2011 HOUSE APPROPRIATIONS

HB 1043

2011 HOUSE STANDING COMMITTEE MINUTES

House Appropriations Government Operations Division
Medora Room, State Capitol

HB1043
January 18, 2011
Recorder Job# 12992

☐ Conference Committee

Committee Clerk Signature

Explanation or reason for introduction of bill/resolution:

A bill for an Act to amend and reenact section 57-40.3-10 of the North Dakota Century Code, relating to the allocation of motor vehicle excise tax collections; and to declare an emergency.

Minutes:

The clerk called role call.

Chairman Thoreson opened the hearing on HB1043.

Brady Larson, Legislative Council: See attached testimony 1043.1.18.11A. He also referenced HB1012 section 5.

Chairman Thoreson: Brady, is this chart also available on line any place or is it just in a paper copy right now?

Brady Larson: It is available only on paper at this time.

Testimony continued.

Tad Torgerson, Office of Management and Budget: I believe for this current biennium 25% of the motor vehicle excise taxes are going into the highway fund. Currently, there's a sunset on that. The intent was to change that 25% to go into the highway tax distribution fund; rather, than straight into the highway fund, as it is in this current biennium. Also to follow that same line of thought, to sunset it after the next biennium.

Terry Traynor, North Dakota Association of Counties: See attached testimony 1043.1.18.11B.

Chairman Thoreson: Do you expect if we were to pass this, that it would impact property tax? Would it keep it from going up in these counties or would it make much of a change?

Terry Traynor: I don't think we would see anyone reducing property tax, but it may keep the issues off the ballot. Most counties can't raise road funds without going to the vote of the people.

Tom Lilja, Executive Director, North Dakota Corn Growers Association: I would like to introduce Denver Talbor. The corn growers in conjunction with the soybean growers, the association of counties, and North Dakota Wheat Commission put together a study by the Upper Great Plains Transportation Institute; and we would like to introduce Denver at this time to go through some of the high point of the study.

Denver Talbor: See attached testimony 1043.1.18.11C.

Representative Klein: I'm looking at page 16 at table one. Can you explain to me why the average trip on barley is around 88 miles versus wheat 18 miles? What causes that great difference?

Denver Talbor: That was a very interesting conclusion to the study; and we looked in detail. In 2009 there was a lot of barley grown in the north central region around Bottineau county. The sources of demand were basically the lash multing plant around Jamestown and some of the elevators in the Red River Valley portion of the state. It was a special mishmash between the locations of barley production and the demand. We don't know if that's an aberration or if that's something that's a trend. In 2000 we did a detailed study and found the average distance of haul for barley was double of that for wheat. This was in 2000 and it was 40 some miles. I think it relates to the location of production relative to the processing plants and also to the elevator demand in the eastern part of the state.

Representative Kempenech: Of that 26 miles, what would you consider good roads?

Denver Talbor: Most of the traffic accumulates on major county collectors. Most of the roads that have been identified are major county collectors. We have some major county collector roads headed shuttle train facilities or ethanol plants; those would be the priorities.

Representative Kempenich: What kind of miles are we talking about on or off state roads? I'm curious what the problem is out of this 26 miles?

Denver Talbor: You would like a prioritization?

Representative Kempenich: Yes; miles, dollars.

Denver Talbor: About 13% is reconstruction, about 45% is resurfacing, and then the rest is maintenance. There's very little reconstruction.

Representative Kempenich: Are the roads in good enough shape, for the most part, that you could add on?

Denver Talbor: I think when we did the 2000 study that I referred to, I think about 15-20% of the distance was on gravel road and the rest was on paved. I don't think that that has probably changed all that much for grain; because, I think it's kind of a defused pattern. I would throw that out as a guess; I can get you a precise number that and will.

Chairman Thoreson: If you do have that, that would be helpful to us.

Representative Klein: Could you give me those percentages again; you had 13% reconstruction, what was the overlay percentage?

Denver Talbor: The table is on page 28. $31 million of the $59 million for paved roads was resurfacing; and only $9 million of the $59 million was for reconstruction; and $18 million was for maintenance. We did not simulate any reconstruction of the gravel roads; so, as a percentage of the paved roads, I said 13% and that was probably a little high. It looks like it's in the 10-12% range.

Representative Brandenburg: You said you figured the study at 15% of the travel on gravel roads and 85% on paved roads. How did you come up with that?

Denver Talbor: I do not have that number today for this study, I will get that to you as soon as possible. I was referring to a 2000 survey of wheat and barley farm producers that we did in North Dakota. At that time, we asked them to give us their average distance, average miles traveled over gravel roads and average miles traveled over paved roads. I will have the precise numbers for you from our current study.

Representative Brandenburg: I would like to have that.

Denver Talbor: Continued with his testimony.

Representative Glassheim: You identified about a $210 million need for road improvement annually. Once you make an investment, does it decrease over a decade or how does that work over a decade?

Denver Talbor: We did not forecast any inflation of construction costs; and we didn't forecast any additional traffic as a result of increasing yields or the location of new processing plants. This would just be a flat forecast into the future over a 20 year period to determine how much resurfacing, how much maintenance costs, and how much of the reconstruction would be needed over 20 year periods. Although it was a 20 year analysis period, it's annualized per year over the 20 year period.

Representative Glassheim: But you would need that much annually over 20 years?

Denver Talbor: That's correct.

Representative Glassheim: What would be the impact on our agriculture if you only got half of that?

Denver Talbor? Would halting or impeding agricultural logistics; I would say that is not the case.

Tom Lilja, Executive Director, North Dakota Corn Growers Association: See attached testimony 1043.1.18.11C.

Scott Rising, Soybean Growers Association: I rise in support of the recommendation of the interim committee that is in support of HB1043. Representative Glassheim asked an

interesting question, from the stand point; what's the impact. The impact shows itself in many ways. We have forgotten that a year ago, at this time of the year we could have gotten a crop report from the corn group about the progress of the harvest was going based on wet roads. Some of the impact we experience in the soybean community is being able to get the crop in when you want to, being able to get your equipment to the crop when you need to, and then getting the crop back off at the end of the year based on the condition of the roads.

Most of us are aware in the agricultural community of situations that we've put up with on a daily basis; because of the roads. The problem is with the detours as the roads continue to deteriorate. As the road investment study surmises, there's a great deal of need for infrastructure repair and rebuilding activity. The needs exist from the eastern border of the state to the western border; and it's entire width. More than $420 million is needed on a biennium basis. The impact of 1043 brings us to a funding level for local roads that achieves that there's 50% of need. For many years county and township have worked miracles with roads that haven't been designed or had the capacity to respond to the changes we see across the agriculture sector today.

The 100% of the vehicle excise tax going into this highway distribution fund is a step in that direction. We will continue to seek funding to fix these issues. The state's economic health is dependent upon this logistic capability whether it be in the oil patch or across the entire agriculture community in the state. Soybean harvests this year were over a $1 billion crop. If we don't address this issue now, when will we? None of us wants the uncertainty of routinely driving through water in the course of our daily business. Soft roads, narrow roads, spilling or standing water, blowing snow, ruts or any combination of the above is a real threat to the safety of those we hold dear. We're seeking a do pass recommendation for HB1043.

Ken Yantes, Executive Secretary, Director of Normal Relations: I have served as township representative on the North Dakota Transportation Coalition for the past 3 years. We have developed a policy which calls for an increase in the percentage of contributions in the excise tax to be deposited in the highway distribution fund. Townships, as you've seen earlier, are 2.7% of that fund. We feel that the additional funding proposed in 1043 and the figures that Mr. Traynor has shown you earlier will go a long way to help township's supply needed repairs to their township roads over the whole state.

I've found in the western part of the state it was in critical need of road repairs due to the oil and gas extraction. But there are roads across the whole state; in the Pembina area, the beet cropper's traffic takes its toll on the roads. In the center of our state, excessively wet conditions create flooding, soft roads; impeding the movement of all agricultural products that are produced there. In addition, public travel was endangered. I feel that this bill that's before you, HB1043, would be of considerable help to the township officers in the state of North Dakota. I ask you to vote affirmative on HB1043.

Connie Sprynzynatyk, North Dakota League of Cities: Within those 53 counties there are 357 incorporated cities; and as of the 2000 census, 73% of the population of the state lived in the city. Those county roads and the state highway system connect to and through cities where people live and where business is conducted. The League of Cities is fully in

support of HB1043. We think that it's a critical investment in our future. We're here to tell you that we can't keep going the way we're going. The money we get from the state highway distribution fund is critically important and it's going to continue to be more important.

John Olson: See attached testimony 1043.1.18.11D.

Representative Dahl: Do you know what Fargo's total budget is for streets?

John Olson: I have no clue.

Representative Dahl: If you could get us information about any federal funds or other sources of revenue that contribute to that budget as well.

Keith Berndt, County Engineer, Cass County: See attached testimony 1043.1.18.11E.

Chairman Thoreson: Those percentages you have in the middle; the 50%, 35%, 15%. Do you know in dollars what those equate?

Keith Berndt: In rough dollars our county highway department has about a $12 million per year annual expenditure. So, $6 million for the highway distribution fund, about $2 million in federal and $4 million in property tax.

Representative Kroeber: Is the 10.25 mills for roads; is that fair common? Where does that go as far as average among counties?

Keith Berndt: I suspect our mill levy is probably lower than most because 1 mill generates more in Cass County than most counties.

Pat Hansen, Director of South Central Adult Services: See attached testimony 1043.1.18.11F.

Chairman Thoreson: On those roads that they're traveling, are the detours and additional hindrances causing a major time crunch for the people out there working?

Pat Hansen: Yes. In some areas, we've had major issues in 2009 because of the flooding. A one way trip to Fargo went from 60 miles to 112.

Chairman Thoreson: From which destination?

Pat Hansen: From Valley City. We normally go through rural Cass County also. We do passengers at Tower City, Casselton if people need transit there. We had issues with the interstate there; we've had highway 281, they had to cut across from LaMoure they had to go all the way down to the South Dakota border for awhile to get to dialysis in Jamestown. In the Judd and Kulm areas, they're having to go many miles out of the way in order to get to Judd.

Sandy Clark, North Dakota Farm Bureau: We're here today to stand in support of HB1043. You've heard lots of testimony from the agriculture community and we would support their comments. Infrastructure is critical to the transportation of agricultural products; and road means are important all across the state. We recognize that you have a challenge as legislators facing you this session road and infrastructure issues; we also recognize that this particular bill has a fiscal statement that will reduce the general fund and we recognize that would have to be made up somewhere else. We do support HB1043.

Bill Shalhoob, North Dakota Chamber of Commerce: See attached testimony 1043.1.18.11G.

Representative Glassheim: Since the cost of maintaining the roads is one of the factors that is increasing pressure on everybody, would you be in favor of an increase in the gas tax or in registration fees?

Bill Shalhoob: Our position is that we will support increases in taxes as needed to do that; given the state of the North Dakota budget, the amount of revenue available, we believe that this can be done without an increase in taxes.

Dana Larson, Engineer, Ward County: Our county is impacted by the oil industry, construction and agriculture industry. I'm in support of this House Bill. I'd move 100% of excise tax into the highway distribution fund; because for many years we are struggling to maintain what we have. Many of the gravel county roads now we're getting down to zero and 2 inches of gravel. As a county, we've been dealing with the water impacts to the higher rain events and the larger snow melt. Many counties are making the same decisions that you have to spend the money to get the ag products to town; but, you're doing on a budget. When we should be paving a road we're seal coating it and when we should be seal coating a road, we're just patching it. By moving these funds we'll be able to do a better job at maintenance. This wouldn't cover all the needs; but, it would help maintain and to keep our current system.

Chairman Thoreson: On the situation you cited with the road wear, you said FEMA said you had to close it. Is that correct?

Dana Larson: It was under water and their policy is; if it's under water you have to wait til Fall to see if stays under water to be eligible.

Chairman Thoreson: How much road are we talking or how many miles?

Dana Larson: It was about 1,000 feet of roadway that was impacted; however, it cut about a 16 mile of gravel road in half. Because of the lay of land, the only detours were through township roads and backtracking about 8 miles.

Chairman Thoreson: So you went ahead and took care of that yourselves? What was the cost involved on that?

Dana Larson: Just for that project about $200,000.00 between the grade raise and adding the gravel.

Chairman Thoreson: For just 1,000 feet of road?

Dana Larson: For 1,000 feet.

Kayla Palmermacher, North Dakota Farmer's Union: I stand in support of HB1043. Our members this year have instructed us to place a special emphasis on increased funding for infrastructure. For the past few years, we have heard from our members and seen, first hand, the deterioration of rural road systems. Farmer's Union feels that an increase in funding is needed.

Mark Dougherty, Associated General Contractors of North Dakota: We stand in support of this bill and experience the same problems that everybody else has brought up. It costs us more when we have to use these roundabout ways; and because the roads we have to use won't carry our loads and it costs us more to repair them.

Chairman Thoreson: Is that happening quite often where you're impacting other roads by getting to ones your working on? That's a question we've had about shifting traffic from one place to another. What does that do to the secondary road you're using in place of the one that's being fixed?

Mark Dougherty: That happens very regularly; especially, with the wet conditions we've had. There's a lot of township roads we would normally use that we can't use. We're going around on other roads or maybe even have to build section line roads to use.

Larry Syverson, President, North Dakota Township Officer's Association: I just want to underline public safety. The rural areas are not just country property, not just production acres, they are homes. The semis are meeting school buses on roads with soft shoulders; there are young students rushing to meet the bell on rutted roads.

Chairman Thoreson closed the hearing.

2011 General Discussion

(Check appropriate box)

- ☐ Committee on Committees
- ☐ Rules Committee
- ☐ Confirmation Hearings
- ☐ Delayed Bills Committee
- ☒ House Appropriations
- ☐ Senate Appropriations
- ☐ Other

Date of meeting/discussion: January 25, 2011

Recorder Job Number: Recorder Job# 13385

House Appropriations – Government Operations

Committee Clerk Signature

Minutes:

Chairman Thoreson called the meeting to order for general discussion on HB1043.

Chairman Thoreson: Let's take a look at HB1043. This was a bill that deals with the allocation of the motor vehicle excise tax collections.

Representative Klein: I've been involved with this bill; I was on the interim committee. There was a lot of discussion at that time as to why it was needed; and people from other parts of the state didn't want to consider everything in the oil counties. I'm looking at the thing here and there were some 15 people that testified in favor of this bill. My problem and we've discussed it a little bit with the individual members here, is we need to keep track of this DOT business in one bill. When we come back 2 years from now, how do you keep track of where the money came from. We need to keep everything in one area. The only thing I can see is we approve a "do not pass" on this bill; kill this bill. What eventually will happen, is it will get merged into the entire DOT budget.

At this time, I would move a "do not pass", Mr. Chairman.

Chairman Thoreson: The motion has been made by Vice Chairman Klein for a "do not pass" on HB1043. Motion was seconded by Representative Brandenberg.

Representative Kempenich: This, probably, isn't the vehicle we're going to use; but, I think that we're going to be spending some money emergency situations. I don't think this is going to go away any time soon.

Chairman Thoreson: You're talking, in regards, to what's weather wise?

Representative Kempenich: We spent $100 million last session on weather related issues.

Representative Glassheim: I think that it's all the more reason for killing it. Because, if we try to spend the next $135 million to $140 million, and then on top of that is weather related we're in trouble.

Representative Klein: The other thing, of course, like Representative Glassheim mentioned; it's a tremendous hit to the general fund. My concern is, more so, keeping track of the overall where are we spending it and where does it go. The DOT has a plan; and where pleased with what Upper Great Plains did, there's only so many contractors and so much work during this short construction season in North Dakota that can do. Are we kidding ourselves that it's going to get done. We need to utilize our resources as best we can and keep everything in one area.

Chairman Thoreson: That's kind of the sense of the chair also; that one place to watch all this is probably the best. I agree with the Vice Chairman and Representative Glassheim that we probably need to put this to rest.

Representative Kempenich: The other problem we're running into is that it's going to be an underlying theme this whole session; this balancing act of what to spend and how to get the most of it.

Chairman Thoreson: While this bill has some merits, I've had a lot of discussion with the members of the city commission in Fargo about the public transportation and other issues. While we all understand that some of those needs are out there, we probably need to put it in one place.

The clerk took a roll call vote on a "do not pass" motion for HB 1043.

Chairman Thoreson: The motion carries, the vote was unanimous. Representative Klein will carry the bill to full committee.

Chairman Thoreson closed the general discussion.

2011 HOUSE STANDING COMMITTEE MINUTES

House Appropriations Committee
Roughrider Room, State Capitol

HB 1043
1/27/11
13518

☐ Conference Committee

Committee Clerk Signature Meredith Traxhott

Explanation or reason for introduction of bill/resolution:

A BILL for an Act relating to the allocation of motor vehicle excise tax collections.

Minutes: You may make reference to "attached testimony."

Chairman Delzer: We'll take up HB 1043.

Representative Klein: HB 1043 came from the interim public safety and transportation committee. It would allocate all motor vehicle excise taxes to the DOT counties, cities, and townships, through the highway distribution fund. As you're all familiar, the DOT, the Upper Great Plains (Transportation Institute, or UGPTI), the Department of Commerce and various county commissioners and township people throughout have performed a detailed, in-depth field survey and put together a plan to address road problems not only in the oil patch but throughout the state. The biggest problem is to keep track of all the various bills regarding road and DOT issues. We need to keep everything in one bill, this year HB 1012. We voted unanimously a Do Not Pass for HB 1043 and we ask this committee to concur.

Chairman Delzer: Do you wish to make a motion then?

Representative Klein: I would move a Do Not Pass on HB 1043.

Chairman Delzer: Seconded by Representative Thoreson. We have a motion, is there any discussion?

Representative Kaldor: Could you share the sentiment of the committee as to the concept? Was this received as something favorable that should be considered in 1012, or did the committee decide this is not the way to go in funding transportation in 1012?

Representative Klein: The committee understands that part of it was a concern that so much of the emphasis was to repair and upgrade roads in the oil patch and ignore the rest of the state. But that's not what the overall STIP plan and the DOT has in mind. The governor's budget already takes 25%, so this would take all of that money, with a tremendous impact to the general fund. We're concerned with getting an overall plan out

there, we don't want roads that are only upgraded in one county. Many of the smaller townships would not have enough money to do any of the major work required. Our concern is to follow one operation and keep the DOT involved in the overall concept to tie these roads together, and to tie the state system in with the county and townships.

Chairman Delzer: There's certainly a philosophical difference between running it through the highway distribution fund and the highway fund. Currently there hasn't ever been any of the excise task run through the highway distribution fund. That's been a discussion a number of times. To go all the way, I'd be very surprised that that would have support. It needs to be looked at after we do some of the things in the oil bills and oil funding.

Representative Kaldor: This came from the Legislative Management interim committee, and they probably had a rationale, but not the governor's budget information when they passed this out.

Representative Klein: I served on that committee. There was concern for members not from the oil patch area, that they were being left out. There are road problems throughout the state. We want an overall plan to put money out into the townships and counties where they don't have the technical expertise to do the right thing.

Representative Kroeber: The governor put in approximately 46 million. If we had passed this bill, it would have added about 139 million general fund dollars. Being that the carryover from the ending fund balance was 55 million, so we didn't really see how we could take and pass this at this time.

Representative Brandenburg: A lot of discussion has been about the whole state, not just western ND. We have requested a breakdown of the different districts of what they have set up with DOT.

Representative Glassheim: We're all aware there are road needs and this matter will be discussed through April. The point of not passing this bill is that the right place to have the discussion is in 1012 and the highway budget. That's the vehicle for discussing the overall road picture.

Chairman Delzer: On page 12-13 in the green book (Analysis of 2011-13 Executive Budget), the forecast for gas tax and registration is actually an increase to the counties and cities of 28 million. Nation-wide, gas tax collection is going down. But in our particular case, it's going up this time.

Representative Klein: The other factor is that the federal highway system is on a continuing resolution. We won't know for sure what's coming down to match until probably May or June.

Representative Thoreson: The current continuing resolution ends at the end of March. DOT and others aren't sure where we're going after that.

Chairman Delzer: My understanding of the budget is they put in an increase of 3% from last time. Last time we had to use 25% of the excise tax just into the highway fund to

match the federal funds. That's not needed this time. Philosophically, there's quite a few people that have a problem running the excise tax through the highway distribution fund, and there's quite a few that would like to do it.

Representative Skarphol: UGPTI has done the work on the rest of the state as well, in regards to agricultural needs. There is a document out there. Mr. Tolliver is coming back on Sunday, I could request he bring copies if you so desire.

Chairman Delzer: Ask him to bring 20-25 for the committee.

Representative Nelson: I'm one that feels it is time for the state to put some excise tax into the distribution fund. What was the general support level in the subcommittee for that concept?

Representative Thoreson: There is support. We're doing the detailing on 1012 now. I can't disagree with this idea, but we felt this separate bill was not the best way to go.

Chairman Delzer: There also has to be how we handle all the efforts to deal with not only the oil counties but the others as well, to see if that's the proper way to do it or if there's another way that works out better. That's still up in the air. It's open to discussion.

