NDDOT
North Dakota
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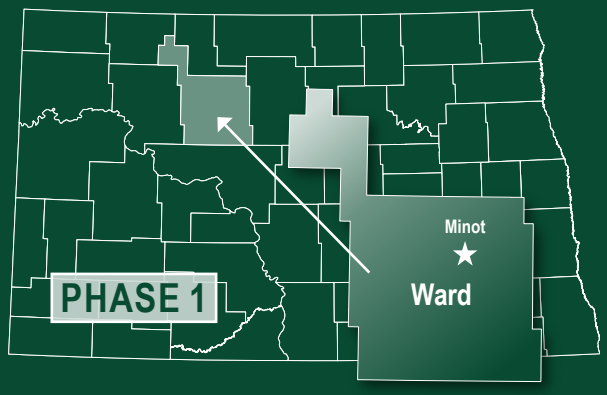
INFRASTRUCTURE & DRIVER BEHAVIOR



October 2013

North Dakota
Local Road Safety Program

TBG091013074136SEA

North Dakota
Local Road Safety Program

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On behalf of
North Dakota Department of Transportation
Grant Levi, P.E., Director

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Contents

Acronyms and Abbreviations

4Es	education, enforcement, engineering, and emergency medical services
AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily traffic
CMC	county major collector
CMF	crash modification factor
CRS	Crash Reporting System (North Dakota Department of Transportation)
DUI	driving under the influence
EMS	emergency medical services
ERA	edge risk assessment
FHWA	Federal Highway Administration
GDL	graduated drivers license
GHSA	Governors Highway Safety Association
HSIP	Highway Safety Improvement Program
LEAD	Listen, Educate, Ask, Discuss
LRSP	Local Road Safety Program
MUTCD	*Manual on Uniform Traffic Control Devices*
NCHRP	National Cooperative Highway Research Program
NDDOT	North Dakota Department of Transportation
NHTSA	National Highway Traffic Safety Administration
Plan	LRSP Safety Plan
PSA	public service announcement
SHSP	Strategic Highway Safety Plan
TSO	Traffic Safety Office

Executive Summary

This Local Road Safety Program (LRSP) was prepared for Ward County and the City of Minot. The LRSP was prepared as part of North Dakota's statewide highway safety planning process. The contents are the result of a data-driven process, with a goal to reduce severe crashes (defined as those crashes resulting in at least one fatality or incapacitating injury) by documenting at-risk locations, identifying effective low-cost safety improvement strategies, and better positioning the county and city to compete for available safety funds. The LRSP includes a description of the connection to safety planning efforts at the national, state (through North Dakota's Strategic Highway Safety Plan and the Highway Safety Improvement Program), and regional levels.

This LRSP was commissioned by the North Dakota Department of Transportation (NDDOT) to provide a tool to assist counties in submitting proactive low-cost systematic safety projects for NDDOT to fund as part of the Highway Safety Improvement Program (HSIP). The LRSP is not intended to be a complete safety plan for the Ward County and the City of Minot, because there may be other safety improvement strategies that are considered high-cost or low-cost that are also effective, but cannot be systematically applied across a county or local road system. While this LRSP addresses many of the safety concerns for at-risk locations within the county, other high-priority projects may be identified after this safety planning effort is complete.

Specifically, this LRSP includes the following:

- Description of the safety emphasis areas.
- Identification of a short list of high-priority, low-cost Safety Strategies.
- Documentation of at-risk locations along the county/local road systems that are considered candidates for safety investment. At-risk locations include roadway segments, horizontal curves, and intersections with multiple severe crashes or with roadway geometry and traffic characteristics similar to other locations in North Dakota where severe crashes have occurred.
- Development of almost $3 million of suggested safety projects across the County, including the completed forms suitable for submittal to NDDOT for their consideration for HSIP funding. These projects represent the application of high-priority safety strategies at the at-risk locations.
- Discussion of behavioral crash statistics, potential safety strategies, and current statewide resources available for implementation of behavioral safety strategies.

TABLE E-1
Ward County and City of Minot Total Project Costs

Rural Projects	Intersections	Segments	Curves	Total
Ward County	$2,122,800	$366,070	$109,276	$2,598,146
Urban Projects	**Segments**	**Right Angle Intersections**	**Pedestrian and Bicyclist Intersections**	**Total**
Minot	$92,140	$114,000	$190,000	$396,140
			TOTAL	**$2,994,286**

The information in this LRSP is consistent with best practices in safety planning as presented in guidance prepared by the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and the National Cooperative Highway Research Program (NCHRP). This information is provided in an effort to reduce the number of severe crashes on the county/local road systems. It is understood that the final decision to implement any of the suggested projects resides with the respective county or city officials.

It should also be noted that the rankings of county/local roadway facilities are based on a comparison with documented risk factors. There is no expectation or requirement that the Ward County or the City of Minot pursue safety projects in the exact ranking order. The ranking suggests a general priority, and it is understood that actual project development decisions will be made by county or city staff based on consideration of economic, social, and political issues, as well as in coordination with other projects already in each agency's Capital Improvement Program.

It should also be noted that some of the at-risk locations and suggested safety projects involve the intersection of a county roadway and a state route. It is acknowledged that the county does not have the authority to implement projects on the state's right-of-way. The county is encouraged to coordinate with the NDDOT to pursue a partnership that identifies a path toward implementation. This LRSP (1) does **not** set requirements or mandates; (2) is **not** a standard; and (3) is neither intended to be nor does it establish a legal standard of care.

To help reduce the potential exposure to claims of negligence associated with motor vehicle crashes on the county/local road system, the following key point should be considered:

- Federal law (23 USC Section 409) established that information generated as part of the statewide safety planning process is considered privileged and unavailable to the public. The privileged status includes crash data where value/detail has been added by analysts during the safety planning process (for example, computation of crash rates, disaggregation of crashes by type or severity, and documentation of contributing factors), the lists of at-risk locations, and information supporting the development and evaluation of potential safety projects. The federal law and the privileged status of the safety information was upheld by the U.S. Supreme Court in the case of Pierce County (Washington) v. Guillen (see Appendix I). North Dakota interprets Section 409 to mean that basic crash data is available

to the public on request, but that it cannot be used in legal proceedings associated with claims of negligence.

Regarding the expected life of this LRSP, the shelf life of this document is limited (as with any transportation plan). This is because the distribution of crashes can change over time, just as roadway and traffic conditions change, contributing to the occurrence of crashes. As a result, Ward County and the City of Minot are encouraged to consider periodically updating this LRSP.

The county and the City of Minot are encouraged to apply for these projects through the NDDOT's HSIP process. The anticipated annual HSIP process is shown in Table ES-2.

TABLE ES-2
HSIP Solicitation Schedule

Month	Task Description
October/November	Solicitation for HSIP is sent out to all counties, districts, MPOs, cities, and tribes. The counties, districts, MPOs, cities, and tribes will have about **6 weeks to respond**.
January through March	NDDOT reviews the requests and conducts additional studies if required.
Following Fall	HSIP approval notices are sent after program concurrence from FHWA. Funding for an approved project will be provided as funding is available.

1.0 Introduction

1.1 Background

To fulfill a commitment in the 2013 North Dakota Strategic Highway Safety Plan (SHSP), the North Dakota Department of Transportation (NDDOT) began the Local Road Safety Program (LRSP). The purpose of the LRSP is to better engage local roadway agencies in the statewide safety planning process. The NDDOT's commitment is based on two pieces of information:

- Based on 2007-to-2011 crash records, the SHSP identified that 56 percent of severe crashes in North Dakota occurred on roads operated by local agencies.
- The NDDOT had historically focused federal safety funds on interstates, U.S. highways, and state highways, even though approximately half of severe crashes occurred on those facilities.

The NDDOT set out to increase the level of participation of local agencies in safety planning and the amount of safety funds directed toward projects on local systems. To do this, the NDDOT first partnered with local agencies (including all 53 counties and 12 major cities in the state) to prepare safety plans for every region of North Dakota.

> *The Strategic Highway Safety Plan (SHSP) development process was key in helping us identify the importance of local roads to achieve our long-term safety goals. This data-driven process helped us to transition to a systemic identification of crash types on all roads in addition to our traditional crash location (or hot spot) approach on the state system. As a result, the NDDOT has partnered with local stakeholder to prepare road safety plans that will identify potential safety projects consistent with the SHSP.*
>
> — Grant Levi, P.E., Director
> North Dakota Department of Transportation

Representatives from the NDDOT, Ward County, and the City of Minot prepared this LRSP Safety Plan (Plan) as Phase 1 of a comprehensive effort to reduce the number of fatal and incapacitating injury crashes (referred collectively as severe crashes) that occur on North Dakota's local road system in Ward County. The area covered by the Plan includes a portion of NDDOT District 4 – Minot (Figure 1-1). Additionally, Burleigh, Cavalier, Nelson, Pembina, Ramsey, and Walsh counties and the cities of Bismarck and Devils Lake participated in Phase 1 of the study, but are presented in a separate report.

The purpose of this LRSP is to identify and implement specific safety strategies at specific locations and to link these projects directly with the contributing factors associated with the majority of severe crashes on the local roads. These safety projects are intended to be comprehensive by addressing both infrastructure- and driver-behavior-related crashes by including proactive projects developed through a system-wide risk assessment process. These projects are intended to complement reactive projects developed through a site analysis approach focused on high-crash locations.

The traffic safety priorities identified in this Plan are the result of a data-driven analysis of nearly 88,450 crashes (including 2,231 severe crashes) on all roads in North Dakota. Of these crashes, 9,170 total crashes and 209 severe crashes occurred in Ward County over the 5-year period from 2008 to 2012.

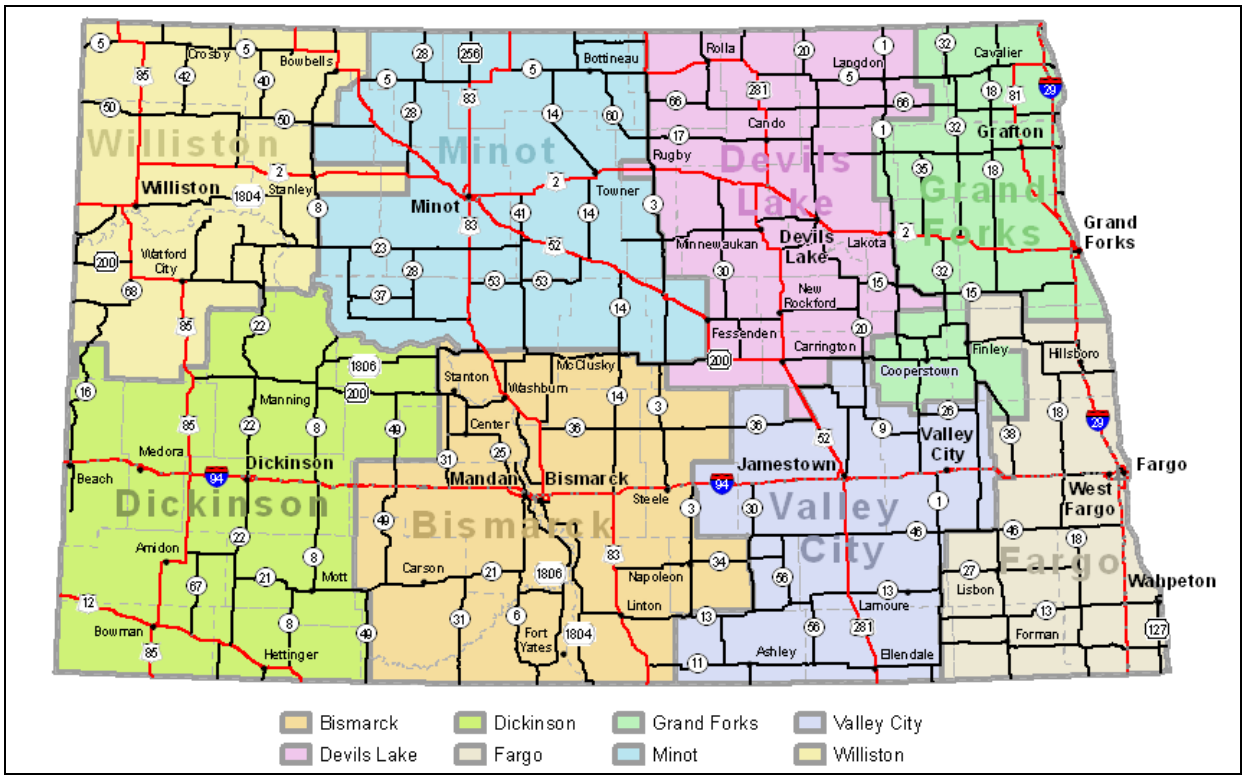


FIGURE 1-1
North Dakota Department of Transportation's Eight Districts

1.2 Traffic Safety – A National Perspective

According to the National Highway Traffic Safety Administration (NHTSA), 32,310 people were killed in traffic crashes in 2011—an average of 89 people killed every day—and an additional 2.2 million people were injured. The number of fatalities nationally decreased significantly and steadily in the 1970s and 1980s. This trend was interrupted beginning in the early 1990s and continuing through the early 2000s as traffic fatalities began to increase. However, since 2005, traffic fatalities have decreased dramatically to the lowest number of fatalities in recent history—32,310 fatalities in 2011.

Like the national trend, the North Dakota traffic fatality rate also decreased in the 1970s and 1980s. Likewise, North Dakota's traffic fatalities slowly increased through the 1990s and began to decrease in 2005. However, unlike the national trend, North Dakota's traffic fatality rate has increased since 2008. The 2013 North Dakota Strategic Highway Safety Plan recognizes the following issues likely account for much of the increase:

- Shifts in the age of the driving population.

- Steady increase in the number of vehicle miles traveled in North Dakota, which is counter to the flat or decreasing national trend in travel.
- Other states have a longer history using a systemic investment approach to focus on locations with risk factors for severe crashes.
- The growing challenges of providing emergency medical response and quick access to advanced health care in rural areas.

1.2.1 AASHTO's Strategic Highway Safety Plan and Safety Emphasis Areas

In the late 1990s, the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) supported a comprehensive and data-driven approach to reduce the number of traffic-related fatalities. Both AASHTO and FHWA concluded that up to that point, states' efforts had not been effective in lowering the number of severe crashes because: (1) efforts were not focused on severe crashes nor the primary factors resulting in severe crashes, and (2) safety project selection was not part of a data-driven process that implemented effective strategies at locations most at risk for a severe crash.

AASHTO and FHWA recommended a safety program development process that included 22 categories (or safety emphasis areas) in the areas of drivers, special users, vehicles, highways, emergency services, and management. The objective of this first step is to help agencies consider the 4Es—education, enforcement, engineering, and emergency medical services (EMS)—when identifying safety priorities for their roads. In addition, selecting safety emphasis areas focuses agencies on safety strategies linked to the problem.

In 2007, AASHTO set a goal to reduce the number of traffic fatalities by 1,000 each year for the next 20 years, which is an integral first step in a national *Toward Zero Death* safety vision. FHWA has determined that this goal will be reached only by partnering with individual states. This partnering will lead to more successful project implementation and will result in programs that target the factors contributing to the greatest number of fatal and severe crashes.

1.3 North Dakota's Statewide Safety Planning Efforts

As shown in Figure 1-2, through 2004, North Dakota had a fatality rate (1.34 fatalities per hundred million vehicle miles traveled [HMVMT] in 2004) that was less than the national average (1.44 fatalities per HMVMT). However, in recent years, the North Dakota fatality rate (1.61 fatalities per HMVMT in 2011) has risen to above the national average (1.10 fatalities per HMVMT) and the overall number of traffic fatalities has crept upward (see Figure 1-2). In 2011, there were 148 fatalities on North Dakota roads, which is the most traffic fatalities reported in the state since 1982.

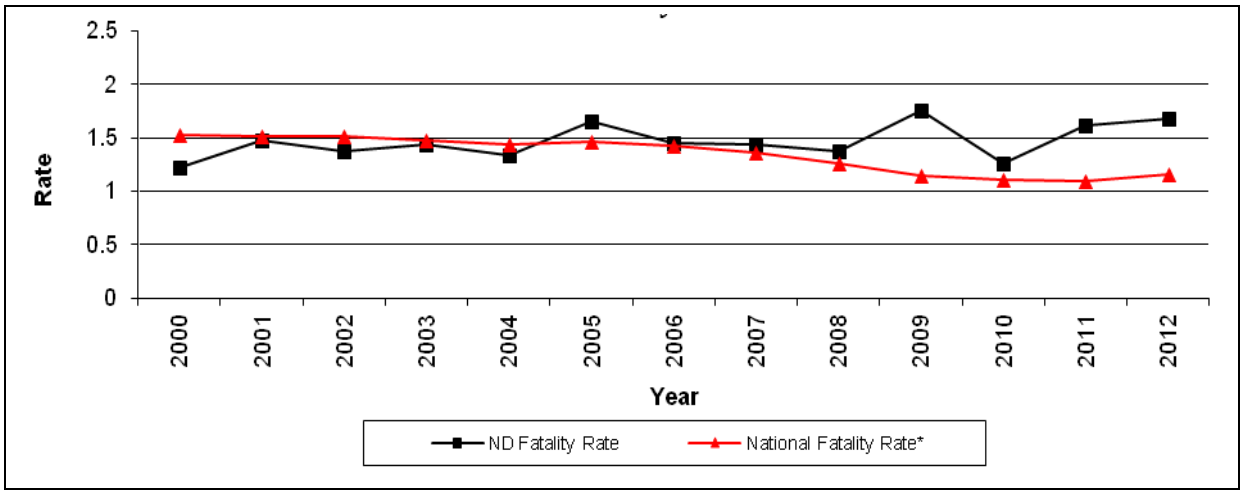


FIGURE 1-2
Fatality Rate – National and North Dakota (2000 to 2012)

In 2013, the NDDOT updated the state's SHSP. Based on severe crashes (Table 1-1), the 2013 SHSP identified the following emphasis areas, as well as priority strategies in each area:

- Young drivers (under age 21)
- Excessive speed or aggressive driving
- Alcohol-related
- Unbelted vehicle occupants
- Lane departure
- Intersections

North Dakota also adopted a long-term vision of zero fatalities on its roadways. Achieving this vision will require many years and dramatic shifts in the safety culture for North Dakota residents. An aggressive intermediate goal was set to reduce the 3-year average of traffic fatalities to 100 or fewer by 2020.

TABLE 1-1
North Dakota Fatal and Incapacitating Injury Crashes by AASHTO Safety Emphasis Area

Safety Emphasis Area		Statewide (All Roads)	
		Percent	Number
Drivers	**Involving Driver under Age 21**	**22%**	**501**
	Involving drivers over the age of 64	13%	280
	Excessive Speed or Aggressive Driving	**26%**	**576**
	Alcohol-Related	**30%**	**667**
	Distracted, asleep, or fatigued drivers	9%	206
	Unbelted Vehicle Occupants	**48%**	**1,067**
Special Users	Pedestrians crashes	5%	117
	Bicycle crashes	2%	46

TABLE 1-1
North Dakota Fatal and Incapacitating Injury Crashes by AASHTO Safety Emphasis Area

Safety Emphasis Area		Statewide (All Roads)	
		Percent	Number
Vehicles	Motorcycles crashes	12%	265
	Heavy vehicle crashes	15%	342
Highways	Train-vehicle collisions	1%	13
	Lane-Departure **Including both lane-departure (898 severe crashes) and head-on/ sideswipe-opposing crashes (150 severe crashes)**	**47%**	**1,048**
	Intersections	**23%**	**513**
	Work zone crashes	2%	36
Total Severe (Fatal and Incapacitating Injury) Crashes		**2,231**	

Notes:
Information is from North Dakota crash data records, 2008 to 2012; which is an update to the information in the 2013 ND SHSP, which used 2007 to 2011 crash records.
Numbers in this table do not add up to the statewide crash numbers because one crash may be categorized into multiple emphasis areas. For example, one crash may involve a young driver at an intersection and, therefore, be included in both of these emphasis areas.

1.4 Local Road Safety Program Overview

North Dakota's local road system encompasses more than 97,500 miles of roadway out of approximately 106,000 miles statewide. Although, historically, more than 50 percent of severe crashes in North Dakota occur on local roads, the density of these crashes was very low (approximately 0.002 severe crash per mile per year). As a result, local agencies were unable to identify high-crash locations to nominate for funding through the Highway Safety Improvement Program (HSIP). Therefore, using stand-in data for the severe crashes, safety projects were identified using a systemic process to evaluate at-risk locations. The use of the systemic process was necessary due to the low crash density. Based on revised FHWA policy, the NDDOT expanded the HSIP to include projects identified through the systemic analysis of local roads.

The focus areas of the systemic risk assessment are rural, paved county and tribal highways[1] and urban arterials and collectors in North Dakota's larger cities (cities with a population greater than 5,000). Paved, rural county highways were selected based on an analysis of statewide crash data that indicated that approximately 61 percent of severe local road crashes occurred on rural county roads. Of these crashes, approximately half occurred on paved roads, which accounted for less than 10 percent of county roads (approximately 6,200 miles). Further analysis indicated that on these rural highways, the most at-risk elements included roadway segments (60 percent of severe crashes), horizontal curves (32 percent of severe crashes), and intersections (32 percent of severe crashes).

[1] Does not include all paved roads outside municipal limits, but focuses on routes that serve regional travel. For example, a loop road that is paved and yet only provides access to a residential neighborhood was considered to be a local road given the type of traffic served by the facility.

Major cities were selected as a focus because the 12 cities in this category account for approximately 90 percent of the severe local road crashes within city boundaries. Furthermore, arterials and collectors accounted for 40 percent of the severe crashes. In addition, because these 12 cities are responsible for operation and maintenance of U.S. highway and state highway routes within the municipal limits (not including fully access managed facilities, such as the interstate), the U.S. and state highways were included in the review.

Figure 1-3 shows the approach used to develop this Plan for Ward County. Beginning with the crash analysis and concluding with this LRSP Plan report, the process is a culmination of NDDOT and concerned local agencies working together for nearly half a year.

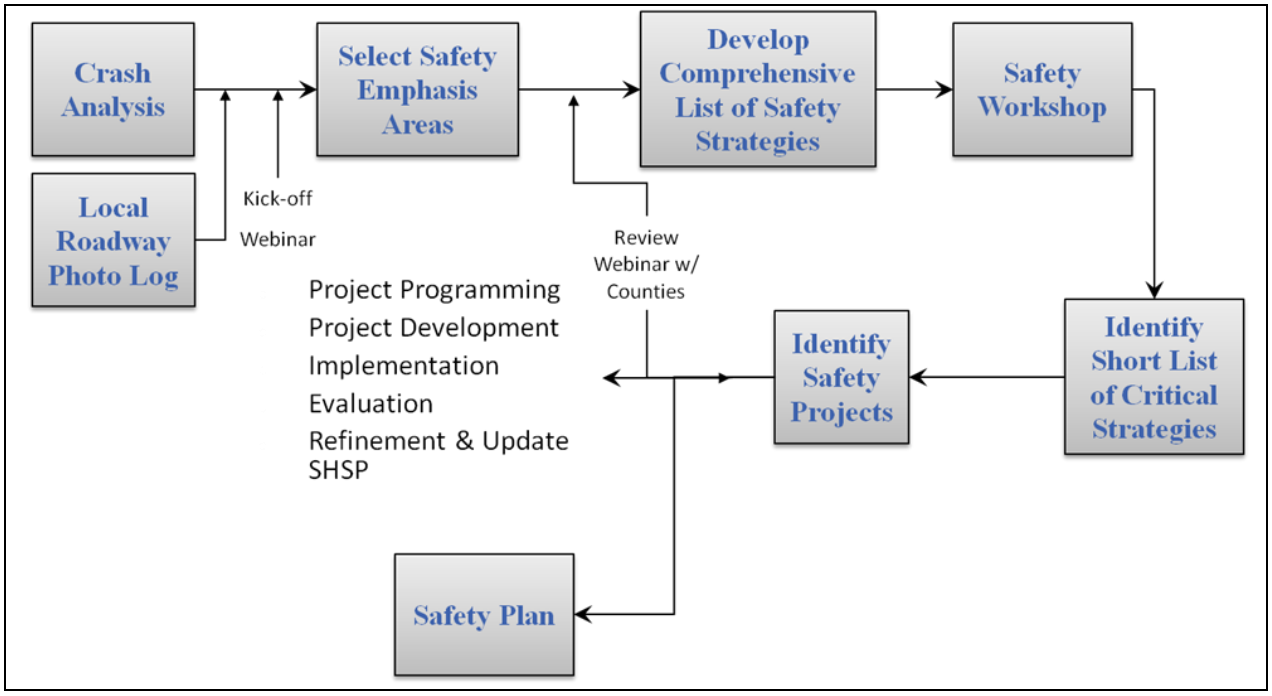


FIGURE 1-3
Local Road Safety Program Safety Plan Approach

2.0 Safety Emphasis Areas and Crash Overview

The first step in the process to prepare Safety Plans for Ward County was to conduct a crash analysis overview statewide for North Dakota and then for the county as a whole.

2.1 Ward County Crash Overview

2.1.1 North Dakota Crash Mapping

Crash data was taken from NDDOT's Crash Reporting System (CRS) and placed into ArcGIS for data exportation based on specific locations relative to local roads. The most recent five-year period of crash data (from 2008 to 2012) was analyzed and used to determine risk factors specific to the county's local roads. Consistent with NDDOT's SHSP, the analysis focused on severe (fatal and incapacitating injury) crashes.

2.1.2 Facilities Analyzed

The crash analysis was broken into three main facility types: road segments, curves, and intersections.

- Paved rural local road segments were analyzed and local county major collector (CMC) gravel roads were analyzed for multiple crash locations. Other local gravel roads were removed from the analysis because of the relatively low percentage of severe crashes and due to the lack of infrastructure-based strategies that can be applied to this roadway type.
- Local rural road intersections with state highways or other local roads were included in the analysis. Local non-CMC gravel roads intersecting with other local roads were removed from the analysis due to the very low number of crashes at these intersections.
- Horizontal curves on paved rural local roads were included in analysis.
- Urban segments and intersections were analyzed in the City of Minot. Urban roadway types analyzed within the city limits included:
  - State routes
  - Urban principal arterials
  - Urban minor arterials
  - Urban collector roads
- All other local road segments and intersections, including gravel roads, were reviewed for locations with multiple severe crashes or "hot spots."

2.1.3 Crash Data Sets

Crash data for the five years from 2008 to 2012 was used for countywide crash analysis. In safety analysis, it is recommended that more than one year of data be studied to reduce the possibility of examining an unusual year. It is also important to include as many years as necessary to produce a data set that will provide statistically reliable results but not too long so that changed conditions are a concern (for example, reconstructed roads, addition of STOP signs and changed speed limits). Ward County did not have enough crashes to be statistically reliable; therefore, decisions were based on the crashes for all Phase I counties combined (Figure 2-1), statewide data (Figure 2-2), or national research.

The Ward County data set includes 6,194 crashes on local roads; of these, 123 were fatal or serious injury crashes. Disaggregating the severe crashes by road type (paved, gravel, or local), area (urban versus rural) and then by crash type category (intersection versus segment crashes) results in the distribution shown in Table 2-1, Figure 2-1, and Figure 2-2.

TABLE 2-1
Crash Distribution (2008 to 2012)

Location	Ward (Percent/Number)	Statewide (Percent/Number)
Rural Roads	40% (49 crashes)	61% (740 crashes)
Paved Rural Roads	59% (29 crashes)	52% (387 crashes)
Local Gravel CMC Roads	8% (4 crashes)	9% (68 crashes)
Paved Rural Road Segments	45% (13 crashes)	60% (226 crashes)
Single Vehicle, Lane departure Crashes on Paved Rural Road Segments	77% (10 crashes)	76% (171 crashes)
Paved Rural Road Intersections	38% (11 crashes)	32% (120 crashes)

This review shows that, on the local system, severe lane departure crashes on paved roads and angle crashes at Thru-STOP intersections are overrepresented. Based on statewide traffic safety data, severe lane departure crashes along curves are also overrepresented.

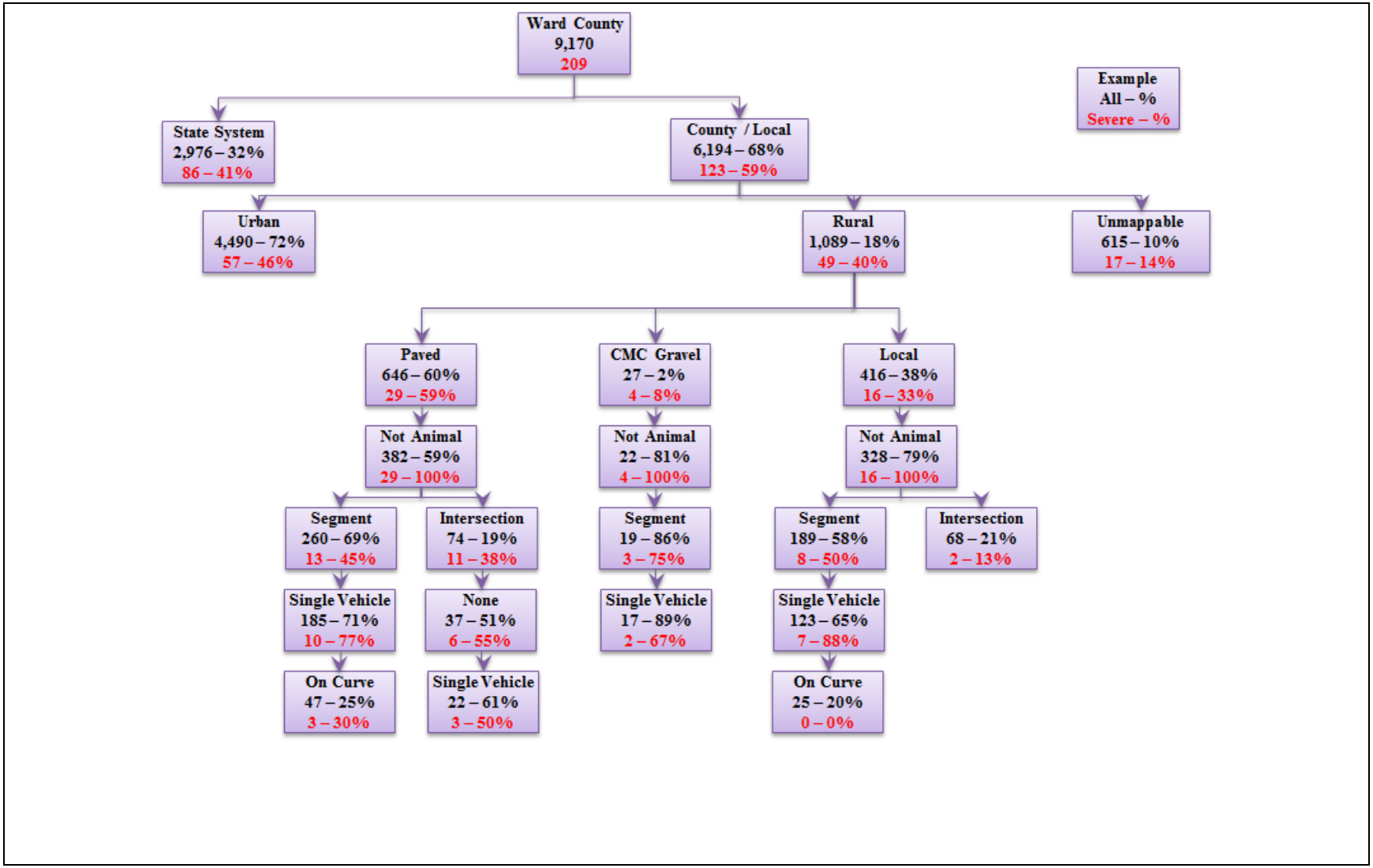


FIGURE 2-1
Ward County Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

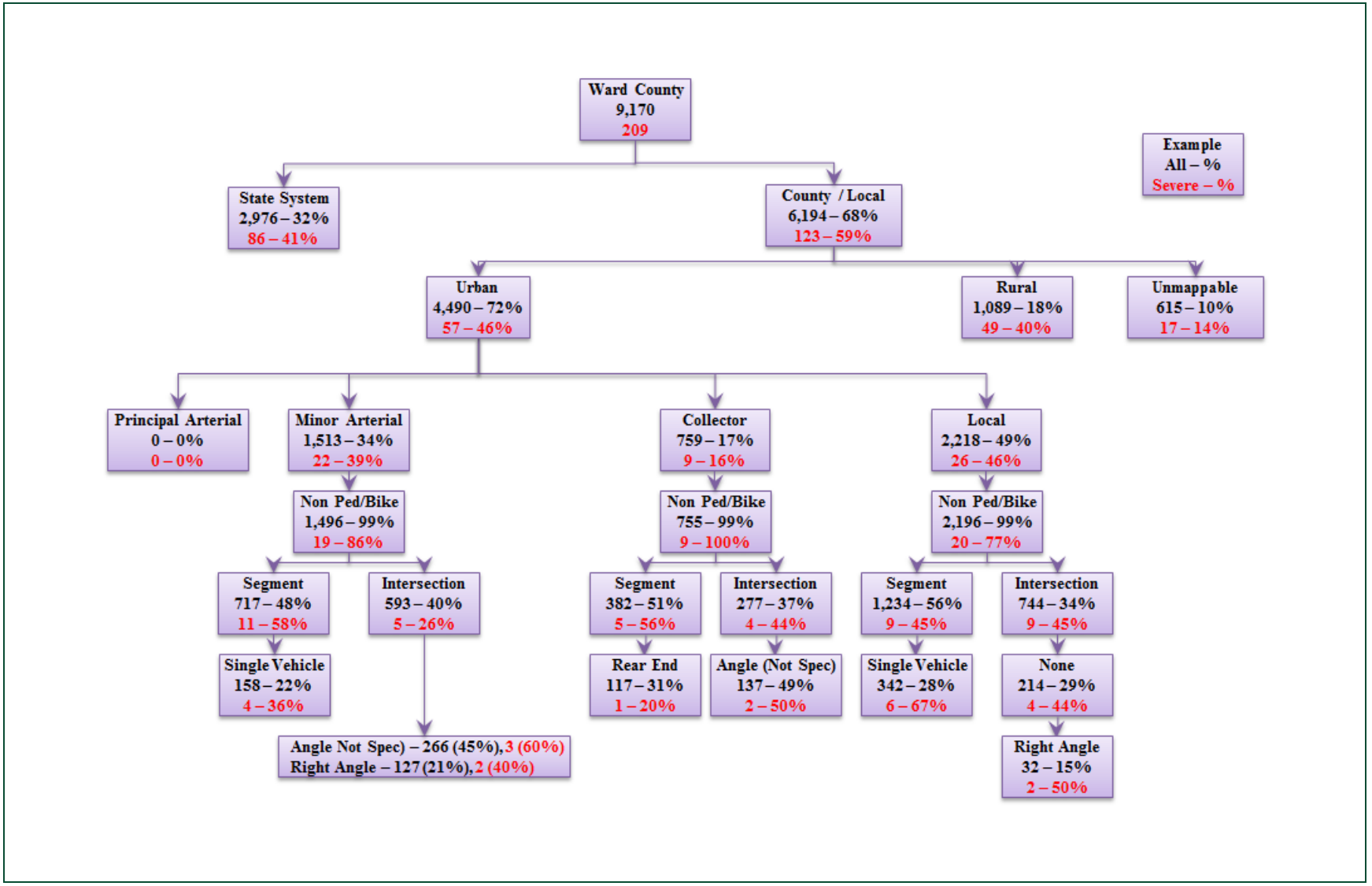


FIGURE 2-1 (Continued)
Ward County Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

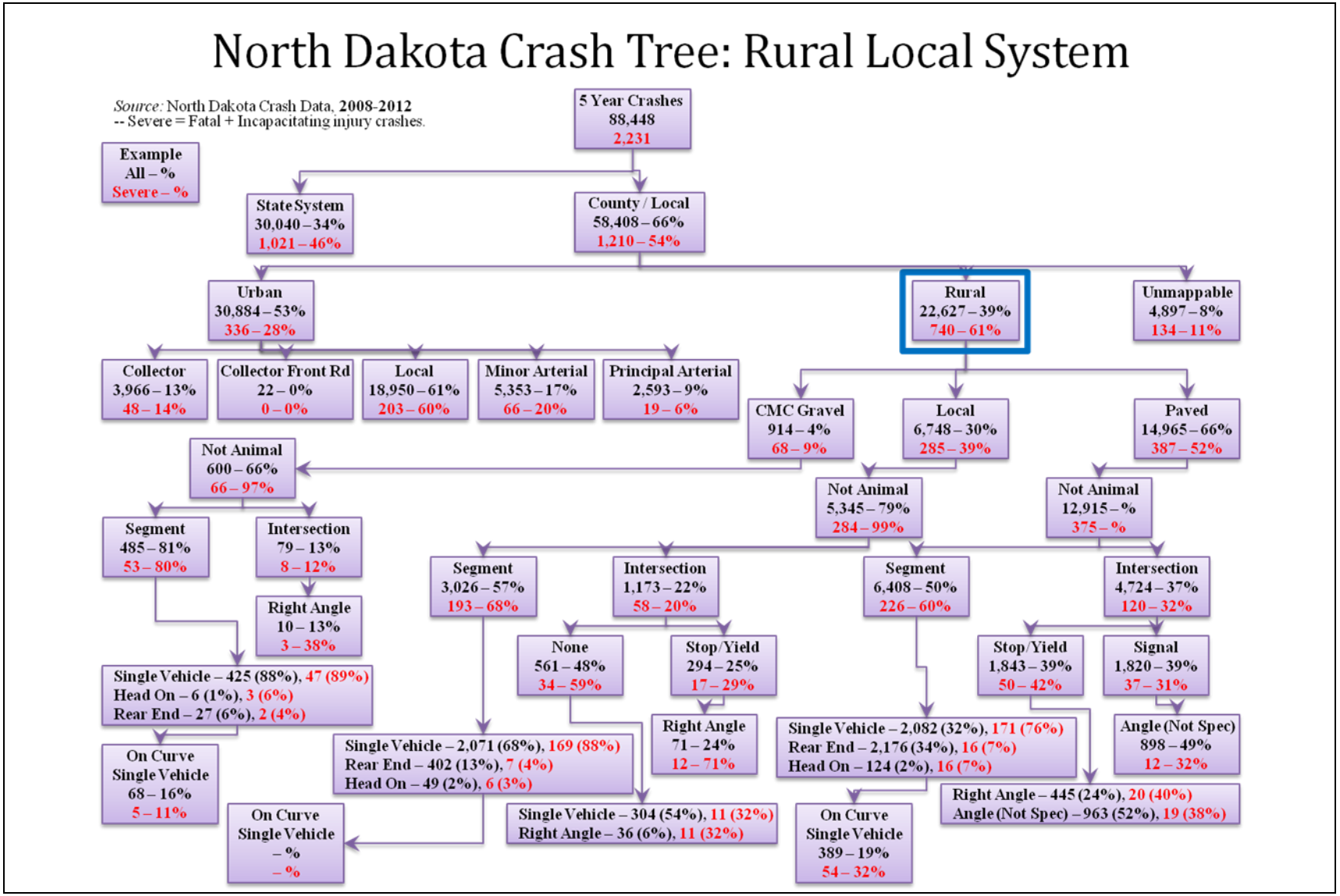


FIGURE 2-2
North Dakota Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

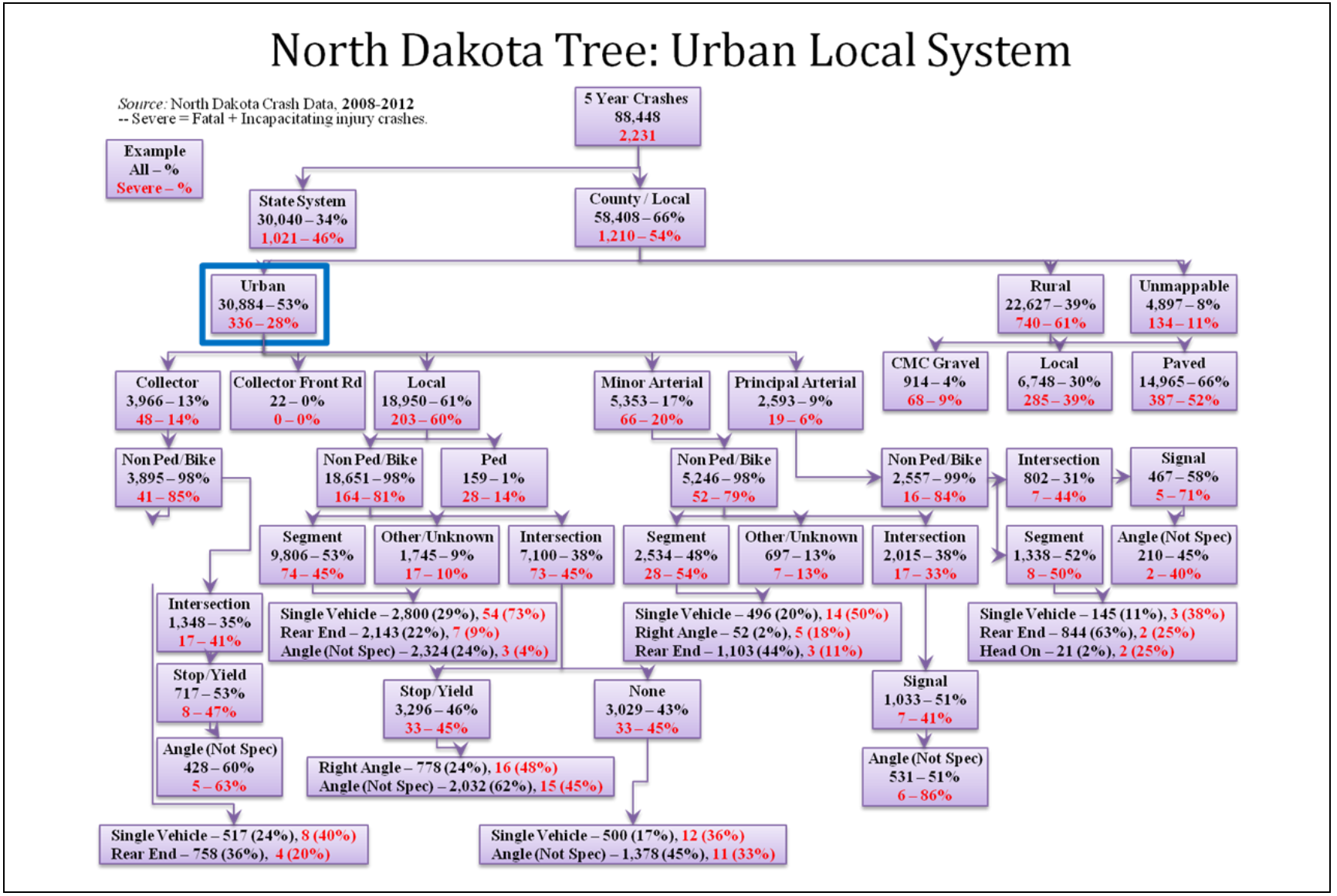


FIGURE 2-2 (Continued)
North Dakota Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

2.2 Ward County Safety Emphasis Areas

The total number of severe crashes (those crashes resulting in a fatality or incapacitating injury) in each county over the five-year period from 2008 to 2012 was so few that the crash data is analyzed at regional, statewide, and national levels for various risk factors.

Section 1.2 described the development of AASHTO's emphasis areas, and how this process was applied to the State of North Dakota to identify statewide safety emphasis areas (Table 1-1). An identical process was followed for Ward County, resulting in the distribution of severe crashes among AASHTO's 22 emphasis areas (Table 2-2). The emphasis areas for the county are consistent with the state's emphasis areas. This process revealed where crashes were overrepresented based on a comparison to statewide averages or where a large enough number of crashes represented an opportunity to substantially reduce crashes. As a result, the following safety emphasis areas were identified as priorities for safety investments:

- Driver Behavior – Young drivers, aggressive drivers, alcohol-related, and unbelted vehicle occupants
- Highways – Lane departure and intersection crashes

TABLE 2-2
Ward County Severe Crashes by Safety Emphasis Areas (2008 to 2012)

Safety Emphasis Areas	Statewide (% of Total)	2008 to 2012 Severe Crashes					
		Ward County		State Roads		Local System	
		%	#	%	#	%	#
Total Severe Crashes	**2,231**	**209**		**51**		**74**	
Involving Drivers Under Age 21	22%	30%	63	27%	23	33%	40
Involving Drivers Over Age 64	13%	16%	33	16%	14	15%	19
Excessive Speed or Aggressive Driving	26%	25%	52	20%	17	28%	35
Alcohol-Related	30%	22%	47	22%	19	23%	28
Distracted, Asleep, or Fatigued Drivers	9%	4%	9	7%	6	2%	3
Unbelted Vehicle Occupants	48%	39%	82	35%	30	42%	52
Pedestrian Crashes	5%	7%	15	8%	7	7%	8
Bicycle Crashes	2%	2%	5	1%	1	3%	4
Motorcycle Crashes	12%	15%	31	9%	8	19%	23
Heavy Vehicle Crashes	15%	10%	20	13%	11	7%	9
Train-Vehicle Collisions	1%	2%	5	0%	0	4%	5
Lane departure (Run-Off-the-Road and Head-On) Crashes	47%	30%	62	33%	28	28%	34
Head-On	***7%***	***4%***	***8***	***6%***	***5***	***2%***	***3***
Run-off-the-Road Crashes	***40%***	***26%***	***54***	***27%***	***23***	***25%***	***31***
Intersection Crashes	23%	28%	58	20%	17	33%	41
Work Zone Crashes	2%	1%	2	2%	2	0%	0
Deer Collisions	1%	0%	1	1%	1	0%	0
Adverse (Winter) Weather Related	17%	16%	33	20%	17	13%	16

Note:
Severe crashes are those crashes that result in at least one fatality or incapacitating injury.

Strategies to reduce crashes depend on whether a safety emphasis area is infrastructure-based or driver-behavior-based. Infrastructure-based emphasis areas refer to characteristics of the location (for example, roadway segment, curve, intersection) where crashes occurred. Driver-behavior-based emphasis areas refer to motorist characteristics or actions that contribute to crashes. Because driver behavior is tied to laws made at the national and state levels, roadway agencies generally have less ability to address driver-behavior-based emphasis areas. The most effective approach for road authorities to addressing driver-behavior-based emphasis areas is to focus on public education and law enforcement through cooperation and collaboration with other county departments, agencies, and schools. Generally, more opportunities exist for county and city road authorities to address infrastructure-based emphasis areas, because many of the associated strategies can be implemented as separate roadway improvement projects, or along with other planned improvements. Specific infrastructure- and driver-behavior-based strategies presented to the participants of the safety workshop held for Ward County are provided in Section 3.2.

2.3 Ward County Crash Risk Factors

The objective of the analytical process is to identify candidates for safety investment based on two criteria: high-crash locations and at-risk locations. A more detailed crash analysis was performed for each priority crash type to identify (1) locations where these priority crash types occur at a rate of one or more severe crashes per year, and (2) basic roadway and traffic characteristics of locations with severe crashes. These characteristics are not considered to be the cause of crashes, but instead are used to determine the risk that a future severe crash would occur at a particular location. Information from historic crashes was used to evaluate the remainder of the county's local road system and prioritize locations for safety investment based on similar characteristics.

Three urban areas were studied as a part of Phase I in the LRSP in addition to the nine region counties: Bismarck, Minot, and Devils Lake. Minot is the subject of the urban portion of this Plan, but for analysis purposes, the data were combined for all of Phase I urban areas.

2.3.1 Rural Segments – Crashes on Paved Roads

Of the more than 97,500 miles of local road system in North Dakota, only 7 percent of the roads are paved. However, 52 percent of crashes occured on paved roads. Therefore, the focus of the LRSP is on rural paved road segments.

There are 270 miles of rural paved roads in Ward County. From 2008 to 2012, 4 severe crashes were reported on these roads. The predominant crash type on these roads was lane departure (involving a single vehicle, Figure 2-3). The following five risk factors were identified for rural lane departure crashes on paved roads in the county:

1. **Average Daily Traffic (ADT) –** Of the rural paved roads, 58 percent have an ADT between 150 and 500 vehicles per day. However, 77 percent of the severe lane departure crashes occurred within this ADT range (Figure 2-4). Therefore, any segment with an ADT between 150 and 500 vehicles per day received a star[1].

[1] When a risk factor is present, the segment, curve or intersection is given a star. The more risk factors present (that is, more stars) indicates greater potential for a severe crash to occur.

2. **Access Density –** Nationally, research has shown that an access density of eight or more access points per mile (including field entrances, commercial entrances, roadway access, etc.) increased the likelihood of a severe crash occurring. Minnesota's review of severe crashes on their rural county roads, shown in Exhibit 2-3, confirms this relationship with the severe crash density rising as the access density rises. Any segment with an access density greater than or equal to eight access points per mile received a star.

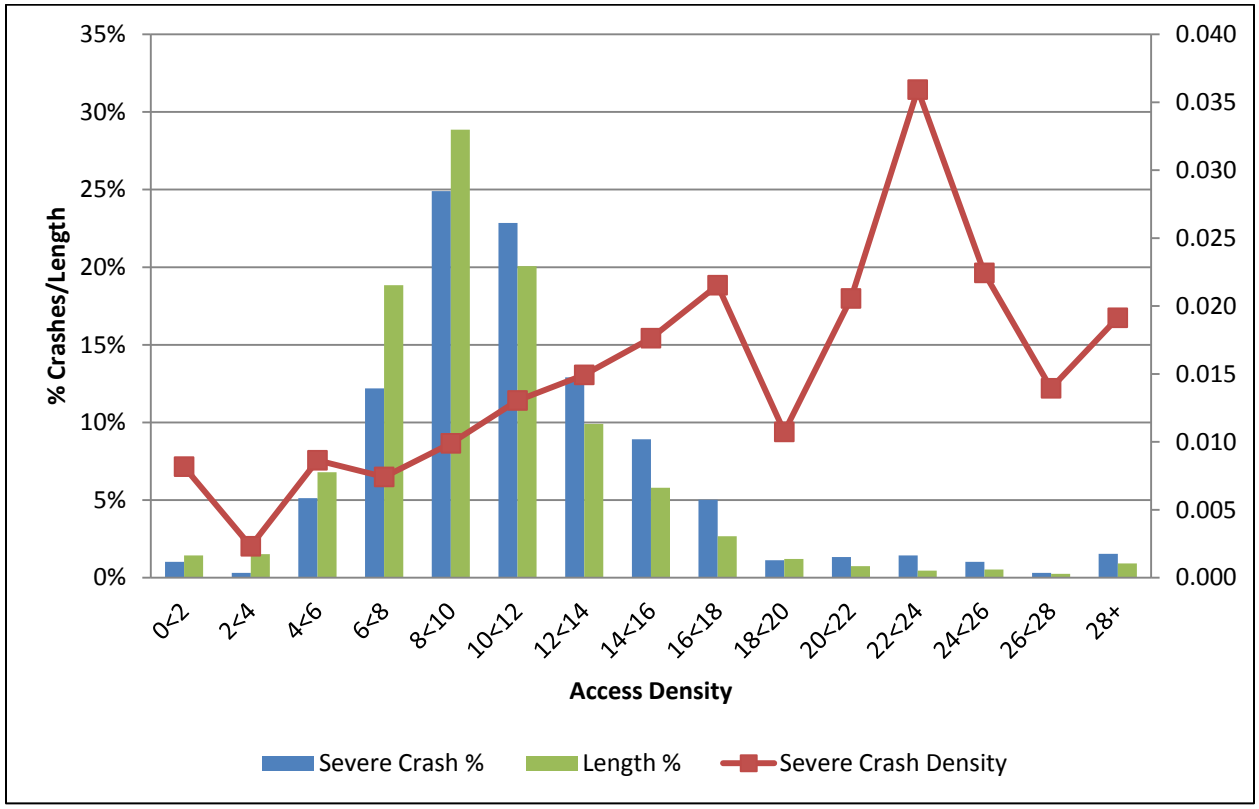


FIGURE 2-3
Severe Crashes by Access Density on Minnesota Rural County Roads (Source: Minnesota Department of Transportation County Road Safety Plans, Crash Data from 2005 – 2010)

3. **Lane departure Density –** The average lane departure density for the county was 0.03 crash per mile per year. Due to limited number of crashes in each county, any roadway segment where the lane departure density was greater than the average for the county received a star.

4. **Critical Radius Curve Density –** Nationally, lane departure crashes frequently occur within curves. Curves with radii between 500 and 1,200 feet [i.e., critical radius curves] have a higher severe crash rate than other curve radii and segments with a more curves in this range are considered to have greater risk. The risk factor is determined by the number of critical radius curves divided by the length of the segment. The county's average critical curve radius density for these types of curves along roadway segments was 0.035 curve per mile. Any segment with a curve critical radius density greater than or equal to 0.035 received a star.

5. **Edge Risk Assessment (ERA) –** A rating system was developed to categorize the risk level of vehicles leaving the travel lane. Roads with a usable shoulder and reasonable clear zone

received a rating of 1. Roads with little or no usable shoulder but with a reasonable clear zone received a rating of 2, as did roads with a usable shoulder but with fixed objects in the clear zone. Roads with no usable shoulder and fixed objects in the clear zone received a rating of 3. Examples of these edge risks are shown in Figure 2-6. Roads were evaluated via photos taken in the summer of 2013 to determine the rating. Roads with a rating of 2 or 3 received a star.

Detailed segment analysis and results for the county is provided in Chapter 4. A prioritization process for each roadway segment was put into place using the five risk factors by giving stars to each risk factor present. The highest-priority roadway segments received the most stars. In cases where roadway segments received the same number of stars, the ERA and ADT were used to break the tie.

