

**Testimony To The
INTERIM TAXATION COMMITTEE
Prepared October 29, 2009 by the
North Dakota Association of Counties
Terry Traynor, Assistant Director**

CONCERNING EMERGENCY COMMUNICATIONS TAXATION

Chairman Cook and committee members, thank you for the invitation to briefly speak about North Dakota's history of "emergency services communications" or E911 taxation, and to illustrate some of the challenges that local governments across the country are facing in this area.

First the history – I have (as a separate document) prepared a rather lengthy discussion and timeline regarding emergency number calling in North Dakota, this country, and the world. I have done this to make sure that our system can be viewed in its proper perspective. I will not review the early history in detail, but move rapidly into the North Dakota portion.

Emergency number calling began, over 70 years ago, in Britain with 9-9-9 (because it was easiest to mechanically switch). AT&T got this going in the U.S. 30 years later, although there was no overarching federal statutory requirement (somewhat surprisingly) until 1999. AT&T used the digits 9-1-1 because they were easier and quicker to dial on a rotary phone.

The North Dakota Legislature allowed counties and cities to implement 9-1-1 in 1985, authorizing them to levy a 50-cent per phone per month fee once they obtained voter approval. As the timeline indicates, this was amended up to \$1 per phone per month in 1991. By 1997, all of North Dakota but Rolette County had levied a fee and implemented enhanced 9-1-1 service. This is the point that change began to happen much more rapidly.

The Federal Communication Commission had recently mandated that all cellular phone companies provide Phase 1 and Phase 2 wireless 911 – if requested by the local 911 jurisdiction. (Phase 1 routes the caller's number and cell tower location and Phase 2 adds the latitude and longitude of the calling device.) By 2001 the cellular industry had figured out how to accomplish this and the North Dakota Legislature authorized counties and cities to extend their existing fee to cellular service and "request" wireless 911 from the companies operating in North Dakota.

By creating a joint powers entity and making one, statewide request; the fifty-four 911 jurisdictions were able to leverage a very rapid deployment and North Dakota became (in April of 2005) the 6th State in the country to have statewide Phase 1/Phase 2 wireless 911. While we would like to think that this is over and done with – in reality it never ends. Our State's wireless system has grown from 200,000 cell phones and 300 cell "sites" in 2005 to over 400,000 cell devices and well over 600 cell sites – and it grows each month. We have also added, and lost, a number of different cell service providers.

"Traditional" cell service however is obviously not the final word in communications. By 2007, it was clear that "pre-paid" cell phones were capturing a growing share of the market (estimated

at 16% in the U.S. and over 50% worldwide). Since these products do not generate a monthly bill, the vendors are resistant to traditional 911 fee collection – although local government has the same costs to route (and respond to) the call. The North Dakota Legislature, in 2007, made it clear that prepaid cell companies are to collect the fee by either deducting “value” each month from active accounts, or by simply paying an up-front 2% “sales tax”. Even with the options, the major “pre-paid” providers have refused to collect and remit the fees in North Dakota and most other states.

Also in 2007, the Legislature extended the fee to Voice over Internet Protocol or VoIP providers. This computer/Internet-based phone service is offered by at least 800 different companies (voipproviderslist.com) – none of which need permission, license or certification to offer service in North Dakota. One of the largest in this country, Vonage, currently collects and remits the 911 fee for every customer in one of our fifty-four 911 jurisdictions – but they are the only one. No one knows how many VoIP providers have customers in North Dakota or how many customers there are.

By 2008 it became clear that the revenue received by 911 jurisdictions from “landline” phone service was declining statewide. Digging deeper into the data however, it was clear that it had been declining in some jurisdictions for several years. What was even more concerning was that revenue associated with cellular service, after growing quite steadily, had peaked and begun to drop off for some of these same rural counties.

While 911 costs for dispatch staff, whether directly for employees, or indirectly through multi-county contracts, continued to increase, the revenue to support those costs was decreasing for some jurisdictions. The 2009 legislature gave permission for those jurisdictions involved in multi-county 911 efforts to raise their fee to \$1.50 per device per month for the next three years, giving the Legislature time to study the issue. As of now, I am aware of no county that has opted to raise their fee, although a number of the more rural “state radio-dispatched” counties are considering this action.