Representative Nelson: In the governor's budget there is a very direct line to oil impact counties in his proposal, and I think in this discussion it gets to the rest of the state more than it does oil-impact counties. From my perspective, in the funding levels in the governor's budget and the report from UGPTI there is a long term plan for impact in oil country. I'm questioning whether the rest of the state is on the same level of infrastructure repair.

Chairman Delzer: That's a question a lot of people share. You do it this way, it doesn't show up, so maybe we need to do it a different way that shows support for the whole state better. Any further discussion? If not, we have a motion for Do Not Pass and the clerk will call the roll. The motion carries. Representative Klein will carry that to the floor. We'll take a 10 minute recess.

FISCAL NOTE

Requested by Legislative Council
12/15/2010

Bill/Resolution No.: HB 1043

1A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2009-2011 Biennium		2011-2013 Biennium		2013-2015 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues			($185,380,000)	$113,640,000	($185,380,000)	$113,640,000
Expenditures						
Appropriations						

1B. **County, city, and school district fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

2009-2011 Biennium			2011-2013 Biennium			2013-2015 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts
			$40,790,000	$23,170,000		$40,790,000	$23,170,000	

2A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

This bill places 100% of the motor vehicle excise tax which would otherwise go to the general fund and deposits it in the Highway Tax Distribution Fund.

B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

Section 1 of this bill changes the fund into which the motor vehicle excise tax is deposited. Under present law, 100% of the motor vehicle excise tax (after the state aid distribution share is deducted) would be deposited in the State General Fund (as of July 1, 2011). Under the proposed legislation, 100% of the motor vehicle excise tax (after the state aid distribution share is deducted)would be deposited in the Highway Tax Distribution Fund.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*
   A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

This bill would result in a reduction of approximately $185.4 million in revenue to the State General Fund (per biennium) and a corresponding increase in revenue to the Highway Tax Distribution Fund. This increase in revenues to the Highway Tax Distribution Fund would ultimately flow to the NDDOT, counties, cities, townships, and public transportation as follows:

NDDOT $113.64 million
Counties $40.79 million
Cities $23.17 million
Townships $5.00 million
Public Trans $2.78 million

B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation is also included in the executive budget or relates to a continuing appropriation.*

Name:	Shannon L. Sauer	**Agency:**	NDDOT
Phone Number:	328-4375	**Date Prepared:**	12/22/2010

Date: 1-25-11
Roll Call Vote #: 1

2011 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1043

House Appropriations Government Operations Division Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number

Action Taken Do not pass

Motion Made By Rep Klein Seconded By Rep Brandenburg

Representatives	Yes	No	Representatives	Yes	No
Chairman Thoreson	X		Representative Glassheim	X	
Vice Chairman Klein	X		Representative Kroeber	X	
Representative Brandenburg	X				
Representative Dahl	X				
Representative Kempenich	X				

Total (Yes) 7 No 0

Absent 0

Floor Assignment Representative Klein

If the vote is on an amendment, briefly indicate intent:

Date: 1/27/11
Roll Call Vote #: 1

2011 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1043

House Appropriations Committee

Legislative Council Amendment Number _____

Action Taken: ☐ Do Pass ☒ Do Not Pass ☐ Amended ☐ Adopt Amendment

☐ Rerefer to Appropriations ☐ Reconsider

Motion Made By Rep. Klein Seconded By Rep. Thoreson

Representatives	Yes	No	Representatives	Yes	No
Chairman Delzer	X		Representative Nelson	X	
Vice Chairman Kempenich			Representative Wieland	X	
Representative Pollert					
Representative Skarphol	X				
Representative Thoreson	X		Representative Glassheim	X	
Representative Bellew	X		Representative Kaldor	X	
Representative Brandenburg	X		Representative Kroeber	X	
Representative Dahl			Representative Metcalf	X	
Representative Dosch	X		Representative Williams	X	
Representative Hawken					
Representative Klein	X				
Representative Kreidt	X				
Representative Martinson	X				
Representative Monson					

Total (Yes) 16 No 0

Absent 5

Floor Assignment Rep. Klein

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1043: Appropriations Committee (Rep. Delzer, Chairman) recommends **DO NOT PASS** (16 YEAS, 0 NAYS, 5 ABSENT AND NOT VOTING). HB 1043 was placed on the Eleventh order on the calendar.

2011 TESTIMONY

HB 1043

11.9076 0100 1043.1.18.11A

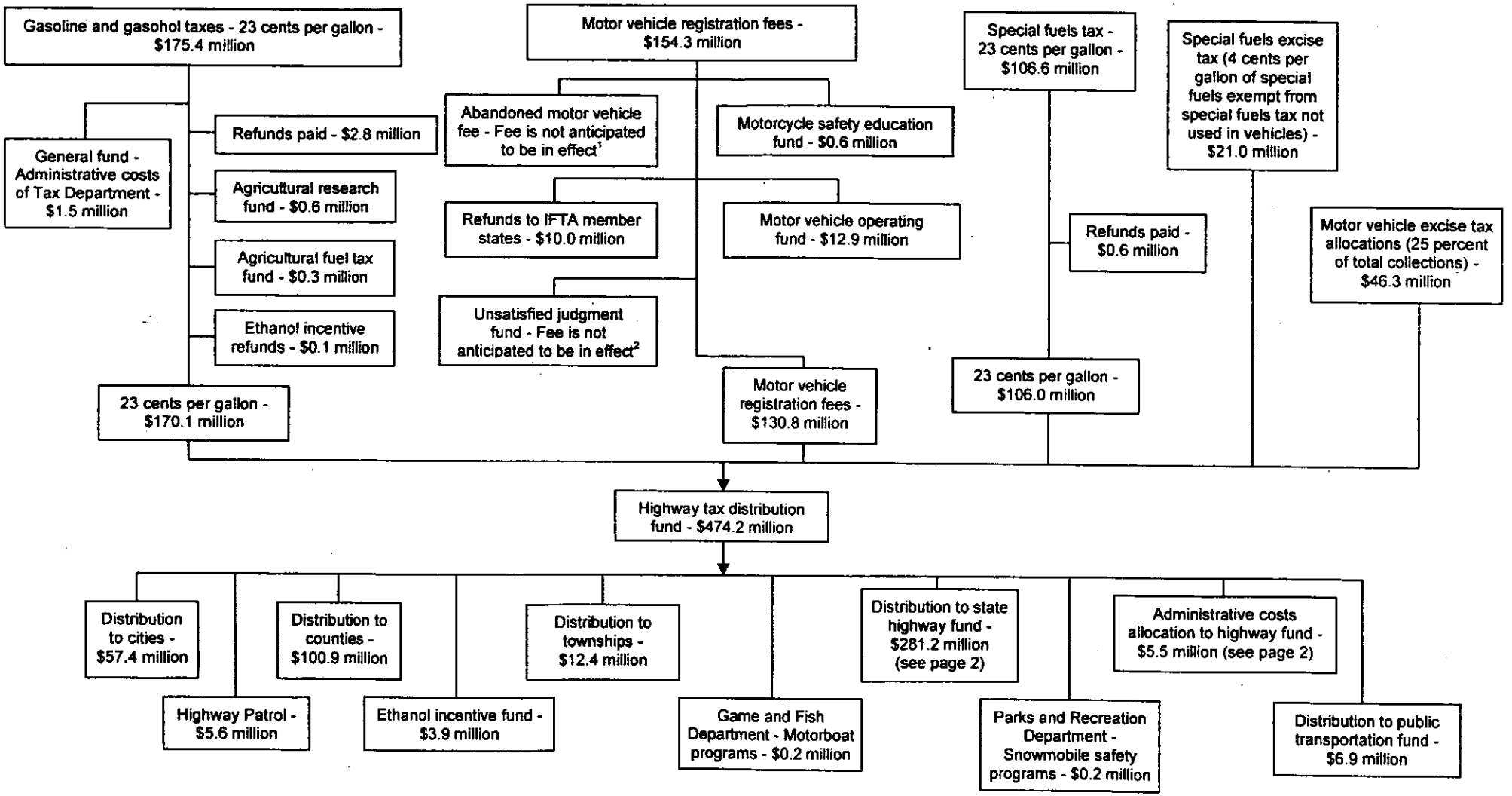
Prepared by the North Dakota Legislative Council staff

January 2011

HIGHWAY TAX DISTRIBUTION FUND

Sources and Uses of Funds

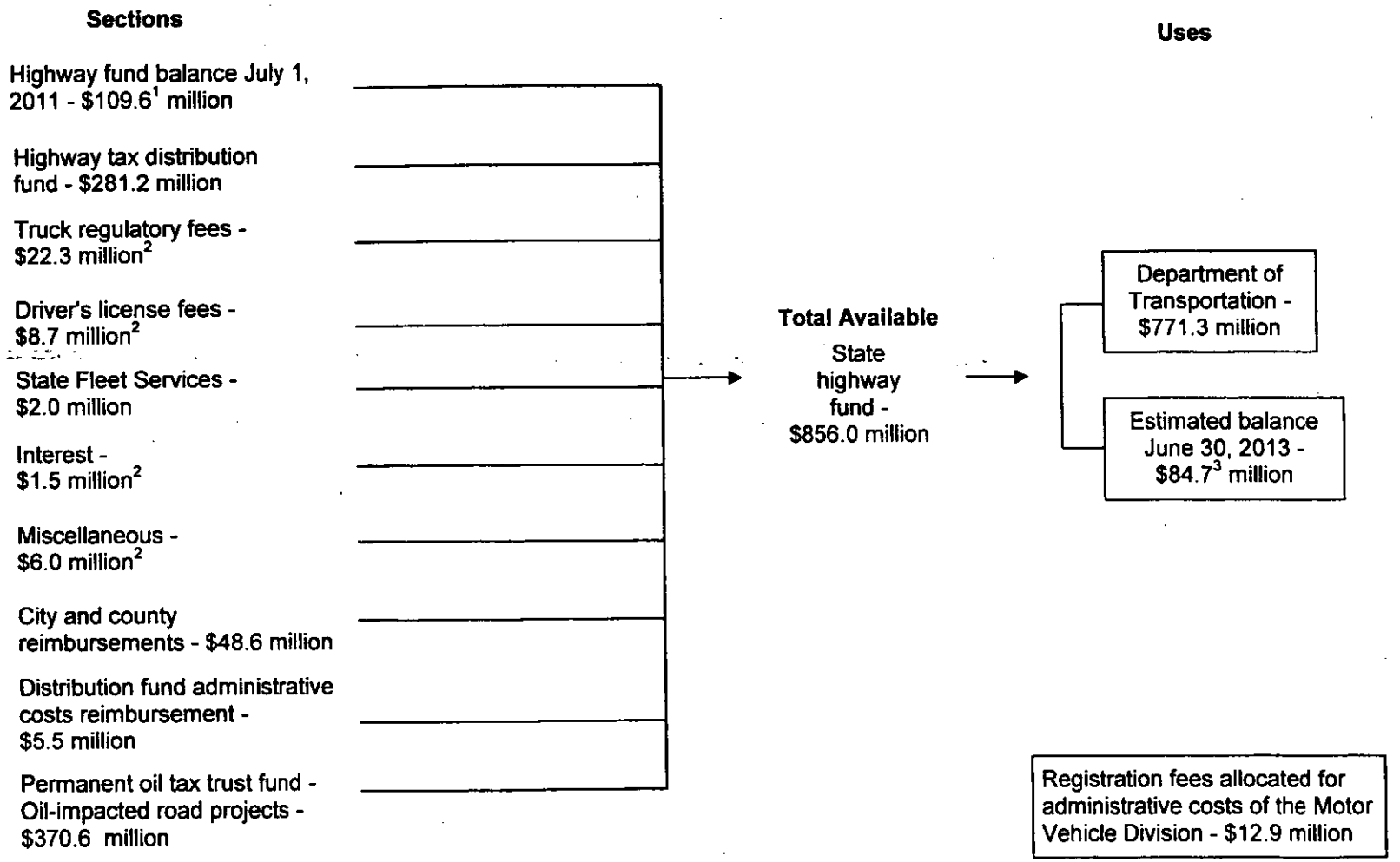
2011-13 Biennium (Based on the Executive Recommendation)



[1]The abandoned motor vehicle fee of $2 on each initial North Dakota vehicle title is imposed only if the balance in the abandoned motor vehicle fund is $100,000 or less. The fee is suspended when the fund balance is $250,000 or more.

[2]An additional $1 fee is imposed on motor vehicle registrations for a period of one year if the balance in the unsatisfied judgment fund is less than $150,000. The fee is suspended for the following year if the balance in the fund is $150,000 or more on July 1.

STATE HIGHWAY FUND
Sources and Uses of Funds
2011-13 Biennium Estimates Based on Executive Recommendation



[1]The July 1, 2011, balance does not reflect amounts to be paid from the fund for 2011 construction season project commitments.

[2]"Nondedicated" highway revenues total $38.5 million.

[3]Althou June 30, 2013, balance is estimated to be $84.7 million, highway proje mitments for the 2013 construction season will be paid from this amou

1043, 1, 18, 11.B

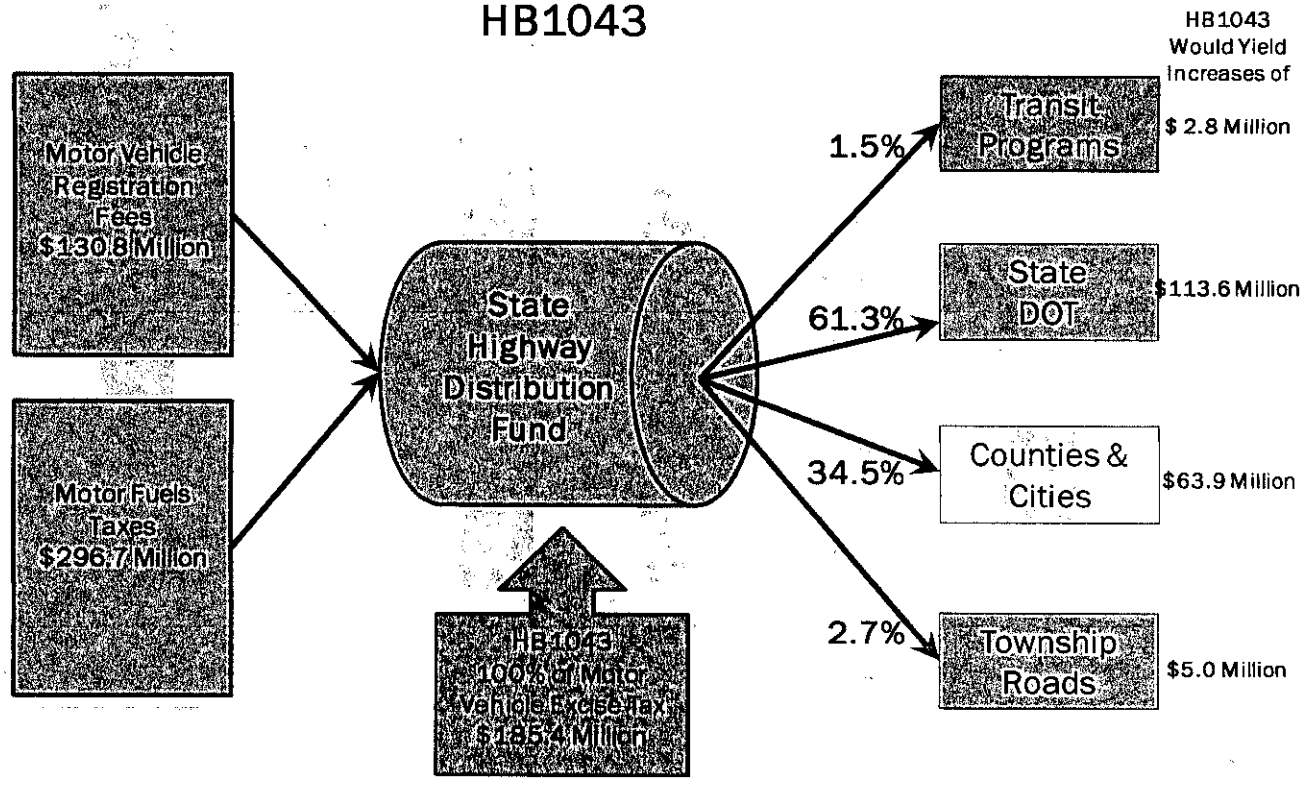
Testimony To The
HOUSE APPROPIATIONS COMMITTEE
GOVERNMENT OPERATIONS SUBDIVISION
Prepared January 18, 2010, by
Terry Traynor, Assistant Director
North Dakota Association of Counties

REGARDING HOUSE BILL No. 1043

Chairman Thoreson and members of the Committee, the 53 counties and 225 county commissioners of the State of North Dakota are in solid support of House Bill 1043.

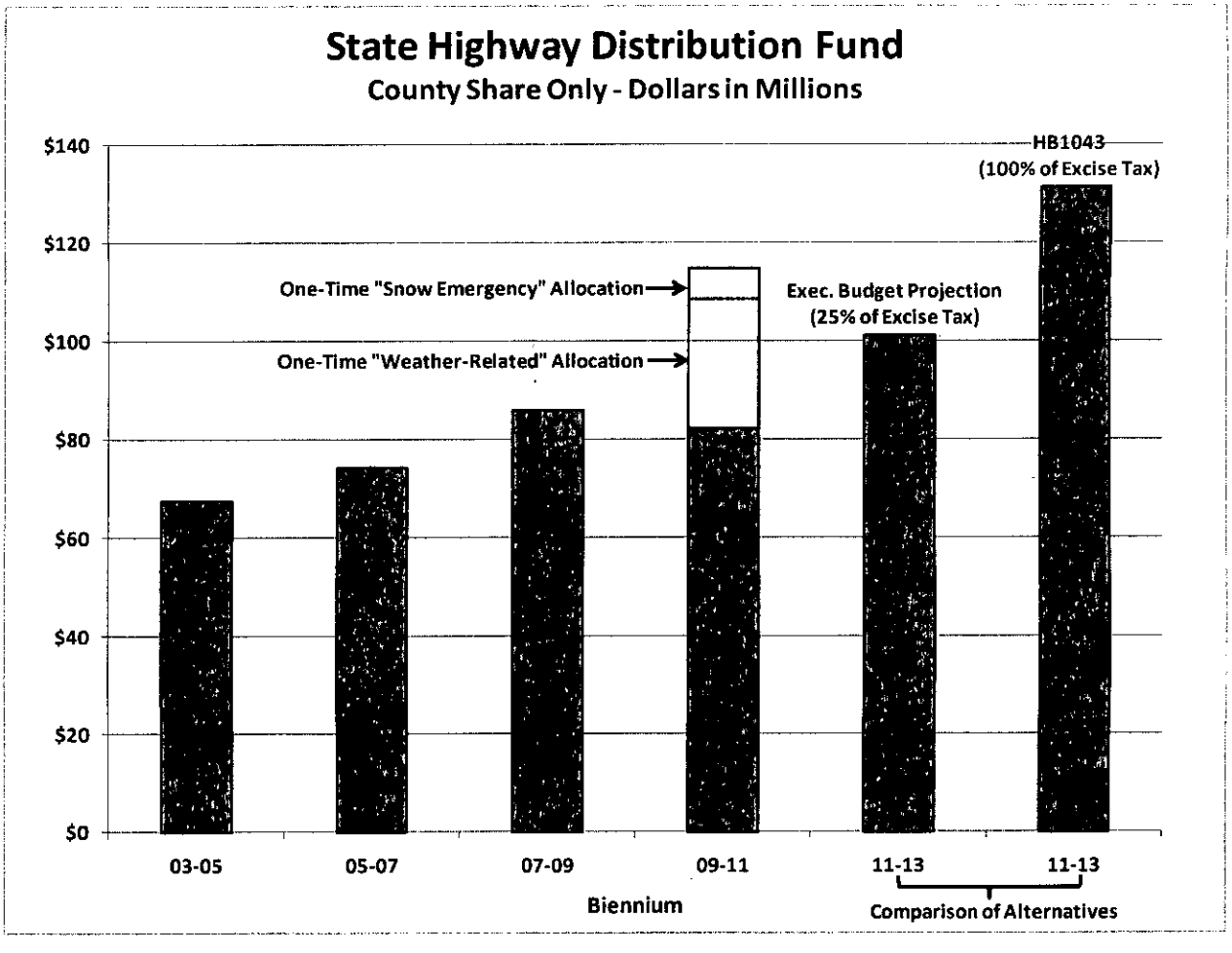
The Sixty-first Legislative Assembly accomplished a number of historic and significant things with respect to our State's transportation infrastructure. The State Highway Distribution Fund, the backbone of this infrastructure, had its first comprehensive change in 30 years. Most of the numerous diversions from the Fund were restored and the allocation formula was adjusted to hold all sectors harmless. Additionally, the last Legislature injected significant (and much needed), one-time resources, through the Fund's formula, to the various transportation sectors. A generalized schematic of the Fund is illustrated below. This does not depict the small diversions for the highway patrol, ethanol subsidies, motorboats and snowmobiles.