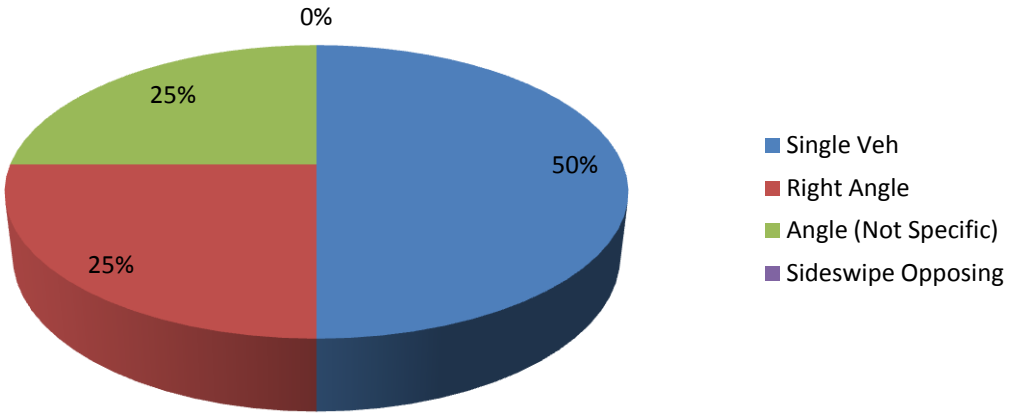


FIGURE 2-4
Ward County Severe Crash Types on Rural Paved Roads (2008 to 2012)

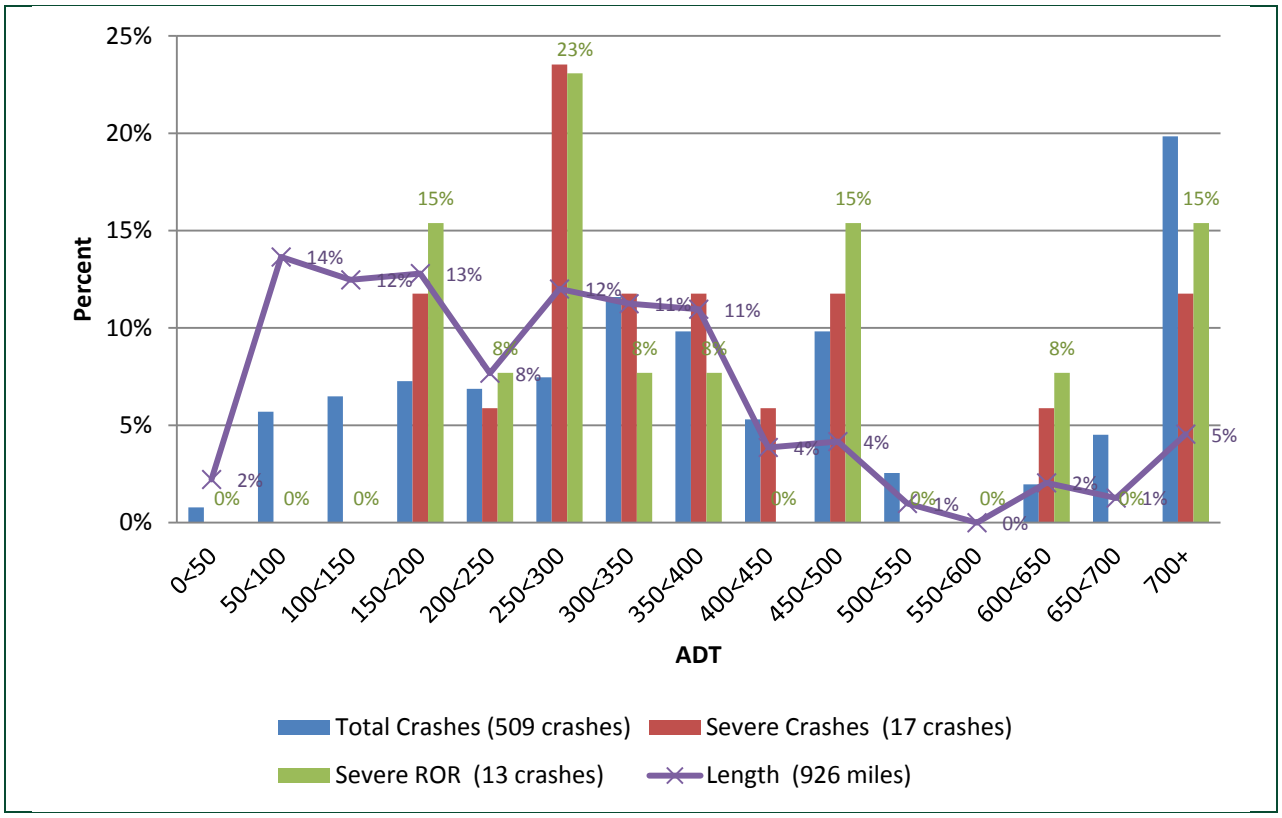


FIGURE 2-5
Ward County and Northeast Region Counties Rural Roadway Segment Average Daily Traffic (ADT) Crash Data (2008 to 2012)

1 – Usable Shoulder, Reasonable Clear Zone

2 – No Usable Shoulder, Reasonable Clear Zone

2 – Usable Shoulder, Roadside with Fixed Obstacles

3 – No Usable Shoulder, Roadside with Fixed Obstacles

FIGURE 2-6
Sample Edge Risk Assessment Ratings and Descriptions

2.3.2 Rural Curves – Crashes on Paved Roads in Curves

Detailed crash analysis included horizontal curves on rural paved local roads. Research indicates horizontal curves with certain characteristics contribute to the overall frequency of lane departure crashes. The 270 miles of rural paved roads in the county contain 110 curves totaling almost 29 miles in length (11 percent of the road system mileage).

With only three severe crashes along curves reported from 2008 to 2012, too few crashes occurred on these curves to serve as a reliable indicator of the relative degree of risk. However, statewide data show the importance of safety improvements on curves to reduce severe crashes since 32 percent of severe lane departure crashes occur along curves. As a result, the LRSP team used characteristics of curves in the county where crashes had previously occurred as well as available information from similar analysis across the nation and statewide data. Results from *Cost-Benefit Analysis of In-Vehicle Technologies and Infrastructure Changes to Avoid Crashes Along Curves and Shoulders* (compiled by the University of Minnesota and CH2M HILL in June 2009) were also used in curve analysis and prioritization.

Based on a review of these sources, the following five risk factors were identified for crashes within curves in the county:

1. **Curve Radius –** Ward County and all counties in Phase I did not have enough severe curve crashes to provide insight into North Dakota's characteristics (Figure 2-7). National data shows that curves with mid-range radii had higher crash densities. An upper limit of 1,200 feet was used for at-risk curves, because 1,200 feet is a 60-mile-per-hour design speed based on AASHTO's *A Policy on Geometric Design of Highways and Streets* (commonly referred to as the "Green Book;" 6th edition, 2011). A lower limit of 500 feet was used to represent the severe lane departure crashes that were reported in the county from 2008 to 2012. Any curve with a radius between 500 and 1,200 feet received a star.

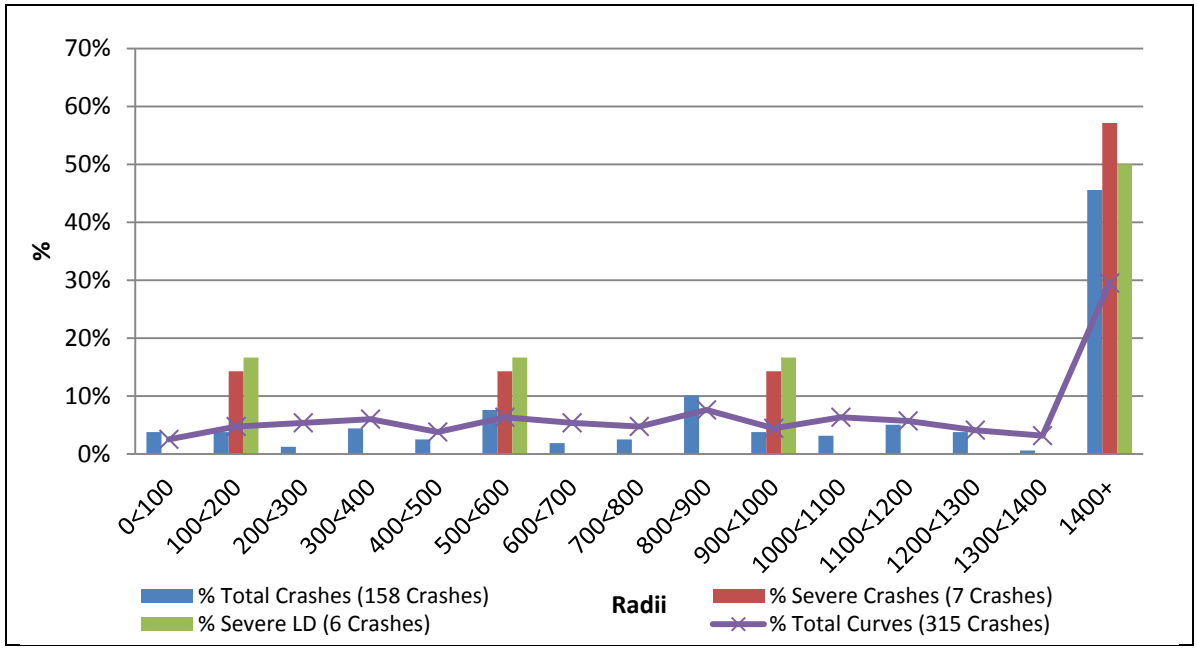


FIGURE 2-7
Phase I Curve Crashes by Radii – 500 to 1,200 feet (2008 to 2012)

2. **Average Daily Traffic (ADT) –** Traffic volumes over 350 vehicles per day present a risk factor in the Ward County and represent a higher risk for crashes (Figure 2-8). One-hundred percent of severe lane departure crashes occurred in curves with this ADT, while only 38 percent of curves are represented in this range. Therefore, curves with an ADT over 350 vehicles per day received a star.

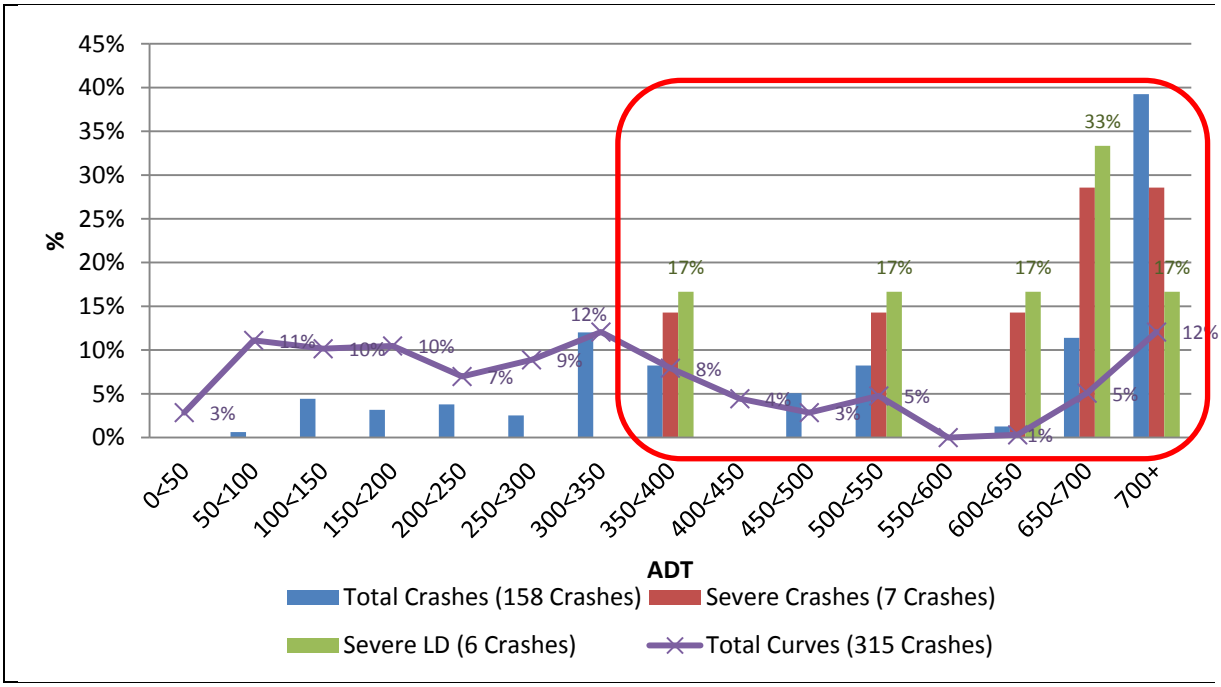


FIGURE 2-8
Phase I Curve Crashes by Average Daily Traffic (ADT) – Greater than 350 Vehicles per Day (2008 to 2012)

3. **Intersection on the Curve –** In Ward County, the presence of an intersection within a curve increased the risk for a severe crash (Figure 2-9). Curves with at least one intersection within the curve received a star.

4. **Visual Trap –** A visual trap exists when the crest of a vertical curve is located before a horizontal curve or where a minor road, tree line, or line of utility poles continues on a tangent to the curve, thereby creating the illusion that the road continues straight ahead (Figure 2-10). The presence of a visual trap increased the risk of crashes in Ward County (Figure 2-9) and, therefore, received a star.

5. **Severe Crashes –** If a severe crash occurred on a curve between 2008 and 2012, the curve received a star.

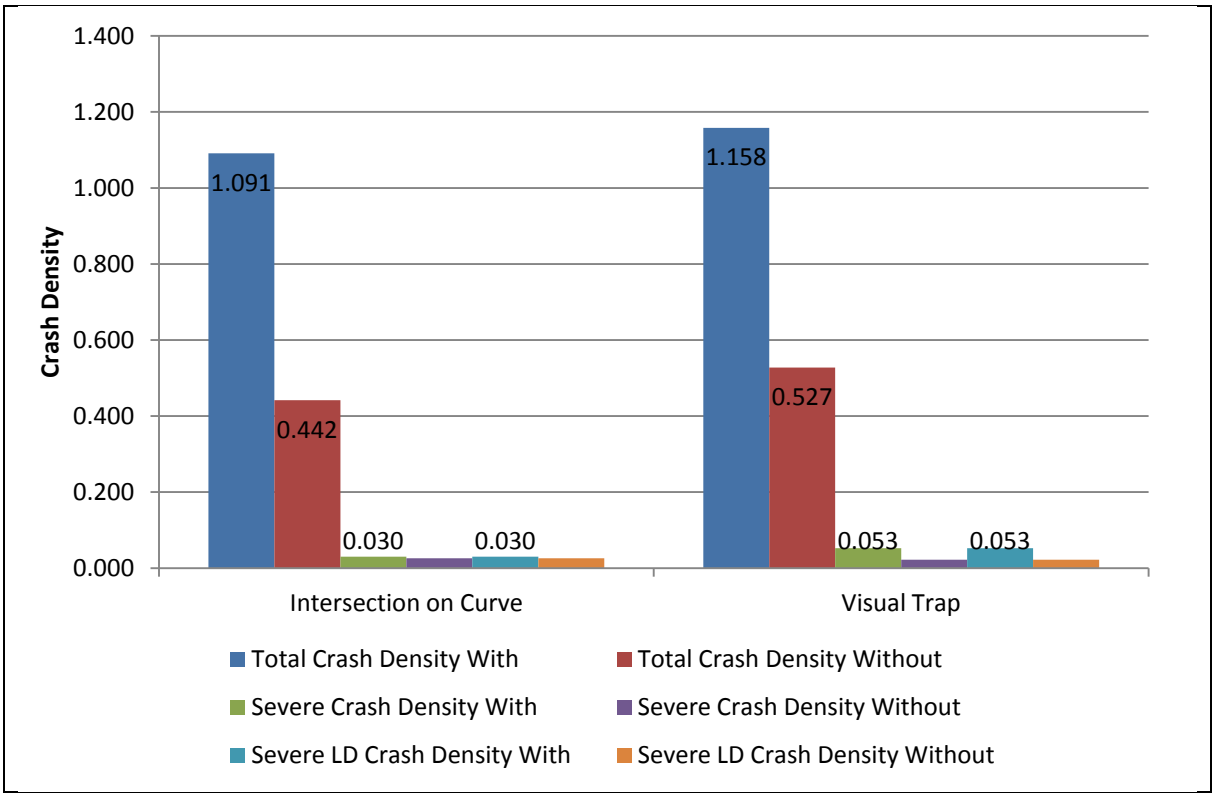


FIGURE 2-9
Rural Curve Risk Factors for Ward County

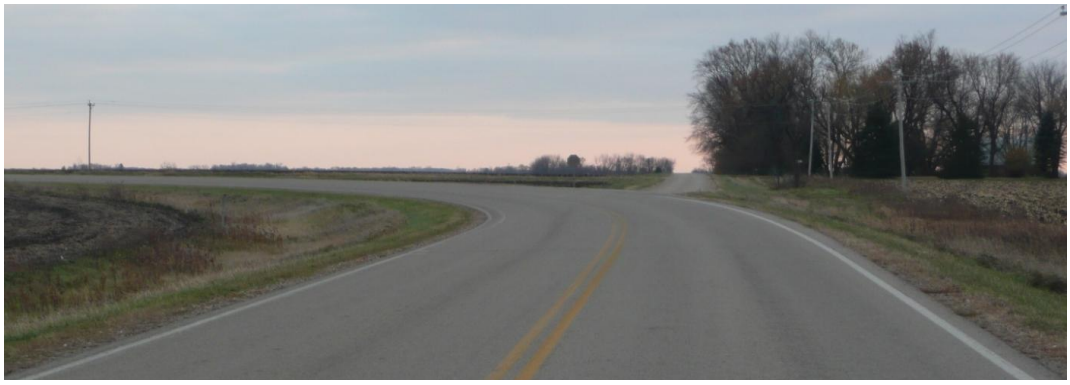


FIGURE 2-10
Example of a Visual Trap – Minor Road Intersects Roadway on a Curve

Based on total and severe lane departure crashes in the county, curves with intersections and visual traps have a higher crash density (are more at risk) than those without such features. These risk factors have also been observed nationally.

Detailed curve analysis and results for the county is provided in Chapter 4. The five risk factors were used to prioritize curves in the county, with the highest-priority curves receiving the most stars. Curves were reviewed for proximity to high-priority curves and existing conditions as well.

Curves were screened for compliance with the *Manual on Uniform Traffic Control Devices* (MUTCD; 2009) requirement regarding traffic signs at horizontal curves. Under this requirement, a curve must have an advance horizontal alignment warning sign if the daily traffic is greater than 1,000 vehicles per day and if speed differentials (between the speed limit and the advisory speed) meet certain thresholds. A horizontal alignment sign and advisory speed plaque are recommended when the speed differential is 5 mph, and they are required if the speed differential is 10 mph or greater. Curve radius was used to estimate whether individual curves meet the speed differential requirements for advance warning signs and advisory speed plaques. The estimated advisory speeds (assuming a 55-mph speed limit, 6-percent superelevation, and a friction factor consistent with the AASHTO Green Book) based on the curve radius are as follows:

- 900 to 1,100 feet – 50 mph
- 700 to 900 feet – 45 mph
- 500 to 700 feet – 40 mph
- 300 to 500 feet – 35 mph
- Under 300 feet – 30 mph or slower

For this analysis, no suggested advisory speed is provided for curves with a radius under 300 feet; these curves should be investigated further by the County to determine the appropriate advisory speed. Additionally, it is recommended that the County complete its own ball-bank indicator assessment of all curves to determine whether the curves on their road system meet the MUTCD requirement and to verify suggested advisory speeds.

If a curve was not selected as a project candidate through the LRSP risk assessment process (although the curve has an ADT greater than 1,000 vehicles per day and a radius under 1,100 feet), the curve was flagged for the County to determine the need for additional signs based on MUTCD guidance.

2.3.3 Rural Intersections – Crashes at Thru-STOP Intersections

On Ward County's rural local roads, a severe crash is most common at Thru-STOP intersections,[2] where 100 percent of severe intersection crashes (6 crashes) occurred from 2008 to 2012. Severe right-angle and angle crashes are the most common types of crashes at these intersections (Figure 2-12). While there are few crashes in the county, statewide crash data supports these crash types as the most common at rural Thru-STOP locations.

[2] Those intersections where traffic on the more heavily used road may proceed through the intersection without stopping, while traffic on the less-used crossroad must stop at the STOP sign before proceding through the intersection.

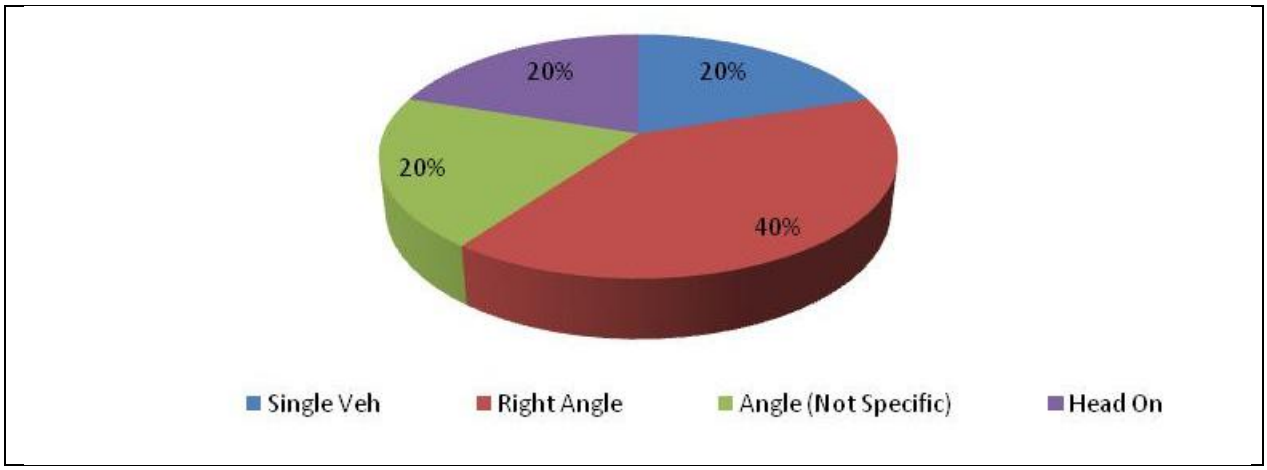


FIGURE 2-12
Ward County Rural Thru-STOP Intersections Severe Crash Types (2008 to 2012)

In Ward County, 63 rural intersections with 58 Thru-STOP locations were reviewed. The average severe crash density at rural Thru-STOP locations is 0.003 severe crash per intersection per year. This low density supports assessing an intersection risk based on the characteristics of the locations where severe crashes occurred. The following seven rural Thru-STOP risk factors were identified for severe right-angle crashes in the county:

1. **ADT Cross Product –** 100 percent of the severe right angle crashes at rural Thru-STOP intersections occurred at intersections with an ADT Cross Product[3] of major and minor entering vehicles greater than 100,000 (Figure 2-13). An intersection was considered to have a higher risk of severe right angle crashes if the ADT Cross Product was greater than 100,000. These intersections received a star.

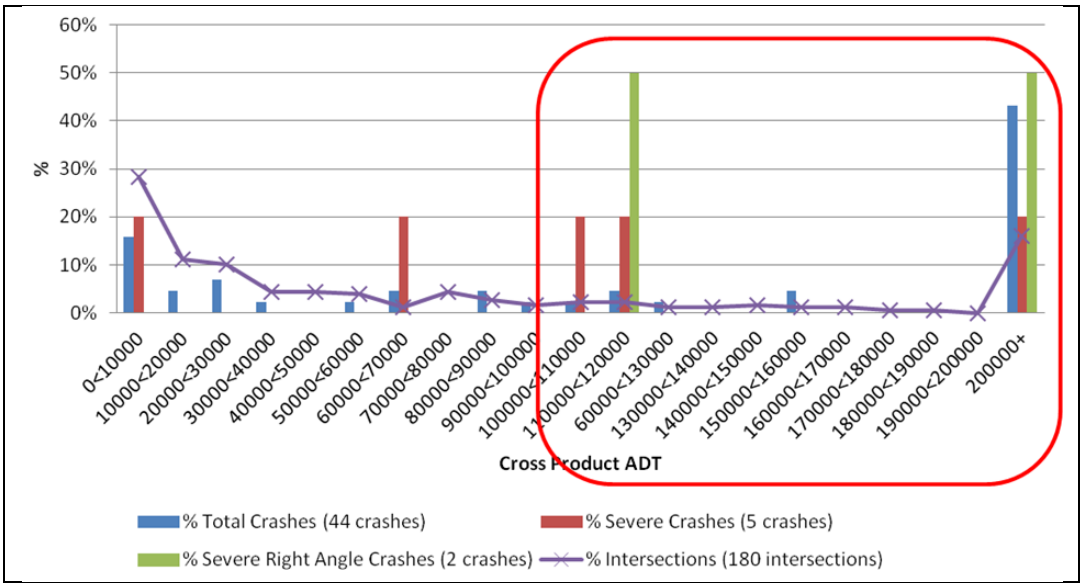
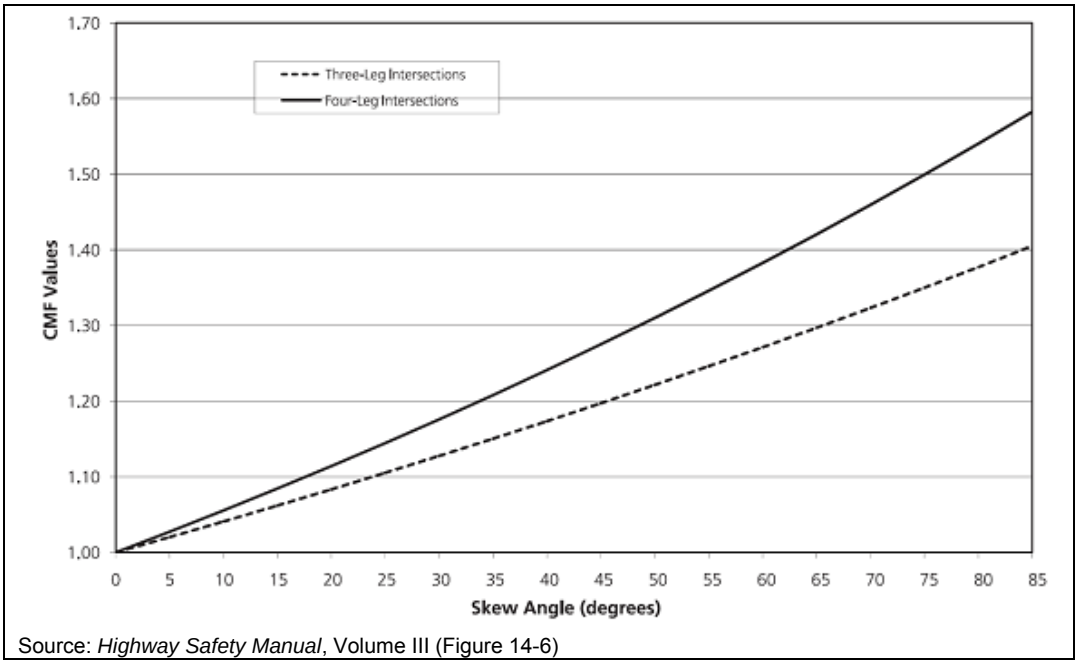


FIGURE 2-13
Phase I Rural Intersection ADT Cross Product (2008 to 2012)

[3] The ADT Cross Product is the major-street entering volume multiplied by the minor-street entering volume.

2. **Skew –** As the intersection skew (the angle at which one road intersects another) increases, the crash risk also increases (Figure 2-14). At a 20-degree skew, the crash risk compared to that of a 90-degree intersection is increased by approximately 10 percent. While the county's severe right-angle crash data set was too small to determine if skew plays a role in crashes, it has been proven nationally that the greater the skew, the greater the likelihood for a crash (Figure 2-15). Intersections with a skew greater than 20 degrees received a star.



Source: *Highway Safety Manual*, Volume III (Figure 14-6)

FIGURE 2-14
Intersection Skew Risk

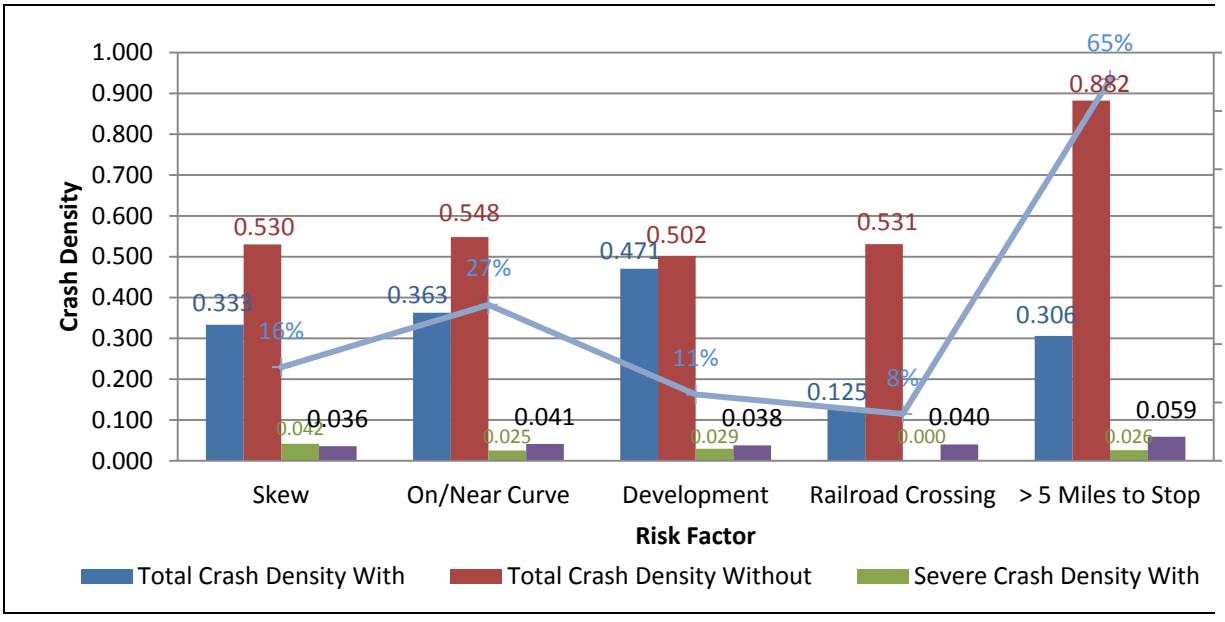


FIGURE 2-15
Rural Intersection Risk Factors for the Phase I Counties (2008 to 2012)

3. **On or Near a Curve –**Research has shown that intersections located on or near a horizontal curve are subject to a higher level of risk. In this analysis, intersections located on or near a horizontal curve received a star.
4. **Development Present –** Research has shown that intersections with commercial development in one or more quadrants have a higher level of risk, possibly due to vehicles entering or exiting the development. Private residences or farms were not included as development. Ward County intersections with development present had more severe crash rates (Figure 2-15) and therefore received a star.
5. **Railroad Crossing –** Intersections on or near a railroad crossing are subject to increased risk because drivers must navigate the railroad tracks while approaching the intersection. National data were used for this risk factor due to the small number of severe crashes in the county. An intersection with a railroad crossing on one of the approaches received a star.
6. **Previous STOP More than 5 Miles Before the Intersection –** When traveling longer distances without encountering a STOP sign, drivers lose attention, and research has shown those intersections to be at higher risk (Figure 2-15). National data were used to confirm this risk factor. Intersections without a STOP sign within 5 miles received a star.
7. **Total Crashes –** If an intersection had any type of crash from 2008 to 2012, the intersection received a star.

Ward County had 108 total rural intersection crashes from 2008 to 2012,and only 6 of those crashes are severe. Due to the small number of severe crashes, some of the data and risk factors may be misleading based on the county data alone. National data were frequently used to confirm intersection risk factors .

Detailed intersection analysis and results for the county is provided in Chapter 4. Due to the large number of intersections, each intersection was prioritized using the seven risk factors by giving stars to each risk factor present. The highest-priority intersections received the most stars. In cases where intersections received the same number of stars, crash costs were used to break the tie and determine priority.

2.3.4 Urban Roadway Segments – Cities with Populations Greater than 5,000 (Minot)

Approximately 95 miles of urban local roads were reviewed, where 4,490 total and 57 severe crashes occurred from 2008 to 2012. Nationally, research has shown that rear-end and head-on crashes are most common on urban local roads.

Although a variety of data was collected for each local segment, only the following four risk factors were identified for Minot:

1. **Average Daily Traffic (ADT) –** Both rear-end and head-on crashes were overrepresented in road corridors with ADT volumes greater than 4,500 vehicles per day (Figure 2-16). (Note: This ADT volume includes data from Bismarck and Devils Lake.) Corridors with an ADT greater than 4,500 vehicles per day received a star.

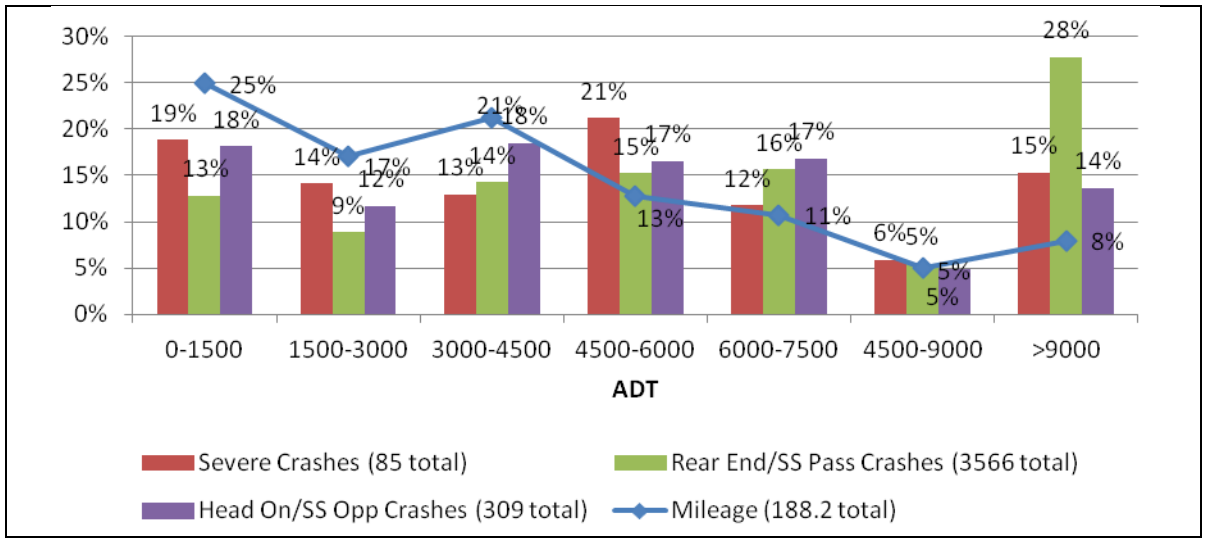


FIGURE 2-16
Phase I Urban Segment Average Daily Traffic (ADT) (2008 to 2012)

2. **Access Density –** Rear-end and head-on crashes are overrepresented in Minot along corridors with access densities greater than or equal to 30 access points per mile (Figure 2-17), and therefore received a star.

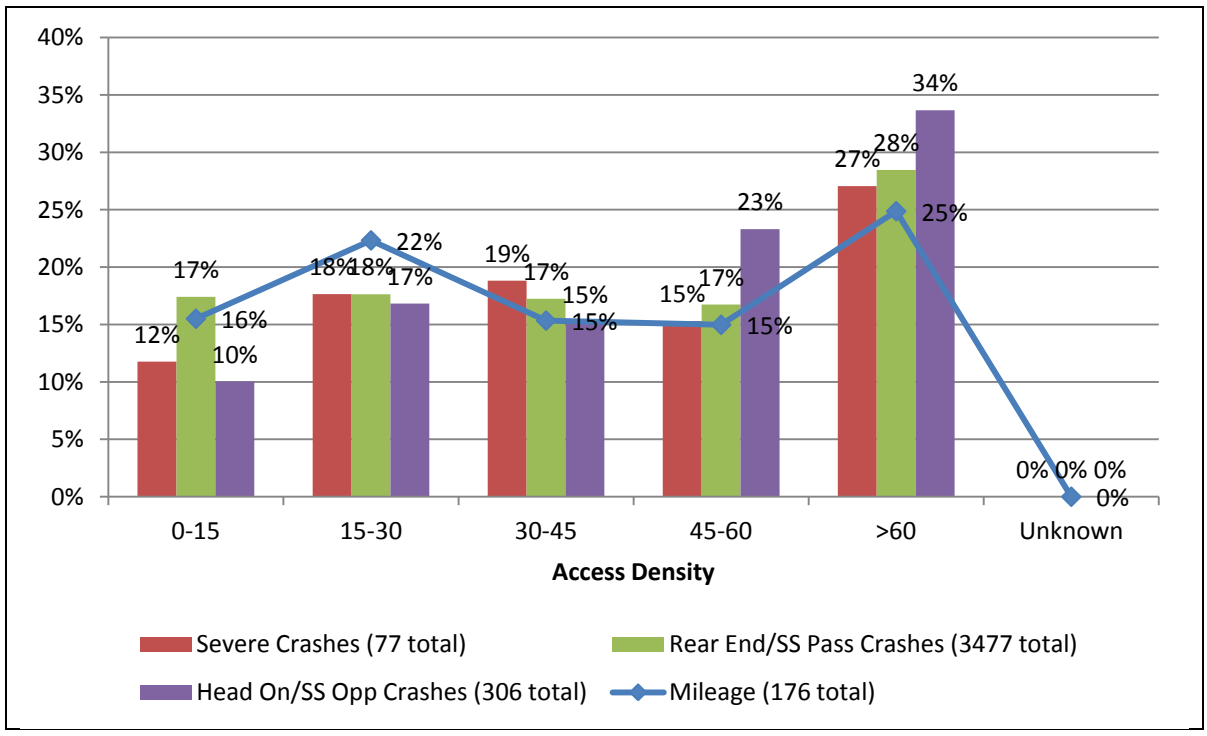


FIGURE 2-17
Phase I Urban Roadway Segment Access Density (2008 to 2012)

3. **Road Geometry –** Crashes are overrepresented per corridor mile on roadways with three or more lanes (Figure 2-18), and were given a star.

4. **Speed Limit –**Severe rear-end and head-on crashes were overrepresented in low-speed corridors (40 mph or less) (Figure 2-19), and therefore received a star.

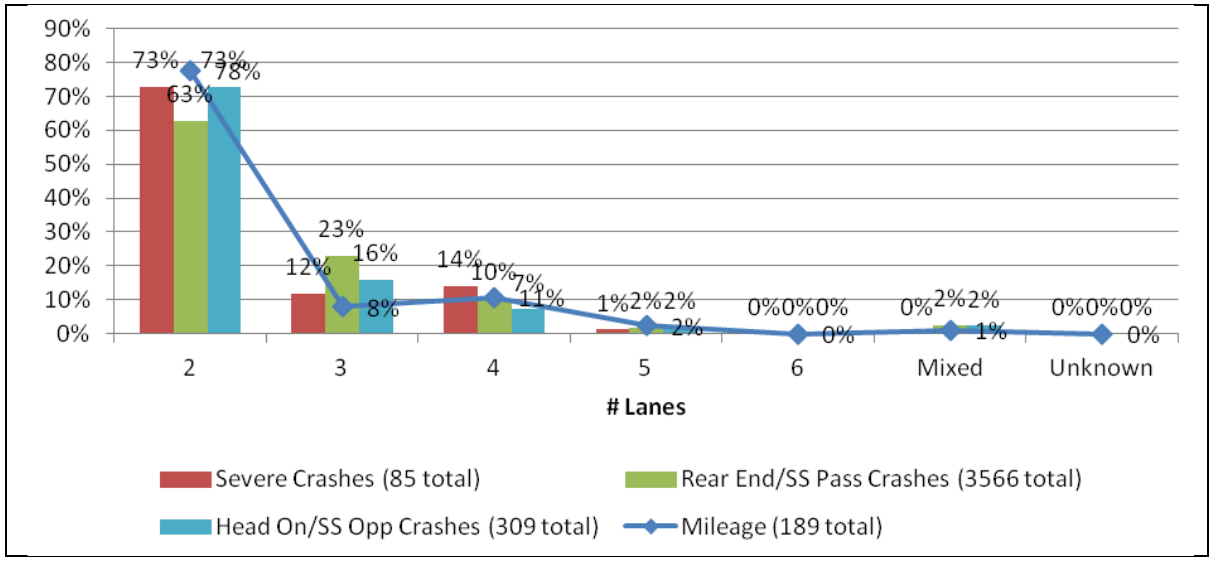


FIGURE 2-18
Phase I Urban Road Geometry (2008 to 2012)

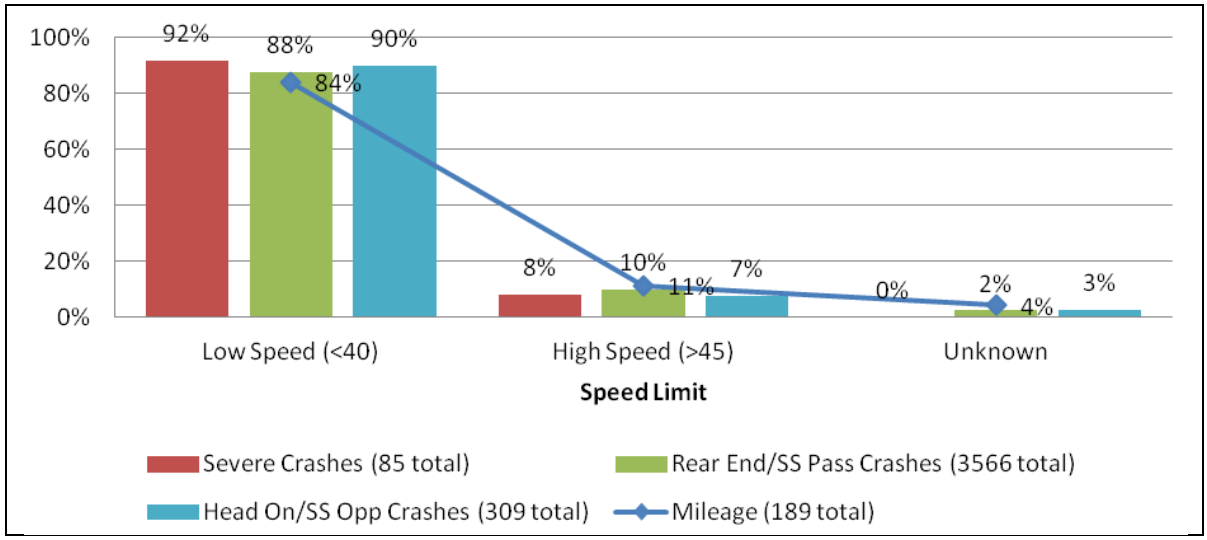


FIGURE 2-19
Phase I Urban Roadway Segment Crashes by Speed (2008 to 2012)

Detailed urban segment analysis and results for Minot are provided in Chapter 4. The four risk factors were used to prioritize roadway segments, with the highest priority segments receiving the most stars. High-priority roadway segments were also reviewed from a corridor perspective so that suggested safety improvement projects create a consistent corridor throughout the urban area.

2.3.5 Urban Intersections – Right-Angle Crashes, Cities with Populations Greater than 5,000 (Minot)

In Minot, 104 intersections including 32 signalized intersections were analyzed. Of the over 1,600 total crashes, only 32 severe crashes occurred at the Minot urban intersections analyzed. These data support assessing an intersection's risk based on the characteristics of locations with severe crashes. A variety of information was collected on each intersection and from that, four risk factors for right angle crashes were chosen:

1. **Traffic Control Device –** Severe crashes are overrepresented at signalized intersections versus other intersection control types in urban areas (Figure 2-20). Therefore, signalized intersections received a star.

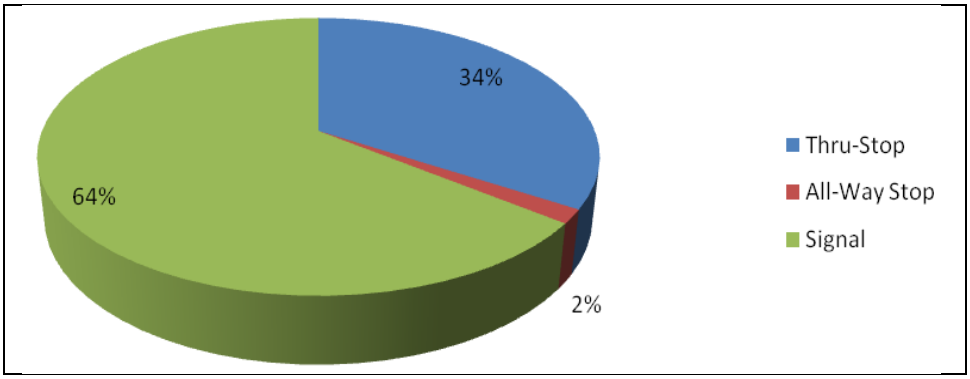


FIGURE 2-20
Phase I Urban Severe Crashes by Intersection Traffic Control Device (2008 to 2012)

2. **Entering ADT –** Higher volumes of vehicles entering intersections was considered a risk factor. Approximately 40% of righ angle crashes at signalized intersections in Minot occurred at intersections with an entering vehicles ADT between 10,000 and 15,000 vehicles per day (Figure 2-21). Therefore, any intersection with an entering vehicles ADT between 10,000 and 15,000 vehicles per day received a star.

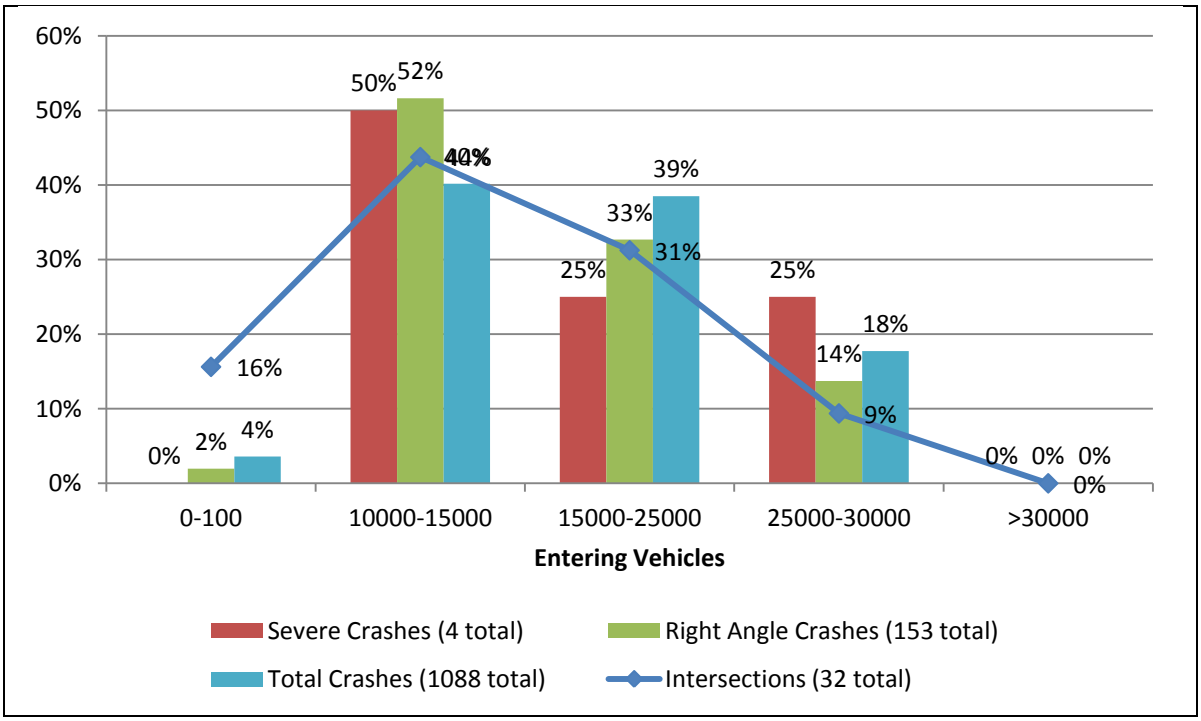


FIGURE 2-21
Minot Urban Crashes by Intersection Entering Vehicles Average Daily Traffic (ADT)

3. **Road Geometry** – Severe and right-angle crashes were overrepresented on divided roadways with signalized intersections (Figure 2-22). Therefore, intersections on divided roadways received a star.

4. **Severe Crashes** – Any intersection where one or more severe crashes had occurred received a star.

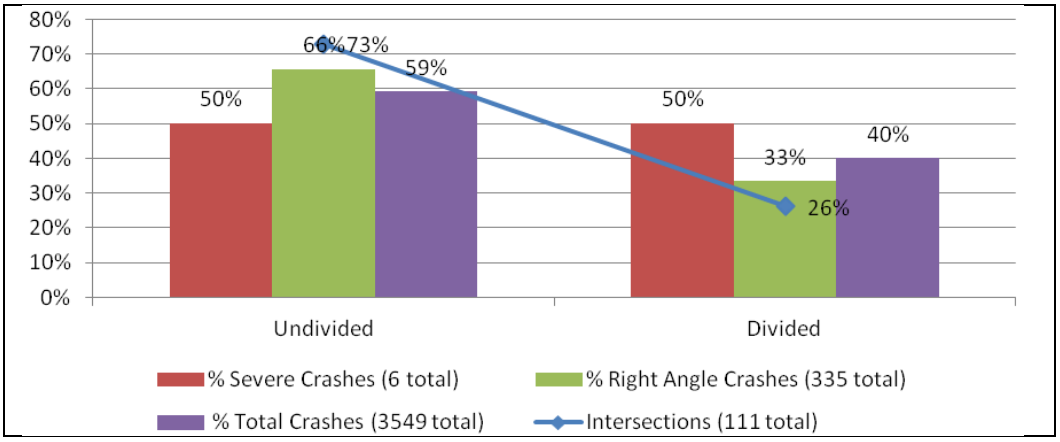


FIGURE 2-22
Phase I Urban Crashes by Intersection Configuration

Detailed urban intersection right angle analysis and results for Minot is in Chapter 4. The four risk factors previously listed were used to help prioritize intersections with the highest priority intersections receiving the most stars. Right angle crash intersections were reviewed as urban

corridors to create a consistent corridor throughout the urban area and to discourage implementing strategies at just one or two high priority intersections along a corridor if the remaining intersections have the same characteristics.

2.3.6 Urban Intersections – Pedestrian/Bicycle Crashes, Cities with Populations Greater than 5,000 (Minot)

Similar analysis was completed for pedestrian and bicycle crashes at intersections. Only 13 severe pedestrian and bicycle crashes occurred at Minot intersections from 2008 to 2012, therefore the data has been combined with all of the Phase I urban intersection analysis. Four risk factors were identified based on the analysis:

1. **Traffic Control Device -** Severe pedestrian and bicycle crashes are overrepresented at signalized intersections versus other intersection control types in urban areas (Figure 2-23). Therefore, signalized intersections received a star.

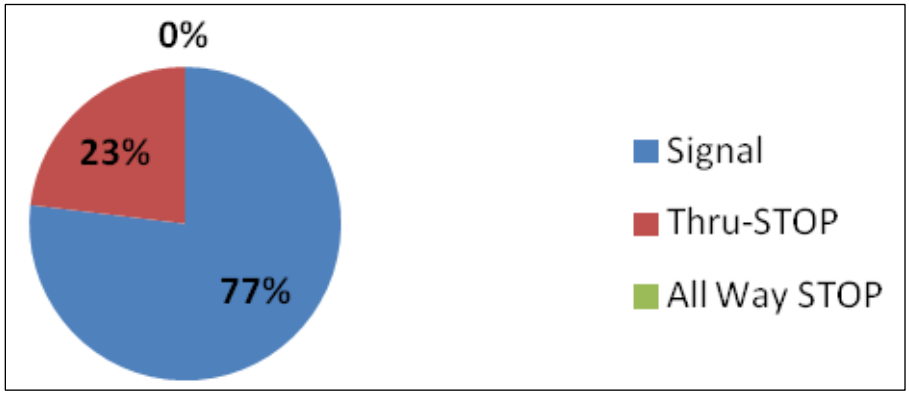


FIGURE 2-23
Phase I Urban Pedestrian/Bike Crashes by Intersection Traffic Control Devices

2. **Entering Vehicles ADT –** A high volume of vehicles entering an intersection was considered a risk factor. Over 70% of the severe pedestrian and bicycle crashes occurred at intersections with an entering vehicles ADT greater than 15,000 vehicles per day. Therefore, any intersection with an entering vehicles ADT greater than 15,000 vehicles per day or greater received a star.

3. **Pedestrian Generator –** Intersections with adjacent land uses likely to generate pedestrian traffic (such as a bar or gas station) had a higher pedestrian and bicycle crash risk than other intersections (Figure 2-24). Therefore, an intersection with a pedestrian generator present received a star.

4. **Pedestrian and Bicycle Crashes –** Any intersections that had any bicycle or pedestrian crash from 2008 to 2012 received a star.

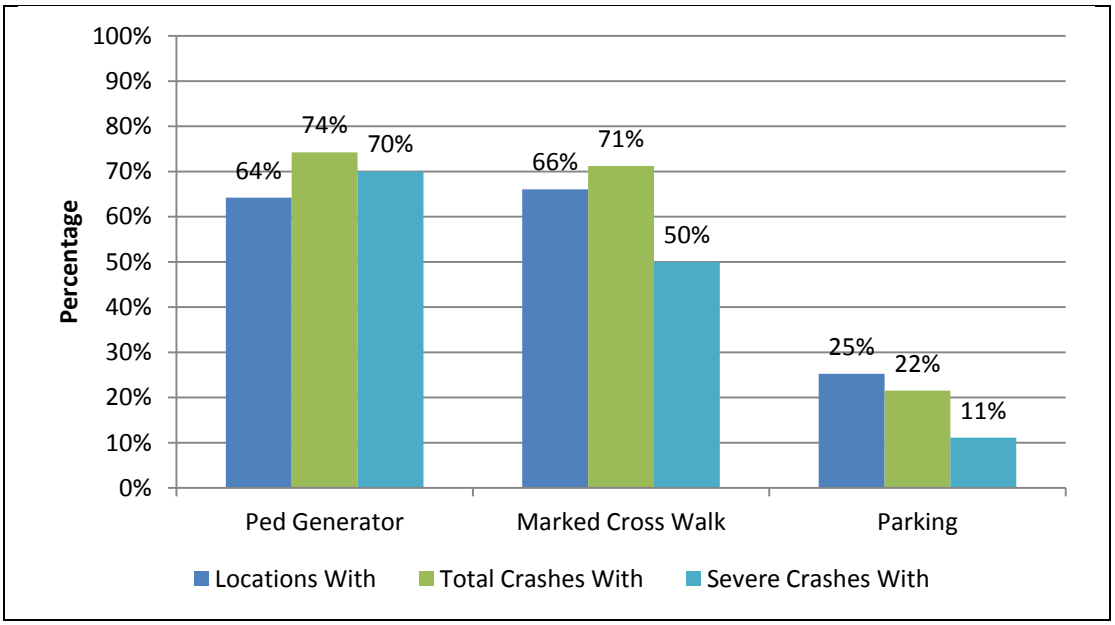


FIGURE 2-24
Phase I Pedestrian and Bicycle Crashes at Urban Signalized Intersection with a Pedestrian Generator

Detailed urban intersection pedestrian and bicycle analysis and results for Minot are provided in Chapter 4. The four risk factors were used to prioritize intersections with the highest-priority intersections receiving the most stars. Pedestrian and bicycle crash intersections were reviewed as urban corridors to create a consistent corridor throughout the urban area.

2.4 Ward County Risk Summary

Table 2-3 summarizes the risk factors, ranges, and sources used in the county's systemic analysis.

TABLE 2-3
Ward County Risk Summary

Risk Factors	Ward County		
	Minimum	Maximum	Source
Rural Segments			
ADT Range	700	Unlimited	Ward County
Lane Departure Density	0.05	Unlimited	Average Ward County
Access Density	8	Unlimited	Ward County
Curve Critical Radius Density	0.3	Unlimited	Average Ward County
ERA	2	3	Ward County
Rural Curves			
Radius	500	1200	Northeast Region, Burleigh County, Ward County
ADT Range	350	Unlimited	Northeast Region, Burleigh County, Ward County
Intersection on Curve	Present		National
Visual Trap	Present		National
Severe Crashes	1	Unlimited	Ward County

TABLE 2-3
Ward County Risk Summary

Risk Factors	Ward County		
	Minimum	Maximum	Source
Rural Intersections			
ADT Cross Product	100000	Unlimited	Northeast Region, Burleigh County, Ward County
Skew	Present		National
On/Near Curve	Present		National
Development	Present		National
Railroad Crossing	Present		National
Previous STOP >5 Miles	Present		National
Total Crashes	1	Unlimited	Ward County
Urban Segments			
ADT	4500	Unlimited	Northeast Region, Burleigh County, Ward County
Road Geometry	Multi-Lane		Northeast Region, Burleigh County, Ward County
Access Density	30	Unlimited	Northeast Region, Burleigh County, Ward County
Corridor Speeds	Low		Northeast Region, Burleigh County, Ward County
Urban Right Angle Crash Corridors			
Entering ADT	10000	15000	City of Minot
Traffic Control	Signal		Northeast Region, Burleigh County, Ward County
Road Geometry	Divided		Northeast Region, Burleigh County, Ward County
Severe Crashes	1	Unlimited	City of Minot
Urban Ped/Bike Crash Corridors			
Traffic Control	Signal		Northeast Region, Burleigh County, Ward County
Entering ADT	15,000	Unlimited	Northeast Region, Burleigh County, Ward County
Pedestrian Generator	Yes		Northeast Region, Burleigh County, Ward County
Pedestrian/Bicycle Crashes	1	Unlimited	Northeast Region, Burleigh County, Ward County

3.0 Priority Safety Strategies

3.1 Background

A variety of strategies are available to address each safety emphasis area. The implementation of high priority strategies will assist state and local agencies in reducing traffic-related fatalities and serious injuries. The primary sources of these strategies are the National Cooperative Highway Research Program (NCHRP) *Report 500* series and the National Highway Traffic Safety Administration's (NHTSA's) *Countermeasures That Work*. Each guide includes a description of the problem, strategies, and model implementation processes. In addition, to assist practitioners in assessing the safety strategies, the guides document the expected effectiveness of each strategy by assigning them to one of the following categories:

- **Proven:** These strategies have been used in multiple locations with multiple studies, and have been demonstrated to be effective.
- **Tried:** These strategies have been implemented in many locations; however, no rigorous evaluations have been completed to determine their effectiveness.
- **Experimental:** These strategies represent ideas that are considered to be effective; however, the ideas have not been widely implemented or evaluated.