Attached to my testimony is a flowchart of the expenditure of fee revenue in 2007 – with every jurisdiction fee at \$1/device per month. The statutory Emergency Services Coordinating Committee will be compiling this data again for 2009. This chart, analyzed with the data in the sidebars of the timeline report, explains the current dilemma. Just the \$6.3 million needed (2 years ago) to support the dispatchers and the \$2.4 million in payments to phone companies was more than the entire fee collected statewide.

Back to the timeline, this brings us close to current, but now is where things get really compressed and the challenges become a bit more complex. The Virginia Tech Shooting in 2007 publicized the technological shortcomings of the E911 system nationwide – something the FCC and USDOT had already begun to address in their “Next Generation 911” (NG911) initiative.

As widely reported, many students at Virginia Tech were “texting” messages to 9-1-1 on their cell phones with the belief that they would go to the public safety answering point – which they

did not. Even now, after the publicity, 75% of college students believe they can “text” 911. This is not possible. :

Texting is the simplest and most common communication device that is driving the need for NG911 – but certainly not the only one. Before we talk about some of the others – let’s talk about why it doesn’t work. Two (very much simplified) drawings are attached to this testimony that contrast the current E911 system with Next Generation 911.

Currently (as illustrated in the first drawing) traditional landline and cellular 911 calls are directed to one of two “911 Selective Routers” (often called 911 “tandems”) in North Dakota. This device then routes the voice to the proper Public Safety Answering Point (PSAP) on dedicated voice-grade (analog) phone lines. It also sends a number with the voice. That number is then routed to a national database which translates the number into a carrier identifier, call-back number, and caller location (address or lat/long) which is transmitted back to that same PSAP. This traffic is handled by dedicated (low-speed) data links. Although each PSAP has at least two data links and two voice lines, this system does not have the robust redundancy that the federal government believes is essential, and more importantly it cannot transmit the large volume of data coming from many of the newer communication devices. This is how we are operating now and how nationwide the 911 system has worked since 1975.

Again, counties pay \$2.4 million per year to use this system. It should be noted that while in government we view 911 as an essential public safety service – from the industry perspective 911 is a product sold to government.

The second drawing indicates (in very, very general terms) what the federal government is calling Next Generation 911 – and the migration they are urging all States make. You will see that the voice grade lines and the low speed data links of the previous drawing are replaced by a high-speed system of interconnected fiber optic and other broadband technologies. This network is depicted as a ring, as the expectation is that complete redundancy for all primary nodes will be integral to the design – essentially multiple paths to each node. Just as significantly, the “selective router” is replaced (or augmented) by a “911 gateway” that will direct the voice traffic that is currently routed, but also direct the text, pictures, video and other data along with (or in place of) the voice.

Now the technology: Virtually everyone in this room – if the national statistics are accurate – has a cell phone with them right now. Most of these can take pictures, video, and certainly text (if you have such a plan). People every day are taking pictures of accident scenes, videos of suspicious activity, and of course texting 9-1-1. Most of you could do that right now and this could be extremely valuable information for emergency responders – if it could actually be received and managed. The selective routers cannot switch that data and the voice grade lines feeding the PSAPs cannot handle that traffic.

Additionally, many of you might have cellular devices that have Internet access that would allow you to email a PSAP with a message, pictures, voice and video. This currently cannot happen. If you count the possibility of using a Voice over Internet Protocol connection with a state-of-the-art cell device, you could conceivably try to connect with a PSAP in three or four ways with

four or five data streams – most of which cannot be transmitted by the voice grade phone lines that are the backbone of the 911 system.

But that is not all. Many major trucking firms are now employing crash notification systems that automatically dump megabytes of data if the truck's air bags are deployed, if the truck is overturned, or if the truck is on fire. Currently this data goes to a private dispatcher who in turn calls the appropriate PSAP (once they figure out which one it is) and relays this information verbally over the phone. Technologically, it is possible for this information to go directly to the PSAP and from there be routed to the appropriate responding vehicle – but the 911 network cannot transmit this data at this time.

