS needs help in this area too.

HCM Platform Pain Points and Roadmap Items

- Identify opportunities to tighten up how PeopleSoft HR and Service Now integrate to improve the employee experience
- Desire for a better integration to State Benefits/PERS platform. More single sign on? Enter data in one and it flows to the other?
- Short term identify which agencies still have paper timesheets. Identify if they can leverage PeopleSoft TL.
- Document those agencies using Workforce Time and Attendance and ensure all business requirements are known for future procurement activities
- Working group to analyze how agencies manage leave and absence policies. Where can/should this be standardized
- Review of years of service policy in accrual process. Early analysis of cloud ERP to see if their platforms can accommodate years of service policy
- Thorough documentation of FMLA requirements. This can and should be brought into any new ERP platform.
- Have vendors demo their ability to handle multiple pay frequencies. The desire for biweekly is strong. Client needs a long runway to implement any changes to pay frequency. This might be better to try to migrate to a new pay frequency BEFORE any move to cloud. Testing will already be complicated enough for payroll. Changing pay frequency at the same time is risky.
- Working group to review application security within PeopleSoft and identify improvements for the short term and longer term
- Consider charge back model on certain services OMB/NDIT perform. Based on number of FTE at the agency??
- Analysis of how Oracle Guided Learning is being utilized. Where can it be expanded? What is needed to make this happen?
- Need to clean up duplicate profiles in the application including security model and permission lists
- Need to examine how to expand the usage of the Pathlock tool (??)

HCM Platform Pain Points and Roadmap Items

- Document how many pieces of paper exist in each specific business process and create plan to digitize
- Most of the issues with recruiting and onboarding will need to wait to be resolved in a modern talent management platform. Scheduling interviews, automated triggers and communiques, artificial intelligence tools and other desired features don't exist today
- Need to validate the job descriptions. These are outside PeopleSoft. In any new HCM platform they need to be inside the application
- Investigate HHS use of position codes. Why are they unique and can they be standardized. Their requirements must be documented
- Document all 3rd party forms in use. GT Forms, JOT forms, Adobe forms. Other? Can we standardize? Which agencies have no tool
- Focus on how Corrections uses time and labor. Where are the gaps? Does Corrections have issues with managing absences? Why
- Review of the transfer process is needed. What is causing the historical data to disappear? Security? This needs to be cleaned up
- Can the team use Service Now to better integrate to PeopleSoft to help with the onboarding process?
- Workgroups to review the OFFBOARDING processes. Where can workflow and automation help? Are there policy issues?
- Multiple comments that when a PS Query runs it shows data different from the Dashboards that PeopleSoft/Insights might show
- Review of all dates that are utilized throughout PeopleSoft HCM and Finance. Provide a cheat sheet definition of each to make it more intuitive and cut down on keying errors
- Review of the payroll process. Identify where agency staff are doing things manual, and automation could be introduced
- Review of why the system shuts down and locks people out of PeopleSoft for so long during the payroll process. Can this be fixed?
- Review the sequence of payroll events. Can better documentation or training help?
- Assemble a team to design competencies and tie them to job codes
    - The competencies should be largely same across agencies, but certain agencies might need unique competencies as well

- Review of all policies. Are they standard across all agencies? Where do they rely on Century Code?
- Review alignment of LMS with onboarding and offboarding and see if additional features or workflow are warranted. Training?
- Is it possible to train NON EMPLOYEES inside the LMS. Vendors? Are there licensing restrictions?

HCM Platform Pain Points and Roadmap Items

- Within the LMS can workflow, notifications or nudges be deployed to prompt employee or manager to do something with training?
- Are there any gaps in the LMS when it comes to managing accessibility? If so, they need to be addressed
- Customizations to PeopleSoft limit the integration with the Jobvite product. Can these be addressed?
- Consider having a PeopleSoft payroll expert audit the process for short term solutions. Including inserting "edits" to minimize errors later
- Consider a mini project to track all employee licenses, certifications and anything with a date. This can be tracked in Profile Manager
- Examine how rehires are done and try to improve the process. Connecting how deductions/general deductions turn on and off is needed
- Review of how different agencies continue to use Personnel Files. What data is inside the paper file? What is not inside PeopleSoft. How to digitize to have a single digital employee record. This is desired.
- Each agency needs analysis and clarity on their record retention policy. This has to be embedded throughout the processes
- Dozens of comments about trying to improve the JDQ platform/processes in the short term
- Identify which agencies have scenarios where employees get paid out of multiple cost centers. How to track this? Staff need training.
- Identify agencies that bill time to other agencies and try to improve these processes
- Leadership should consider disallowing the use of multiple jobs. This is creating a manual nightmare due to technology issues
- Multiple comments about the desire for SS # being captured early in the hire process and used as common ID field elsewhere.
- Team to analyze what data is stored in other areas such as SharePoint. Why is it stored here? Can it be loaded into PeopleSoft?
- Review of Total Rewards Statement. Is the data accurate? How does comp time calculations effect this? What training is needed?
- Review of the use of Correction Mode. Could this training help simplify processes?
- Need a review of all public and private queries. Clean up old and redundant ones. Consider renaming to make more intuitive for users
- Review of employee policy towards entering their time in a timely manner. Need more automation if possible but also accountability.
- Issues with the integration of PERS for benefits and payroll leads to numerous adjustments each month. Deductions don't flow properly
- Need a review of segregation of duties between agencies and OMB when it comes to payroll

HCM Platform Pain Points and Roadmap Items

- Review of all agencies using PeopleSoft TL and integrating to Projects. Can this be cleaned up. Better training?
- Review of agencies usage of UTMI. Is it consistent? If not, why? What is needed to improve. Multiple issues stated about this.
- Multiple requests for OMB to help with standardized services around managing out of state workers hiring and compliance topics
- Multiple comments about reviewing the design/configuration of the unemployment taxes and worker's compensation elements in payroll
- Multiple comments about Payroll locking people out of the system. Payroll closes before the end of the month. The timing messes up payrolls and causes manual work arounds. Is this a policy that can be addressed?
- Examine which agencies require more than one approver in the TL process. Where needed, identify how to simplify this approval process
- Identify opportunities to streamline the offboarding process
- When an employee transfers the new agency can't see history. The old agency can't see the employee data either. History tracking is needed
- Identify geofencing requirements for each agency and see if needs can be met inside existing tech
- Most staff want a proactive analysis of succession plans for key resources
- Agencies want to track value of training for staff to the agency. How does training support the goals of the agency.
- Want to load skills and competencies on all existing employees. Then ongoing new hires. Agencies want to do a better job marketing new jobs across other agencies. Need to make it easy for employee to get notified when a specific type of job opens up

- Multiple requests to do all benefit work inside PeopleSoft and THEN have it just send an automatic file to PERS. Nothing should get done in PERS if possible.
- Need to identify better ways to track ADA accommodation requests
- Want to track disciplinary actions against employee in PS so it can be factored into a performance review
- Review of terminology and processes around managing comp time
- Examine how to link your performance rating to a merit increase. The technology and processes need to be examined and standardized

HCM Platform Pain Points and Roadmap Items

- Review where employes can donate or borrow leave. Policies, processes and technology
- Survey question about which data is stored outside PeopleSoft and what do they want inside PeopleSoft
- Examine integrations between Service Now and PeopleSoft- identify how to improve
- Coding across agencies need to be made more consistent
- Review of data consistency. Survey agencies for specific areas of inconsistent data
- Changing data related to an absence request AFTER it has already been approved by a supervisor
- Review training and OGL tools around making adjustments to a payroll before and after pay run
- Review of absence management policies. Review of processes. Focus on leave approval process.
- Review tracking of leave balances. What could be done to make this more real time?
- Identify how to automate notifying supervisors to approve time and absence data. Also examine expectations for these jobs and accountability issues and opportunities
- Why can you only go back one month to approve a past absence?
- Can the system have 2 levels of approval for absences? Can the system go around primary approver to secondary after x hours?
- Review of how comp time is managed. Policies. Processes. Reporting. Approvals
- Review types of leaves. Across agencies. Are they consistent? Can the be?
- Review OGL around leave management and comp time and other HR areas. Multiple users said they aren't using it fully. Others said there are issues with speed of OGL.
- Review transfer process and impact on leave. What can be done to improve

HCM Platform Pain Points and Roadmap Items

- Review how schedules are tracked and managed in PS. Are they consistent across agency? Is the system being used effectively?
- Review impact of a bi-weekly payroll on leave accrual, benefit calculations and how other balances are managed
- Review disposition codes for recruiting across all agencies. Can and should these be standardized
- Can an inventory of recruiting questions be loaded?
- Review entire onboarding process across agencies. Why does it need to differ? Try to standardize where possible before new Cloud ERP
- Why does OMB have to manage performance review templates? Why can't agencies make changes?
- Desire by many to have a review of agency security model . What improvements to access in the application and reporting can be done now?
- Review process to create a new job requisition. Is it the same across agencies? Why not? Where do agencies need training?
- Improve JDQ system and everything around it
- Systems/processes that don't update to the next day. The timing needs to be part of the training and all users need to understand the timing
- Review of the performance evaluation process. Agencies would like a model where it's 50-80% the same and then the agency can have unique variables specific to their agency. This provides the state wide data analytics required for a modern workforce but ensures agencies can personalize
- Review of salary model across agencies. Many agencies said certain other agencies pay more and poach the lesser paying agency staff
- Statewide training for new managers and experienced managers. Ongoing management training. How to manage people is an issue
- Review the user of contractors or non employees in the system. Audit how agencies do this and identify issues that might exist
- Agencies require labor law help on recruiting, talent management, benefits and payroll for out of state employees
- Review job posting data fields and how they align with job class, job title and other information
- Need to review requirements around tracking licenses, visa data, certificates of employees. Is this tracked inside PS or out? If outside how to bring it inhouse

HCM Platform Pain Points and Roadmap Items

- Review how schedules are tracked and managed in PS. Are they consistent across agency? Is the system being used effectively?
- Review requirements surrounding tracking Job Service. Is there a way to have a feed into labor distribution where every hour is charged to a project. How to handle overtime is also cumbersome
- Is there a way to simplify entering and managing time for workers with 24x7 shifts
- When someone requests leave agencies would like the system to calculate comp time properly.
- Examine what happens to employees PERS records when an employee transfers. Agencies said the benefits all drop and they have reenroll
- Analyze how years of service is calculated and leave is accrued. Agencies stated this is largely manual. Can automation be expanded?
  - It appears to be a training issue where resources don't know what dates to use for different calculations
- Agencies with "pager pay" where someone is on call needs to be examined. Is there a way to charge this to a project.
- Review terminology around payroll such as Reported Time and Payable time. Agencies admitted support staff sometimes get these confused
- Agencies want warnings when an employee enters TOO many hours on timesheet
- Agencies would like to review how leave without pay and leave with pay is managed to seek out more automation and they need training
- Analyze what can be done when an employee is running out of leave balance and they enter too many hours in for leave and don't have them. Are there warning flags? Can a workflow be created to have a manager approve? Agencies appear to need training in this area
- Analysis of employees entering time at the end of the month and when managers approve. When there are delays in the employee entering AND/OR the manager approving this creates manual work for staff
- Agencies would like to see if they can have a dashboard showing supervisor's staff and who has requested leave with a month view. They want a month visibility into who is requesting leave to help them with scheduling or approving OTHER requests for leave
- Is it possible to go into a timesheet and enter FUTURE time off without pay code? Or does a manager have to do this? Review the process
- Training and better documentation for managing workers with multiple jobs who also have different rates of pay for each job.