3.2 Initial/Comprehensive List of Potential Strategies

NCHRP safety strategies were the basis for identifying safety strategies for the LRSP. For the LRSP process, NDDOT team members sought to identify viable safety strategies for the top safety emphasis areas (see Tables 3-1 through 3-9). The LRSP team reviewed the full range of safety strategies, and did an initial screening based on cost and effectiveness. For example, the NCHRP report lists over 70 potential strategies to address intersection safety. The screening conducted by the LRSP team narrowed the list of strategies for all safety emphasis areas down to strategies considered to be the most applicable in North Dakota.

Behavioral strategies include information on the expected impact of the strategy based on current practice and results. Strategies with high impact have been shown to have influence on driver behavior.

Each infrastructure strategy includes information on the relative cost to implement or operate, along with the typical timeframe for implementation. Relative costs were separated into three categories:

- Low = less than $10,000 (per mile or location)
- Medium = between $10,000 and $100,000 (per mile or location)
- High = more than $100,000 per mile or location

The typical timeframe to implement the strategy was also separated into three categories:

- Short = less than 1 year to implement
- Medium = between 1 and 2 years to implement
- Long = more than 2 years to implement

TABLE 3-1
Impaired Driving Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics	Impact
A – Eliminate Drinking and Driving	**A1 –** Require responsible beverage service policies for alcohol servers and retailers	Proven	Advocate for responsible alcohol server and retailer training	Medium
	A2 – Employ screening and brief interventions regarding impaired driving risks	Tried	Enforcement or health care provider conducts brief intervention with crash victim after an alcohol-related crash (traumatic event) on risks and consequences of drinking and driving. Develop fact sheets and materials to be used. North Dakota Impaired Driver Safety Facts: http://www.ugpti.org/rtssc/briefs/downloads/2012_Impaired.pdf	Medium
	A3 – Support community programs for alternative transportation	Tried	Employ "Safe Cab" initiatives via partnership among beer distributors, bar owners, and county/city community programs. Conduct public outreach on accessible safe-ride alternatives.	Medium
	A4 – Promote sobriety initiatives for driving-under-the-influence (DUI) offenders	Proven	Promote 24/7 and ignition interlock programs through educating local judicial and legal counsel members, probation officers, and counseling and treatment providers, as well as the general public.	Medium
B – Enforce DUI Laws	**B1 –** Conduct regular high-visibility DUI enforcement saturations	Proven	A saturation is a multi-agency, multi-squad car enforcement effort. Agencies work in collaboration to provide high-visibility enforcement for high-risk roadways. High visibility enforcement includes multiple jurisdictions and/or multiple squads that are out at the same time patrolling in brightly colored vests, using signage about the enforcement and engaging the media for public outreach about the enforcement effort.	High
	B2 – Conduct enforcement, education and awareness campaign of the targeted enforcement of zero tolerance laws for drivers under age 21	Tried	Publicizing is best done through community events for the local media and a public education campaign in the community about the high visibility enforcement effort.	Low
	B3 – Expand use of DUI sobriety checkpoints	Proven	Local law enforcement to expand the use of multi-jurisdictional sobriety checkpoints that include public outreach/media campaigns about the checkpoints.	High
	B4 – Monitor convicted DUI offenders closely	Proven	Monitor judicial sentencing of local DUI courts or intensive supervision programs	High

TABLE 3-2
Seat Belt Use Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics	Impact
A – Enforce seat belt use laws	**A1 –** Conduct highly publicized enforcement campaigns to maximize restraint use. Specifically, nighttime belt enforcement saturation.	Proven	Publicizing is best done through community events for the local media and a public education campaign in the community about the enforcement. Methods for nighttime enforcement include having multi-agency and multiple squad cars in well-lit areas where slow-moving vehicles are passing and conducting seat belt observations for a limited time.	High
	A2 – Pursue local ordinances for primary enforcement of seat belt laws.	Proven	Under tribal and/or local ordinance, pursue primary seat belt enforcement for occupants in all seating positions. *White Earth Tribal Council passes primary seat belt law.* http://staging.dl-online.com/content/white-earth-council-passes-seat-belt-law	High
B – Maximize use of occupant restraints by all vehicle occupants	**B1 –** Encourage employers to 1) offer education programs to employees, and 2) enact traffic safety policies with clear consequences for failure to comply.	Tried	Utilize materials and policy statements designed for employers by Network of Employers for Traffic Safety. For example, seat belt use employer polices and resources: http://www.mnsafetycouncil.org/nets/EducationMaterials.cfm	Medium
	B2 – Brief intervention regarding unbelted risks	Tried	Enforcement or health care provider conducts brief intervention with crash victim after an unbelted crash (traumatic event) on unbelted risks and consequences. Develop fact sheets and materials to be used. North Dakota Seat Belt Fact Sheet: http://www.ugpti.org/rtssc/briefs/downloads/2012_SeatBelts.pdf	Medium

TABLE 3-3
Motorcycle Safety Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics	Impact
A – Reduce the number of motorcycle crashes due to rider impairment	**A1 –** Publicize and conduct a high-visibility enforcement of all laws pertaining to motorcycle riding.	Proven	Publicizing is best done through community events for the local media and a public education campaign in the community about the enforcement. High-visibility enforcement is when multiple jurisdictions and/or multiple squads are out at the same time patrolling in brightly colored vests, signage, and media outreach about the enforcement. Methods for nighttime enforcement include having multi-agency and multiple squad cars in well lit areas where slow-moving riders are passing.	High
	A2 – Support law enforcement to identify specific motorcycle rider impairment behaviors that have been shown to contribute to crashes.	Proven	Provide enforcement with motorcycle rider DUI detection resources. National Highway Traffic Safety Administration (NHTSA) Motorcycle rider DUI Detection Guide: http://www.nhtsa.gov/people/injury/pedbimot/motorcycle/610DWIMotorcyWeb/pages/	Medium
B – Reduce the number of motorcycle crashes due to unlicensed or untrained motorcycle riders	**B1 –** Ensure that licensing and rider training programs adequately teach and measure skills and behaviors required for crash avoidance.	Tried	Host local motorcycle safety training courses to provide greater access to riders.	Medium
	B2 – Identify and remove barriers to obtaining a motorcycle endorsement.	Tried	Host local motorcycle skills testing programs to enhance rider safety and prepare and encourage riders to obtain motorcycle endorsement.	Medium
C – Increase visibility of riders	**C1 –** Increase the awareness of the benefit of high-visibility clothing and rider conspicuity.	Experimental	Publicizing is best done through the local media and a public education campaign in the community.	Low
D – Reduce the severity of motorcycle crashes	**D1 –** Increase the use of FMVSS 218-compliant helmets.	Proven	Conduct local public outreach on the benefits of motorcycle helmet use.	Low

TABLE 3-4
Speed and Aggressive Driving Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics	Impact
A – Deter aggressive driving in specific populations, including those with a history of such behavior, and at specific locations	**A1 –** Review crash data	Proven	Analyze crash data to define high-risk speed locations for enhanced enforcement and public outreach efforts.	High
	A2 – Conduct high-visibility targeted enforcement of speeding and aggressive driving	Proven	Agencies work in collaboration to provide high-visibility enforcement for high-risk roadways. High-visibility enforcement includes multiple jurisdictions and/or multiple squads that are out at the same time patrolling in brightly colored vests, using signage about the enforcement, and engaging the media for public outreach about the enforcement effort.	High
	A3 – Pursue local ordinances to utilize automated enforcement in high-risk areas.	Proven	Under local ordinance, pursue the use of automated enforcement (speed and red-light running cameras) in high-risk highway work zones and school crossing zones. Ohio Law Enforcement Liaison Coordinator for example local ordinances using automated enforcement: http://ohiohighwaysafetyoffice.ohio.gov/doc/2013LELMap.pdf	High
B – Maximize driver compliance and awareness	**B1—**Brief intervention regarding speed	Tried	Enforcement or health care provider conducts brief intervention with crash victim after crash due to excessive speed (traumatic event) on speed-related risks and consequences. Develop fact sheets and materials to be used. ND Speed Fact Sheet: http://www.ugpti.org/rtssc/briefs/	Medium
	B2 – Increase driver awareness of speed using speed reader boards or driver feedback signs	Proven	Speed reader boards provide feedback to drivers on their actual speed. Some flash warnings when speeds reach a pre-set limit. Most effective in slowing traffic on residential streets, near school zones, and around playgrounds.	Medium

TABLE 3-5
Young Driver Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics	Impact
A – Publicize, enforce, and adjudicate laws pertaining to young drivers	**A1 –** Publicize and conduct a high-visibility enforcement graduated drivers license (GDL) restrictions; cell and texting laws; underage drinking and driving; and seatbelt laws	Proven	Publicizing is best done through community events for the local media and a public education campaign in the community about the applicable laws, parental involvement and the enforcement. High-visibility enforcement is when multiple jurisdictions and/or multiple squads are out at the same time patrolling in areas frequented by teen drivers, with brightly colored vests, signage, and media outreach about the enforcement.	High
B – Actively engage parents in managing teen driving skill development	**B1 –** Encourage driver education providers (local schools and private providers) to require parent education component	Tried	Local driver education providers including local schools and private providers require 2-hour parent education program to educate parents about teen driving risks, Graduated driving license (GDL) provisions and their protections, parental role in supervising teen driving skill development, encourage selection of safer vehicles for teen driver, and to facilitate Parent/Teen Driving Agreements. *Teendriversource: Research Put into Action* for PowerPoint presentations, parent/teen activities and other tools to be adopted for driver education providers. www.teendriversource.org *Teen Driving Parents/Alive at 25* for 1-hour parent, 4-hour teen driving program including comprehensive publication, *Teen Driver; A Family Guide to Teen Safe Driving:* http://www.nsc.org/products_training/Products/MotorVehicleSafety/Pages/TeenDriving.aspx	Medium
	B2 – Promote use of in-vehicle teen safety technology	Experimental	To help reduce and eliminate teen driving distractions and high-risk driving maneuvers (excessive speed, hard acceleration, deceleration, and swerves) promote the use of in-vehicle monitoring devices for parental monitoring and coaching.	High
	B3 – Develop safe teen driving outreach materials for parents	Tried	Encourage driver education, local insurance, and public health organizations to provide parents of teen drivers with brochures, guides, and web resources to help parents understand risks, GDL provisions, their role, and how to develop a Parent/Teen Driving Agreement, and online driving logs. *Parents are the Key* for free downloadable resources (can be customized): www.cdcgov/ParentsAreTheKey/ *Teen Driving Parents/Alive at 25* for the comprehensive guide: *Teen Driver; A Family Guide to Teen Safe Driving:* http://www.nsc.org/products_training/Products/MotorVehicleSafety/Pages/TeenDriving.aspx	Medium

TABLE 3-5
Young Driver Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics	Impact
	B4 – Provide information on insurance provider parent-teen safe driving programs	Tried	Inform parents of local insurance programs providing policy discounts for parents and their teen enrolling in parent-teen safe driving programs.	Medium
C – Educate Young Drivers	**C1 –** Brief interventions regarding driving risks and consequences	Tried	When teen driver receives a moving violation or is involved in a crash, enforcement or health care provider conducts brief intervention with crash victim after crash (traumatic event) on driving risks and consequences.	Medium

TABLE 3-6
Speeding Strategies (Infrastructure Strategies)

Objectives	Strategies	Cost to Implement and Operate[1]	Effectiveness	Timeframe for Implementation[2]
A – Set appropriate speed limits	**A1 –** Install speed signage using variable message signs in school zones	Low	Tried	Medium
B – Communicate appropriate speeds through use of traffic control devices	**B1 –** Implement active speed warning signs, including dynamic message boards at rural to urban transitions	Low	Tried	Medium
	B2 – Use in-pavement measures to communicate the need to reduce speeds	Moderate	Tried	Short
C – Ensure that roadway design and traffic control elements support appropriate and safe speeds	**C1 –** Effect safe speed transitions through design elements and on approaches to lower-speed areas	High	Tried	Long

Notes:
[1] Cost: Low = <$100,000 per intersection; Moderate = $100,000 to $500,000 per intersection; High = >$500,000 per intersection
[2] Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years
Source: NCHRP *Report 500* Series, 2004

TABLE 3-7
Lane Departure Strategies (Infrastructure Strategies)

Objectives	Strategies	Cost to Implement and Operate[1]	Effectiveness	Timeframe for Implementation[2]
A – Keep vehicles from encroaching on the roadside	**A1 –** Install shoulder rumble strips	Low	Proven	Short
	A2 – Install enhanced pavement markings, edge line rumble strips, modified shoulder rumble strips, 6-inch edge line, or embedded wet-reflective pavement markings on sections with narrow or no paved shoulders	Low	Experimental / Tried	Short
	A3 – Provide enhanced shoulders, lighting, delineation (for example, Chevrons), or pavement markings for sharp horizontal curves	Low	Tried / Proven	Short
	A4 – Provide skid-resistance pavement surfaces	Moderate	Proven	Medium
	A5 – Apply shoulder treatments * Eliminate shoulder drop-offs from paved road to unpaved shoulder * Safety edge * Widen and/or pave shoulders	Moderate	Experimental / Proven	Medium
B – Minimize the likelihood of crashing into an object or overturning if the vehicle travels off the shoulder	**B1 –** Design safer slopes and ditches to prevent rollovers	Moderate to High	Proven	Medium
	B2 – Remove/relocate objects in hazardous locations	Moderate to High	Proven	Medium
C – Reduce the severity of the crash	**C1 –** Improve design and application of barrier and attenuation systems	Moderate to High	Tried	Medium
D – Keep vehicles from encroaching into opposite lane	**D1 –** Install centerline rumble strips for two-lane roads	Low	Tried	Short
	D2 – Reallocate total two-lane roadway width (lane and shoulder) to include a “buffer median”	Low	Tried	Medium
E – Minimize the likelihood of crashing into an oncoming vehicle	**E1 –** Use alternating passing lanes or four-lane sections at key locations (Swedish "2+1")	Moderate to High	Tried	Medium
	E2 – Install cable median barriers for medians on multilane roads	Moderate	Tried	Medium

Notes:
[1] Cost: Low = <$10,000 per mile; Moderate = $10,000 to $100,000 per mile; High = >$100,000 per mile
[2] Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years
Source: NCHRP *Report 500* Series, 2003

TABLE 3-8
Signalized Intersection Strategies (Infrastructure Strategies)

Objectives	Strategies	Cost to Implement and Operate[1]	Effectiveness	Timeframe for Implementation[2]
A – Reduce frequency and severity of intersection conflicts through traffic control and operational improvements	**A1 –** Optimize signal operation (phasing/timing, etc.)	Low	Tried / Proven	Short
	A2 – Optimize clearance intervals	Low	Proven	Short
	A3 – Employ signal coordination along a corridor or route	Low	Proven	Medium
	A4 – Employ emergency vehicle preemption	Moderate	Proven	Medium
	A5 – Provide countdown timers, advanced walk phase, and other low-cost pedestrian/bicycle facility improvements	Low	Tried / Proven	Short
B – Reduce frequency and severity of intersection conflicts through geometric improvements	**B1 –** Provide/improve left-turn channelization	Moderate	Proven	Long
C – Improve pedestrian safety with signal improvements	**C1** – Install countdown timers	Low	Tried	Short
	C2 – Re-time signals to provide a leading pedestrian interval (advanced walk)	Low	Tried	Short
D – Improve driver awareness of intersections and signal control	**D2 –** Improve visibility of signals (overhead indications, 12-inch lenses, background shields, LEDs) and signs (mast arm mounted street names) and signs (mast arm mounted street names) at intersections	Low	Tried	Short
E – Improve driver compliance with traffic control devices	**E1 –** Supplement conventional enforcement of red-light running with confirmation lights; include a public information campaign to increase awareness and compliance	Low	Tried	Short
F – Improve access management near signalized intersections	**F1 –** Restrict access to properties using driveway closures or turn restrictions	Low	Tried	Short
	F2 – Restrict cross-median access near intersections	Low	Tried	Short
G – Improve safety through other infrastructure treatments	**G1 –** Restrict or eliminate parking on intersection approaches	Low	Proven	Short

Notes:
[1] Cost: Low = <$100,000 per intersection; Moderate = $100,000 to $500,000 per intersection; High = >$500,000 per intersection
[2] Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years
Source: NCHRP *Report 500* Series, 2004)

TABLE 3-9
Unsignalized Intersection Strategies (Infrastructure Strategies)

Objectives	Strategies	Cost to Implement and Operate[1]	Effectiveness	Timeframe for Implementation[2]
A – Improve management of access near unsignalized intersections	**A1 –** Implement driveway closure/relocations	Moderate	Tried	Medium
	A2 – Implement driveway turn restrictions	Low	Tried	Short
B – Reduce the frequency and severity of intersection conflicts through geometric design improvements	**B1 –** Provide left-turn lanes at intersections	Moderate	Proven	Medium
	B2 -- Provide offset left-turn lanes at intersections	Moderate to High	Tried	Medium
	B3 – Provide offset right-turn lanes at intersections	Moderate to High	Tried	Medium
	B4 – Restrict or eliminate turning maneuvers by providing channelization or closing median openings	Low	Tried	Short
	B5 – Realign intersection approaches to reduce or eliminate intersection skew	High	Proven	Medium
	B6 – Improve pedestrian and bicycle facilities to reduce conflicts between motorists and nonmotorists	Moderate	Varies	Medium
	B7 – Use indirect left-turn treatments to minimize conflicts at divided highway intersections	Moderate	Tried	Medium
C – Improve sight distance at unsignalized intersections	**C1 –** Clear sight triangle on approaches and in medians by clearing grub, eliminating parking, etc.	Low	Tried	Short
D – Improve driver awareness of intersections as viewed from the intersection approach	**D1 –** Improve visibility of intersections by providing enhanced signing, delineation or pavement markings/messages (stop bar, larger regulatory signs, LED stop signs, etc.)	Low	Tried	Short
	D2 – Improve visibility of intersections by providing appropriate street lighting	Low to Moderate	Proven	Medium

TABLE 3-9
Unsignalized Intersection Strategies (Infrastructure Strategies)

Objectives	Strategies	Cost to Implement and Operate[1]	Effectiveness	Timeframe for Implementation[2]
	D3 – Install larger regulatory and warning signs at intersections, including the use of dynamic warning signs at appropriate intersections	Low	Tried	Short
	D4 – Call attention to the intersection by installing rumble strips or splitter islands on intersection approaches	Low to Moderate	Tried	Medium
E – Appropriate intersection traffic control to minimize crash frequency and severity	**E1 –** Construct roundabouts at appropriate locations	High	Proven	Long
F – Reduce operating speeds on specific intersection approaches	**F1 –** Install dynamic speed feedback signs	Low	Proven	Short

Notes:
[1] Cost: Low = <$50,000 per intersection; Moderate = $50,000 to $500,000 per intersection; High = >$500,000 per intersection
[2] Implementation: Short = <1 year; Medium = 1 to 2 years; Long = >2 years
Source: NCHRP *Report 500* Series, 2003

3.3 Safety Strategies Workshop

A Safety Planning Workshop was held with Ward County in the City of Minot on June 5, 2013. Two additional workshops were held in Burleigh County and Devils Lake (northeast region) as part of the LRSP Phase I analysis. The primary focus of the safety workshop was to discuss and prioritize the safety strategies.

The basic workshop structure included introductions and an overview of the current NDDOT safety program. This was followed by local speakers:

- Dana Larsen, Ward County Engineer
- Sheriff Steve Kukowski, Ward County Sheriff

These speakers shared information on local safety initiatives and programs. The morning was concluded with a review of the latest crash data on the local roadway system. In the afternoon, the workshop participants separated into groups to discuss potential safety strategies and begin the process of prioritizing the strategies. The groups included one that reviewed and discussed driver-behavior strategies and another for roadway infrastructure strategies. The final agenda item was a voting exercise where each participant voted for their preferred strategies to focus efforts on in the future local roadway program in their regions.
Workshop participants included county and city representatives, county commissioners, enforcement representatives, and NDDOT staff in order to include a variety of backgrounds and experiences to enable valuable interaction and discussions during the workshop.

3.4 Prioritizing Safety Strategies

Through the group (infrastructure and driver behavior) discussion and voting exercise, the top safety strategies for Ward County are:

- Behavioral strategies
  - Conduct regular high-visibility driving-under-the-influence (DUI) enforcement saturations
  - Conduct high-visibility targeted enforcement of speeding and aggressive driving
  - Conduct high-visibility targeted enforcement to maximize seat belt use
  - Encourage driver education providers to require parent education component
- Infrastructure strategies
  - Rumble strips and enhance edge line (modified shoulder rumbles strip, 6-inch edge line)
  - Design safer slopes and ditches to prevent rollovers if a vehicle leaves the roadway
  - Intersection lighting
  - Provide enhanced shoulders, delineation, or pavement markings for sharp horizontal curves

Safety projects that are developed as part of this LRSP are considered eligible for funding through the state's Highway Safety Improvement Program (HSIP). The managers of this program have identified implementation cost and effectiveness as priorities in their evaluation process of selecting projects for funding. Low-cost projects allow the limited funding to support a wider deployment and the use of proven effective strategies provides the highest level of confidence that a given project will result in an overall crash reduction.

The ability of the selected strategies to reduce crashes is based on information in FHWA's CMF [Crash Modification Factors] Clearinghouse. Table 3-10 provides a summary of the crash reduction factors that were found in the CMF Clearinghouse for safety strategies considered and/or suggested for Ward County, along with an estimated unit cost for each strategy. Most factors reported are based on research that was assigned with higher-quality ratings.

TABLE 3-10
Proposed Strategies, Crash Reduction Factors, and Typical Installation Costs

Strategy	Crash Reduction Factor [a]	Typical Installation Costs
Impaired Driving		
Conduct regular high-visibility DUI enforcement saturations	3%	Up to $50 per hour of officer overtime
Speed and Aggressive Driving		
Conduct high-visibility targeted enforcement of speeding and aggressive driving	3%	Up to $50 per hour of officer overtime
Seat Belt Use		
Conduct highly publicized enforcement campaigns to maximize restraint use. Specifically, night time belt enforcement saturation	3%	Up to $50 per hour of officer overtime
Young Drivers		
Publicize and conduct a high visibility enforcement of graduated drivers license (GDL) restrictions, cell and texting laws, underage drinking and driving and seat belt laws	3%	Depends on duration
Encourage driver education providers to require parent education component	2%	$1,500 per school district
Brief interventions by health care providers following a crash regarding driving risks and consequences	N/A	Low to Moderate
Rural Segments		
4-inch latex edge line		$400 per mile
6-inch latex edge line	10% to 45% all rural serious crashes	$650 per mile
Shoulder or edge line rumble strip	20% run off road crashes	$3,000 per mile [shoulder] $3,500 per mile [edge]
Ground in wet-reflective markings		$8,500 per mile
Centerline rumble strip	40% head-on/sideswipe-crashes	$3,000 per mile
6-inch centerline		$650 per mile
Rural Curves		
Chevrons	20% to 30%	$3,300 per curve
Arrow board only		$500 per curve
Advance warning sign and advisory speed plaque		$800 per curve

TABLE 3-10
Proposed Strategies, Crash Reduction Factors, and Typical Installation Costs

Strategy	Crash Reduction Factor [a]	Typical Installation Costs
2-foot paved shoulder and shoulder rumble strips	20% to 30% run-off-the-road crashes	$37,000 per mile + $3,000 per mile
Rural Intersections		
Roundabout	20% to 50% all crashes/ 60% to 90% right-angle crashes	$1,000,000 per intersection
Directional median (RCI or J-Turn)	17% all crashes/ 100% angle crashes	$750,000 per intersection
Mainline dynamic warning sign	50% all crashes/ 75% severe right-angle crashes	$50,000 per intersection
Close median		$25,000 per intersection
Intersection lighting	25% to 40% nighttime crashes	$6,000 per street light
Upgrade signs and pavement markings	40% upgrade of all signs and pavement marking/ 15% for STOP AHEAD pavement marking	$1,850 per approach [b]
Clear sight triangle	37% serious injury crashes	$2,450 per intersection [d]
Urban		
Conversions (three-lane/five-lane)	30% to 50%	$17,000 per mile [3-lane] $22,000 per mile [5-lane] + $25,000 per signalized intersection for updates (for example, loop and signal head placement)
Access management	5% to 31%	$300,000 per mile [e]
Signal – confirmation lights	25% to 84% reduction in violations	$1,000 per two approaches
Pedestrian/bicycle – advanced walk	Up to 60% pedestrian/ vehicle crashes	$0 per intersection
Pedestrian/bicycle – countdown timers	25% vehicle/pedestrian crashes	$10,000 per intersection
Pedestrian/bicycle – curb extensions	Increase in vehicles yielding to pedestrians	$15,000 per corner
Pedestrian/bicycle – median refuge island	46% in vehicle/pedestrian crashes	$10,000 per approach

Notes:
[a] Crash reduction factors based on review of CMF Clearinghouse and other published research
[b] Includes $350 per STOP sign, $350 per junction sign assembly, $450 per STOP AHEAD sign, $450 per STOP AHEAD pavement marking message, and $250 per stop bar
[c] Reduction based on increasing sight distance triangle
[d] Inclusive of sigh upgrades identified and materials and labor for clearing of sight triangle.
[e] For management of unsignalized intersection movements within a corridor that has a divided median. Typical project may include minor street diverters, signed turn restrictions, and median closings.
N/A = not applicable

4.0 Ward County Infrastructure Safety Projects

4.1 Ward County Proactive Project Decision Process

The primary objectives of the LRSP effort are to identify low-cost, safety-related infrastructure projects focused on each county's documented safety emphasis areas and target crash types. These emphasis areas account for the greatest number of severe crashes occurring on the local road system. Mitigating the factors that contribute to these crashes will assist each county in reducing severe crashes on the local road system.

Projects were developed that include identifying a specific improvement at a specific location based on risk factors described in Chapter 2 and the high-priority safety strategies described in Chapter 3. Improvement strategies are consistent with NDDOT's SHSP with a focus on proven effectiveness at reducing the target type of crash and low cost. Proven effective strategies give safety program managers the highest level of confidence that the deployment will result in a reduction of crashes. Low-cost strategies allow improvements to be widely deployed across a system to address the low density of crashes and are less expensive than complete reconstruction of high-risk locations. Project development and mitigation focused on the following improvements:

- Rural
  - Lane-departure crashes along roadway segments and in curves
  - Intersection-related crashes
- Urban
  - Rear-end and head-on crashes in segments
  - Angle crashes and pedestrian and bicycle crashes at intersections

For consistency across the northeast region, project decision trees were created so that locations with similar characteristics across the region received the same suggested mitigation treatment. Projects were chosen based on the identification of at-risk locations and the availability of proven strategies for crash reduction. This resulted in a systemic focus on rural paved segments, horizontal paved curves, and rural intersections. In cities with populations over 5,000, the focus was on arterial and collector roadway segments and intersections along these segments. Projects were originally suggested based on the technical analysis and then were revised in accordance with input by the local agencies and NDDOT.

High-priority rural roadway segment projects focused on addressing the most common type of severe segment related crash – a single-vehicle, lane-departure crash – by implementing road edge improvements to alert drivers when they are drifting too far to the edge of the road (Figure 4-1).

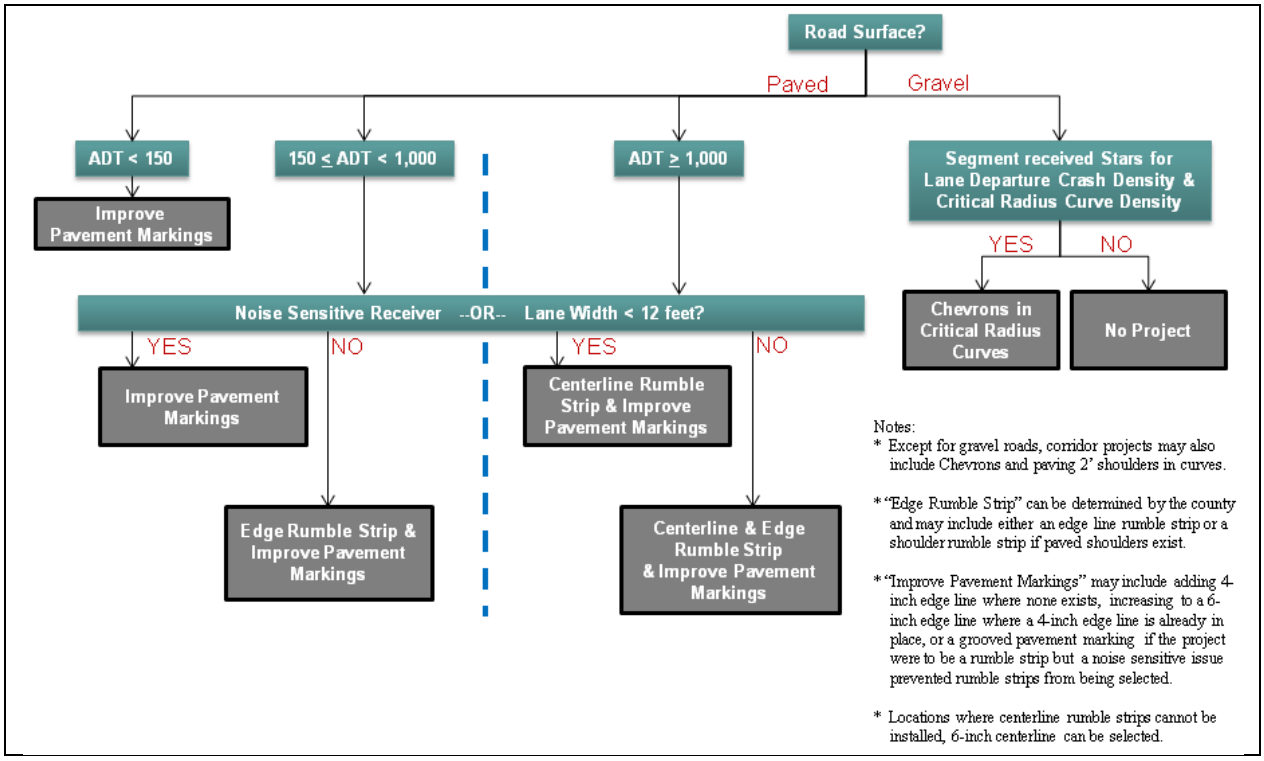


FIGURE 4-1
High-Priority Rural Roadway Segment Project Decision Tree

High-priority rural curve projects focused on enhancing the curve delineation to improve driver's ability to successfully navigate the curves (Figure 4-2). As shown in the figure, there are three ways in which a curve is eligible for a safety improvement project.

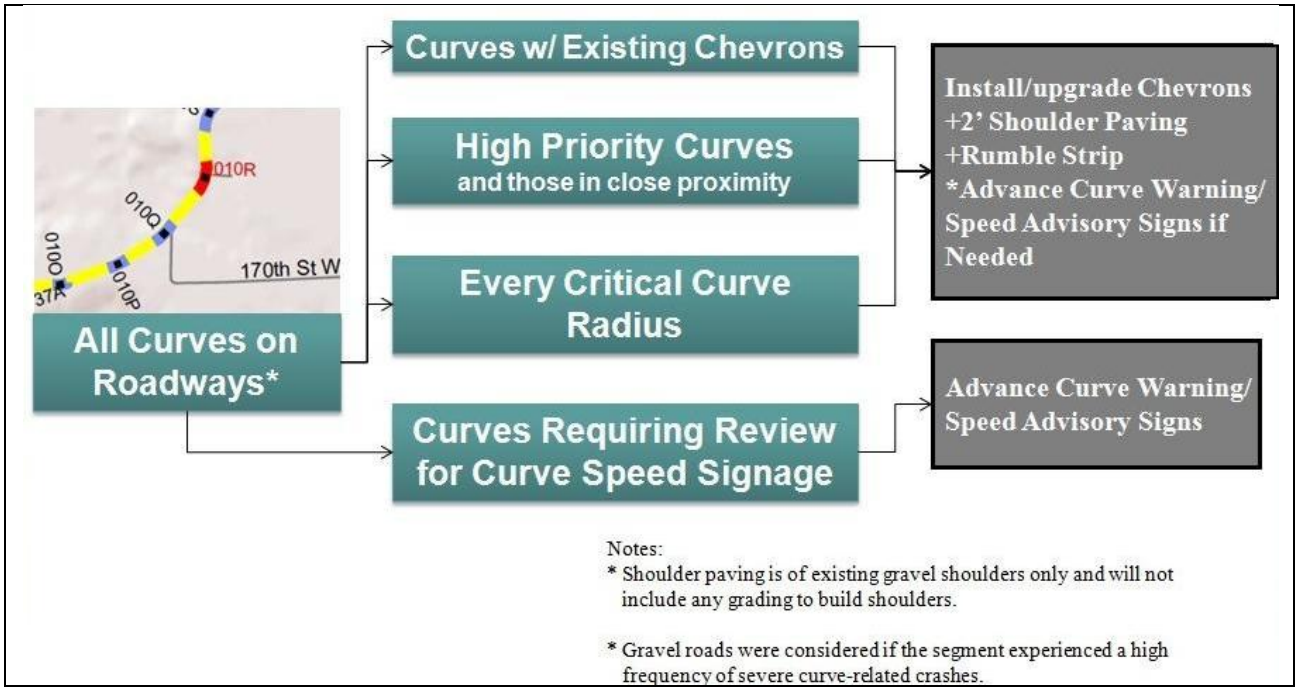


FIGURE 4-2
High-Priority Rural Curve Project Decision Tree

High-priority rural intersection projects (Figure 4-3) focused on addressing the most common type of severe intersection crash – a right-angle collision – by making the intersection more visible to drivers and by reducing the number of intersection conflicts. Examples of suggested projects are shown in Figure 4-4.

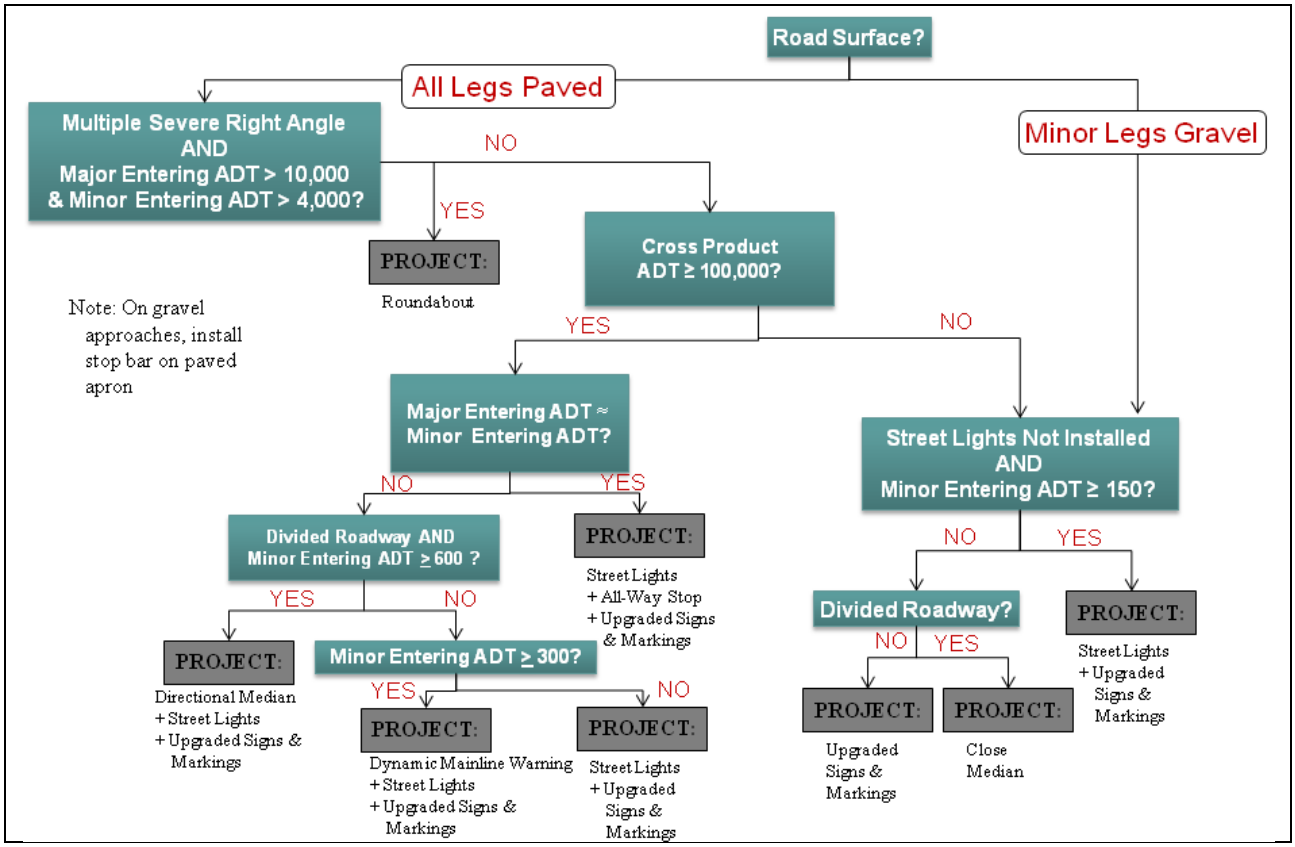
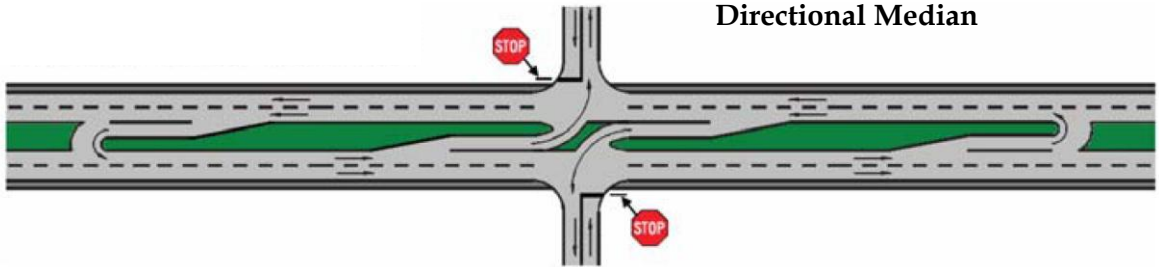
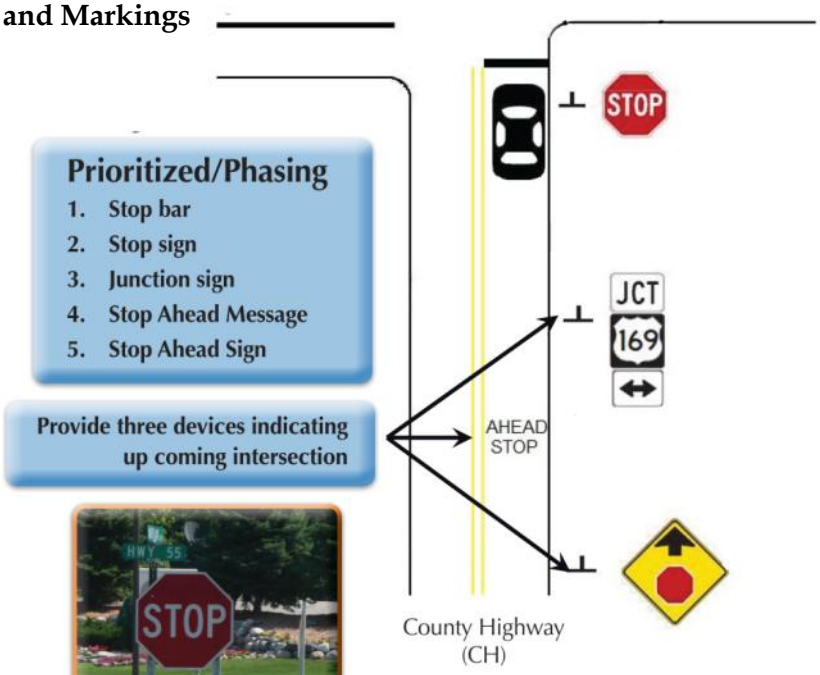


FIGURE 4-3
High-Priority Rural Intersection Project Decision Tree

Directional Median



Upgraded Signs and Markings



Project may include some or all of the items based on detailed field assessment.

Source: Minnesota DOT District 3-13 County RSA – CH2M HILL 2006

FIGURE 4-4
Intersection Safety Strategies Considered for Deployment

High-priority urban roadway segment projects focused on reducing rear-end and head-on crashes by creating buffer space in the middle of the roadway by converting to a three-lane or five-lane roadway and by better managing access along divided arterials (Figure 4-5).

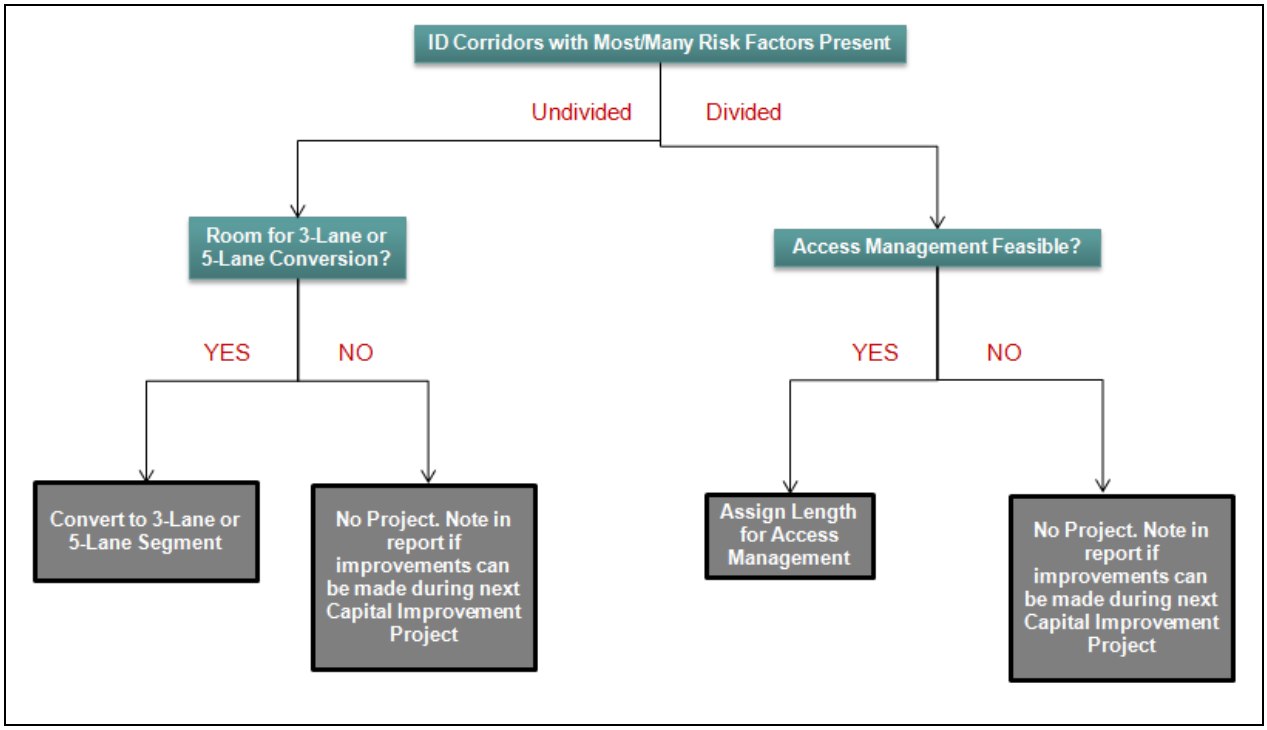


FIGURE 4-5
High-Priority Urban Roadway Segment (Turning) Project Decision Process

High-priority urban right-angle intersection projects focused on reducing right-angle crashes by reducing red-light running and access management to reduce the number of conflict points along a corridor, particularly at signalized intersections (Figure 4-6).

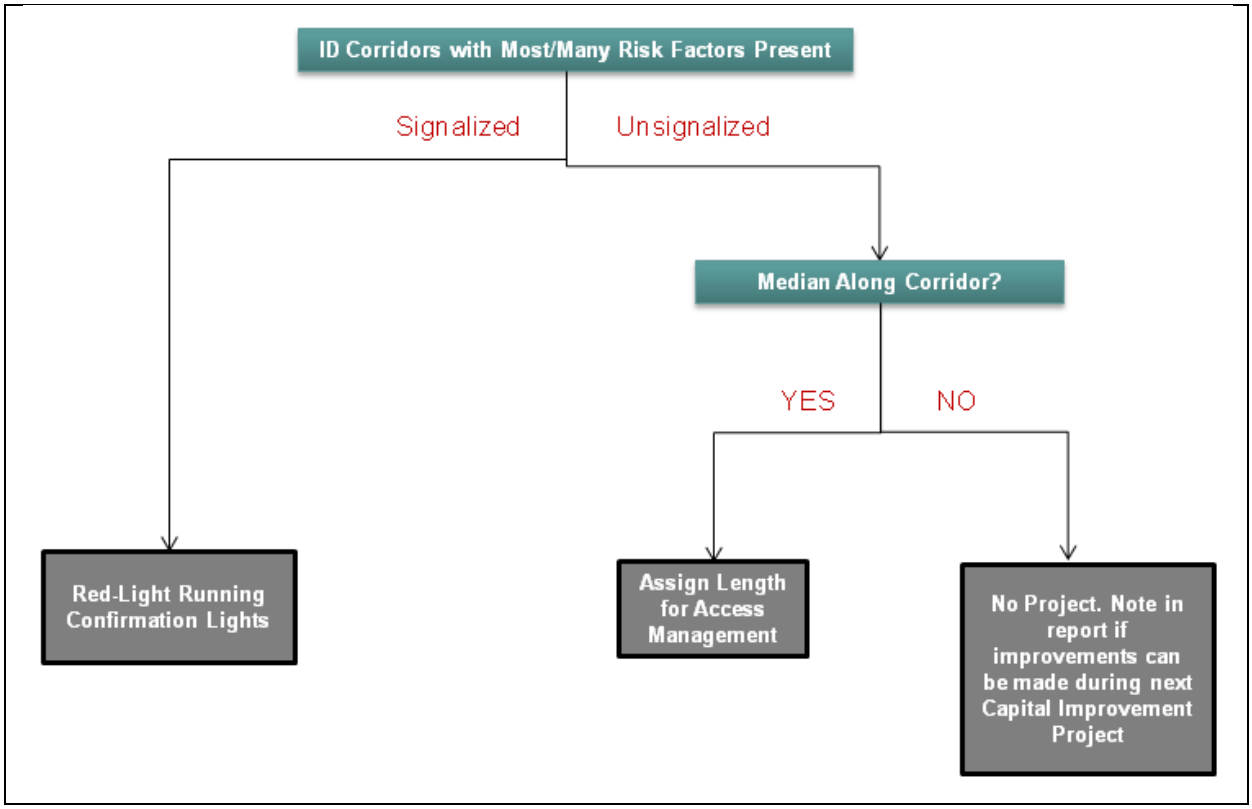


FIGURE 4-6
High-Priority Urban Right-Angle Intersection (Signalized) Project Decision Process

High-priority urban pedestrian and bicycle intersection projects focused on reducing pedestrian and bicycle crashes by providing with shorter crossing distances or median refuge islands, as well as advanced walk intervals and countdown timers at signalized intersections (Figure 4-7).

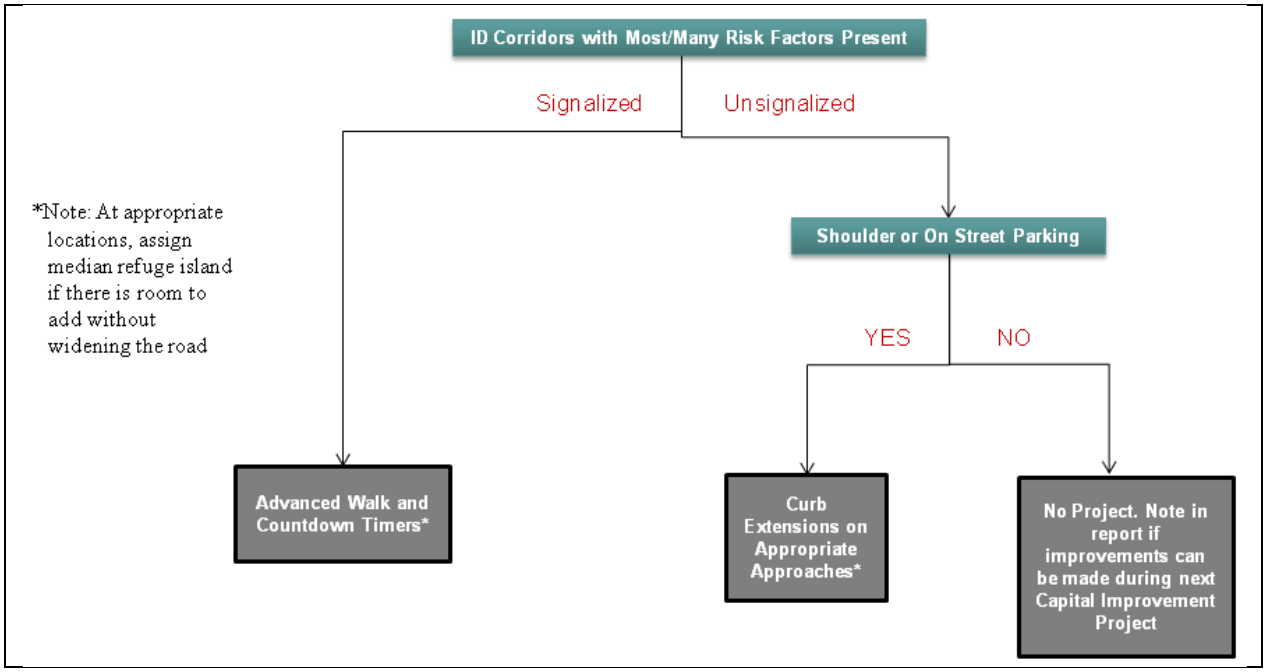


FIGURE 4-7
High-Priority Urban Pedestrian and Bicyclist Intersection Project Decision Process

Project forms were completed for each high-priority intersection, curve, and roadway segment, including a description of the location, brief crash history, ranking factors, a picture from the LRSP process of the location (if needed), and the identified safety strategy. These forms were formatted so they could be submitted directly through the HSIP process, but may require supplemental information for the evaluation and scoring process.

The suggested low-cost safety projects for the counties and the City of Minot are described in the following sections. The costs assigned to each project are planning level estimates and do not include right-of-way or some other supplemental costs such as signal revisions or replacement for three-lane conversion projects. Because of funding limitations, all potential projects would not be completed in 1 year. The actual schedule for implementing individual projects will necessitate securing funding from the state's HSIP. The safety planning process followed for Ward County is consistent with the North Dakota SHSP. In addition, several of the high-priority safety strategies are among those recommended for the state road system in the state's Strategic Plan.

It is not expected or required that each county pursue safety projects in the suggested ranking order. The ranking suggests general priorities, given that actual project development decisions will be made by each county staff based on economic, social, and political issues and in coordination with other pavement and reconstruction projects that are part of the county's Capital Improvement Program.

Many project details are still undetermined, including general project termini. Each county will determine specific project details (such as termini and exceptions) as decisions regarding implementation of specific projects are made. These decisions may require that the county coordinate with various municipal departments, the public, and other county transportation departments.

The total cost of projects suggested for Ward County and the City of Minot is $2,994,286. A cost breakout by project type is provided in Table 4-1.

TABLE 4-1
Total Project Costs

Rural Projects	Intersections	Segments	Curves	Total
Ward County	$2,122,800	$366,070	$109,276	$2,598,146
Urban Projects	**Segments**	**Right Angle Intersections**	**Pedestrian and Bicyclist Intersections**	**Total**
City of Minot	$92,140	$114,000	$190,000	$396,140
			TOTAL	**$2,994,286**

Ward County

The total project cost suggested for Ward County is $2,598,146. The project cost breakout for intersection, roadway segment, and curve projects are listed in Table 4-2. High-priority locations that received a project are shown in Figure 4-8 and Tables 4-3 through 4-5. These locations are described in further detail in Appendix A along with priority rankings and suggested project sheets.