STATE HIGHWAY DISTRIBUTION FUND

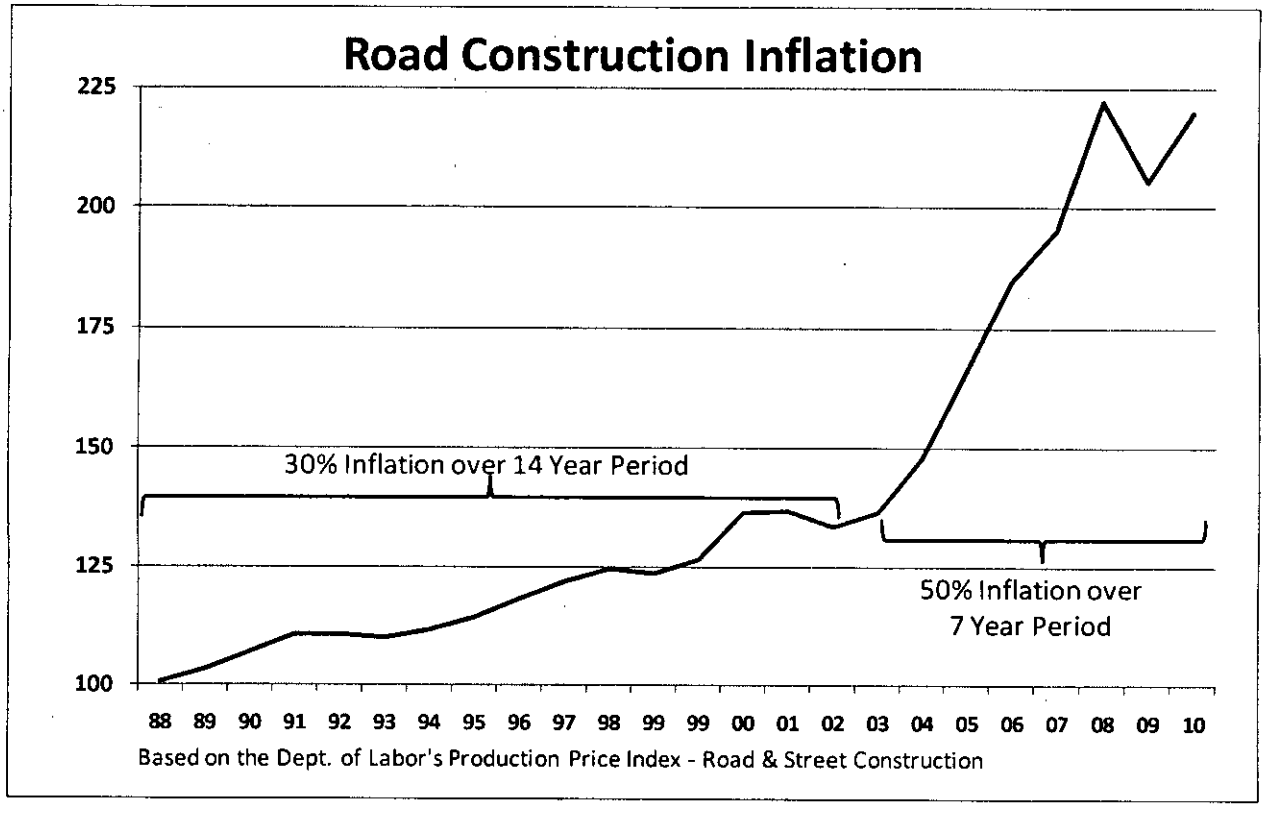


HB1043 continues this important work by using the Fund to distribute Motor Vehicle Excise Tax – truly user-fee revenue – to benefit transportation. Counties believe this is very appropriate, as a significant share of this revenue was historically included in the Fund and dedicated to transportation. The tax referrals of 1989 resulted in State General Fund shortfalls prompting its removal. With the General Fund as healthy as it has ever been, counties suggest that now is the time for its restoration.

Taking data directly from the Executive Budget Recommendation, the chart below illustrates the historic trends in state support for county transportation infrastructure. As the table indicates, counties received a sizeable increase in support for the current biennium; and while the Governor's recommendation of 25% of the excise tax is greatly appreciated, it will leave counties statewide with less funding than the current biennium. It should be noted that only about half of the projected increase in base funding is from the 25% excise tax, while the other half is from expected growth in fuel taxes and registration fees. The table attached to the end of this testimony breaks these figures down to the county level.



The need for additional funding can be summarized by the next chart illustrating the Production Price Index (PPI) for highway & street construction – which is the inflation tracked by the U.S. Dept. of Labor on this industry's components (fuel, gravel, asphalt, steel pipe, cement, etc.). As you can see, the inflation in this area has been alarming nationwide, and some would attest that it has been even worse in North Dakota.



While for some counties federal and resource payments contribute significant funding to their infrastructure maintenance, in many counties it is this Fund and property taxes that must support 80% of the costs. Without increased state support, there really isn't much choice for these counties. Property tax increases are extremely unpopular, which leaves only the choice of which roads to let deteriorate more.

Each county and every county official, as well as individual agriculture producers, truckers, elevator operators, manufacturers, hunters and rural residents can all attest to the deterioration of the infrastructure on which we all rely. County government urges this Committee to recommend increasing the use of the transportation-related motor vehicle excise to help maintain this vital resource.

STATE HIGHWAY DISTRIBUTION FUND Estimates Based on 2011-2013 Executive Budget					STATE HIGHWAY DISTRIBUTION FUND Est. Based on HB1043 (100% MV Excise Tax)		
COUNTY	2009-2011 Biennial Amt. * Based on Gov. Budget Project	2011-2013 Biennial Amt. * Based on Gov. Budget Project	Biennial INCREASE * Based on Proj. Growth	Biennial INCREASE * Based on 25% Excise Tax	2011-2013 Biennial Amt. Based on HB1043	Biennial INCREASE * Based on Proj. Growth	Biennial INCREASE * Based on 100% Excise Tax
	a	b	c	d	e	f	g
ADAMS	439,802	540,314	47,156	53,357	805,899	47,156	218,428
BARNES	1,818,006	2,233,493	194,928	220,559	3,331,336	194,928	902,916
BENSON	722,414	887,515	77,458	87,643	1,323,761	77,458	358,788
BILLINGS	173,121	212,686	18,562	21,003	317,229	18,562	85,981
BOTTINEAU	1,301,734	1,599,233	139,573	157,926	2,385,314	139,573	646,508
BOWMAN	673,024	826,837	72,162	81,651	1,233,258	72,162	334,259
BURKE	478,988	588,455	51,357	58,110	877,703	51,357	237,890
BURLEIGH	8,594,865	10,559,137	921,548	1,042,724	15,749,338	921,548	4,268,654
CASS	11,401,136	14,006,753	1,222,438	1,383,179	20,891,585	1,222,438	5,662,393
CAVALIER	889,129	1,092,330	95,333	107,869	1,629,251	95,333	441,587
DICKEY	920,651	1,131,057	98,713	111,693	1,687,013	98,713	457,243
DIVIDE	469,065	576,265	50,293	56,907	859,520	50,293	232,962
DUNN	690,387	848,169	74,024	83,757	1,265,074	74,024	342,882
EDDY	418,877	514,607	44,912	50,818	767,556	44,912	208,036
EMMONS	711,617	874,250	76,300	86,333	1,303,975	76,300	353,426
FOSTER	632,561	777,127	67,824	76,742	1,159,113	67,824	314,163
GOLDEN VALLEY	334,632	411,109	35,880	40,597	613,184	35,880	166,196
GRAND FORKS	4,483,756	5,508,474	480,752	543,966	8,216,090	480,752	2,226,865
GRANT	513,786	631,207	55,089	62,332	941,468	55,089	255,173
GRIGGS	467,725	574,619	50,150	56,744	857,066	50,150	232,297
HETTINGER	590,221	725,110	63,284	71,605	1,081,529	63,284	293,134
KIDDER	510,538	627,217	54,740	61,938	935,517	54,740	253,560
LaMOURE	968,434	1,189,760	103,836	117,490	1,774,571	103,836	480,974
LOGAN	414,541	509,280	44,447	50,292	759,609	44,447	205,882
McHENRY	1,102,195	1,354,090	118,178	133,718	2,019,675	118,178	547,407
McINTOSH	538,583	661,670	57,747	65,341	986,905	57,747	267,488
McKENZIE	1,015,248	1,247,273	108,856	123,169	1,860,353	108,856	504,225
McLEAN	1,769,400	2,173,779	189,716	214,663	3,242,271	189,716	878,775
MERCER	1,495,139	1,836,838	160,310	181,389	2,739,711	160,310	742,563
MORTON	3,641,825	4,474,128	390,479	441,824	6,673,326	390,479	1,808,719
MOUNTRAIL	1,273,577	1,564,640	136,554	154,510	2,333,718	136,554	632,524
NELSON	624,440	767,149	66,953	75,757	1,144,231	66,953	310,129
OLIVER	346,683	425,913	37,172	42,059	635,265	37,172	172,180
PEMBINA	1,387,140	1,704,157	148,730	168,287	2,541,813	148,730	688,925
PIERCE	741,492	910,953	79,503	89,957	1,358,720	79,503	368,263
RAMSEY	1,628,501	2,000,679	174,609	197,569	2,984,086	174,609	808,798
RANSOM	958,804	1,177,929	102,804	116,322	1,756,925	102,804	476,192
RENVILLE	514,080	631,568	55,120	62,368	942,007	55,120	255,319
RICHLAND	2,474,467	3,039,982	265,314	300,201	4,534,244	265,314	1,228,948
ROLETTE	1,519,408	1,866,653	162,912	184,334	2,784,182	162,912	754,616
SARGENT	796,047	977,975	85,353	96,576	1,458,686	85,353	395,358
SHERIDAN	320,400	393,625	34,354	38,871	587,105	34,354	159,127
SIOUX	298,872	367,176	32,045	36,259	547,657	32,045	148,435
SLOPE	169,205	207,875	18,142	20,528	310,053	18,142	84,036
STARK	3,328,602	4,089,321	356,895	403,824	6,099,372	356,895	1,653,156
STEELE	421,544	517,884	45,198	51,141	772,443	45,198	209,361
STUTSMAN	2,598,054	3,191,813	278,565	315,194	4,760,706	278,565	1,290,328
TOWNER	481,914	592,051	51,671	58,466	883,066	51,671	239,343
TRAILL	1,271,393	1,561,957	136,320	154,245	2,329,716	136,320	631,439
WALSH	1,903,996	2,339,136	204,148	230,992	3,488,906	204,148	945,623
WARD	6,462,376	7,939,288	692,901	784,011	11,841,738	692,901	3,209,549
WELLS	888,043	1,090,996	95,217	107,737	1,627,260	95,217	441,048
WILLIAMS	3,539,563	4,348,496	379,515	429,418	6,485,940	379,515	1,757,930
COUNTY TOTAL	82,130,000	100,900,000	8,806,040	9,963,960	150,496,040	8,806,040	40,790,000
CITY TOTAL	49,660,000	57,400,000	1,715,280	6,024,720	82,285,280	1,715,280	23,170,000
STATE TOTAL	234,166,000	281,200,000	18,625,128	28,408,872	413,465,128	18,625,128	113,640,000
TOWNSHIP	10,314,000	12,400,000	834,712	1,251,288	18,239,972	834,712	5,005,260
TRANSIT TOTAL	5,730,000	6,900,000	474,840	695,160	10,155,540	474,840	2,780,700
WAY PATROL/OTHER	13,850,725	15,444,000	1,593,275	-	17,037,275	1,593,275	-
GRAND TOTAL	395,850,725	474,244,000	32,049,275	46,344,000	691,673,275	32,049,275	185,380,000

* Totals from Executive Budget - Assumes current county shares (based on MV Registrations) remain constant

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Upper Great Plains Transportation Institute

Road Investment Needs to Support Agricultural Logistics and Economic Development in North Dakota

January 10, 2011

Contents

Summary

According to the Agricultural Statistics Service, North Dakota leads the United States in the production of spring wheat, durum wheat, sunflower, barley, dry edible beans, canola, and flaxseed. In 2009, the total market value of agricultural goods produced in the state exceeded $5.5 billion. Because of the importance of agriculture to the state's economy, this report focuses specifically on the investment needs of roads used to haul agricultural goods to market. The purpose of the study is to analyze changes in agricultural production and logistics and the importance of roadway investments to the distribution of crops produced in North Dakota.

Important changes have occurred during the last two decades that have implications for agricultural logistics and roadway investment needs:

(1) Yields have been increasing over time resulting in more crop volume and movements from a given land area.

(2) Crop mix has been changing over time resulting in greater densities of production.

(3) The number of elevators has decreased over time resulting in fewer delivery options.

(4) Shipments have become more concentrated at a fewer number of elevators. Consequently, longer farm-to-elevator hauls are required.

(5) More grains are being transshipped from smaller to larger elevators resulting in longer combined truck trips.

(6) The location of in-state processing and biofuels production has resulted in more intrastate truck (as opposed to interstate rail) movements.

(7) Funding for county and local roads exclusive of oil extraction funds has gown only modestly over time (when measured in real dollars).

(8) In contrast, construction prices have increased dramatically over time for asphalt and gravel roads. Collectively, these factors are stressing the county and local road systems used to market and distribute North Dakota products.

This study is based on a detailed crop production and distribution model in which the crops produced in each county subdivision are moved to elevators and in-state processing plants to minimize distance. Because trucking cost is typically measured on a per-mile basis, minimizing the distance of agricultural goods movements is parallel to minimizing trucking cost on a system-wide basis.

The model minimizes the total or route trip distance including transshipments from one elevator to another or from an elevator to an in-state processing plant. The demands at elevators are derived from reports to the Public Service Commission, while the demands at ethanol plants are derived from confidential surveys. Since crop supplies and demands are known, the objective of the distribution model is to predict truck movements to minimize the ton-miles of transportation needed to satisfy elevator and plant demands. In effect, the model identifies a logistically-efficient set of truck movements that minimizes use-related vehicle depreciation and maintenance and fuel consumption. However, the model does not predict that each grower will deliver his or her crops to the closest elevator. Instead, crops are moved to meet the demands of shuttle-train elevators, plants, and other facilities. The key predictions from the model are: (1) agricultural goods require roughly 600 million ton-miles of transportation annually, and (2) the average predicted trip distance to elevators and in-state processors (including transshipment distances) is 26 miles.

Once the trips are predicted, they are assigned to the highway network and traffic statistics are compiled for thousands of individual road segments included in agricultural distribution routes. Once the traffic forecasts have been accumulated, the investment needs of each road segment are analyzed and the results accumulated. In addition to specifically analyzing agricultural logistics routes, the investment needs for other local roads not significantly affected by agricultural goods movements are estimated so that the total statewide need can be quantified.

The estimated investment needed for county and local paved roads totals $100.5 million annually on a statewide basis. Approximately $59 million of these needs relate to agricultural haul roads. The remainder corresponds to other county and local roads. In addition, $110 million are needed annually for local unpaved roads. Approximately, $43.6 million of these needs relate to agricultural haul roads. The remainder corresponds to other local roads, especially township roads. Altogether, the total estimated statewide need is $211.5 million per year, including $100.5 million of paved road investment needs and $110.0 million of unpaved road investment needs.

The estimates developed in this study do not include the specific roadway investment needs attributable to the future growth of oil and gas industries in western North Dakota. Rather, the estimates presented in this report reflect the baseline investment needs throughout the state. The projected oil-related infrastructure needs presented in a separate report (Additional Road Investments Needed to Support Oil and Gas Production and Distribution in North Dakota) are in addition to the estimates presented in this study.

1. Overview of Study

The purpose of this study is to analyze changes in agricultural production and logistics and the importance of roadway investments to the distribution of crops produced in North Dakota. According to the Agricultural Statistics Service, North Dakota leads the United States in the production of spring wheat, durum wheat, sunflower, barley, dry edible beans, canola, and flaxseed. In 2009, the total market value of agricultural goods produced in the state exceeded $5.5 billion. The top three commodities by value are: wheat ($1,822 million), soybeans ($1,074 million), and corn ($708 million). According to the United States Department of Commerce, the agriculture sector of North Dakota is responsible for approximately 11 percent of the state's total economic output.

Because of the importance of agriculture to the state's economy, this report focuses specifically on the investment needs of roads used to haul agricultural goods to market. The vital importance of transportation to agriculture is eloquently expressed in a 2010 joint study by the United States Departments of Agriculture and Transportation, which notes:

> *An effective transportation system supports rural economies, reducing the prices farmers pay for inputs, such as seed and fertilizer, raising the value of their crops, and greatly increasing their market access. The economies of rural areas are intertwined. As agriculture thrives, so does its supporting community. Providing effective transportation for a rural region stimulates the farms and businesses served, improving the standard of living ... because it (agriculture) is so capital-intensive, it generates much more economic activity in the community than just the jobs it creates.*[1]

Although this study focuses on roads used for agricultural distribution, generalized estimates of investments for other roads are presented to provide a context for interpreting the results. However, the estimates presented in this report do not include the specific roadway investment needs attributable to the future growth of oil and gas industries in western North Dakota. A separate report (Additional Road Investments Needed to Support Oil and Gas Production and Distribution in North Dakota) includes forecasts of future infrastructure needs in western North Dakota, based on specific production scenarios. The estimates presented in this report reflect the baseline investment needs throughout the state. Note that the projected oil-related infrastructure needs cited in the separate report are in addition to the estimates presented in this study. Only county and local roads are considered in this analysis. Investment needs for state highways have already been estimated by the North Dakota Department of Transportation.

[1]The United States Departments of Agriculture and Transportation, *Study of Rural Transportation Issues*, April 2010.

The report begins with an overview of important trends in agricultural production and logistics that create a context for analyzing investment needs in agricultural haul roads. After this overview, the primary data and methods used in the study are described, followed by a presentation of results and implications.

2. Background Trends

Many important changes have occurred during the last two decades that have implications for agricultural logistics and roadway investment needs. The key factors driving this study are summarized below:

1. Yields have been increasing over time resulting in more crop volume and movements from a given land area.
2. Crop mix has been changing over time resulting in greater densities of production.
3. The number of elevators has decreased over time resulting in fewer delivery options.
4. Shipments have become more concentrated at a fewer number of elevators.
5. From trends 3 and 4, it follows that longer farm-to-elevator hauls are required.
6. More grains are being transshipped from smaller to larger elevators resulting in longer combined truck trips.
7. The location of in-state processing and biofuels production has resulted in more intrastate truck (as opposed to interstate rail) movements.
8. Funding for county and local roads exclusive of oil extraction funds has gown only modestly over time (when measured in real dollars).
9. In contrast, construction prices have increased dramatically over time for asphalt and gravel roads.

The last two factors relate specifically to roadway funding limitations and their effects on roadway infrastructure. Each of the key factors is highlighted in the following sections.

2.1. Yield Increases

Due to increases in crop and production technology and improvements in management practices, crop yields in North Dakota have increased during the past 20 years. The degree of increase varies from year to year due to weather conditions, but the underlying trend is upward.

Figure 1 depicts the statewide yield trends for corn, soybeans, and spring wheat. In 1990, corn averaged 80 bushels per acre throughout the state. However, corn yields rose to 115 bushels per acre in 2009, down from a high of 124 bushels per acre in 2008. Soybean yields have remained relatively consistent throughout the period. Statewide average wheat yields have increased slightly during the past 20 years, with the average yield in the 1990s

being 31.85 bushels/acre versus 36.45 bushels/acre in 2000. Discussions with industry and research contacts indicate that yields are expected to continue to increase in the future primarily due to seed technology and genetics.

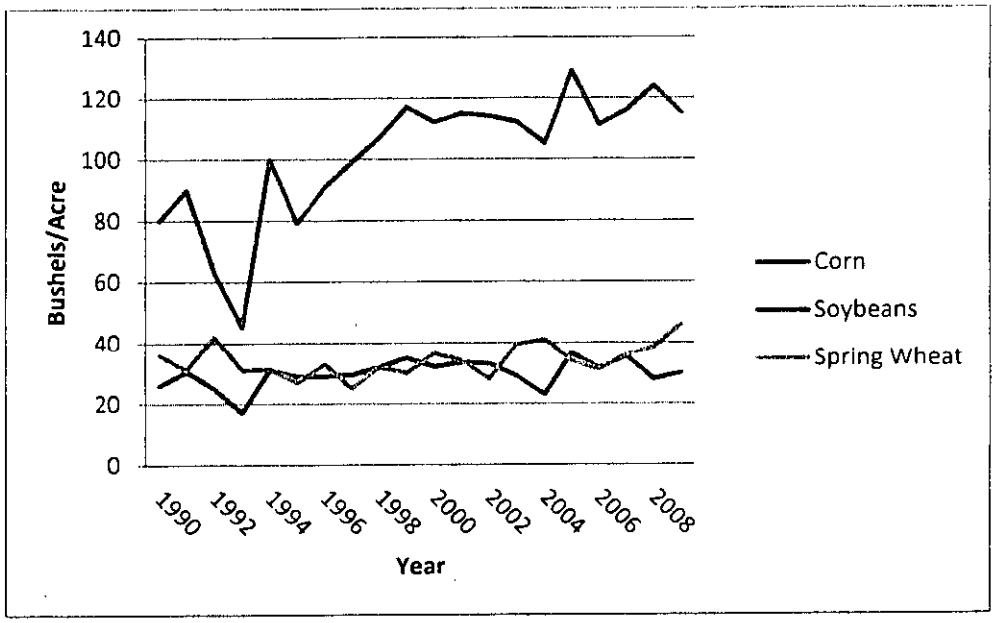

Figure 1 Statewide Yield Trends for Corn, Soybeans and Spring Wheat (1990-2009)

2.2. Changes in Crop Mix

A second production factor that has increased the volume of grain shipped in North Dakota is the changing crop mix. In 1990, roughly 60 percent of the crop land in North Dakota was planted to wheat (Figure 2). In 2009, this number was 45 percent. Over the same period, corn acres have increased from 5 to 10 percent of cropland and soybean acres have risen from 2 to 20 percent of crop land in North Dakota. The shift from wheat to soybeans does not contribute to increased truck volume because the yields are similar. However, the shift from wheat to corn production results in increased truck volumes because the relative yield of corn is more than double that of wheat on a statewide basis.