Other Topics

- Review of when onboarding varies between departments and specific positions. How to create custom workflows and notifications and training for these unique scenarios
- Analysis of unique processes and identification of improvement opportunities in the short term:
  - Contractors
  - Non vendors
  - Vendors
  - Higher Education resources
  - K-12 resources
  - Cities
  - Name change process
  - Employees who are also tied to another agency or entity (i.e. K12 or city?)
  - How does Identity Management work for all of these scenarios?
  - What training/documentation could be updated for these different scenarios
- Review policies around identity management and keeping accounts.
- Are there scenarios where someone creates their OWN account? What is the policy here?
- Review of scenarios where the same individual has multiple accounts. Why? What to do about them?
- Role of Service Now in onboarding process and offboarding process needs to be reviewed and streamlined if possible
- Review of when specific positions require background checks or special checks. Create unique processes.
- Review of how background check policies different between agencies. Can this be standardized?
- Identify what types of data employees might need BEFORE their actual hire date. How to get them access to systems/data BEFORE day 1
- Which agencies/positions require mandatory training BEFORE day 1? How to handle this more effectively?
- Review of email retention policy and processes (HB 15-28). Can we configure specific processes for specific action/reasons?
-

Other Topics

- Review how agencies/departments manage charge backs to others for scenarios like equipment assignment. Are signatures being captured when employees get equipment?
- Analysis of how to handle employees that NO SHOW for work. What is the policy and the associated processes? Especially when accounts have already been created.
- Do all agencies have the same multifactor authentication policy? Can they? Should they?
- Review of customizations to PeopleSoft is needed. Why they were originally created. Who approved. What the customization does. This data will be used during the cloud ERP project and updated documentation will save valuable time and money
- Need a review of the NDIT backlog of projects. What to do with them? How does cloud readiness impact these already approved projects?
- Need a survey to agencies to document all shadow systems that FEED PeopleSoft or are FED BY PeopleSoft. This will save valuable time and money during the future phases of ERP modernization
- Could GT Forms be expanded to solve problems in the near term?
- Review of existing PeopleSoft Application Security Model. Where do you have table sharing? Where SHOULD you have it?

Single Contract w/ NDIT

	General Fund	Special Fund		
Current Higher Ed Chargeback	$ 1,159,800.00	$ -	Needed for either Higher Education or NDIT budget Was Special Fund Appropriation in NDIT's 2023-2025 Budget	Cells D44 and D45 of HECN 25-27 worksheet
	High Point + Paladeuto			
Increase for Higher Ed True up for utilization and contract increase	$ 3,030,820.00	$ -	Needed for either Higher Education or NDIT budget	Additional cost added to current cost. Total cost from cells F44 and F45 of HECN 25-27 worksheet
	25-27			
Increase for NDIT True up for utilization and contract increase	$ 942,554.00	$ 265,447.00	Needed for NDIT budget	
	$ 5,133,174.00	$ 265,447.00		

Image of January 2025 invoice to Higher Ed - CTS

Customer No.: 215.5							$204,517.67
Division:							
Charge Code:							$204,517.67
215.5		DP 950	Oracle Inv 101034807 - Peoplesoft ERP Suite - qrtly billing	1/2025	DP012025.215.5	02/04/2025	$11,939.33
215.5		DP 940	Windows Extended Support (01/25)-ildcogndus.ndcloud.gov	1/2025	DP012025.215.5	02/04/2025	$11,892.51
							$46.82
Charge Code: IVR							
215.5	IVR	DP 940	T1 for Voice - Audio Video Bridges	1/2025	DP012025.215.5	02/04/2025	$400.00
Charge Code: NETWORK							$400.00
215.5	NETWORK	DP 940	Video Services	1/2025	DP012025.215.5	02/04/2025	$143,853.34
215.5	NETWORK	DP 940	Fiber - Fargo (DCN-NDSU Computer Room)	1/2025	DP012025.215.5	02/04/2025	$14,525.00
215.5	NETWORK	DP 940	CPE Fee	1/2025	DP012025.215.5	02/04/2025	$630.00
215.5	NETWORK	DP 940	Network Segment - Minot	1/2025	DP012025.215.5	02/04/2025	$51,875.00
215.5	NETWORK	DP 940	Bottineau 83100BTNUMNOT	1/2025	DP012025.215.5	02/04/2025	$5,541.50
215.5	NETWORK	DP 940	Valley City 86013FARGVLCY	1/2025	DP012025.215.5	02/04/2025	$939.00
215.5	NETWORK	DP 940	Wahpeton 86014FARGWHTN	1/2025	DP012025.215.5	02/04/2025	$1,414.00
215.5	NETWORK	DP 940	Fiber - Bismarck State College MDUDF015	1/2025	DP012025.215.5	02/04/2025	$4,539.00
215.5	NETWORK	DP 940	Internet Access - Fargo	1/2025	DP012025.215.5	02/04/2025	$1,675.00
215.5	NETWORK	DP 940	Network Segment - Grand Forks	1/2025	DP012025.215.5	02/04/2025	$15,672.00
215.5	NETWORK	DP 940	Network Segment - Fargo	1/2025	DP012025.215.5	02/04/2025	$5,541.50
215.5	NETWORK	DP 940	Fiber - Minot State University	1/2025	DP012025.215.5	02/04/2025	$5,541.50
215.5	NETWORK	DP 940	Williston Network 18677	1/2025	DP012025.215.5	02/04/2025	$1,675.00
215.5	NETWORK	DP 940	Network Management Fee	1/2025	DP012025.215.5	02/04/2025	$1,615.60
215.5	NETWORK	DP 940	Network Segment - Bismarck	1/2025	DP012025.215.5	02/04/2025	$13,500.00
215.5	NETWORK	DP 940	Dickinson 08/EVPL/086010/ /DCE/	1/2025	DP012025.215.5	02/04/2025	$5,541.50
215.5	NETWORK	DP 950	Install Fee 88/EVPL/086010/ /DCE/ RITM0292016	1/2025	DP012025.215.5	02/04/2025	$3,324.30
215.5	NETWORK	DP 940	Devils Lake 83135DVLKEGFK	1/2025	DP012025.215.5	02/04/2025	$250.00
215.5	NETWORK	DP 940	Mayville 83168EGFKMYVL	1/2025	DP012025.215.5	02/04/2025	$1,615.60
215.5	NETWORK	DP 940	Network Segment - Bismarck/Fargo Redundancy	1/2025	DP012025.215.5	02/04/2025	$939.00
215.5	NETWORK	DP 940	Mayville State College 371094701	1/2025	DP012025.215.5	02/04/2025	$3,209.00
215.5	NETWORK	DP 940	ND State College of Science-Student Center 373354501	1/2025	DP012025.215.5	02/04/2025	$649.00
215.5	NETWORK	DP 940	Valley City State University-Vangstad Auditorium	1/2025	DP012025.215.5	02/04/2025	$649.39
Charge Code: SECURITY							$1,000.45
215.5	SECURITY	DP 940	NDUS XDR PRO Endpoint Protection (20,000 endpoints)	1/2025	DP012025.215.5	02/04/2025	$48,325.00
215.5	SECURITY	DP 940	Security Logging Data Lake Storage (100TB)	1/2025	DP012025.215.5	02/04/2025	$26,350.00
							$21,975.00

Return Print

items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 6. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology~~,~~ and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.
2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section.
3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 7. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations - Government Operations Division
Brynhild Haugland Room, State Capitol

SB 2021
4/1/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

2:31 p.m. Chairman Monson opened the meeting.

Members Present: Chairman Monson, Representatives: Bosch, Fisher, Meier.

Members Absent: Representatives Brandenburg, Kempenich, and Pyle.

Discussion Topics:

- Sections of the Bill Breakdown
- Broadband Infrastructure Grants

2:33 p.m. Representative Bosch reviewed the new long sheet #44524.

Additional written testimony:

Levi Kinnischtzke, Fiscal Analyst, Legislative Council, submitted testimony in neutral #44524.

2:41 p.m. Chairman Monson adjourned the meeting.

Madaline Cooper, Committee Clerk

Legislative Council

Information Technology Department - Budget No. 112
Agency Worksheet - Senate Bill No. 2021

	Senate Version				House Version				House Compared to Senate Version			
									Increase (Decrease)			
	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total	FTE Positions	General Fund	Other Funds	Total
2025-27 Biennium Base Level	507.00	$41,418,305	$239,646,504	$281,064,809	507.00	$41,418,305	$239,646,504	$281,064,809	0.00	$0	$0	$0
2025-27 Ongoing Funding Changes												
Base payroll changes		($25,257)	$3,229,838	$3,204,581		($25,257)	$3,229,838	$3,204,581				$0
Adds funding for the cost to continue salaries		418,501	2,047,215	2,465,716		418,501	2,047,215	2,465,716				0
Salary increase		845,089	4,664,234	5,509,323		845,089	4,664,234	5,509,323				0
Health insurance increase		498,438	2,558,250	3,056,688		498,438	2,558,250	3,056,688				0
Adds funding to replace the 2023-25 new FTE pool		1,998,699	2,967,987	4,966,686		1,998,699	2,967,987	4,966,686				0
Adds funding to replace the 2023-25 vacant FTE pool		1,469,030	7,450,404	8,919,434		1,469,030	7,450,404	8,919,434				0
Adjusts funding for the 2025-27 new FTE pool			(52,999)	(52,999)			(52,999)	(52,999)				0
Adjusts funding for the 2025-27 vacant FTE pool		(522,246)	(2,874,794)	(3,397,040)		(522,246)	(2,874,794)	(3,397,040)				0
Reduces funding for operating expenses, primarily professional services		(599,999)	(10,339,358)	(10,939,357)		(599,999)	(10,339,358)	(10,939,357)				0
Adds funding for IT inflationary costs		3,181,664	531,647	3,713,311		3,181,664	531,647	3,713,311				0
Adds funding for cybersecurity contractual services increases		4,133,174		4,133,174		942,554		942,554		($3,190,620)		(3,190,620)
Adds funding for vulnerability management software license costs			2,892,960	2,892,960			0	0			($2,892,960)	(2,892,960)
Transfers special fund authority to continuing appropriation authority			(99,168,477)	(99,168,477)			(99,168,477)	(99,168,477)				0
Reduces funding for the statewide longitudinal data system		(394,839)	(500,000)	(894,839)		(394,839)	(500,000)	(894,839)				0
Reduces funding for EduTech			(553,869)	(553,869)			(553,869)	(553,869)				0
Adds funding for an EduTech training application replacement project			391,793	391,793			391,793	391,793				0
Reduces salaries and operating expenses for the student information system transition				0			(2,527,781)	(2,527,781)			(2,527,781)	(2,527,781)
Adjusts funding for the K-12 wide area network		512,501	(90,000)	422,501		512,501	(90,000)	422,501				0
Adjusts funding for the geographic information		89,176	(65,679)	23,497		89,176	(65,679)	23,497				0
Adjusts funding for NDHIN		(1,356,779)	3,241,945	1,885,166		(2,000,000)	3,885,166	1,885,166		(643,221)	643,221	0
Reduces funding for SIRN equipment			(2,854,082)	(2,854,082)			(2,854,082)	(2,854,082)				0
Adds funding for FTE SIRN positions	2.00		608,927	608,927	2.00		608,927	608,927				0
Adds funding for SIRN circuits		209,520		209,520		209,520		209,520				0
Total ongoing funding changes	**2.00**	**$10,456,672**	**($85,914,058)**	**($75,457,386)**	**2.00**	**$6,622,831**	**($90,691,578)**	**($84,068,747)**	**0.00**	**($3,833,841)**	**($4,777,520)**	**($8,611,361)**
One-Time Funding Items												
Adds one-time funding for vulnerability management software license costs			$150,000	$150,000			$0	$0			($150,000)	($150,000)
Adds funding for a state datacenter migration project				0			1,719,061	1,719,061			1,719,061	1,719,061
Adds funding for information technology service modernization and licenses				0			1,793,609	1,793,609			1,793,609	1,793,609
Transfers special fund authority to continuing appropriation authority for capital assets				0				0				0