TABLE 4-2
Ward County Project Costs

Project Type	Cost
Intersections	$ 2,122,800
Roadway Segments	$ 366,070
Curves	$ 109,276
Total	$ 2,598,146

TABLE 4-3
Ward County – Rural Intersection Projects

Inter ID	Description	Risk Ranking	Directional Median	Mainline Dynamic Warning Sign	Install Street Lights	Signs & Markings	Review Signs & Clearing/ Grubbing	Project Cost ($)
1.01	436th Ave NW (Ward 2) & 6th St NW/415th Ave NW (Ward 1)	★★★★	-	-	x	x	x	$9,950
2.01	590th St NW (Ward 2) & 436th Ave NW (Ward 2)	★★★	-	-	-	x	x	$5,700
2.02	US Highway 52 & 422nd Ave NW/6th St NE (Ward 2)	★★★★	-	x	Installed	x	x	$54,300
5.02	US Highway 52 & 394th St NW (Ward 5)	★★★	-	-	x	x	x	$10,300
5.03	US Highway 52/2nd Ave & Power St/Main St (Ward 5)	★★★★★	-	-	Installed	x	x	$4,300
6.02	ND State Highway 28 & 198th Ave NW/Washington Ave W (Ward 6)	★★★	-	-	Installed	x	x	$3,150
8.01	US Highway 52 & 198th St NW (Ward 8)	★★★★★	-	-	Installed	x	x	$5,700
8.03	US Highway 83 & 128th Ave NW/NE (Ward 8)	★★★★	x	-	x	x	x	$760,750
9.02	338th St SW (Ward 9) & ND Highway 23/247th Ave SW	★★★★	-	x	x	x	x	$61,450
10.01	US Highway 2 & 72nd St NW (Ward 10)	★★★	-	x	Installed	x	x	$53,500
10.02	Co Rd 15 W (Ward 15) & 46th Ave NW (Ward 10)	★★★	-	-	Installed	x	x	$3,500
10.03	US Highway 83 & 46th Ave NW (Ward 10)	★★★★	-	x	x	x	x	$60,300
11.01	US Highway 52 & 184th St NW (Ward 11)	★★★★	-	x	x	x	x	$59,600
14.04	US Highway 83/S Broadway St & 54th Ave SW/SE (Ward 14)	★★★	-	x	x	x	x	$62,150

TABLE 4-3
Ward County – Rural Intersection Projects

Inter ID	Description	Risk Ranking	Directional Median	Mainline Dynamic Warning Sign	Install Street Lights	Signs & Markings	Review Signs & Clearing/ Grubbing	Project Cost ($)
14.07	US Hwy 52 & 37th Ave SE (Ward 14)	★★★	-	x	x	x	x	$61,450
16.02	US Hwy 52 & 79th Ave SE (Ward 16)	★★★	-	-	x	x	x	$12,150
17.01	US Hwy 2 & 54th St/62nd St NW (Ward 17)	★★★	x	-	Installed	x	x	$753,850
23.01	139th St SE (Ward 23) & ND Hwy 23	★★★	-	-	x	x	x	$9,850
24.02	142nd St SW (Ward 501) & 359th Ave SW/ND Hwy 53 (Ward 24)	★★★	-	-	-	x	x	$5,700
501.01	142nd St SW (Ward 501) & 247th Ave SW/ND Hwy 23	★★★	-	-	-	x	x	$6,150
504.01	US Hwy 52 & Co Rd 19 S (Ward 504)	★★★	-	x	x	x	x	$59,500
504.02	US Hwy 52 & Co Rd 19 S (Ward 504)	★★★	-	x	x	x	x	$59,500
		TOTALS	**2**	**9**	**12**	**22**	**22**	**$2,122,800**

TABLE 4-4
Ward County – Rural Segment Projects

Corridor ID	Local Street Name	Start	End	Shoulder Rumble Strip	Edge Line Rumble Strip	6" Edge Lines	Center Line Rumble	Project Cost ($)
1.01	534th St	State Route 50	436th Ave	0.0	8.8	0.0	0.0	$30,800
2.02	436th Ave	590th ST	Ward 11	5.8	0.0	0.0	0.0	$17,400
5.03	Main St	US Hwy 52	Ward 7	0.0	0.0	1.8	0.0	$1,170
8.01	128th Ave	US Hwy 52	US Hwy 83	12.9	0.0	0.0	0.0	$38,700
9.03	310th St	Ward 20	Ward 14	15.5	0.0	0.0	0.0	$46,500
10.02	19th Ave	Granly St	US Hwy 2	7.6	0.0	0.0	0.0	$22,800
12.03	4th Ave	55th St	US Hwy 2	4.1	0.0	0.0	4.1	$24,600
14.02	54th Ave	Ward 9	62nd St	0.0	17.8	0.0	0.0	$62,300
14.04	54th Ave	US Hwy 83	1 mile east of 13th St	0.0	2.1	0.0	0.0	$7,350
15.02	57th St	US Hwy 83	Ward 17	0.0	2.2	0.0	2.2	$14,300
15.03	County Road 15 W	Ward 17	Ward 10	0.0	2.8	0.0	2.8	$18,200
15.04	County Road 15 W	Ward 10	1 mile South of 86th St	0.0	2.2	0.0	0.0	$7,700
17.02	54th St	US Hwy 2	Ward 15	0.0	1.3	0.0	1.3	$8,450
23.04	153rd St	US Hwy 2	66th St	0.0	9.1	0.0	0.0	$31,850
24.02	359th Ave	142nd St	US Hwy 83	0.0	9.7	0.0	0.0	$33,950
			TOTALS	**45.9**	**56.0**	**1.8**	**10.4**	**$ 366,070**

TABLE 4-5
Ward County – Rural Curve Projects

Corrid or ID	Local Street Name	Start	End	No. of Curves	Project Cost ($)
1.01	534th St	State Route 50	436th Ave	4	$ 5,265
2.02	436th Ave	590th ST	Ward 11	2	$ 4,209
5.03	Main St	US Hwy 52	Ward 7	6	$ 25,727
6.03	198th Ave	State Route 28	Reneville 6	1	$ 3,755
8.01	128th Ave	US Hwy 52	US Hwy 83	1	$ 6,373
9.03	310th St	Ward 20	Ward 14	4	$ 1,818
10.01	184th St	Ward 9	Granly St	4	$ 1,364
10.02	19th Ave	Granly St	US Hwy 2	4	$ 17,745
10.03	60 th St	Ward 15	US Hwy 83	3	$ 1,364
12.03	4th Ave	55th St	US Hwy 2	2	$ 9,109
14.04	54th Ave	US Hwy 83	1 mile east of 13th St	5	$ 8,873
14.06	37th St	Ward 14A	72nd Ave	1	$ 4,555
15.04	County Road 15 W	Ward 10	1 mile South of 86th St	4	$ 5,118
17.01	62nd St	Ward 14	US Hwy 2	3	$ 5,464
17.02	54th St	US Hwy 2	Ward 15	6	$ 2,727
23.02	21st Ave	State Route 23	US Hwy 53	1	$ 4,555
501.03	142nd St	State Route 22	Ward 22	1	$ 1,255
			TOTALS	**52**	**$ 109,276**

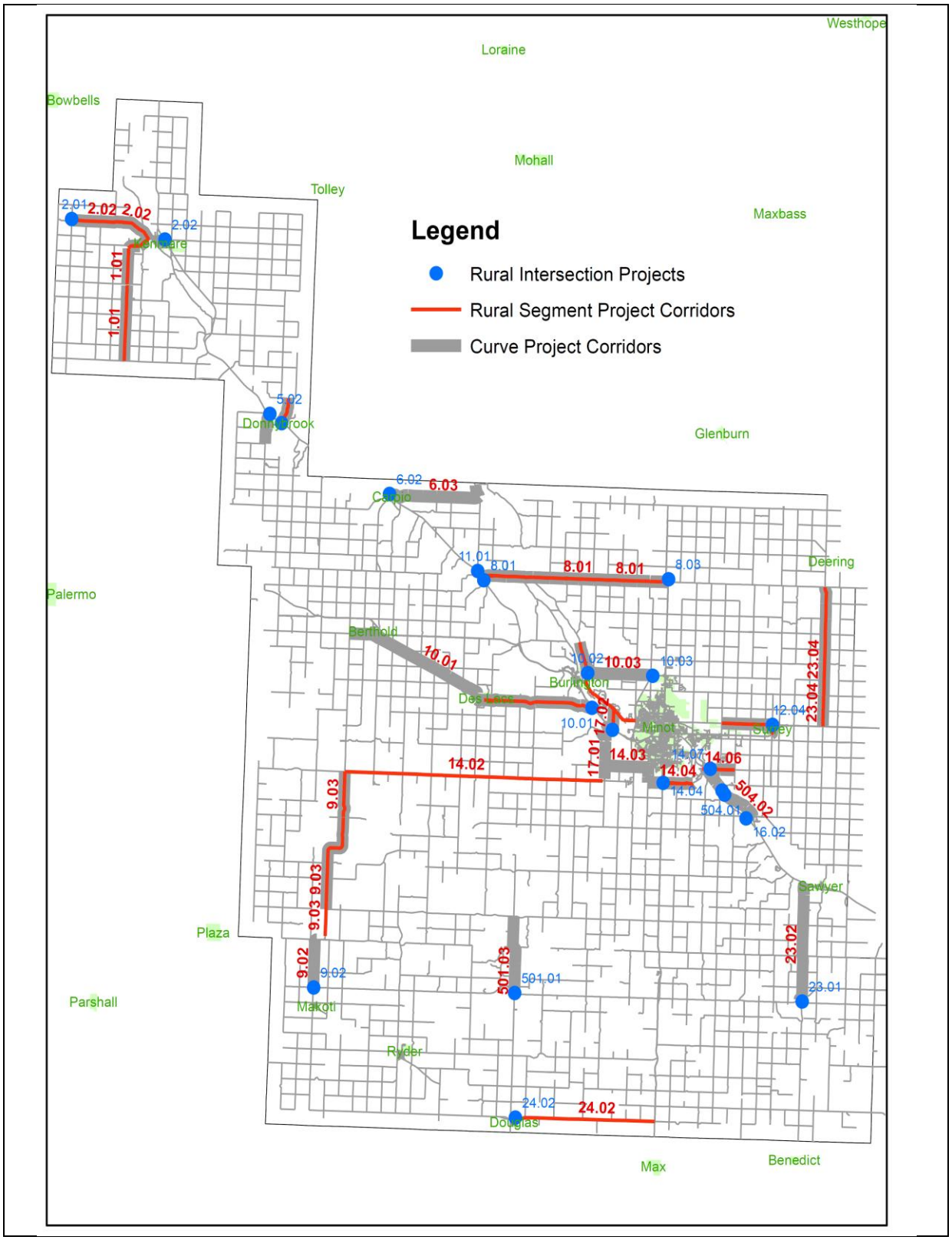


FIGURE 4-8
High-Priority Rural Locations

City of Minot

The total project cost suggested for the City of Minot is $396,140. The project cost breakout for roadway segment, right-angle intersection, and pedestrian/bicyclist intersection projects are listed in Table 4-6. High-priority locations that received a project are shown in Figure 4-9 and Tables 4-7 through 4-9. These locations are described in further detail in Appendix A along with priority rankings and suggested project sheets.

TABLE 4-6
City of Minot Project Costs

Project Type	Cost
Roadway Segments	$92,140
Right-Angle Intersections	$114,000
Pedestrian and Bicyclist Intersections	$190,000
Total	$396,140

TABLE 4-7
City of Minot – Urban Segment Projects

Corridor ID	Local Street Name	Risk Ranking	2-Lane to 3-Lane Conv (miles)	Project Cost ($)
802.02	16th St SW	★★★★	1.7	$ 28,917
808.01	16th Ave	★★★★	2.0	$ 34,000
809.01	11th Ave SE	★★★★	0.75	$ 12,750
811.02	3rd St NE / Airport Rd	★★★★	1.0	$ 16,473
		TOTALS	**5.5**	**$ 92,140**

TABLE 4-8
City of Minot – Right Angle Intersections

Corridor ID	Local Street Name	Confirmation Lights	Access Management	Project Cost ($)
83.01	Broadway St (20th Ave to Central)	5	Yes	$ 105,000
83.02	Broadway St (4th Ave to 30th Ave)	4		$ 4,000
802.01	16th Street (22nd to Hwy 2)	5		$ 5,000
	TOTALS	**14**	**1**	**$ 114,000**

TABLE 4-9
City of Minot – Urban Pedestrian and Bicycle Projects

Corridor ID	Local Street Name	Advanced Walk	Countdown Timers	Curb Extensions	Project Cost ($)
83.01	US 83 (20th Ave to Central Ave)	4	4	2	$ 70,000
83.02	US 83 (4th Ave to 30th Ave NW)	4	4		$ 40,000
802.02	16th Street (2nd Ave to 21st Ave NW)	2	2	4	$ 80,000
		11	**11**	**6**	**$ 190,000**

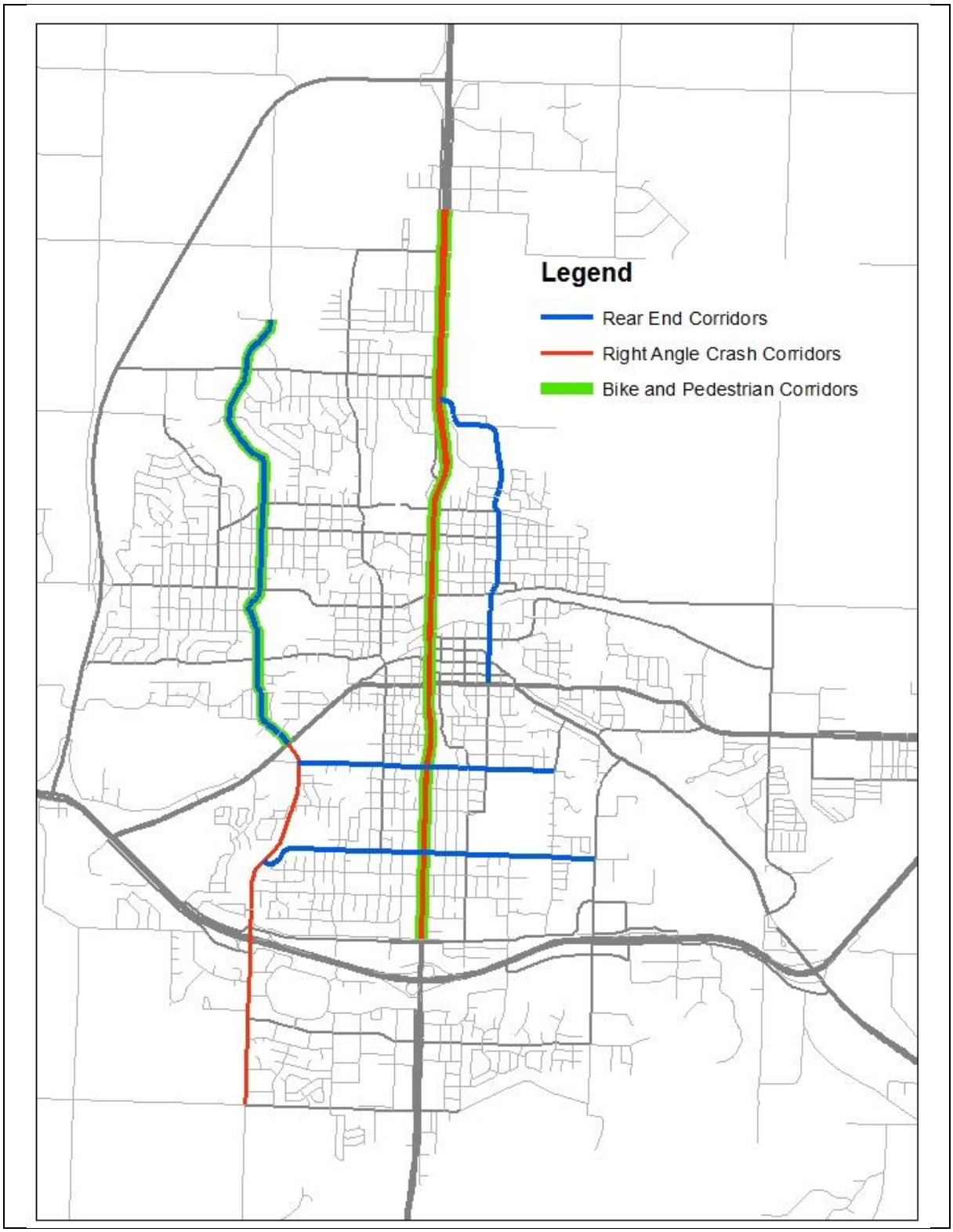


FIGURE 4-9
High-Priority Urban Corridor

APPENDIX

Ward County

Ward County Rural Intersection Projects

Intersection ID	Risk Ranking	Risk Ranking	Directional Median	Close Median	Mainline Dynamic Warning Sign	Install Street Lights	Signs & Markings	Review Signs & Clearing/Grubbing	Project Cost ($)
1.01	436th Ave NW (Ward 2) & 6th St NW/415th Ave NW (Ward 1)	★★★★	-		-	x	x	x	$9,950
2.01	590th St NW (Ward 2) & 436th Ave NW (Ward 2)	★★★	-		-	-	x	x	$5,700
2.02	US Highway 52 & 422nd Ave NW/6th St NE (Ward 2)	★★★★	-		x	x	x	x	$54,300
5.02	US Highway 52 & 394th St NW (Ward 5)	★★★	-		-	x	x	x	$10,300
5.03	US Highway 52/2nd Ave & Power St/Main St (Ward 5)	★★★★★	-		-	-	x	x	$4,300
6.02	ND State Highway 28 & 198th Ave NW/Washington Ave W (Ward 6)	★★★	-		-	-	x	x	$3,150
8.01	US Highway 52 & 198th St NW (Ward 8)	★★★★★	-		-	-	x	x	$5,700
8.03	US Highway 83 & 128th Ave NW/NE (Ward 8)	★★★★	x		-	x	x	x	$760,750
9.02	338th St SW (Ward 9) & ND Highway 23/247th Ave SW	★★★★	-		x	x	x	x	$61,450
10.01	US Highway 2 & 72nd St NW (Ward 10)	★★★	-		x	x	x	x	$53,500
10.02	Co Rd 15 W (ward 15) & 46th Ave NW (Ward 10)	★★★	-		-	-	x	x	$3,500
10.03	US Highway 83 & 46th Ave NW (Ward 10)	★★★★	-		x	x	x	x	$60,300
11.01	US Highway 52 & 184th St NW (Ward 11)	★★★★	-		x	x	x	x	$59,600
14.04	US Highway 83/S Broadway St & 54th Ave SW/SE (Ward 14)	★★★	-		x	x	x	x	$62,150
14.07	US Hwy 52 & 37th Ave SE (Ward 14)	★★★	-		x	x	x	x	$61,450
16.02	US Hwy 52 & 79th Ave SE (Ward 16)	★★★	-		-	x	x	x	$12,150
17.01	US Hwy 2 & 54th St/62nd St NW (Ward 17)	★★★	x		-	x	x	x	$753,850
23.01	139th St SE (Ward 23) & ND Hwy 23	★★★	-		-	x	x	x	$9,850
24.02	142nd St SW (Ward 501) & 359th Ave SW/ND Hwy 53 (Ward 24)	★★★	-		-	-	x	x	$5,700
501.01	142nd St SW (Ward 501) & 247th Ave SW/ND Hwy 23	★★★	-		-	-	x	x	$6,150
504.01	US Hwy 52 & Co Rd 19 S (Ward 504)	★★★	-		x	x	x	x	$59,500
504.02	US Hwy 52 & Co Rd 19 S (Ward 504)	★★★	-		x	x	x	x	$59,500
			2	**0**	**9**	**15**	**22**	**22**	**$2,122,800**

Detailed Intersection Information

Ward County Intersection List

Int #	Sys	Num	Intersection Description	Config	Div/Undiv Config(2)	Major 1	Major 2	Minor 1	Minor 2	Minor 3	Source	Skew	On/Near Curve	Development	RR Xing	Analysts Major Surface Type	Analysts Minor Surface Type	On if gravel Minor Leg Approach Apron Type	Notes	ADT	Traffic Control Device	Street Lights	Flashers	Previous STOP (>5mi)
1.01	Ward	1	436th Ave NW (Ward 2) & 6th St NW/415th Ave NW (Ward 1)	T	Undivided	440	805	360			Count	Yes	Yes	No	Yes	Paved	Paved	Paved		803	thru-STOP	No	No	No
2.01	Ward	2	590th St NW (Ward 2) & 436th Ave NW (Ward 2)	X	Undivided	170	300	120	160		Count	Yes	Yes	No	No	Paved	Paved/Gravel	Paved/Gravel		375	thru-STOP	No	No	Yes
2.02	Ward	2	US Highway 52 & 422nd Ave NW/6th St NE (Ward 2)	T	Undivided	975	3,375	1,655	685		Count	Yes	No	Yes	No	Paved	Paved	Paved		3,345	thru-STOP	Yes	No	Yes
2.03	Ward	2	436th St NW (Ward 3) & 422nd Ave NW (Ward 2)	X	Undivided	300	260	70	25		Count	No	No	No	No	Paved	Gravel	Gravel		328	Yield	No	No	Yes
3.01	Ward	3	436th St NW (Ward 3) & 366th Ave NW (Ward 4)	X	Undivided	50	55	25	29		Count	No	No	No	No	Gravel	Gravel	Gravel		80	Unknown	Unknown	Unknown	
4.01	Ward	4	US Highway 52 & 366th Ave NW (Ward 4)	T	Undivided	2,340	1,425	50			Count	Yes	Yes	No	No	Paved	Gravel	Gravel		1,908	thru-STOP	No	No	No
5.01	Ward	5	394th St NW (Ward 5) & 184th Ave NW (Ward 6)	X	Undivided	55	29	50	29		Count	No	No	No	No	Gravel	Gravel	Gravel		82	Unknown	Unknown	Unknown	
5.02	Ward	5	US Highway 52 & 394th St NW (Ward 5)	T	Undivided	1,450	2,545	180			Count	No	Yes	No	No	Paved	Paved	Paved		2,088	thru-STOP	No	No	Yes
5.03	Ward	5	US Highway 52/2nd Ave & Power St/Main St (Ward 5)	T	Undivided	2,545	1,125	300			Count	Yes	Yes	Yes	No	Paved	Paved	Paved		1,985	thru-STOP	Yes	No	Yes
5.04	Ward	5	55 1/2th St NW (Ward 5) & 282nd Ave NW (Ward 7)	T	Undivided	170	70	230			Count	No	No	No	No	Gravel	Paved	Paved		235	Yield	No	No	
6.01	Ward	6	ND State Highway 28 & 184th Ave NW/Garfield Ave W (Ward 6)	X	Undivided	610	850	60	200		Count	Yes	Yes	No	No	Paved	Paved	Paved		860	thru-STOP	Yes	No	No
6.02	Ward	6	ND State Highway 28 & 198th Ave NW/Washington Ave W (Ward 6)	T	Undivided	745	610	180			Count	Yes	Yes	No	Yes	Paved	Paved	Paved		768	thru-STOP	Yes	No	No
6.03	Ward	6	184th St NW (Ward) & 198th Ave NW (Ward 6)	T	Undivided	250	60	200			Count	No	Yes	No	No	Paved	Paved	Paved		255	Yield	No	No	Yes
8.01	Ward	8	US Highway 52 & 198th St NW (Ward 8)	X	Undivided	1,900	2,000	50	180		Count	No	Yes	Yes	Yes	Paved	Paved/Gravel	Paved/Gravel		2,065	thru-STOP	Yes	No	Yes
8.02	Ward	8	Co Rd 15 W (Ward 15) & 128th Ave NW (Ward 8)	T	Undivided	85	75	70			Count	Yes	No	No	No	Paved	Gravel	Gravel		115	Yield	No	No	Yes
8.03	Ward	8	US Highway 83 & 128th Ave NW/NE (Ward 8)	X	Div/Undiv	5,695	5,500	305	965		Count	No	Yes	Yes	No	Paved	Paved	Paved		6,233	thru-STOP	No	Overhead	Yes
8.04	Ward	8	27th St NE (Ward 19) & 128th Ave NE (Ward 8)	T	Undivided	965	625	450			Count	No	No	No	No	Paved	Paved	Paved		1,020	thru-STOP	No	No	No
8.05	Ward	8	153rd St NE (Ward 23) & 128th Ave NE (Ward 8)	X	Undivided	320	110	240	29		Count	No	Yes	No	No	Paved	Paved/Gravel	Paved/Gravel		350	Yield	No	No	Yes
9.01	Ward	9	338th St SW (Ward 9) & 303rd Ave SW (Ward 22)	X	Undivided	300	190	120	29		Count	No	No	No	No	Paved	Paved/Gravel	Paved/Gravel		320	thru-STOP/Yield	No	No	No
9.02	Ward	9	338th St SW (Ward 9) & ND Highway 23/247th Ave SW	X	Undivided	3,330	2,720	675	490		Count	No	No	Yes	No	Paved	Paved	Paved		3,608	thru-STOP	No	No	Yes
9.03	Ward	9	338th St SW (Ward 9) & 205th Ave SW (Ward 20)	TT	Undivided	675	80	80			Count	No	No	No	No	Paved	Paved/Gravel	Paved	Gravel approach w 50' paved	418	Yield	No	No	Yes
9.04	Ward	9	325th St SW (Ward 9) & 177th Ave SW (Ward 20)	T	Undivided	60	130	40			Count	No	No	No	No	Paved	Paved	Paved	Gravel 500' away from approach	115	Yield	No	No	Yes
9.05	Ward	9	310th St SW (Ward 9) & 54th Ave SW (Ward 14)	X	Undivided	65	110	70	0		Count	No	No	No	No	Paved	Paved	Paved	All approaches are paved, disagrees with Ward_Seg	123	thru-STOP	No	No	Yes
9.06	Ward	9	310th St NW (Ward 9) & 72nd Ave NW (Ward 10)	X	Undivided	315	30	55	230		Count	No	No	No	No	Paved	Paved/Gravel	Paved	200' of paved approach for gravel approach	315	thru-STOP	No	No	No
9.07	Ward	9	US Highway 2/86th Ave NW & 310th St NW (Ward 9)	X	Div/Undiv	2,870	4,140	240	190		Count	No	No	No	No	Paved	Paved/Gravel	Paved	50' of paved approach for gravel approach	3,720	thru-STOP	No	No	No
10.01	Ward	10	US Highway 2 & 72nd St NW (Ward 10)	T	Div/Undiv	5,865	7,065	915	230		Count	No	Yes	No	Yes	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	7,038	thru-STOP	Yes	No	No
10.02	Ward	10	Co Rd 15 W (ward 15) & 46th Ave NW (Ward 10)	T	Undivided	650	400	520			Count	Yes	Yes	No	No	Paved	Paved	Paved		785	thru-STOP	Yes	No	No
10.03	Ward	10	US Highway 83 & 46th Ave NW (Ward 10)	T	Undivided	6,380	6,630	615			Count	Yes	Yes	No	No	Paved	Paved	Paved		6,813	thru-STOP	No	No	No
10.04	Ward	10	US Highway 83/N Broadway & 46th Ave NE (Ward 10)	X	Div/Undiv	5,895	4,995	6,630	1,775		Count	No	No	No	No	Paved	Paved	Paved		9,648	Signal	Yes	No	No
10.05	Ward	10	27th St NE (Ward 19) & 46th Ave NE (Ward 10)	X	Undivided	1,095	2,800	1,810	160		Count	No	No	No	Yes	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	2,933	thru-STOP	No	No	No
10.06	Ward	10	55th St NE (Ward 10) & 46th Ave NE (Ward 10)	X	Undivided	170	190	29	29		Count	No	No	No	No	Paved	Unknown	Unknown	Marked as gravel, but is paved	209	Unknown	Unknown	Unknown	No
11.01	Ward	11	US Highway 52 & 184th St NW (Ward 11)	T	Undivided	1,950	1,900	3,330			Count	No	Yes	No	Yes	Paved	Paved	Paved		3,590	thru-STOP	No	No	No
12.01	Ward	12	62nd St NW (Ward 17) & 22nd St SW (Ward 12)	T	Undivided	260	550	120			Count	Yes	Yes	No	No	Paved	Paved	Paved		465	Yield	No	No	No
12.02	Ward	12	27th St NE (Ward 19) & 4th Ave NE (Ward 12)	X	Undivided	6,295	2,350	4,465	3,265		Count	No	No	No	No	Paved	Paved	Paved		8,188	All-way STOP	No	No	No
12.03	Ward	12	55th St NE (Ward 12) & 4th Ave NE (Ward 12)	X	Undivided	3,115	1,500	2,400	115		Count	No	No	No	No	Paved	Paved/Gravel	Paved/Gravel		3,565	thru-STOP	No	No	No
12.04	Ward	12	Pleasant Ave N/104th St NE (Ward 12) & 2nd St NW (Ward 12)	X	Undivided	1,290	529	900	529		Count	No	No	Yes	Yes	Paved	Paved	Paved		1,624	thru-STOP	Yes	No	No
12.05	Ward	12	US Highway 2 & 104th St SE (Ward 12)	X	Div/Undiv	2,535	3,680	1,290	290		Count	No	Yes	No	No	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	3,898	thru-STOP	Yes	No	No
12.06	Ward	12	55th St SE (Ward 12) & 37th Ave SE (Ward 14)	X	Undivided	350	529	395	29		Count	No	No	No	No	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	652	thru-STOP/Yield	No	No	No
12.07	Ward	12	55th St SE (Ward 12) & US Highway 2	X	Div/Undiv	5,310	4,240	1,610	210		Count	No	No	No	No	Paved	Paved	Paved		5,685	thru-STOP	No	No	No
14.01	Ward	14	62nd St SW (Ward 14) & 54th Ave SW (Ward 14)	T	Undivided	380	775	29			Count	No	Yes	No	No	Paved	Paved	Paved		592	Yield	No	No	No
14.02	Ward	14	62nd St SW (Ward 17) & 37th Ave SW (Ward 14)	X	Undivided	240	775	850	29		Count	No	No	No	No	Paved	Paved/Gravel	Paved/Gravel		947	Yield	No	No	No
14.03	Ward	14	16th St SW (Ward 14) & 37th Ave SW (Ward 14)	X	Undivided	2,370	7,385	8,825	570		Count	No	No	Yes	No	Paved	Paved	Paved		9,575	Signal	Yes	No	No
14.04	Ward	14	US Highway 83/S Broadway St & 54th Ave SW/SE (Ward 14)	X	Div/Undiv	4,575	5,030	270	795		Count	No	No	Yes	No	Paved	Paved	Paved		5,335	thru-STOP	No	No	No
14.05	Ward	14	38th St SE (Ward 14) & 37th Ave SE (Ward 14)	T	Undivided	300	550	29			Count	No	No	No	No	Paved	Paved	Paved		440	thru-STOP	Yes	No	No
14.06	Ward	14	Co Hwy 19 S (Ward 504) & 72nd St SE (Ward 14)	T	Undivided	1,050	675	180			Count	No	Yes	No	No	Paved	Paved	Paved		953	thru-STOP	No	No	No
14.07	Ward	14	US Hwy 52 & 37th Ave SE (Ward 14)	X	Div/Undiv	4,180	2,650	180	500		Count	Yes	No	No	No	Paved	Paved	Paved		3,755	thru-STOP	No	No	No
14.08	Ward	14	72nd St SE (Ward 14) & 37th Ave SE (Ward 14)	X	Undivided	350	170	29	29		Count	No	No	No	No	Paved	Gravel	Paved	20' of paved approach for gravel approaches	289	Unknown	Unknown	Unknown	No
14.09	Ward	14	72nd St SE (Ward 14) & 11th Ave SE	X	Undivided	1005	170	29	29		Count	No	No	No	No	Paved	Paved	Paved		617	Unknown	Unknown	Unknown	No
15.02	Ward	15	Co Rd 15 W/4th Ave NW (Ward 15) & 54th St NW (Ward 17)	T	Undivided	240	250	170			Count	No	Yes	No	No	Paved	Paved	Paved		330	thru-STOP	Yes	No	No
16.01	Ward	16	US Hwy 83 & 93rd Ave SW (Ward 16)	X	Div/Undiv	2,550	2,550	95	110		Count	No	No	No	No	Paved	Gravel	Paved		2,653	thru-STOP	No	No	Yes
16.02	Ward	16	US Hwy 52 & 79th Ave SE (Ward 16)	X	Undivided	5,295	4,000	30	140		Count	No	Yes	No	No	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	4,733	thru-STOP	No	No	Yes
16.03	Ward	16	Co Rd 19 S (Ward 504) & 79th Ave SE (Ward 16)	X	Undivided	250	170	140	280		Count	Yes	No	No	No	Paved	Paved	Paved		420	thru-STOP	No	No	No
17.01	Ward	17	US Hwy 2 & 54th St/62nd St NW (Ward 17)	X	Div/Undiv	6,195	6,905	825	1,620		Count	No	Yes	No	No	Paved	Paved	Paved		7,773	thru-STOP	Yes	No	Yes
20.01	Ward	20	254th St SW (Ward 500) & 177th Ave SW (Ward 20)	X	Undivided	210	130	40	40		Count	No	No	No	No	Gravel	Gravel	Gravel		210	Unknown	Unknown	Unknown	
20.02	Ward	20	142nd St SW (Ward 501) & 177th Ave SW (Ward 20)	X	Undivided	50	250	85	29		Count	No	Yes	No	No	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	207	thru-STOP	No	No	Yes
20.03	Ward	20	US Hwy 83 & 177th Ave SW (Ward 20)	X	Div/Undiv	4,190	3,780	355	180		Count	No	No	Yes	No	Paved	Paved	Paved		4,253	thru-STOP	No	No	No
22.01	Ward	22	254th St SW/ND Hwy 28 (Ward 500) & 303rd Ave SW (Ward 22)	X	Undivided	300	255	240	130		Count	No	No	No	No	Paved	Paved	Paved		463	thru-STOP	No	No	No
22.03	Ward	22	142nd St SW (Ward 501) & 303rd Ave SW (Ward 22)	X	Undivided	70	35	65	10		Count	No	No	No	No	Gravel	Gravel	Gravel		90	Unknown	Unknown	Unknown	
22.04	Ward	22	US Hwy 83 & 303rd Ave SW (Ward 22)	T	Div/Undiv	1,800	3,065	40			Count	No	Yes	No	No	Paved	Gravel	Paved	20' of paved approach for gravel approach	2,453	thru-STOP	No	No	Yes
23.01	Ward	23	139th St SE (Ward 23) & ND Hwy 23	X	Undivided	250	420	270	200		Count	Yes	Yes	No	No	Paved	Paved	Paved		570	thru-STOP	No	No	Yes
23.02	Ward	23	US Hwy 52 & 139th St SE (Ward 23)	T	Undivided	3,350	4,885	385			Count	No	No	No	No	Paved	Paved	Paved		4,310	thru-STOP	No	No	No
23.03	Ward	23	153rd St SE (Ward 23) & 79th Ave SE (Ward 16)	X	Undivided	110	70	60	85		Count	No	No	No	No	Gravel	Gravel	Gravel		163	Unknown	Unknown	Unknown	
23.04	Ward	23	US Hwy 2/Burdick Expy E & 153rd St NE (Ward 23)	X	Div/Undiv	2,200	1,900	705	115		Count	No	No	No	No	Paved	Paved/Gravel	Paved	200' of paved approach for gravel approach	2,460	thru-STOP	No	No	Yes
24.01	Ward	24	254th St SW/ND Hwy 28 & 359th Ave SW/ND Hwy 53 (Ward 24)	X	Undivided	285	200	29	155		Count	No	No	No	No	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	335	thru-STOP	No	No	Yes
24.02	Ward	24	142nd St SW (Ward 501) & 359th Ave SW/ND Hwy 53 (Ward 24)	X	Undivided	160	0	40	0		Count	Yes	Yes	No	No	Paved	Paved/Gravel	Paved/Gravel		100	thru-STOP	No	No	Yes
24.03	Ward	24	US Hwy 83 & 359th Ave SW/SE (Ward 24)	X	Div/Undiv	1,700	1,850	290	180		Count	No	No	No	No	Paved	Paved/Gravel	Paved/Gravel		2,010	thru-STOP	No	No	Yes
500.01	Ward	500	254th St SW/ND Hwy 28 (Ward 500) & 247th Ave SW/ND Hwy 23	X	Undivided	2,670	2,490	40	300		Count	No	No	No	No	Paved	Paved/Gravel	Paved	20' of paved approach for gravel approach	2,750	thru-STOP	No	No	Yes
501.01	Ward	501	142nd St SW (Ward 501) & 247th Ave SW/ND Hwy 23	X	Undivided	1,195	1,235	85	70		Count	Yes	Yes	No	No	Paved	Paved/Gravel	Paved	100' of paved approach for gravel approach	1,293	thru-STOP	No	No	Yes
502.01	Ward	502	US Hwy 83 & 135th Ave SW/SE (Ward 502)	X	Div/Undiv	2,600	4,035	100	110		Count	No	No	No	No	Paved	Gravel	Paved	100' of paved approach for gravel approaches	3,423	thru-STOP	No	No	Yes
502.02	Ward	502	US Hwy 52 & 135th Ave SE (Ward 502)	T	Undivided	5,340	3,350	185			Count	No	No	No	No	Paved	Gravel	Paved	100' of paved approach for gravel approach	4,438	thru-STOP	No	No	No
504.01	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)	T	Div/Undiv	3,040	5,295	400			Count	No	Yes	No	No	Paved	Paved	Paved		4,368	thru-STOP	No	No	No
504.02	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)	T	Div/Undiv	2,300	2,975	300			Count	No	Yes	Yes	No	Paved	Paved	Paved		2,788	thru-STOP	No	No	No

Ward County Intersection List

Int #	Sys	Num	Intersection Description	Years of Data	Total Crashes	Severe Crashes	Severity K	A	B	C	PDO	Diagram - Severe Crashes ONLY: Rear End	Sideswipe Passing	Angle (Opposite Direction)	Single Veh	Right Angle	Angle (Same Direction)	Angle (Not Specific)	Head On	Sideswipe Opposing	Rear-to-Rear	Rear-to-Side	Light Conditions - Severe Crashes ONLY: Day	Dawn/ Dusk	Dark with Streetlights	Dark	Other/ Unknown	Road Condition - Sev ONLY: Dry	Wet	Snow/ Slush	Other
1.01	Ward	1	436th Ave NW (Ward 2) & 6th St NW/415th Ave NW (Ward 1)	5	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.01	Ward	2	590th St NW (Ward 2) & 436th Ave NW (Ward 2)	6	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.02	Ward	2	US Highway 52 & 422nd Ave NW/6th St NE (Ward 2)	7	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.03	Ward	2	436th St NW (Ward 3) & 422nd Ave NW (Ward 2)	8	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.01	Ward	3	436th St NW (Ward 3) & 366th Ave NW (Ward 4)	9	1	0	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.01	Ward	4	US Highway 52 & 366th Ave NW (Ward 4)	10	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01	Ward	5	394th St NW (Ward 5) & 184th Ave NW (Ward 6)	11	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.02	Ward	5	US Highway 52 & 394th St NW (Ward 5)	12	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.03	Ward	5	US Highway 52/2nd Ave & Power St/Main St (Ward 5)	13	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.04	Ward	5	55 1/2th St NW (Ward 5) & 282nd Ave NW (Ward 7)	14	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.01	Ward	6	ND State Highway 28 & 184th Ave NW/Garfield Ave W (Ward 6)	15	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.02	Ward	6	ND State Highway 28 & 198th Ave NW/Washington Ave W (Ward 6)	16	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.03	Ward	6	184th St NW (Ward) & 198th Ave NW (Ward 6)	17	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.01	Ward	8	US Highway 52 & 198th St NW (Ward 8)	18	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.02	Ward	8	Co Rd 15 W (Ward 15) & 128th Ave NW (Ward 8)	19	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.03	Ward	8	US Highway 83 & 128th Ave NW/NE (Ward 8)	20	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.04	Ward	8	27th St NE (Ward 19) & 128th Ave NE (Ward 8)	21	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.05	Ward	8	153rd St NE (Ward 23) & 128th Ave NE (Ward 8)	22	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.01	Ward	9	338th St SW (Ward 9) & 303rd Ave SW (Ward 22)	23	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.02	Ward	9	338th St SW (Ward 9) & ND Highway 23/247th Ave SW	24	1	0	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.03	Ward	9	338th St SW (Ward 9) & 205th Ave SW (Ward 20)	25	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.04	Ward	9	325th St SW (Ward 9) & 177th Ave SW (Ward 20)	26	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.05	Ward	9	310th St SW (Ward 9) & 54th Ave SW (Ward 14)	27	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.06	Ward	9	310th St NW (Ward 9) & 72nd Ave NW (Ward 10)	28	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.07	Ward	9	US Highway 2/86th Ave NW & 310th St NW (Ward 9)	29	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.01	Ward	10	US Highway 2 & 72nd St NW (Ward 10)	30	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.02	Ward	10	Co Rd 15 W (ward 15) & 46th Ave NW (Ward 10)	31	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.03	Ward	10	US Highway 83 & 46th Ave NW (Ward 10)	32	2	0	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.04	Ward	10	US Highway 83/N Broadway & 46th Ave NE (Ward 10)	33	11	1	-	1	-	2	8	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
10.05	Ward	10	27th St NE (Ward 19) & 46th Ave NE (Ward 10)	34	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.06	Ward	10	55th St NE (Ward 10) & 46th Ave NE (Ward 10)	35	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.01	Ward	11	US Highway 52 & 184th St NW (Ward 11)	36	1	0	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.01	Ward	12	62nd St NW (Ward 17) & 22nd St SW (Ward 12)	37	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.02	Ward	12	27th St NE (Ward 19) & 4th Ave NE (Ward 12)	38	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.03	Ward	12	55th St NE (Ward 12) & 4th Ave NE (Ward 12)	39	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.04	Ward	12	Pleasant Ave N/104th St NE (Ward 12) & 2nd St NW (Ward 12)	40	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.05	Ward	12	US Highway 2 & 104th St SE (Ward 12)	41	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.06	Ward	12	55th St SE (Ward 12) & 37th Ave SE (Ward 14)	42	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.07	Ward	12	55th St SE (Ward 12) & US Highway 2	43	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.01	Ward	14	62nd St SW (Ward 14) & 54th Ave SW (Ward 14)	44	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.02	Ward	14	62nd St SW (Ward 17) & 37th Ave SW (Ward 14)	45	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.03	Ward	14	16th St SW (Ward 14) & 37th Ave SW (Ward 14)	46	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.04	Ward	14	US Highway 83/S Broadway St & 54th Ave SW/SE (Ward 14)	47	1	0	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.05	Ward	14	38th St SE (Ward 14) & 37th Ave SE (Ward 14)	48	2	0	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.06	Ward	14	Co Hwy 19 S (Ward 504) & 72nd St SE (Ward 14)	49	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.07	Ward	14	US Hwy 52 & 37th Ave SE (Ward 14)	50	2	0	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.08	Ward	14	72nd St SE (Ward 14) & 37th Ave SE (Ward 14)	51	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.09	Ward	14	72nd St SE (Ward 14) & 11th Ave SE	52	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.02	Ward	15	Co Rd 15 W/4th Ave NW (Ward 15) & 54th St NW (Ward 17)	54	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.01	Ward	16	US Hwy 83 & 93rd Ave SW (Ward 16)	55	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.02	Ward	16	US Hwy 52 & 79th Ave SE (Ward 16)	56	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.03	Ward	16	Co Rd 19 S (Ward 504) & 79th Ave SE (Ward 16)	57	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.01	Ward	17	US Hwy 2 & 54th St/62nd St NW (Ward 17)	58	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.01	Ward	20	254th St SW (Ward 500) & 177th Ave SW (Ward 20)	59	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.02	Ward	20	142nd St SW (Ward 501) & 177th Ave SW (Ward 20)	60	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.03	Ward	20	US Hwy 83 & 177th Ave SW (Ward 20)	61	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.01	Ward	22	254th St SW/ND Hwy 28 (Ward 500) & 303rd Ave SW (Ward 22)	62	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.03	Ward	22	142nd St SW (Ward 501) & 303rd Ave SW (Ward 22)	63	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.04	Ward	22	US Hwy 83 & 303rd Ave SW (Ward 22)	64	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.01	Ward	23	139th St SE (Ward 23) & ND Hwy 23	65	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.02	Ward	23	US Hwy 52 & 139th St SE (Ward 23)	66	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.03	Ward	23	153rd St SE (Ward 23) & 79th Ave SE (Ward 16)	67	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.04	Ward	23	US Hwy 2/Burdick Expy E & 153rd St NE (Ward 23)	68	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.01	Ward	24	254th St SW/ND Hwy 28 & 359th Ave SW/ND Hwy 53 (Ward 24)	69	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.02	Ward	24	142nd St SW (Ward 501) & 359th Ave SW/ND Hwy 53 (Ward 24)	70	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.03	Ward	24	US Hwy 83 & 359th Ave SW/SE (Ward 24)	71	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
500.01	Ward	500	254th St SW/ND Hwy 28 (Ward 500) & 247th Ave SW/ND Hwy 23	72	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
501.01	Ward	501	142nd St SW (Ward 501) & 247th Ave SW/ND Hwy 23	73	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
502.01	Ward	502	US Hwy 83 & 135th Ave SW/SE (Ward 502)	74	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
502.02	Ward	502	US Hwy 52 & 135th Ave SE (Ward 502)	75	2	0	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
504.01	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)	76	3	0	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
504.02	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)	77	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
					26		0	1	2	2	21	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
							0%	4%	8%	8%	81%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	4%	0%	0%	0%

Ward County
Rural Intersection Listing

Int #	Sys	Num	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product >100,000	Crash Cost
1.01	Ward	1	436th Ave NW (Ward 2) & 6th St NW/415th Ave NW (Ward 1)	Yes	Yes	No	Yes	803	No	0	Yes	$ -
2.01	Ward	2	590th St NW (Ward 2) & 436th Ave NW (Ward 2)	Yes	Yes	No	No	375	Yes	0	No	$ -
2.02	Ward	2	US Highway 52 & 422nd Ave NW/6th St NE (Ward 2)	Yes	No	Yes	No	3345	Yes	0	Yes	$ -
2.03	Ward	2	436th St NW (Ward 3) & 422nd Ave NW (Ward 2)	No	No	No	No	328	Yes	0	No	$ -
4.01	Ward	4	US Highway 52 & 366th Ave NW (Ward 4)	Yes	Yes	No	No	1908	No	0	No	$ -
5.02	Ward	5	US Highway 52 & 394th St NW (Ward 5)	No	Yes	No	No	2088	Yes	0	Yes	$ -
5.03	Ward	5	US Highway 52/2nd Ave & Power St/Main St (Ward 5)	Yes	Yes	Yes	No	1985	Yes	0	Yes	$ -
6.01	Ward	6	ND State Highway 28 & 184th Ave NW/Garfield Ave W (Ward	Yes	Yes	No	No	860	No	0	No	$ -
6.02	Ward	6	ND State Highway 28 & 198th Ave NW/Washington Ave W (W	Yes	Yes	No	Yes	768	No	0	No	$ -
6.03	Ward	6	184th St NW (Ward) & 198th Ave NW (Ward 6)	No	Yes	No	No	255	Yes	0	No	$ -
8.01	Ward	8	US Highway 52 & 198th St NW (Ward 8)	No	Yes	Yes	Yes	2065	Yes	0	Yes	$ -
8.02	Ward	8	Co Rd 15 W (Ward 15) & 128th Ave NW (Ward 8)	Yes	No	No	No	115	Yes	0	No	$ -
8.03	Ward	8	US Highway 83 & 128th Ave NW/NE (Ward 8)	No	Yes	Yes	No	6233	Yes	0	Yes	$ -
8.04	Ward	8	27th St NE (Ward 19) & 128th Ave NE (Ward 8)	No	No	No	No	1020	No	0	Yes	$ -
8.05	Ward	8	153rd St NE (Ward 23) & 128th Ave NE (Ward 8)	No	Yes	No	No	350	Yes	0	No	$ -
9.01	Ward	9	338th St SW (Ward 9) & 303rd Ave SW (Ward 22)	No	No	No	No	320	No	0	No	$ -
9.02	Ward	9	338th St SW (Ward 9) & ND Highway 23/247th Ave SW	No	No	Yes	No	3608	Yes	1	Yes	$ 12,000
9.03	Ward	9	338th St SW (Ward 9) & 205th Ave SW (Ward 20)	No	No	No	No	418	Yes	0	No	$ -
9.04	Ward	9	325th St SW (Ward 9) & 177th Ave SW (Ward 20)	No	No	No	No	115	Yes	0	No	$ -
9.05	Ward	9	310th St SW (Ward 9) & 54th Ave SW (Ward 14)	No	No	No	No	123	Yes	0	No	$ -
9.06	Ward	9	310th St NW (Ward 9) & 72nd Ave NW (Ward 10)	No	No	No	No	315	No	0	No	$ -
9.07	Ward	9	US Highway 2/86th Ave NW & 310th St NW (Ward 9)	No	No	No	No	3720	No	0	Yes	$ -
10.01	Ward	10	US Highway 2 & 72nd St NW (Ward 10)	No	Yes	No	Yes	7038	No	0	Yes	$ -
10.02	Ward	10	Co Rd 15 W (ward 15) & 46th Ave NW (Ward 10)	Yes	Yes	No	No	785	No	0	Yes	$ -
10.03	Ward	10	US Highway 83 & 46th Ave NW (Ward 10)	Yes	Yes	No	No	6813	No	2	Yes	$ 148,000
10.04	Ward	10	US Highway 83/N Broadway & 46th Ave NE (Ward 10)	No	No	No	No	9648	No	11	Yes	$ 690,000
10.05	Ward	10	27th St NE (Ward 19) & 46th Ave NE (Ward 10)	No	No	No	Yes	2933	No	0	Yes	$ -
10.06	Ward	10	55th St NE (Ward 10) & 46th Ave NE (Ward 10)	No	No	No	No	209	No	0	No	$ -
11.01	Ward	11	US Highway 52 & 184th St NW (Ward 11)	No	Yes	No	Yes	3590	No	1	Yes	$ 12,000
12.01	Ward	12	62nd St NW (Ward 17) & 22nd St SW (Ward 12)	Yes	Yes	No	No	465	No	0	No	$ -
12.02	Ward	12	27th St NE (Ward 19) & 4th Ave NE (Ward 12)	No	No	No	No	8188	No	0	Yes	$ -
12.03	Ward	12	55th St NE (Ward 12) & 4th Ave NE (Ward 12)	No	No	No	No	3565	No	0	Yes	$ -
12.04	Ward	12	Pleasant Ave N/104th St NE (Ward 12) & 2nd St NW (Ward 12	No	No	Yes	Yes	1624	No	0	Yes	$ -
12.05	Ward	12	US Highway 2 & 104th St SE (Ward 12)	No	Yes	No	No	3898	No	0	Yes	$ -
12.06	Ward	12	55th St SE (Ward 12) & 37th Ave SE (Ward 14)	No	No	No	No	652	No	0	No	$ -
12.07	Ward	12	55th St SE (Ward 12) & US Highway 2	No	No	No	No	5685	No	0	Yes	$ -
14.01	Ward	14	62nd St SW (Ward 14) & 54th Ave SW (Ward 14)	No	Yes	No	No	592	No	0	No	$ -
14.02	Ward	14	62nd St SW (Ward 17) & 37th Ave SW (Ward 14)	No	No	No	No	947	No	0	Yes	$ -
14.03	Ward	14	16th St SW (Ward 14) & 37th Ave SW (Ward 14)	No	No	Yes	No	9575	No	0	Yes	$ -
14.04	Ward	14	US Highway 83/S Broadway St & 54th Ave SW/SE (Ward 14)	No	No	Yes	No	5335	No	1	Yes	$ 12,000
14.05	Ward	14	38th St SE (Ward 14) & 37th Ave SE (Ward 14)	No	No	No	No	440	No	2	No	$ 24,000
14.06	Ward	14	Co Hwy 19 S (Ward 504) & 72nd St SE (Ward 14)	No	Yes	No	No	953	No	0	No	$ -
14.07	Ward	14	US Hwy 52 & 37th Ave SE (Ward 14)	Yes	No	No	No	3755	No	2	Yes	$ 24,000
14.08	Ward	14	72nd St SE (Ward 14) & 37th Ave SE (Ward 14)	No	No	No	No	289	No	0	No	$ -
14.09	Ward	14	72nd St SE (Ward 14) & 11th Ave SE	No	No	No	No	617	No	0	No	$ -
15.02	Ward	15	Co Rd 15 W/4th Ave NW (Ward 15) & 54th St NW (Ward 17)	No	Yes	No	No	330	No	0	No	$ -
16.01	Ward	16	US Hwy 83 & 93rd Ave SW (Ward 16)	No	No	No	No	2653	Yes	0	Yes	$ -
16.02	Ward	16	US Hwy 52 & 79th Ave SE (Ward 16)	No	Yes	No	No	4733	Yes	0	Yes	$ -
16.03	Ward	16	Co Rd 19 S (Ward 504) & 79th Ave SE (Ward 16)	Yes	No	No	No	420	No	0	No	$ -
17.01	Ward	17	US Hwy 2 & 54th St/62nd St NW (Ward 17)	No	Yes	No	No	7773	Yes	0	Yes	$ -
20.02	Ward	20	142nd St SW (Ward 501) & 177th Ave SW (Ward 20)	No	Yes	No	No	207	Yes	0	No	$ -
20.03	Ward	20	US Hwy 83 & 177th Ave SW (Ward 20)	No	No	Yes	No	4253	No	0	Yes	$ -
22.01	Ward	22	254th St SW/ND Hwy 28 (Ward 500) & 303rd Ave SW (Ward 2	No	No	No	No	463	No	0	No	$ -
22.04	Ward	22	US Hwy 83 & 303rd Ave SW (Ward 22)	No	Yes	No	No	2453	Yes	0	No	$ -
23.01	Ward	23	139th St SE (Ward 23) & ND Hwy 23	Yes	Yes	No	No	570	Yes	0	No	$ -
23.02	Ward	23	US Hwy 52 & 139th St SE (Ward 23)	No	No	No	No	4310	No	0	Yes	$ -
23.04	Ward	23	US Hwy 2/Burdick Expy E & 153rd St NE (Ward 23)	No	No	No	No	2460	Yes	0	Yes	$ -
24.01	Ward	24	254th St SW/ND Hwy 28 & 359th Ave SW/ND Hwy 53 (Ward 2	No	No	No	No	335	Yes	0	No	$ -
24.02	Ward	24	142nd St SW (Ward 501) & 359th Ave SW/ND Hwy 53 (Ward	Yes	Yes	No	No	100	Yes	0	No	$ -
24.03	Ward	24	US Hwy 83 & 359th Ave SW/SE (Ward 24)	No	No	No	No	2010	Yes	0	Yes	$ -
500.01	Ward	500	254th St SW/ND Hwy 28 (Ward 500) & 247th Ave SW/ND Hw	No	No	No	No	2750	Yes	0	Yes	$ -
501.01	Ward	501	142nd St SW (Ward 501) & 247th Ave SW/ND Hwy 23	Yes	Yes	No	No	1293	Yes	0	No	$ -
502.01	Ward	502	US Hwy 83 & 135th Ave SW/SE (Ward 502)	No	No	No	No	3423	Yes	0	Yes	$ -
502.02	Ward	502	US Hwy 52 & 135th Ave SE (Ward 502)	No	No	No	No	4438	No	2	Yes	$ 24,000
504.01	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)	No	Yes	No	No	4368	No	3	Yes	$ 160,000
504.02	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)	No	Yes	Yes	No	2788	No	0	Yes	$ -