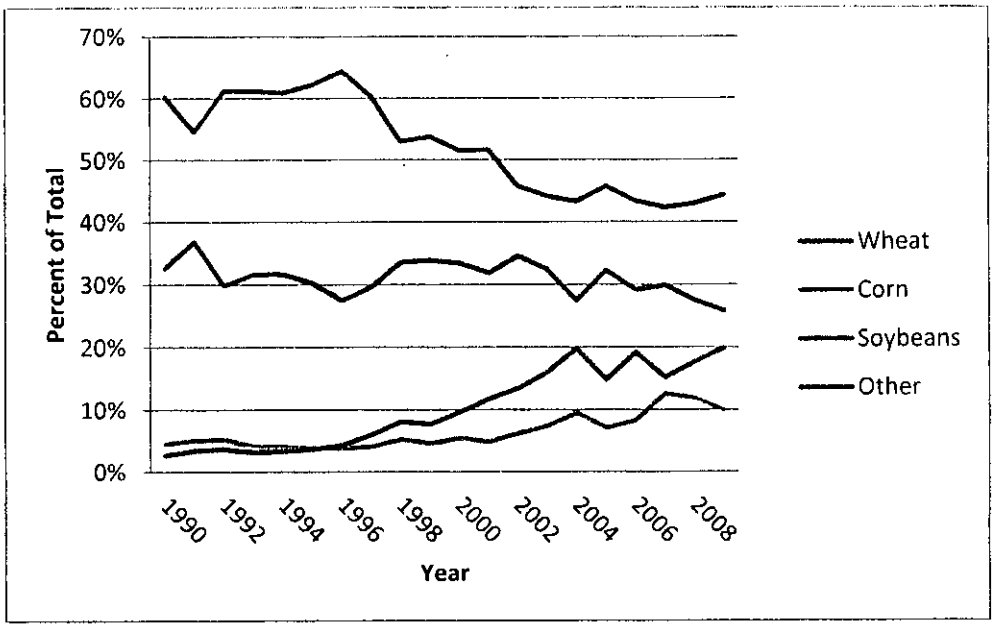

Figure 2 Statewide Percentages of Planted Acres for Corn, Soybeans and Spring Wheat

While Figure 2 illustrates changes in crop mix statewide, there are significant variations at the regional level, although the trends are similar. The figures presented in Appendix A depict specific changes in the proportions of acres devoted to the production of wheat, corn, soybeans and other crops at the Crop Reporting District (regional) level.

2.3. Changes in Elevator Numbers and Locations

To illustrate key trends, statistics were compiled on the numbers and locations of grain elevators in North Dakota from 1990 to 2009. Specifically, the North Dakota Public Service Commission's grain movement database was used to compile statistics on the number of licensed elevators in the state. The grain movement database assigns a unique identifier to each elevator served by each railroad. A small number of elevators are represented twice because they are served by more than one railroad.

During the 1990-2009 period when increasing yields and changes in crop mix were resulting in more output per acre and greater volumes were being shipped from farms to elevators, the number and size of elevator facilities were changing. As shown in Figure 3, the number of elevators shipping grains or oilseeds has decreased over the past 20 years. In 1990, 458 elevators shipped grains or oilseeds. By 2009, this number had decreased to 311 elevators. The elimination of elevators has resulted in fewer delivery options for farmers marketing grain.

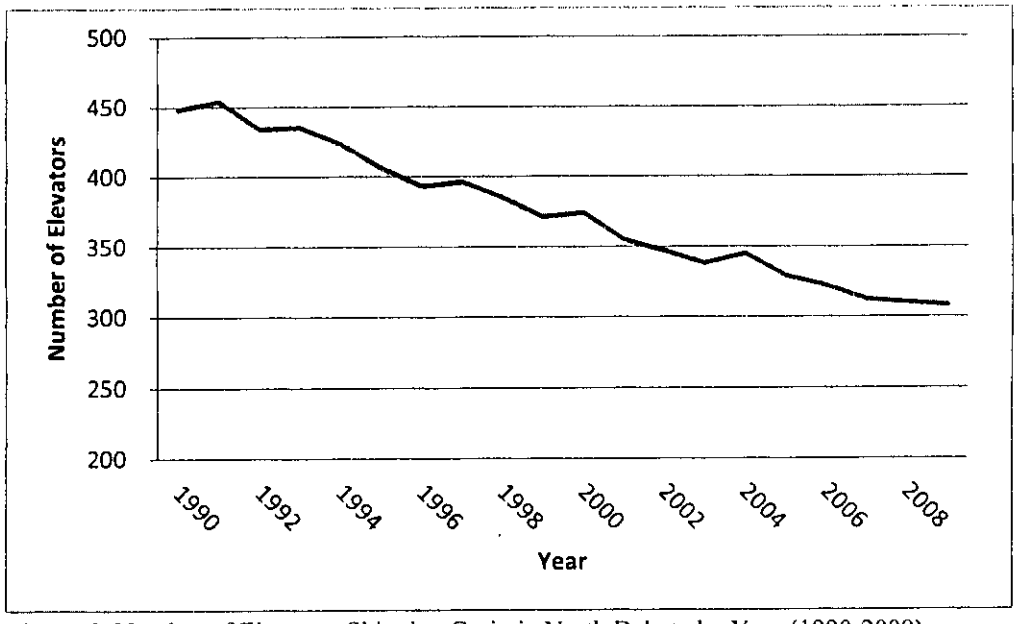

Figure 3 Number of Elevators Shipping Grain in North Dakota by Year (1990-2009)

2.4. Trends in Elevator Throughput

While the total number of elevators has decreased, the amount of grain handled by these facilities has increased. Figure 4 shows that the average tonnage shipped from elevators in North Dakota was relatively constant throughout the mid-1990s. From 1998 to present, there has been an increase in the average tonnage shipped from elevators in the state. In comparison, the median elevator throughput has remained constant over the past 20 years.

2.5. Shuttle Elevators

In the late 1990s, shuttle-train programs were introduced wherein an elevator may receive a reduced rail rate if it is able to meet certain conditions and satisfy minimum grain shipment volumes designated by the railroads. "Shuttle loading facilities influence commodity movement by rail, both in and out of state. They also impact the highway system, since trucks must move commodities to the shuttle facility for rail loading."[2]

Figure 5 shows the average tons shipped from shuttle and non-shuttle elevators in North Dakota. Prior to the shuttle-train program, elevator throughput statewide averaged 31,930 tons in the 1990s. This volume has remained relatively unchanged for non-shuttle elevators through this decade. However, for shuttle elevators, throughput volume has increased from 74,600 tons in 1997 to 240,640 tons in 2009.

[2] North Dakota Department of Transportation, *Rail Plan Update*, 2007.

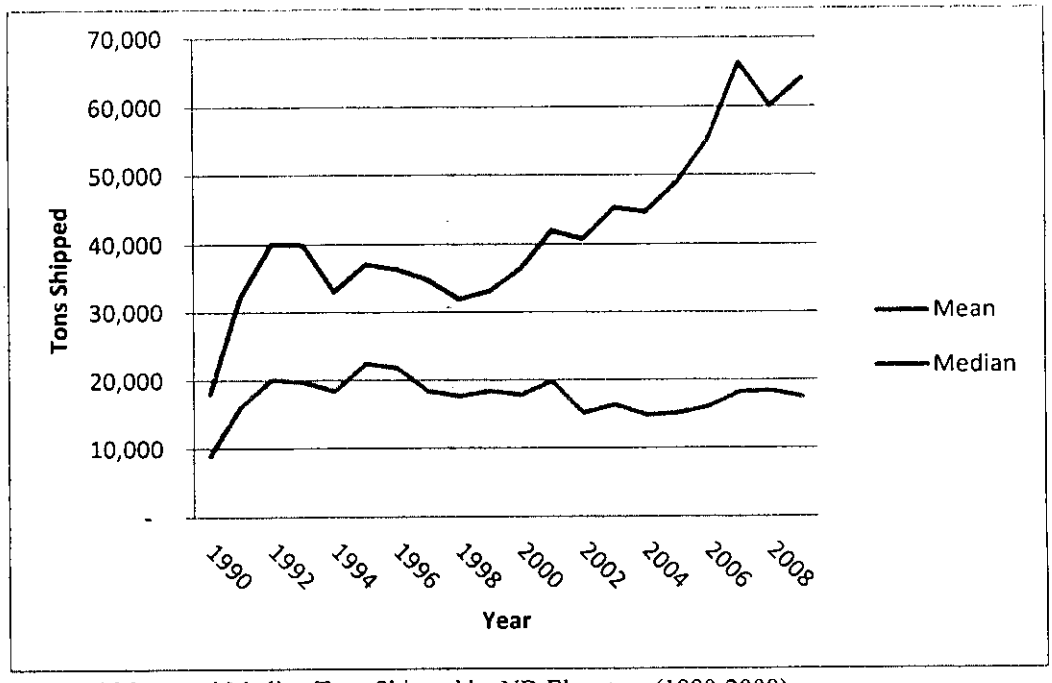

Figure 4 Mean and Median Tons Shipped by ND Elevators (1990-2009)

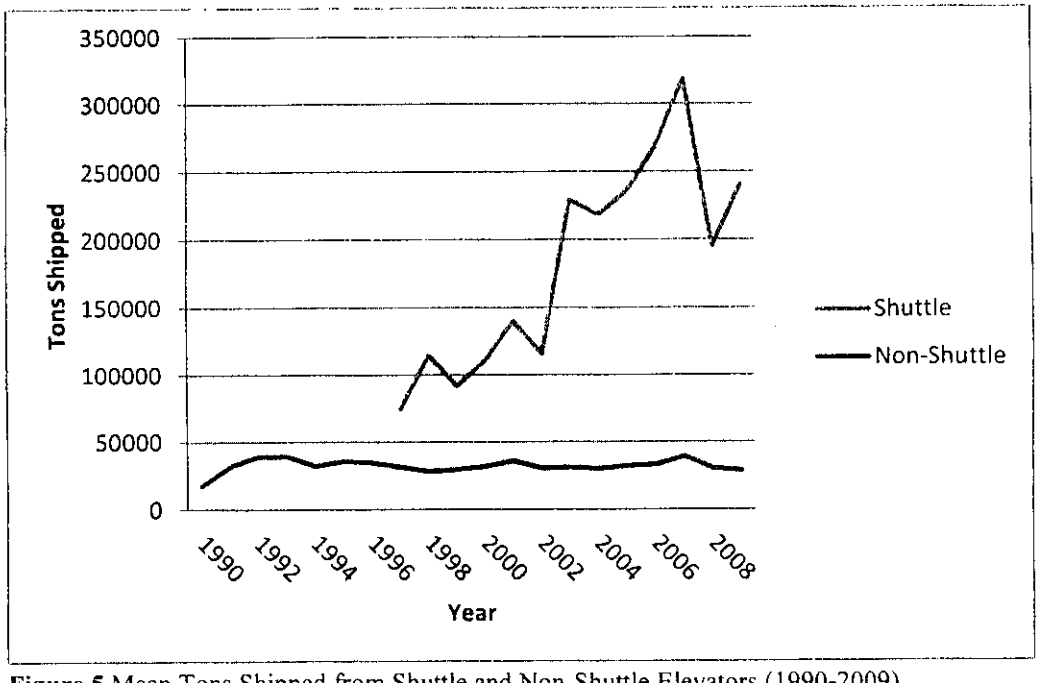

Figure 5 Mean Tons Shipped from Shuttle and Non-Shuttle Elevators (1990-2009)

2.6. Transshipments

In addition to higher volumes of grain being handled at shuttle elevators, there has been a recent increase in the amount of bushels transshipped within the state. These types of movements represent an elevator-to-elevator shipment, such as a satellite elevator shipping to a shuttle elevator. Figure 6 depicts the amount of grain transshipped via truck and rail over the past 20 years.

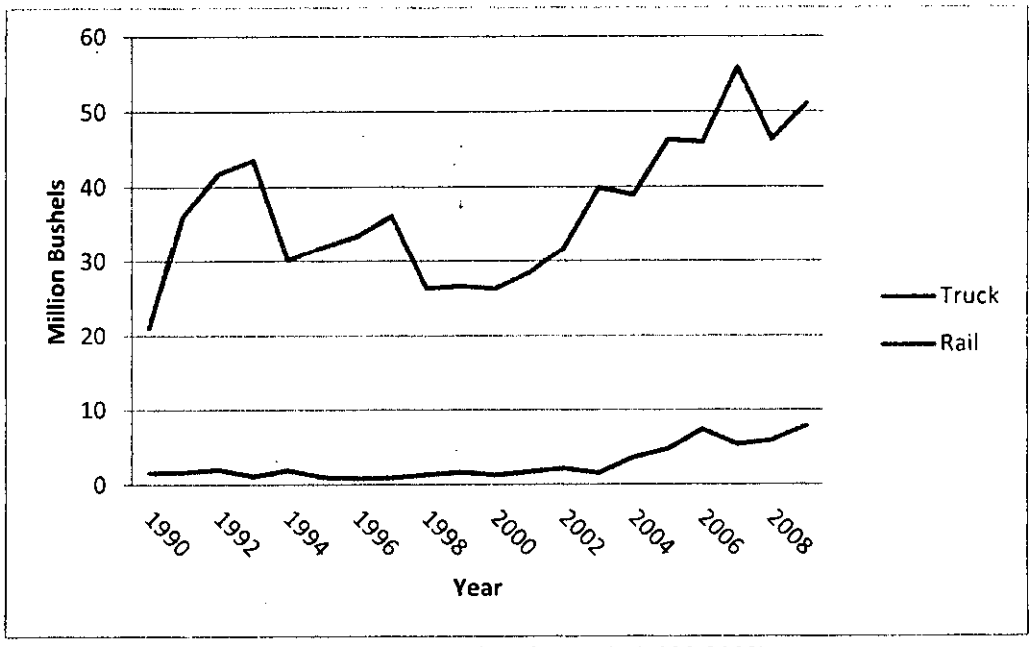

Figure 6 Bushels Transshipped in North Dakota by Mode (1990-2009)

2.7. Funding For Roads

Trends in roadway capital investment in current and constant 1994 dollars are illustrated in Figure 7. These represent only the funds invested or spent by local governments—e.g., county, township, and municipal governments. The period from 1994 to 1996 saw relatively little increase in local road funding as measured in constant 1994 dollars. However, an increase in capital investment occurred in 1996 to 1997, with the following five years from 1997 to 2001 exhibiting stable funding in constant dollars. However, capital outlays increased dramatically during 2002. The dramatic increase in 2002 was a singular event. Since 2003, capital funding (as measured in 1994 dollars) has generally decreased.

As shown in Figure 8, expenditures for road maintenance and traffic services have increased over time, especially in current dollars. However, the increase has been modest in real terms, approximately 1.5 percent per year from 1994 through 2007.

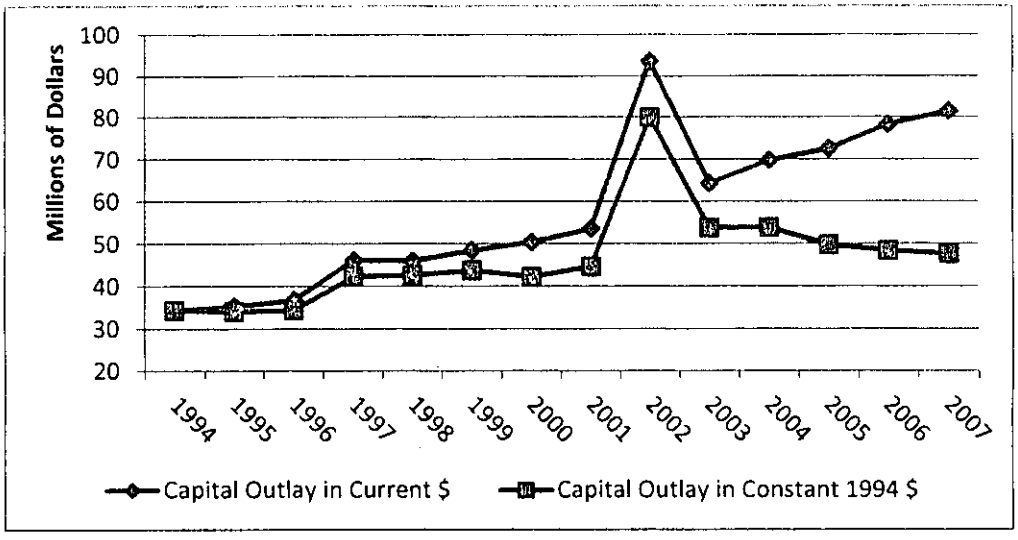

Figure 7 Capital Outlays for Roads in North Dakota in Current and Constant 1994 Dollars[3]

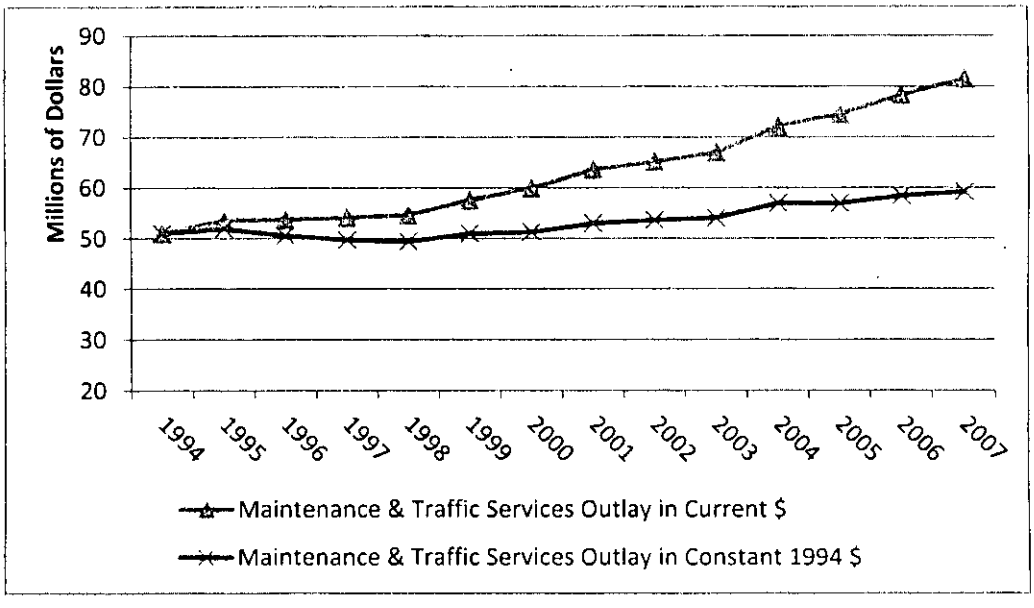

Figure 8 Outlays for Road Maintenance and Traffic Services in North Dakota

[3]Sources: United States Department of Transportation - Federal Highway Administration, 1994-2009 and the Bureau of Labor Statistics, 1994-2009.

2.8. Road Construction Prices

Although general inflationary trends are reflected in Figures 7 and 8, cost increases have strongly affected roadway construction and maintenance. In particular, construction prices have increased dramatically over time for asphalt and gravel roads. Throughout the last decade, increases in petroleum prices have been the primary contributor to increased construction costs at the state level. According to the Federal Highway Administration, in addition to higher fuel prices, consolidation of the construction industry, localized shortages of materials, shortages of skilled labor, regulatory restrictions, increased technical requirements in contracts, and other factors have contributed to higher construction bid prices.

Figure 9 shows the Producer Price Index for material and supply inputs to highway construction at the national level for the past 20 years. The price index does not include the cost of labor or administration, and focuses primarily on the components and materials used in road construction. As the figure shows, construction costs have increased throughout the entire period. However, the rate of increase has been much more pronounced from 2003 to 2008. During this period, the construction cost index increased from 136.6 to 222.4. Increases in construction costs result in fewer roadways being improved at a constant revenue level.