Adds one-time funding for an Edutech training application replacement project				0				0				0
Adds one-time funding for phase 1 of the NDHIN health data utility project				0				0				0
Adds one-time funding for NDHIN			3,000,000	3,000,000			0	0			(3,000,000)	(3,000,000)
Total one-time funding changes	**0.00**	**$0**	**$3,150,000**	**$3,150,000**	**0.00**	**$0**	**$3,512,670**	**$3,512,670**	**0.00**	**$0**	**$362,670**	**$362,670**
Total Changes to Base Level Funding	**2.00**	**$10,456,672**	**($82,764,058)**	**($72,307,386)**	**2.00**	**$6,622,831**	**($87,178,908)**	**($80,556,077)**	**0.00**	**($3,833,841)**	**($4,414,850)**	**($8,248,691)**
2025-27 Total Funding	**509.00**	**$51,874,977**	**$156,882,446**	**$208,757,423**	**509.00**	**$48,041,136**	**$152,467,596**	**$200,508,732**	**0.00**	**($3,833,841)**	**($4,414,850)**	**($8,248,691)**
Federal funds included in other funds			*$0*				*$0*				*$0*	
Total ongoing changes - Percentage of base level	*0.4%*	*25.2%*	*(35.9%)*	*(26.8%)*	*0.4%*	*16.0%*	*(37.8%)*	*(29.9%)*	*N/A*	*N/A*	*N/A*	*N/A*
Total changes - Percentage of base level	*0.4%*	*25.2%*	*(34.5%)*	*(25.7%)*	*0.4%*	*16.0%*	*(36.4%)*	*(28.7%)*	*N/A*	*N/A*	*N/A*	*N/A*

Other Sections in Information Technology Department - Budget No. 112

Section Description	Senate Version	House Version	
New and vacant FTE pool line item	Section 3 provides the Information Technology Department may not spend funds appropriated in the new and vacant FTE funding pool line item but may request the Office of Management and Budget to transfer funds to line items with salaries and wages funding.	Section 3 provides the Information Technology Department may not spend funds appropriated in the new and vacant FTE funding pool line item but may request the Office of Management and Budget to transfer funds to line items with salaries and wages funding.	
Other funds - Transfer - Health information technology planning loan fund to electronic health information exchange fund	Section 4 provides for a transfer of $3 million from the health information technology planning loan fund to the electronic health information exchange fund for NDHIN.		
Exemption - Line item transfers	Section 5 allows the Director of the Office of Management and Budget to transfer funds between line items in Section 1 as requested by the Chief Information Officer of ITD for the development and implementation of technology projects.	Section 4 allows the Director of the Office of Management and Budget to transfer funds between line items in Section 1 as requested by the Chief Information Officer of ITD for the development and implementation of technology projects.	
Other funds - Strategic investment and improvements fund		Section 5 identifies $3,512,670 of one-time funding appropriated from the strategic investment and improvements fund (SIIF) in Section 1 for a state datacenter migration project ($1,719,061) and information technology service modernization and licenses ($1,793,609).	
Amendment - Information Technology Committee membership		Section 6 amends North Dakota Century Code Section 54-35-15.1 to expand membership of the Information Technology Committee to include an individual with information technology experience from the Department of Health and Human Services as a nonvoting member of the committee.	
Amendment - Information technology operating fund - Continuing appropriation - Reporting	Section 6 amends North Dakota Century Code Section 54-59-14 to provide ITD a continuing appropriation from the information technology operating fund to allow ITD to provide information technology and network services to state agencies without receiving appropriation authority from the Legislative Assembly. The department is required to provide a report at each meeting of the Budget Section and to the appropriations committee each legislative session regarding the status of the information technology operating fund and the balance of the fund.	Section 7 amends Section 54-59-14 to provide ITD a continuing appropriation from the information technology operating fund to allow ITD to provide information technology and network services to state agencies without receiving appropriation authority from the Legislative Assembly. The department is required to provide a report at each meeting of the Budget Section and to the appropriations committee each legislative session regarding the status of the information technology operating fund and the balance of the fund. The department may not use funding in the information technology operating fund for the cost of salaries and wages of department staff.	
Amendment - Information technology operating fund renamed	Section 7 amends Section 54-59-15 to rename the information technology operating account the information technology operating fund.	Section 8 amends Section 54-59-15 to rename the information technology operating account the information technology operating fund.	

Other Sections in Information Technology Department - Budget No. 112

Section Description	Senate Version	House Version	
Exemption - Broadband infrastructure grants	Subsection 1 of Section 8 allows ITD to continue any remaining funding of the $45,000,000 appropriated from the federal Coronavirus Capital Projects Fund during the 2021-23 biennium and continued into the 2023-25 biennium for broadband infrastructure grants into the 2025-27 biennium.	Subsection 1 of Section 9 allows ITD to continue any remaining funding of the $45,000,000 appropriated from the federal Coronavirus Capital Projects Fund during the 2021-23 biennium and continued into the 2023-25 biennium for broadband infrastructure grants into the 2025-27 biennium.	
Exemption - SIIF	Subsection 2 of Section 8 allows ITD to continue any remaining funding of the $12,000,000 appropriated from SIIF during the 2023-25 biennium for the enterprise digitization project ($7,000,000) and the business gateway enterprise customer relationship management program ($5,000,000) into the 2025-27 biennium.	Subsection 2 of Section 9 allows ITD to continue any remaining funding of the $12,000,000 appropriated from SIIF during the 2023-25 biennium for the enterprise digitization project ($7,000,000) and the business gateway enterprise customer relationship management program ($5,000,000) into the 2025-27 biennium.	
Exemption - Governance, risk, and compliance costs and the Department of Public Instruction lighthouse project	Subsection 3 of Section 8 allows ITD to continue any remaining funding of the $4,856,876 appropriated from the ITD information technology operating fund during the 2023-25 biennium for governance, risk, and compliance costs and the Department of Public Instruction lighthouse project into the 2025-27 biennium.	Subsection 3 of Section 9 allows ITD to continue any remaining funding of the $4,856,876 appropriated from the ITD information technology operating fund during the 2023-25 biennium for governance, risk, and compliance costs and the Department of Public Instruction lighthouse project into the 2025-27 biennium.	
Exemption - Broadband, equity, access, and deployment (BEAD), digital equity, and state and local cybersecurity grant programs	Subsection 4 of Section 8 allows ITD to continue any remaining funding of the $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act during the 2023-25 biennium for the BEAD, digital equity, and state and local cybersecurity grant programs into the 2025-27 biennium.	Subsection 4 of Section 9 allows ITD to continue any remaining funding of the $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act during the 2023-25 biennium for the BEAD, digital equity, and state and local cybersecurity grant programs into the 2025-27 biennium.	
Exemption - State and local cybersecurity grant program matching funds	Subsection 5 of Section 8 allows ITD to continue any remaining funding of the $487,520 appropriated from the general fund during the 2023-25 biennium for state and local cybersecurity grant program matching funds into the 2025-27 biennium.	Subsection 5 of Section 9 allows ITD to continue any remaining funding of the $487,520 appropriated from the general fund during the 2023-25 biennium for state and local cybersecurity grant program matching funds into the 2025-27 biennium.	
Exemption - Statewide interoperable radio network (SIRN) project	Subsection 6 of Section 8 allows ITD to continue any remaining funding of the $80,000,000 appropriated from the federal State Fiscal Recovery Fund during the 2023-25 biennium for the SIRN project into the 2025-27 biennium.	Subsection 6 of Section 9 allows ITD to continue any remaining funding of the $80,000,000 appropriated from the federal State Fiscal Recovery Fund during the 2023-25 biennium for the SIRN project into the 2025-27 biennium.	
Legislative Management study - SIRN funding and emergency communications fees		Section 10 provides for a Legislative Management study of SIRN funding and emergency communications fees.	
Legislative Management report		Section 11 requires ITD and the Department of Public Instruction to report to the Budget Section regarding the student information system transition from Powerschool to Infinite Campus.	

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations - Government Operations Division
Brynhild Haugland Room, State Capitol

SB 2021
4/7/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; and to provide an exemption.

4:16 p.m. Chairman Monson opened the meeting.

Members Present: Chairman Monson, Vice Chair Brandenburg, Representatives: Bosch, Fisher, Kempenich, Meier, Pyle.

Discussion Topics:

- Budget Overview
- Committee Action

4:16 p.m. Representative Bosch reviewed amendment LC# 25.0188.02001, #44753.

4:34 p.m. Representative Bosch moved to adopt amendment LC# 25.0188.02001, #44753.

4:34 p.m. Representative Kempenich seconded the motion.

Representatives	Vote
Representative David Monson	Y
Representative Mike Brandenburg	Y
Representative Glenn Bosch	Y
Representative Jay Fisher	Y
Representative Keith Kempenich	Y
Representative Lisa Meier	Y
Representative Brandy L. Pyle	Y

Motion carried 7-0-0.

4:36 p.m. Representative Bosch moved a Do Pass as Amended.

4:36 p.m. Representative Fisher seconded the motion.

Representatives	Vote
Representative David Monson	Y
Representative Mike Brandenburg	Y
Representative Glenn Bosch	Y
Representative Jay Fisher	Y
Representative Keith Kempenich	Y
Representative Lisa Meier	Y
Representative Brandy L. Pyle	Y

Motion carried 7-0-0.

Representative Bosch will carry the bill.

Additional written testimony:

Grant Gader, Fiscal Analyst, Legislative Council, submitted neutral testimony #44753.

4:37 p.m. Chairman Monson adjourned the meeting.

