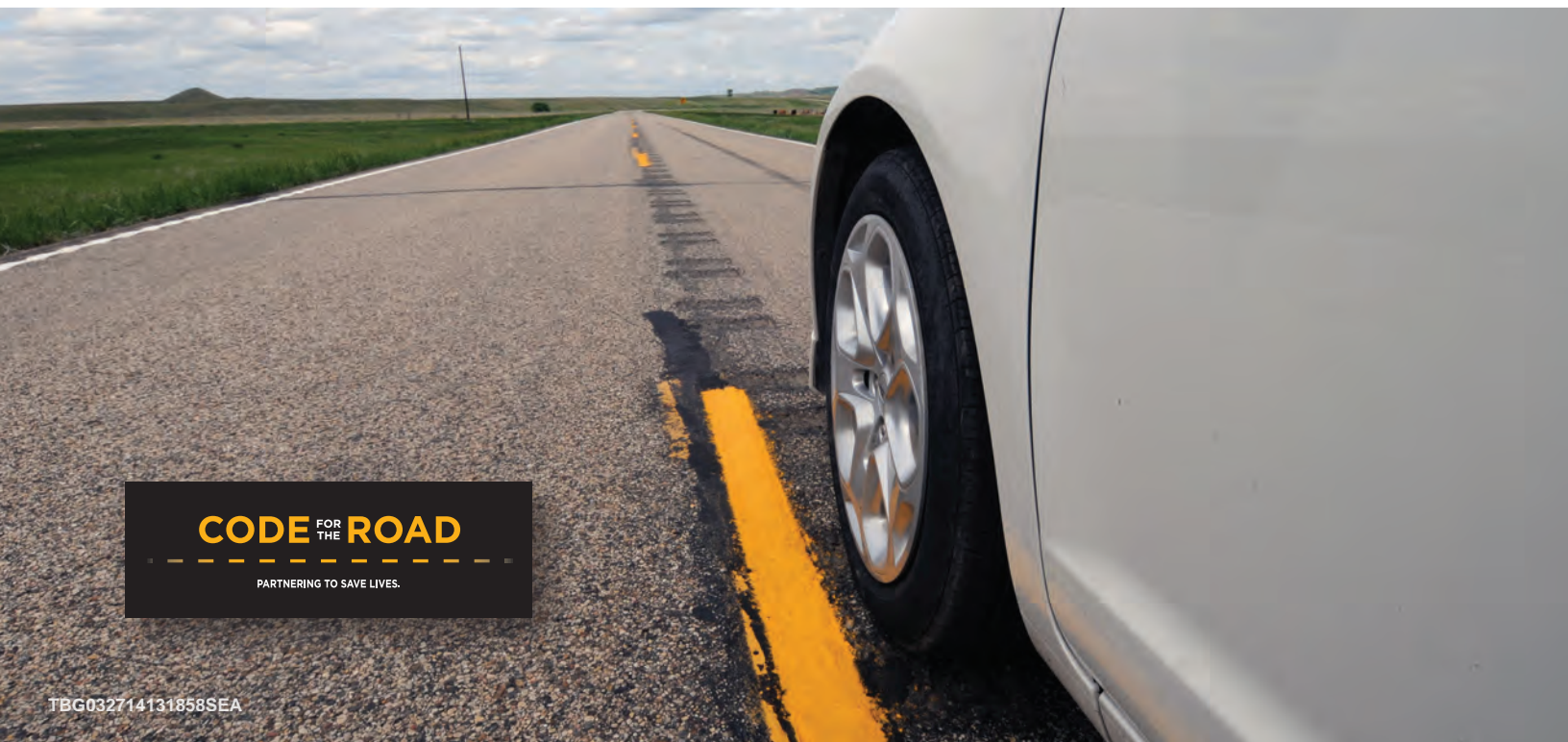




June 2014

North Dakota Local Road Safety Program



CODE FOR THE ROAD

PARTNERING TO SAVE LIVES.