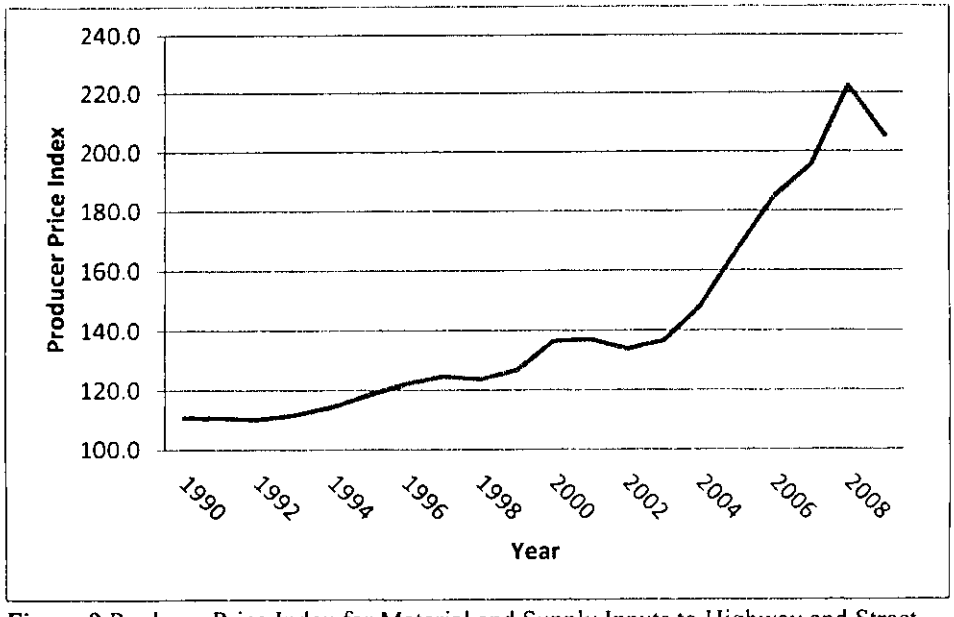

Figure 9 Producer Price Index for Material and Supply Inputs to Highway and Street Construction[4]

[4] Source: Bureau of Labor Statistics, 1990-2009.

The purpose of this section of the report has been to describe key trends in agricultural production and logistics, as well as trends in road funding and construction costs. The analysis depicts a set of factors that are collectively stressing the county and local road systems used to market and distribute North Dakota products. With this background, the report transitions to a description of the primary data and methods used to predict agricultural traffic flows and roadway investment needs.

3. Analysis Models and Data

The estimates presented in this report have strong analytical foundations. The study features the integration of four main models: (1) a crop production and location model; (2) a crop distribution model, in which movements or flows are predicted from crop-producing zones to elevators and processing plants; (3) a traffic model in which predicted flows are assigned to individual road segments; and (4) a road investment model, in which truck traffic and road characteristics are used to estimate investment needs. Models 1 and 3 are based on Geographic Information System (GIS) data and procedures, while the crop distribution model (Model 2) is grounded in mathematical programming logic. The road analysis model is based on highway planning and economic-engineering methods.

The first three types of models are summarized in the following sections. Roadway analysis methods for paved and gravel roads are described later in the report.

3.1. Crop Production and Location Model

In the analysis, it is vital to know not only the quantities of crops produced but their locations. More precise location information enables refinements in trip forecasting and the analysis of individual roadway segments. To provide greater accuracy, crop production estimates are generated for 1,340 county subdivisions in North Dakota.[5] USDA's 2009 crop satellite image is used for this purpose.

Using satellite imagery, the square miles of land devoted to the production of each crop in each county subdivision is estimated using GIS technology. However, the satellite image is only a snapshot of cultivation at a particular time. It is not an inventory of harvested crops. Moreover, it is an approximation subject to analytical limitations.

For these reasons, the predicted square miles devoted to crop production in each subdivision are adjusted based on the 2009 county production values published by the North Dakota Office of the National Agricultural Statistics Service (NASS). In this process, the predicted production of each crop in each subdivision is apportioned based on its share of cultivated land area within the county. For example, if five percent of the total

[5] For the most part, subdivisions are synonymous with organized townships.

cultivated acres in a county devoted to barley production lies within a certain township, this subdivision is assumed to produce five percent of the barley harvested in the county. This method implicitly assumes that barley yields are the same everywhere in the county.

While the estimates are subject to limitations, there is a high degree of accuracy in the predicted crop locations. In effect, the estimates are the most accurate possible without detailed field surveys, which are beyond the scope of this study. As discussed later, the predicted crop production levels in each county subdivision represent the zonal supplies of the distribution model.

3.2. Market Demands

The markets for the agricultural commodities produced in North Dakota are defined as processing plants within the state or elevators that ship crops out of state to various domestic and export locations. The demands at elevators are compiled from monthly reports submitted to the North Dakota Public Service Commission. The demands at ethanol plants are derived from several sources including: (1) reported shipments from North Dakota elevators to in-state processors, (2) the stated productive capacities of the plants, and (3) confidential survey information that describes the percentages of corn acquired from the local drawing areas around the plants and expected production volumes.

In effect, the demands at elevators and ethanol plants are known with high levels of confidence. The same cannot be said for all other demand sources. The lower boundary of demand at the Ladish Malt Plant in Spiritwood is known from the inbound shipments of barley from elevators in North Dakota. In the network model, this target is allowed to increase in relation to local supply in the nearby area. Consequently, the estimated demand at the facility should be close to actual levels. Less data are available regarding the final demands of specialty crops such as dry edible beans, peas, and lentils. Nonetheless, the demands for crops at specific locations are known with high levels of confidence overall.

3.3. Network Representation of Crop Distribution System

Terminology is important when describing the objectives and results of the crop distribution model. Such a model is comprised of a set of nodes and paths that connect the nodes. Shipments flow from node-to-node via the paths.

A path (such as one leading from a crop-producing subdivision to an elevator) is typically comprised of many individual road segments. Each segment (or link) is demarcated by two intersections or junctions in the road network. In many instances, two or more paths may be chained to form a trip chain or route. For example, a trip route may include a path from a crop-producing subdivision to an elevator, and a path from that elevator to a processing plant.

3.3.1. *Nodes*

The nodes consist of three types: origin, intermediate, and destination. The county subdivisions where the crops are produced are origin nodes. The elevators and in-state processing plants are destination nodes. However, elevators may also serve as intermediate nodes. As an intermediate or transshipment node, an elevator may receive shipments directly from subdivisions or from other elevators. Subdivisions may ship directly to in-state markets (e.g., ethanol plants).

Terminal elevators are defined as those that export crops out of state. A shuttle-train facility is a terminal elevator. Other elevators may function as terminal elevators when they export grains and oilseeds from the state. However, in other cases, these elevators function as intermediate or transshipment facilities.

A simplified grain distribution system is depicted in Figure 10. As the figure shows, farm producers from various subdivisions or townships may ship directly to a shuttle-train elevator, or to a smaller elevator located closer to the subdivision. The smaller elevator, in turn, may transship some of the grain it procures to the shuttle-train facility; which, in turn, ships large quantities by rail to markets located out of state. A similar network can be drawn by substituting a processing plant for the shuttle elevator. In this case, the primary outbound product will be ethanol, vegetable oil, malt, or flour.

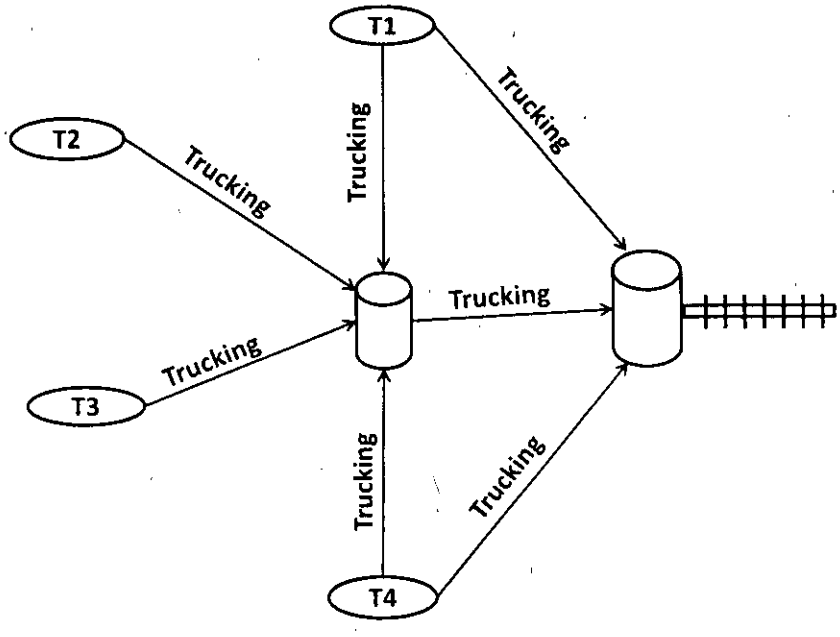

Figure 10 Crop Flows in Elevator Network

There are several types of truck shipments in a grain distribution network. A producer may haul crops to a smaller elevator in trucks owned and operated by the farm. At a later date, the grain may be trucked to a shuttle-train elevator or plant in commercial trucks. Alternatively, the farm producer may truck directly to a shuttle facility or plant. All types of flows are simulated in the model.

3.3.2. *Paths and Segments*

At a microscopic level, a path may consist of many individual road segments. For example, a subdivision-to-elevator path may include local gravel roads, paved county major collectors, and state arterial highways. In the GIS model, the fastest path through the network is identified from each subdivision to the nearest 10 to 20 elevators.[6] Because there are more than 150,000 unique road segments in the North Dakota GIS file, the input files are enormous and require extensive computable time. However, in the final analysis, flows are accumulated by individual road segments—which allow for greater detail in the roadway investment analysis.

3.4. Criteria and Objectives of Crop Distribution Model

The objective of the distribution model is to predict crop flows that minimize time or distance, while meeting the demands of in-state processing plants and terminal elevators. The fastest-path algorithm is used to generate paths from subdivisions to elevators and plants, and from elevator-to-elevator. Because some of the paths extend to distant elevators, the fastest-path criterion seems most reasonable. Over a short distance, a truck operator may follow a shorter zigzag path. However, for longer trips, truckers will quickly move toward the major collector/arterial network where the speeds are faster and more consistent.[7]

In identifying the fastest paths, maximum speeds are specified for each road segment based on the functional classification and surface type (e.g., paved or gravel). The maximum speeds range from 75 mph on Interstate highways to 10 mph on unimproved roads. While the fastest path criterion is the best for identifying paths over long distances, the predicted travel times are not accurate. The only information available is the speed limit, or the assumed speed for local roads or trails.

In reality, maximum speeds may not be consistently attainable or may vary greatly due to weather, traffic, and operating conditions. Thus, the selection of one path over another (e.g., a direct movement from a subdivision to one elevator versus another one) is based on

[6] In a few areas, the density of the elevator system is not sufficient to allow the connection of each crop-producing zone to 20 facilities.

[7] The shortest-path algorithm yields slightly shorter trip distances than the fastest-path algorithm—i.e., less than 2 percent on average. Thus, the selection of one method over the other does not significantly affect the results.

distance—i.e., the shortest of the two fastest alternative paths. Shorter distances minimize fuel consumption and use-related vehicle depreciation. Moreover, in contrast to the predicted trip times, the distances are relatively accurate and do not vary during the year.

3.4.1. *Minimum Distance Criterion*

The objective of the mathematical programming model is to minimize the distance of moving all agricultural commodities to plants or final elevators, from where they are shipped out of state. In effect, the model identifies an optimal or logistically efficient set of truck movements. These movements minimize use-related vehicle depreciation and maintenance, as well as fuel consumption. In many cases, the predicted movements may also minimize travel time. Because trucking cost is typically measured on a per-mile basis, minimizing the distance of agricultural goods movements is parallel to minimizing trucking cost on a system-wide basis.[8]

3.4.2. *Total Trip Distance*

The model minimizes the total or route trip distance including transshipments from one elevator to another or from an elevator to an in-state processing plant. Transshipments may occur when production in the primary draw area is not sufficient to meet the elevator's demands. In these cases, grains or oilseeds may be delivered by farmers from remote townships to elevators located on the periphery of the larger facility's draw area. These deliveries are processed at the smaller facilities and then resold to the shuttle- or unit-train elevator and shipped by commercial truck to that facility. In this case, the trip chain extends from the township to the shuttle- or unit-train elevator via the smaller elevator en-route. In many cases, a shuttle elevator or ethanol plant may contract with elevators to collect, process, and reship grain. In interpreting the results, it is important to recall that the route distance represents the total trip distance from farm to plant or terminal elevator, where the terminal elevator is one that ships the commodity out of state.

3.4.3. *Contextual Factors*

The realism of the crop distribution model depends on several factors. It assumes that price competition exists among elevators. As a result, a primary market or draw area surrounds each facility. Within this zone, crops are most likely to be delivered to the elevator or plant. Of course, the primary draw areas of shuttle-train and unit-train elevators may be larger than the draw areas of smaller elevators. Nevertheless, price relationships reflect the capability of smaller elevators to resell grains and oilseeds to larger elevators. For

[8] The prime interest of this study is estimating the ton-miles of agricultural goods movements via particular routes, as opposed to the trucking cost involved in delivering grains and oilseeds to markets. However, the predicted flow pattern is the same as that which would result from minimizing the average trucking cost per mile.

example, the price at a so-called satellite elevator that routinely resells grain to a shuttle elevator may reflect the price at the larger elevator plus the trucking cost from the smaller elevator to the larger one, plus the handling and processing cost at the smaller facility. These competitive relationships, along with truck cost factors, create tendencies for producers to deliver to closer elevators. These tendencies are intensified by higher fuel prices. Although diesel fuel prices have dropped since 2008, they have been on an upward trend since March of 2009. Although higher crop prices at shuttle elevators are attractive, higher fuel prices create greater impedances to long-distance travel.

3.4.4. *System versus Local Criteria*

Clearly, every farm producer will not deliver to the closest elevator, and the model does not predict this will occur. Rather, movements are restricted by elevator demands, which represent the known outbound shipments from each facility in crop year 2009-2010. Elevator volumes are reflections of the competitive landscape and market draw areas discussed previously. When an elevator's demand is fulfilled, no additional inbound movements are simulated. Even if the elevator is the most attractive facility for a producer on the fringe of its draw area, the producer's grains or oilseeds are shipped to another elevator whose demand must be filled.

In this model, the demands are known (and assumed to be fixed). The objective is to find the pattern of flows that moves the known supplies of crops from subdivisions to elevators and plants with the fewest ton-miles, while meeting the known demands of the facilities. This is far different from saying each farm producer delivers his or her crops to the closest elevator.

4. Predicted Flows

The predicted tons of each major crop are shown in Table 1, as well as the weighted-average lengths of haul. Note that the average distance includes the movement from farm to first elevator or plant, as well as any subsequent movements from the first elevator to other facilities—i.e., transshipments. In effect, it is the total trip distance discussed in Section 3.4. It reflects trips from farms to in-state processors, as well as to elevators. The oilseed category in Table 1 includes sunflowers and canola, while the other crop category includes dry edible beans, oats, and other specialty crops.

Approximately 21.89 million tons of crops are analyzed in this study. The total predicted distance of these movements (including transshipment distances) is 26.2 miles.[9] However, there are significant variations among crops. The average trip distance for barley reflects a

[9] When the shortest path algorithm is used (instead of the fastest path algorithm) in the initial selection of routes, the weighted-average distance drops to 25.6 miles.

spatial disconnect between supply and demand. Much of the barley grown in 2009 was cultivated in the north-central region including Bottineau County. However, most of the major demand sources are plants and elevators in eastern North Dakota, necessitating longer hauls than for other commodities. The weighted-average route distance for commodities other than barley is 21 miles, suggesting that the longer barley hauls significantly inflate the average.

Table 1. Predicted Tons of Agricultural Freight and Average Trip Lengths

Crop	Annual Tons	Average Trip Distance (mi.)
Barley	1,681,418	87.8
Corn	5,102,252	21.1
Oilseeds	578,929	26.6
Other	547,028	39.7
Soybeans	4,144,969	23.1
Beans	562,124	30.8
Wheat	9,268,699	18.1
All Crops	21,885,419	26.2

The predicted ton-miles of agricultural goods are shown in Tables 2 and 3, respectively. In Table 2, the predicted ton-miles are listed by type of pavement. In some cases, the owner (state or local government) is indicated. As the table shows, agricultural goods required roughly 600 million ton-miles of transportation during crop year 2009-2010. More than half of these ton-miles occurred on principal arterial highways, most of which are owned and maintained by the North Dakota Department of Transportation. The next greatest concentration of flows is on county major collectors: approximately 132 million ton-miles. Sixty-five percent of these ton-miles travel paved county major collector (CMC) roads (Table 4). The remaining 35 percent move on gravel CMC roads.

Table 2. Predicted Ton-Miles of Agricultural Freight by Road Type

Surface Type	Ton Miles	Percent
Paved: High-Type (State)	319,449,945	56.4%
Paved (County and Local)	99,563,913	17.6%
Graded & Drained	2,807,777	0.5%
Gravel	141,222,015	25.0%
Trail	2,233,471	0.4%
Unimproved	720,330	0.1%
All Roads	565,997,453	100.0%

Table 3. Predicted Ton-Miles of Agricultural Freight by Roadway Class

Functional Class	Ton-Miles	Percent
Principal Arterial	319,871,952	57%
Minor Arterial	3,804,845	1%
Major Collector	132,333,047	23%
Minor Collector	621,758	0%
Local	109,365,851	19%
All Roads	565,997,453	100%

Table 4 Distribution of Agricultural Ton-Miles Among Paved and Graveled County Major Collector Roads

Surface Type	Ton-Miles	Percent of Ton-Miles
Gravel	46,866,136	35.4%
Paved	85,459,102	64.6%
Trail	7,808	0.0%

With this overview of agricultural goods movements, the report now turns to the estimation of road impacts; starting with unpaved roads. Only county and local roads are considered in this analysis. Investment needs for state highways have already been estimated by the North Dakota Department of Transportation.

5. Unpaved Road Analysis

5.1. Cost and Practices Data

Survey responses from a 2009 study were used to compile gravel cost, gravel overlay thickness, application frequency, and blading frequency and cost. When survey responses were unavailable, the district average was used to represent the costs and practices.

The **gravel overlay thickness** represents the quality of the gravel surface as well as roadway condition. Responses indicate that the statewide average gravel thickness is 932 cubic yards/mile. However, there is substantial variation from one part of the state to another. Gravel loss factors such as weather conditions, traffic volume, traffic speed in addition to gravel cost and availability factors are likely reasons for the variations.

The **gravel interval** represents the quality of the gravel surface as well as the roadway condition and maintenance practices. Responses indicate that the statewide average gravel interval is 6 years, with 5 years being the most frequent response. However, there is substantial variation from one part of the state to another. Gravel loss factors such as

weather conditions, traffic volume, traffic speed in addition to gravel cost and availability factors are likely reasons for these variations.

As mentioned above, cost and availability of quality gravel likely impact the decisions of counties with respect to overlay thickness and timing. As was observed with the gravel overlay thickness and interval, wide variations in gravel cost were reported, both statewide as well as within regions. The statewide average was $6.54 per cubic yard, ranging from $3.00 to $14.00 per cubic yard.

The final activity used in estimating county level costs is the blading interval. The blading interval is representative of the counties' maintenance activities. Factors such as traffic volume, speed, and weather conditions influence the frequency and necessity of road maintenance.

5.2. Cost Estimation

The survey responses were the primary tool used to estimate district level costs. A spreadsheet model was constructed to calculate annualized gravel road improvement and maintenance costs for varying levels of gravel thickness, intervals, overlays, and blading intervals.

5.3. Classification

The network flow model generated agricultural related truck trips by impacted segment. This number was added to the baseline average daily traffic (ADT) to obtain the total ADT for impacted sections. Using the predicted ADT volumes, unpaved segments were classified by traffic volumes: 0-50, 50-100, 100-150 and 150-200. No gravel roads in this analysis exceeded 200 ADT. It is assumed that as traffic levels increase, the amount and/or frequency of gravel application and blading will increase to preserve surface condition.

Table 5 Miles of Gravel Road Included in the Analysis by ADT Class

ADT Class	ADT Range	Miles
1	0-50	5,466
2	50-100	4,804
3	100-150	15
4	150-200	1

5.4. Maintenance and Improvement

As mentioned above, as traffic increase on gravel roads, the frequency of maintenance activities must increase to preserve surface condition. Using the cost model, annualized costs were calculated for 5, 4, and 3 year gravel application intervals. Based upon these

annualized estimates, improvement costs for the three gravel ADT classes are estimated and presented in Table 6. While the first phase of the analysis considers only the roads impacted by agricultural traffic, the remaining roads must also be maintained. The annual cost estimates for these roads and the total estimates are also presented in the table below.

Table 6 Annual Cost Estimates for Gravel Roads in North Dakota ($2010)

Category	Miles	Cost
Ag Impact	10,286	$43,627,275
Other	48,782	$67,319,298
Total	59,068	$109,946,573

6. Paved Road Analysis

The factors that drive the paved road analysis are: (1) the number of trucks that travel the road segment, (2) the types of trucks and axle configurations used to haul agricultural commodities, (3) the structural characteristics of the roads in agricultural logistics routes, (4) the widths of the roads, and (5) their current surface conditions. Each of these factors is discussed in the following sections of the report.