Ward County
Rural Intersection Prioritization

Rank	Int #	Sys	#	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	ADT Cross Product >100,000	Priority
1	5.03	Ward	5	US Highway 52/2nd Ave & Power St/Main St (Ward 5)	★	★	★		★		★	★★★★★
2	8.01	Ward	8	US Highway 52 & 198th St NW (Ward 8)		★	★	★	★		★	★★★★★
3	10.03	Ward	10	US Highway 83 & 46th Ave NW (Ward 10)	★	★				★	★	★★★★
4	9.02	Ward	9	338th St SW (Ward 9) & ND Highway 23/247th Ave SW			★		★	★	★	★★★★
5	11.01	Ward	11	US Highway 52 & 184th St NW (Ward 11)		★		★		★	★	★★★★
6	1.01	Ward	1	436th Ave NW (Ward 2) & 6th St NW/415th Ave NW (Ward 1)	★	★		★			★	★★★★
7	2.02	Ward	2	US Highway 52 & 422nd Ave NW/6th St NE (Ward 2)	★		★		★		★	★★★★
8	8.03	Ward	8	US Highway 83 & 128th Ave NW/NE (Ward 8)		★	★		★		★	★★★★
9	504.01	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)		★				★	★	★★★
10	14.07	Ward	14	US Hwy 52 & 37th Ave SE (Ward 14)	★					★	★	★★★
11	14.04	Ward	14	US Highway 83/S Broadway St & 54th Ave SW/SE (Ward 14)			★			★	★	★★★
12	2.01	Ward	2	590th St NW (Ward 2) & 436th Ave NW (Ward 2)	★	★			★			★★★
13	5.02	Ward	5	US Highway 52 & 394th St NW (Ward 5)		★			★		★	★★★
14	6.02	Ward	6	ND State Highway 28 & 198th Ave NW/Washington Ave W (Ward 6)	★	★		★				★★★
15	10.01	Ward	10	US Highway 2 & 72nd St NW (Ward 10)		★		★			★	★★★
16	10.02	Ward	10	Co Rd 15 W (ward 15) & 46th Ave NW (Ward 10)	★	★					★	★★★
17	12.04	Ward	12	Pleasant Ave N/104th St NE (Ward 12) & 2nd St NW (Ward 12)			★	★			★	★★★
18	16.02	Ward	16	US Hwy 52 & 79th Ave SE (Ward 16)		★			★		★	★★★
19	17.01	Ward	17	US Hwy 2 & 54th St/62nd St NW (Ward 17)		★			★		★	★★★
20	23.01	Ward	23	139th St SE (Ward 23) & ND Hwy 23	★	★			★			★★★
21	24.02	Ward	24	142nd St SW (Ward 501) & 359th Ave SW/ND Hwy 53 (Ward 24)	★	★			★			★★★
22	501.01	Ward	501	142nd St SW (Ward 501) & 247th Ave SW/ND Hwy 23	★	★			★			★★★
23	504.02	Ward	504	US Hwy 52 & Co Rd 19 S (Ward 504)		★	★				★	★★★
24	10.04	Ward	10	US Highway 83/N Broadway & 46th Ave NE (Ward 10)						★	★	★★
25	502.02	Ward	502	US Hwy 52 & 135th Ave SE (Ward 502)						★	★	★★
26	4.01	Ward	4	US Highway 52 & 366th Ave NW (Ward 4)	★	★						★★
27	6.01	Ward	6	ND State Highway 28 & 184th Ave NW/Garfield Ave W (Ward 6)	★	★						★★
28	6.03	Ward	6	184th St NW (Ward) & 198th Ave NW (Ward 6)		★			★			★★
29	8.02	Ward	8	Co Rd 15 W (Ward 15) & 128th Ave NW (Ward 8)	★				★			★★
30	8.05	Ward	8	153rd St NE (Ward 23) & 128th Ave NE (Ward 8)		★			★			★★
31	10.05	Ward	10	27th St NE (Ward 19) & 46th Ave NE (Ward 10)				★			★	★★
32	12.01	Ward	12	62nd St NW (Ward 17) & 22nd St SW (Ward 12)	★	★						★★
33	12.05	Ward	12	US Highway 2 & 104th St SE (Ward 12)		★					★	★★
34	14.03	Ward	14	16th St SW (Ward 14) & 37th Ave SW (Ward 14)			★				★	★★
35	16.01	Ward	16	US Hwy 83 & 93rd Ave SW (Ward 16)					★		★	★★
36	20.02	Ward	20	142nd St SW (Ward 501) & 177th Ave SW (Ward 20)		★			★			★★
37	20.03	Ward	20	US Hwy 83 & 177th Ave SW (Ward 20)			★				★	★★
38	22.04	Ward	22	US Hwy 83 & 303rd Ave SW (Ward 22)		★			★			★★
39	23.04	Ward	23	US Hwy 2/Burdick Expy E & 153rd St NE (Ward 23)					★		★	★★
40	24.03	Ward	24	US Hwy 83 & 359th Ave SW/SE (Ward 24)					★		★	★★
41	500.01	Ward	500	254th St SW/ND Hwy 28 (Ward 500) & 247th Ave SW/ND Hwy 23					★		★	★★
42	502.01	Ward	502	US Hwy 83 & 135th Ave SW/SE (Ward 502)					★		★	★★
43	14.05	Ward	14	38th St SE (Ward 14) & 37th Ave SE (Ward 14)						★		★
44	2.03	Ward	2	436th St NW (Ward 3) & 422nd Ave NW (Ward 2)					★			★
45	8.04	Ward	8	27th St NE (Ward 19) & 128th Ave NE (Ward 8)							★	★
46	9.03	Ward	9	338th St SW (Ward 9) & 205th Ave SW (Ward 20)					★			★
47	9.04	Ward	9	325th St SW (Ward 9) & 177th Ave SW (Ward 20)					★			★
48	9.05	Ward	9	310th St SW (Ward 9) & 54th Ave SW (Ward 14)					★			★
49	9.07	Ward	9	US Highway 2/86th Ave NW & 310th St NW (Ward 9)							★	★
50	12.02	Ward	12	27th St NE (Ward 19) & 4th Ave NE (Ward 12)							★	★
51	12.03	Ward	12	55th St NE (Ward 12) & 4th Ave NE (Ward 12)							★	★
52	12.07	Ward	12	55th St SE (Ward 12) & US Highway 2							★	★
53	14.01	Ward	14	62nd St SW (Ward 14) & 54th Ave SW (Ward 14)		★						★
54	14.02	Ward	14	62nd St SW (Ward 17) & 37th Ave SW (Ward 14)							★	★
55	14.06	Ward	14	Co Hwy 19 S (Ward 504) & 72nd St SE (Ward 14)		★						★
56	15.02	Ward	15	Co Rd 15 W/4th Ave NW (Ward 15) & 54th St NW (Ward 17)		★						★
57	16.03	Ward	16	Co Rd 19 S (Ward 504) & 79th Ave SE (Ward 16)	★							★
58	23.02	Ward	23	US Hwy 52 & 139th St SE (Ward 23)							★	★
59	24.01	Ward	24	254th St SW/ND Hwy 28 & 359th Ave SW/ND Hwy 53 (Ward 24)					★			★
60	9.01	Ward	9	338th St SW (Ward 9) & 303rd Ave SW (Ward 22)								
61	9.06	Ward	9	310th St NW (Ward 9) & 72nd Ave NW (Ward 10)								
62	10.06	Ward	10	55th St NE (Ward 10) & 46th Ave NE (Ward 10)								
63	12.06	Ward	12	55th St SE (Ward 12) & 37th Ave SE (Ward 14)								
64	14.08	Ward	14	72nd St SE (Ward 14) & 37th Ave SE (Ward 14)								
65	14.09	Ward	14	72nd St SE (Ward 14) & 11th Ave SE								
66	22.01	Ward	22	254th St SW/ND Hwy 28 (Ward 500) & 303rd Ave SW (Ward 22)								
				Total Stars --	16	29	10	7	27	9	36	
				% That Gets Star --	24%	44%	15%	11%	41%	14%	55%	

Totals	#	%
★★★★★★★	0	0%
★★★★★★	0	0%
★★★★★	2	3%
★★★★	6	9%
★★★	15	23%
★★	19	29%
★	17	26%
-	7	11%
	66	100%

Stars	
Skew -	If intersection is skewed at an angle of 15 degrees or greater.
On/Near Curve -	If intersection is on or within 1,000 feet of curve.
Development -	If intersection aerial shows a commercial development with access near intersection.
RR Xing -	If intersection has a railroad crossing on any approach within 500 feet.
Previous STOP (>5 mi) -	If vehicles approaching the stop control have not had a previous stop along the roadway wi
Total Crashes -	If intersection has at least 1 crash.
Ratio (Min/Maj) -	If intersection has an ADT ratio in the range of 0.2 to 0.8.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 52 & 198th St NW (Ward 8)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	Yes
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	1950
Entering ADT:	2065	Minor ADT:	115

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	Installed	$0.00
Upgrade Stop Sign	$350	per sign	2	$700.00
Upgrade Junction Sign	$350	per sign	2	$700.00
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$5,700.00

Notes -

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$5,130
Local Match (10% of Total project cost)	$570
Total Project Cost	**$5,700**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 1
Intersection ID: 8.01
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

338th St SW (Ward 9) & ND Highway 23/247th Ave SW

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	3025
Entering ADT:	3608	Minor ADT:	583

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.2	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
			★★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	2	$700.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$61,450.00

Notes - Oil County Project (Junction Sign/Rumbles - Sheet 51-84)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$55,305
Local Match (10% of Total project cost)	$6,145
Total Project Cost	**$61,450**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 9.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 52 & 184th St NW (Ward 11)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	3330
Entering ADT:	3590	Minor ADT:	1925

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.2	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
			★★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	0	$0.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	1	$450.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$59,600.00

Notes - Oil County Project (Junction Sign/STOP - Sheet 51-20)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$53,640
Local Match (10% of Total project cost)	$5,960
Total Project Cost	**$59,600**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 52/2nd Ave & Power St/Main St (Ward 5)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	Yes
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	1835
Entering ADT:	1985	Minor ADT:	300

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	Installed	$0.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	1	$350.00
Upgrade Stop Ahead Sign	$450	per sign	1	$450.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$4,300.00

Notes -

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$3,870
Local Match (10% of Total project cost)	$430
Total Project Cost	**$4,300**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 4
Intersection ID: 5.03
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

436th Ave NW (Ward 2) & 6th St NW/415th Ave NW (Ward 1)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	623
Entering ADT:	803	Minor ADT:	360

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	1	$450.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$9,950.00

Notes - Oil County Project (Junction Sign/Rumble - Sheet 51-6)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$8,955
Local Match (10% of Total project cost)	$995
Total Project Cost	**$9,950**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 5
Intersection ID: 1.01
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 52 & 422nd Ave NW/6th St NE (Ward 2)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	Yes
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	2175
Entering ADT:	3345	Minor ADT:	1170

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	Installed	$0.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	1	$350.00
Upgrade Stop Ahead Sign	$450	per sign	1	$450.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$54,300.00

Notes -

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$48,870
Local Match (10% of Total project cost)	$5,430
Total Project Cost	**$54,300**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 6
Intersection ID: 2.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 83 & 128th Ave NW/NE (Ward 8)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Divided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	Overhead
County:	Ward	Major ADT:	5598
Entering ADT:	6233	Minor ADT:	635

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	1	$750,000.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	0	$0.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$760,750.00

Notes - Consideration should be given for large vehicles (home movers) in the design of median. If directional median is not feasible, mainline dynamic warning signals may be considered as an alternate safety improvement. Oil County Project (Junction Sign/Rumbles/STOP - Sheet 51-24)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$684,675
Local Match (10% of Total project cost)	$76,075
Total Project Cost	**$760,750**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 7
Intersection ID: 8.03
Date: 11/11/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 83 & 46th Ave NW (Ward 10)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	6505
Entering ADT:	6813	Minor ADT:	615

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	2	0	0.00
Rate (per MVM)	0.2	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	2	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	1	$350.00
Upgrade Stop Ahead Sign	$450	per sign	1	$450.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$60,300.00

Notes -

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$54,270
Local Match (10% of Total project cost)	$6,030
Total Project Cost	**$60,300**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 8
Intersection ID: 10.03
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 83/S Broadway St & 54th Ave SW/SE (Ward 14)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Divided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	4803
Entering ADT:	5335	Minor ADT:	533

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	1	0	0.00
Rate (per MVM)	0.1	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	1	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost	Notes -
Roundabout	$1,000,000	per intersection	0	$0.00	
Directional Median	$750,000	per intersection	0	$0.00	
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00	
Close Median	$25,000	per intersection	0	$0.00	
Installing Street Lights	$6,000	per street light	1	$6,000.00	
Upgrade Stop Sign	$350	per sign	2	$700.00	
Upgrade Junction Sign	$350	per sign	2	$700.00	
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00	
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00	
Upgrade Stop Bar	$250	per marking	2	$500.00	
Review Signs and CST	$2,450	per intersection	1	$2,450.00	
				$62,150.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$55,935
Local Match (10% of Total project cost)	$6,215
Total Project Cost	**$62,150**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 14.04
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Hwy 52 & Co Rd 19 S (Ward 504)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Divided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	4168
Entering ADT:	4368	Minor ADT:	400

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	3	0	0.00
Rate (per MVM)	0.4	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	3	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	0	$0.00
Upgrade Junction Sign	$350	per sign	1	$350.00
Upgrade Stop Ahead Sign	$450	per sign	0	$0.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$59,500.00

Notes - Oil County Project (STOP/Stop Ahead - Sheet 51-62)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$53,550
Local Match (10% of Total project cost)	$5,950
Total Project Cost	**$59,500**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 10
Intersection ID: 504.01
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Hwy 52 & 37th Ave SE (Ward 14)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Divided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	3415
Entering ADT:	3755	Minor ADT:	340

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	2	0	0.00
Rate (per MVM)	0.3	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	2	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	2	$700.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$61,450.00

Notes -

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$55,305
Local Match (10% of Total project cost)	$6,145
Total Project Cost	**$61,450**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 14.07
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

590th St NW (Ward 2) & 436th Ave NW (Ward 2)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	235
Entering ADT:	375	Minor ADT:	140

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	0	$0.00
Upgrade Stop Sign	$350	per sign	2	$700.00
Upgrade Junction Sign	$350	per sign	2	$700.00
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$5,700.00

Notes - Oil County Project (Junction Sign - Sheet 51-2)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$5,130
Local Match (10% of Total project cost)	$570
Total Project Cost	**$5,700**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 2.01
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 52 & 394th St NW (Ward 5)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	1998
Entering ADT:	2088	Minor ADT:	180

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	1	$350.00
Upgrade Stop Ahead Sign	$450	per sign	1	$450.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$10,300.00

Notes - Oil County Project (Junction Sign/Stop Ahead Sign - Sheet 51-8)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$9,270
Local Match (10% of Total project cost)	$1,030
Total Project Cost	**$10,300**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 5.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

ND State Highway 28 & 198th Ave NW/Washington Ave W (Ward 6)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	Yes
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	678
Entering ADT:	768	Minor ADT:	180

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	No	Yes	
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	Installed	$0.00
Upgrade Stop Sign	$350	per sign	0	$0.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	0	$0.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$3,150.00

Notes - Oil County Project (Junction Sign/Stop Ahead Sign/ STOP - Sheet 51-13)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$2,835
Local Match (10% of Total project cost)	$315
Total Project Cost	**$3,150**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 6.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Highway 2 & 72nd St NW (Ward 10)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Divided	Street Lights:	Yes
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	6465
Entering ADT:	7038	Minor ADT:	573

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	Installed	$0.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	0	$0.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$53,500.00

Notes - Oil County Project (Junction Sign/Stop Ahead Sign - Sheet 51-41)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$48,150
Local Match (10% of Total project cost)	$5,350
Total Project Cost	**$53,500**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 10.01
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Co Rd 15 W (ward 15) & 46th Ave NW (Ward 10)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	Yes
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	525
Entering ADT:	785	Minor ADT:	520

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	Installed	$0.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	0	$0.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$3,500.00

Notes - Oil County Project (Junction Sign/Stop Ahead Sign - Sheet 51-38)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$3,150
Local Match (10% of Total project cost)	$350
Total Project Cost	**$3,500**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 16
Intersection ID: 10.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Hwy 52 & 79th Ave SE (Ward 16)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	4648
Entering ADT:	4733	Minor ADT:	85

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	2	$700.00
Upgrade Junction Sign	$350	per sign	2	$700.00
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$12,150.00

Notes -

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$10,935
Local Match (10% of Total project cost)	$1,215
Total Project Cost	**$12,150**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Intersection ID: 16.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Hwy 2 & 54th St/62nd St NW (Ward 17)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Divided	Street Lights:	Yes
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	6550
Entering ADT:	7773	Minor ADT:	1223

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	1	$750,000.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	Installed	$0.00
Upgrade Stop Sign	$350	per sign	0	$0.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	0	$0.00
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$753,850.00

Notes - Consideration should be given for large vehicles (home movers) in the design of median. If directional median is not feasible, mainline dynamic warning signals may be considered as an alternate safety improvement. Oil County Project (Junction Sign/Stop Ahead/STOP - Sheet 51-46)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$678,465
Local Match (10% of Total project cost)	$75,385
Total Project Cost	**$753,850**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 18
Intersection ID: 17.01
Date: 11/11/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

139th St SE (Ward 23) & ND Hwy 23

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	335
Entering ADT:	570	Minor ADT:	235

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	0	$0.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	0	$0.00
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00
Upgrade Stop Bar	$250	per marking	2	$500.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$9,850.00

Notes - Oil County Project (Junction Sign/STOP/Stop Ahead Sign - Sheet 51-100)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$8,865
Local Match (10% of Total project cost)	$985
Total Project Cost	**$9,850**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 19
Intersection ID: 23.01
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

142nd St SW (Ward 501) & 359th Ave SW/ND Hwy 53 (Ward 24)

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	80
Entering ADT:	100	Minor ADT:	20

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost	Notes -
Roundabout	$1,000,000	per intersection	0	$0.00	
Directional Median	$750,000	per intersection	0	$0.00	
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00	
Close Median	$25,000	per intersection	0	$0.00	
Installing Street Lights	$6,000	per street light	0	$0.00	
Upgrade Stop Sign	$350	per sign	2	$700.00	
Upgrade Junction Sign	$350	per sign	2	$700.00	
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00	
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00	
Upgrade Stop Bar	$250	per marking	2	$500.00	
Review Signs and CST	$2,450	per intersection	1	$2,450.00	
				$5,700.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$5,130
Local Match (10% of Total project cost)	$570
Total Project Cost	**$5,700**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 20
Intersection ID: 24.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

142nd St SW (Ward 501) & 247th Ave SW/ND Hwy 23

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	X	Traffic Control Device:	thru-STOP
Configuration (2):	Undivided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	1215
Entering ADT:	1293	Minor ADT:	78

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	Yes	Yes	★
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥ 100,000	
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost	Notes -
Roundabout	$1,000,000	per intersection	0	$0.00	
Directional Median	$750,000	per intersection	0	$0.00	
Mainline Dynamic Warning Sign	$50,000	per intersection	0	$0.00	
Close Median	$25,000	per intersection	0	$0.00	
Installing Street Lights	$6,000	per street light	0	$0.00	
Upgrade Stop Sign	$350	per sign	2	$700.00	
Upgrade Junction Sign	$350	per sign	2	$700.00	
Upgrade Stop Ahead Sign	$450	per sign	2	$900.00	
Upgrade Stop Ahead Marking	$450	per marking	2	$900.00	
Upgrade Stop Bar	$250	per marking	2	$500.00	
Review Signs and CST	$2,450	per intersection	1	$2,450.00	
				$6,150.00	

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$5,535
Local Match (10% of Total project cost)	$615
Total Project Cost	**$6,150**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 21
Intersection ID: 501.01
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

US Hwy 52 & Co Rd 19 S (Ward 504)

Agency Name: Ward County **ND DOT District: 4**
Contact Name: Dana Larsen **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Configuration:	T	Traffic Control Device:	thru-STOP
Configuration (2):	Divided	Street Lights:	No
Urban/Rural:	Rural	Flashers:	No
County:	Ward	Major ADT:	2638
Entering ADT:	2788	Minor ADT:	300

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota TBD, 2008 - 2012

	Total	Angle	K+A
Crashes	0	0	0.00
Rate (per MVM)	0.0	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	Yes	Yes	★
Development	Yes	Yes	★
Near RR Crossing	No	Yes	
Distance from previous STOP	No	Yes	
Volume Cross Product	Yes	≥ 100,000	★
Total Crashes	0	>0	
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost		Units	Cost
Roundabout	$1,000,000	per intersection	0	$0.00
Directional Median	$750,000	per intersection	0	$0.00
Mainline Dynamic Warning Sign	$50,000	per intersection	1	$50,000.00
Close Median	$25,000	per intersection	0	$0.00
Installing Street Lights	$6,000	per street light	1	$6,000.00
Upgrade Stop Sign	$350	per sign	1	$350.00
Upgrade Junction Sign	$350	per sign	0	$0.00
Upgrade Stop Ahead Sign	$450	per sign	0	$0.00
Upgrade Stop Ahead Marking	$450	per marking	1	$450.00
Upgrade Stop Bar	$250	per marking	1	$250.00
Review Signs and CST	$2,450	per intersection	1	$2,450.00
				$59,500.00

Notes - Oil County Project (Junction Sign/Stop Ahead Sign - Sheet 51-66)

Signs and Markings and Street Light project costs vary by the number of minor legs associated with the intersection.

Project Cost Estimate (attach detailed copy)

Federal Funds	$53,550
Local Match (10% of Total project cost)	$5,950
Total Project Cost	**$59,500**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 22
Intersection ID: 504.02
Date: 8/13/2013

Ward County Rural Segment Projects

Corridor ID	Local Street Name	Start	End	Length	Risk Ranking	4" Edge Line	Shoulder Rumble Strip	Edge Line Rumble Strip	6" Edge Lines	Center Line Ru	Project Cost ($)
1.01	534th St	State Route 50	436th Ave		★★★★	0.0	0.0	8.8	8.8	0.0	$30,800
2.02	436th Ave	590th ST	Ward 11		★★★★	0.0	5.8	0.0	5.8	0.0	$17,400
5.03	Main St	US Hwy 52	Ward 7		★★★	0.0	0.0	0.0	1.8	0.0	$1,170
8.01	128th Ave	US Hwy 52	US Hwy 83		★★★	0.0	12.9	0.0	12.9	0.0	$38,700
9.03	310th St	Ward 20	Ward 14		★★★	0.0	11.5	0.0	11.5	0.0	$44,700
10.02	19th Ave	Granly St	US Hwy 2		★★★★★	0.0	7.6	0.0	7.6	0.0	$22,800
12.03	4th Ave	55th St	US Hwy 2		★★★★	0.0	4.1	0.0	4.1	4.1	$24,600
14.02	54th Ave	Ward 9	62nd St		★★★	0.0	0.0	17.8	17.8	0.0	$62,300
14.04	54th Ave	US Hwy 83	1 mile east of 13th St		★★★	0.0	0.0	2.1	2.1	0.0	$7,350
15.02	57th St	US Hwy 83	Ward 17		★★★★	0.0	0.0	2.2	2.2	2.2	$14,300
15.03	County Road 15 W	Ward 17	Ward 10		★★★	0.0	0.0	2.8	2.8	2.8	$18,200
15.04	County Road 15 W	Ward 10	1 mile South of 86th St		★★★★★	0.0	0.0	2.2	2.2	0.0	$7,700
17.02	54th St	US Hwy 2	Ward 15		★★★	0.0	0.0	1.3	1.3	1.3	$8,450
23.04	153rd St	US Hwy 2	66th St		★★★★	0.0	0.0	9.1	9.1	0.0	$31,850
24.02	359th Ave	142nd St	US Hwy 83		★★★	0.0	0.0	9.7	9.7	0.0	$33,950
						0.0	**41.9**	**56.0**	**99.7**	**10.4**	**$ 364,270**

Detailed Corridor Information

Ward County Corridors

Corridor	Route	#	Local Name	Start	End	Road Type	Facility	Speed Limit	Analyst Not	Length	Edge Risk Assesment	ERA 2	Lane Width	Paved Shoulder Width	Gravel Shoulder Width	Curb & Gutter?	Shoulder Type	Access Total	Access/ Mile	Weighted ADT
						≥ 45 MPH OR ≤ 40 MPH														
1.01	Ward 1	1	534th St	Intersection with state route 50	Intersection with 436th Ave	Rural Paved	2-Lane	High		8.84	1		12	0	0	0	None	72	8.1	309
2.01	Ward 2	2	436th Ave	Intersection with 72nd Ave	Intersection with 450thAve	Rural Paved	2-Lane	High		1.98	1		12	0	0	0	None	14	7.1	145
2.02	Ward 2	2	436th Ave	Intersection with 590th ST	Intersection with Ward 11	Rural Paved	2-Lane	High		5.79	1		12	2	0	0	Paved	34	5.9	395
2.03	Ward 2	2	6th St	Intersection with Ward 1	Intersection with US Hwy 52	Rural Paved	2-Lane	Low		1.08	2	Drop offs & objects	12	0	4	0	Gravel	51	47.2	1230
2.04	Ward 2	2	422nd Ave	Intersection with US Hwy 52	Intersection with Ward 3	Rural Paved	2-Lane	High		4.49	1		12	2	0	0	Paved	39	8.7	430
2.05	Ward 2	2	422nd Ave	Intersection with Ward 3	Intersection with 52nd Ave	Rural Paved	2-Lane	High		4.97	1		12	2	0	0	Paved	31	6.2	230
3.01	Ward 3	3	436th St	Intersection with Ward 4	Intersection with Ward 2	Rural CMC Gravel				4.01							None	0	0.0	25
3.02	Ward 3	3	436th St	Intersection with Ward 2	Intersection with 90th St	Rural CMC Gravel				1.99							None	0	0.0	70
4.01	Ward 4	4	366th Ave	Intersection with US Hwy 52	Intersection with 52nd Ave	Rural CMC Gravel				5.07							None	0	0.0	50
5.01	Ward 5	5	394th St	Intersection with Ward 6	Intersection with 240th Ave	Rural CMC Gravel				4.00							None	0	0.0	62
5.02	Ward 5	5	394th St	Intersection with 240th Ave	Intersection with US Hwy 52	Rural Paved	2-Lane	High		1.95	2	drop offs	12	2	0	0	Paved	7	3.6	115
5.03	Ward 5	5	Main St	Intersection with US Hwy 52	Intersection with Ward 7	Rural Paved	2-Lane	High		1.76	2	water, drop offs	12	2	0	0	Paved	20	11.4	80
6.01	Ward 6	6	184th Ave	Intersection with Ward 5	1 mile to city of carpio	Rural CMC Gravel				7.25							None	0	0.0	55
6.02	Ward 6	6	184th Ave	1 mile to city of carpio	Intersection with state route 28	Rural Paved	2-Lane	High		1.77	1		12	2	0	0	Paved	9	5.1	60
6.03	Ward 6	6	198th Ave	Intersection with state route 28	Intersection with Reneville 6	Rural Paved	2-Lane	Low		7.06	2	water, drop offs	12	0	0	0	None	43	6.1	218
7.01	Ward 7	7	282nd Ave	Intersection with Ward 5	Intersection with 52nd Ave	Rural CMC Gravel				0.49							None	0	0.0	230
8.01	Ward 8	8	128th Ave	Intersection with US Hwy 52	Intersection with US Hwy 83	Rural Paved	2-Lane	High		12.88	2	water, drop offs	12	2	0	0	Paved	68	5.3	174
8.02	Ward 8	8	128th Ave	Intersection with US Hwy 83	Intersection with Ward 23	Rural Paved	2-Lane	High		10.87	1		12	2	0	0	Paved	54	5.0	617
9.01	Ward 9	9	338 St	Intersection with 373rd Ave	Intersection with state route 23	Rural Paved	2-Lane	High		8.00	1		12	0	0	0	None	50	6.2	288
9.02	Ward 9	9	338 St	Intersection with state route 23	Intersection with Ward 20	Rural Paved	2-Lane	High		3.35	1		12	2	0	0	Paved	20	6.0	675
9.03	Ward 9	9	310th St	Intersection with Ward 20	Intersection with Ward 14	Rural Paved	2-Lane	High		11.55	1		12	2	0	0	Paved	51	4.4	157
9.04	Ward 9	9	310th St	Intersection with Ward 14	Intersection with US Hwy 2	Rural Paved	2-Lane	High		10.00	1		12	4	0	0	Paved	71	7.1	121
10.01	Ward 10	10	184th St	Intersection with Ward 9	Intersection with Granly St	Rural Paved	2-Lane	High		10.74	1		12	4	0	0	Paved	56	5.2	263
10.02	Ward 10	10	19th Ave	Intersection with Granly St	Intersection with US Hwy 2	Rural Paved	2-Lane	High		7.60	1		12	2	0	0	Paved	75	9.9	671
10.03	Ward 10	10	60 th St	Intersection with Ward 15	Intersection with US Hwy 83	Rural Paved	2-Lane	High		4.82	1		12	8	0	0	Paved	29	6.0	457
10.04	Ward 10A	10A	46th Ave	Intersection with US Hwy 83	Intersection with Ward 19	Rural Paved	2-Lane	High		1.98	1		12	12	0	0	Paved	22	11.1	1793
10.05	No designation		46th Ave	Intersection with Ward 19	Intersection with Ward 12	Rural CMC Gravel				2.00							None	0	0.0	170
11.01	Ward 11	11	184th St	Intersection with US Hwy 52	Intersection with Ward 6	Rural Paved	2-Lane	High		4.89	1		12	0	0	0	None	26	5.3	1680
12.01	Ward 12	12	22nd St	1 mile west of Ward 17	Intersection with Ward 17	Rural Paved	2-Lane	Low		0.91	2	drop offs	12	4	0	0	Paved	23	25.4	260
12.02	Ward 12	12	4th Ave	Intersection with Ward 19	Intersection with 55th St	Rural Paved	2-Lane	High		2.01	1		12	0	2	0	Gravel	16	8.0	3190
12.03	Ward 12	12	4th Ave	Intersection with 55th St	Intersection with US Hwy 2	Rural Paved	2-Lane	High		4.09	1		12	2	0	0	Paved	58	14.2	1204
12.04	Ward 12A	12	55th St	Intersection with Ward 14	Intersection with US Hwy 2	Rural Paved	2-Lane	Low		2.24	1		12	0	0	1	None	41	18.3	881
12.05	Ward 12A	12	55th St	Intersection with US Hwy 2	Intersection with 4th Ave	Rural Paved	2-Lane	Low		0.76	2	no shoulder	12	0	0	0	None	24	31.8	2400
12.06	No designation		55th St	Intersection with 4th Ave	Intersection with 46th Ave	Rural CMC Gravel				3.03							None	0	0.0	115
14.01	Ward 14	14	54th Ave	Intersection with 408thSt	Intersection with Ward 9	Rural CMC Gravel				6.03							None	0	0.0	65
14.02	Ward 14	14	54th Ave	Intersection with Ward 9	Intersection with 62nd St	Rural Paved	2-Lane	High		17.84	1		12	2	0	0	Paved	77	4.3	210
14.03	Ward 14	14	37th Ave	Intersection with 54th Ave	Intersection with US Hwy 83	Rural Paved	2-Lane	Low		5.77	1		12	2	0	0	Paved	55	9.5	1010
14.04	Ward 14	14	54th Ave	Intersection with US Hwy 83	1 mile east of 13th St	Rural Paved	2-Lane	High		2.13	1		12	1	1	0	Composite	35	16.4	548
14.05	Ward 14A	14	38th St	1 mile east of 13th St	Intersection with 37th Ave	Rural Paved	2-Lane	Low		1.27	1		12	2	0	0	Paved	33	25.9	300
14.06	Ward 14	14	37th St	Intersection with Ward 14A	Intersection with 72nd AVe Ave	Rural Paved	2-Lane	Low		2.19	2	small clear zone	12	2	0	0	Paved	43	19.6	408
14.07	Ward 14	14	72nd Ave	Intersection with 37th St	Intersection with 11th Ave	Rural Paved	2-Lane	Low		2.01	2	flooding	12	2	0	0	Paved	49	24.3	0
15.02	Ward 15	15	57th St	Intersection with US Hwy 83	Intersection with Ward 17	Rural Paved	2-Lane	High		2.23	1		12	2	2	0	Composite	24	10.8	4010
15.03	Ward 15	15	County Road 15 W	Intersection with Ward 17	Intersection with Ward 10	Rural Paved	2-Lane	High		2.76	2	small clear zone	12	6	0	0	Paved	33	12.0	2510
15.04	Ward 15	15	County Road 15 W	Intersection with Ward 10	1 mile South of 86th St	Rural Paved	2-Lane	High		2.15	1		12	2	0	0	Paved	33	15.3	520
15.05	Ward 15	15	County Road 15 W	1 mile South of 86th St	Intersection with Ward 8	Rural CMC Gravel				5.49							None	0	0.0	70
16.01	Ward 16	16	963rd Ave	Intersection with US Hwy 83	Intersection with US Hwy 52	Rural CMC Gravel				6.79							None	0	0.0	70
16.02	Ward 16	16	79th Ave	Intersection with US Hwy 52	Intersection with 97th St	Rural Paved	2-Lane	Low		1.10	2	flooding	12	2	0	0	Paved	0	0.0	210
16.03	Ward 16	16	79th Ave	Intersection with 97th St	Intersection with 20th Ave	Rural CMC Gravel				6.10							None	0	0.0	138
17.01	Ward 17	17	62nd St	Intersection with Ward 14	Intersection with US Hwy 2	Rural Paved	2-Lane	Low		3.10	1		12	4	0	0	Paved	24	7.8	315
17.02	Ward 17	17	54th St	Intersection with US Hwy 2	Intersection with Ward 15	Rural Paved	2-Lane	High		1.28	1		12	4	0	0	Paved	18	14.0	1575
19.01	Ward 19	19	27th St	Intersection with Ward 12	Intersection with Ward 8	Rural Paved	2-Lane	High		9.09	1		12	2	0	0	Paved	50	5.5	1279
20.01	Ward 20	20	205th Ave	Intersection with 380th St	Intersection with Ward 12	Rural CMC Gravel				2.30							None	0	0.0	80
20.02	Ward 20	20	117th Ave	Intersection with Ward 12	Intersection with 142nd St	Rural CMC Gravel				12.82							None	0	0.0	43
20.03	Ward 20	20	117th Ave	Intersection with 142nd St	Intersection with US Hwy 83	Rural Paved	2-Lane	High		10.03	1		12	2	0	0	Paved	45	4.5	302
22.01	Ward 22	22	303rd Ave	Intersection with Ward 9	Intersection with Corona St	Rural Paved	2-Lane	High		6.36	1		12	2	0	0	Paved	48	7.5	163
22.02	Ward 22	22	303rd Ave	Intersection with Corona St	Intersection with 142nd St	Rural CMC Gravel				7.58							None	0	0.0	65
22.03	Ward 22	22	303rd Ave	Intersection with 142nd St	Intersection with US Hwy 83	Rural CMC Gravel				10.25							None	0	0.0	35
23.01	Ward 23	23	21st Ave	Intersection with 373rd Ave	Intersection with state route 23	Rural Paved	2-Lane	High		9.30	1		12	2	0	0	Paved	46	4.9	141
23.02	Ward 23	23	21st Ave	Intersection with state route 23	Intersection with US Hwy 53	Rural Paved	2-Lane	High		7.67	1		12	2	0	0	Paved	31	4.0	362
23.03	Ward 23	23	153rd St	Quarter mile north of Dakota Ave	Intersection with US Hwy 2	Rural Paved		Rural CMC Gravel, r		10.53							None	0	0.0	101
23.04	Ward 23	23	153rd St	Intersection with US Hwy 2	Intersection with 66th St	Rural Paved	2-Lane	High		9.09	1		12	2	0	0	Paved	63	6.9	310
24.01	Ward 24	24	359th Ave	Intersection with state route 28	Intersection with 142nd St	Rural Paved	2-Lane	High		8.27	1		12	2	0	0	Paved	47	5.7	178
24.02	Ward 24	24	359th Ave	Intersection with 142nd St	Intersection with US Hwy 83	Rural Paved	2-Lane	High		9.70	2	flooding	12	2	0	0	Paved	61	6.3	283
500.01	No designation		254th St	Intersection with State route 23	Intersection with Ward 20	Rural CMC Gravel				5.23							None	0	0.0	40
501.01	No designation		Main St	Intersection with 373rd Ave	Intersection with Ward 24	Rural CMC Gravel				1.06							None	0	0.0	61
501.02	No designation		142nd St	Intersection with Ward 24	Intersection with State route 22	Rural CMC Gravel				8.45							None	0	0.0	54
501.03	No designation	NA	142nd St	Intersection with State route 22	Intersection with Ward 22	Rural Paved	2-Lane	High		5.06	2	small clear zone	12	2	0	0	Paved	21	4.1	85
502.01	No designation		135th Ave	Intersection with US Hwy 83	Intersection with US Hwy 52	Rural CMC Gravel				8.83							None	0	0.0	148
504.01	No designation		Conty Road 19 S	Intersection with US Hwy 52	Intersection with Ward 16	Rural Paved	2-Lane	Low		0.77	1		12	2	0	0	Paved	9	11.7	170
504.02	No designation		Conty Road 19 S	Intersection with Ward 16	Intersection with US Hwy 52	Rural Paved	2-Lane	Low		2.51	1		12	2	0	0	Paved	30	12.0	325
504.03	No designation		Conty Road 19 S	Intersection with US Hwy 52	Intersection with Ward 14	Rural Paved	2-Lane	Low		1.77	1		12	2	0	0	Paved	64	36.2	488

23 USC 409: NDDOT Reserves All Objections

Detailed Corridor Information

Ward County Corridors

Corridor	Route	#	Local Name	Start	End	Years of Data	AADT	Total Crashes	Severe Crashes	Intersection Crashes	Severity					Diagram - SEVERE Only										
											K	A	B	C	PDO	Rear End	Sideswipe Passing	Angle (Opp Dir)	Singe Veh	Right Angle	Angle (Same Dir)	Angle (Not Specific)	Head On	Sideswipe Opposing	Rear-to-Rear	Rear-to-Side
1.01	Ward 1	1	534th St	Intersection with state route 50	Intersection with 436th Ave	5	309	4	-	-	-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-
2.01	Ward 2	2	436th Ave	Intersection with 72nd Ave	Intersection with 450thAve	5	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.02	Ward 2	2	436th Ave	Intersection with 590th ST	Intersection with Ward 11	5	395	2	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
2.03	Ward 2	2	6th St	Intersection with Ward 1	Intersection with US Hwy 52	5	1,230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.04	Ward 2	2	422nd Ave	Intersection with US Hwy 52	Intersection with Ward 3	5	430	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
2.05	Ward 2	2	422nd Ave	Intersection with Ward 3	Intersection with 52nd Ave	5	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.01	Ward 3	3	436th St	Intersection with Ward 4	Intersection with Ward 2	5	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.02	Ward 3	3	436th St	Intersection with Ward 2	Intersection with 90th St	5	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.01	Ward 4	4	366th Ave	Intersection with US Hwy 52	Intersection with 52nd Ave	5	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.01	Ward 5	5	394th St	Intersection with Ward 6	Intersection with 240th Ave	5	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.02	Ward 5	5	394th St	Intersection with 240th Ave	Intersection with US Hwy 52	5	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.03	Ward 5	5	Main St	Intersection with US Hwy 52	Intersection with Ward 7	5	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.01	Ward 6	6	184th Ave	Intersection with Ward 5	1 mile to city of carpio	5	55	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
6.02	Ward 6	6	184th Ave	1 mile to city of carpio	Intersection with state route 28	5	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.03	Ward 6	6	198th Ave	Intersection with state route 28	Intersection with Reneville 6	5	218	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.01	Ward 7	7	282nd Ave	Intersection with Ward 5	Intersection with 52nd Ave	5	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.01	Ward 8	8	128th Ave	Intersection with US Hwy 52	Intersection with US Hwy 83	5	174	4	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-
8.02	Ward 8	8	128th Ave	Intersection with US Hwy 83	Intersection with Ward 23	5	617	5	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
9.01	Ward 9	9	338 St	Intersection with 373rd Ave	Intersection with state route 23	5	288	1	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
9.02	Ward 9	9	338 St	Intersection with state route 23	Intersection with Ward 20	5	675	2	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
9.03	Ward 9	9	310th St	Intersection with Ward 20	Intersection with Ward 14	5	157	5	1	-	-	1	-	-	4	-	-	-	1	-	-	-	-	-	-	-
9.04	Ward 9	9	310th St	Intersection with Ward 14	Intersection with US Hwy 2	5	121	3	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
10.01	Ward 10	10	184th St	Intersection with Ward 9	Intersection with Granly St	5	263	1	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
10.02	Ward 10	10	19th Ave	Intersection with Granly St	Intersection with US Hwy 2	5	671	19	-	-	-	-	1	-	18	-	-	-	-	-	-	-	-	-	-	-
10.03	Ward 10	10	60 th St	Intersection with Ward 15	Intersection with US Hwy 83	5	457	5	-	-	-	-	1	-	4	-	-	-	-	-	-	-	-	-	-	-
10.04	Ward 10A	10A	46th Ave	Intersection with US Hwy 83	Intersection with Ward 19	5	1,793	3	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-
10.05	No designation		46th Ave	Intersection with Ward 19	Intersection with Ward 12	5	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.01	Ward 11	11	184th St	Intersection with US Hwy 52	Intersection with Ward 6	5	1,680	3	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
12.01	Ward 12	12	22nd St	1 mile west of Ward 17	Intersection with Ward 17	5	260	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
12.02	Ward 12	12	4th Ave	Intersection with Ward 19	Intersection with 55th St	5	3,190	11	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-
12.03	Ward 12	12	4th Ave	Intersection with 55th St	Intersection with US Hwy 2	5	1,204	5	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
12.04	Ward 12A	12	55th St	Intersection with Ward 14	Intersection with US Hwy 2	5	881	2	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
12.05	Ward 12A	12	55th St	Intersection with US Hwy 2	Intersection with 4th Ave	5	2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.06	No designation		55th St	Intersection with 4th Ave	Intersection with 46th Ave	5	115	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
14.01	Ward 14	14	54th Ave	Intersection with 408thSt	Intersection with Ward 9	5	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.02	Ward 14	14	54th Ave	Intersection with Ward 9	Intersection with 62nd St	5	210	14	-	1	-	-	3	-	11	-	-	-	-	-	-	-	-	-	-	-
14.03	Ward 14	14	37th Ave	Intersection with 54th Ave	Intersection with US Hwy 83	5	1,010	8	1	1	-	1	1	-	6	-	-	-	-	-	-	-	-	1	-	-
14.04	Ward 14	14	54th Ave	Intersection with US Hwy 83	1 mile east of 13th St	5	548	4	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-
14.05	Ward 14A	14	38th St	1 mile east of 13th St	Intersection with 37th Ave	5	300	2	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
14.06	Ward 14	14	37th St	Intersection with Ward 14A	Intersection with 72nd AVe Ave	5	408	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
14.07	Ward 14	14	72nd Ave	Intersection with 37th St	Intersection with 11th Ave	5	0	2	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
15.02	Ward 15	15	57th St	Intersection with US Hwy 83	Intersection with Ward 17	5	4,010	19	-	2	-	-	2	-	17	-	-	-	-	-	-	-	-	-	-	-
15.03	Ward 15	15	County Road 15 W	Intersection with Ward 17	Intersection with Ward 10	5	2,510	12	-	-	-	-	2	-	10	-	-	-	-	-	-	-	-	-	-	-
15.04	Ward 15	15	County Road 15 W	Intersection with Ward 10	1 mile South of 86th St	5	520	5	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
15.05	Ward 15	15	County Road 15 W	1 mile South of 86th St	Intersection with Ward 8	5	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.01	Ward 16	16	963rd Ave	Intersection with US Hwy 83	Intersection with US Hwy 52	5	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.02	Ward 16	16	79th Ave	Intersection with US Hwy 52	Intersection with 97th St	5	210	2	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
16.03	Ward 16	16	79th Ave	Intersection with 97th St	Intersection with 20th Ave	5	138	2	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
17.01	Ward 17	17	62nd St	Intersection with Ward 14	Intersection with US Hwy 2	5	315	3	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
17.02	Ward 17	17	54th St	Intersection with US Hwy 2	Intersection with Ward 15	5	1,575	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
19.01	Ward 19	19	27th St	Intersection with Ward 12	Intersection with Ward 8	5	1,279	14	1	1	1	-	-	1	12	-	-	-	1	-	-	-	-	-	-	-
20.01	Ward 20	20	205th Ave	Intersection with 380th St	Intersection with Ward 12	5	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.02	Ward 20	20	117th Ave	Intersection with Ward 12	Intersection with 142nd St	5	43	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
20.03	Ward 20	20	117th Ave	Intersection with 142nd St	Intersection with US Hwy 83	5	302	3	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
22.01	Ward 22	22	303rd Ave	Intersection with Ward 9	Intersection with Corona St	5	163	2	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
22.02	Ward 22	22	303rd Ave	Intersection with Corona St	Intersection with 142nd St	5	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.03	Ward 22	22	303rd Ave	Intersection with 142nd St	Intersection with US Hwy 83	5	35	3	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
23.01	Ward 23	23	21st Ave	Intersection with 373rd Ave	Intersection with state route 23	5	141	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.02	Ward 23	23	21st Ave	Intersection with state route 23	Intersection with US Hwy 53	5	362	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
23.03	Ward 23	23	153rd St	Quarter mile north of Dakota Ave	Intersection with US Hwy 2	5	101	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
23.04	Ward 23	23	153rd St	Intersection with US Hwy 2	Intersection with 66th St	5	310	12	1	2	1	-	1	-	10	-	-	-	-	1	-	-	-	-	-	-
24.01	Ward 24	24	359th Ave	Intersection with state route 28	Intersection with 142nd St	5	178	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
24.02	Ward 24	24	359th Ave	Intersection with 142nd St	Intersection with US Hwy 83	5	283	4	-	1	-	-	1	-	3	-	-	-	-	-	-	-	-	-	-	-
500.01	No designation		254th St	Intersection with State route 23	Intersection with Ward 20	5	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
501.01	No designation		Main St	Intersection with 373rd Ave	Intersection with Ward 24	5	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
501.02	No designation		142nd St	Intersection with Ward 24	Intersection with State route 22	5	54	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
501.03	No designation	NA	142nd St	Intersection with State route 22	Intersection with Ward 22	5	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
502.01	No designation		135th Ave	Intersection with US Hwy 83	Intersection with US Hwy 52	5	148	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
504.01	No designation		Conty Road 19 S	Intersection with US Hwy 52	Intersection with Ward 16	5	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
504.02	No designation		Conty Road 19 S	Intersection with Ward 16	Intersection with US Hwy 52	5	325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
504.03	No designation		Conty Road 19 S	Intersection with US Hwy 52	Intersection with Ward 14	5	488	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-

Detailed Corridor Information

Ward County Corridors

Corridor	Route	#	Local Name	Start	End	Light Conditions - SEVERE Only					Road Condition - SEVERE Only				Road Characteristics		
						Day	Dawn/ Dusk	Dark with Streetlights	Dark	Other/ Unknown	Dry	Wet	Snow/ Slush	Other	Straight	On Curve	Other
1.01	Ward 1	1	534th St	Intersection with state route 50	Intersection with 436th Ave	-	-	-	-	-	-	-	-	-	-	-	-
2.01	Ward 2	2	436th Ave	Intersection with 72nd Ave	Intersection with 450thAve	-	-	-	-	-	-	-	-	-	-	-	-
2.02	Ward 2	2	436th Ave	Intersection with 590th ST	Intersection with Ward 11	-	-	-	-	-	-	-	-	-	-	-	-
2.03	Ward 2	2	6th St	Intersection with Ward 1	Intersection with US Hwy 52	-	-	-	-	-	-	-	-	-	-	-	-
2.04	Ward 2	2	422nd Ave	Intersection with US Hwy 52	Intersection with Ward 3	-	-	-	-	-	-	-	-	-	-	-	-
2.05	Ward 2	2	422nd Ave	Intersection with Ward 3	Intersection with 52nd Ave	-	-	-	-	-	-	-	-	-	-	-	-
3.01	Ward 3	3	436th St	Intersection with Ward 4	Intersection with Ward 2	-	-	-	-	-	-	-	-	-	-	-	-
3.02	Ward 3	3	436th St	Intersection with Ward 2	Intersection with 90th St	-	-	-	-	-	-	-	-	-	-	-	-
4.01	Ward 4	4	366th Ave	Intersection with US Hwy 52	Intersection with 52nd Ave	-	-	-	-	-	-	-	-	-	-	-	-
5.01	Ward 5	5	394th St	Intersection with Ward 6	Intersection with 240th Ave	-	-	-	-	-	-	-	-	-	-	-	-
5.02	Ward 5	5	394th St	Intersection with 240th Ave	Intersection with US Hwy 52	-	-	-	-	-	-	-	-	-	-	-	-
5.03	Ward 5	5	Main St	Intersection with US Hwy 52	Intersection with Ward 7	-	-	-	-	-	-	-	-	-	-	-	-
6.01	Ward 6	6	184th Ave	Intersection with Ward 5	1 mile to city of carpio	-	-	-	-	-	-	-	-	-	-	-	-
6.02	Ward 6	6	184th Ave	1 mile to city of carpio	Intersection with state route 28	-	-	-	-	-	-	-	-	-	-	-	-
6.03	Ward 6	6	198th Ave	Intersection with state route 28	Intersection with Reneville 6	-	-	-	-	-	-	-	-	-	-	-	-
7.01	Ward 7	7	282nd Ave	Intersection with Ward 5	Intersection with 52nd Ave	-	-	-	-	-	-	-	-	-	-	-	-
8.01	Ward 8	8	128th Ave	Intersection with US Hwy 52	Intersection with US Hwy 83	-	-	-	-	-	-	-	-	-	-	-	-
8.02	Ward 8	8	128th Ave	Intersection with US Hwy 83	Intersection with Ward 23	-	-	-	-	-	-	-	-	-	-	-	-
9.01	Ward 9	9	338 St	Intersection with 373rd Ave	Intersection with state route 23	1	-	-	-	-	1	-	-	-	1	-	-
9.02	Ward 9	9	338 St	Intersection with state route 23	Intersection with Ward 20	-	-	-	-	-	-	-	-	-	-	-	-
9.03	Ward 9	9	310th St	Intersection with Ward 20	Intersection with Ward 14	-	-	-	1	-	-	-	1	-	-	1	-
9.04	Ward 9	9	310th St	Intersection with Ward 14	Intersection with US Hwy 2	-	-	-	-	-	-	-	-	-	-	-	-
10.01	Ward 10	10	184th St	Intersection with Ward 9	Intersection with Granly St	-	-	-	-	-	-	-	-	-	-	-	-
10.02	Ward 10	10	19th Ave	Intersection with Granly St	Intersection with US Hwy 2	-	-	-	-	-	-	-	-	-	-	-	-
10.03	Ward 10	10	60 th St	Intersection with Ward 15	Intersection with US Hwy 83	-	-	-	-	-	-	-	-	-	-	-	-
10.04	Ward 10A	10A	46th Ave	Intersection with US Hwy 83	Intersection with Ward 19	-	-	-	-	-	-	-	-	-	-	-	-
10.05	No designation		46th Ave	Intersection with Ward 19	Intersection with Ward 12	-	-	-	-	-	-	-	-	-	-	-	-
11.01	Ward 11	11	184th St	Intersection with US Hwy 52	Intersection with Ward 6	-	-	-	-	-	-	-	-	-	-	-	-
12.01	Ward 12	12	22nd St	1 mile west of Ward 17	Intersection with Ward 17	-	-	-	-	-	-	-	-	-	-	-	-
12.02	Ward 12	12	4th Ave	Intersection with Ward 19	Intersection with 55th St	-	-	-	-	-	-	-	-	-	-	-	-
12.03	Ward 12	12	4th Ave	Intersection with 55th St	Intersection with US Hwy 2	-	-	-	-	-	-	-	-	-	-	-	-
12.04	Ward 12A	12	55th St	Intersection with Ward 14	Intersection with US Hwy 2	-	-	-	-	-	-	-	-	-	-	-	-
12.05	Ward 12A	12	55th St	Intersection with US Hwy 2	Intersection with 4th Ave	-	-	-	-	-	-	-	-	-	-	-	-
12.06	No designation		55th St	Intersection with 4th Ave	Intersection with 46th Ave	-	-	-	-	-	-	-	-	-	-	-	-
14.01	Ward 14	14	54th Ave	Intersection with 408thSt	Intersection with Ward 9	-	-	-	-	-	-	-	-	-	-	-	-
14.02	Ward 14	14	54th Ave	Intersection with Ward 9	Intersection with 62nd St	-	-	-	-	-	-	-	-	-	-	-	-
14.03	Ward 14	14	37th Ave	Intersection with 54th Ave	Intersection with US Hwy 83	1	-	-	-	-	1	-	-	-	1	-	-
14.04	Ward 14	14	54th Ave	Intersection with US Hwy 83	1 mile east of 13th St	-	-	-	-	-	-	-	-	-	-	-	-
14.05	Ward 14A	14	38th St	1 mile east of 13th St	Intersection with 37th Ave	-	-	-	-	-	-	-	-	-	-	-	-
14.06	Ward 14	14	37th St	Intersection with Ward 14A	Intersection with 72nd AVe Ave	-	-	-	-	-	-	-	-	-	-	-	-
14.07	Ward 14	14	72nd Ave	Intersection with 37th St	Intersection with 11th Ave	-	-	-	-	-	-	-	-	-	-	-	-
15.02	Ward 15	15	57th St	Intersection with US Hwy 83	Intersection with Ward 17	-	-	-	-	-	-	-	-	-	-	-	-
15.03	Ward 15	15	County Road 15 W	Intersection with Ward 17	Intersection with Ward 10	-	-	-	-	-	-	-	-	-	-	-	-
15.04	Ward 15	15	County Road 15 W	Intersection with Ward 10	1 mile South of 86th St	-	-	-	-	-	-	-	-	-	-	-	-
15.05	Ward 15	15	County Road 15 W	1 mile South of 86th St	Intersection with Ward 8	-	-	-	-	-	-	-	-	-	-	-	-
16.01	Ward 16	16	963rd Ave	Intersection with US Hwy 83	Intersection with US Hwy 52	-	-	-	-	-	-	-	-	-	-	-	-
16.02	Ward 16	16	79th Ave	Intersection with US Hwy 52	Intersection with 97th St	-	-	-	-	-	-	-	-	-	-	-	-
16.03	Ward 16	16	79th Ave	Intersection with 97th St	Intersection with 20th Ave	-	-	-	-	-	-	-	-	-	-	-	-
17.01	Ward 17	17	62nd St	Intersection with Ward 14	Intersection with US Hwy 2	-	-	-	-	-	-	-	-	-	-	-	-
17.02	Ward 17	17	54th St	Intersection with US Hwy 2	Intersection with Ward 15	-	-	-	-	-	-	-	-	-	-	-	-
19.01	Ward 19	19	27th St	Intersection with Ward 12	Intersection with Ward 8	-	-	1	-	-	1	-	-	-	1	-	-
20.01	Ward 20	20	205th Ave	Intersection with 380th St	Intersection with Ward 12	-	-	-	-	-	-	-	-	-	-	-	-
20.02	Ward 20	20	117th Ave	Intersection with Ward 12	Intersection with 142nd St	-	-	-	-	-	-	-	-	-	-	-	-
20.03	Ward 20	20	117th Ave	Intersection with 142nd St	Intersection with US Hwy 83	-	-	-	-	-	-	-	-	-	-	-	-
22.01	Ward 22	22	303rd Ave	Intersection with Ward 9	Intersection with Corona St	-	-	-	-	-	-	-	-	-	-	-	-
22.02	Ward 22	22	303rd Ave	Intersection with Corona St	Intersection with 142nd St	-	-	-	-	-	-	-	-	-	-	-	-
22.03	Ward 22	22	303rd Ave	Intersection with 142nd St	Intersection with US Hwy 83	-	-	-	-	-	-	-	-	-	-	-	-
23.01	Ward 23	23	21st Ave	Intersection with 373rd Ave	Intersection with state route 23	-	-	-	-	-	-	-	-	-	-	-	-
23.02	Ward 23	23	21st Ave	Intersection with state route 23	Intersection with US Hwy 53	-	-	-	-	-	-	-	-	-	-	-	-
23.03	Ward 23	23	153rd St	Quarter mile north of Dakota Ave	Intersection with US Hwy 2	-	-	-	-	-	-	-	-	-	-	-	-
23.04	Ward 23	23	153rd St	Intersection with US Hwy 2	Intersection with 66th St	1	-	-	-	-	-	1	-	-	1	-	-
24.01	Ward 24	24	359th Ave	Intersection with state route 28	Intersection with 142nd St	-	-	-	-	-	-	-	-	-	-	-	-
24.02	Ward 24	24	359th Ave	Intersection with 142nd St	Intersection with US Hwy 83	-	-	-	-	-	-	-	-	-	-	-	-
500.01	No designation		254th St	Intersection with State route 23	Intersection with Ward 20	-	-	-	-	-	-	-	-	-	-	-	-
501.01	No designation		Main St	Intersection with 373rd Ave	Intersection with Ward 24	-	-	-	-	-	-	-	-	-	-	-	-
501.02	No designation		142nd St	Intersection with Ward 24	Intersection with State route 22	-	-	-	-	-	-	-	-	-	-	-	-
501.03	No designation	NA	142nd St	Intersection with State route 22	Intersection with Ward 22	-	-	-	-	-	-	-	-	-	-	-	-
502.01	No designation		135th Ave	Intersection with US Hwy 83	Intersection with US Hwy 52	-	-	-	-	-	-	-	-	-	-	-	-
504.01	No designation		Conty Road 19 S	Intersection with US Hwy 52	Intersection with Ward 16	-	-	-	-	-	-	-	-	-	-	-	-
504.02	No designation		Conty Road 19 S	Intersection with Ward 16	Intersection with US Hwy 52	-	-	-	-	-	-	-	-	-	-	-	-
504.03	No designation		Conty Road 19 S	Intersection with US Hwy 52	Intersection with Ward 14	-	-	-	-	-	-	-	-	-	-	-	-