Similarly, personal vehicle systems such as OnStar use the private dispatcher method, but would not necessarily need that (sometimes) delaying step if the network could route more than the driver's voice. The "Ford Sync" product gets around this by having the vehicle's computer "hijack" the driver's cell phone (if properly configured), dial 9-1-1, and send one of several recorded verbal messages to the PSAP – something the 911 network can handle.

Beyond personal calling and vehicle accidents, the explosion of technology in medicine, safety and security is equally challenging. Urban and highway monitoring cameras, bank security, home video systems, electronic medical records, and other technologies have the capability to capture and communicate (in real time) information that could be incredibly useful for law enforcement, ambulances, and other responders – if it could be transmitted appropriately.

The technology exists to carry these types of data, for emergency personnel to even reach out and control cameras, for map data and medical information to be transmitted directly to a mobile data terminal in an ambulance, for a helicopter to transmit aerial real-time video of a fire directly to the responding fire truck. The 911 system however, is designed for voice – period. And that is where Next Generation 911 comes in.

Next Generation 911, in simplest terms is the careful migration from the analog voice-grade 911 infrastructure to a broadband, digital data network with greater security and increased redundancy. The Legislature has charged the statutory Emergency Services Communications Coordinating Committee with the responsibility of "*coordinating plans for implementing*" NG911. This Committee, through ITD has just been awarded a federal grant of \$912,000 to begin this migration. Unfortunately, the consultant hired by the counties to prepare a Next Gen 911 Master Plan has estimated the transition costs at more than \$13 million. While this is a bit overwhelming, it must be considered that counties currently spend \$2.4 million each year in payments to phone companies for the existing 911 infrastructure.

When you look at this broad and rather complex issue from the perspective of taxation, it challenges the local 911 jurisdictions in two ways:

1. More money will need to be spent, at least during implementation; however the current 911 fee is already paying less than two-thirds of the overall 911 system costs and for some jurisdictions the revenue is decreasing; and

2. A growing number of these new technologies that must eventually be communicating directly with PSAPs do not pay a monthly device fee now (even some that are required to by state law) and it will likely be difficult if not impossible to get them to pay.

These are challenges that are certainly not unique to North Dakota. Every state is struggling with supporting its existing 911 system (particularly during this time of economic difficulty); but each also recognizes that, for public safety, they must begin to address the issues of Next Generation 911.

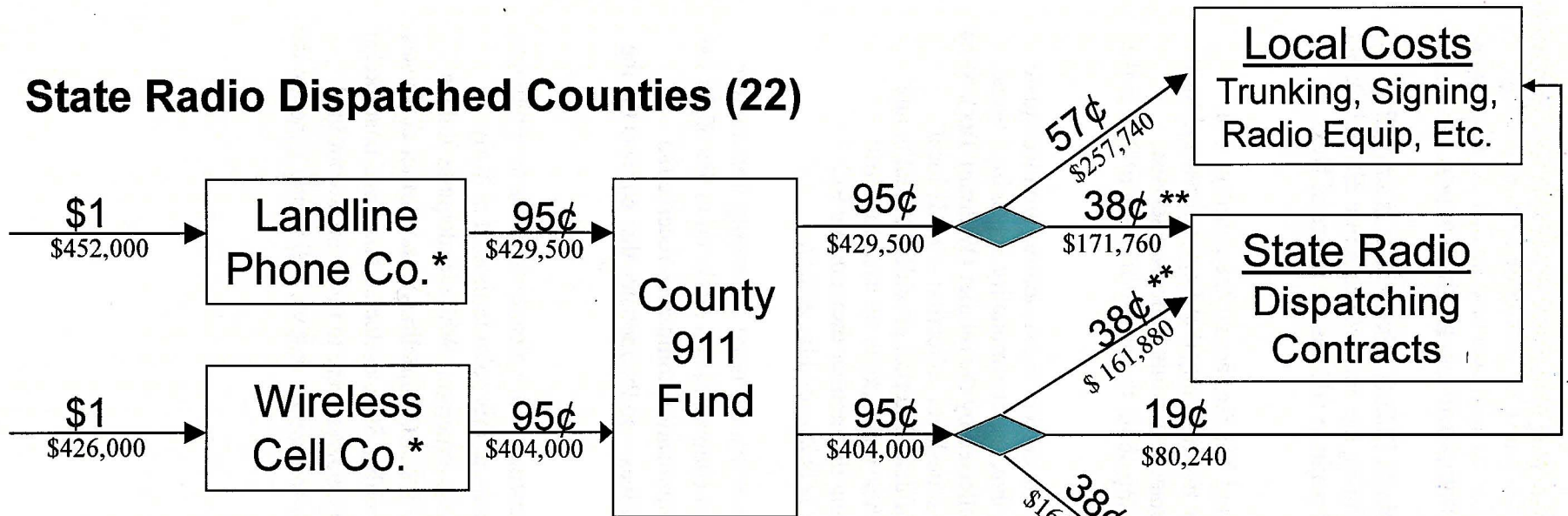
The attached table is a summary of the current dedicated 911 fees across the country. The variation and (in some cases) dramatic ranges indicate the difficulty that Legislatures and local boards have had in designing the proper funding mechanism for this important service. Nationally, there are several parallel discussions ongoing about the proper funding of 911 in the future.