6.1. Truck Types

A previous survey of elevators revealed the types of trucks used to haul grains and oilseeds and the frequencies of use. As shown in Table 7, approximately 56 percent of the inbound volume is transported to elevators in five-axle tractor-semitrailer trucks. Another four percent arrives in double trailer trucks—e.g., Rocky Mountain Doubles. Another twelve to thirteen percent arrives in four-axle trucks equipped with triple or tridem rear axles.

After considering entries in the other category, the following assumptions were made. Sixty-two percent of the grains and oilseeds arriving at elevators in North Dakota will arrive in combination trucks, as typified by the five-axle tractor-semitrailer. The remaining 38 percent will arrive in single-unit trucks, as typified by the three-axle truck.

Table 7 Types of Trucks Used to Transport Grain to Elevators in North Dakota

Truck Type	Percentage of Inbound Volume
Single unit three-axle truck (with tandem axle)	25.15%
Single unit four-axle truck (with tridem axle)	12.55%
Five-axle tractor-semitrailer	54.96%
Tractor-semitrailer with pup (7 axles)	3.62%
Other	3.72%

6.2. Truck Axle Weights

Truck loads are transmitted to the pavement through the truck's axles and wheels. Therefore, axle configurations and weights are important in this study. The pavement design equations of the American Association of State Highway and Transportation Officials (AASHTO) are used to analyze axle impacts. These same equations are used by most state transportation departments in the United States. The equations are expressed in *equivalent single axle loads* (ESALs). In this metric, the weights of various axle configurations (e.g., single, tandem, and tridem axles) are converted to a uniform measure of pavement impact. With this concept, the service life of a road can be expressed in ESALs instead of truck trips.

6.2.1. *Effects of Axle Weights*

An ESAL factor for a specific axle represents the impact of that axle in comparison to an 18,000-pound single axle. The effects are nonlinear.[10] For example, a 16,000-pound single axle followed by a 20,000-pound single axle generates a total of 2.19 ESALs, as compared to two ESALs for the passage of two 18,000-pound single axles.[11] An increase in a single-axle load from 18,000 to 22,000 pounds more than doubles the pavement impact, increasing the ESAL factor from 1.0 to 2.44. Because of these nonlinear relationships, even modest illegal overloads (e.g., 22,000 pounds on a single axle) can significantly reduce pavement life.

6.2.2. *ESAL Factors*

ESAL factors are estimated for the prototypical grain trucks mentioned earlier. This calculation is illustrated for a tractor-semitrailer weighing 80,000 pounds with a weight distribution of 12,000 pounds on the front (steering) axle and 34,000 pounds on each of the tandem axles. The ESAL factor for a 34,000-pound tandem axle is 1.07, which suggests that its impact is only marginally greater than the impact of an 18,000-pound single axle. The ESAL factor for the 12,000-pound single axle is 0.177 and the overall ESAL factor for the truck is $0.177 + 1.07 \times 2 = 2.32$. This means that for every loaded mile the truck travels it is consuming a small part of a pavement's life, as measured by 2.32 units or ESALs. A similar calculation for a 50,000-pound three-axle truck (with a tandem rear axle) yields an ESAL factor of 1.68—i.e., 0.61 + 1.07.

The AASHTO ESAL factors were originally estimated when tire pressures were much lower than they are today. As shown in Figure 11, modern tire pressures increase the

[10] The relationship between ESALs and axle loads is approximately a fourth power relationship.

[11] These calculations reflect a light pavement section with a structural number of 2.0 and a terminal serviceability (PSR) of 2.0.

ESAL factor by as much as 20%. In effect, the true ESAL factor of a tractor-semitrailer is 2.78 per loaded mile. All ending calculations in this study reflect adjustments for higher tire pressures.

The use of single instead of dual tires on drive and trailer axles may further impact the ESAL factor. With 6 inches of wander (e.g., lateral variation in the placement of tires on pavements), the use of single tires on drive and trailer axles may increase the ESAL factor by as much as 50%.[12] In this study, only the steering axle of the truck is assumed to be equipped with single tires. Therefore, no adjustments are necessary.

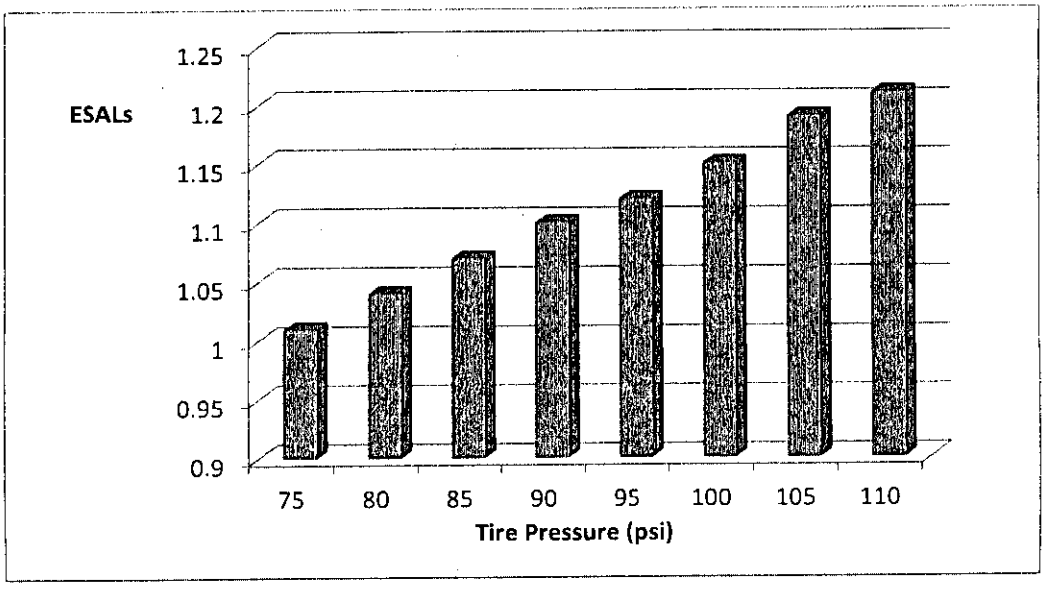

Figure 11 Effects of Tire Pressure on ESAL Factor
Source: Transportation Research Board. *Truck Weight Limits: Issues & Options*, Special Report 225, 1990. Figure 4-8.

6.3. Surface Conditions

Roads conditions are often assessed by examining the distress and roughness of the surface layer. Table 8 shows the results of a 2008 survey of county road managers in which they were asked to rate the current conditions of the roads in their counties, by functional class—i.e., county major collector or local road. The survey results have been weighted by the miles in each class and county. As the table shows, approximately nine percent of county major collector miles are in poor or fair-to-poor condition. In comparison, 42.5 percent of county local road miles are in poor or fair-to-poor condition. Most of the miles

[12] Transportation Research Board. *Truck Weight Limits: Issues & Options*, Special Report 225, National Academies Press, 1990.

in each classification are rated as fair. Less than 5 percent of county local road miles are in good condition.

Table 8 Percent of Miles by Condition Level and Functional Class

Surface Condition	County Major Collector	Local Roads
Good	26.98	4.51
Good/Fair	4.61	.
Fair	59.63	52.99
Fair/Poor	3.11	4.41
Poor	5.68	38.09

6.4. Structural Numbers

The capability of a paved road to accommodate heavy truck traffic is reflected in its structural rating, which is measured through the structural number (SN). The structural number is a function of the thickness of the surface and base layers and the materials of these layers. The surface layer is typically composed of asphalt while the base layer is comprised of aggregate material. The amount of cracking and deterioration of the surface layer is considered in the structural number of an aging pavement. Moreover, the conditions of base layers and underlying soils are important considerations when assessing seasonal load limits and the year-round capabilities of roads.

The average thicknesses of pavement layers in county and local paved roads are shown in Table 9. These values represent weighted means derived from a 2008 survey. The estimates have been weighted by the miles of county major collector and local road in each reporting county.

Table 9 Weighted-Average Layer Thicknesses of County Collector and Local Roads in North Dakota

	County Major Collector	Local Road
Base layer thickness (inches)	5.1	3.9
Surface layer thickness (inches)	4.1	4.0

When estimating in-service structural numbers, a badly deteriorated layer is likely to be assigned a lower coefficient.[13] For example, the average in-service structural number of a

[13] The pavement design guide of the American Association of State Highway and Transportation Officials (AASHTO, 1993) suggests the use of asphalt surface coefficients ranging from 0.15 to 0.40 for in-service pavements, based on the extent of longitudinal patterned (e.g., alligator) cracking and transverse cracks. As a point of reference, a new asphalt surface is typically assigned a structural coefficient of 0.44. For aggregate base layers, the AASHTO guide suggests using coefficients of 0.0 to 0.11, depending upon the extent of degradation

county major collector in poor condition with substantial distress may be computed as 5.1 inches of base × 0.07 + 4.1 inches of asphalt × 0.20 = 1.2. Similarly, the average in-service structural number of a county local road in poor condition with substantial surface layer distress may be 1.1 (e.g., 3.9 inches of base × 0.07 + 4.0 inches of asphalt × 0.20).[14]

6.5. Potential Improvements to County Collector and Local Roads

The types of potential road improvements analyzed in this study are reconstruction and resurfacing. If a pavement is not too badly deteriorated, normal resurfacing is a cost-effective method of restoring the structural capacity of a road. In this type of improvement, a new asphalt layer is placed on top of the existing pavement. The thickness of the layer may vary. However, it may be as thick as five inches. Without extensive truck traffic, a relatively thin overlay (e.g., 2 to 3 inches) can often be effectively applied.

Reconstruction entails the *replacement* of a pavement in its entirety—i.e., the existing pavement is removed and replaced by one that is equivalent or superior. Reconstruction includes drainage work and shoulder improvements, as well as the widening of substandard lanes. In contrast, resurfacing leaves the pavement intact. In lieu of replacement, hot mix asphalt is placed on the existing surface in a quantity needed to return the pavement to an acceptable level of serviceability and *restore* its structural strength

6.5.1. *Reconstruction*

A road may be reconstructed for several reasons. (1) The pavement is too deteriorated to resurface. Roads in the poor and very poor classifications fall into this group. (2) The road has a degraded base that will provide little structural contribution to a resurfaced pavement. (3) The roadbed is comprised of poor soils that are susceptible to moisture. In this case, reconstruction is necessary to provide year-round service at the maximum legal weight. (4) The road is too narrow to accommodate thick overlays without widening. In this case, reconstruction may be the only alternative that does not reduce capacity or potentially affect safety.

6.5.2. *Feasibility of Overlays on Narrow Roads*

The graded width determines if a substantial new asphalt layer can be placed on top of the road without compromising its capacity. As the top of the road is elevated due to overlays,

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and contamination of aggregates with fine soil particles or abrasions.

[14] In comparison, the average in-service structural number of a county major collector in fair condition may be 1.6 (e.g., 5.1 inches of base × 0.08 + 4.1 inches of asphalt × 0.28). Similarly, the average in-service structural number of a county local road in fair condition may be 1.4 (e.g., 3.9 inches of base × 0.08+ 4.0 inches of asphalt × 0.28).

a cross-sectional slope must be maintained.[15] Consequently, the useable width may decline. Typically, this is not an issue for wider roads (e.g., 34-feet or more in width). However, for narrower roads, it may result in reduced lane and shoulder widths and/or the elimination of shoulders. In the ultimate case, the narrowest roads cannot be resurfaced. The probabilities of crashes increase when roadway widths are narrowed.[16]

6.5.3. *Improvement Logic*

In this study, segments with higher traffic volumes are considered for reconstruction because of width and operational concerns. Unfortunately, detailed information regarding graded widths could not be obtained for this study. Only aggregate values were obtainable. Without knowledge of the widths of individual segments, reconstruction improvements are allocated to segments in counties with insufficient roadway widths based on traffic until a modest level of traffic is reached.

At a minimum, reconstruction will prevent the loss of width. It may also provide for minor widening, shoulder and drainage improvements. As a result, reconstruction may enhance capacity (as measured in vehicles per hour) because of wider lanes and shoulders. Shoulder improvements may enhance safety. Last but not least, reconstruction will remove spring load restrictions and allow year-round operation at gross vehicle weights of 80,000 pounds or greater.[17] The allocation of reconstruction dollars to roads with higher traffic levels will maximize capacity and ride-quality benefits for all travelers.

Roads not selected for reconstruction are eligible for resurfacing. However, the thickness and cost of the overlay depends upon the expected truck traffic level.

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[15] Roads are "crowned" or elevated in the center primarily for drainage. With a cross-sectional slope, water readily drained off the crowned surface and into the ditches.

[16] For purposes of reference, a 24-foot graded width allows for an initial design of two 11-foot lanes with some shoulders. However, the lane widths and shoulders cannot be maintained as the height of the road is elevated during resurfacing. To illustrate, assume a 4:1 cross-sectional slope for both the initial construction and subsequent overlays. In this case, each inch of surface height results in a loss of approximately eight inches of top width. Thus, a road with an existing surface thickness of four inches may suffer an ultimate top-width loss of five feet with a new four-inch overlay. The upshot is that lanes and shoulders must be reduced to fit the reduced top width. In the case of a road with a 24-foot graded width, shoulders must be eliminated and lanes reduced to 10 feet or less.

[17] A thick structural overlay may remove spring load restrictions and allow year-round operation at the maximum legal weight. However, this result cannot be guaranteed. The outcome depends upon the existing road and its underlying soils. Old aggregate bases in roads that have never been reconstructed may be largely ineffective. Given the depths of the bases reported in the survey (i.e., from 2 to 6 inches) and their low implied coefficients, these bases are unlikely to provide significant structural contributions to a resurfaced pavement. Moreover, the bases may be degraded and contaminated with fines. In such cases, structural overlays are not guaranteed to remove spring load restrictions.

6.5.4. *Reconstruction of Segments in Agricultural Routes*

According to a 2008 survey, approximately seven percent of all miles of county major collector road clearly have insufficient graded widths to accommodate future overlays without substantially narrowing the roads. Another seven percent of the miles of county major collector road may have insufficient graded widths to accommodate future overlays without substantially narrowing the roads. However, it is impossible to verify this percentage without detailed field work. According to the same survey, approximately 86 percent of all miles of county local road have insufficient graded widths to accommodate future overlays without substantially narrowing the roads. This does not mean that the roads will be closed. However, it does mean that many miles of road will have no shoulders and 10- or 11-foot lanes.

Reconstruction is expensive, costing $1.25 million per mile. Thus, it can only be justified on roads with significant traffic volumes. Without knowledge of the widths of individual segments, reconstruction improvements are allocated based on overall traffic with a minimum frequency of grain trucks per day, subject to the overall constraints of 14 percent of impacted county major collector miles and 86 percent of impacted county local road miles. These constraints correspond to the statewide proportions of county major collector and county local road miles that are candidates for reconstruction due to insufficient widths.

Altogether, 147 miles of road with significant agricultural traffic met the minimum traffic thresholds for potential reconstruction. These segments represent are only a small portion of the 6,375 miles of paved county and local road in the state and the approximately 3,957 miles of paved roads used for agricultural logistics. However, some of the 6,375 miles of county and local paved road have only one or two predicted grain trucks per day, coupled with light ADT; and, therefore, are not candidates for reconstruction.

In addition to wider roads, reconstruction is expected to provide year-round heavy-hauling capabilities. Since the vast majority of these segments are located in paths that feature county major collectors, access to key facilities (such as plants and large elevators) may be improved. Further, the allocation of reconstruction dollars to roads with higher traffic levels will maximize capacity and ride-quality benefits for all travelers.

6.5.5. *Resurfacing of Segments of Agricultural Routes*

Those roadway segments not selected for reconstruction are evaluated for overlays. The thickness of the overlay is a function of the grain truck traffic plus some allowance for other trucks traveling the roadways. These percentages are derived from the 2008 survey mentioned earlier.

Based on the estimated ESAL demand for the next 20 years, a new structural number is computed that considers the effective structural number of the existing surface and base layer at the time of resurfacing.[18] As shown in Table 10, the median overlay thickness needed on road segments in primary agricultural routes is four inches. For segments with lower truck traffic volumes, overlays of 2.5 to 3.0 inches will typically suffice. On the most heavily impacted miles, a 5-inch overlay may be needed. However, these segments are relatively few and are ones where considerable grain traffic is channeled in approaches to large facilities.

Table 10 Estimated Surface Thicknesses for Major County Collector Segments in Agricultural Logistics Routes

Weighted Percentiles of Distribution	Inches of New Asphalt Surface Layer
90th	4.7
75th (Upper Quartile)	4.0
50th (Median)	4.0
Mean	3.9
25th (Lower Quartile)	3.7

The resurfacing cost of each segment is estimated from the inches of overlay needed and a projected 2011 unit cost of $70,000 per inch per mile, which is applicable to two-lane rural roads.[19] With this unit cost, a four-inch overlay costs $280,000 per mile. A three-inch overlay costs $210,000 per mile, etc.

6.6. Routine Maintenance

Routine maintenance costs on paved roads include activities performed periodically (such as crack sealing, seal coats, and striping), as well as annual activities (such as patching). The cost relationships in Table 11 have been derived from a South Dakota Department of Transportation study, with the original cost factors updated to 2010 levels and annualized. For example, the annualized seal-coat cost would allow for at least two applications during a typical 20-year life-cycle for roads with ADT of 200 or more.

[18] The assumed structural coefficient of a deteriorated surface layer (that now serves as a base layer) is 0.14, while the assumed structural coefficient of the original base layer is 0.7. For local roads, this calculation results in a median residual structural number of 0.7. The analogous number for county major collectors is 1.0.

[19] This unit cost was derived from the North Dakota Department of Transportation's 2009 cost for a structural overlay—i.e., the DOT's average cost of $340,000 per mile was divided by five inches to obtain $68,000 per mile. This value was then indexed to 2011 assuming a three percent inflationary increase in construction costs.

Table 11 Routine Maintenance Cost Factors for Paved Roads by Traffic Level

ADT Traffic Range		Annualized Cost of Road Maintenance Activities			
Lower	Upper	Crack Sealing	Seal Coat	Striping	Patching
1	99	$540	$2,340	$76	$900
100	199	$540	$2,340	$113	$900
200	299	$720	$3,150	$126	$900
300	399	$720	$3,150	$126	$900
400	499	$576	$3,285	$140	$900
500	599	$480	$3,285	$144	$900
600	699	$480	$3,285	$162	$900
700	-	$480	$3,285	$162	$900

6.7. Highlights of Paved Road Analysis

There are approximately 6,375 miles of paved road under the jurisdiction of county, township, and municipal governments in North Dakota. However, not all of these segments are significantly affected by agricultural traffic. Some of the segments have only a few predicted tons that do not amount to a full truckload. These segments are not specifically analyzed as part of an agricultural distribution route. Instead, they are reclassified as non-agricultural segments.

As shown in Table 12, the annualized cost of maintaining and improving roads significantly impacted by agricultural traffic is $58.9 million. There are 2,417 miles remaining, which are not significantly impacted by agricultural transportation. The cost of improving and maintaining these miles is estimated to be $41.6 million annually.

Table 12. Paved County Collector and Local Road Miles and Cost by Impact Type

Category	Miles	Annualized Cost
Ag Impact	3,958	$58,883,223
Other	2,417	$41,580,950
Total	6,375	$100,464,172

The annualized cost in Table 12 reflects reconstruction, resurfacing, and annual maintenance cost. Annual maintenance cost was calculated for any segment with agricultural truck traffic. The estimated annualized maintenance cost of these 3,958 miles is $18.5 million over the 20-year period (Table 13). Of the 3,958 miles significantly impacted by agricultural traffic, 147 miles were selected for reconstruction due to deficiencies in roadway width. The estimated annualized cost of these reconstruction improvements is $9.2 million. An additional 2,541 miles were selected for resurfacing over the 20-year analysis period at an estimated annualized cost of $31.2 million. Those

segments with only one agricultural truck per day were not analyzed specifically to determine the pavement thickness, because it is assumed that the agricultural traffic will have no impact on the resurfacing decision. Rather, these segments are reclassified as non-impacted routes for purposes of resurfacing and their resurfacing costs are included with that group. The total estimated annualized cost for agriculture impacted roads is $58.9 million.

Table 13 Ag Impacted Paved Miles Improved and Maintained by Improvement Type

	Miles	Annualized Cost
Reconstruction	147.0	$9,192,586.55
Resurfacing	2,541	$31,240,378.00
Maintenance	3,958	$18,450,258.00
Total		$58,883,222.55

Table 14 shows the miles and annualized improvement and maintenance costs of roads not significantly impacted by agricultural traffic. In this analysis, the 2,417 miles not reflected in the maintenance cost estimate for agricultural routes are assumed to be maintained at an estimated annualized cost of $9.3 million, which reflects an average cost of $3,856 per mile per year. Moreover, all 2,417 non-impacted miles are assumed to receive a resurfacing treatment during the analysis period. In addition, those segments with only one agricultural truck per day that did not receive a resurfacing or reconstruction improvement in the agricultural analysis are included with this category. Altogether, 3,687 miles of road not significantly affected by agricultural traffic are assumed to receive a standard resurfacing improvement at an estimated annualized cost of $32.3 million. For these non-impacted roads, it is assumed that a 2.5-inch overlay of each segment will provide reasonable service for 20 years in the absence of significant agricultural truck traffic. In total, the cost of maintaining and improving paved local roads that were not significantly impacted by agricultural traffic is estimated to be $41.6 annually.