Ward County

Rural Segment Listing

*High Priority Segments Project Sheet Page Number

Project Sheet Page*	Corridor	Route	#	Start	End	Length (miles)	Lane Departure Crashes	ADT	Lane Departure Density	Access Density	Curves w/ Critical Radius / Mile	Edge Risk Assesment
2	1.01	Ward 1	1	State Route 50	436th Ave	8.8	2	309	0.05	8.1	0.45	1
	2.01	Ward 2	2	72nd Ave	450thAve	2.0	0	145	0.00	7.1	1.01	1
12	2.02	Ward 2	2	590th ST	Ward 1	5.8	1	395	0.03	5.9	1.21	1
	2.04	Ward 2	2	US Hwy 52	Ward 3	4.5	0	430	0.00	8.7	0.22	1
	2.05	Ward 2	2	Ward 3	52nd Ave	5.0	0	230	0.00	6.2	0.00	1
	5.02	Ward 5	5	240th Ave	US Hwy 52	2.0	0	115	0.00	3.6	1.54	2
5	5.03	Ward 5	5	US Hwy 52	Ward 7	1.8	0	80	0.00	11.4	3.42	2
	6.02	Ward 6	6	1 mile to city of carpio	State Route 28	1.8	0	60	0.00	5.1	3.40	1
4	8.01	Ward 8	8	US Hwy 52	US Hwy 83	12.9	0	174	0.00	5.3	0.39	2
	8.02	Ward 8	8	US Hwy 83	Ward 23	10.9	2	617	0.04	5.0	0.00	1
	9.01	Ward 9	9	373rd Ave	State Route 23	8.0	0	288	0.00	6.2	0.00	1
15	9.03	Ward 9	9	State Route 23	Ward 14	15.5	3	328	0.04	4.6	0.45	1
	9.04	Ward 9	9	Ward 14	US Hwy 2	10.0	1	121	0.02	7.1	0.00	1
	10.01	Ward 10	10	Ward 9	Granly St	10.7	1	263	0.02	5.2	1.02	1
9	10.02	Ward 10	10	Granly St	US Hwy 2	7.6	7	671	0.18	9.9	1.32	1
	10.03	Ward 10	10	Ward 15	US Hwy 83	4.8	2	457	0.08	6.0	0.42	1
	10.04	Ward 10A	10A	US Hwy 83	Ward 19	2.0	1	1,793	0.10	11.1	0.00	1
	11.01	Ward 11	11	US Hwy 52	Ward 6	4.9	0	1,680	0.00	5.3	0.20	1
	12.02	Ward 12	12	Ward 19	55th St	2.0	1	3,190	0.10	8.0	0.00	1
8	12.03	Ward 12	12	55th St	US Hwy 2	4.1	3	1,204	0.15	14.2	0.49	1
14	14.02	Ward 14	14	Ward 9	62nd St	17.8	6	210	0.07	4.3	0.06	1
10	14.04	Ward 14	14	US Hwy 83	1 mile east of 13th St	2.1	1	548	0.09	16.4	2.35	1
6	15.02	Ward 15	15	US Hwy 83	Ward 17	2.2	8	4,010	0.72	10.8	0.45	1
1	15.03	Ward 15	15	Ward 17	Ward 10	2.8	2	2,510	0.14	12.0	1.45	2
11	15.04	Ward 15	15	Ward 10	1 mile South of 86th St	2.2	2	520	0.19	15.3	3.25	1
7	17.02	Ward 17	17	US Hwy 2	Ward 15	1.3	1	1,575	0.16	14.0	4.67	1
	19.01	Ward 19	19	Ward 12	Ward 8	9.1	8	1,279	0.18	5.5	0.00	1
	20.03	Ward 20	20	142nd St	US Hwy 83	10.0	1	302	0.02	4.5	0.30	1
	22.01	Ward 22	22	Ward 9	Corona St	6.4	1	163	0.03	7.5	0.00	1
	23.01	Ward 23	23	373rd Ave	State Route 23	9.3	0	141	0.00	4.9	0.65	1
	23.02	Ward 23	23	State Route 23	US Hwy 53	7.7	1	362	0.03	4.0	0.65	1
13	23.04	Ward 23	23	US Hwy 2	66th St	9.1	4	310	0.09	6.9	0.22	1
	24.01	Ward 24	24	State Route 28	142nd St	8.3	1	178	0.02	5.7	0.24	1
3	24.02	Ward 24	24	142nd St	US Hwy 83	9.7	1	283	0.02	6.3	0.21	2
	501.03	No designation	NA	State Route 22	Ward 22	5.1	0	85	0.00	4.1	0.40	2
						228.2	61					

Edge Risk Legend

3 -- Risky' - NEITHER shoulder or good clear zone
2 -- Either a shoulder OR good clear zone
1 -- BOTH shoulder and a good clear zone

Critical ADT Range - Lane Departure	
Min	150
Max	400

	Access	Lane Departure	Critical Radius Curves
Total	3758	61	69
Total Mileage	228.2	228.2	228.2
Years		5	
Average Density (Total/Mile)	**16.5**	**0.05**	**0.30**

Ward County
Rural Segment Prioritization - Lane Departure Priority

#	Corridor	Route	#	Start	End	Length	ADT	ADT Range	Lane Departure Density	Access Density	Curve Critical Radius Density	Edge Risk	Totals	Tiebreakers: Edge Risk	Tiebreakers: ADT
1	15.03	Ward 15	15	Ward 17	Ward 10	2.8	2,510		★	★	★	★	★★★★	2	2,510
2	1.01	Ward 1	1	State Route 50	436th Ave	8.8	309	★	★	★	★		★★★★	1	309
3	24.02	Ward 24	24	142nd St	US Hwy 83	9.7	283	★			★	★	★★★	2	283
4	8.01	Ward 8	8	US Hwy 52	US Hwy 83	12.9	174	★			★	★	★★★	2	174
5	5.03	Ward 5	5	US Hwy 52	Ward 7	1.8	80			★	★	★	★★★	2	80
6	15.02	Ward 15	15	US Hwy 83	Ward 17	2.2	4,010		★	★	★		★★★	1	4,010
7	17.02	Ward 17	17	US Hwy 2	Ward 15	1.3	1,575		★	★	★		★★★	1	1,575
8	12.03	Ward 12	12	55th St	US Hwy 2	4.1	1,204		★	★	★		★★★	1	1,204
9	10.02	Ward 10	10	Granly St	US Hwy 2	7.6	671		★	★	★		★★★	1	671
10	14.04	Ward 14	14	US Hwy 83	1 mile east of 13th St	2.1	548		★	★	★		★★★	1	548
11	15.04	Ward 15	15	Ward 10	1 mile South of 86th St	2.2	520		★	★	★		★★★	1	520
12	2.02	Ward 2	2	590th ST	Ward 1	5.8	395	★	★		★		★★★	1	395
13	9.03	Ward 9	9	State Route 23	Ward 14	15.5	328	★	★		★		★★★	1	328
14	23.04	Ward 23	23	US Hwy 2	66th St	9.1	310	★	★		★		★★★	1	310
15	14.02	Ward 14	14	Ward 9	62nd St	17.8	210	★	★		★		★★★	1	210
16	5.02	Ward 5	5	240th Ave	US Hwy 52	2.0	115				★	★	★★	2	115
17	501.03	No designation	NA	State Route 22	Ward 22	5.1	85				★	★	★★	2	85
18	10.04	Ward 10A	10A	US Hwy 83	Ward 19	2.0	1,793		★	★			★★	1	1,793
19	10.03	Ward 10	10	Ward 15	US Hwy 83	4.8	457		★		★		★★	1	457
20	2.04	Ward 2	2	US Hwy 52	Ward 3	4.5	430			★	★		★★	1	430
21	23.02	Ward 23	23	State Route 23	US Hwy 53	7.7	362	★			★		★★	1	362
22	20.03	Ward 20	20	142nd St	US Hwy 83	10.0	302	★			★		★★	1	302
23	10.01	Ward 10	10	Ward 9	Granly St	10.7	263	★			★		★★	1	263
24	24.01	Ward 24	24	State Route 28	142nd St	8.3	178	★			★		★★	1	178
25	12.02	Ward 12	12	Ward 19	55th St	2.0	3,190		★				★	1	3,190
26	11.01	Ward 11	11	US Hwy 52	Ward 6	4.9	1,680				★		★	1	1,680
27	19.01	Ward 19	19	Ward 12	Ward 8	9.1	1,279		★				★	1	1,279
28	8.02	Ward 8	8	US Hwy 83	Ward 23	10.9	617		★				★	1	617
29	9.01	Ward 9	9	373rd Ave	State Route 23	8.0	288	★					★	1	288
30	2.05	Ward 2	2	Ward 3	52nd Ave	5.0	230	★					★	1	230
31	22.01	Ward 22	22	Ward 9	Corona St	6.4	163	★					★	1	163
32	2.01	Ward 2	2	72nd Ave	450thAve	2.0	145				★		★	1	145
33	23.01	Ward 23	23	373rd Ave	State Route 23	9.3	141				★		★	1	141
34	6.02	Ward 6	6	1 mile to city of carpio	State Route 28	1.8	60				★		★	1	60
35	9.04	Ward 9	9	Ward 14	US Hwy 2	10.0	121							1	121
							Total Stars --	14	17	11	27	6			
							% That Gets Star --	40%	49%	31%	77%	17%			

	#	%	Mileage	%
★★★★★	0	0%	0.0	0%
★★★★	2	6%	11.6	5%
★★★	13	37%	92.1	40%
★★	9	26%	55.1	24%
★	10	29%	59.4	26%
	1	3%	10.0	4%
	35	100%	228.2	100%

Stars	
ADT Range -	If segment has an ADT in the range of most at risk ADT based on ATP totals. (> 150)
Lane Departure Density -	If segment has higher lane departure density than the county average (0.05).
Access Density	If segment has access density than the county average (16.5).
Curve Critical Radius Density -	If segment has higher density of curves with critical radius than the county average (0.3).
Edge Risk Assessment -	Edge risk of 2 or 3, based on assessment of roadway edge and clear zone.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 15 (County Road 15 W) from Ward 17 to Ward 10

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Ward 17
End: Ward 10
Facility Type: 2-Lane
ADT: 2510
Road Type: Rural Paved
County Road: Ward 15
Local Name: County Road 15 W

Lane Width: 12'
Speed Limit: High
Shoulder Width: 6'
Shoulder Type: Paved
Length (miles): 2.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	12	2	1
Density (per mile per year)	0.86	0.14	0.07
Rate (per MVM)	0.94	0.16	0.08

	Value	Critical	Road
ADT Range	2,510	150≤ADT≤400	
RD Density	0.145	0.032	★
Access Density	12.0	8.0	★
Curve Critical Radius Density	1.449	0.035	★
Edge Risk	2	2 or 3	★
			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	2.8	$9,800	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	2.8	$8,400	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$16,380
Local Match (10% of Total project cost)	$1,820
Total Project Cost	**$18,200**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 1
Segment ID: 15.03
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 1 (534th St) from State Route 50 to 436th Ave

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: State Route 50
End: 436th Ave
Facility Type: 2-Lane
ADT: 309
Road Type: Rural Paved
County Road: Ward 1
Local Name: 534th St

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 8.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	4	2	0
Density (per mile per year)	0.09	0.05	0.00
Rate (per MVM)	0.81	0.40	0.00

	Value	Critical	Road
ADT Range	309	150≤ADT≤400	★
RD Density	0.045	0.032	★
Access Density	8.1	8.0	★
Curve Critical Radius Density	0.453	0.035	★
Edge Risk	1	2 or 3	
			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	8.8	$30,800	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$27,720
Local Match (10% of Total project cost)	$3,080
Total Project Cost	**$30,800**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 24 (359th Ave) from 142nd St to US Hwy 83

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: 142nd St
End: US Hwy 83
Facility Type: 2-Lane
ADT: 283
Road Type: Rural Paved
County Road: Ward 24
Local Name: 359th Ave

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 9.7
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	4	1	0
Density (per mile per year)	0.08	0.02	0.00
Rate (per MVM)	0.80	0.20	0.00

	Value	Critical	Road
ADT Range	283	150≤ADT≤400	★
RD Density	0.021	0.032	
Access Density	6.3	8.0	
Curve Critical Radius Density	0.206	0.035	★
Edge Risk	2	2 or 3	★
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	9.7	$33,950	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$30,555
Local Match (10% of Total project cost)	$3,395
Total Project Cost	**$33,950**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 8 (128th Ave) from US Hwy 52 to US Hwy 83

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: US Hwy 52
End: US Hwy 83
Facility Type: 2-Lane
ADT: 174
Road Type: Rural Paved
County Road: Ward 8
Local Name: 128th Ave

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 12.9
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	4	0	0
Density (per mile per year)	0.06	0.00	0.00
Rate (per MVM)	0.98	0.00	0.00

	Value	Critical	Road
ADT Range	174	150≤ADT≤400	★
RD Density	0.000	0.032	
Access Density	5.3	8.0	
Curve Critical Radius Density	0.388	0.035	★
Edge Risk	2	2 or 3	★
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	12.9	$38,700	
Edge Line Rumble Strip	Proactive	$3,500	0.0	$0	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$34,830
Local Match (10% of Total project cost)	$3,870
Total Project Cost	**$38,700**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 5 (Main St) from US Hwy 52 to Ward 7

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: US Hwy 52
End: Ward 7
Facility Type: 2-Lane
ADT: 80
Road Type: Rural Paved
County Road: Ward 5
Local Name: Main St

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 1.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	0	0	0
Density (per mile per year)	0.00	0.00	0.00
Rate (per MVM)	0.00	0.00	0.00

	Value	Critical	Road
ADT Range	80	150≤ADT≤400	
RD Density	0.000	0.032	
Access Density	11.4	8.0	★
Curve Critical Radius Density	3.418	0.035	★
Edge Risk	2	2 or 3	★
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	1.8	$1,170	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	0.0	$0	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$1,053
Local Match (10% of Total project cost)	$117
Total Project Cost	**$1,170**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 15 (57th St) from US Hwy 83 to Ward 17

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: US Hwy 83
End: Ward 17
Facility Type: 2-Lane
ADT: 4010
Road Type: Rural Paved
County Road: Ward 15
Local Name: 57th St

Lane Width: 12'
Speed Limit: High
Shoulder Width: 4'
Shoulder Type: Composite
Length (miles): 2.2
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	19	8	0
Density (per mile per year)	1.73	0.73	0.00
Rate (per MVM)	1.18	0.50	0.00

	Value	Critical	Road
ADT Range	4,010	150≤ADT≤400	
RD Density	0.719	0.032	★
Access Density	10.8	8.0	★
Curve Critical Radius Density	0.449	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	2.2	$7,700	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	2.2	$6,600	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$12,870
Local Match (10% of Total project cost)	$1,430
Total Project Cost	**$14,300**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 17 (54th St) from US Hwy 2 to Ward 15

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: US Hwy 2
End: Ward 15
Facility Type: 2-Lane
ADT: 1575
Road Type: Rural Paved
County Road: Ward 17
Local Name: 54th St

Lane Width: 12'
Speed Limit: High
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 1.3
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	1	1	0
Density (per mile per year)	0.15	0.15	0.00
Rate (per MVM)	0.27	0.27	0.00

	Value	Critical	Road
ADT Range	1,575	150≤ADT≤400	
RD Density	0.156	0.032	★
Access Density	14.0	8.0	★
Curve Critical Radius Density	4.674	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	1.3	$4,550	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	1.3	$3,900	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$7,605
Local Match (10% of Total project cost)	$845
Total Project Cost	**$8,450**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 12 (4th Ave) from 55th St to US Hwy 2

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: 55th St
End: US Hwy 2
Facility Type: 2-Lane
ADT: 1204
Road Type: Rural Paved
County Road: Ward 12
Local Name: 4th Ave

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 4.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	5	2	0
Density (per mile per year)	0.24	0.10	0.00
Rate (per MVM)	0.56	0.22	0.00

	Value	Critical	Road
ADT Range	1,204	150≤ADT≤400	
RD Density	0.147	0.032	★
Access Density	14.2	8.0	★
Curve Critical Radius Density	0.489	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	4.1	$12,300	
Edge Line Rumble Strip	Proactive	$3,500	0.0	$0	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	4.1	$12,300	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$22,140
Local Match (10% of Total project cost)	$2,460
Total Project Cost	**$24,600**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 10 (19th Ave) from Granly St to US Hwy 2

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Granly St
End: US Hwy 2
Facility Type: 2-Lane
ADT: 671
Road Type: Rural Paved
County Road: Ward 10
Local Name: 19th Ave

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 7.6
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	19	6	0
Density (per mile per year)	0.50	0.16	0.00
Rate (per MVM)	2.04	0.64	0.00

	Value	Critical	Road
ADT Range	671	150≤ADT≤400	
RD Density	0.184	0.032	★
Access Density	9.9	8.0	★
Curve Critical Radius Density	1.316	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	7.6	$22,800	
Edge Line Rumble Strip	Proactive	$3,500	0.0	$0	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$20,520
Local Match (10% of Total project cost)	$2,280
Total Project Cost	**$22,800**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 14 (54th Ave) from US Hwy 83 to 1 mile east of 13th St

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: US Hwy 83
End: 1 mile east of 13th St
Facility Type: 2-Lane
ADT: 548
Road Type: Rural Paved
County Road: Ward 14
Local Name: 54th Ave

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Composite
Length (miles): 2.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	4	1	0
Density (per mile per year)	0.38	0.10	0.00
Rate (per MVM)	1.91	0.48	0.00

	Value	Critical	Road
ADT Range	548	150≤ADT≤400	
RD Density	0.094	0.032	★
Access Density	16.4	8.0	★
Curve Critical Radius Density	2.347	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	2.1	$7,350	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$6,615
Local Match (10% of Total project cost)	$735
Total Project Cost	**$7,350**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 15 (County Road 15 W) from Ward 10 to 1 mile South of 86th St

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start:	Ward 10	Lane Width:	12'
End:	1 mile South of 86th St	Speed Limit:	High
Facility Type:	2-Lane	Shoulder Width:	2'
ADT:	520	Shoulder Type:	Paved
Road Type:	Rural Paved	Length (miles):	2.2
County Road:	Ward 15	Rumble Installed:	No
Local Name:	County Road 15 W		

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	5	2	0
Density (per mile per year)	0.45	0.18	0.00
Rate (per MVM)	2.39	0.96	0.00

	Value	Critical	Road
ADT Range	520	150≤ADT≤400	
RD Density	0.186	0.032	★
Access Density	15.3	8.0	★
Curve Critical Radius Density	3.249	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	2.2	$7,700	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$6,930
Local Match (10% of Total project cost)	$770
Total Project Cost	**$7,700**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 2 (436th Ave) from 590th ST to Ward 1

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: 590th ST
End: Ward 1
Facility Type: 2-Lane
ADT: 395
Road Type: Rural Paved
County Road: Ward 2
Local Name: 436th Ave

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 5.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	2	1	0
Density (per mile per year)	0.07	0.03	0.00
Rate (per MVM)	0.48	0.24	0.00

	Value	Critical	Road
ADT Range	395	150≤ADT≤400	★
RD Density	0.035	0.032	★
Access Density	5.9	8.0	
Curve Critical Radius Density	1.208	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	5.8	$17,400	
Edge Line Rumble Strip	Proactive	$3,500	0.0	$0	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$15,660
Local Match (10% of Total project cost)	$1,740
Total Project Cost	**$17,400**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 23 (153rd St) from US Hwy 2 to 66th St

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: US Hwy 2
End: 66th St
Facility Type: 2-Lane
ADT: 310
Road Type: Rural Paved
County Road: Ward 23
Local Name: 153rd St

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 9.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	12	4	1
Density (per mile per year)	0.26	0.09	0.02
Rate (per MVM)	2.33	0.78	0.19

	Value	Critical	Road
ADT Range	310	150≤ADT≤400	★
RD Density	0.088	0.032	★
Access Density	6.9	8.0	
Curve Critical Radius Density	0.220	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	9.1	$31,850	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$28,665
Local Match (10% of Total project cost)	$3,185
Total Project Cost	**$31,850**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 13
Segment ID: 23.04
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 14 (54th Ave) from Ward 9 to 62nd St

Agency Name: Ward County **ND DOT District: 4**

Contact Name: Dana Larsen **Telephone Number: 701-838-2810**

Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: Ward 9
End: 62nd St
Facility Type: 2-Lane
ADT: 210
Road Type: Rural Paved
County Road: Ward 14
Local Name: 54th Ave

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 17.8
Rumble Installed: Yes

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	14	6	0
Density (per mile per year)	0.16	0.07	0.00
Rate (per MVM)	2.05	0.88	0.00

	Value	Critical	Road
ADT Range	210	150≤ADT≤400	★
RD Density	0.067	0.032	★
Access Density	4.3	8.0	
Curve Critical Radius Density	0.056	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	0.0	$0	
Edge Line Rumble Strip	Proactive	$3,500	17.8	$62,300	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$56,070
Local Match (10% of Total project cost)	$6,230
Total Project Cost	**$62,300**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 14
Segment ID: 14.02
Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Ward 9 (310th St/338th St) from State Route 23 to Ward 14

Agency Name: Ward County
ND DOT District: 4
Contact Name: Dana Larsen
Telephone Number: 701-838-2810
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Start: State Route 23
End: Ward 14
Facility Type: 2-Lane
ADT: 328
Road Type: Rural Paved
County Road: Ward 9
Local Name: 310th St/338th St

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 15.5
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

	Total	Road Dept	K+A
Crashes	7	2	0
Density (per mile per year)	0.09	0.03	0.00
Rate (per MVM)	0.79	0.22	0.00

	Value	Critical	Road
ADT Range	328	150≤ADT≤400	★
RD Density	0.040	0.032	★
Access Density	4.8	8.0	
Curve Critical Radius Density	0.470	0.035	★
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	$400	0.0	$0	
6" Edge Lines	Proactive	$650	0.0	$0	
Shoulder Rumble Strip	Proactive	$3,000	15.5	$46,500	
Edge Line Rumble Strip	Proactive	$3,500	0.0	$0	
Ground In Wet-Reflective Markings	Proactive	$8,500	0.0	$0	
Center Line Rumble Strip	Proactive	$3,000	0.0	$0	
6" Center Line	Proactive	$650	0.0	$0	

Project Cost Estimate (attach detailed copy)

Federal Funds	$40,230
Local Match (10% of Total project cost)	$4,470
Total Project Cost	**$46,500**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Segment ID: 9.03
Date: 11/13/2013

Ward County Rural Curve Projects

Corridor	Local Street Name	Start	End	# of Curves	Cost
1.01	534th St	State Route 50	436th Ave	1	$ 5,265
2.02	436th Ave	590th ST	Ward 11	1	$ 4,209
5.03	Main St	US Hwy 52	Ward 7	6	$ 25,727
6.03	198th Ave	State Route 28	Reneville 6	1	$ 3,755
8.01	128th Ave	US Hwy 52	US Hwy 83	1	$ 6,373
9.03	310th St	Ward 20	Ward 14	0	$ 1,818
10.01	184th St	Ward 9	Granly St	0	$ 1,364
10.02	19th Ave	Granly St	US Hwy 2	4	$ 17,745
10.03	60 th St	Ward 15	US Hwy 83	0	$ 1,364
12.03	4th Ave	55th St	US Hwy 2	2	$ 9,109
14.04	54th Ave	US Hwy 83	1 mile east of 13th St	5	$ 8,873
14.06	37th St	Ward 14A	72nd AVe Ave	1	$ 4,555
15.04	County Road 15 W	Ward 10	1 mile South of 86th St	1	$ 5,118
17.01	62nd St	Ward 14	US Hwy 2	1	$ 5,464
17.02	54th St	US Hwy 2	Ward 15	0	$ 2,727
23.02	21st Ave	State Route 23	US Hwy 53	1	$ 4,555
501.03	142nd St	State Route 22	Ward 22	1	$ 1,255
				26	**$ 109,276**

Ward County Curves

Curve Count	ID	Corridor	Segment	Start	End	Inside				Outside							Crashes							Risk Factors					
						Paved Shoulder Width	Gravel Shoulder Width	Curb & Gutter	Shoulder Type	Paved Shoulder Width	Gravel Shoulder Width	Curb & Gutter	Shoulder Type	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Total	Total Severe	K	A	B	C	PDO	Radius (ft)	Severe Crash	ADT	Intersection on Curve	Visual Trap	Risk Ranking
1	001A	1.01	Ward 1	Intersection with state route 50	Intersection with 436th Ave	0	0	0	None	0	0	0	None	Yes	Yes	No	-	-	-	-	-	-	-	850	No	309	Yes	Yes	★★★★
2	001B	1.01	Ward 1	Intersection with state route 50	Intersection with 436th Ave	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	1000	No	309	No	No	★★
3	001C	1.01	Ward 1	Intersection with state route 50	Intersection with 436th Ave	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	1700	No	309	No	No	★
4	001D	1.01	Ward 1	Intersection with state route 50	Intersection with 436th Ave	0	0	0	None	0	0	0	None	Yes	No	No	1	-	-	-	1	-	-	770	No	309	No	No	★★
5	002A	2.01	Ward 2	Intersection with 72nd Ave	Intersection with 450thAve	0	0	0	None	0	0	0	None	No	No	No	-	-	-	-	-	-	-	2900	No	145	Yes	No	★
6	002B	2.01	Ward 2	Intersection with 72nd Ave	Intersection with 450thAve	0	0	0	None	0	0	0	None	No	No	No	-	-	-	-	-	-	-	1300	No	145	No	No	
7	002C	2.02	Ward 2	Intersection with 590th ST	Intersection with Ward 11	2	0	0	Paved	2	0	0	Paved	No	No	No	1	-	-	-	-	-	1	1500	No	395	No	No	★
8	002D	2.02	Ward 2	Intersection with 590th ST	Intersection with Ward 11	2	0	0	Paved	2	0	0	Paved	Yes	No	No	3	-	-	-	-	-	3	2800	No	395	Yes	No	★★
9	002E	2.02	Ward 2	Intersection with 590th ST	Intersection with Ward 11	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1600	No	395	No	No	★
10	002F	2.02	Ward 2	Intersection with 590th ST	Intersection with Ward 11	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	1	-	-	-	-	-	1	1900	No	395	No	No	★
11	002G	2.02	Ward 2	Intersection with 590th ST	Intersection with Ward 11	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	-	-	-	-	-	-	-	1500	No	395	No	No	★
12	002H	2.02	Ward 2	Intersection with 590th ST	Intersection with Ward 11	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	-	-	-	-	-	-	-	760	No	395	No	No	★★
13	002I	2.02	Ward 2	Intersection with 590th ST	Intersection with Ward 11	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	2	-	-	-	2	-	-	800	No	395	Yes	Yes	★★★★
14	002J	2.03	Ward 2	Intersection with Ward 1	Intersection with US Hwy 52	0	4	0	Gravel	0	4	0	Gravel	No	No	No	-	-	-	-	-	-	-	1400	No	1230	Yes	No	★
15	002K	2.04	Ward 2	Intersection with US Hwy 52	Intersection with Ward 3	2	0	0	Paved	2	0	0	Paved	No	No	No	-	-	-	-	-	-	-	320	No	430	No	No	★
16	005A	5.02	Ward 5	Intersection with 240th Ave	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved	Yes	No	Yes	-	-	-	-	-	-	-	1300	No	115	No	No	
17	005B	5.02	Ward 5	Intersection with 240th Ave	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1150	No	115	Yes	No	★★
18	005C	5.02	Ward 5	Intersection with 240th Ave	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1600	No	115	No	No	
19	005D	5.03	Ward 5	Intersection with US Hwy 52	Intersection with Ward 7	2	0	0	Paved	2	0	0	Paved	No	No	No	-	-	-	-	-	-	-	700	No	80	Yes	No	★★
20	005E	5.03	Ward 5	Intersection with US Hwy 52	Intersection with Ward 7	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	450	No	80	No	No	
21	005F	5.03	Ward 5	Intersection with US Hwy 52	Intersection with Ward 7	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1200	No	80	No	No	★
22	005G	5.03	Ward 5	Intersection with US Hwy 52	Intersection with Ward 7	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1000	No	80	No	No	★
23	005H	5.03	Ward 5	Intersection with US Hwy 52	Intersection with Ward 7	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1700	No	80	No	No	
24	005I	5.03	Ward 5	Intersection with US Hwy 52	Intersection with Ward 7	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1000	No	80	No	No	★
25	006A	6.02	Ward 6	1 mile to city of carpio	Intersection with state route 28	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1100	No	60	No	No	★
26	006B	6.02	Ward 6	1 mile to city of carpio	Intersection with state route 28	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1120	No	60	No	No	★
27	006C	6.02	Ward 6	1 mile to city of carpio	Intersection with state route 28	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	790	No	60	No	No	★
28	006D	6.02	Ward 6	1 mile to city of carpio	Intersection with state route 28	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1050	No	60	No	No	★
29	006E	6.02	Ward 6	1 mile to city of carpio	Intersection with state route 28	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	2200	No	60	No	No	
30	006F	6.02	Ward 6	1 mile to city of carpio	Intersection with state route 28	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	850	No	60	No	No	★
31	006G	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	No	No	No	-	-	-	-	-	-	-	1120	No	218	Yes	Yes	★★★
32	006H	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	No	No	No	-	-	-	-	-	-	-	870	No	218	No	No	★
33	006I	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	1050	No	218	No	No	★
34	006J	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	1200	No	218	No	No	★
35	006K	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	2700	No	218	Yes	No	★
36	006L	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	1	-	-	-	-	-	1	1500	No	218	Yes	No	★
37	006M	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	1350	No	218	No	No	
38	006N	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	Yes	No	-	-	-	-	-	-	-	140	No	218	No	No	
39	006O	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	700	No	218	No	Yes	★★
40	006P	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	1	-	-	-	-	-	1	1250	No	218	No	No	
41	006Q	6.03	Ward 6	Intersection with state route 28	Intersection with Reneville 6	0	0	0	None	0	0	0	None	Yes	No	No	-	-	-	-	-	-	-	1000	No	218	Yes	No	★★
42	008A	8.01	Ward 8	Intersection with US Hwy 52	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	No	No	No	-	-	-	-	-	-	-	670	No	174	Yes	No	★★
43	008B	8.01	Ward 8	Intersection with US Hwy 52	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	No	No	No	-	-	-	-	-	-	-	500	No	174	Yes	No	★★
44	008C	8.01	Ward 8	Intersection with US Hwy 52	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1000	No	174	Yes	No	★★
45	008D	8.01	Ward 8	Intersection with US Hwy 52	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	250	No	174	Yes	Yes	★★
46	008E	8.01	Ward 8	Intersection with US Hwy 52	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1900	No	174	No	No	
47	009A	9.02	Ward 9	Intersection with state route 23	Intersection with Ward 20	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	-	-	-	-	-	-	-	840	No	675	Yes	Yes	★★★
48	009B	9.03	Ward 9	Intersection with Ward 20	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	850	No	157	Yes	Yes	★★★
49	009C	9.03	Ward 9	Intersection with Ward 20	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				1	-	-	-	-	-	1	1100	No	157	No	No	★
50	009D	9.03	Ward 9	Intersection with Ward 20	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1200	No	157	Yes	Yes	★★★
51	009E	9.03	Ward 9	Intersection with Ward 20	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1400	No	157	No	No	
52	009F	9.03	Ward 9	Intersection with Ward 20	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1060	No	157	No	No	★
53	009G	9.03	Ward 9	Intersection with Ward 20	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				2	-	-	-	-	1	1	1120	No	157	No	No	★
54	010A	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	380	No	263	No	Yes	★★
55	010B	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	2	-	-	-	-	-	2	900	No	263	No	No	★★
56	010C	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1000	No	263	No	No	★★
57	010D	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	1	1	-	1	-	-	-	950	Yes	263	No	No	★★★
58	010E	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1200	No	263	No	No	★★
59	010F	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	1	-	-	-	-	-	1	730	No	263	No	No	★★
60	010G	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	1	-	-	-	-	-	1	750	No	263	Yes	Yes	★★★★
61	010H	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1100	No	263	No	Yes	★★★
62	010I	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	570	No	263	Yes	No	★★★
63	010J	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	690	No	263	No	No	★★
64	010K	10.01	Ward 10	Intersection with Ward 9	Intersection with Granly St	4	0	0	Paved	4	0	0	Paved	No	No	No	-	-	-	-	-	-	-	1600	No	263	No	No	★
65	010L	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	Yes	-	-	-	-	-	-	-	600	No	671	No	No	★
66	010M	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	Yes	-	-	-	-	-	-	-	550	No	671	Yes	Yes	★★★
67	010N	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	No	No	No	1	-	-	-	-	-	1	1500	No	671	No	No	
68	010O	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1800	No	671	No	No	
69	010P	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	1700	No	671	No	No	
70	010Q	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	3400	No	671	Yes	No	★
71	010R	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	No	-	-	-	-	-	-	-	2400	No	671	No	No	
72	010S	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	No	1	-	-	-	-	-	1	3000	No	671	Yes	No	★
73	010T	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	No	3	-	-	-	-	-	3	1300	No	671	No	No	
74	010U	10.02	Ward 10	Intersection with Granly St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	Yes	No	No	2	-	-	-	-	-	2	1450	No	671	Yes	No	★

Ward County Curves

Curve Count	ID	Corridor	Segment	Start	End	Inside				Outside				Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes							Risk Factors					Risk Ranking
						Paved Shoulder Width	Gravel Shoulder Width	Curb & Gutter	Shoulder Type	Paved Shoulder Width	Gravel Shoulder Width	Curb & Gutter	Shoulder Type				Total	Total Severe	K	A	B	C	PDO	Radius (ft)	Severe Crash	ADT	Intersection on Curve	Visual Trap	
75	010V	10.03	Ward 10	Intersection with Ward 15	Intersection with US Hwy 83	8	0	0	Paved	8	0	0	Paved	Yes	Yes	No	1	-	-	-	-	-	1	820	No	457	No	Yes	★★★
76	010W	10.03	Ward 10	Intersection with Ward 15	Intersection with US Hwy 83	8	0	0	Paved	8	0	0	Paved	No	No	Yes	2	1	-	1	-	-	1	850	Yes	457	No	No	★★★
77	010X	10.03	Ward 10	Intersection with Ward 15	Intersection with US Hwy 83	8	0	0	Paved	8	0	0	Paved	No	No	Yes	1	1	1	-	-	-	-	320	Yes	457	No	No	★★
78	011A	11.01	Ward 11	Intersection with US Hwy 52	Intersection with Ward 6	0	0	0	None	0	0	0	None	No	No	No	-	-	-	-	-	-	-	220	No	1680	Yes	No	★
79	011B	11.01	Ward 11	Intersection with US Hwy 52	Intersection with Ward 6	0	0	0	None	0	0	0	None	Yes	No	No	2	-	-	-	-	-	2	1300	No	1680	No	No	
80	012A	12.01	Ward 12	1 mile west of Ward 17	Intersection with Ward 17	4	0	0	Paved	4	0	0	Paved	Yes	Yes	No	1	-	-	-	-	-	1	440	No	260	No	No	★
81	012B	12.01	Ward 12	1 mile west of Ward 17	Intersection with Ward 17	4	0	0	Paved	4	0	0	Paved	Yes	No	No	5	-	-	-	-	1	4	2000	No	260	No	No	★
82	012C	12.03	Ward 12	Intersection with 55th St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	No	No	No	1	-	-	-	-	-	1	70	No	1204	Yes	Yes	★★
83	012D	12.03	Ward 12	Intersection with 55th St	Intersection with US Hwy 2	2	0	0	Paved	2	0	0	Paved	No	No	No	3	-	-	-	-	-	3	170	No	1204	No	No	
84	014A	14.02	Ward 14	Intersection with Ward 9	Intersection with 62nd St	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	1	-	-	-	-	-	1	820	No	210	No	Yes	★★
85	014B	14.03	Ward 14	Intersection with 54th Ave	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	1	-	-	-	-	-	1	840	No	1010	Yes	Yes	★★★
86	014C	14.03	Ward 14	Intersection with 54th Ave	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	No	No	No	-	-	-	-	-	-	-	1000	No	1010	Yes	No	★★
87	014D	14.03	Ward 14	Intersection with 54th Ave	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	No	No	No	-	-	-	-	-	-	-	330	No	1010	No	No	
88	014E	14.03	Ward 14	Intersection with 54th Ave	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved	No	No	No	2	-	-	-	-	-	2	620	No	1010	No	No	★
89	014F	14.04	Ward 14	Intersection with US Hwy 83	1 mile east of 13th St	1	1	0	Composite	1	1	0	Composite	Yes	No	Yes	1	-	-	-	-	-	1	180	No	548	No	Yes	★★
90	014G	14.04	Ward 14	Intersection with US Hwy 83	1 mile east of 13th St	1	1	0	Composite	1	1	0	Composite	Yes	No	No	-	-	-	-	-	-	-	300	No	548	No	No	★
91	014H	14.04	Ward 14	Intersection with US Hwy 83	1 mile east of 13th St	1	1	0	Composite	1	1	0	Composite	Yes	Yes	No	2	-	-	-	-	-	2	1400	No	548	No	No	★
92	014I	14.04	Ward 14	Intersection with US Hwy 83	1 mile east of 13th St	1	1	0	Composite	1	1	0	Composite	Yes	Yes	No	3	-	-	-	2	-	1	1200	No	548	No	No	★★
93	014J	14.04	Ward 14	Intersection with US Hwy 83	1 mile east of 13th St	1	1	0	Composite	1	1	0	Composite	Yes	Yes	Yes	-	-	-	-	-	-	-	330	No	548	No	No	★
94	014K	14.05	Ward 14A	1 mile east of 13th St	Intersection with 37th Ave	2	0	0	Paved	2	0	0	Paved	Yes	Yes	No	1	-	-	-	-	-	1	420	No	300	No	No	★
95	014L	14.05	Ward 14A	1 mile east of 13th St	Intersection with 37th Ave	2	0	0	Paved	2	0	0	Paved	No	No	No	1	-	-	-	-	-	1	1000	No	300	No	No	★★
96	014M	14.05	Ward 14A	1 mile east of 13th St	Intersection with 37th Ave	2	0	0	Paved	2	0	0	Paved	Yes	No		2	1	-	1	1	-	-	600	Yes	300	No	No	★★★
97	014N	14.05	Ward 14A	1 mile east of 13th St	Intersection with 37th Ave	2	0	0	Paved	2	0	0	Paved	Yes	No		-	-	-	-	-	-	-	1800	No	300	No	No	★
98	014O	14.06	Ward 14	Intersection with Ward 14A	Intersection with 72nd AVe Ave	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	150	No	408	Yes	No	★★
99	014P	14.06	Ward 14	Intersection with Ward 14A	Intersection with 72nd AVe Ave	2	0	0	Paved	2	0	0	Paved				1	-	-	-	-	-	1	480	No	408	Yes	No	★★
100	014Q	14.06	Ward 14	Intersection with Ward 14A	Intersection with 72nd AVe Ave	2	0	0	Paved	2	0	0	Paved				2	-	-	-	-	-	2	920	No	408	No	No	★★
101	014R	14.06	Ward 14	Intersection with Ward 14A	Intersection with 72nd AVe Ave	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	550	No	408	No	No	★★
102	014S	14.06	Ward 14	Intersection with Ward 14A	Intersection with 72nd AVe Ave	2	0	0	Paved	2	0	0	Paved				1	-	-	-	-	-	1	600	No	408	No	No	★★
103	015A	15.04	Ward 15	Intersection with Ward 10	1 mile South of 86th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	3400	No	520	No	No	★
104	015B	15.04	Ward 15	Intersection with Ward 10	1 mile South of 86th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	2300	No	520	No	No	★
105	015C	15.04	Ward 15	Intersection with Ward 10	1 mile South of 86th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	2300	No	520	No	No	★
106	015D	15.04	Ward 15	Intersection with Ward 10	1 mile South of 86th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	3000	No	520	No	No	★
107	015E	15.04	Ward 15	Intersection with Ward 10	1 mile South of 86th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1650	No	520	No	No	★
108	015F	15.04	Ward 15	Intersection with Ward 10	1 mile South of 86th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	800	No	520	Yes	Yes	★★★★
109	015G	15.04	Ward 15	Intersection with Ward 10	1 mile South of 86th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	900	No	520	Yes	Yes	★★★★
110	015H	15.03	Ward 15	Intersection with Ward 17	Intersection with Ward 10	6	0	0	Paved	6	0	0	Paved				-	-	-	-	-	-	-	2000	No	2510	Yes	No	★
111	015I	15.03	Ward 15	Intersection with Ward 17	Intersection with Ward 10	6	0	0	Paved	6	0	0	Paved				-	-	-	-	-	-	-	2100	No	2510	No	No	
112	015J	15.03	Ward 15	Intersection with Ward 17	Intersection with Ward 10	6	0	0	Paved	6	0	0	Paved				-	-	-	-	-	-	-	3000	No	2510	Yes	No	★
113	015K	15.03	Ward 15	Intersection with Ward 17	Intersection with Ward 10	6	0	0	Paved	6	0	0	Paved				4	-	-	-	-	-	4	15000	No	2510	Yes	No	★
114	015L	15.02	Ward 15	Intersection with US Hwy 83	Intersection with Ward 17	2	2	0	Composite	2	2	0	Composite				-	-	-	-	-	-	-	1650	No	4010	Yes	Yes	★★
115	016A	16.02	Ward 16	Intersection with US Hwy 52	Intersection with 97th St	2	0	0	Paved	2	0	0	Paved				2	-	-	-	1	-	1	160	No	210	Yes	No	★
116	017A	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				2	-	-	-	-	-	2	1000	No	315	No	No	★★
117	017B	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				6	-	-	-	1	-	5	1150	No	315	No	No	★★
118	017C	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				-	-	-	-	-	-	-	530	No	315	No	No	★★
119	017D	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				7	-	-	-	-	-	7	200	No	315	Yes	Yes	★★★
120	017E	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				11	2	-	2	-	-	9	810	Yes	315	Yes	No	★★★★
121	017F	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				15	-	-	-	1	1	13	60	No	315	Yes	Yes	★★★
122	017G	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				1	-	-	-	-	-	1	600	No	315	No	No	★★
123	017H	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				1	-	-	-	-	1	-	230	No	315	Yes	No	★★
124	017I	17.01	Ward 17	Intersection with Ward 14	Intersection with US Hwy 2	4	0	0	Paved	4	0	0	Paved				1	-	-	-	-	-	1	50	No	315	Yes	No	★★
125	017J	17.02	Ward 17	Intersection with US Hwy 2	Intersection with Ward 15	4	0	0	Paved	4	0	0	Paved				2	-	-	-	-	-	2	800	No	1575	No	No	★
126	017K	17.02	Ward 17	Intersection with US Hwy 2	Intersection with Ward 15	4	0	0	Paved	4	0	0	Paved				1	-	-	-	-	-	1	550	No	1575	No	No	★
127	017L	17.02	Ward 17	Intersection with US Hwy 2	Intersection with Ward 15	4	0	0	Paved	4	0	0	Paved				-	-	-	-	-	-	-	800	No	1575	No	No	★
128	017M	17.02	Ward 17	Intersection with US Hwy 2	Intersection with Ward 15	4	0	0	Paved	4	0	0	Paved				-	-	-	-	-	-	-	450	No	1575	No	No	
129	017N	17.02	Ward 17	Intersection with US Hwy 2	Intersection with Ward 15	4	0	0	Paved	4	0	0	Paved				-	-	-	-	-	-	-	420	No	1575	Yes	No	★
130	017O	17.02	Ward 17	Intersection with US Hwy 2	Intersection with Ward 15	4	0	0	Paved	4	0	0	Paved				-	-	-	-	-	-	-	380	No	1575	Yes	No	★
131	020A	20.03	Ward 20	Intersection with 142nd St	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved				1	-	-	-	-	-	1	1800	No	302	No	No	★
132	020B	20.03	Ward 20	Intersection with 142nd St	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1500	No	302	No	No	★
133	020C	20.03	Ward 20	Intersection with 142nd St	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	2000	No	302	No	No	★
134	023A	23.04	Ward 23	Intersection with US Hwy 2	Intersection with 66th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1600	No	310	No	No	★
135	023B	23.04	Ward 23	Intersection with US Hwy 2	Intersection with 66th St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1200	No	310	No	No	★★
136	023C	23.02	Ward 23	Intersection with state route 23	Intersection with US Hwy 53	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	3000	No	362	No	No	★
137	023D	23.02	Ward 23	Intersection with state route 23	Intersection with US Hwy 53	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	3200	No	362	No	No	★
138	023E	23.02	Ward 23	Intersection with state route 23	Intersection with US Hwy 53	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	2500	No	362	Yes	No	★★
139	023F	23.02	Ward 23	Intersection with state route 23	Intersection with US Hwy 53	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1600	No	362	No	No	★
140	023G	23.02	Ward 23	Intersection with state route 23	Intersection with US Hwy 53	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1300	No	362	No	Yes	★★
141	023H	23.02	Ward 23	Intersection with state route 23	Intersection with US Hwy 53	2	0	0	Paved	2	0	0	Paved				1	-	-	-	-	-	1	420	No	362	Yes	No	★★
142	023I	23.01	Ward 23	Intersection with 373rd Ave	Intersection with state route 23	2	0	0	Paved	2	0	0	Paved				1	-	-	-	1	-	-	1600	No	141	No	Yes	★
143	023J	23.01	Ward 23	Intersection with 373rd Ave	Intersection with state route 23	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1400	No	141	No	No	
144	023K	23.01	Ward 23	Intersection with 373rd Ave	Intersection with state route 23	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1900	No	141	No	No	
145	023L	23.01	Ward 23	Intersection with 373rd Ave	Intersection with state route 23	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	2500	No	141	No	No	
146	023M	23.01	Ward 23	Intersection with 373rd Ave	Intersection with state route 23	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1500	No	141	Yes	No	★
147	023N	23.01	Ward 23	Intersection with 373rd Ave	Intersection with state route 23	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	3500	No	141	No	No	

Ward County Curves

Curve Count	ID	Corridor	Segment	Start	End	Inside: Paved Shoulder Width	Inside: Gravel Shoulder Width	Inside: Curb & Gutter	Inside: Shoulder Type	Outside: Paved Shoulder Width	Outside: Gravel Shoulder Width	Outside: Curb & Gutter	Outside: Shoulder Type	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes: Total	Total Severe	K	A	B	C	PDO	Risk Factors: Radius (ft)	Severe Crash	ADT	Intersection on Curve	Visual Trap	Risk Ranking
148	024A	24.01	Ward 24	Intersection with state route 28	Intersection with 142nd St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	4000	No	178	Yes	No	★
149	024B	24.01	Ward 24	Intersection with state route 28	Intersection with 142nd St	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	5000	No	178	Yes	No	★
150	024C	24.02	Ward 24	Intersection with 142nd St	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	4000	No	283	No	No	★
151	024D	24.02	Ward 24	Intersection with 142nd St	Intersection with US Hwy 83	2	0	0	Paved	2	0	0	Paved				1	-	-	-	-	-	1	3000	No	283	Yes	No	★★
152	501A	501.03	No designation	Intersection with State route 22	Intersection with Ward 22	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	860	No	85	Yes	No	★★
153	501B	501.03	No designation	Intersection with State route 22	Intersection with Ward 22	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	760	No	85	Yes	Yes	★★★
154	501C	501.01	No designation	Intersection with 373rd Ave	Intersection with Ward 24	0	0	0	None	0	0	0	None				2	-	-	-	-	-	2	530	No	61	Yes	No	★★
155	504A	504.03	No designation	Intersection with US Hwy 52	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	2200	No	488	Yes	No	★★
156	504B	504.03	No designation	Intersection with US Hwy 52	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1000	No	488	No	No	★★
157	504C	504.03	No designation	Intersection with US Hwy 52	Intersection with Ward 14	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	85	No	488	Yes	No	★★
158	504D	504.02	No designation	Intersection with Ward 16	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	85	No	325	Yes	No	★★
159	504E	504.02	No designation	Intersection with Ward 16	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved				1	-	-	-	1	-	-	930	No	325	No	No	★★
160	504F	504.02	No designation	Intersection with Ward 16	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1900	No	325	No	No	★
161	504G	504.02	No designation	Intersection with Ward 16	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	1500	No	325	Yes	No	★★
162	504H	504.02	No designation	Intersection with Ward 16	Intersection with US Hwy 52	2	0	0	Paved	2	0	0	Paved				-	-	-	-	-	-	-	330	No	325	Yes	No	★★
																	119	6	1	5	11	4	98	69		79			27

Stars	Total #	Total %	Chevroned (% of Stars) #	Chevroned (% of Stars) %
★★★★★	0	0%	0	0%
★★★★	6	4%	0	0%
★★★	15	9%	2	13%
★★	51	31%	2	4%
★	65	40%	2	3%
	25	15%	1	4%
	162	100%	7	4%

**CHEVRON ANALYSIS NOT COMPLETE

Critical Ranges	Max
Radius	1,200
ADT	650

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 1 from State Route 50 to 436th Ave

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: State Route 50
End: 436th Ave
Facility Type: 2-Lane
ADT: 309
Road Type: Rural Paved
County Road: Ward 1

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 8.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
001A	0	0	850	309	Yes	Yes	★★★★	YES	Yes	-	-	Inside/Outside	0	0
001B	0	0	1000	309	No	No	★★	YES	Yes	-	-	Inside/Outside	0	0
001C	0	0	1700	309	No	No	★	No	Yes	Chevron	-	Inside/Outside	-	-
001D	0	0	770	309	No	No	★★	YES	Yes	-	-	Inside/Outside	0	0

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.7 miles	$1,965
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$5,265

Project Cost Estimate (attach detailed copy)

Federal Funds	$4,739
Local Match (10% of Total project cost)	$527
Total Project Cost	**$5,265**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 2 from 590th ST to Ward 11

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: 590th ST
End: Ward 11
Facility Type: 2-Lane
ADT: 395
Road Type: Rural Paved
County Road: Ward 2

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 5.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
002C	0	0	1500	395	No	No	★	No	-	-	-	-	-	-
002D	0	0	2800	395	Yes	No	★★	No	-	-	-	-	-	-
002E	0	0	1600	395	No	No	★	No	-	-	-	-	-	-
002F	0	0	1900	395	No	No	★	No	-	-	-	-	-	-
002G	0	0	1500	395	No	No	★	No	-	-	-	-	-	-
002H	0	0	760	395	No	No	★★	YES	Yes	-	-	Inside/Outside	0	0
002I	0	0	800	395	Yes	Yes	★★★★	YES	Yes	Chevron	-	Inside/Outside	0	0

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.3 miles	$909
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$4,209

Project Cost Estimate (attach detailed copy)

Federal Funds	$3,788
Local Match (10% of Total project cost)	$421
Total Project Cost	**$4,209**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 5 from US Hwy 52 to Ward 7

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: US Hwy 52
End: Ward 7
Facility Type: 2-Lane
ADT: 80
Road Type: Rural Paved
County Road: Ward 5

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 1.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
005D	0	0	700	80	Yes	No	★★	No	Yes	Chevron	-	Inside/Outside	x	45
005E	0	0	450	80	No	No		No	Yes	Chevron	-	Inside/Outside	x	35
005F	0	0	1200	80	No	No	★	No	Yes	Chevron	-	Inside/Outside	-	-
005G	0	0	1000	80	No	No	★	No	Yes	Chevron	-	Inside/Outside	x	50
005H	0	0	1700	80	No	No		No	Yes	Chevron	-	Inside/Outside	-	-
005I	0	0	1000	80	No	No	★	No	Yes	Chevron	-	Inside/Outside	x	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	6	$19,800
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	4	$3,200
Shoulder Rumble Strip	Proactive	$3,000 per mile	.9 miles	$2,727
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$25,727

Project Cost Estimate (attach detailed copy)

Federal Funds	$23,155
Local Match (10% of Total project cost)	$2,573
Total Project Cost	**$25,727**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 6 from State Route 28 to Reneville 6

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: State Route 28
End: Reneville 6
Facility Type: 2-Lane
ADT: 218
Road Type: Rural Paved
County Road: Ward 6

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 7.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
006G	0	0	1120	218	Yes	Yes	★★★	No	Yes	Chevron	Inside/Outside	Inside/Outside	-	-
006H	0	0	870	218	No	No	★	YES	-	-	-	-	-	-
006I	0	0	1050	218	No	No	★	YES	-	-	-	-	-	-
006J	0	0	1200	218	No	No	★	YES	-	-	-	-	-	-
006K	0	0	2700	218	Yes	No	★	No	-	-	-	-	-	-
006L	0	0	1500	218	Yes	No	★	YES	-	-	-	-	-	-
006M	0	0	1350	218	No	No		YES	-	-	-	-	-	-
006N	0	0	140	218	No	No		YES	-	-	-	-	-	-
006O	0	0	700	218	No	Yes	★★	YES	-	-	-	-	-	-
006P	**0**	**0**	**1250**	**218**	**No**	**No**		**YES**	-	-	-	-	-	-
006Q	0	0	1000	218	Yes	No	★★	YES	-	-	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.2 miles	$455
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$3,755

Project Cost Estimate (attach detailed copy)

Federal Funds	$3,379
Local Match (10% of Total project cost)	$376
Total Project Cost	**$3,755**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 8 from US Hwy 52 to US Hwy 83

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: US Hwy 52
End: US Hwy 83
Facility Type: 2-Lane
ADT: 174
Road Type: Rural Paved
County Road: Ward 8

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 12.9
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
008A	0	0	670	174	Yes	No	★★	No	Yes	Chevron	-	Inside/Outside	x	40
008B	0	0	500	174	Yes	No	★★	YES	Yes	-	-	Inside/Outside	0	40
008C	0	0	1000	174	Yes	No	★★	YES	Yes	-	-	Inside/Outside	0	50
008D	0	0	250	174	Yes	Yes	★★	YES	Yes	-	-	Inside/Outside	0	Inspect Curve
008E	0	0	1900	174	No	No		YES	Yes	-	-	Inside/Outside	0	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	1	$800
Shoulder Rumble Strip	Proactive	$3,000 per mile	.8 miles	$2,273
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$6,373

Project Cost Estimate (attach detailed copy)

Federal Funds	$5,735
Local Match (10% of Total project cost)	$637
Total Project Cost	**$6,373**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 9 from State Route 23 to Ward 14

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: State Route 23
End: Ward 14
Facility Type: 2-Lane
ADT: 328
Road Type: Rural Paved
County Road: Ward 9

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 14.9
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
009A	0	0	840	328	Yes	Yes	★★★★	YES	Yes	-	-	Inside/Outside	0	45
009B	0	0	850	328	Yes	Yes	★★★★	YES	Yes	-	-	Inside/Outside	0	45
009C	0	0	1100	328	No	No	★★	YES	Yes	-	-	Inside/Outside	0	-
009D	0	0	1200	328	Yes	Yes	★★★★	YES	Yes	-	-	Inside/Outside	-	-
009E	0	0	1400	328	No	No	★	YES	-	-	-	-	-	-
009F	0	0	1060	328	No	No	★★	YES	-	-	-	-	-	-
009G	0	0	1120	328	No	No	★★	YES	-	-	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	0	$0
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.6 miles	$1,818
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$1,818

Project Cost Estimate (attach detailed copy)

Federal Funds	$1,636
Local Match (10% of Total project cost)	$182
Total Project Cost	**$1,818**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 10 from Ward 9 to Granly St

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Ward 9
End: Granly St
Facility Type: 2-Lane
ADT: 263
Road Type: Rural Paved
County Road: Ward 10

Lane Width: 12'
Speed Limit: High
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 10.7
Rumble Installed: Yes