Madaline Cooper, Committee Clerk

25.0188.02001
Title.
Fiscal No. 1

Prepared by the Legislative Council staff for House Appropriations - Government Operations Division Committee
April 2, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO FIRST ENGROSSMENT

ENGROSSED SENATE BILL NO. 2021

Introduced by

Appropriations Committee

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; to amend and reenact sections 54-35-15.1, 54-59-14, and 54-59-15 of the North Dakota Century Code, relating to membership of the information technology committee and the information technology operating fund; ~~to provide for a transfer; and~~ to provide an exemption; to provide for a legislative management study; and to provide for a legislative management report.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from other funds derived from special funds and federal funds, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
~~Salaries and wages~~	~~$112,233,364~~	~~$16,139,027~~	~~$128,372,391~~
~~New and vacant FTE pool~~	~~0~~	~~8,403,424~~	~~8,403,424~~
~~Operating expenses~~	~~119,115,018~~	~~(96,380,424)~~	~~22,734,594~~
~~Capital assets~~	~~3,443,909~~	~~(3,312,874)~~	~~131,035~~

~~Statewide longitudinal data system~~	~~4,625,661~~	~~(504,904)~~	~~4,120,757~~
~~Edutech~~	~~10,348,826~~	~~(304,659)~~	~~10,044,167~~
~~K-12 wide area network~~	~~5,915,668~~	~~912,665~~	~~6,828,333~~
~~Geographic information system~~	~~1,109,786~~	~~48,157~~	~~1,157,943~~
~~Health information technology office~~	~~5,822,725~~	~~4,928,517~~	~~10,751,242~~
~~Statewide interoperable radio network~~	~~18,449,852~~	~~(2,236,315)~~	~~16,213,537~~
~~Total all funds~~	~~$281,064,809~~	~~($72,307,386)~~	~~$208,757,423~~
~~Less other funds~~	~~239,646,504~~	~~(82,764,058)~~	~~156,882,446~~
~~Total general fund~~	~~$41,418,305~~	~~$10,456,672~~	~~$51,874,977~~
~~Full-time equivalent positions~~	~~507.00~~	~~2.00~~	~~509.00~~
Salaries and wages	$112,233,364	$16,747,954	$128,981,318
New and vacant FTE pool	0	8,403,424	8,403,424
Operating expenses	119,115,018	(98,975,025)	20,139,993
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
Edutech	10,348,826	(2,832,440)	7,516,386
K-12 wide area network	5,915,668	786,356	6,702,024
Geographic information system	1,109,786	48,157	1,157,943
Health information technology office	5,822,725	1,928,517	7,751,242
Statewide interoperable radio network	18,449,852	(2,845,242)	15,604,610
Total all funds	$281,064,809	($80,556,077)	$200,508,732
Less other funds	239,646,504	(87,178,908)	152,467,596
Total general fund	$41,418,305	$6,622,831	$48,041,136
Full-time equivalent positions	507.00	2.00	509.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SEVENTIETH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items included in the appropriation in section 1 of this Act which are not included in the entity's base budget for the 2027-29 biennium and which the entity shall report to the appropriations committees of the seventieth legislative assembly regarding the use of this funding:

One-Time Funding Description	General Fund	Other Funds	Total
~~Vulnerability software licenses~~	~~$0~~	~~$150,000~~	~~$150,000~~

~~Health information technology office~~	~~0~~	~~3,000,000~~	~~3,000,000~~
~~Total~~	~~$0~~	~~$3,150,000~~	~~$3,150,000~~
State data center migration project	$0	$1,719,061	$1,719,061
Information technology services automation	0	1,793,609	1,793,609
Total	$0	$3,512,670	$3,512,670

SECTION 3. NEW AND VACANT FTE POOL - LIMITATION - TRANSFER REQUEST. The information technology department may not spend funds appropriated in the new and vacant FTE pool line item in section 1 of this Act, but may request the office of management and budget to transfer funds from the new and vacant FTE pool line item to the salaries and wages line item and other line items with salaries and wages in accordance with the guidelines and reporting provisions included in House Bill No. 1015, as approved by the sixty-ninth legislative assembly.

~~**SECTION 4. OTHER FUNDS - TRANSFER - HEALTH INFORMATION TECHNOLOGY PLANNING LOAN FUND TO ELECTRONIC HEALTH INFORMATION EXCHANGE FUND.** Notwithstanding section 6-09-43, the other funds line item in section 1 of this Act includes the sum of $3,000,000, or so much of the sum as may be necessary, which the Bank of North Dakota shall transfer, as requested by the chief information officer, from the health information technology planning loan fund to the electronic health information exchange fund for the purpose of defraying the expenses of the health information technology office and the health information network during the biennium beginning July 1, 2025, and ending June 30, 2027.~~

SECTION 4. EXEMPTION - LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 5. OTHER FUNDS - STRATEGIC INVESTMENT AND IMPROVEMENTS FUND. The other funds line item in section 1 of this Act includes the sum of $3,512,670 from the strategic investment and improvements fund, including $1,719,061 for a state data center migration project and $1,793,609 for the cost of automating information technology services and the purchase of software licenses.

SECTION 6. AMENDMENT. Section 54-35-15.1 of the North Dakota Century Code is amended and reenacted as follows:

54-35-15.1. Information technology committee - Appointment.

The legislative management, during each biennium, shall appoint an information technology committee in the same manner as the legislative management appoints other interim committees. The legislative management shall appoint six members of the house of representatives and five members of the senate to the committee. The chief information officer of the state ~~is an~~and an individual with information technology-related experience from the department of health and human services, appointed by the commissioner of the department of health and human services, are ex officio, nonvoting ~~member~~members of the committee. The legislative management shall designate the chairman of the committee. The committee shall operate according to the statutes and procedure governing the operation of other legislative management interim committees.

SECTION 7. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology~~,~~ and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.
2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section, except the department may not use use continuing appropriation authority to pay salaries and wages-related expenses.

3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 8. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating ~~account~~fund or other ~~accounts~~funds specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 9. EXEMPTION - UNEXPENDED APPROPRIATIONS. The following appropriations are not subject to the provisions of section 54-44.1-11 and any unexpended appropriation authority remaining may be continued into the biennium beginning July 1, 2025, and ending June 30, 2027:

1. The sum of $45,000,000 appropriated from the federal coronavirus capital projects fund for broadband infrastructure grants in section 9 of chapter 548 of the 2021 Special Session Session Laws and continued into the 2023-25 biennium in sections 9 and 10 of chapter 21 of the 2023 Session Laws.
2. The sum of $12,000,000 appropriated from the strategic investment and improvements fund, of which $7,000,000 was for an enterprise digitization project and $5,000,000 was for a business gateway enterprise customer relationship management program, in section 1 of chapter 21 of the 2023 Session Laws.

3. The sum of $4,856,876 appropriated from the information technology operating fund for governance, risk, and compliance costs and the department of public instruction lighthouse project in section 1 of chapter 21 of the 2023 Session Laws.
4. The sum of $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act for the broadband, equity, access, and deployment program, digital equity program, and state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
5. The sum of $487,520 appropriated from the general fund as matching funds for the state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
6. The sum of $80,000,000 appropriated from the federal state fiscal recovery fund for the statewide interoperable radio network project in section 4 of chapter 554 of the 2023 Session Laws.

SECTION 10. LEGISLATIVE MANAGEMENT STUDY - STATEWIDE INTEROPERABLE RADIO NETWORK FUNDING AND EMERGENCY COMMUNICATIONS FEES. During the 2025-26 interim, the legislative management shall consider studying fees collected for technology services, including emergency communications, behavioral health crisis response, and the statewide interoperable radio network. The study must include an analysis of the adequacy of current fee structures, financial needs of the technology services, current fees and revenue trends for 911 and 988 services, the statewide interoperable radio network project, the estimated project completion date, estimated ongoing funding needs to operate the network, current funding available for the network, future funding options for the network that will not negatively affect existing emergency communication systems, and a comparison of statewide radio network funding models used in other states. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the seventieth legislative assembly.

SECTION 11. LEGISLATIVE MANAGEMENT REPORT - STUDENT INFORMATION SYSTEM TRANSITION. During the 2025-26 interim, the information technology department and department of public instruction shall report quarterly to the budget section of the legislative management regarding the status of the student information system transition.

STATEMENT OF PURPOSE OF AMENDMENT:

Senate Bill No. 2021 - Information Technology Department - House Action

	Base Budget	Senate Version	House Changes	House Version
Salaries and wages	$112,233,364	$128,372,391	$608,927	$128,981,318
New and vacant FTE pool		8,403,424		8,403,424
Operating expenses	119,115,018	22,734,594	(2,594,601)	20,139,993
Capital assets	3,443,909	131,035		131,035
Statewide longitudinal data system	4,625,661	4,120,757		4,120,757
EduTech	10,348,826	10,044,167	(2,527,781)	7,516,386
K-12 wide area network	5,915,668	6,828,333	(126,309)	6,702,024
Geographic information system	1,109,786	1,157,943		1,157,943
Health Information Technology Office	5,822,725	10,751,242	(3,000,000)	7,751,242
Statewide interoperable radio network	18,449,852	16,213,537	(608,927)	15,604,610
Total all funds	$281,064,809	$208,757,423	($8,248,691)	$200,508,732
Less estimated income	239,646,504	156,882,446	(4,414,850)	152,467,596
General fund	$41,418,305	$51,874,977	($3,833,841)	$48,041,136
FTE	507.00	509.00	0.00	509.00

Department 112 - Information Technology Department - Detail of House Changes

	Reduces Funding for Salary and Benefit Increases[1]	Adjusts Funding for Cybersecurity Contractual Services[2]	Removes Funding for Vulnerability Software[3]	Reduces Funding for the Student Information System[4]	Adjusts Ongoing Funding for the Health Information Network[5]	Adjusts Funding for FTE SIRN Positions[6]
Salaries and wages						$608,927
New and vacant FTE pool						
Operating expenses		($3,064,311)	($3,042,960)			
Capital assets						
Statewide longitudinal data system						
EduTech	($61,990)			($2,465,791)		
K-12 wide area network		(126,309)				
Geographic information system						
Health Information Technology Office						
Statewide interoperable radio network						(608,927)
Total all funds	($61,990)	($3,190,620)	($3,042,960)	($2,465,791)	$0	$0
Less estimated income	(61,990)	0	(3,042,960)	(2,465,791)	643,221	0
General fund	$0	($3,190,620)	$0	$0	($643,221)	$0
FTE	0.00	0.00	0.00	0.00	0.00	0.00

	Adds One-Time Funding for a State Data Center Migration Project[7]	Adds One-Time Funding for IT Services Automation and Software Licenses[8]	Removes One-Time Funding for the Health Information Network[9]	Total House Changes
Salaries and wages				$608,927
New and vacant FTE pool				
Operating expenses	$1,719,061	$1,793,609		(2,594,601)
Capital assets				
Statewide longitudinal data system				
EduTech				(2,527,781)
K-12 wide area network				(126,309)
Geographic information system				
Health Information Technology Office			($3,000,000)	(3,000,000)
Statewide interoperable radio network				(608,927)
Total all funds	$1,719,061	$1,793,609	($3,000,000)	($8,248,691)
Less estimated income	1,719,061	1,793,609	(3,000,000)	(4,414,850)
General fund	$0	$0	$0	($3,833,841)
FTE	0.00	0.00	0.00	0.00

[1] Ongoing funding of $61,990 is removed from the PowerSchool fund for a portion of salary increases ($24,020) and health insurance increases ($37,970) related to the underfunding of 8 FTE EduTech positions.