North Dakota Local Road Safety Program

Prepared by

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On behalf of

North Dakota Department of Transportation

Grant Levi, P.E., Director

June 2014

23 USC 409

NDDOT Reserves All Objections

Contents

Executive Summary	ES-1
1.0 Introduction	1-1
1.1 Background.....	1-1
1.2 Traffic Safety – A National Perspective	1-2
1.2.1 AASHTO’s <i>Strategic Highway Safety Plan</i> and Safety Emphasis Areas	1-3
1.3 North Dakota’s Statewide Safety Planning Efforts	1-3
1.4 Local Road Safety Program Overview.....	1-5
2.0 Cass County Safety Emphasis Areas and Crash Overview	2-1
2.1 Cass County Crash Overview	2-1
2.1.1 North Dakota Crash Mapping	2-1
2.1.2 Facilities Analyzed.....	2-1
2.1.3 Crash Data Sets	2-2
2.2 Cass County Region Safety Emphasis Areas	2-7
2.3 Crash Risk Factors	2-8
2.3.1 Rural Segments – Crashes on Paved Roads	2-9
2.3.2 Rural Curves – Crashes on Paved Roads in Curves	2-13
2.3.3 Rural Intersections – Crashes at Thru-STOP Intersections	2-16
2.3.4 Urban Roadway Segments – Cities with Populations Greater than 5,000 (Cities of Fargo and West Fargo)	2-19
2.3.5 Urban Intersections – Right-Angle Crashes, Cities with Populations Greater than 5,000 (Cities of Fargo and West Fargo).....	2-23
2.3.6 Urban Intersections – Pedestrian/Bicycle Crashes, Cities with Populations Greater than 5,000 (Cities of Fargo and West Fargo).....	2-25
2.4 Cass County Risk Summary.....	2-29
3.0 Cass County Priority Safety Strategies	3-1
3.1 Background.....	3-1
3.2 Initial/Comprehensive List of Potential Strategies.....	3-1
3.3 Safety Strategies Workshop.....	3-11
3.4 Priority Safety Strategies.....	3-11
4.0 Cass County Infrastructure Safety Projects	4-1
4.1 Cass County Proactive Project Decision Process.....	4-1
4.2 Cass County.....	4-10
4.3 City of Fargo	4-13
4.4 City of West Fargo	4-17
5.0 Behavioral Safety Strategies	5-1
5.1 Purpose of Driver Behavior Safety Strategies.....	5-1
5.2 Overview of Behavioral Crash Data for Cass County	5-1
5.3 Importance of Traffic Safety Culture.....	5-2
5.3.1 The Influence of Traffic Safety Culture.....	5-2
5.3.2 Social Norms Inhibiting a Strong Traffic Safety Culture	5-2
5.3.3 Social Levels Influencing Safety Culture	5-3

5.4 Behavioral Safety Strategies	5-4
5.4.1 Role of Policy, Education, and Enforcement.....	5-4
5.4.2 Effective Use of Public Information Strategies	5-4
5.4.3 LRSP Phase 2 Priority Strategies.....	5-5
5.4.4 Impaired Driving	5-6
5.4.5 Speed and Aggressive Driving	5-10
5.4.6 Young Drivers	5-12
5.4.7 Unbelted Occupants	5-14
5.5 Traffic Safety Office Supporting Resources	5-17
5.5.1 TSO Grant Program Application Process.....	5-17
5.5.2 Technical Assistance.....	5-17
5.5.3 Traffic Records/Crash Data	5-17
References	5-19

Acronyms and Abbreviations

4Es	education, enforcement, engineering, and emergency medical services
100MVMT	100 million vehicle miles traveled
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
<i>LEAD</i>	Listen, Educate, Ask, Discuss
LRSP	Local Road Safety Program
MUTCD	<i>Manual on Uniform Traffic Control Devices</i>
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 Cass County and the cities of Fargo and West Fargo. 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 Cass County and the cities of Fargo and West Fargo 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 the NDDOT to fund as part of the Highway Safety Improvement Program (HSIP). The LRSP is not intended to be a complete safety plan for Cass County and the cities of Fargo and West Fargo, 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 at high-risk locations within the region, other equally important 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 approximately \$2.7 million of suggested safety projects across the County (Table ES-1), including the filled out forms suitable for submittal to the 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 ES-1
Cass County, Fargo and West Fargo Total Safety Project Costs

Rural Projects	Roadway Segments	Intersections	Curves	Total
Cass County	\$267,804	\$903,120	\$62,166	\$1,233,090
Urban Projects	Roadway Segments	Intersections – Right-Angle	Intersections – Pedestrians and Bicyclists	Total
Fargo	\$51,507	\$34,800	\$1,044,000	\$1,130,307
West Fargo	\$272,737	\$9,600	\$48,000	\$330,337

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 Cass County and the cities of Fargo and West Fargo 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. This LRSP contains \$2.7 million of potential safety projects, which could provide Cass County and the cities of Fargo and West Fargo with a sufficient backlog of projects for up to 5 years. As a result, Cass County and the cities of Fargo and West Fargo are encouraged to consider periodically updating this LRSP.

Cass County and the cities of Fargo and West Fargo 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 (those crashes resulting in at least one fatality or serious injury) 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.