Most government and industry participants agree that the current fee structures are inadequate and greater uniformity nationwide is desirable – after that, the commonality is lacking. Some industries, particularly prepaid wireless, want a tax collected by the retailer (Walmart Tax). Most industries and state governments support centralized, state-level collection – while local governments responsible for 911 are often skeptical of that. Internet providers object to any taxation – claiming that it's the software that allows their networks to be used for VoIP communications, while at the same time acknowledging that neither they nor the 911 jurisdictions have any way of knowing what software is being used by whom.

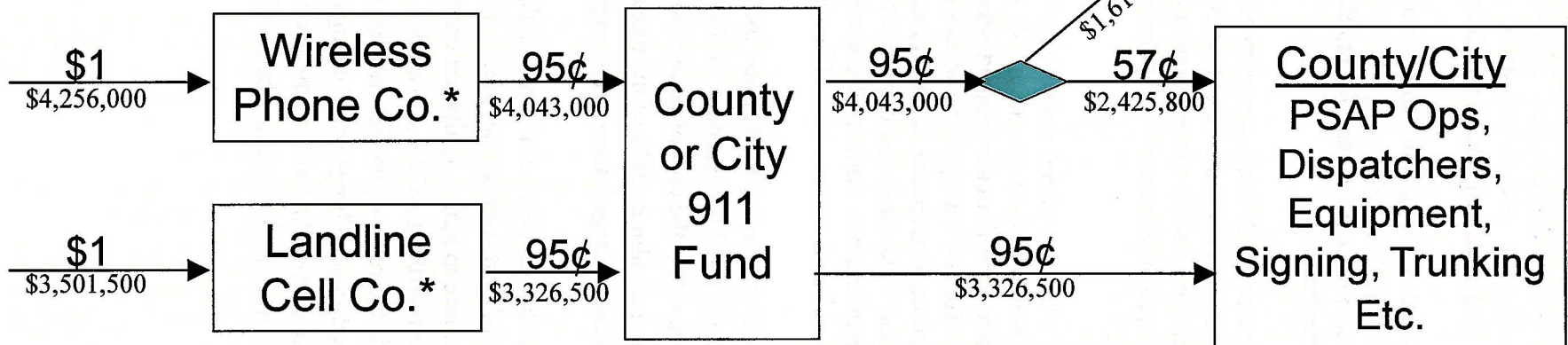
Implementation of NG911 and the ultimate resolution of this fee issue is not only important to State and local government. Although communication companies can retain up to 5% of the fee collected (for the cost of collection), these same communication companies receive (an additional) almost 20% of the money back in contract fees – so the industry that collects the fee has a rather large interest in its expenditure as well.