[2] Funding of ($3,190,620) for cybersecurity contractual services is reduced from the general fund to provide an increase of $942,554 from the general fund. The Senate approved $4,133,174 from the general fund, of which $942,554 related to increased cybersecurity contractual service costs for the Information Technology Department (ITD) and $3,190,620 related to increased cybersecurity contractual service costs for higher education institutions.

[3] Ongoing funding of $2,892,960 and one-time funding of $150,000 added by the Senate from the information technology operating fund for vulnerability management software licensing costs is removed. The department anticipates using continuing appropriation authority to receive funding related to these costs.

[4] Ongoing funding from the PowerSchool fund is removed for license costs ($1,472,653) and for salaries and wages of 8 FTE EduTech positions ($993,138) for the second year of the biennium related to the student information system transition from PowerSchool Holdings, Inc., to Infinite Campus, Inc. This results in 8 FTE EduTech positions being underfunded for the 2025-27 biennium as the Department of Public Instruction will require less support from ITD under the new system.

[5] Ongoing funding of $643,221 is removed from the general fund in the base budget and $643,221 is added from the health information exchange fund for the North Dakota Health Information Network (NDHIN). The base budget for NDHIN included $2,000,000 from the general fund. The Senate removed $1,356,779, resulting in $643,221 remaining in the base budget. The removal of $643,221 results in an elimination of funding from the general fund for NDHIN.

[6] Ongoing funding of $608,927 for salaries and wages and related operating expenses of 2 FTE statewide interoperable radio network (SIRN) positions is transferred from the SIRN line item to the salaries and wages line item. The Senate approved the funding in the SIRN line item from the SIRN fund. The House amendment includes the funding in the salaries and wages line item from the information technology operating fund.

[7] One-time funding of $1,719,061 is added from the strategic investment and improvements fund (SIIF) for a state data center migration project. The Senate did not add funding for this item.

[8] One-time funding of $1,793,609 is added from SIIF for the cost of automating information technology services for application support and the cost of purchasing software licenses for a low-code, no-code platform for use by state agencies. The department anticipates using the funding from SIIF, $2,000,000 appropriated from the general fund for NDHIN for the 2023-25 biennium transferred to the operating expenses line item pursuant to Section 4 of House Bill No. 1021 (2023), and carryover funding from the business gateway enterprise customer relationship management program authorized in Section 9 of Senate Bill No. 2021 (2025), for the project.

[9] One-time funding of $3,000,000 added by the Senate derived from a transfer from the health information technology

planning loan fund to the electronic health information exchange fund for the NDHIN is removed. The department transferred the funding in March 2025 pursuant to Section 3 of House Bill No. 2021 (2023). A section authorizing the 2025-27 biennium transfer added by the Senate is removed.

Senate Bill No. 2021 - Other Changes - House Action

This amendment also:

- Adds a section to identify $3,512,670 of one-time funding appropriated from SIIF in Section 1 for a state data center migration project ($1,719,061) and the cost of automating information technology services and the purchase of software licenses ($1,793,609).
- Adds a section to amend North Dakota Century Code Section 54-35-15.1 to expand membership of the Information Technology Committee to include an individual with information technology experience from the Department of Health and Human Services as a nonvoting member of the committee.
- Amends Section 54-59-14, which was also amended by the Senate, to provide the Information Technology Department may not use continuing appropriation authority from the information technology operating fund to pay for salaries and wages expenses.
- Adds a section to provide for a Legislative Management study of SIRN funding and emergency communications fees.
- Adds a section to require ITD and the Department of Public Instruction to report to the Budget Section quarterly regarding the student information system transition from PowerSchool to Infinite Campus.

2025 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee
Roughrider Room, State Capitol

SB 2021
4/8/2025

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; relating to the information technology operating fund; to provide for a transfer; and to provide an exemption.

9:36 a.m. Chairman Vigesaa opened the meeting.

Members present: Chairman Vigesaa, Vice Chairman Kempenich, Representatives Anderson, Berg, Bosch, Brandenburg, Fisher, Hanson, Louser, Martinson, Meier, Monson, Murphy, Nathe, Nelson, O'Brien, Pyle, Richter, Sanford, Stemen, Swiontek, Wagner

Member absent: Mitskog

Discussion Topics:

- On Boarding and Off Boarding Employees
- Committee Action

9:36 a.m. Representative Bosch explained Amendment LC #25.0188.02001 #44772 and additional testimony #44771.

10:08 a.m. Representative Bosch moved Amendment LC #25.0188.02001.

10:08 a.m. Representative Monson seconded the motion.

10:09 a.m. Roll Call Vote

Representatives	Vote
Representative Don Vigesaa	Y
Representative Keith Kempenich	Y
Representative Bert Anderson	Y
Representative Mike Berg	Y
Representative Glenn Bosch	Y
Representative Mike Brandenburg	Y
Representative Jay Fisher	Y
Representative Karla Rose Hanson	Y
Representative Scott Louser	Y
Representative Bob Martinson	AB
Representative Lisa Meier	Y
Representative Alisa Mitskog	AB
Representative David Monson	Y
Representative Eric J. Murphy	Y
Representative Mike Nathe	Y
Representative Jon O. Nelson	Y
Representative Emily O'Brien	AB
Representative Brandy L. Pyle	Y

Representative David Richter	Y
Representative Mark Sanford	Y
Representative Gregory Stemen	Y
Representative Steve Swiontek	Y
Representative Scott Wagner	Y

10:09 a.m. Motion passed 20-0-3.

10:10 a.m. Representative Monson moved to further amend to add verbiage from #44771.

10:11 a.m. Representative Bosch seconded the motion.

10:12 a.m. Roll Call Vote

Representatives	Vote
Representative Don Vigesaa	Y
Representative Keith Kempenich	Y
Representative Bert Anderson	Y
Representative Mike Berg	Y
Representative Glenn Bosch	Y
Representative Mike Brandenburg	Y
Representative Jay Fisher	Y
Representative Karla Rose Hanson	Y
Representative Scott Louser	Y
Representative Bob Martinson	AB
Representative Lisa Meier	Y
Representative Alisa Mitskog	AB
Representative David Monson	Y
Representative Eric J. Murphy	Y
Representative Mike Nathe	Y
Representative Jon O. Nelson	Y
Representative Emily O'Brien	AB
Representative Brandy L. Pyle	Y
Representative David Richter	Y
Representative Mark Sanford	Y
Representative Gregory Stemen	Y
Representative Steve Swiontek	Y
Representative Scott Wagner	Y

10:12 a.m. Motion passed 20-0-3.

10:13 a.m. Representative Murphy moved to further amend to add grant and compliance management to the verbiage.

10:15 a.m. Representative J. Nelson seconded the motion.

10:15 a.m. Roll Call Vote

Representatives	Vote

Representative Don Vigesaa	Y
Representative Keith Kempenich	Y
Representative Bert Anderson	Y
Representative Mike Berg	Y
Representative Glenn Bosch	Y
Representative Mike Brandenburg	Y
Representative Jay Fisher	Y
Representative Karla Rose Hanson	Y
Representative Scott Louser	Y
Representative Bob Martinson	AB
Representative Lisa Meier	Y
Representative Alisa Mitskog	AB
Representative David Monson	Y
Representative Eric J. Murphy	Y
Representative Mike Nathe	Y
Representative Jon O. Nelson	Y
Representative Emily O'Brien	AB
Representative Brandy L. Pyle	Y
Representative David Richter	Y
Representative Mark Sanford	Y
Representative Gregory Stemen	Y
Representative Steve Swiontek	Y
Representative Scott Wagner	Y

10:15 a.m. Motion passed 20-0-3.

10:16 a.m. Representative Bosch moved Do Pass as further Amended.

10:16 a.m. Representative Monson seconded the motion.

10:16 a.m. Roll Call Vote

Representatives	Vote
Representative Don Vigesaa	Y
Representative Keith Kempenich	Y
Representative Bert Anderson	Y
Representative Mike Berg	Y
Representative Glenn Bosch	Y
Representative Mike Brandenburg	Y
Representative Jay Fisher	Y
Representative Karla Rose Hanson	Y
Representative Scott Louser	Y
Representative Bob Martinson	AB
Representative Lisa Meier	Y
Representative Alisa Mitskog	AB
Representative David Monson	Y
Representative Eric J. Murphy	Y
Representative Mike Nathe	Y
Representative Jon O. Nelson	Y

Representative Emily O'Brien	AB
Representative Brandy L. Pyle	Y
Representative David Richter	Y
Representative Mark Sanford	Y
Representative Gregory Stemen	Y
Representative Steve Swiontek	Y
Representative Scott Wagner	Y

10:16 a.m. Motion passed 20-0-3.

10:16 a.m. Representative Bosch will carry the bill.

Chairman Vigesaa closed the meeting.

Krystal Eberle, Committee Clerk

25.0188.02003
Title.03000
Fiscal No. 2

Prepared by the Legislative Council staff for the House Appropriations Committee

April 8, 2025

CO 4/8/25 1 of 10

Sixty-ninth Legislative Assembly of North Dakota

PROPOSED AMENDMENTS TO FIRST ENGROSSMENT

ENGROSSED SENATE BILL NO. 2021

Introduced by

Appropriations Committee

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; to amend and reenact sections 54-35-15.1, 54-59-14, and 54-59-15 of the North Dakota Century Code, relating to membership of the information technology committee and the information technology operating fund; ~~to provide for a transfer; and~~ to provide an exemption; to provide for a legislative management study; and to provide for a legislative management report.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from other funds derived from special funds and federal funds, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
~~Salaries and wages~~	~~$112,233,364~~	~~$16,139,027~~	~~$128,372,391~~
~~New and vacant FTE pool~~	~~0~~	~~8,403,424~~	~~8,403,424~~
~~Operating expenses~~	~~119,115,018~~	~~(96,380,424)~~	~~22,734,594~~
~~Capital assets~~	~~3,443,909~~	~~(3,312,874)~~	~~131,035~~
~~Statewide longitudinal data system~~	~~4,625,661~~	~~(504,904)~~	~~4,120,757~~