Table 14 Non-Impacted Paved Miles Improved and Maintained by Improvement Type

Improvement Type	Miles	Annualized Cost
Resurfacing	3,687	$32,261,075
Maintenance	2,417	$9,319,875
Total		$41,580,950

Comparatively, the estimated resurfacing cost of agricultural distribution routes is 40 percent greater than the estimated resurfacing cost of non-agricultural routes on a per-mile basis. Comparatively, the estimated maintenance cost of agricultural distribution routes is 21 percent greater than the estimated maintenance cost of non-agricultural routes on a per-mile basis. These differences reflect higher levels of truck traffic and average daily traffic on these routes. Since 90 percent of the paved county-road miles in agricultural

distribution routes are major collectors, these comparisons reinforce the current investment priorities of counties.

7. Conclusion

The purpose of this study is to analyze changes in agricultural production and logistics and the importance of roadway investments to the distribution of crops produced in North Dakota. The essential objective was to quantify the funding level required to maintain and improve the existing local road network.

In this study, a very detailed network model was developed to predict and route crop movements from 1,340 county subdivisions to elevators and ethanol plants. The predicted flows were used to specifically analyze investment needs for agricultural haul roads. In addition, the investment needs for other local roads not significantly affected by agricultural goods movements were estimated so that the total statewide local roadway needs could be quantified.

Statewide, estimated needs total $100.5 million annually for county and local paved roads. Approximately $59 million of these needs relate to agricultural haul roads. The remainder corresponds to other county and local roads. Also, statewide, estimated needs total $110 million annually for local unpaved roads. Approximately, $43.6 million of these needs relate to agricultural haul roads. The remainder corresponds to other local roads, especially township roads. Thus, the total estimated statewide need is $211.5 million per year, including $100.5 million of paved road investment needs and $110.0 million of unpaved road investment needs.

In conclusion, it is important to note that the study has limitations, most of them due to a short time frame (i.e., 40 days), difficulties in obtaining data, and a limited budget, which precluded any field work. All crop flows could not be represented in the distribution model because of difficulties and delays in getting data. Therefore, the total ton-miles shown in Table 3 may be somewhat understated. Based on information available, it is likely that more than 95 percent of all crop ton-miles are reflected in the estimates.

One of the issues not addressed in this study is the effect of spring load restrictions on farm producers, elevators, and plants. This is an issue that should be revisited and the major county collectors in agricultural logistics routes should be evaluated individually to assess the need for and cost of potential reconstructions or thicker overlays. Although county-wide surface conditions were available from a previous survey, these values could not be assigned to individual segments without additional interviews and modeling. As a result, it is quite possible that many additional miles of county and local road may need reconstruction because of poor condition. These detailed analyses were not possible within

a 40-day window. While further study is recommended, this report has identified the minimum threshold of county and local road investment needs.

8. Appendix A. Regional Trends in Crop Production North Dakota

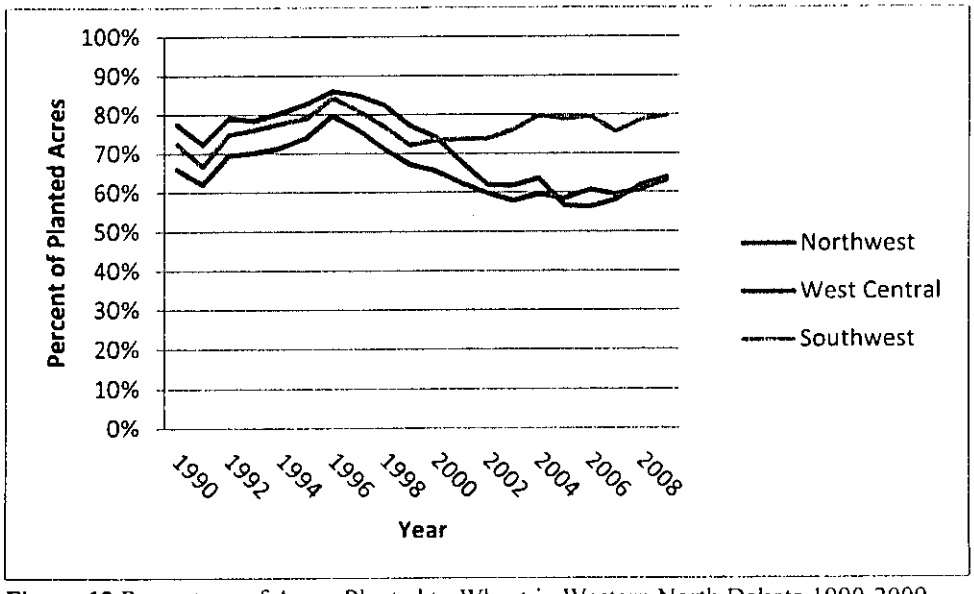

Figure 12 Percentage of Acres Planted to Wheat in Western North Dakota 1990-2009

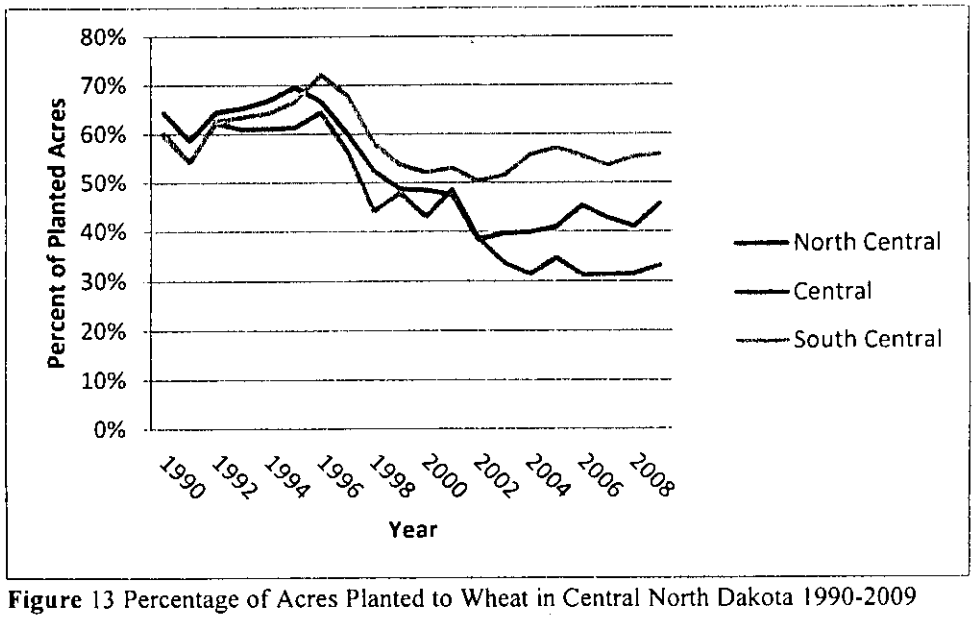

Figure 13 Percentage of Acres Planted to Wheat in Central North Dakota 1990-2009

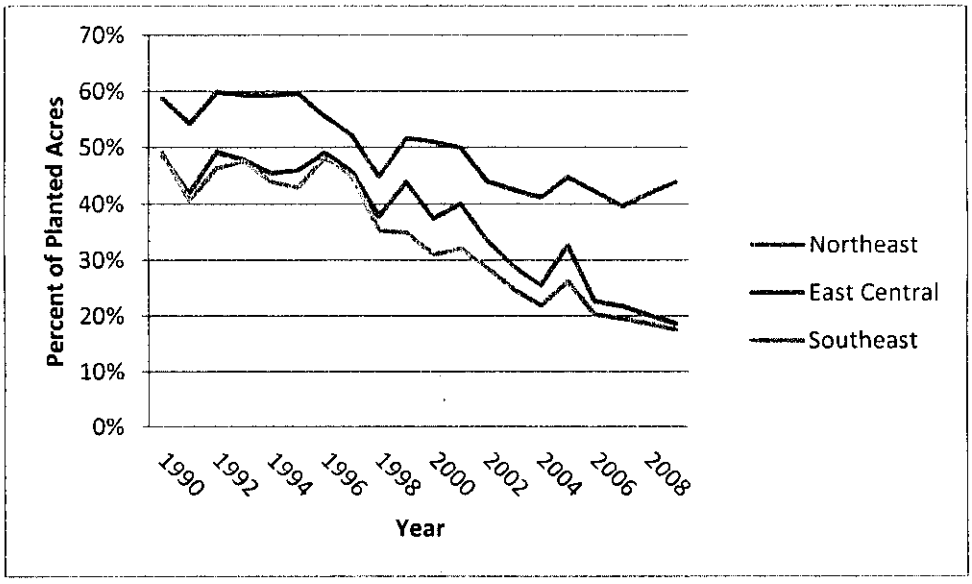

Figure 14 Percentage of Acres Planted to Wheat in Eastern North Dakota 1990-2009

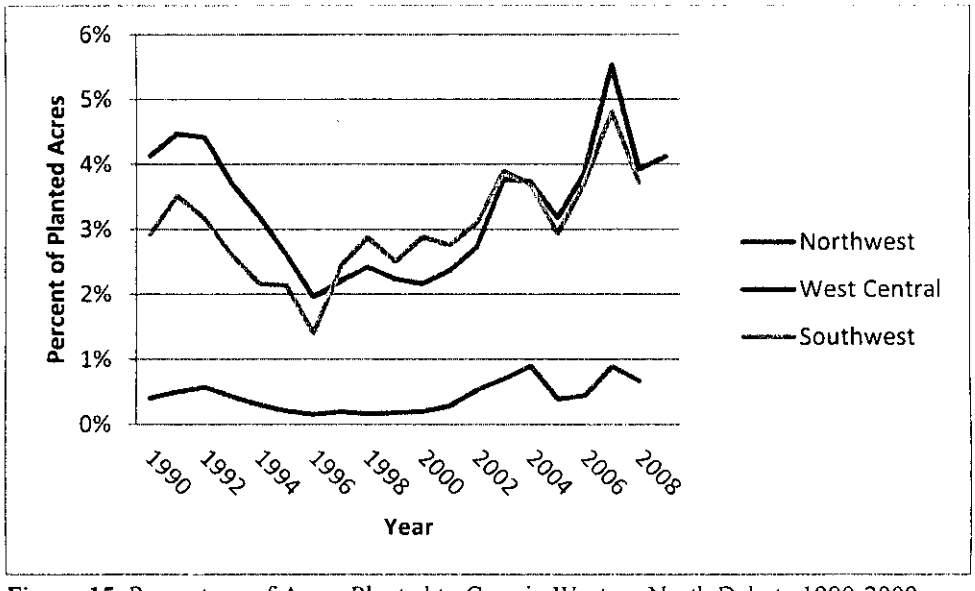

Figure 15 Percentage of Acres Planted to Corn in Western North Dakota 1990-2009

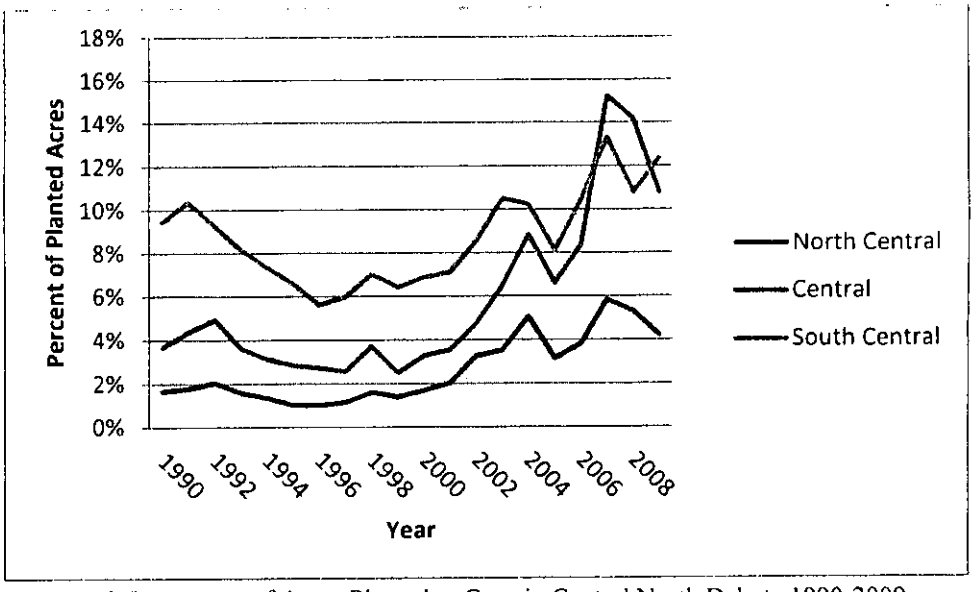

Figure 16 Percentage of Acres Planted to Corn in Central North Dakota 1990-2009

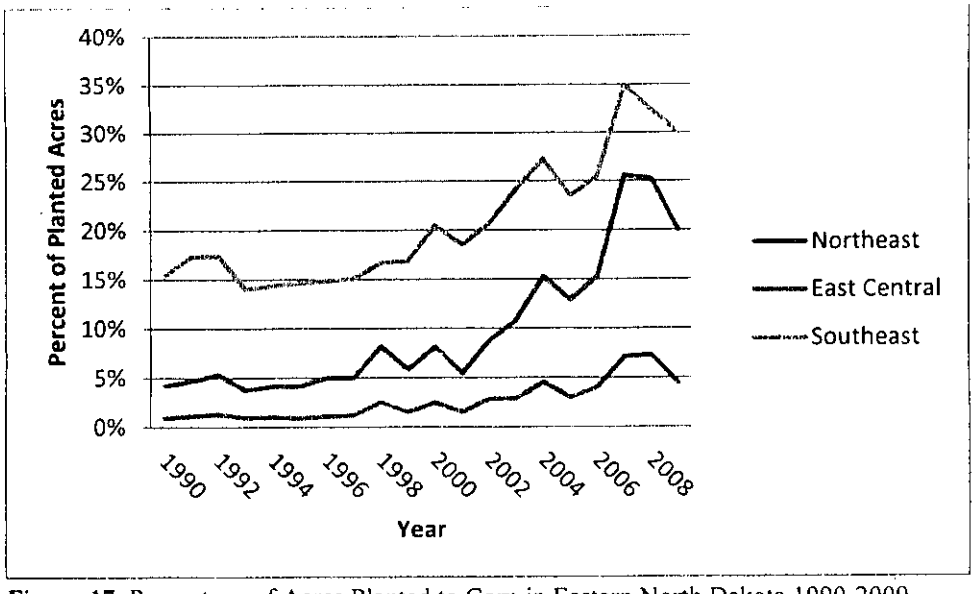

Figure 17 Percentage of Acres Planted to Corn in Eastern North Dakota 1990-2009

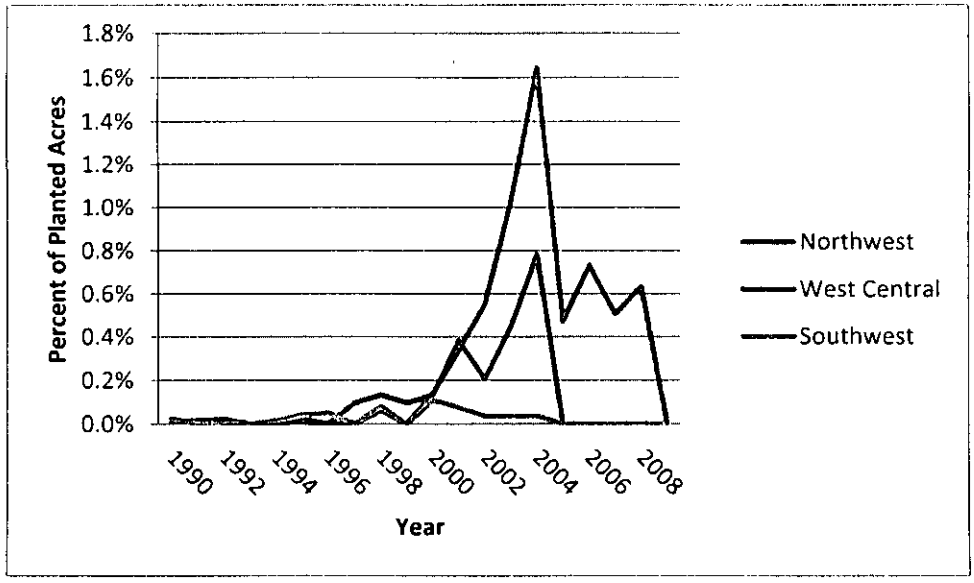

Figure 18 Percentage of Acres Planted to Soybeans in Western North Dakota 1990-2009

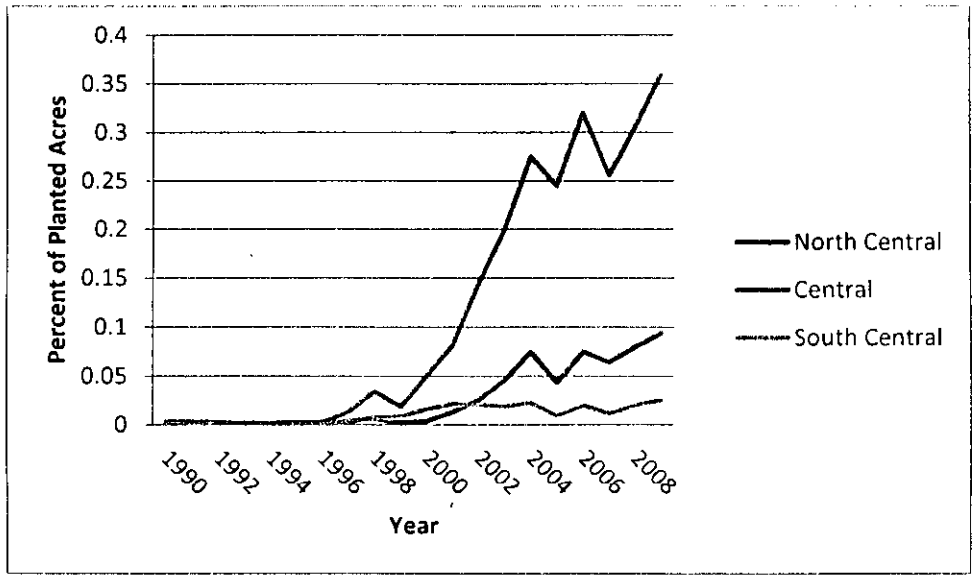

Figure 19 Percentage of Acres Planted to Soybeans in Central North Dakota 1990-2009

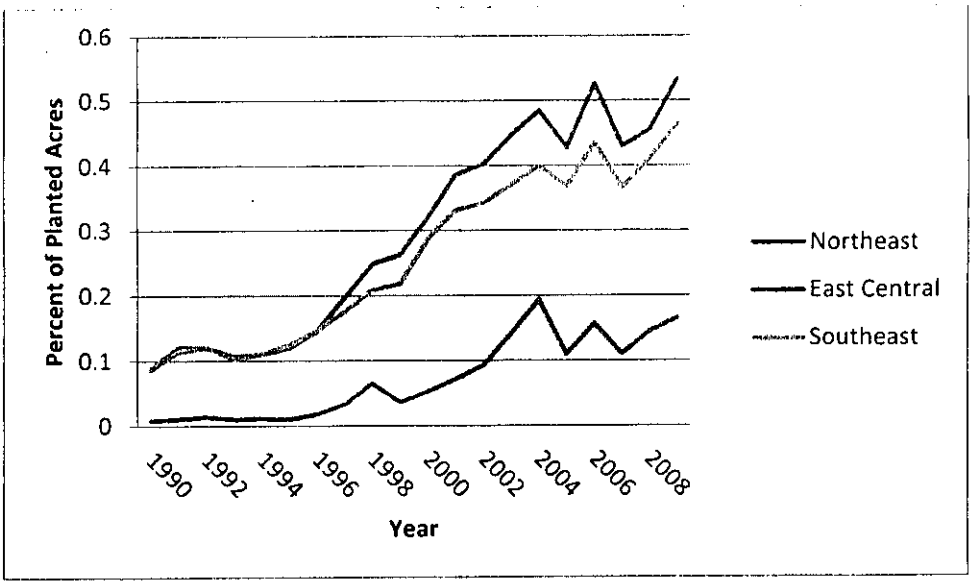

Figure 20 Percentage of Acres Planted to Soybeans in Eastern North Dakota 1990-2009