From the perspective of North Dakota county government, we are pleased that this committee is examining this important issue. We do however believe, at this point in time, it is likely premature to make significant changes to the current fee structure. While inadequate, it does cover two-thirds of the allowable costs (as defined by ESCCC guidelines); and further decreases to this fee revenue would only increase the burden to either State-collected taxes or (most likely) property tax. Things could change rather quickly, if Congress were to move on streamlined taxing proposals, but for now, we have no alternatives to propose that we feel would generate the same or more funding and be politically feasible.

State Radio Dispatched Counties (22)

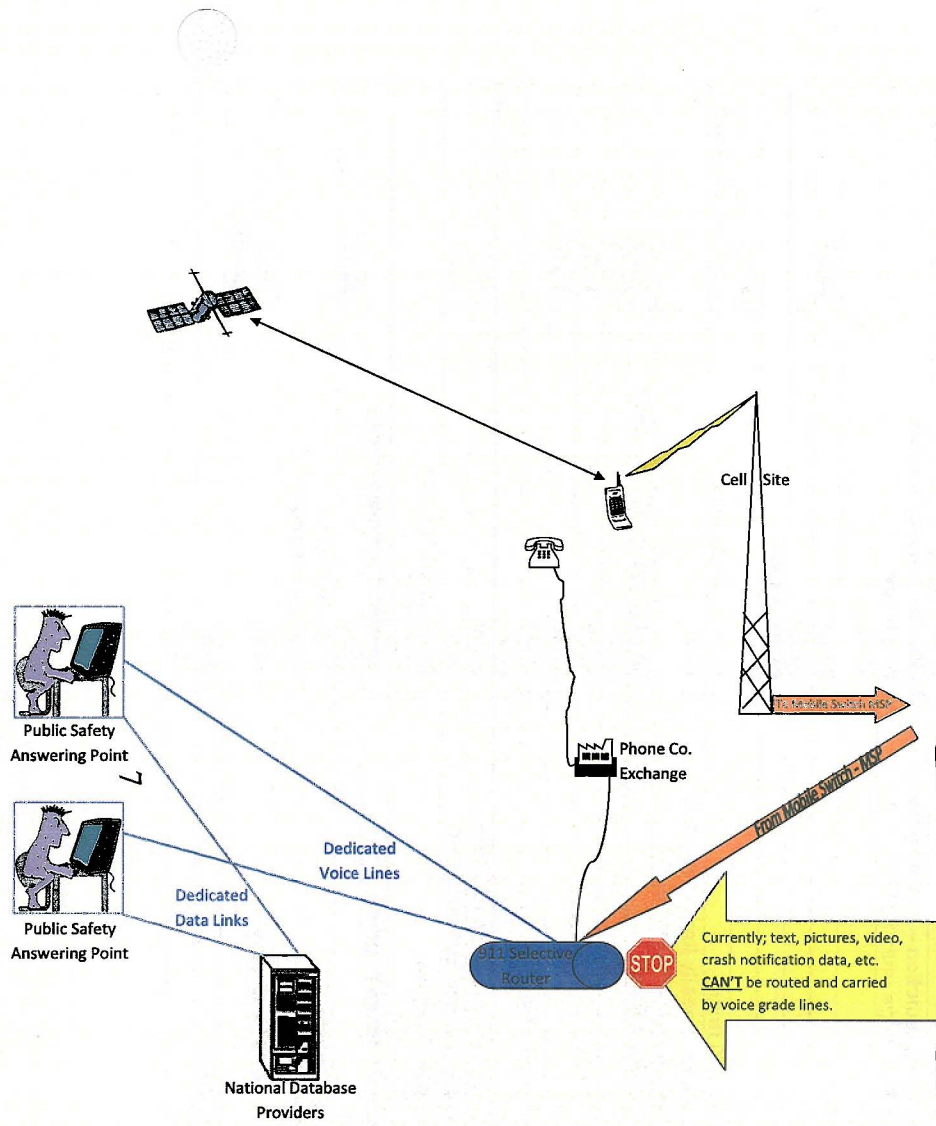


Locally Dispatched Counties/Cities

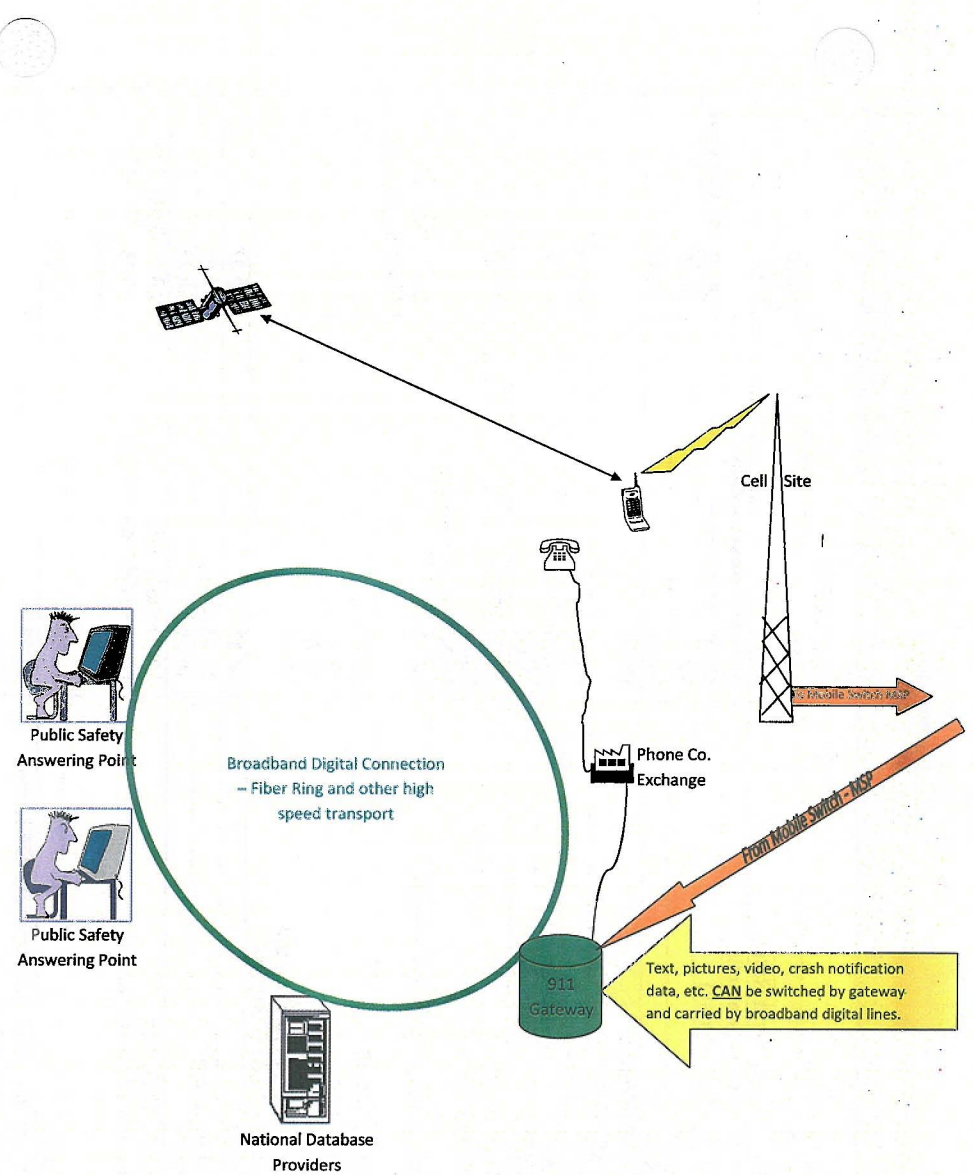


* Phone companies retain about \$432,500 for collecting the fee – they also receive payments for trunking and database information. All figures based on CY07 collection data.