~~Edutech~~	~~10,348,826~~	~~(304,659)~~	~~10,044,167~~
~~K-12 wide area network~~	~~5,915,668~~	~~912,665~~	~~6,828,333~~
~~Geographic information system~~	~~1,109,786~~	~~48,157~~	~~1,157,943~~
~~Health information technology office~~	~~5,822,725~~	~~4,928,517~~	~~10,751,242~~
~~Statewide interoperable radio network~~	~~18,449,852~~	~~(2,236,315)~~	~~16,213,537~~
~~Total all funds~~	~~$281,064,809~~	~~($72,307,386)~~	~~$208,757,423~~
~~Less other funds~~	~~239,646,504~~	~~(82,764,058)~~	~~156,882,446~~
~~Total general fund~~	~~$41,418,305~~	~~$10,456,672~~	~~$51,874,977~~
~~Full-time equivalent positions~~	~~507.00~~	~~2.00~~	~~509.00~~
Salaries and wages	$112,233,364	$16,747,954	$128,981,318
New and vacant FTE pool	0	8,403,424	8,403,424
Operating expenses	119,115,018	(98,975,025)	20,139,993
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
Edutech	10,348,826	(2,832,440)	7,516,386
K-12 wide area network	5,915,668	786,356	6,702,024
Geographic information system	1,109,786	48,157	1,157,943
Health information technology office	5,822,725	1,928,517	7,751,242
Statewide interoperable radio network	18,449,852	(2,845,242)	15,604,610
Total all funds	$281,064,809	($80,556,077)	$200,508,732
Less other funds	239,646,504	(87,178,908)	152,467,596
Total general fund	$41,418,305	$6,622,831	$48,041,136
Full-time equivalent positions	507.00	2.00	509.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SEVENTIETH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items included in the appropriation in section 1 of this Act which are not included in the entity's base budget for the 2027-29 biennium and which the entity shall report to the appropriations committees of the seventieth legislative assembly regarding the use of this funding:

One-Time Funding Description	General Fund	Other Funds	Total
~~Vulnerability software licenses~~	~~$0~~	~~$150,000~~	~~$150,000~~
~~Health information technology office~~	~~0~~	~~3,000,000~~	~~3,000,000~~

~~Total~~	~~$0~~	~~$3,150,000~~	~~$3,150,000~~
State data center migration project	$0	$1,719,061	$1,719,061
Information technology services automation	0	1,793,609	1,793,609
Total	$0	$3,512,670	$3,512,670

SECTION 3. NEW AND VACANT FTE POOL - LIMITATION - TRANSFER REQUEST. The information technology department may not spend funds appropriated in the new and vacant FTE pool line item in section 1 of this Act, but may request the office of management and budget to transfer funds from the new and vacant FTE pool line item to the salaries and wages line item and other line items with salaries and wages in accordance with the guidelines and reporting provisions included in House Bill No. 1015, as approved by the sixty-ninth legislative assembly.

~~**SECTION 4. OTHER FUNDS - TRANSFER - HEALTH INFORMATION TECHNOLOGY PLANNING LOAN FUND TO ELECTRONIC HEALTH INFORMATION EXCHANGE FUND.** Notwithstanding section 6-09-43, the other funds line item in section 1 of this Act includes the sum of $3,000,000, or so much of the sum as may be necessary, which the Bank of North Dakota shall transfer, as requested by the chief information officer, from the health information technology planning loan fund to the electronic health information exchange fund for the purpose of defraying the expenses of the health information technology office and the health information network during the biennium beginning July 1, 2025, and ending June 30, 2027.~~

SECTION 4. EXEMPTION - LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 5. OTHER FUNDS - STRATEGIC INVESTMENT AND IMPROVEMENTS FUND. The other funds line item in section 1 of this Act includes the sum of $3,512,670 from the strategic investment and improvements fund, including $1,719,061 for a state data center migration project and $1,793,609 for the cost of automating information technology services and the purchase of software licenses.

SECTION 6. AMENDMENT. Section 54-35-15.1 of the North Dakota Century Code is amended and reenacted as follows:

54-35-15.1. Information technology committee - Appointment.

The legislative management, during each biennium, shall appoint an information technology committee in the same manner as the legislative management appoints other interim committees. The legislative management shall appoint six members of the house of representatives and five members of the senate to the committee. The chief information officer of the state ~~is an~~and an individual with information technology-related experience from the department of health and human services, appointed by the commissioner of the department of health and human services, are ex officio, nonvoting ~~member~~members of the committee. The legislative management shall designate the chairman of the committee. The committee shall operate according to the statutes and procedure governing the operation of other legislative management interim committees.

SECTION 7. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology~~,~~ and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.
2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section, except the department may not use continuing appropriation authority to pay salaries and wages-related expenses.

3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 8. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating ~~account~~fund or other ~~accounts~~funds specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 9. EXEMPTION - UNEXPENDED APPROPRIATIONS. The following appropriations are not subject to the provisions of section 54-44.1-11 and any unexpended appropriation authority remaining may be continued into the biennium beginning July 1, 2025, and ending June 30, 2027:

1. The sum of $45,000,000 appropriated from the federal coronavirus capital projects fund for broadband infrastructure grants in section 9 of chapter 548 of the 2021 Special Session Session Laws and continued into the 2023-25 biennium in sections 9 and 10 of chapter 21 of the 2023 Session Laws.
2. The sum of $12,000,000 appropriated from the strategic investment and improvements fund, of which $7,000,000 was for an enterprise digitization project and $5,000,000 was for a business gateway enterprise customer relationship management program, in section 1 of chapter 21 of the 2023 Session Laws.

3. The sum of $4,856,876 appropriated from the information technology operating fund for governance, risk, and compliance costs and the department of public instruction lighthouse project in section 1 of chapter 21 of the 2023 Session Laws.
4. The sum of $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act for the broadband, equity, access, and deployment program, digital equity program, and state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
5. The sum of $487,520 appropriated from the general fund as matching funds for the state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
6. The sum of $80,000,000 appropriated from the federal state fiscal recovery fund for the statewide interoperable radio network project in section 4 of chapter 554 of the 2023 Session Laws.

SECTION 10. LEGISLATIVE MANAGEMENT STUDY - STATEWIDE INTEROPERABLE RADIO NETWORK FUNDING AND EMERGENCY COMMUNICATIONS FEES. During the 2025-26 interim, the legislative management shall consider studying fees collected for technology services, including emergency communications, behavioral health crisis response, and the statewide interoperable radio network. The study must include an analysis of the adequacy of current fee structures, financial needs of the technology services, current fees and revenue trends for 911 and 988 services, the statewide interoperable radio network project, the estimated project completion date, estimated ongoing funding needs to operate the network, current funding available for the network, future funding options for the network that will not negatively affect existing emergency communication systems, and a comparison of statewide radio network funding models used in other states. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the seventieth legislative assembly.

SECTION 11. LEGISLATIVE MANAGEMENT STUDY - STATE ENTERPRISE RESOURCE PLANNING SYSTEM. During the 2025-26 interim, the legislative management shall study the enterprise resource planning system for the state of North Dakota, including state agencies and institutions of higher education. The study must include consideration of:

1. The current system and potential systems, including functionality, technological structure, expected life cycle, costs and benefits of cloud based and on-premises hosted solutions, support and maintenance costs, and potential implementation costs.
2. The desired functionality for state agency use, including financial management, human capital management, and procurement.
3. The desired functionality for institutions of higher education, including financial management, human capital management, grant management, compliance management, procurement, and student data management.
4. The costs and benefits of continuing with one enterprise resource planning system or separate systems for state agencies and institutions of higher education.

The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the seventieth legislative assembly.

SECTION 12. LEGISLATIVE MANAGEMENT REPORT - STUDENT INFORMATION SYSTEM TRANSITION. During the 2025-26 interim, the information technology department and department of public instruction shall report quarterly to the budget section of the legislative management regarding the status of the student information system transition.

STATEMENT OF PURPOSE OF AMENDMENT:

Senate Bill No. 2021 - Information Technology Department - House Action

	Base Budget	Senate Version	House Changes	House Version
Salaries and wages	$112,233,364	$128,372,391	$608,927	$128,981,318
New and vacant FTE pool		8,403,424		8,403,424
Operating expenses	119,115,018	22,734,594	(2,594,601)	20,139,993
Capital assets	3,443,909	131,035		131,035
Statewide longitudinal data system	4,625,661	4,120,757		4,120,757
EduTech	10,348,826	10,044,167	(2,527,781)	7,516,386
K-12 wide area network	5,915,668	6,828,333	(126,309)	6,702,024
Geographic information system	1,109,786	1,157,943		1,157,943
Health Information Technology Office	5,822,725	10,751,242	(3,000,000)	7,751,242
Statewide interoperable radio network	18,449,852	16,213,537	(608,927)	15,604,610
Total all funds	$281,064,809	$208,757,423	($8,248,691)	$200,508,732
Less estimated income	239,646,504	156,882,446	(4,414,850)	152,467,596
General fund	$41,418,305	$51,874,977	($3,833,841)	$48,041,136
FTE	507.00	509.00	0.00	509.00

Department 112 - Information Technology Department - Detail of House Changes

	Reduces Funding for Salary and Benefit Increases[1]	Adjusts Funding for Cybersecurity Contractual Services[2]	Removes Funding for Vulnerability Software[3]	Reduces Funding for the Student Information System[4]	Adjusts Ongoing Funding for the Health Information Network[5]	Adjusts Funding for FTE SIRN Positions[6]
Salaries and wages						$608,927
New and vacant FTE pool						
Operating expenses		($3,064,311)	($3,042,960)			
Capital assets						
Statewide longitudinal data system						
EduTech	($61,990)			($2,465,791)		
K-12 wide area network		(126,309)				
Geographic information system						
Health Information Technology Office						
Statewide interoperable radio network						(608,927)
Total all funds	($61,990)	($3,190,620)	($3,042,960)	($2,465,791)	$0	$0
Less estimated income	(61,990)	0	(3,042,960)	(2,465,791)	643,221	0
General fund	$0	($3,190,620)	$0	$0	($643,221)	$0
FTE	0.00	0.00	0.00	0.00	0.00	0.00

	Adds One-Time Funding for a State Data Center Migration Project[7]	Adds One-Time Funding for IT Services Automation and Software Licenses[8]	Removes One-Time Funding for the Health Information Network[9]	Total House Changes
Salaries and wages				$608,927
New and vacant FTE pool				
Operating expenses	$1,719,061	$1,793,609		(2,594,601)
Capital assets				
Statewide longitudinal data system				
EduTech				(2,527,781)
K-12 wide area network				(126,309)
Geographic information system				
Health Information Technology Office			($3,000,000)	(3,000,000)
Statewide interoperable radio network				(608,927)
Total all funds	$1,719,061	$1,793,609	($3,000,000)	($8,248,691)
Less estimated income	1,719,061	1,793,609	(3,000,000)	(4,414,850)
General fund	$0	$0	$0	($3,833,841)
FTE	0.00	0.00	0.00	0.00

[1] Ongoing funding of $61,990 is removed from the PowerSchool fund for a portion of salary increases ($24,020) and health insurance increases ($37,970) related to the underfunding of 8 FTE EduTech positions.

[2] Funding of ($3,190,620) for cybersecurity contractual services is reduced from the general fund to provide an increase of $942,554 from the general fund. The Senate approved $4,133,174 from the general fund, of which $942,554 related to increased cybersecurity contractual service costs for the Information Technology Department (ITD) and $3,190,620 related to increased cybersecurity contractual service costs for higher education institutions.