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
010A	0	0	380	263	No	Yes	★★	No	0	-	-	-	-	-
010B	0	0	900	263	No	No	★★	No	-	-	-	-	-	-
010C	0	0	1000	263	No	No	★★	No	-	-	-	-	-	-
010D	0	0	950	263	No	No	★★	No	-	-	-	-	-	-
010E	0	0	1200	263	No	No	★★	No	-	-	-	-	-	-
010F	0	0	730	263	No	No	★★	No	-	-	-	-	-	-
010G	0	0	750	263	Yes	Yes	★★★★	YES	Yes	-	-	Inside/Outside	0	45
010H	0	0	1100	263	No	Yes	★★★	YES	Yes	-	-	Inside/Outside	0	-
010I	0	0	570	263	Yes	No	★★★	YES	Yes	-	-	Inside/Outside	0	40
010J	0	0	690	263	No	No	★★	YES	-	-	-	-	-	-
010K	0	0	1600	263	No	No	★	No	-	-	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	0	$0
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.5 miles	$1,364
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$1,364

Project Cost Estimate (attach detailed copy)

Federal Funds	$1,227
Local Match (10% of Total project cost)	$136
Total Project Cost	**$1,364**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 10 from Granly St to US Hwy 2

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Granly St
End: US Hwy 2
Facility Type: 2-Lane
ADT: 671
Road Type: Rural Paved
County Road: Ward 10

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 7.6
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
010L	0	0	600	671	No	No	★	YES	Yes	-	-	Inside/Outside	0	40
010M	0	0	550	671	Yes	Yes	★★★	YES	Yes	-	-	Inside/Outside	0	40
010N	0	0	1500	671	No	No		YES	Yes	-	-	Inside/Outside	-	-
010O	0	0	1800	671	No	No		No	Yes	Chevron	-	Inside/Outside	-	-
010P	0	1	1700	671	No	No	★	YES	Yes	-	-	Inside/Outside	-	-
010Q	1	0	3400	671	Yes	No	★★	No	Yes	Chevron	-	Inside/Outside	-	-
010R	0	0	2400	671	No	No		No	Yes	Chevron	-	Inside/Outside	-	-
010S	0	0	3000	671	Yes	No	★	No	Yes	Chevron	-	Inside/Outside	-	-
010T	0	0	1300	671	No	No		YES	Yes	-	-	Inside/Outside	-	-
010U	0	0	1450	671	Yes	No	★	YES	Yes	-	-	Inside/Outside	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	4	$13,200
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	1.5 miles	$4,545
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$17,745

Project Cost Estimate (attach detailed copy)

Federal Funds	$15,971
Local Match (10% of Total project cost)	$1,775
Total Project Cost	**$17,745**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 10 from Ward 15 to US Hwy 83

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Ward 15
End: US Hwy 83
Facility Type: 2-Lane
ADT: 457
Road Type: Rural Paved
County Road: Ward 10

Lane Width: 12'
Speed Limit: High
Shoulder Width: 8'
Shoulder Type: Paved
Length (miles): 4.8
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
010V	0	0	820	457	No	Yes	★★★	YES	Yes	-	-	Inside/Outside	0	45
010W	0	0	850	457	No	No	★★	YES	Yes	-	-	Inside/Outside	0	45
010X	0	0	320	457	No	No	★	YES	Yes	-	-	Inside/Outside	0	35

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	0	$0
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.5 miles	$1,364
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$1,364

Project Cost Estimate (attach detailed copy)

Federal Funds	$1,227
Local Match (10% of Total project cost)	$136
Total Project Cost	**$1,364**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 12 from 55th St to US Hwy 2

Agency Name: Ward County | **ND DOT District: 4**
Contact Name: Dana Larsen | **Telephone Number: 701-838-2810**
Email Address: dana.larsen@wardnd.com

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: 55th St
End: US Hwy 2
Facility Type: 2-Lane
ADT: 1204
Road Type: Rural Paved
County Road: Ward 12

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 4.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
012C	0	0	70	1204	Yes	Yes	★★	No	Yes	Chevron	-	Inside/Outside	x	Inspect Curve
012D	0	0	170	1204	No	No		No	Yes	Chevron	-	Inside/Outside	x	Inspect Curve

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	2	$6,600
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	2	$1,600
Shoulder Rumble Strip	Proactive	$3,000 per mile	.3 miles	$909
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$9,109

Project Cost Estimate (attach detailed copy)

Federal Funds	$8,198
Local Match (10% of Total project cost)	$911
Total Project Cost	**$9,109**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

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Date: 8/13/2013

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 14 from US Hwy 83 to 1 mile east of 13th St

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: US Hwy 83
End: 1 mile east of 13th St
Facility Type: 2-Lane
ADT: 548
Road Type: Rural Paved
County Road: Ward 14

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Composite
Length (miles): 2.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
014F	0	1	180	548	No	Yes	★★★	YES	Yes	-	-	Inside/Outside	0	Inspect Curve
014G	0	0	300	548	No	No	★	YES	Yes	-	-	Inside/Outside	0	35
014H	0	0	1400	548	No	No	★	No	Yes	Chevron	-	Inside/Outside	-	-
014I	0	0	1200	548	No	No	★★	No	Yes	Chevron	-	Inside/Outside	-	-
014J	0	0	330	548	No	No	★	YES	Yes	-	-	Inside/Outside	0	35

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	2	$6,600
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.8 miles	$2,273
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$8,873

Project Cost Estimate (attach detailed copy)

Federal Funds	$7,985
Local Match (10% of Total project cost)	$887
Total Project Cost	**$8,873**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 14 from Ward 14A to 72nd AVe Ave

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Ward 14A
End: 72nd AVe Ave
Facility Type: 2-Lane
ADT: 408
Road Type: Rural Paved
County Road: Ward 14

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.2
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
014O	0	0	150	408	Yes	No	★★	No	-	-	-	-	-	-
014P	0	0	480	408	Yes	No	★★	No	Yes	Chevron	-	Inside/Outside	x	35
014Q	0	0	920	408	No	No	★★	YES	-	-	-	-	-	-
014R	0	0	550	408	No	No	★★	YES	-	-	-	-	-	-
014S	0	0	600	408	No	No	★★	YES	-	-	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	1	$800
Shoulder Rumble Strip	Proactive	$3,000 per mile	.2 miles	$455
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$4,555

Project Cost Estimate (attach detailed copy)

Federal Funds	$4,099
Local Match (10% of Total project cost)	$455
Total Project Cost	**$4,555**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 15 from Ward 10 to 1 mile South of 86th St

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Ward 10
End: 1 mile South of 86th St
Facility Type: 2-Lane
ADT: 520
Road Type: Rural Paved
County Road: Ward 15

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 2.2
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
015A	0	0	3400	520	No	No	★	No	Yes	Chevron	-	Inside/Outside	-	-
015B	0	0	2300	520	No	No	★	No	-	-	-	-	-	-
015C	0	0	2300	520	No	No	★	No	-	-	-	-	-	-
015D	0	0	3000	520	No	No	★	No	-	-	-	-	-	-
015E	0	0	1650	520	No	No	★	YES	Yes	-	-	Inside/Outside	-	-
015F	0	0	800	520	Yes	Yes	★★★★	YES	Yes	-	-	Inside/Outside	0	45
015G	0	0	900	520	Yes	Yes	★★★★	YES	Yes	-	-	Inside/Outside	0	50

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.6 miles	$1,818
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$5,118

Project Cost Estimate (attach detailed copy)

Federal Funds	$4,606
Local Match (10% of Total project cost)	$512
Total Project Cost	**$5,118**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 17 from Ward 14 to US Hwy 2

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: Ward 14
End: US Hwy 2
Facility Type: 2-Lane
ADT: 315
Road Type: Rural Paved
County Road: Ward 17

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 3.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
017A	0	0	1000	315	No	No	★★	YES	-	-	-	-	-	-
017B	0	0	1150	315	No	No	★★	No	-	-	-	-	-	-
017C	0	0	530	315	No	No	★★	YES	-	-	-	-	-	-
017D	0	0	200	315	Yes	Yes	★★★	YES	Yes	-	-	Inside/Outside	0	Inspect Curve
017E	0	0	810	315	Yes	No	★★★	YES	Yes	-	-	Inside/Outside	0	45
017F	0	0	60	315	Yes	Yes	★★★	No	Yes	Chevron	-	Inside/Outside	x	Inspect Curve
017G	0	0	600	315	No	No	★★	No	-	-	-	-	-	-
017H	0	0	230	315	Yes	No	★★	No	-	-	-	-	-	-
017I	0	0	50	315	Yes	No	★★	No	-	-	-	-	-	-

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	1	$800
Shoulder Rumble Strip	Proactive	$3,000 per mile	.5 miles	$1,364
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$5,464

Project Cost Estimate (attach detailed copy)

Federal Funds	$4,917
Local Match (10% of Total project cost)	$546
Total Project Cost	**$5,464**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 17 from US Hwy 2 to Ward 15

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: US Hwy 2
End: Ward 15
Facility Type: 2-Lane
ADT: 1575
Road Type: Rural Paved
County Road: Ward 17

Lane Width: 12'
Speed Limit: High
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 1.3
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
017J	0	0	800	1575	No	No	★	YES	Yes	-	-	Inside/Outside	0	45
017K	0	0	550	1575	No	No	★	YES	Yes	-	-	Inside/Outside	0	40
017L	0	0	800	1575	No	No	★	YES	Yes	-	-	Inside/Outside	0	45
017M	0	0	450	1575	No	No		YES	Yes	-	-	Inside/Outside	0	35
017N	0	0	420	1575	Yes	No	★	YES	Yes	-	-	Inside/Outside	0	35
017O	0	0	380	1575	Yes	No	★	YES	Yes	-	-	Inside/Outside	0	35

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	0	$0
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	0	$0
Shoulder Rumble Strip	Proactive	$3,000 per mile	.9 miles	$2,727
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$2,727

Project Cost Estimate (attach detailed copy)

Federal Funds	$2,455
Local Match (10% of Total project cost)	$273
Total Project Cost	**$2,727**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on Ward 23 from State Route 23 to US Hwy 53

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: State Route 23
End: US Hwy 53
Facility Type: 2-Lane
ADT: 362
Road Type: Rural Paved
County Road: Ward 23

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 7.7
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
023C	0	0	3000	362	No	No	★	No	-	-	-	-	-	-
023D	0	0	3200	362	No	No	★	No	-	-	-	-	-	-
023E	0	0	2500	362	Yes	No	★★	No	-	-	-	-	-	-
023F	0	0	1600	362	No	No	★	No	-	-	-	-	-	-
023G	0	0	1300	362	No	Yes	★★	YES	-	-	-	-	-	-
023H	0	0	420	362	Yes	No	★★	No	Yes	Chevron	-	Inside/Outside	x	35

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	1	$3,300
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	1	$800
Shoulder Rumble Strip	Proactive	$3,000 per mile	.2 miles	$455
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$4,555

Project Cost Estimate (attach detailed copy)

Federal Funds	$4,099
Local Match (10% of Total project cost)	$455
Total Project Cost	**$4,555**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Curves on No designation from State Route 22 to Ward 22

Agency Name: Ward County
Contact Name: Dana Larsen
Email Address: dana.larsen@wardnd.com
ND DOT District: 4
Telephone Number: 701-838-2810

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description (Corridor Containing Curves)

Start: State Route 22
End: Ward 22
Facility Type: 2-Lane
ADT: 85
Road Type: Rural Paved
County Road: No designation

Lane Width: 12'
Speed Limit: High
Shoulder Width: 2'
Shoulder Type: Paved
Length (miles): 5.1
Rumble Installed: No

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☑ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase Survivability
- ☐ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 — 5 years

Curve ID	K	A	Radius (ft)	ADT	Intersection on Curve	Visual Trap	Risk Ranking	Oil County Project	Project Suggested	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
501A	0	0	860	85	Yes	No	★★	YES	Yes	-	-	Inside/Outside	x	45
501B	0	0	760	85	Yes	Yes	★★★	YES	Yes	-	-	Inside/Outside	0	45

*Curve numbering not consecutive, as some curves may have been removed from further analysis because a large radius, located on a gravel road, etc

Ranking Criteria

	Criteria
Severe Crashes	> 0
Radius	500 to 1200
ADT	250 to 650
Intersection on Curve	Yes
Visual Trap	Yes

Curves are selected for project if:
- 3 or more ★s
- x in Proximity or Existing Chevron column
- x in High Priority Segment + Critical Radius column

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost
Chevrons	Proactive	$3,300 per curve	0	$0
Arrow Board Only	Proactive	$500 per curve	0	$0
Advance Warning Sign/Speed Advisory Plaque	Proactive	$800 per curve	1	$800
Shoulder Rumble Strip	Proactive	$3,000 per mile	.2 miles	$455
Shoulder Paving	Proactive	$37,000 per mile	.0 miles	$0
				$1,255

Project Cost Estimate (attach detailed copy)

Federal Funds	$1,129
Local Match (10% of Total project cost)	$125
Total Project Cost	**$1,255**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted?	☐ Yes ☐ No	Reference Number		ID Number	

Notes

Page: 19
Segment ID: 501.03
Date: 8/13/2013

APPENDIX

City of Minot

City of Minot Urban Segment Projects - Rear End/Head On

Corridor ID	Local Street Name	Start	End	Length	Risk Ranking	2-Lane to 3-Lane Conv	Project Cost ($)	Notes
802.02	16th St SW	Western Ave SW	24th Ave NW	2.7	★★★★	1.7	$ 28,917	4th Ave to 24th Ave
808.01	16th Ave	16th St SW	13th St SE	2.0	★★★★	2.0	$ 34,000	
809.01	11th Ave SE	16th St SW	Hiawatha St SE	1.5	★★★★	0.75	$ 12,750	Broadway St to Hiawatha St.
811.02	3rd St NE / Airport Rd	E Burdick Expy	N Broadway	1.9	★★★★	1.0	$ 16,473	11th Ave to Hwy 83
				8.1		**5.5**	**$ 92,140**	

Detailed Corridor Information

Ward Urban County Corridors						Volume	General									Ped Bike							Access		
Corridor	Local Name	Start	End	Road Type	City	Weighted ADT	Length	Speed Limit	# Lanes	Lane Width	Median	Paved Shoulder Width	Gravel Shoulder Width	Curb & Gutter	Shoulder Type	Transit Route	Ped Generator	Description	Sidewalk / Bikeway	Description	Designated Mid Block Crossings	On Street Bike Lane	Primary Land Use	Total	Access/ Mile
800.01	37th Ave SW	16th St SW	S Broadway St	Urban Minor Arterial	Minot	8,742	1.0	40	5	12	-	2	-	Yes	Paved	-	Yes	Shopping	Yes	-	-	-	Commercial	18	18.0
800.02	37th Ave SE	S Broadway St	2nd St SE	Urban Minor Arterial	Minot	1,630	0.2	25	2	12	-	-	2	-	Gravel	-	-	-	-	-	-	-	Commercial	13	65.0
801.01	31st Ave SW	16th St SW	S Broadway St	Urban Minor Arterial	Minot	6,309	1.0	35	3	12	-	2	-	Yes	Paved	-	Yes	Shopping	Yes	-	-	-	Commercial	58	58.0
801.02	31st Ave SE	S Broadway St	13th St SE	Urban Minor Arterial	Minot	4,175	1.0	25	2	12	-	-	1	-	Gravel	-	-	-	Yes	Bike Path	-	-	Residential	34	34.0
802.01	16th St SW	37th Ave SW	Western Ave SW	Urban Minor Arterial	Minot	14,325	2.2	40	4	12	Half	2	-	Yes	Paved	-	Yes	Shopping	Yes	-	-	-	Commercial	35	15.9
802.02	16th St SW	Western Ave SW	24th Ave NW	Urban Minor Arterial	Minot	8,394	2.7	25	4	12	Half	2	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	140	51.9
803.01	Frontage Rd SW	37th Ave SW	28th Ave SW	Urban Collector	Minot	740	0.7	?	2	12	-	-	2	-	Gravel	-	Yes	Food/Gas	-	-	-	-	Commercial	22	31.4
804.01	Frontage Rd SW	41st Ave SW	28th Ave SW	Urban Collector	Minot	845	0.8	30	2	12	-	-	2	Some	Gravel	-	-	-	-	-	-	-	Commercial	23	28.8
805.01	Elk Dr	Sundown Dr	16th St SW	Urban Collector	Minot	2,111	1.1	25	2	12	-	-	3	-	Gravel	-	-	-	-	-	-	-	Commercial	24	21.8
806.01	20th Ave SW / Frontage Rd	Elk Drive	S Broadway St	Urban Collector / Minor Arterial	Minot	7,725	1.5	40	4	12	Some	2	-	Yes	Paved	-	Yes	Shopping	-	-	-	-	Commercial	42	28.0
806.02	20th Ave SE / 18th Ave SE	S Broadway St	20th Ave SE	Urban Collector / Minor Arterial	Minot	4,626	1.7	40	5	12	-	2	-	Yes	Paved	-	Yes	Shopping	Yes	-	-	-	Commercial	32	18.8
806.03	20th Ave SE	13th St SE	US 52	Urban Collector	Minot	1,000	1.4	?	2	12	-	-	3	-	Gravel	-	Yes	Shopping	-	-	-	-	Commercial	30	21.4
806.04	20th Ave SE	13th St SE	20th St SE	Urban Collector	Minot	390	0.5	?	2	12	-	-	2	-	Gravel	-	-	-	-	-	-	-	Commercial	15	30.0
807.01	21st Ave SE / 17th St SE	US 2	US 2	Urban Collector	Minot	480	0.9	25	2	12	-	-	2	-	Gravel	-	-	-	-	-	-	-	Commercial	16	17.8
808.01	16th Ave	16th St SW	13th St SE	Urban Collector	Minot	2,903	2.0	25	2	12	-	2	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Residential	116	58.0
809.01	11th Ave SE	16th St SW	Hiawatha St SE	Urban Collector / Minor Arterial	Minot	5,425	1.5	25	3	12	-	2	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Residential	75	50.0
810.01	6th St SW	16th Ave SW	W Burdick Expy	Urban Collector / Minor Arterial	Minot	4,350	1.0	25	2	12	-	2	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	89	89.0
810.02	6th St NW	W Burdick Expy	30th Ave NW	Urban Collector / Minor Arterial	Minot	3,894	2.6	25	2	12	-	4	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	157	60.4
811.01	2nd St SE / 3rd St SE	20th Ave SE	E Burdick Expy	Urban Collector / Minor Arterial	Minot	4,053	1.6	25	2	12	-	4	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	106	66.3
811.02	3rd St NE / Airport Rd	E Burdick Expy	N Broadway	Urban Minor Arterial	Minot	6,681	1.9	25	2	12	-	2	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	76	40.0
812.01	13th St SE	31st Ave SE	Valley St	Urban Minor Arterial	Minot	5,498	1.7	30	2	12	-	-	2	-	Gravel	-	-	-	-	-	-	-	Residential	37	21.8
813.01	27th St	Valley St	5th Ave NE	Urban Minor Arterial	Minot	5,920	2.0	35	2	12	-	2	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	28	14.0
814.01	US 2 Frontage Rd	16th Ave SE	55th St SE	Urban Collector	Minot	338	1.4	30	2	12	-	-	-	-	Composite	-	-	-	-	-	-	-	Commercial	24	17.1
814.02	US 2 Frontage Rd	E Burdick Expy	End	Urban Collector	Minot	420	0.8	25	2	12	-	-	2	-	Gravel	-	-	-	-	-	-	-	Commercial	33	41.3
815.01	42nd St SE	US 2	E Burdick Expy	Urban Collector	Minot	3,198	0.5	25	2	12	-	-	6	-	Gravel	-	-	-	-	-	-	-	Commercial	24	48.0
816.01	1st St SW	11th Ave SE	Central Ave E	Urban Collector	Minot	1,851	0.9	?	2	12	-	4	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Commercial	47	52.2
817.01	Hiawatha St SE	11th Ave SE	Valley St	Urban Collector	Minot	2,870	0.3	25	2	12	-	4	-	Yes	Paved	-	-	-	-	-	-	-	Residential	20	66.7
818.01	8th Ave SE	Valley St	E Burdick Expy	Urban Minor Arterial	Minot	4,581	0.6	30	2	12	-	-	6	-	Gravel	-	-	-	-	-	-	-	Residential	24	40.0
819.01	11th Ave SE	31st St SE	42nd St SE	Urban Collector	Minot	1,753	0.7	25	2	12	-	-	3	-	Gravel	-	-	-	-	-	-	-	Residential	36	51.4
820.01	31st St SE	11th Ave SE	E Burdick Expy	Urban Collector	Minot	2,510	0.2	25	2	12	-	-	4	-	Gravel	-	-	-	-	-	-	-	Commercial	9	45.0
821.01	US 2 Frontage Rd	31st St SE	55th St SE	Urban Collector	Minot	875	1.7	?	2	12	-	-	3	-	Gravel	-	-	-	-	-	-	-	Commercial	46	27.1
822.01	2nd Ave SW	30th St SW	6th St NW	Urban Collector / Minor Arterial	Minot	2,555	1.7	25	2	12	-	6	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	98	57.6
823.01	3rd Ave SE	S Broadway St	Front St SE	Urban Collector	Minot	1,424	0.5	25	2	12	-	4	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Commercial	36	72.0
824.01	2nd Ave SW	W Burdick Expy	E Burdick Expy	Urban Minor Arterial	Minot	2,848	1.0	25	2	12	-	6	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Commercial	55	55.0
825.01	1st Ave	S Broadway St	3rd St SE	Urban Collector	Minot	1,146	0.4	25	2	12		6	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Commercial	25	62.5
826.01	1st St SE	E Burdick Expy	Central Ave E	Urban Collector	Minot	1,479	0.3	25	2	12	-	12	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Commercial	17	56.7
827.01	Central Ave E / 4th Ave NE	Broadway St	8th St NE	Urban Collector	Minot	3,401	2.2	25	2	12	-	6	-	Yes	Paved	-	Yes	Downtown	Yes	-	-	-	Commercial	39	17.7
827.02	4th Ave NE	8th St NE	27th St SE	Urban Collector	Minot	1,017	2.2	35	2	12	-	-	2	-	Gravel	-	-	-	-	-	-	-	Residential	20	9.1
828.01	4th Ave NW	2nd Ave NW	N Broadway	Urban Minor Arterial	Minot	7,456	1.9	25	4	12	-	2	-	Yes	Paved	-	Yes	-	Yes	-	-	-	Residential	91	47.9
828.02	4th Ave NE / 5th Ave NE	N Broadway	27th St NE	Urban Minor Arterial	Minot	4,734	2.0	25	2	12	-	2	-	Yes	Paved	-	-	-	-	-	-	-	Residential	48	24.0
829.01	5th Ave NE	3rd St NE	4th Ave NW	Urban Minor Arterial	Minot	1,910	0.1	?	2	12	-	6	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	12	120.0
830.01	20th St NW / Sunset Blvd	4th Ave NW	19th Ave NW	Urban Collector	Minot	944	1.2	25	2	12	-	2	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	98	81.7
831.01	University Ave	16th St NW	N Broadway	Urban Minor Arterial	Minot	4,308	1.4	25	2	12	-	4	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	109	77.9
832.01	11th Ave NW	20th St NW	End in Campus	Urban Collector	Minot	1,855	1.1	25	2	12	-	4	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	62	56.4
832.02	11th Ave NE	Start in Campus	3rd St NE	Urban Collector	Minot	1,937	0.6	25	2	12	-	2	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	28	46.7
833.01	21st Ave NW	US 83	N Broadway	Urban Minor Arterial	Minot	3,715	1.9	25	2	12	-	4	-	Yes	Paved	-	-	-	Yes	-	-	-	Residential	73	38.4
834.01	Frontage Rd	N Broadway	40th Ave NW	Urban Collector	Minot	1,116	2.1	?	2	12	-	2	-	-	Paved	-	Yes	Gas / Food	-	-	-	-	Commercial	58	27.6
835.01	30th Ave NW	8th St NW	N Broadway	Urban Collector	Minot	1,398	0.5	35	2	12	-	-	8	-	Gravel	-	-	-	-	-	-	-	Residential	15	30.0
836.01	Frontage Rd	34th Ave NE	City Limit	Urban Collector	Minot	500	0.6	?	2	12	-	-	2	-	Gravel	-	-	-	-	-	-	-	Commercial	16	26.7
							59.8																		

Detailed Corridor Information

Ward Urban County Corridors									Severity					Diagram - SEVERE Only										Light Conditions - SEVERE Only					Road Condition - SEVERE Only				Road Characteristics -		
Corridor	Local Name	Start	End	Years of Data	AADT	Total Crashes	Severe Crashes	Intersection Crashes	K	A	B	C	PDO	Rear End	Sideswipe Passing	Angle (Opp Dir)	Singe Veh	Right Angle	Angle (Same Dir)	Angle (Not Specific)	Head On	Sideswipe Opposing	Rear-to-Rear	Rear-to-Side	Day	Dawn/ Dusk	Dark with Streetlights	Dark	Other/ Unknown	Dry	Wet	Snow/ Slush	Other	Straight	On Curve	Other
800.01	37th Ave SW	16th St SW	S Broadway St	5	8,742	20	-	11	-	-	1	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
800.02	37th Ave SE	S Broadway St	2nd St SE	5	1,630	3	-	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
801.01	31st Ave SW	16th St SW	S Broadway St	5	6,309	31	1	12	-	1	5	-	25	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-
801.02	31st Ave SE	S Broadway St	13th St SE	5	4,175	28	-	7	-	-	5	3	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.01	16th St SW	37th Ave SW	Western Ave SW	5	14,325	125	-	56	-	-	24	10	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.02	16th St SW	Western Ave SW	24th Ave NW	5	8,394	75	-	31	-	-	3	3	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
803.01	Frontage Rd SW	37th Ave SW	28th Ave SW	5	740	18	-	8	-	-	3	1	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
804.01	Frontage Rd SW	41st Ave SW	28th Ave SW	5	845	10	-	2	-	-	1	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
805.01	Elk Dr	Sundown Dr	16th St SW	5	2,111	9	-	3	-	-	1	1	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
806.01	20th Ave SW / Frontage Rd	Elk Drive	S Broadway St	5	7,725	51	-	11	-	-	8	2	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
806.02	20th Ave SE / 18th Ave SE	S Broadway St	20th Ave SE	5	4,626	31	-	21	-	-	6	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
806.03	20th Ave SE	13th St SE	US 52	5	1,000	4	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
806.04	20th Ave SE	13th St SE	20th St SE	5	390	5	-	-	-	-	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
807.01	21st Ave SE / 17th St SE	US 2	US 2	5	480	2	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808.01	16th Ave	16th St SW	13th St SE	5	2,903	17	1	1	1	-	2	-	14	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	1	-	-
809.01	11th Ave SE	16th St SW	Hiawatha St SE	5	5,425	151	-	43	-	-	20	6	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
810.01	6th St SW	16th Ave SW	W Burdick Expy	5	4,350	118	-	50	-	-	21	6	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
810.02	6th St NW	W Burdick Expy	30th Ave NW	5	3,894	84	-	29	-	-	15	3	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
811.01	2nd St SE / 3rd St SE	20th Ave SE	E Burdick Expy	5	4,053	64	-	29	-	-	9	3	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
811.02	3rd St NE / Airport Rd	E Burdick Expy	N Broadway	5	6,681	60	-	21	-	-	6	1	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
812.01	13th St SE	31st Ave SE	Valley St	5	5,498	19	-	8	-	-	3	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
813.01	27th St	Valley St	5th Ave NE	5	5,920	66	2	21	-	2	15	1	48	1	-	1	-	-	-	-	-	-	-	-	1	-	1	-	-	-	1	1	-	1	-	-
814.01	US 2 Frontage Rd	16th Ave SE	55th St SE	5	338	19	-	-	-	-	1	1	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
814.02	US 2 Frontage Rd	E Burdick Expy	End	5	420	3	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
815.01	42nd St SE	US 2	E Burdick Expy	5	3,198	29	-	7	-	-	3	1	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
816.01	1st St SW	11th Ave SE	Central Ave E	5	1,851	27	-	15	-	-	5	1	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
817.01	Hiawatha St SE	11th Ave SE	Valley St	5	2,870	3	-	1	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
818.01	8th Ave SE	Valley St	E Burdick Expy	5	4,581	17	-	4	-	-	-	1	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
819.01	11th Ave SE	31st St SE	42nd St SE	5	1,753	5	-	2	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
820.01	31st St SE	11th Ave SE	E Burdick Expy	5	2,510	17	-	1	-	-	1	2	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
821.01	US 2 Frontage Rd	31st St SE	55th St SE	5	875	46	1	28	-	1	7	2	36	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-
822.01	2nd Ave SW	30th St SW	6th St NW	5	2,555	55	-	26	-	-	9	1	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
823.01	3rd Ave SE	S Broadway St	Front St SE	5	1,424	13	-	-	-	-	1	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
824.01	2nd Ave SW	W Burdick Expy	E Burdick Expy	5	2,848	37	-	10	-	-	4	1	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
825.01	1st Ave	S Broadway St	3rd St SE	5	1,146	115	-	52	-	-	15	9	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
826.01	1st St SE	E Burdick Expy	Central Ave E	5	1,479	62	-	25	-	-	8	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
827.01	Central Ave E / 4th Ave NE	Broadway St	8th St NE	5	3,401	80	1	26	-	1	12	2	65	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	1	-	-	1	-	-
827.02	4th Ave NE	8th St NE	27th St SE	5	1,017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
828.01	4th Ave NW	2nd Ave NW	N Broadway	5	7,456	50	1	12	-	1	3	-	46	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
828.02	4th Ave NE / 5th Ave NE	N Broadway	27th St NE	5	4,734	11	-	3	-	-	4	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
829.01	5th Ave NE	3rd St NE	4th Ave NW	5	1,910	21	-	7	-	-	4	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
830.01	20th St NW / Sunset Blvd	4th Ave NW	19th Ave NW	5	944	15	-	7	-	-	3	1	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
831.01	University Ave	16th St NW	N Broadway	5	4,308	33	-	5	-	-	5	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
832.01	11th Ave NW	20th St NW	End in Campus	5	1,855	30	-	13	-	-	6	1	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
832.02	11th Ave NE	Start in Campus	3rd St NE	5	1,937	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
833.01	21st Ave NW	US 83	N Broadway	5	3,715	33	-	7	-	-	11	2	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
834.01	Frontage Rd	N Broadway	40th Ave NW	5	1,116	56	-	16	-	-	4	5	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
835.01	30th Ave NW	8th St NW	N Broadway	5	1,398	7	-	-	-	-	3	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
836.01	Frontage Rd	34th Ave NE	City Limit	5	500	75	-	10	-	-	12	-	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				5		1,851	7	645	1	6	272	70	1,502	3	-	1	-	-	-	3	-	-	-	-	5	-	2	-	-	3	2	2	-	4	-	-
									0%	0%	15%	4%	81%	43%	0%	14%	0%	0%	0%	43%	0%	0%	0%	0%	71%	0%	29%	0%	0%	43%	29%	29%	0%	57%	0%	0%

23 USC 409: NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming

SFN 59959 (06-2011)

16th St SW from Western Ave SW to 24th Ave NW Project

Agency Name: City of Minot **ND DOT District:** 4

Contact Name: Stephanie Frizzo **Telephone Number:** 701-857-4100

Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 802.02
Corridor: 16th St SW
Start: Western Ave SW
End: 24th Ave NW
City/Rural: Urban
County: Ward

ADT: 8394
Lanes: 4
Access Density 51.85185185
Speed Limit: 25
Length (miles): 2.7

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	8,394	≥ 10,000	★
Major Approach Lanes:	4	≥ 4	★
Access Density:	51.851852	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
.			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes - 3-lane conversion
3-Lane Conversion	Proactive	$17,000	1.7	$28,917	from 4th Ave to 24th Ave
5-Lane Conversion	Proactive	$22,000	0.0	$0	
Signal Revisions	Proactive	$25,000	0	$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	$26,025
Local Match (10% of Total project cost)	$2,892
Total Project Cost	**$28,917**

Project Cost Estimate (attach detailed copy)

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming

SFN 59959 (06-2011)

16th Ave from 16th St SW to 13th St SE Project

Agency Name: City of Minot **ND DOT District:** 4

Contact Name: Stephanie Frizzo **Telephone Number:** 701-857-4100

Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 808.01
Corridor: 16th Ave
Start: 16th St SW
End: 13th St SE
City/Rural: Urban
County: Ward

ADT: 2903
Lanes: 2
Access Density 58
Speed Limit: 25
Length (miles): 2

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	2,903	≥ 10,000	
Major Approach Lanes:	2	≥ 4	★
Access Density:	58	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	★
.			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes - May need to restrict on-street parking
3-Lane Conversion	Proactive	$17,000	2.0	$34,000	
5-Lane Conversion	Proactive	$22,000	0.0	$0	
Signal Revisions	Proactive	$25,000	0	$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	$30,600
Local Match (10% of Total project cost)	$3,400
Total Project Cost	**$34,000**

Project Cost Estimate (attach detailed copy)

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming

SFN 59959 (06-2011)

11th Ave SE from 16th St SW to Hiawatha St SE Project

Agency Name: City of Minot **ND DOT District:** 4

Contact Name: Stephanie Frizzo **Telephone Number:** 701-857-4100

Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 809.01
Corridor: 11th Ave SE
Start: 16th St SW
End: Hiawatha St SE
City/Rural: Urban
County: Ward

ADT: 5425
Lanes: 3
Access Density 50
Speed Limit: 25
Length (miles): 1.5

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	5,425	≥ 10,000	★
Major Approach Lanes:	3	≥ 4	★
Access Density:	50	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
.			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes - 3-lane conversion
3-Lane Conversion	Proactive	$17,000	0.8	$12,750	from Broadway St to
5-Lane Conversion	Proactive	$22,000	0.0	$0	Hiawatha St
Signal Revisions	Proactive	$25,000	0	$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	$11,475
Local Match (10% of Total project cost)	$1,275
Total Project Cost	**$12,750**

Project Cost Estimate (attach detailed copy)

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming

SFN 59959 (06-2011)

3rd St NE / Airport Rd from E Burdick Expy to N Broadway Project

Agency Name: City of Minot **ND DOT District:** 4

Contact Name: Stephanie Frizzo **Telephone Number:** 701-857-4100

Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Number: 811.02
Corridor: 3rd St NE / Airport Rd
Start: E Burdick Expy
End: N Broadway
City/Rural: Urban
County: Ward

ADT: 6681
Lanes: 2
Access Density 40
Speed Limit: 25
Length (miles): 1.9

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

Describe Current Safety Issues & Systemic Ranking Review

	Value	Critical	Star Ranking
ADT:	6,681	≥ 10,000	★
Major Approach Lanes:	2	≥ 4	★
Access Density:	40	15 - 60	★
Speed Limit:	25	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	
.			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage / #	Cost	Notes - 3-lane coversion
3-Lane Conversion	Proactive	$17,000	1.0	$16,473	from 11th Avenue to Hwy 83
5-Lane Conversion	Proactive	$22,000	0.0	$0	
Signal Revisions	Proactive	$25,000	0	$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	$14,826
Local Match (10% of Total project cost)	$1,647
Total Project Cost	**$16,473**

Project Cost Estimate (attach detailed copy)

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

City of Minot Urban Pedestrian/Bike Project Corridors

Corridor	Local Roadway	Adv Walk	Countdown	Curb Ext (# of corners)	Cost
83.01	US 83 (20th Ave to Central Ave)	4	4	2	$ 70,000
83.02	US 83 (4th Ave to 30th Ave NW)	4	4		$ 40,000
802.02	16th Street (2nd Ave to 21st Ave NW)	2	2	4	$ 80,000
		0	**0**	**6**	**$ 190,000**

Ward County Urban Intersections - Pedestrian and Bicycle Risk Analysis

					Criteria						
					Signal	Greater than 15000	Yes	Greater than 0			
Int #	Segment #	Local Name	Cross Street	City	Traffic Control Device	ADT	Development / Ped Generator	Ped/Bike Crashes Total	Ped/Bike Crashes Severe	Major Speed	High Priority Corridor Candidate
800.01	800.01	37th Ave SW	16th St SW	Minot	Signal	9575	No	0	0	Low	
800.02	800.01	37th Ave SW	Frontage Rd SW (West)	Minot	Thru-STOP	11630	Yes	0	0	Low	
800.03	800.01	37th Ave SW	US 83	Minot	Signal	13038	Yes	0	0	Low	
800.04	800.02	37th Ave SE	Frontage Rd SW (East)	Minot	Thru-STOP	2285	No	0	0	Low	
801.01	801.01	31st Ave SW	16th St SW	Minot	Thru-STOP	14755	Yes	0	0	Low	
801.02	801.01	31st Ave SW	Frontage Rd SW (West)	Minot	Thru-STOP	8885	Yes	0	0	Low	
801.03	801.01	31st Ave SW	US 83	Minot	Signal	17458	Yes	0	0	Low	
801.04	801.02	31st Ave SE	Frontage Rd SW (East)	Minot	Thru-STOP	5823	No	0	0	Low	
801.05	801.02	31st Ave SE	13th St SE	Minot	Thru-STOP	7795	No	0	0	Low	
802.01	802.01	16th St SW	22nd Ave SW	Minot	Signal	26905	No	1	0	Low	
802.02	802.01	16th St SW	20th Ave SW	Minot	Signal	25565	No	0	0	Low	
802.03	802.01	16th St SW	16th Ave SW	Minot	Signal	16635	No	0	0	Low	
802.04	802.01	16th St SW	11th Ave SW	Minot	Signal	18433	No	0	0	Low	
802.05	802.01	16th St SW	US 2	Minot	Signal	18093	No	3	2	Low	
802.06	802.02	16th St SW	2nd Ave SW	Minot	Signal	14843	Yes	0	0	Low	
802.07	802.02	16th St NW	4th Ave NW	Minot	Signal	16600	Yes	1	0	Low	
802.08	802.02	16th St NW	University Ave W	Minot	Thru-STOP	7780	No	0	0	Low	YES
802.09	802.02	16th St NW	11th Ave NW	Minot	Thru-STOP	4410	No	0	0	Low	
802.10	802.02	16th St NW	21st Ave NW	Minot	Thru-STOP	4490	No	1	0	Low	
805.01	805.01	Elk Drive	Evergreen Ave	Minot	Thru-STOP	2713	No	0	0	Low	
806.01	806.01	Evergreen Ave	US 2	Minot	Thru-STOP	10235	No	0	0	High	
806.02	806.01	20th Ave SW	US 83	Minot	Signal	26983	Yes	0	0	Low	
806.03	806.02	20th Ave SE	2nd St SE	Minot	Thru-STOP	11145	Yes	0	0	Low	
806.04	806.02	18th Ave SE	13th St SE	Minot	Thru-STOP	9027	No	0	0	Low	
806.05	806.02	16th St SE	20th Ave SE	Minot	Thru-STOP	488	No	0	0	Unknown	
806.06	806.03	20th Ave SE	17th St SE	Minot	Thru-STOP	1649	Yes	0	0	Low	
806.07	806.03	20th Ave SE	US 52	Minot	Thru-STOP	4245	No	0	0	Unknown	
806.08	806.04	20th Ave SE (North)	13th St SE	Minot	Thru-STOP	7085	Yes	0	0	Low	
807.01	807.01	6th St SE	US 2	Minot	Thru-STOP	9795	No	0	0	High	
807.02	807.01	6th St SE	21st Ave SE	Minot	Thru-STOP	889	No	0	0	Low	
807.03	807.01	21st Ave SE	13th St SE	Minot	Thru-STOP	6500	No	0	0	Unknown	
807.04	807.01	21st Ave SE	17th St SE	Minot	Thru-STOP	1298	No	0	0	Low	
807.05	807.01	17th St SE	US 2	Minot	Thru-STOP	7512	No	0	0	High	
808.01	808.01	16th Ave SW	6th St SW	Minot	All Way STOP	7810	No	0	0	Low	
808.02	808.01	16th Ave SW	US 83	Minot	Signal	19040	Yes	3	1	Low	YES
808.03	808.01	16th Ave SE	2nd St SE	Minot	All Way STOP	8745	No	0	0	Low	
808.04	808.01	16th Ave Se	13th St SE	Minot	Thru-STOP	7047	No	0	0	Low	
809.01	809.01	11th Ave SW	6th St SW	Minot	Signal	9710	No	0	0	Low	
809.02	809.01	11th Ave SW	US 83	Minot	Signal	21573	Yes	1	0	Low	
809.03	809.01	11th Ave SE	2nd St SE	Minot	All Way STOP	6153	No	0	0	Low	YES
809.04	809.01	11th Ave SE	3rd St SE	Minot	All Way STOP	7108	No	0	0	Low	
809.05	809.01	11th Ave SE	Hiawatha St SE	Minot	Thru-STOP	4410	No	0	0	Low	
810.01	810.01	6th St SW	US 2	Minot	Signal	11208	Yes	0	0	Low	
810.02	810.02	6th St SW	Western Ave SW	Minot	Signal	10555	No	0	0	Low	
810.03	810.02	6th St SW	2nd Ave SW	Minot	Thru-STOP	9223	No	1	0	Low	
810.04	810.02	6th St NW	3rd Ave NW	Minot	Signal	13693	No	0	0	Low	
810.05	810.02	8th St NW	University Ave W	Minot	Signal	10045	No	0	0	Low	
810.06	810.02	8th St NW	11th Ave NW	Minot	All Way STOP	6503	No	0	0	Low	
810.07	810.02	8th St NW	21st Ave NW	Minot	All Way STOP	6783	No	0	0	Unknown	
810.08	810.02	8th St NW	30th Ave NW	Minot	Thru-STOP	1742	No	0	0	Low	
811.01	811.01	3rd St SE	4th Ave SE	Minot	Signal	11770	No	3	0	Low	
811.02	811.02	3rd St SE	3rd Ave SE	Minot	Thru-STOP	8153	No	0	0	Low	
811.03	811.02	3rd St SE	2nd Ave SE	Minot	Thru-STOP	8498	No	0	0	Low	
811.04	811.02	3rd St SE	1st Ave SE	Minot	Thru-STOP	7480	No	0	0	Low	
811.05	811.02	3rd St SE	Central Ave E	Minot	Signal	12310	Yes	0	0	Low	
811.06	811.02	3rd St NE	5th Ave NE	Minot	Thru-STOP	10218	No	0	0	Low	
811.07	811.02	3rd St NE	University Ave E	Minot	Signal	8933	No	0	0	Low	
811.08	811.02	3rd St NE	11th Ave NE	Minot	Thru-STOP	6582	No	0	0	Low	
811.09	811.02	Airport Rd	US 83	Minot	Signal	11970	Yes	0	0	Low	
812.01	812.01	13th St SE	US 2	Minot	Signal	15040	Yes	0	0	High	
812.02	812.01	13th St SE	US 52 (Valley St)	Minot	Thru-STOP	8425	No	0	0	Low	
813.01	813.01	27th St SE	US 52 (Valley St)	Minot	Thru-STOP	10277	No	0	0	High	
813.02	813.01	27th St SE	US 2 (Burdick Expy)	Minot	Signal	11200	Yes	0	0	Low	
813.03	813.01	27th St NE	4th Ave NE	Minot	Thru-STOP	7238	No	0	0	Low	
813.04	813.01	27th St NE	Railway Ave NE	Minot	All Way STOP	8188	No	0	0	Low	
814.01	814.02	US 2 Frontage Rd	US 2 (Burdick Expy)	Minot	Thru-STOP	3809	No	1	1	Low	
815.01	815.01	42nd St SE	US 2	Minot	Thru-STOP	7525	No	0	0	High	
815.02	815.01	42nd St SE	11th Ave SE	Minot	Thru-STOP	4258	No	0	0	Low	
815.03	815.01	42nd St SE	US 2 Frontage Rd	Minot	Thru-STOP	3059	No	0	0	Low	
815.04	815.01	42nd St SE	US 2 (Burdick Expy)	Minot	Thru-STOP	4690	No	0	0	Low	
816.01	816.01	1st St SW	4th Ave SW	Minot	Thru-STOP	9528	Yes	0	0	Low	
816.02	816.01	1st St SW	3rd Ave SW	Minot	Thru-STOP	2865	Yes	1	0	Low	
816.03	816.01	1st St SW	2nd Ave SW	Minot	Signal	4313	Yes	0	0	Low	
816.04	816.01	1st St SW	1st Ave SE	Minot	Thru-STOP	2773	Yes	0	0	Low	
816.05	816.01	1st St SW	Central Ave W	Minot	Thru-STOP	5007	Yes	0	0	Low	
817.01	817.01	Hiawatha St	US 52 (Valley St)	Minot	Thru-STOP	7423	No	0	0	Low	
818.01	818.01	8th Ave SE	US 52 (Valley St)	Minot	Thru-STOP	8465	No	0	0	Low	
818.02	818.01	8th Ave SE	US 2 (Burdick Expy)	Minot	Signal	6472	No	2	1	Low	
819.01	819.01	11th Ave SE	31st St SE	Minot	Thru-STOP	2272	No	0	0	Low	
820.01	820.01	31st St SE	US 2 (Burdick Expy)	Minot	Thru-STOP	5840	No	0	0	Low	
823.01	823.01	3rd Ave SW	S Broadway St	Minot	Thru-STOP	12815	Yes	0	0	Low	
823.02	823.01	3rd Ave SE	1st St SE	Minot	All Way STOP	3075	Yes	0	0	Low	
823.03	823.01	3rd Ave SE	Front St SE	Minot	Thru-STOP	4430	No	0	0	Low	

Ward County Urban Intersections - Pedestrian and Bicycle Risk Analysis

					Criteria						
					Signal	Greater than 15000	Yes	Greater than 0			
Int #	Segment #	Local Name	Cross Street	City	Traffic Control Device	ADT	Development / Ped Generator	Ped/Bike Crashes Total	Ped/Bike Crashes Severe	Major Speed	High Priority Corridor Candidate
824.01	824.01	Western Ave SW	4th Ave SW	Minot	Thru-STOP	6065	No	0	0	Low	
824.02	824.01	2nd Ave SW	S Broadway St	Minot	Signal	14908	Yes	0	0	Low	
824.03	824.01	2nd Ave SE	1st St SE	Minot	Thru-STOP	2605	Yes	0	0	Low	
824.05	824.01	Front St SE	4th Ave SE	Minot	Signal	10268	No	1	0	Low	
825.01	825.01	1st Ave SW	S Broadway St	Minot	Thru-STOP	13945	Yes	0	0	Low	
825.02	825.01	1st Ave SE	1st St SE	Minot	Thru-STOP	2315	Yes	0	0	Low	
826.01	826.01	1st St SE	4th Ave SW	Minot	Thru-STOP	8550	Yes	1	1	Low	
826.02	826.01	1st St SE	Central Ave E	Minot	Thru-STOP	4470	Yes	0	0	Low	
827.01	827.01	Central Ave E	S Broadway St	Minot	Signal	13940	Yes	0	0	Low	
828.01	828.01	4th Ave NW	20th St NW	Minot	Thru-STOP	7130	Yes	0	0	Low	YES
828.02	828.01	4th Ave NW	N Broadway St	Minot	Signal	19748	Yes	1	0	Low	
828.03	828.02	4th Ave NW	5th Ave NE	Minot	Thru-STOP	5530	No	0	0	Low	
830.01	830.01	20th St NW	Northwest Ave NW	Minot	Thru-STOP	1638	No	0	0	Low	
831.01	831.01	University Ave W	N Broadway St	Minot	Signal	16680	Yes	3	0	Low	
832.01	832.02	11th Ave NW	N Broadway St	Minot	Signal	13290	Yes	0	0	Low	
833.01	833.01	21st Ave NW	US 83	Minot	Thru-STOP	8300	No	0	0	High	
833.02	833.01	21st Ave NW	Frontage Rd	Minot	Thru-STOP	5000	No	0	0	Low	
833.03	833.01	21st Ave NW	N Broadway St	Minot	Thru-STOP	9708	No	0	0	Low	
834.01	834.01	2nd St NW	N Broadway St	Minot	Thru-STOP	9873	No	0	0	Low	
835.01	835.01	30th Ave NW	Frontage Rd	Minot	Yield	2097	No	0	0	Low	
835.02	835.01	30th Ave NW	US 83	Minot	Thru-STOP	7575	No	0	0	High	

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on S Broadway St from 20th Ave SW to Central Ave E

Agency Name: City of Minot **ND DOT District:** 4
Contact Name: Stephanie Frizzo **Telephone Number:** 701-857-4100
Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 83.01
Street Name S Broadway St
Urban/Rural: Urban
County: Ward
Corridor ADT: -

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Taffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Exntensions	Median Refuge Island	Notes
806.02	20th Ave SW	US 83	Signal	26,983	Yes	0	0	0	0	0	-
808.02	16th Ave SW	US 83	Signal	19,040	Yes	3	1	1	0	0	-
809.02	11th Ave SW	US 83	Signal	21,573	Yes	1	1	1	0	0	-
823.01	3rd Ave SW	S Broadway St	Thru-STOP	12,815	Yes	0	0	0	2	0	-
824.02	2nd Ave SW	S Broadway St	Signal	14,908	Yes	0	1	1	0	0	-
825.01	1st Ave SW	S Broadway St	Thru-STOP	13,945	Yes	0	0	0	0	0	-
827.01	Central Ave E	S Broadway St	Signal	13,940	Yes	0	1	1	0	0	-

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	Intersection Criteria
Traffic Control Device	Signal
Entering ADT	>15,000
Development / Ped Generator	Yes
Total Ped/Bike Crashes	>0

Description	Unit Cost	Quanity	Total Cost
Advanced Walk	$0 per intersection	4	$0
Countdown Timers	$10,000 per intersection	4	$40,000
Curb Extensions	$15,000 per corner	2	$30,000
Median Refuge Island	$10,000 per side	0	$0
			$70,000

Notes -- State Route

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	$63,000
Local Match (10% of Total project cost)	$7,000
Total Project Cost	**$70,000**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on N Broadway St from 4th Ave NW to 30th Ave NW

Agency Name: City of Minot
ND DOT District: 4
Contact Name: Stephanie Frizzo
Telephone Number: 701-857-4100
Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 83.02
Street Name N Broadway St
Urban/Rural: Urban
County: Ward
Corridor ADT: -

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Taffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Exntensions	Median Refuge Island	Notes
828.02	4th Ave NW	N Broadway St	Signal	19,748	Yes	1	1	1	0	0	-
831.01	University Ave W	N Broadway St	Signal	16,680	Yes	3	1	1	0	0	-
832.01	11th Ave NW	N Broadway St	Signal	13,290	Yes	0	1	1	0	0	-
834.01	2nd St NW	N Broadway St	Thru-STOP	9,873	No	0	0	0	0	0	-
811.09	Airport Rd	US 83	Signal	11,970	Yes	0	1	1	0	0	-
833.03	21st Ave NW	N Broadway St	Thru-STOP	9,708	No	0	0	0	0	0	-
835.02	30th Ave NW	US 83	Thru-STOP	7,575	No	0	0	0	0	0	-

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	Intersection Criteria
Traffic Control Device	Signal
Entering ADT	>15,000
Development / Ped Generator	Yes
Total Ped/Bike Crashes	>0

Description	Unit Cost	Quanity	Total Cost
Advanced Walk	$0 per intersection	4	$0
Countdown Timers	$10,000 per intersection	4	$40,000
Curb Extensions	$15,000 per corner	0	$0
Median Refuge Island	$10,000 per side	0	$0
			$40,000

Notes -- State Route

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	$36,000
Local Match (10% of Total project cost)	$4,000
Total Project Cost	**$40,000**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Pedestrian and Bicycle Intersection Improvements

Intersections on 16th St SW from Western Ave SW to 24th Ave NW

Agency Name: City of Minot **ND DOT District:** 4
Contact Name: Stephanie Frizzo **Telephone Number:** 701-857-4100
Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 802.02
Street Name 16th St SW
Urban/Rural: Urban
County: Ward
Corridor ADT: 8,394

SHSP Emphasis Area (check all that apply)

- ☐ Reduce Alcohol Impaired Driving
- ☐ Increase the Use of Safety Restraints for all Occupants
- ☐ Younger Driver/Older Driver Safety
- ☐ Curb Aggressive Driving
- ☐ Improvements to Address Lane Departure Crashes
- ☐ Enhancing Emergency Medical Capabilities to Increase
- ☑ Improve Intersection Safety

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Taffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Exntensions	Median Refuge Island	Notes
802.06	16th St SW	2nd Ave SW	Signal	14,843	Yes	0	1	1	0	0	-
802.07	16th St NW	4th Ave NW	Signal	16,600	Yes	1	1	1	0	0	-
802.08	16th St NW	University Ave W	Thru-STOP	7,780	No	0	0	0	4	0	-

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	Intersection Criteria
Traffic Control Device	Signal
Entering ADT	>15,000
Development / Ped Generator	Yes
Total Ped/Bike Crashes	>0

Description	Unit Cost	Quanity	Total Cost
Advanced Walk	$0 per intersection	2	$0
Countdown Timers	$10,000 per intersection	2	$20,000
Curb Extensions	$15,000 per corner	4	$60,000
Median Refuge Island	$10,000 per side	0	$0
			$80,000

Notes -- None

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	$72,000
Local Match (10% of Total project cost)	$8,000
Total Project Cost	**$80,000**

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

City of Minot Urban Right Angle Crash Project Corridors

Corridor	Local Street Name	Access Mgmt (	Confirmation Lights	Cost
83.01	Broadway St (20th Ave to Central)		5	$ мл5,000
83.02	Broadway St (4th Ave to 30th Ave)		4	$ 4,000
802.01	16th Street (22nd to Hwy 2)		5	$ 5,000
		0	**14**	**$ м14,000**