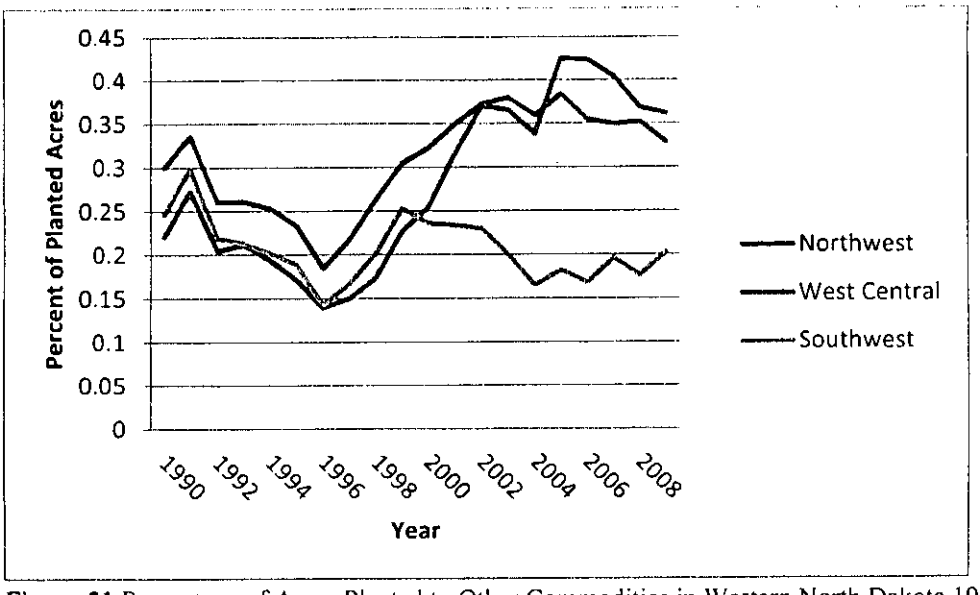

Figure 21 Percentage of Acres Planted to Other Commodities in Western North Dakota 1990-2009

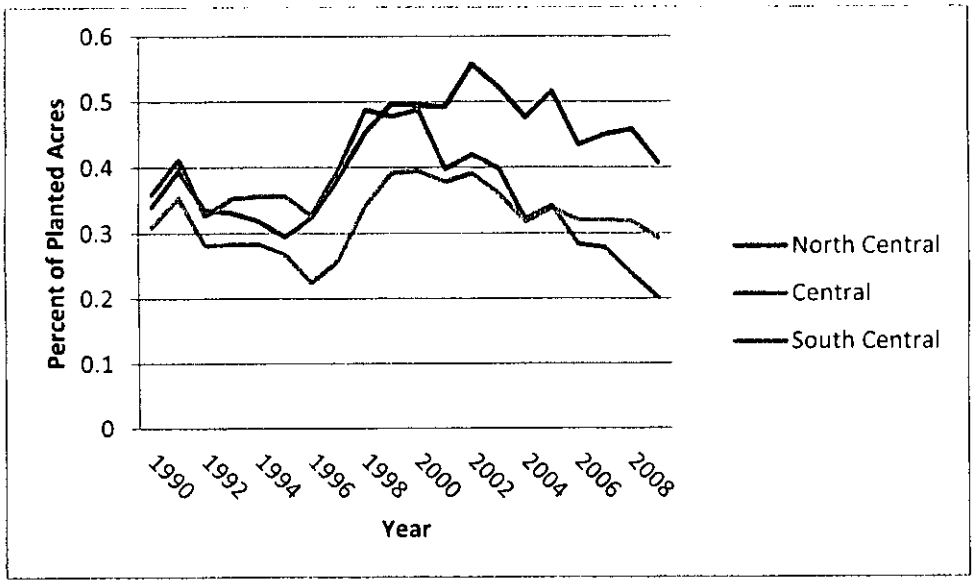

Figure 22 Percentage of Acres Planted to Other Commodities in Central North Dakota 1990-2009

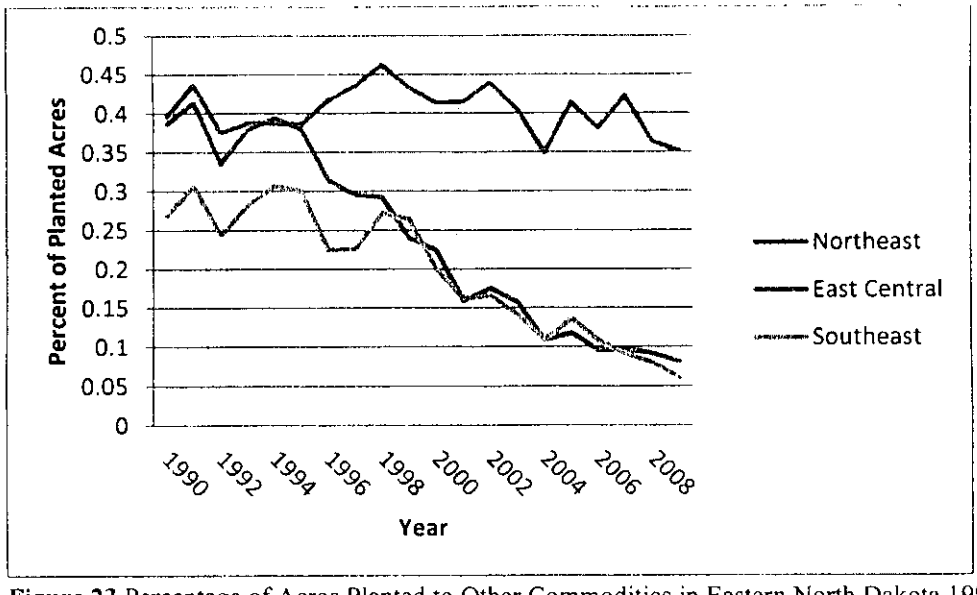

Figure 23 Percentage of Acres Planted to Other Commodities in Eastern North Dakota 1990-2009

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Testimony Presented on HB 1043 to the

House Appropriations Committee
Government Operations Division
Blair Thoreson, Chairman

by

Dave Piepkorn, City Commissioner
City of Fargo

January 18, 2011

Mr. Chairman and Members of the Committee:

The City of Fargo strongly supports additional funding through the Highway Tax Distribution Fund, as well as changes that would provide a long-term commitment to increased transportation funding. Additional funding is needed for both streets and public transportation.

Fargo has many street projects that are needed today but are waiting for funding. This backlog of needs is over $30 million. Some of these projects include:

- 13th Ave. South from West Acres to 45th Street. Reconstruction will be at least $5 million. The road is deteriorating and there is frequent congestion.
- Main Ave. from the Red River to 25th Street. Reconstruction will be at least $12 million. The road requires frequent maintenance due to its condition.
- Several two-lane, blacktop streets with ditches need to be constructed to carry the urban traffic that drives on these roads. The projects include: $4 million for University Dr. from Cass County 20 to 32nd Ave. N., $7 million for Veterans Blvd. from 32nd Ave. S. to 40th Ave. S., and $5 million for 40th Ave. S. west of 45th Street to the Sheyenne River.

Fargo receives $4.8 million each year from the Highway Tax Distribution Fund for streets. The current level of funding for roads, including federal aid, state aid, local sales taxes, property taxes, and special assessments is not sufficient enough to meet our transportation needs.

Fargo also needs additional funding for public transportation. Many residents of Fargo do not have access to an automobile, and others prefer public transportation for its convenience or to travel to areas where parking is in short supply, such as downtown Fargo and North Dakota State University.

There is a need to extend a bus route to areas of Fargo outside the present service area, especially southeast Fargo. In addition, a downtown circulator route is needed. The cost of the two routes would be $450,000 a year. In the current biennium, Fargo is receiving $280,000 a year, plus $163,000 as an additional payment in the first year of state funding. Without additional state funds, the only other option is local property taxes.

The City of Fargo encourages the State Legislature to provide additional funding for public transportation and street projects. The funding needs to be a long term commitment to our infrastructure and public transportation needs. Public transportation is a long-term, operating commitment. In addition, street improvement projects require a long-term period of time, in advance, to properly plan, acquire right-of-way, design, and construct. The City of Fargo supports the added transportation funding as provided by HB 1043.

1043, 1. 18. 11 E

Testimony To The
HOUSE APPROPIATIONS COMMITTEE
GOVERNMENT OPERATIONS SUBDIVISION
Prepared January 18, 2010, by
Keith Berndt, County Engineer
Cass County

REGARDING HOUSE BILL No. 1043

Chairman Thoreson and members of the Committee, I'd like to express strong support for House Bill 1043. HB1043 provides some much needed added user-fee revenue.

As you are likely well aware, inflation in highway construction costs have far outpaced increases in revenue in recent years. The road infrastructure is critical to continued economic activity across the State. Our construction and maintenance efforts are not keeping up with the needs of industry and the traveling public in general.

The State Highway Distribution fund is the largest source of highway funding in Cass County. It constitutes about 50% of our highway funding. Federal funding provides about 15% and local property tax funds about 35%. An increase in Federal funding seems unlikely in today's climate. To their credit, the County Commission is not inclined to raise property taxes in Cass County. The Commission has historically levied 10.25 mills for roads in Cass County.

The importance of increasing the funding to the State Highway Distribution fund simply can not be overemphasized.

Thank you for your favorable consideration of this important legislation.

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Testimony in Support of HB 1043
House Appropriation Committee – Government Operations Division
January 18, 2011

Good Morning Chairman Thoreson and members of the committee. I am Pat Hansen, Director of South Central Adult Services - a rural transit provider in 7 ND counties. I am also President of the North Dakota Senior Service Providers and Board Member of the Dakota Transit Association – both organizations that represent transit providers in this state.

Transit providers are strongly in support of HB 1043. During the last three sessions, transit has been fortunate enough to receive increases in funding. With this additional money, statewide rides have increased by 25%, and increases have been seen in routes, hours, and rides per vehicle (see attached page). This is a good start in improving public transit opportunities in North Dakota, but we know there are many more transit needs not being met.

In my 7 rural counties of Barnes, LaMoure, Foster, Logan, McIntosh, Griggs and Emmons, we have increased routes and hours that allow individuals to get to medical facilities and dialysis units in Bismarck, Fargo and Jamestown five days per week. We have also expanded local service to provide rides to senior centers, daycare facilities, shopping, local clinics, and schools. Our ridership has increased 87% from FY 06/07 to 09/10, from 44,581 rides to 83,652 rides. At the present rate we will approach 100,000 rides this year. One of our main goals in rural transit provision is to help people access the services they need so they may stay in their homes and lifelong communities. We could only have provided this improved service with the increases we have received in State Transit Funds.

The DOT Budget - House Bill 1012 that includes 25% of the Motor Vehicle Excise Tax is a good starting point. However, because of one-time funding last session, transit statewide would actually see a decrease of approximately $300,000 in this bill so the provisions in HB 1043 are extremely important to transits' future success.

Another looming concern for Transit Providers, are the projections for fuel costs to soar over the $4.00 a gallon mark in the next year. Transit drives more than 6 million miles a year in North Dakota. A 75 cent or more gallon increase in fuel would be crippling to current transit operations and would make any improvements to address un-met needs impossible.

If you have any questions, I would be happy to answer them. Thank you for your time in consideration of this testimony.

North Dakota Public Transit Statistics Comparison October 2010

Compilation of Data from Agencies that Receive State Aid for Public Transportation Funds

		July 1, 2005 - June 30, 2006 State Aid Statistics	July 1, 2009 - June 30, 2010 State Aid Statistics	Percent Change
1	State Aid Funds Spent for Capital or Capital Match	$15,107	$259,953	1720.75%
2	State Aid Funds Spent for Operating Expenses	$1,948,613	$3,191,725	163.79%
3	Total Operating Costs	$10,806,810	$17,925,246	165.87%
4	Miles Driven	4,611,248	6,120,798	132.74%
5	Rides Given	2,407,359	3,011,180	125.08%
6	Vehicles	272	284	104.41%
7	Cost Per Mile	$2.34	$2.93	125.21%
8	Cost Per Ride	$4.49	$5.95	132.52%
9	Cost Per Vehicle	$39,731	$63,117	158.86%
10	Miles Driven Per Vehicle	16,953	21,552	127.13%
11	Rides Per Vehicle	8,851	10,603	119.79%

		July 1, 2008 - June 30, 2009 State Aid Statistics	July 1, 2009 - June 30, 2010 State Aid Statistics	
12	Hours Vehicles in Service *	425,084	458,326	107.82%
13	Hours Per Vehicle *	1,476	1,614	109.35%

* Note: Hours/vehicle comparisons are for a one year time frame. This data was not tracked in the 2005-06 period that is used for the rest of the comparisons.

Information compiled by the North Dakota Senior Service Providers and Dakota Transit Association. October 2010

1043.1.18.11G

NORTH DAKOTA
CHAMBER of COMMERCE

Testimony of Bill Shalhoob
North Dakota Chamber of Commerce
HB 1043
January 18, 2011

Mr. Chairman and members of the committee, My name is Bill Shalhoob and I am here today representing the North Dakota Chamber of Commerce, the principal business advocacy group in North Dakota. Our organization is an economic and geographical cross section of North Dakota's private sector and also includes state associations, local chambers of commerce, development organizations, convention and visitors bureaus and public sector organizations. For purposes of this hearing we are also representing five local chambers with over 5,000 members and seven employer associations. I have attached a list of those parties to my testimony. As a group we stand in support of HB 1043 and urge a do pass from the committee on this bill

HB 1043 provides a long term solution for a long term problem. For years the fuel taxes placed in the highway tax distribution fund have been insufficient to address the maintenance needs for our roads. The administrative and legislative branches did an admirable job last session appropriating one time funding including 25% of the motor vehicle excise tax to address the shortage. The current DOT proposal contains an extension of these programs and addresses the next biennium. However the gas tax has been flat for years and repair costs continue to escalate at a rate greater than inflation and it is probable this trend will continue for years to come. The real answer is to provide a sure revenue source for highway repair in a state where our roads are so crucial to all of our commercial activity. In past years up to 50% and as little as none of the motor vehicle excise tax were deposited in the highway tax distribution fund. Now is the time for a bold move that will insure an adequate revenue source for highway repair, depositing 100% of the motor vehicle tax into the highway tax distribution fund and we hope the committee will favorably consider this bill.

Thank you for the opportunity to appear before you today in support of HB 1043. I would be happy to answer any questions.

PO Box 2639 Bismarck, ND 58502 Toll-free: 800-382-1405 Local: 701-222-0929 Fax: 701-222-1611
www.ndchamber.com ndchamber@ndchamber.com

1043.1.18.11G

NORTH DAKOTA
CHAMBER of COMMERCE

Testimony of Bill Shalhoob
North Dakota Chamber of Commerce
HB 1043
January 18, 2011

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Prepared by the North Dakota Legislative Council staff for the Taxation Committee
June 2010

PROPERTY TAXES LEVIED FOR COUNTY ROADS

COUNTY ROAD FUNDING

The following is a list of taxes that may be levied by counties specifically for the maintenance of county roadways:

- County road and bridge levy No. 1204 - North Dakota Century Code Section 24-05-01 requires each county with a population of 2,000 or more to levy at least one-fourth of one mill for the improvement of highways. Upon approval by 60 percent or more of county electors, up to five mills may be levied for a special fund for highways.
- Farm-to-market levy No. 1212 - Section 57-15-06.3 allows a county to levy any number of mills approved by a majority of county electors for farm-to-market and federal-aid roads.
- County road fund levy No. 1233 - Section 24-05-01 allows a levy of up to five mills if approved by 60 percent or more of electors.

Attached as an appendix is detail regarding the number of mills levied by each county specifically for roads in 2009. The list does not include taxes levied by counties for the maintenance of local roads in unorganized townships.

ATTACH:1

2009 Levies for County Road and Bridge Funds

County No.	County Name	County Road & Bridge Levy No. 1204		Farm to Market and Federal Aid Roads Levy No. 1212		County Road Fund Levy No. 1233		Total	
		Mills Levied	Tax Levied	Mills Levied	Tax Levied	Mills Levied	Tax Levied	Mills Levied	Tax Levied
1	Adams	0.25	1,961.02	14.32	112,327.50	0.00	0.00	14.57	114,288.52
2	Barnes	0.48	23,287.02	14.17	687,450.10	0.00	0.00	14.65	710,737.12
3	Benson	0.00	0.00	18.66	290,245.98	5.00	77,772.23	23.66	368,018.21
4	Billings	10.83	66,119.76	0.00	0.00	0.00	0.00	10.83	66,119.76
5	Bottineau	0.25	8,538.18	10.00	341,528.65	5.00	170,764.34	15.25	520,831.17
6	Bowman	0.25	3,662.41	0.00	0.00	0.00	0.00	0.25	3,662.41
7	Burke	0.24	2,258.52	10.90	102,574.64	0.00	0.00	11.14	104,833.16
8	Burleigh	0.25	64,749.35	0.00	0.00	0.00	0.00	0.25	64,749.35
9	Cass	10.25	4,759,758.54	0.00	0.00	0.00	0.00	10.25	4,759,758.54
10	Cavalier	7.10	196,072.71	13.00	359,006.36	4.50	124,271.43	24.60	679,350.50
11	Dickey	3.34	73,732.92	12.33	272,193.13	0.00	0.00	15.67	345,926.05
12	Divide	11.50	118,139.82	20.00	205,460.90	0.00	0.00	31.50	323,600.72
13	Dunn	10.78	152,612.18	10.00	141,569.75	0.00	0.00	20.78	294,181.93
14	Eddy	4.95	34,603.46	24.59	171,898.69	0.00	0.00	29.54	206,502.15
15	Emmons	0.25	3,671.40	8.71	127,912.89	0.00	0.00	8.96	131,584.29
16	Foster	0.00	0.00	20.00	280,599.40	2.44	34,233.13	22.44	314,832.53
17	Golden Valley	10.45	64,165.19	0.00	0.00	0.00	0.00	10.45	64,165.19
18	Grand Forks	0.25	46,678.57	5.74	1,071,740.01	0.00	0.00	5.99	1,118,418.58
19	Grant	3.44	31,866.23	8.00	74,107.50	0.00	0.00	11.44	105,973.73
20	Griggs	6.44	64,565.36	13.96	139,958.47	5.00	50,128.38	25.40	254,652.21
21	Hettinger	0.30	3,090.95	11.48	118,278.59	0.00	0.00	11.78	121,369.54
22	Kidder	0.00	0.00	5.75	67,305.71	5.00	58,526.70	10.75	125,832.41
23	LaMoure	3.62	72,479.38	14.93	298,927.54	0.00	0.00	18.55	371,406.92
24	Logan	0.00	0.00	7.65	60,686.77	0.00	0.00	7.65	60,686.77
25	McHenry	5.11	120,466.73	10.00	235,747.15	2.02	47,621.00	17.13	403,834.88
26	McIntosh	5.00	53,924.10	15.00	161,772.29	0.00	0.00	20.00	215,696.39
27	McKenzie	10.16	200,355.01	0.00	0.00	0.00	0.00	10.16	200,355.01
28	McLean	0.25	8,769.75	9.95	349,035.74	0.00	0.00	10.20	357,805.49
29	Mercer	0.00	0.00	14.00	295,061.94	0.00	0.00	14.00	295,061.94
30	Morton	0.25	18,882.76	10.00	755,308.13	0.00	0.00	10.25	774,190.89
31	Mountrail	0.25	5,156.14	10.00	206,245.89	0.00	0.00	10.25	211,402.03
32	Nelson	7.04	94,584.14	19.38	260,375.00	7.42	99,689.44	33.84	454,648.58
33	Oliver	0.25	2,096.09	10.00	83,843.76	0.00	0.00	10.25	85,939.85
34	Pembina	2.18	73,893.23	10.00	338,959.57	0.00	0.00	12.18	412,852.80

APPENDIX A

35	Pierce	2.10	30,947.58	10.00	147,369.44	0.00	0.00	12.10	178,317.02
36	Ramsey	2.39	72,959.22	20.36	621,526.65	0.00	0.00	22.75	694,485.87
37	Ransom	5.00	99,900.96	10.00	199,801.91	0.00	0.00	15.00	299,702.87
38	Renville	1.36	14,990.53	13.61	150,015.45	0.00	0.00	14.97	165,005.98
39	Richland	8.00	447,227.70	16.42	917,934.94	0.00	0.00	24.42	1,365,162.64
40	Rolette	0.30	3,161.47	17.26	181,891.66	0.00	0.00	17.56	185,053.13
41	Sargent	6.69	120,256.03	15.00	269,632.42	0.00	0.00	21.69	389,888.45
42	Sheridan	3.00	20,817.51	12.00	83,270.09	0.00	0.00	15.00	104,087.60
43	Sioux	0.00	0.00	8.87	20,705.43	0.00	0.00	8.87	20,705.43
44	Slope	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	Stark	1.61	100,306.86	10.00	623,023.43	0.00	0.00	11.61	723,330.29
46	Steele	8.92	129,730.19	10.00	145,437.43	5.00	72,718.72	23.92	347,886.34
47	Stutsman	2.48	149,758.03	5.81	350,844.64	0.00	0.00	8.29	500,602.67
48	Towner	0.00	0.00	10.00	126,510.25	38.35	485,166.87	48.35	611,677.12
49	Traill	20.75	619,667.84	16.60	495,734.26	4.95	147,824.35	42.30	1,263,226.45
50	Walsh	6.36	222,964.54	25.00	876,432.98	5.00	175,286.59	36.36	1,274,684.11
51	Ward	0.25	40,069.76	9.93	1,591,570.71	0.00	0.00	10.18	1,631,640.47
52	Wells	10.74	213,237.10	4.43	87,955.34	0.00	0.00	15.17	301,192.44
53	Williams	3.54	215,412.22	15.00	912,763.64	0.00	0.00	18.54	1,128,175.86

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