[3] Ongoing funding of $2,892,960 and one-time funding of $150,000 added by the Senate from the information technology operating fund for vulnerability management software licensing costs is removed. The department anticipates using continuing appropriation authority to receive funding related to these costs.

[4] Ongoing funding from the PowerSchool fund is removed for license costs ($1,472,653) and for salaries and wages of 8 FTE EduTech positions ($993,138) for the second year of the biennium related to the student information system transition from PowerSchool Holdings, Inc., to Infinite Campus, Inc. This results in 8 FTE EduTech positions being underfunded for the 2025-27 biennium as the Department of Public Instruction will require less support from ITD under the new system.

[5] Ongoing funding of $643,221 is removed from the general fund in the base budget and $643,221 is added from the health information exchange fund for the North Dakota Health Information Network (NDHIN). The base budget for NDHIN included $2,000,000 from the general fund. The Senate removed $1,356,779, resulting in $643,221 remaining in the base budget. The removal of $643,221 results in an elimination of funding from the general fund for NDHIN.

[6] Ongoing funding of $608,927 for salaries and wages and related operating expenses of 2 FTE statewide interoperable radio network (SIRN) positions is transferred from the SIRN line item to the salaries and wages line item. The Senate approved the funding in the SIRN line item from the SIRN fund. The House amendment includes the funding in the salaries and wages line item from the information technology operating fund.

[7] One-time funding of $1,719,061 is added from the strategic investment and improvements fund (SIIF) for a state data center migration project. The Senate did not add funding for this item.

[8] One-time funding of $1,793,609 is added from SIIF for the cost of automating information technology services for application support and the cost of purchasing software licenses for a low-code, no-code platform for use by state agencies. The department anticipates using the funding from SIIF, $2,000,000 appropriated from the general fund for NDHIN for the 2023-25 biennium transferred to the operating expenses line item pursuant to Section 4 of House Bill No. 1021 (2023), and carryover funding from the business gateway enterprise customer relationship management program authorized in Section 9 of Senate Bill No. 2021 (2025), for the project.

[9] One-time funding of $3 million added by the Senate derived from a transfer from the health information technology

planning loan fund to the electronic health information exchange fund for NDHIN is removed. The department transferred the funding in March 2025 pursuant to Section 3 of House Bill No. 2021 (2023). A section authorizing the 2025-27 biennium transfer added by the Senate is removed.

Senate Bill No. 2021 - Other Changes - House Action

This amendment also:

- Adds a section to identify $3,512,670 of one-time funding appropriated from SIIF in Section 1 for a state data center migration project ($1,719,061) and the cost of automating information technology services and the purchase of software licenses ($1,793,609).
- Adds a section to amend North Dakota Century Code Section 54-35-15.1 to expand membership of the Information Technology Committee to include an individual with information technology experience from the Department of Health and Human Services as a nonvoting member of the committee.
- Amends Section 54-59-14, which was also amended by the Senate, to provide ITD may not use continuing appropriation authority from the information technology operating fund to pay for salaries and wages expenses.
- Adds a section to provide for a Legislative Management study of SIRN funding and emergency communications fees.
- Adds a section to provide for a Legislative Management study of state of the enterprise resource planning system for the state, including use by state agencies and higher education.
- Adds a section to require ITD and the Department of Public Instruction to report to the Budget Section quarterly regarding the student information system transition from PowerSchool to Infinite Campus.

REPORT OF STANDING COMMITTEE
ENGROSSED SB 2021

Appropriations Committee (Rep. Vigesaa, Chairman) recommends **AMENDMENTS (25.0188.02003)** and when so amended, recommends **DO PASS** (20 YEAS, 0 NAYS, 3 ABSENT OR EXCUSED AND NOT VOTING). Engrossed SB 2021 was placed on the Sixth order on the calendar.

a. Two members of the house of representatives appointed by the majority leader of the house of representatives and one member appointed by the minority leader of the house of representatives;

b. Two members of the senate appointed by the majority leader of the senate and one member appointed by the minority leader of the senate;

c. One member of the legislative assembly appointed by the legislative management to serve as the committee chairman;

d. Six nonvoting members, including:

(1) The university of North Dakota vice president for finance and operations, or a designee of the vice president for finance and operations;

(2) The North Dakota state university vice president for finance and administration, or a designee of the vice president for finance and administration;

(3) Two representatives from regional four-year universities, including dual-mission institutions, appointed by the state board of higher education; and

(4) Two representatives from two-year colleges, including polytechnic institutions, appointed by the state board of higher education.

2. The committee shall review funding methods for higher education in the state, including the higher education funding formula, the university system capital building fund, permanent funds distributions, property tax allocations, oil and gas gross production and oil extraction tax revenue allocations, other statutory funds for higher education and research, and other funding appropriated to institutions and entities under the control of the state board of higher education.

3. The committee must receive and consider input from representatives of all higher education institutions under the control of the state board of higher education.

4. The committee shall report its findings and recommendations to the legislative management by September 1, 2026.

SECTION 37. LEGISLATIVE MANAGEMENT STUDY - STATE ENTERPRISE RESOURCE PLANNING SYSTEM. During the 2025-26 interim, the legislative management

shall study the enterprise resource planning system for the state of North Dakota, including state agencies and institutions of higher education. The study must include consideration of:

1. The current system and potential systems, including functionality, technological structure, expected life cycle, costs and benefits of cloud-based and on-premises hosted solutions, support and maintenance costs, and potential implementation costs.
2. The desired functionality for state agency use, including financial management, human capital management, and procurement.
3. The desired functionality for institutions of higher education, including financial management, human capital management, procurement, and student data management.
4. The costs and benefits of continuing with one enterprise resource planning system or separate systems for state agencies and institutions of higher education.

The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the seventieth legislative assembly.

SECTION 38. LEGISLATIVE INTENT - WEIGHTED CREDIT-HOURS - INSTRUCTIONAL PROGRAM CLASSIFICATION FACTORS. It is the intent of the sixty-ninth legislative assembly that wind energy technology and law enforcement courses be transferred to the career and technical education instructional program classification within the higher education funding formula.

25.0188.02001
Title.
Fiscal No. 1

Prepared by the Legislative Council staff for House Appropriations - Government Operations Division Committee
April 2, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO FIRST ENGROSSMENT

ENGROSSED SENATE BILL NO. 2021

Introduced by

Appropriations Committee

A BILL for an Act to provide an appropriation for defraying the expenses of the information technology department; to amend and reenact sections 54-35-15.1, 54-59-14, and 54-59-15 of the North Dakota Century Code, relating to membership of the information technology committee and the information technology operating fund; ~~to provide for a transfer; and~~ to provide an exemption; to provide for a legislative management study; and to provide for a legislative management report.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from other funds derived from special funds and federal funds, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2025, and ending June 30, 2027, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
~~Salaries and wages~~	~~$112,233,364~~	~~$16,139,027~~	~~$128,372,391~~
~~New and vacant FTE pool~~	~~0~~	~~8,403,424~~	~~8,403,424~~
~~Operating expenses~~	~~119,115,018~~	~~(96,380,424)~~	~~22,734,594~~
~~Capital assets~~	~~3,443,909~~	~~(3,312,874)~~	~~131,035~~

~~Statewide longitudinal data system~~	~~4,625,661~~	~~(504,904)~~	~~4,120,757~~
~~Edutech~~	~~10,348,826~~	~~(304,659)~~	~~10,044,167~~
~~K-12 wide area network~~	~~5,915,668~~	~~912,665~~	~~6,828,333~~
~~Geographic information system~~	~~1,109,786~~	~~48,157~~	~~1,157,943~~
~~Health information technology office~~	~~5,822,725~~	~~4,928,517~~	~~10,751,242~~
~~Statewide interoperable radio network~~	~~18,449,852~~	~~(2,236,315)~~	~~16,213,537~~
~~Total all funds~~	~~$281,064,809~~	~~($72,307,386)~~	~~$208,757,423~~
~~Less other funds~~	~~239,646,504~~	~~(82,764,058)~~	~~156,882,446~~
~~Total general fund~~	~~$41,418,305~~	~~$10,456,672~~	~~$51,874,977~~
~~Full-time equivalent positions~~	~~507.00~~	~~2.00~~	~~509.00~~
Salaries and wages	$112,233,364	$16,747,954	$128,981,318
New and vacant FTE pool	0	8,403,424	8,403,424
Operating expenses	119,115,018	(98,975,025)	20,139,993
Capital assets	3,443,909	(3,312,874)	131,035
Statewide longitudinal data system	4,625,661	(504,904)	4,120,757
Edutech	10,348,826	(2,832,440)	7,516,386
K-12 wide area network	5,915,668	786,356	6,702,024
Geographic information system	1,109,786	48,157	1,157,943
Health information technology office	5,822,725	1,928,517	7,751,242
Statewide interoperable radio network	18,449,852	(2,845,242)	15,604,610
Total all funds	$281,064,809	($80,556,077)	$200,508,732
Less other funds	239,646,504	(87,178,908)	152,467,596
Total general fund	$41,418,305	$6,622,831	$48,041,136
Full-time equivalent positions	507.00	2.00	509.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SEVENTIETH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items included in the appropriation in section 1 of this Act which are not included in the entity's base budget for the 2027-29 biennium and which the entity shall report to the appropriations committees of the seventieth legislative assembly regarding the use of this funding:

One-Time Funding Description	General Fund	Other Funds	Total
~~Vulnerability software licenses~~	~~$0~~	~~$150,000~~	~~$150,000~~

~~Health information technology office~~	~~0~~	~~3,000,000~~	~~3,000,000~~
~~Total~~	~~$0~~	~~$3,150,000~~	~~$3,150,000~~
State data center migration project	$0	$1,719,061	$1,719,061
Information technology services automation	0	1,793,609	1,793,609
Total	$0	$3,512,670	$3,512,670

SECTION 3. NEW AND VACANT FTE POOL - LIMITATION - TRANSFER REQUEST. The information technology department may not spend funds appropriated in the new and vacant FTE pool line item in section 1 of this Act, but may request the office of management and budget to transfer funds from the new and vacant FTE pool line item to the salaries and wages line item and other line items with salaries and wages in accordance with the guidelines and reporting provisions included in House Bill No. 1015, as approved by the sixty-ninth legislative assembly.

~~**SECTION 4. OTHER FUNDS - TRANSFER - HEALTH INFORMATION TECHNOLOGY PLANNING LOAN FUND TO ELECTRONIC HEALTH INFORMATION EXCHANGE FUND.** Notwithstanding section 6-09-43, the other funds line item in section 1 of this Act includes the sum of $3,000,000, or so much of the sum as may be necessary, which the Bank of North Dakota shall transfer, as requested by the chief information officer, from the health information technology planning loan fund to the electronic health information exchange fund for the purpose of defraying the expenses of the health information technology office and the health information network during the biennium beginning July 1, 2025, and ending June 30, 2027.~~

SECTION 4. EXEMPTION - LINE ITEM TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act, except the new and vacant FTE pool line item, for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects. The department shall notify the legislative council of any transfers made pursuant to this section.