** State Radio fees increased from 20¢ to 38¢ per device on July 1, 2009.



**Current 911 Network
(Generalized)**



**Next Generation 911 Network
(Generalized)**



Range of 9-1-1 User Fees
Exact amounts may be adjusted locally
(August, 2009)

State	Wireline	Wireless	VoIP
Alabama	5% of Base Rate	\$0.70	5% of Base Rate
Alaska	\$0.50 - \$2.00	\$0.50 - \$2.00	
Arizona	\$0.20	\$0.20	\$0.20
Arkansas	5% - 12% of Tariff Rates	\$0.65	\$0.65
California	.67% of intrastate calls	.67% of intrastate calls	
Colorado	\$0.40 - \$1.25 (max)	\$0.40 - \$1.25 (max)	\$0.40 - \$1.25 (max)
Connecticut	\$0.46	\$0.46	\$0.46
Delaware	\$0.60	\$0.60	\$0.60
District of Columbia	\$0.76 Wireline \$0.62 Centrex	\$0.76	
Florida	\$0.41 - \$0.50	\$0.50	\$0.50
Georgia	\$1.50	\$1.00 - \$1.50	\$1.50
Hawaii	\$0.27	\$0.66	
Idaho	\$1.00 (max)	\$1.00 (max)	\$1.00
Illinois	\$0.25 - \$3.20	\$0.72 \$2.50 City of Chicago	
Indiana	3% or 10% of Monthly Access	\$0.50	3% or 10% of Monthly Access
Iowa	\$0.45 - \$1.50	\$0.65	
Kansas	\$0.75 (max)	\$0.50	\$0.50
Kentucky	\$0.36 - \$4.00	\$0.70	
Louisiana	\$0.62 - \$1.00 Residential \$1.30 - \$2.00 Business	\$0.85	
Maine	\$0.37	\$0.37	\$0.37
Maryland	\$1.00 (max)	\$1.00 (max)	\$1.00
Massachusetts	\$0.75	\$0.75	\$0.75
Michigan	\$0.19 State Fee \$0.18 - \$3.00 by County	\$0.19 State Fee \$0.18 - \$3.00 by County	\$0.19 State Fee \$0.18 - \$3.00 by County
Minnesota	\$0.75	\$0.75	\$0.75
Mississippi	\$1.00 Res \$2.00 Commercial (25 Lines)	\$1.00	
Missouri	15% of Base Rate	None	
Montana	\$1.00	\$1.00	\$1.00
Nebraska	\$0.50 - \$1.00	\$0.50 - \$0.70	\$0.50 - \$1.00
Nevada	Varies by Jurisdiction - Property tax and/or Surcharge (max \$0.25)	Must be equal to wireline Surcharge	
New Hampshire	\$0.64	\$0.64	
New Jersey	\$0.90	\$0.90	\$0.90
New Mexico	\$0.51	\$0.51	
New York	\$0.35	\$1.20 - \$1.50	
North Carolina	\$0.70	\$0.70	\$0.70
North Dakota	\$1.00 - \$1.50 (max)	\$1.00 - \$1.50 (max)	\$1.00 - 1.50 (max)
Ohio	\$0.50 (Max) (Legally limited to a few Counties, no general surcharge.	\$0.28	
Oklahoma	3-15% of Base Rate	\$0.50 (Approx. 32 Counties)	\$0.50
Oregon	\$0.75	\$0.75	\$0.75
Pennsylvania	\$1.00 - \$1.50	\$1.00	\$1.00
Rhode Island	\$1.00	\$1.26	\$1.26
South Carolina	Based on access lines	\$0.61	
South Dakota	\$0.75	\$0.75	
Tennessee	\$0.65 - \$1.50 Res./ \$2.00 - \$3 Bus	\$1.00	\$1.00
Texas	\$0.50 plus it varies by HRC & ECD	\$0.50	\$0.50
Utah	\$0.65 Local Fee plus \$0.13 State Fee	\$0.65 Local Fee plus \$0.13 State Fee	
Vermont	Universal Service Funding	Universal Service Funding	
Virginia	\$0.75	\$0.75	\$0.75
Washington	\$0.20 Statewide \$0.50 by Counties	\$0.20 Statewide \$0.50 by Counties	
West Virginia	\$0.98 - \$4.65 by County	\$3.00	\$0.98 - \$4.65 by County
Wisconsin	\$0.36 - \$1.00	None	
Wyoming	\$0.75	\$0.75	