Ward County Right Angle Crash Corridor Analysis

					Criteria					
					Signal	15,000 25,000	Divided	Greater than 0		
Int #	Segment #	Local Name	Cross Street	City	Traffic Control Device	ADT	Major Config	Severe Crashes	Severe Right Angle	High Priority Corridor Candidate
800.01	800.01	37th Ave SW	16th St SW	Minot	Signal	9575	Undivided	0	0	
800.02	800.01	37th Ave SW	Frontage Rd SW (West)	Minot	Thru-STOP	11630	Divided	2	1	YES
800.03	800.01	37th Ave SW	US 83	Minot	Signal	13038	Divided	1	1	
800.04	800.02	37th Ave SE	Frontage Rd SW (East)	Minot	Thru-STOP	2285	Undivided	0	0	
801.01	801.01	31st Ave SW	16th St SW	Minot	Thru-STOP	14755	Undivided	0	0	
801.02	801.01	31st Ave SW	Frontage Rd SW (West)	Minot	Thru-STOP	8885	Divided	1	0	YES
801.03	801.01	31st Ave SW	US 83	Minot	Signal	17458	Divided	0	0	
801.04	801.02	31st Ave SE	Frontage Rd SW (East)	Minot	Thru-STOP	5823	Undivided	0	0	
801.05	801.02	31st Ave SE	13th St SE	Minot	Thru-STOP	7795	Undivided	0	0	
802.01	802.01	16th St SW	22nd Ave SW	Minot	Signal	26905	Divided	0	0	
802.02	802.01	16th St SW	20th Ave SW	Minot	Signal	25565	Divided	0	0	
802.03	802.01	16th St SW	16th Ave SW	Minot	Signal	16635	Undivided	0	0	YES
802.04	802.01	16th St SW	11th Ave SW	Minot	Signal	18433	Undivided	0	0	
802.05	802.01	16th St SW	US 2	Minot	Signal	18093	Divided	2	0	
802.06	802.02	16th St SW	2nd Ave SW	Minot	Signal	14843	Undivided	0	0	
802.07	802.02	16th St NW	4th Ave NW	Minot	Signal	16600	Undivided	0	0	
802.08	802.02	16th St NW	University Ave W	Minot	Thru-STOP	7780	Undivided	0	0	
802.09	802.02	16th St NW	11th Ave NW	Minot	Thru-STOP	4410	Undivided	0	0	
802.10	802.02	16th St NW	21st Ave NW	Minot	Thru-STOP	4490	Undivided	0	0	
805.01	805.01	Elk Drive	Evergreen Ave	Minot	Thru-STOP	2713	Undivided	0	0	
806.01	806.01	Evergreen Ave	US 2	Minot	Thru-STOP	10235	Divided	1	0	YES
806.02	806.01	20th Ave SW	US 83	Minot	Signal	26983	Divided	5	1	
806.03	806.02	20th Ave SE	2nd St SE	Minot	Thru-STOP	11145	Divided	0	0	
806.04	806.02	18th Ave SE	13th St SE	Minot	Thru-STOP	9027	Undivided	0	0	
806.05	806.02	16th St SE	20th Ave SE	Minot	Thru-STOP	488	Undivided	0	0	
806.06	806.03	20th Ave SE	17th St SE	Minot	Thru-STOP	1649	Undivided	0	0	
806.07	806.03	20th Ave SE	US 52	Minot	Thru-STOP	4245	Undivided	0	0	
806.08	806.04	20th Ave SE (North)	13th St SE	Minot	Thru-STOP	7085	Divided	2	0	
807.01	807.01	6th St SE	US 2	Minot	Thru-STOP	9795	Divided	0	0	
807.02	807.01	6th St SE	21st Ave SE	Minot	Thru-STOP	889	Undivided	0	0	
807.03	807.01	21st Ave SE	13th St SE	Minot	Thru-STOP	6500	Undivided	0	0	
807.04	807.01	21st Ave SE	17th St SE	Minot	Thru-STOP	1298	Undivided	0	0	
807.05	807.01	17th St SE	US 2	Minot	Thru-STOP	7512	Divided	0	0	
808.01	808.01	16th Ave SW	6th St SW	Minot	All Way STOP	7810	Undivided	0	0	
808.02	808.01	16th Ave SW	US 83	Minot	Signal	19040	Undivided	3	0	YES
808.03	808.01	16th Ave SE	2nd St SE	Minot	All Way STOP	8745	Undivided	1	0	
808.04	808.01	16th Ave Se	13th St SE	Minot	Thru-STOP	7047	Undivided	0	0	
809.01	809.01	11th Ave SW	6th St SW	Minot	Signal	9710	Undivided	0	0	
809.02	809.01	11th Ave SW	US 83	Minot	Signal	21573	Undivided	2	0	
809.03	809.01	11th Ave SE	2nd St SE	Minot	All Way STOP	6153	Undivided	0	0	YES
809.04	809.01	11th Ave SE	3rd St SE	Minot	All Way STOP	7108	Undivided	0	0	
809.05	809.01	11th Ave SE	Hiawatha St SE	Minot	Thru-STOP	4410	Undivided	0	0	
810.01	810.01	6th St SW	US 2	Minot	Signal	11208	Undivided	1	0	
810.02	810.02	6th St SW	Western Ave SW	Minot	Signal	10555	Undivided	0	0	
810.03	810.02	6th St SW	2nd Ave SW	Minot	Thru-STOP	9223	Undivided	0	0	
810.04	810.02	6th St NW	3rd Ave NW	Minot	Signal	13693	Undivided	1	0	
810.05	810.02	8th St NW	University Ave W	Minot	Signal	10045	Undivided	0	0	
810.06	810.02	8th St NW	11th Ave NW	Minot	All Way STOP	6503	Undivided	0	0	
810.07	810.02	8th St NW	21st Ave NW	Minot	All Way STOP	6783	Undivided	0	0	
810.08	810.02	8th St NW	30th Ave NW	Minot	Thru-STOP	1742	Undivided	0	0	
811.01	811.01	3rd St SE	4th Ave SE	Minot	Signal	11770	Undivided	1	1	
811.02	811.02	3rd St SE	3rd Ave SE	Minot	Thru-STOP	8153	Undivided	1	1	
811.03	811.02	3rd St SE	2nd Ave SE	Minot	Thru-STOP	8498	Undivided	0	0	
811.04	811.02	3rd St SE	1st Ave SE	Minot	Thru-STOP	7480	Undivided	0	0	
811.05	811.02	3rd St SE	Central Ave E	Minot	Signal	12310	Undivided	0	0	
811.06	811.02	3rd St NE	5th Ave NE	Minot	Thru-STOP	10218	Undivided	0	0	
811.07	811.02	3rd St NE	University Ave E	Minot	Signal	8933	Undivided	0	0	
811.08	811.02	3rd St NE	11th Ave NE	Minot	Thru-STOP	6582	Undivided	0	0	
811.09	811.02	Airport Rd	US 83	Minot	Signal	11970	Divided	0	0	
812.01	812.01	13th St SE	US 2	Minot	Signal	15040	Divided	0	0	YES
812.02	812.01	13th St SE	US 52 (Valley St)	Minot	Thru-STOP	8425	Undivided	0	0	
813.01	813.01	27th St SE	US 52 (Valley St)	Minot	Thru-STOP	10277	Undivided	1	1	
813.02	813.01	27th St SE	US 2 (Burdick Expy)	Minot	Signal	11200	Undivided	0	0	
813.03	813.01	27th St NE	4th Ave NE	Minot	Thru-STOP	7238	Undivided	0	0	
813.04	813.01	27th St NE	Railway Ave NE	Minot	All Way STOP	8188	Undivided	0	0	
814.01	814.02	US 2 Frontage Rd	US 2 (Burdick Expy)	Minot	Thru-STOP	3809	Undivided	1	0	
815.01	815.01	42nd St SE	US 2	Minot	Thru-STOP	7525	Divided	0	0	
815.02	815.01	42nd St SE	11th Ave SE	Minot	Thru-STOP	4258	Undivided	0	0	
815.03	815.01	42nd St SE	US 2 Frontage Rd	Minot	Thru-STOP	3059	Undivided	0	0	
815.04	815.01	42nd St SE	US 2 (Burdick Expy)	Minot	Thru-STOP	4690	Divided	0	0	
816.01	816.01	1st St SW	4th Ave SW	Minot	Thru-STOP	9528	Undivided	0	0	
816.02	816.01	1st St SW	3rd Ave SW	Minot	Thru-STOP	2865	Undivided	0	0	
816.03	816.01	1st St SW	2nd Ave SW	Minot	Signal	4313	Undivided	0	0	
816.04	816.01	1st St SW	1st Ave SE	Minot	Thru-STOP	2773	Undivided	0	0	
816.05	816.01	1st St SW	Central Ave W	Minot	Thru-STOP	5007	Undivided	0	0	
817.01	817.01	Hiawatha St	US 52 (Valley St)	Minot	Thru-STOP	7423	Undivided	1	1	
818.01	818.01	8th Ave SE	US 52 (Valley St)	Minot	Thru-STOP	8465	Undivided	0	0	
818.02	818.01	8th Ave SE	US 2 (Burdick Expy)	Minot	Signal	6472	Undivided	1	0	
819.01	819.01	11th Ave SE	31st St SE	Minot	Thru-STOP	2272	Undivided	0	0	
820.01	820.01	31st St SE	US 2 (Burdick Expy)	Minot	Thru-STOP	5840	Undivided	0	0	
823.01	823.01	3rd Ave SW	S Broadway St	Minot	Thru-STOP	12815	Undivided	0	0	
823.02	823.01	3rd Ave SE	1st St SE	Minot	All Way STOP	3075	Undivided	0	0	
823.03	823.01	3rd Ave SE	Front St SE	Minot	Thru-STOP	4430	Undivided	0	0	

Ward County Right Angle Crash Corridor Analysis

					Criteria					
					Signal	15,000 25,000	Divided	Greater than 0		
Int #	Segment #	Local Name	Cross Street	City	Traffic Control Device	ADT	Major Config	Severe Crashes	Severe Right Angle	High Priority Corridor Candidate
824.01	824.01	Western Ave SW	4th Ave SW	Minot	Thru-STOP	6065	Undivided	0	0	
824.02	824.01	2nd Ave SW	S Broadway St	Minot	Signal	14908	Undivided	1	1	
824.03	824.01	2nd Ave SE	1st St SE	Minot	Thru-STOP	2605	Undivided	0	0	
824.05	824.01	Front St SE	4th Ave SE	Minot	Signal	10268	Undivided	0	0	
825.01	825.01	1st Ave SW	S Broadway St	Minot	Thru-STOP	13945	Undivided	0	0	
825.02	825.01	1st Ave SE	1st St SE	Minot	Thru-STOP	2315	Undivided	0	0	
826.01	826.01	1st St SE	4th Ave SW	Minot	Thru-STOP	8550	Undivided	1	0	
826.02	826.01	1st St SE	Central Ave E	Minot	Thru-STOP	4470	Undivided	0	0	
827.01	827.01	Central Ave E	S Broadway St	Minot	Signal	13940	Undivided	2	0	
828.01	828.01	4th Ave NW	20th St NW	Minot	Thru-STOP	7130	Undivided	0	0	YES
828.02	828.01	4th Ave NW	N Broadway St	Minot	Signal	19748	Undivided	2	0	
828.03	828.02	4th Ave NW	5th Ave NE	Minot	Thru-STOP	5530	Undivided	0	0	
830.01	830.01	20th St NW	Northwest Ave NW	Minot	Thru-STOP	1638	Undivided	0	0	
831.01	831.01	University Ave W	N Broadway St	Minot	Signal	16680	Undivided	1	1	YES
832.01	832.02	11th Ave NW	N Broadway St	Minot	Signal	13290	Undivided	0	0	
833.01	833.01	21st Ave NW	US 83	Minot	Thru-STOP	8300	Undivided	0	0	
833.02	833.01	21st Ave NW	Frontage Rd	Minot	Thru-STOP	5000	Undivided	0	0	
833.03	833.01	21st Ave NW	N Broadway St	Minot	Thru-STOP	9708	Divided	0	0	
834.01	834.01	2nd St NW	N Broadway St	Minot	Thru-STOP	9873	Divided	1	0	
835.01	835.01	30th Ave NW	Frontage Rd	Minot	Yield	2097	Divided	0	0	
835.02	835.01	30th Ave NW	US 83	Minot	Thru-STOP	7575	Divided	0	0	

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on S Broadway St from 20th Ave SW to Central Ave E

Agency Name: City of Minot **ND DOT District: 4**
Contact Name: Stephanie Frizzo **Telephone Number: 701-857-4100**
Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 83.01
Street Name S Broadway St
Urban/Rural: Urban
County: Ward
Length -

SHSP Emphasis Area (check all that apply)

- ☐ duce Alcohol Impaired Driving
- ☐ rease the Use of Safety Restraints for all Occupants
- ☐ unger Driver/Older Driver Safety
- ☐ rb Aggressive Driving
- ☐ provements to Address Lane Departure Crashes
- ☐ hancing Emergency Medical Capabilities to Increase
- ☑ prove Intersection Safety

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Taffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
806.02	20th Ave SW	US 83	X	Signal	26,983	Divided	4	1	1	-
808.02	16th Ave SW	US 83	X	Signal	19,040	Undivided	2	0	1	-
809.02	11th Ave SW	US 83	X	Signal	21,573	Undivided	1	0	1	-
823.01	3rd Ave SW	S Broadway St	T	Thru-STOP	12,815	Undivided	0	0	0	-
824.02	2nd Ave SW	S Broadway St	X	Signal	14,908	Undivided	1	1	1	-
825.01	1st Ave SW	S Broadway St	X	Thru-STOP	13,945	Undivided	0	0	0	-
827.01	Central Ave E	S Broadway St	T	Signal	13,940	Undivided	0	0	1	-

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	Intersection Criteria
Traffic Control Device	Signal
Entering ADT	>15,000 <30,000
Development / Ped Generator	Yes
Total Ped/Bike Crashe	>0

Description	Unit Cost	Quanity	Total Cost
Confirmation Lights	$1,000 per intersection	5	$5,000
Unsignalized and Divided Access Management	$300,000 per mile	0.3	$100,000
			$105,000

Notes -- Access Management for commercial access at 20th Ave intersection and W. Burdick Expressway intersection

Project Cost Estimate (attach detailed copy)

Federal Funds	$94,500
Local Match (10% of Total project cost)	$10,500
Total Project Cost	**$105,000**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on N Broadway St from 4th Ave NW to 30th Ave NW

Agency Name: City of Minot | **ND DOT District: 4**
Contact Name: Stephanie Frizzo | **Telephone Number: 701-857-4100**
Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 83.02
Street Name N Broadway St
Urban/Rural: Urban
County: Ward
Length -

SHSP Emphasis Area (check all that apply)

- ☐ duce Alcohol Impaired Driving
- ☐ rease the Use of Safety Restraints for all Occupants
- ☐ unger Driver/Older Driver Safety
- ☐ rb Aggressive Driving
- ☐ provements to Address Lane Departure Crashes
- ☐ hancing Emergency Medical Capabilities to Increase
- ☑ prove Intersection Safety

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Taffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
828.02	4th Ave NW	N Broadway St	X	Signal	19,748	Undivided	2	0	1	-
831.01	University Ave W	N Broadway St	X	Signal	16,680	Undivided	1	1	1	-
832.01	11th Ave NW	N Broadway St	X	Signal	13,290	Undivided	0	0	1	-
834.01	2nd St NW	N Broadway St	T	Thru-STOP	9,873	Divided	1	0	0	-
811.09	Airport Rd	US 83	X	Signal	11,970	Divided	0	0	1	-
833.03	21st Ave NW	N Broadway St	T	Thru-STOP	9,708	Divided	0	0	0	-
835.02	30th Ave NW	US 83	T	Thru-STOP	7,575	Divided	1	0	0	-

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	Intersection Criteria
Traffic Control Device	Signal
Entering ADT	>15,000 <30,000
Development / Ped Generator	Yes
Total Ped/Bike Crashe	>0

Description	Unit Cost	Quanity	Total Cost
Confirmation Lights	$1,000 per intersection	4	$4,000
Unsignalized and Divided Access Management	$300,000 per mile	0.0	$0
*Corridor includes 0 miles of divided roadway.			$4,000

Notes -- None

Project Cost Estimate (attach detailed copy)

Federal Funds	$3,600
Local Match (10% of Total project cost)	$400
Total Project Cost	**$4,000**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation Programming
SFN 59959 (06-2011)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on 37th Ave SW from 16th St SW to S Broadway St

Agency Name: City of Minot **ND DOT District: 4**
Contact Name: Stephanie Frizzo **Telephone Number: 701-857-4100**
Email Address: stephanie.frizzo@minotnd.gov

Please attach a location map(s). You may use additional sheets to further describe your project.

Location Description

Corridor 800.01
Street Name 37th Ave SW
Urban/Rural: Urban
County: Ward
Length 1.0

SHSP Emphasis Area (check all that apply)

- ☐ duce Alcohol Impaired Driving
- ☐ rease the Use of Safety Restraints for all Occupants
- ☐ unger Driver/Older Driver Safety
- ☐ rb Aggressive Driving
- ☐ provements to Address Lane Departure Crashes
- ☐ hancing Emergency Medical Capabilities to Increase
- ☑ prove Intersection Safety

Describe Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Taffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
802.01	16th St SW	22nd Ave SW	X	Signal	26,905	Divided	0	0	1	-
802.02	16th St SW	20th Ave SW	X	Signal	25,565	Divided	1	0	1	-
802.03	16th St SW	16th Ave SW	T	Signal	16,635	Undivided	0	0	1	-
802.04	16th St SW	11th Ave SW	X	Signal	18,433	Undivided	0	0	1	-
802.05	16th St SW	US 2	X	Signal	18,093	Divided	2	0	1	-

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes 2008 - 2012 5 years

	Intersection Criteria
Traffic Control Device	Signal
Entering ADT	>15,000 <30,000
Development / Ped Generator	Yes
Total Ped/Bike Crashe	>0

Description	Unit Cost	Quanity	Total Cost
Confirmation Lights	$1,000 per intersection	5	$5,000
Unsignalized and Divided Access Management	$300,000 per mile	0.0	$0
*Corridor includes 0 miles of divided roadway.			$5,000

Notes -- None

Project Cost Estimate (attach detailed copy)

Federal Funds	$4,500
Local Match (10% of Total project cost)	$500
Total Project Cost	**$5,000**

Proposed Year of Construction

NDDOT Central Office Only

Project Accepted? ☐ Yes ☐ No Reference Number - ID Number -

Notes --

5.0 Behavioral Safety Strategies

5.1 Purpose of Driver Behavior Safety Strategies

North Dakota's Local Road Safety Program (LRSP) recognizes that driver behavior is a significant factor contributing to a majority of the severe crashes on North Dakota's local roads. Traffic crashes may result from any combination of overlapping crash factors, such as the roadway, the vehicle, and driver behavior. Research supports and experts agree that in most cases driver behavior—risky decisions, driver error, lapses of attention, and driver limitations—is a chief factor contributing to traffic crashes (Lerner et al., 2010). Severe traffic crashes in North Dakota's Ward County can be largely prevented and reduced if motorists were persuaded to engage in key safe driving practices to buckle up, drive at safe speeds, pay attention, and plan ahead to avoid impaired driving. For maximum safety benefit, these measures should be undertaken in addition to adopting infrastructure safety strategies to help ensure the safest and most forgiving roadway possible.

5.2 Overview of Behavioral Crash Data for Ward County

Unbelted Vehicle Occupants: Traffic safety research demonstrates that a motorist's seat belt is the most effective defense in the event of a crash. When lap and shoulder seat belts are used, the risk of fatal injury to front-seat passenger car occupants is reduced by 45 percent and the risk of moderate-to-critical injury is reduced by 50 percent (NHTSA, 2001). Safety benefits are even greater for light-truck occupants, with seat belts reducing fatalities by 60 percent and moderate-to-critical injury by 65 percent (NHTSA, 2009). North Dakota's 2013 statewide seat belt use is 77.7 percent; lower than the nationwide use of 86 percent. Unbelted severe crashes are Ward County's greatest opportunity to strengthen road safety through improving driver behavior. The trend of severe unbelted crashes is increasing statewide. Ward County is below the 48 percent statewide-unbelted severe crashes with 39 percent of the county's severe crashes involving unbelted motorists.

Alcohol-Related Crashes: Nationally, although impaired driving fatalities have decreased since 2007, the percentage of alcohol-impaired fatalities in the U.S. has remained essentially unchanged (NHTSA, 2012a). Similarly, over the last decade, each year nearly half of motor vehicle fatalities statewide in North Dakota continue to be alcohol-related. In Ward County, 22 percent of the county's severe crashes are alcohol-related—lower than the statewide 30 percent. From statewide crash data, nearly half of these preventable severe crashes are on the local road system.

Young Driver-Involved: Young drivers have the highest involvement in fatal crashes of any age group. The fatal crash involvement of drivers age 16 to 20 is nearly twice that of drivers' age 21 and older (NHTSA, 2012b). Key underlying factors to their high crash risk are the developmental and behavioral issues of adolescence coupled with driving inexperience. Young drivers too often immaturely take risks while driving without thinking through the potential consequences of their life-threatening decisions (Keating, 2007). Such high-risk behaviors typically include lack of seat belt use, aggressive driving/speeding, and distractions while driving. Although severe injury crashes involving young drivers have gradually declined statewide, young drivers under the age of 21 continue to be overrepresented in crashes with

67 percent occurring on local roads. In Ward County, 30 percent of severe crashes involve young drivers, which is higher than the 22 percent of statewide severe crashes.

Excessive Speed or Aggressive Driving: Speeding is common and is a tough nut to crack nationally and in North Dakota. Although drivers generally acknowledge that speeding is an unsafe behavior, speeding remains common because the perceived risk of injury is low relative to the perceived benefits of driving fast such as saving time and driving pleasure (Lerner et al., 2010). Consequently, the percentage of speeding-related fatal crashes has remained essentially unchanged over the years and remains a contributing factor in 31 percent of traffic fatalities in the U.S. (NHTSA, 2012c). Speeding and aggressive driving continue to account for approximately 26 percent of all severe crashes in North Dakota with 62 percent of these crashes occurring on the local road system. In Ward County, 25 percent of its severe crashes involve speed or aggressive driving, which is similar to the statewide percentage of 26 percent.

5.3 Importance of Traffic Safety Culture Change

5.3.1 The Influence of Traffic Safety Culture

In adopting North Dakota's long-term vision of zero fatalities, the 2013 North Dakota SHSP establishes a collective goal to reduce the 3-year average of traffic fatalities to 100 or fewer by 2020. To accomplish this interim goal, Ward County, together with its traffic safety partners, seeks to develop and implement its LRSP safety strategies within the broader societal context of motorists' behavior and North Dakota's traffic safety culture. Traffic safety culture can be defined as the implicit shared values, beliefs, and perceptions that shape motorists' behavior.

5.3.2 Social Norms Inhibiting a Strong Traffic Safety Culture

At the core of the nation's and North Dakota's traffic safety challenge is a complacency toward risk-taking by drivers and a tolerance for traffic crashes and the resulting deaths and serious injuries. Contributing factors include a sense of individual driver invulnerability, perceived driving skills and vehicle control, and a sense of anonymity and entitlement on the road. The latest data from the *2012 Traffic Safety Culture Index Survey* reports that, as in previous years, the safety culture in the United States surrounding distracted driving can best be described as "do as I say, not as I do" — due to the high numbers of people who object to certain behaviors, yet will admit that they, themselves, engage in them (AAA, 2012). Real progress in traffic safety depends largely on addressing and changing this culture of indifference to effectively implement and see results of both SHSP and LRSP safety strategies.

5.3.3 Social Levels Influencing Safety Culture

Efforts to change individual driver and motorist behaviors should be planned and executed from an ecological viewpoint—one that examines the driving public and their interaction with their social environments. Traffic safety culture and its influence operate at different levels within society. Therefore, a broader definition of traffic safety culture includes the values, beliefs, and perceptions of not only the individual driver, but of those shared by the various communities of which the driver is a part (Figure 5-1). The individual driver exists within a system that includes the following levels, each embodying factors that influence driving culture and crash risk (Ward et al., 2010; Dahlberg and Krug, 2002):

- Individual level – Factors such as driver age, driving experience, self-esteem, income, and substance abuse

- Relationship level – Factors such as relationships with peers, co-workers, supervisors, and family members
- Community level – Factors include the settings or environments in which relationships occur such as school, church, workplaces, and neighborhoods
- Societal level – Large-scale factors such as safety, health, economic, and educational policies, as well as government commitments and priorities

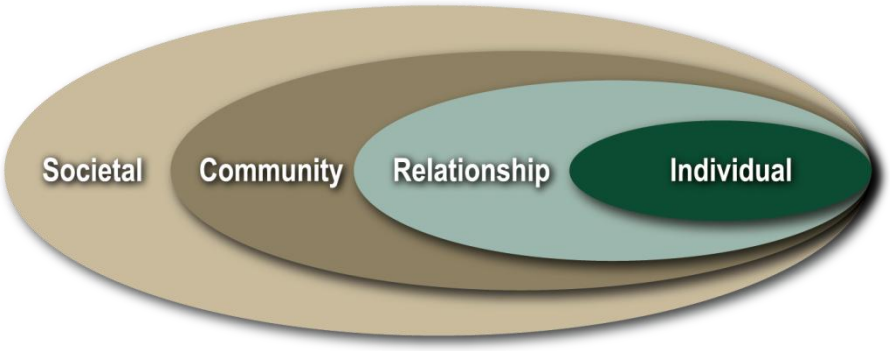

FIGURE 5-1
Social Ecological Perspective of Culture
Source: "Violence – A Global Public Health Problem" by L.L. Dahlberg and E.G. Krug, in *World Report on Violence and Health* (World Health Organization)

Social norms at each level and within each group point to what behaviors are perceived as important. Norms create conformity to expectations that allows people (that is, drivers) to successfully socialize to the subcultures in which they belong. These norms create a climate in which unsafe driving behavior is either encouraged or discouraged. Perceived social norms condoning high-risk driving behaviors provide the case for drivers to rationalize their own high-risk behaviors. To accomplish the culture change, traffic safety behavioral strategies seek to make safe-driving behaviors the accepted norm across all social ecological levels.

The implication of the social ecological model for LRSP efforts is that the implementation plans of LRSP strategies plans should attempt to:

- Increase perceived social pressure to comply with traffic safety laws and practices, thereby, producing safety behavioral norms (Ward et al., 2010)
- Shift the social acceptance of high-risk behaviors to one of perceived unacceptance by significant others and one's peers.

5.4 Behavioral Safety Strategies

5.4.1 Role of Policy, Education, and Enforcement

Techniques or strategies to change driver behavior essentially fall into one of three categories: 1) *policy change* or laws, local ordinances, regulations, sanctions and penalties; 2) *enforcement* of the laws; and 3) *education* or public information, media, and training. These three categories of behavioral safety strategies work together to have the greatest impact on changing risky driver behavior. The degree of effectiveness of any one strategy on behavioral change depends not only on how effectively the strategy is implemented, but also on how these three categories of policy, enforcement, and education are working together.

For example, a state or local agency that is seeking to increase motorists' seat belt use and decides to use a "buckle up" public information campaign (behavioral change strategy). The effectiveness of the campaign not only depends on the quality of the education or public information campaign (relevance to target group, duration, saturation of the messaging), but also the strength of the law in place (primary vs. secondary seat belt law, all passengers vs. front seat only, higher penalty/fee vs. low penalty/fee) and, most important, the degree of seat belt use enforcement (coverage, intensity, visible by the public).

Consequently, the strength of driver safety policy, enforcement, and education surrounding a behavioral strategy selected greatly impact its effectiveness. Therefore, when selecting and implementing a behavioral strategy, an agency must examine the policy, enforcement, and educational context of the strategy and explore ways to strengthen each, as appropriate, to gain the most from a selected strategy.

Finally, it is critically important that traffic safety enforcement is viewed as a priority within local law enforcement agencies and that agency leaders and administrators advocate for strong local enforcement of traffic laws. It is imperative that agency leaders actively address political and public resistance and provide a pathway to deploy the leading strategy to save lives on North Dakota roadways—effective traffic enforcement coupled with public outreach. By advocating for enforcement, educating local elected officials, and equipping officers to effectively enforce traffic safety laws, North Dakota will reap far greater life-saving outcomes from its local safety initiatives.

5.4.2 Effective Use of Public Information Strategies

Public information (education) strategies are often popular among communities seeking to change risky driving behaviors. Education or public information campaigns can range from brochures and mailings to peer-to-peer safety messaging. Brochures and mailings are a passive approach, while peer-to-peer messaging provides a more effective behavioral change approach. In general, a key challenge in influencing driver behavior is that most drivers know what they are supposed to do to drive safely, yet due to successfully driving with risky patterns with no incidence of crash, drivers underestimate the risk of their choices. For this reason, research supports that education, coupled with enforcement, will have the strongest impact in changing driver behavior (NHTSA, 2013).

Following are key characteristics of impactful public information/education campaigns (Williams, 2007):

- Implemented in support of a high-visibility enforcement program
- Focused messaging for a target group
- Longer-term programs delivering messages of sufficient intensity over time
- Messages communicating new information not previously well known
- Messages that are part of a broader-based, longer-term community program with similar messaging coming from multiple sources
- Using behavior change models including interactive methods teaching skills to resist social pressure (such as role playing, group discussion)

5.4.3 LRSP Phase 1 Priority Strategies

During the LRSP workshop, participants reviewed Ward County's behavioral crash data and discussed behavioral safety strategy alternatives that could be implemented at the local level. Out of the strategy review discussions, participants engaged in a prioritization process with six strategies emerging as the preferred local behavioral safety strategies for the four behavioral critical emphasis areas. Table 5-1 reflects the LRSP Phase 1 results of the strategy prioritization, as well as each strategy's alignment with the North Dakota SHSP (indicated by an "X" if included in the SHSP).

TABLE 5-1
North Dakota Phase 1 LRSP Workshop Priority Behavioral Strategies and Relationship with the North Dakota SHSP

Phase 1 LRSP Workshop Priority Behavioral Strategies and Their Relationship with the North Dakota SHSP	Northeast Region	Burleigh County (Region 10)	Ward County (Region 14)	ND SHSP
Impaired Driving				
• Conduct regular high-visibility DUI enforcement saturations	X	X	X	X
Speeding and Aggressive Driving				
• Conduct high-visibility targeted enforcement of speeding and aggressive driving • *Note: Added speed and aggressive driving enforcement strategies to support priority infrastructure safety strategies include:* o *Provide enhanced enforcement to support local agency implementation of Red-Light-Running confirmation lights for at-risk intersection locations.* o *Provide enhanced enforcement on local, at-risk locations for lane departure.*	X	X	X	X
Young Drivers				
• Publicize and conduct a high-visibility enforcement of GDL restrictions, cell and texting laws, underage drinking and driving, and seatbelt laws			X	X
• Encourage driver education providers (local schools and private providers) to require parent education component	X	X		X
• Conduct brief interventions by health care providers following a crash regarding driving risks and consequences			X	X
Unbelted Occupants				
• Conduct highly publicized enforcement campaigns to maximize restraint use.	X	X	X	X

Note:
DUI = driving under the influence
GDL = graduated driver's license

The following subsections provide a more complete description of each priority strategy, suggested steps to launch local agency efforts, recommended implementation resources, and potential future considerations for expanded local agency and community-based support for the SHSP safety strategies. It is important to note that multidisciplinary SHSP implementation teams will be formed to support the implementation of priority strategies for each of the six

SHSP priority emphasis areas including: lane departure, unbelted vehicle occupants, alcohol-related, speed or aggressive drivers, young drivers, and intersections. Therefore, local agencies seeking to leverage local-level safety initiatives described in the following subsections are encouraged to coordinate with and/or engage in the statewide SHSP implementation teams.

5.4.4 Impaired Driving

Ward County Priority Strategy – Conduct regular high-visibility DUI enforcement saturation patrols (includes expanding DUI sobriety checkpoints)

Description: High-visibility DUI enforcement is a high-priority, proven safety strategy to reduce alcohol-impaired severe crashes in North Dakota and across the nation. The most effective way to deter impaired driving is through a highly visible enforcement effort to reinforce the driving public's belief that impaired drivers are at high risk of being arrested, prosecuted, and adjudicated. High-visibility enforcement consists of multiple jurisdictions and/or multiple squads patrolling a segment of roadway at the same time, often using brightly colored vests and signs. Planned enforcement is publicized extensively through community kickoff events involving the local media and public education campaigns about the enforcement. High visibility also includes enforcement agencies reporting to news media the outcome or arrests made during the saturation or checkpoint campaign. In addition to deterring driving after drinking by increasing the perceived risk of arrest, high-visibility enforcement extends the safety impact of the enforcement campaign for a longer period following the campaign.

What are saturation patrols?
Saturation patrols, also known as "dedicated DUI patrols," are stepped-up enforcement involving a greater number of law enforcement officers patrolling a specific area for a set time to identify and arrest impaired drivers. Multiple agencies often combine and concentrate their resources to conduct saturation patrols.

What are sobriety checkpoints?
At sobriety checkpoints, law enforcement officials evaluate drivers for signs of alcohol or drug impairment at certain points on the roadway. Vehicles are stopped in a specific sequence, such as every other vehicle or every fourth, fifth, etc. The frequency of which vehicles are stopped depends on the traffic conditions and the number of enforcement personnel available to staff the checkpoint.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as impaired driving, in the SHSP.
- Assist local law enforcement agencies and Regional DUI Task Forces with identifying locations with high crash involvement for high-visibility enforcement.
- With local law enforcement, attend county board/city council meetings to speak on the importance of reducing impaired driving and the important role of both enforcement and engineering safety strategies.
- Collaborate with highway patrol, local law enforcement, community health officials, and local traffic safety stakeholders to use TSO DUI campaign materials to conduct community outreach on the enforcement campaign.

Implementation Resources:

- For crash data and analysis to focus DUI enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To learn about Regional DUI Task Forces and other local traffic safety enforcement activities and enforcement grant opportunities, contact the TSO.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- For statewide impaired driving enforcement mobilizations, the TSO distributes media outreach materials to local enforcement agencies which may include: press releases, talking points, camera-ready artwork and posters, impaired driving fact sheets, handouts for the public at checkpoints, a print public service announcement (PSA), and live-read radio PSAs. *(Note: TSO to assemble available information resources.)*
- For guidance on planning and publicizing saturation patrols and sobriety checkpoints:

  Saturation Patrols & Sobriety Checkpoints: A How-to Guide for Planning and Publicizing Impaired Driving Enforcement Efforts, NHTSA, Report No. DOT HS 809 063, revised October 2002.
  http://www.nhtsa.gov/people/injury/alcohol/saturation_patrols/

  Low-Staffing Sobriety Checkpoints. NHTSA, Report No. DOT HS 810 590, 2006.
  http://www.nhtsa.gov/people/injury/enforce/LowStaffing_Checkpoints/

- Other impaired-driving safety resources:

  National Highway Traffic Safety Administration: http://www.nhtsa.gov/Impaired

  Governor's Highway Safety Administration:
  http://www.ghsa.org/html/issues/impaireddriving/index.html

  Insurance Institute for Highway Safety:
  http://www.iihs.org/research/topics/alcohol_drugs.html

Potential future considerations for expanded local agency and community-based support of SHSP impaired-driving safety strategies:

- Engage local safety stakeholders (law enforcement, Mothers Against Drunk Driving [MADD], Students Against Drunk Driving [SADD], North Dakota Safety Council, community health provider, emergency medical service providers) and facilitate coalition development to educate local elected officials on the importance of state agency impaired-driving legislative initiatives resulting from the state's comprehensive assessment of North Dakota impaired-driving laws.
- Conduct community-wide and sustained public information outreach to educate and create cultural awareness of the risks associated with excessive alcohol use.
- Develop and conduct local public outreach on accessible safe-ride alternative transportation services.
- Conduct highly publicized compliance checks and training for local alcohol retailers and merchants to reduce sales to underage persons.

Other high-impact, proven strategies for local agency consideration:

- Monitor judicial sentencing of local DUI courts or intensive supervision programs.

5.4.5 Young Drivers

Ward County Priority Strategy – Publicize and conduct high-visibility enforcement of teen driver Graduated Driver's Licensing (GDL) restrictions, no teen cell phone use and texting-while-driving laws, no underage drinking and driving, and seatbelt use laws.

Description: See Section 5.4.4 for a description of high-visibility/highly publicized enforcement campaigns.

To the extent that teen drivers do not comply with the protective restrictions under North Dakota's GDL system and its Zero Tolerance for drinking laws, traffic safety benefits of these laws will be greatly reduced. Compliance with restrictions can be encouraged through stepped-up enforcement efforts such as checkpoints and saturation patrols coupled with publicity to raise awareness for the enforcement.

North Dakota law enforcement agencies (state, county, city and tribal) participate in high-visibility enforcement programs coordinated at the regional level using a data-driven, multi-agency approach. Such inter-agency cooperation deploys a strategic approach to supporting smaller agencies with low officer staffing by increasing enforcement presence for seat belt, impaired driving, and speed enforcement campaigns which include drivers under the age of 20. In addition, underage-drinking enforcement is conducted during peak youth high-risk time periods such as prom and graduation. Underage drinking enforcement also includes retail compliance check programs to monitor the selling of alcohol to minors. Finally, law enforcement agencies conduct overtime high-visibility enforcement of North Dakota's no-texting law in areas more prominently impacted by distracted driving-related severe injury crashes.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as young drivers, in the SHSP.
- Assist local law enforcement agencies and regional enforcement teams with identifying locations with high young driver crash involvement for high-visibility enforcement.
- Explore with local law enforcement the use of enforcement checkpoints held near high schools during lunchtime, after school, or after school sporting events and activities to enforce safety belt laws and passenger restrictions.
- With local law enforcement, attend county board/city council meetings to speak about the importance of reducing young driver severe crashes through high visibility enforcement.
- Collaborate with highway patrol, local law enforcement, community health officials, and local traffic safety stakeholders to use TSO traffic safety materials to conduct community outreach on young driver risks together with messaging about upcoming traffic safety enforcement campaigns.
- Work with local businesses to provide rewards and incentives to law enforcement, like discount coupons, to distribute to young drivers who are paying attention to the road (not their phones) and demonstrating safe driving behaviors.

Implementation Resources:

- For information on high-visibility enforcement implementation resources, see *Section 5.4.4* for alcohol enforcement and *Section 5.4.6* unbelted enforcement.

- For age-specific information and resources for parents on how to start and continue the conversation about alcohol use with their children, see the North Dakota's *Parents LEAD* program (Listen, Educate, Ask, Discuss).
  http://www.parentslead.org/
- To launch a comprehensive local distracted driving outreach campaign to support law enforcement's high-visibility efforts, see NHTSA's *Districted Driving Campaign Starter Kit: One Text or Call Could Wreck It All.*
  http://www.distraction.gov/download/campaign-materials/dd_campaign_starter_kit.pdf

Considerations for future expanded local agency/community support of ND SHSP young driver safety strategies:

- Engage local traffic safety stakeholders (law enforcement, school administrators, driving schools, insurance companies, community health providers, emergency medical service providers) and facilitate coalition development to educate local elected officials on the importance of state agency GDL and teen driver safety policy initiatives.

Other high-impact strategies for local agency consideration:

- Conduct locally facilitated peer-to-peer driver safety outreach campaigns designed for high school students to raise peer awareness of the common risk factors threatening novice drivers.
- Implement cell phone use and safe driving policies for local agency employees and encourage local businesses to do the same.

Ward County Priority Strategy – Conduct brief interventions by health care providers following a crash regarding driving risks and consequences

Description: Following a car crash, brief interventions by trauma care providers capitalize on the "teachable moment" during the treatment of a patient's injuries in which he or she is more motivated to change risky driving behavior. In the context of highway safety, brief interventions most commonly are short, 10- to 15-minute motivational interviews involving an initial screening or a structured set of questions and a brief follow-up discussion that encourage drinking drivers to create a plan of action, from reducing their drinking to seeking substance abuse treatment, based on their willingness to change their drinking behavior. The discussion involves a non-threatening approach that provides feedback in a non-threatening manner. North Dakota's Ward County seeks to expand the application of brief interventions by trauma and health care providers to include high-risk behaviors most often practiced by young drivers such as lack of belt use, speeding/aggressive driving, and distracted driving.

The consequences of traffic crashes involve injury and care issues greatly impacting North Dakota and its local communities; however, organizations dedicated to health care do not always recognize the important role they play in contributing to the reduction of high-risk driving behaviors. The promotion of brief interventions performed by trauma care providers can be an effective strategy to help improve traffic safety at the local level.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as young drivers, in the SHSP.

- Collaborate with local health and trauma care providers and community-based traffic safety groups to assist with launching traffic safety brief intervention approach (see implementation resources below).

Implementation Resources:

- For assistance with identifying local community partners and health/trauma care providers, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- For guidance on developing and implementing brief interventions:

  Alcohol and Highway Safety: Screening and Brief Intervention for Alcohol Problems as a Community Approach to Improve Traffic Safety, NHTSA, Technology Transfer Series, Report No. DOT HS 811 811, September 2013.
  http://www.nhtsa.gov/About+NHTSA/Traffic+Techs

  Screening and Brief Intervention Tool Kit for College and University Campuses, NHTSA, Report No. DOT HS 810 751
  http://www.nhtsa.gov/links/sid/3672Toolkit/index.htm

5.4.6 Unbelted

Ward County Priority Strategy – Conduct highly publicized enforcement campaigns to maximize restraint use

Description: See Section 5.4.4 for a description of high-visibility/highly publicized enforcement campaigns.

North Dakota law enforcement agencies (state, county, city and tribal) participate in the state's Click It or Ticket mobilization program to boost seat belt use and reduce highway fatalities through stepped up enforcement of unrestrained occupants, The mobilization is supported by national and local paid advertising and earned media campaigns aimed at raising awareness before the enforcement saturation. Click It or Tick It takes place each year in May around the Memorial Day holiday. North Dakota has increased its focus on nighttime seat belt use because fewer motorists buckle up at night.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as unbelted crashes, in the SHSP.
- Assist local law enforcement agencies with identifying locations with high unbelted crash involvement for high-visibility enforcement.
- With local law enforcement, attend county board/city council meetings to speak on the importance of enforcing belt use.
- Collaborate with highway patrol, local law enforcement, community health officials, and local traffic safety stakeholders to use TSO belt use campaign materials to conduct community outreach on the enforcement campaign.

Implementation Resources:

- For crash data and analysis to focus seat belt enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To learn about local traffic safety enforcement activities and enforcement grant opportunities, contact the TSO.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- For statewide belt use mobilizations, the TSO distributes media outreach materials to local enforcement agencies which may include: press releases, talking points, camera-ready artwork and posters, belt-use fact sheets, a print public service announcement (PSA), and live-read radio PSAs. *(Note: TSO to assemble available information resources.)*
- For guidance on planning and publicizing belt-use saturation patrols:

  NHTSA 2013 national seat belt enforcement *Products for Enforcement Action Kit (PEAK)* to help enforcement rally officers and alert the public to prepare for maximum high-visibility seat belt enforcement during the day and also at night.

  http://www.trafficsafetymarketing.gov/CIOT-PEAK

  Nighttime Enforcement of Seat Belt Laws: An Evaluation of Three Community Programs, NHTSA, Report No. DOT HS 811 189, August 2009.

  Innovative Seat Belt Demonstration Programs in Kentucky, Mississippi, North Dakota, and Wyoming, NHTSA, Report No. DOT HS 811 080, March 2009.

  Avoiding "Tween" Tragedies: Demonstration Project to Increase Seat Belt Use Among 8- to 15-year-old Motor Vehicle Occupants, NHTSA, Report No. DOT HS 811 096, June 2012.

  For the above and other belt enforcement and information outreach resources:
  http://www.nhtsa.gov/Driving+Safety/Occupant+Protection

- Other seat-belt safety resources:

  Governor's Highway Safety Administration:
  http://www.ghsa.org/html/issues/occprotection/index.html

  Insurance Institute for Highway Safety:
  http://www.iihs.org/iihs/topics/t/safety-belts/topicoverview

Potential future considerations for expanded local agency, tribal and community-based support of SHSP safety strategies:

- Pursue tribal ordinances for primary enforcement of seat belt laws.
- Engage local safety stakeholders (law enforcement, Mothers Against Drunk Driving [MADD], Students Against Drunk Driving [SADD], North Dakota Safety Council, community health provider, emergency medical service providers) and facilitate coalition

development to educate local elected officials on the importance of state agency primary seat belt legislative initiatives.

- Conduct community-wide and sustained public information outreach to educate and create cultural awareness of the risks associated with unbelted motorists.

5.4.7 Speed and Aggressive Driving

Ward County Priority Strategy – Conduct highly publicized and targeted speed and aggressive driving enforcement campaigns

Description: See Section 5.4.4 for a description of high-visibility/highly publicized enforcement campaigns.

North Dakota law enforcement agencies (state, county, city and tribal) participate in the state's Ticketing Aggressive Cars and Trucks (TACT) program to reduce speed-related fatalities and severe injuries through stepped up enforcement of aggressive cars and trucks primarily in oil-impacted counties. For aggressive driving enforcement, officers focus on drivers who commit a combination of moving traffic violations such speeding, following too closely, running red lights, which endangers other persons or property.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as speeding, in the SHSP.
- Assist local law enforcement agencies with identifying locations with high speed and aggressive driving-related crash involvement for high-visibility enforcement.
- With local law enforcement, attend county board/city council meetings to speak on the importance of enforcing speed and aggressive driving.
- Collaborate with highway patrol, local law enforcement, community health officials, and local traffic safety stakeholders to use TSO speed campaign materials to conduct community outreach on the enforcement campaign.

Implementation Resources:

- For crash data and analysis to focus speed enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To learn about local traffic safety enforcement activities and enforcement grant opportunities, contact the TSO.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- For guidance for law enforcement on planning and publicizing local speed saturation patrols and successful case examples, see NHTSA's *Guidelines for Developing a Municipal Speed Enforcement Program* at:

  http://www.nhtsa.dot.gov/people/injury/enforce/program.htm

- For a summary of successful aggressive driving enforcement programs deployed at the local and state-level across the country, see NHTSA's (2001 b) *Aggressive Driving Enforcement: Strategies for Implementing Best Practices* at:

  http://www.nhtsa.gov/people/injury/enforce/aggressdrivers/aggenforce/

- Other speed-related safety resources:

  Governor's Highway Safety Administration:
  http://www.ghsa.org/html/issues/speeding.html

  Insurance Institute for Highway Safety:
  http://www.iihs.org/iihs/topics/t/speed/topicoverview

Potential future considerations for expanded local agency, tribal and community-based support of SHSP safety strategies:

- Engage local safety stakeholders (law enforcement, Mothers Against Drunk Driving [MADD], Students Against Drunk Driving [SADD], North Dakota Safety Council, community health provider, emergency medical service providers) and facilitate coalition development to educate local elected officials on the importance of state agency legislative initiatives to strengthen penalties such as increased fines for right-of-way and speed violations.

Ward County's Priority Strategy – Provide enhanced enforcement to support local agency implementation of Red-Light-Running confirmation lights for at-risk intersection locations.

Description: To reduce the most common type of severe crashes at signalized intersections--right angle crashes—Ward County would like to deploy an innovative safety strategy using a downstream confirmation light system to reduce red-light running. A blue LED light mounted on the back of a traffic light is activated when an offender runs the red light. A single officer stationed across the intersection downstream from the traffic light safely observes and pursues the red light violator (instead of one officer to observe and an additional officer to pursue). To implement, red-light-running confirmation lights requires interdependent collaboration of both engineering and enforcement; even more effective would be added public outreach about the RLR confirmation lights.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as speed and aggressive driving, in the SHSP.
- Work with NDDOT staff regarding specific design features of the system. Contact NDDOT Traffic Operations Section, Shawn Kuntz, 701-328-2673.
- Coordinate with local law enforcement:
  - Ask for their assistance in locating the enforcement lights on traffic signal poles/mast arms (optimum viewing locations)
  - Ask for an agreement regarding minimum levels of enforcement (i.e., one hour per day at any of the equipped locations)

  - Provide training to officers after installation – demonstrate that the "Blue/Confirmation" Light does come on at the same instant as the red light of the signal.

- Encourage law enforcement to coordinate with the City/County attorney – make sure the attorney understands the technology and is willing to prosecute the violators.
- Encourage the City/County attorney to coordinate with the district court judge – make sure the judge understands the technology and will uphold charges and support the conviction of violators.
- Prior to issuing any tickets for violations using the Confirmation Lights, have the traffic signal operations engineer check all of the signals clearance intervals (Yellow + All Red) to make sure they are 100 percent consistent with the agencies adopted guidelines. Have a note confirming compliance signed by the engineer put in the signal controller cabinet. (This will help address the inevitable complaint by those issued tickets that the agency changed the clearance intervals to generate more violators – to increase revenue streams.)
- With local law enforcement, attend county board/city council meetings to speak on the community safety benefits of red-light-running confirmation lights.

Implementation Resources:

- For crash data and analysis to focus red-light-running enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- Safety projects developed as part of the LRSP are eligible for funding through the state's Highway Safety Improvement Program (HSIP) including enhanced enforcement.
- Contact local agencies that have deployed red-light-running confirmation lights:
  - City of Burnsville Public Works, Minnesota
    Engineering Department
    100 Civic Center Parkway
    Burnsville, MN 55337
    Phone: 952-895-4534
  - Richardson Police Department, Texas
    140 North Greenville Ave.
    Richardson, TX 75081
    Phone: 972-744-4800

Ward County's Priority Strategy – **Provide enhanced enforcement on local, at-risk locations for lane departure.**

Description: To reduce lane departure severe crashes on rural paved roads, Ward County will be deploying infrastructure safety improvements (e.g., centerline rumble strips, edge line rumble strips, adding or widening edge lines, high visibility pavement markings) at select at-risk corridors. To maximize the expected safety benefit of the road improvements, integrating increased enforcement presence at targeted at-risk locations and timeframes will reduce risky driver behaviors through strengthening the public's perceived risk of being stopped.

Getting Started:

- Contact the Traffic Safety Office (TSO) to participate in the SHSP process as a stakeholder in the implementation of strategies identified for priority safety emphasis areas, such as lane departure, in the SHSP.
- Work with NDDOT staff regarding specific design features of the system. Contact NDDOT Traffic Operations Section, Shawn Kuntz, 701-328-2673.
- Coordinate with local law enforcement to provide enhanced enforcement at local, at-risk locations for lane departure.
    - Based on crash data, identify timeframes for high crash risk (i.e., Saturday evening hours)
    - Ask for an agreement regarding minimum levels of enforcement (i.e., one hour per day at any of the equipped locations, target contacts per hour, etc.)

Implementation Resources:

- For crash data and analysis to focus lane departure enforcement efforts, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- Safety project developed as part of the LRSP are eligible for funding through the state's Highway Safety Improvement Program (HSIP) including enhanced enforcement.
- See Section 5.4.7 for speed and aggressive driving implementation resources.

5.5 Traffic Safety Office Supporting Resources

Unless otherwise indicated, for technical assistance and supporting resources contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.

5.5.1 TSO Grant Program Application Process

The TSO solicits grant applications from eligible state and local agencies and for-profit and non-profit organizations that address North Dakota's problem solution plans or PSPs. PSPs reflect the state's greatest opportunities for behavioral safety improvement. Grant applications are due June 30th of each year and are evaluated based on: (1) response to identified problems, (2) proposed evidenced-based strategy, (3) clear objectives, (4) comprehensive evaluation plans, and (5) cost-effective budgets. Selected projects are included in TSO's Highway Safety Plan and once approved by NHTSA, grant contracts are generally effective October 1 through September 30th.

5.5.2 Technical Assistance

County Outreach Program

The TSO, in cooperation with the North Dakota Association of Counties, offers a county-based Traffic Safety Outreach program to provide advocacy and community mobilization, media support, public outreach, and training to address seat belt use, impaired driving, speeding, and distracted driving at the county level. County participants include law enforcement, transportation engineering, social services, public health, businesses, nonprofit agencies, faith-based agencies, media, and other entities.

5.5.3 Traffic Records/Crash Data

Traffic and Criminal Software or TraCS

The quality of traffic safety problem identification and decision making regarding effective safety strategies and their implementation is based on the quality and timeliness of crash data. Data is collected from officer crash reports at the time of the incident when a crash involves fatalities, injuries, or at least $1,000 in property damage. NDDOT reviews the crash report and enters the data into a centralized database called the Crash Reporting System or CRS.

To assist law enforcement in providing timely, complete, and accurate crash reports, the NDDOT Traffic Safety Office (TSO) supports the installation of Traffic and Criminal Software or TraCS and provides technical assistance and training to local agency and tribal law enforcement to effectively deploy TraCS for in-the-field incident reporting. Local and tribal enforcement agencies are strongly encouraged to utilize the convenience of TraCS for the electronic submission of crash reports to the NDDOT. Key benefits to participating agencies and tribes are the reduced officer time and effort required for duplicate entry into local and state crash databases, reduced need for data entry resources and administrative support, as well as improving the overall quality and timeliness of the crash report.

Local Agency Crash Data Support

The Upper Great Plains Transportation Institute develops crash data summaries for each law enforcement agency under contract with the TSO for overtime enforcement supporting impaired driving and seat belt enforcement campaigns. The crash data summaries demonstrate the priority crash factors and trends within each local agency's jurisdiction.

Annual Crash Summary

The NDDOT annually publishes the Crash Summary to identify and describe the annual crash data and historical crash trends in North Dakota including the description of factors contributing to the occurrence of traffic crashes and the resulting injuries and fatalities. The Crash Summary is a valuable reference resource for local agencies and their safety partners for problem identification, safety strategy planning, targeted strategy implementation, program evaluation, and media inquiries.

http://www.dot.nd.gov/divisions/safety/docs/crash-summary.pdf

References

AAA Foundation for Traffic Safety (AAA), 2012. 2012 *Traffic Safety Culture Index*. Washington DC. January.

Dahlberg, Linda L., and Etienne G. Krug, 2002. "Chapter 1. Violence-a Global Public Health Problem." *World Report on Violence and Health*. Edited by Etienne G. Krug, Linda L. Dahlberg, James A. Mercy, Anthony B. Zwi, and Rafael Lozano. World Health Organization: Geneva, Switzerland.

Keating, Daniel P., 2007. "Understanding Adolescent Development: Implications for Driving Safety." *Journal of Safety Research*. Vol. 38, Issue 2. Pages 147-157.

Lerner, Neil, Jeremiah Singer, and James Jenness, 2010. "Safer Drivers." White Papers for: *Toward Zero Deaths: A National Strategy on Highway Safety*. White Paper No. 3. July 12.

National Highway Traffic Safety Administration (NHTSA), 2013. *Countermeasures that Work: A Highway Safety Countermeasure Guide for Sate Highway Safety Offices*. 7th Edition. Report No. DOT HS 811 727. Washington DC. April.

National Highway Traffic Safety Administration (NHTSA), 2013. *Technology Transfer Series, Alcohol and Highway Safety: Screening and Brief Intervention for Alcohol Problems as a Community Approach to Improve Traffic Safety.* Report No. DOT HS 811 811. Washington DC. September.

National Highway Traffic Safety Administration (NHTSA), 2012. Avoiding "Tween" Tragedies: Demonstration Project to Increase Seat Belt Use Among 8- to 15-year-old Motor Vehicle Occupants, NHTSA, Report No. DOT HS 811 096. Washington DC.

National Highway Traffic Safety Administration (NHTSA), 2012a. *Traffic Safety Facts 2010: A Compilation of Motor Vehicle Crash Data from the Fatality Analysis Reporting System and the General Estimates System.* Report No. DOT HS 811 659. Washington DC.

National Highway Traffic Safety Administration (NHTSA), 2012b. *Traffic Safety Facts, 2010 Data: Young Drivers*. Report No. DOT HS 811 622. National Center for Statistics and Analysis. Washington DC. May.

National Highway Traffic Safety Administration (NHTSA), 2012c. *Traffic Safety Facts, 2010 Data: Speeding*. Report No. DOT HS 811 636. National Center for Statistics and Analysis. Washington DC. August.

National Highway Traffic Safety Administration (NHTSA), 2009. *Traffic Safety Facts, 2008 Data: Occupant Protection*. Report No. DOT HS 811 160. National Center for Statistics and Analysis. Washington DC.

National Highway Traffic Safety Administration (NHTSA), 2009. *Nighttime Enforcement of Seat Belt Laws: An Evaluation of Three Community Programs*, NHTSA, Report No. DOT HS 811 189. Washington, DC. August.

National Highway Traffic Safety Administration (NHTSA), 2009. *Innovative Seat Belt Demonstration Programs in Kentucky, Mississippi, North Dakota, and Wyoming*, NHTSA, Report No. DOT HS 811 080, Washington, DC. March.

National Highway Traffic Safety Administration (NHTSA), 2007. *Screening and Brief Intervention Tool Kit for College and University Campuses*, Report No. DOT HS 810 751. Washington DC. February.

National Highway Traffic Safety Administration (NHTSA), 2001. *Effectiveness of Occupant Protection Systems and Their Use*. Fifth/Sixth Report to Congress. Report No. DOT HS 809 442. Washington DC. November.

Ward, Nicholas J., Jeff Linkenback, Sarah N. Keller, and Jay Otto, 2010. "White Paper on Traffic Safety Culture." White Paper No. 2. *White Papers for: Toward Zero Deaths: A National Strategy on Highway Safety*. Western Transportation Institute, College of Engineering, Montana State University. July 7.

Williams, Allan F., 2007. *Public Information and Education in the Promotion of Highway Safety*. Research Results Digest 322. National Cooperative Highway Research Program (NCHRP). Washington DC. August.