SECTION 5. OTHER FUNDS - STRATEGIC INVESTMENT AND IMPROVEMENTS FUND. The other funds line item in section 1 of this Act includes the sum of $3,512,670 from the strategic investment and improvements fund, including $1,719,061 for a state data center migration project and $1,793,609 for the cost of automating information technology services and the purchase of software licenses.

SECTION 6. AMENDMENT. Section 54-35-15.1 of the North Dakota Century Code is amended and reenacted as follows:

54-35-15.1. Information technology committee - Appointment.

The legislative management, during each biennium, shall appoint an information technology committee in the same manner as the legislative management appoints other interim committees. The legislative management shall appoint six members of the house of representatives and five members of the senate to the committee. The chief information officer of the state ~~is an~~and an individual with information technology-related experience from the department of health and human services, appointed by the commissioner of the department of health and human services, are ex officio, nonvoting ~~member~~members of the committee. The legislative management shall designate the chairman of the committee. The committee shall operate according to the statutes and procedure governing the operation of other legislative management interim committees.

SECTION 7. AMENDMENT. Section 54-59-14 of the North Dakota Century Code is amended and reenacted as follows:

54-59-14. Information technology operating ~~account~~fund - Continuing appropriation - Report.

1. The department shall establish a state information technology operating ~~account~~fund in the state treasury to be used~~, in accordance with legislative appropriation,~~ for procuring and maintaining information technology and network services and for providing information technology~~,~~ and network services~~, and central microfilm unit services~~ to state entities and network services to users of the state network.
2. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges for services provided as determined by the department. The department shall deposit the amounts received in the information technology operating ~~account or the information technology development account, as appropriate~~fund, which are appropriated to the department on a continuing basis for purposes provided under this section, except the department may not use use continuing appropriation authority to pay salaries and wages-related expenses.

3. The department shall compile a report regarding the status of the information technology operating fund to be provided at each meeting of the budget section. The report must include information regarding expenditures paid from the fund for department administration, operations, and information technology projects by specific object code, the amount and category of services provided to state agencies and institutions and users of the state network from monies in the fund, and the balance remaining in the fund from the most recently completed quarter. The department shall present the mostly recently completed report to the appropriation committees of the legislative assembly each legislative session.

SECTION 8. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating ~~account~~fund or other ~~accounts~~funds specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 9. EXEMPTION - UNEXPENDED APPROPRIATIONS. The following appropriations are not subject to the provisions of section 54-44.1-11 and any unexpended appropriation authority remaining may be continued into the biennium beginning July 1, 2025, and ending June 30, 2027:

1. The sum of $45,000,000 appropriated from the federal coronavirus capital projects fund for broadband infrastructure grants in section 9 of chapter 548 of the 2021 Special Session Session Laws and continued into the 2023-25 biennium in sections 9 and 10 of chapter 21 of the 2023 Session Laws.
2. The sum of $12,000,000 appropriated from the strategic investment and improvements fund, of which $7,000,000 was for an enterprise digitization project and $5,000,000 was for a business gateway enterprise customer relationship management program, in section 1 of chapter 21 of the 2023 Session Laws.

3. The sum of $4,856,876 appropriated from the information technology operating fund for governance, risk, and compliance costs and the department of public instruction lighthouse project in section 1 of chapter 21 of the 2023 Session Laws.
4. The sum of $147,762,480 appropriated from federal funds available as a result of the Infrastructure Investment and Jobs Act for the broadband, equity, access, and deployment program, digital equity program, and state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
5. The sum of $487,520 appropriated from the general fund as matching funds for the state and local cybersecurity grant program in section 1 of chapter 21 of the 2023 Session Laws.
6. The sum of $80,000,000 appropriated from the federal state fiscal recovery fund for the statewide interoperable radio network project in section 4 of chapter 554 of the 2023 Session Laws.

SECTION 10. LEGISLATIVE MANAGEMENT STUDY - STATEWIDE INTEROPERABLE RADIO NETWORK FUNDING AND EMERGENCY COMMUNICATIONS FEES. During the 2025-26 interim, the legislative management shall consider studying fees collected for technology services, including emergency communications, behavioral health crisis response, and the statewide interoperable radio network. The study must include an analysis of the adequacy of current fee structures, financial needs of the technology services, current fees and revenue trends for 911 and 988 services, the statewide interoperable radio network project, the estimated project completion date, estimated ongoing funding needs to operate the network, current funding available for the network, future funding options for the network that will not negatively affect existing emergency communication systems, and a comparison of statewide radio network funding models used in other states. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the seventieth legislative assembly.

SECTION 11. LEGISLATIVE MANAGEMENT REPORT - STUDENT INFORMATION SYSTEM TRANSITION. During the 2025-26 interim, the information technology department and department of public instruction shall report quarterly to the budget section of the legislative management regarding the status of the student information system transition.

STATEMENT OF PURPOSE OF AMENDMENT:

Senate Bill No. 2021 - Information Technology Department - House Action

	Base Budget	Senate Version	House Changes	House Version
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Operating expenses	119,115,018	22,734,594	(2,594,601)	20,139,993
Capital assets	3,443,909	131,035		131,035
Statewide longitudinal data system	4,625,661	4,120,757		4,120,757
EduTech	10,348,826	10,044,167	(2,527,781)	7,516,386
K-12 wide area network	5,915,668	6,828,333	(126,309)	6,702,024
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General fund	$41,418,305	$51,874,977	($3,833,841)	$48,041,136
FTE	507.00	509.00	0.00	509.00

Department 112 - Information Technology Department - Detail of House Changes

	Reduces Funding for Salary and Benefit Increases[1]	Adjusts Funding for Cybersecurity Contractual Services[2]	Removes Funding for Vulnerability Software[3]	Reduces Funding for the Student Information System[4]	Adjusts Ongoing Funding for the Health Information Network[5]	Adjusts Funding for FTE SIRN Positions[6]
Salaries and wages						$608,927
New and vacant FTE pool						
Operating expenses		($3,064,311)	($3,042,960)			
Capital assets						
Statewide longitudinal data system						
EduTech	($61,990)			($2,465,791)		
K-12 wide area network		(126,309)				
Geographic information system						
Health Information Technology Office						
Statewide interoperable radio network						(608,927)
Total all funds	($61,990)	($3,190,620)	($3,042,960)	($2,465,791)	$0	$0
Less estimated income	(61,990)	0	(3,042,960)	(2,465,791)	643,221	0
General fund	$0	($3,190,620)	$0	$0	($643,221)	$0
FTE	0.00	0.00	0.00	0.00	0.00	0.00

	Adds One-Time Funding for a State Data Center Migration Project[7]	Adds One-Time Funding for IT Services Automation and Software Licenses[8]	Removes One-Time Funding for the Health Information Network[9]	Total House Changes
Salaries and wages				$608,927
New and vacant FTE pool				
Operating expenses	$1,719,061	$1,793,609		(2,594,601)
Capital assets				
Statewide longitudinal data system				
EduTech				(2,527,781)
K-12 wide area network				(126,309)
Geographic information system				
Health Information Technology Office			($3,000,000)	(3,000,000)
Statewide interoperable radio network				(608,927)
Total all funds	$1,719,061	$1,793,609	($3,000,000)	($8,248,691)
Less estimated income	1,719,061	1,793,609	(3,000,000)	(4,414,850)
General fund	$0	$0	$0	($3,833,841)
FTE	0.00	0.00	0.00	0.00

[1] Ongoing funding of $61,990 is removed from the PowerSchool fund for a portion of salary increases ($24,020) and health insurance increases ($37,970) related to the underfunding of 8 FTE EduTech positions.

[2] Funding of ($3,190,620) for cybersecurity contractual services is reduced from the general fund to provide an increase of $942,554 from the general fund. The Senate approved $4,133,174 from the general fund, of which $942,554 related to increased cybersecurity contractual service costs for the Information Technology Department (ITD) and $3,190,620 related to increased cybersecurity contractual service costs for higher education institutions.

[3] Ongoing funding of $2,892,960 and one-time funding of $150,000 added by the Senate from the information technology operating fund for vulnerability management software licensing costs is removed. The department anticipates using continuing appropriation authority to receive funding related to these costs.

[4] Ongoing funding from the PowerSchool fund is removed for license costs ($1,472,653) and for salaries and wages of 8 FTE EduTech positions ($993,138) for the second year of the biennium related to the student information system transition from PowerSchool Holdings, Inc., to Infinite Campus, Inc. This results in 8 FTE EduTech positions being underfunded for the 2025-27 biennium as the Department of Public Instruction will require less support from ITD under the new system.

[5] Ongoing funding of $643,221 is removed from the general fund in the base budget and $643,221 is added from the health information exchange fund for the North Dakota Health Information Network (NDHIN). The base budget for NDHIN included $2,000,000 from the general fund. The Senate removed $1,356,779, resulting in $643,221 remaining in the base budget. The removal of $643,221 results in an elimination of funding from the general fund for NDHIN.

[6] Ongoing funding of $608,927 for salaries and wages and related operating expenses of 2 FTE statewide interoperable radio network (SIRN) positions is transferred from the SIRN line item to the salaries and wages line item. The Senate approved the funding in the SIRN line item from the SIRN fund. The House amendment includes the funding in the salaries and wages line item from the information technology operating fund.

[7] One-time funding of $1,719,061 is added from the strategic investment and improvements fund (SIIF) for a state data center migration project. The Senate did not add funding for this item.

[8] One-time funding of $1,793,609 is added from SIIF for the cost of automating information technology services for application support and the cost of purchasing software licenses for a low-code, no-code platform for use by state agencies. The department anticipates using the funding from SIIF, $2,000,000 appropriated from the general fund for NDHIN for the 2023-25 biennium transferred to the operating expenses line item pursuant to Section 4 of House Bill No. 1021 (2023), and carryover funding from the business gateway enterprise customer relationship management program authorized in Section 9 of Senate Bill No. 2021 (2025), for the project.

[9] One-time funding of $3,000,000 added by the Senate derived from a transfer from the health information technology

planning loan fund to the electronic health information exchange fund for the NDHIN is removed. The department transferred the funding in March 2025 pursuant to Section 3 of House Bill No. 2021 (2023). A section authorizing the 2025-27 biennium transfer added by the Senate is removed.

Senate Bill No. 2021 - Other Changes - House Action

This amendment also:

- Adds a section to identify $3,512,670 of one-time funding appropriated from SIIF in Section 1 for a state data center migration project ($1,719,061) and the cost of automating information technology services and the purchase of software licenses ($1,793,609).
- Adds a section to amend North Dakota Century Code Section 54-35-15.1 to expand membership of the Information Technology Committee to include an individual with information technology experience from the Department of Health and Human Services as a nonvoting member of the committee.
- Amends Section 54-59-14, which was also amended by the Senate, to provide the Information Technology Department may not use continuing appropriation authority from the information technology operating fund to pay for salaries and wages expenses.
- Adds a section to provide for a Legislative Management study of SIRN funding and emergency communications fees.
- Adds a section to require ITD and the Department of Public Instruction to report to the Budget Section quarterly regarding the student information system transition from PowerSchool to Infinite Campus.