Representatives from the NDDOT, Cass County and the cities of Fargo and West Fargo prepared this LRSP Safety Plan (Plan) as Phase 2 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 Cass County. The area covered by the Plan includes a portion of NDDOT District 8 - Fargo (Figure 1-1). Additionally, Barnes, Eddy, Foster, Grand Forks, Griggs, Steele and Traill counties and the cities of Grand Forks, Valley City and Wahpeton participated in Phase 2 of the study; however, their information is presented in separate reports.

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 compliment reactive projects developed through a site analysis approach focused on high-crash locations.

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

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, 15,820 total crashes and 243 severe crashes occurred in Cass County over the 5-year period from 2008 to 2012.

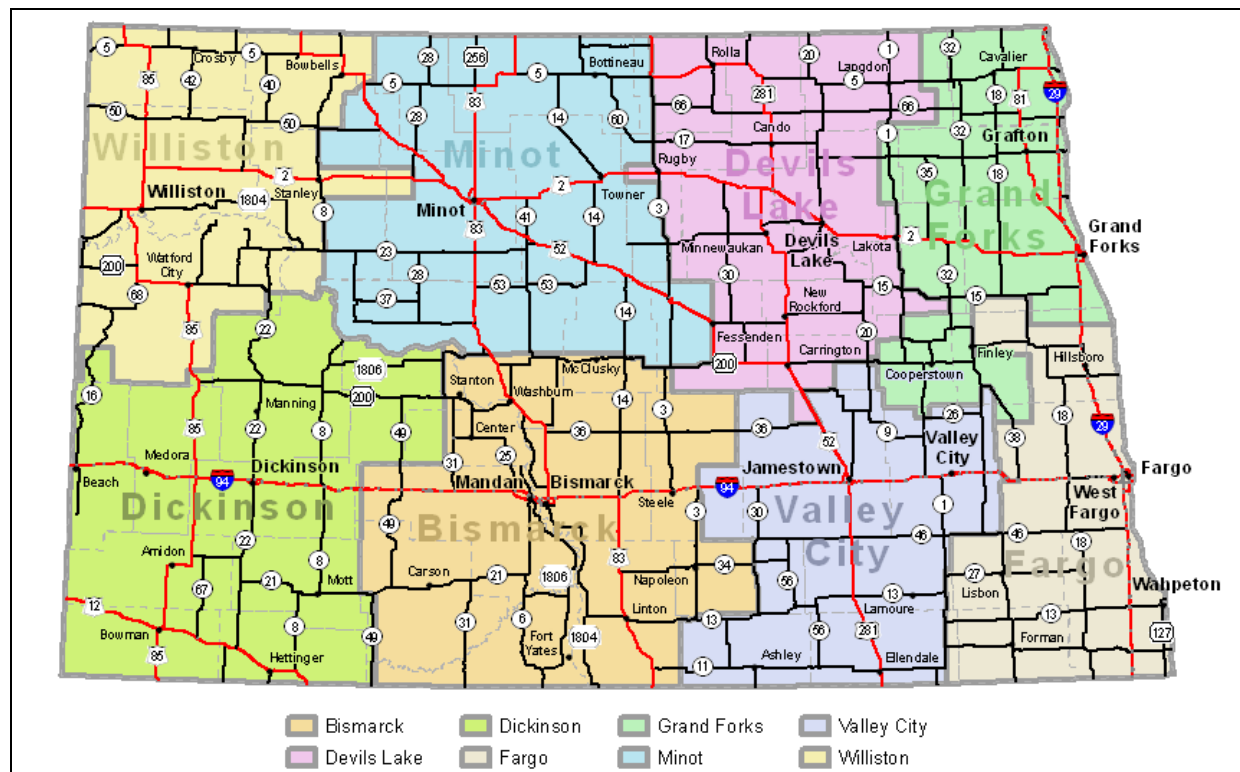


FIGURE 1-1
North Dakota Department of Transportation's Eight Districts

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 again 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 of safety – 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 issue.

In 2007, AASHTO set a goal to reduce the number of traffic fatalities nationally by 1,000 each year for the next 20 years, which is an integral first step in a national *Toward Zero Deaths* 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 serious injury 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 100 million vehicle miles traveled [100MVMT] in 2004) that was less than the national average (1.44 fatalities per 100MVMT). However, in recent years, the North Dakota fatality rate (1.61 fatalities per 100MVMT in 2011) has risen to above the national average (1.10 fatalities per 100MVMT) and the overall number of traffic fatalities has crept upward (see Figure 1-2). In 2011, there were 148 fatalities on North Dakota roads: the most traffic fatalities reported in the state since 1982.

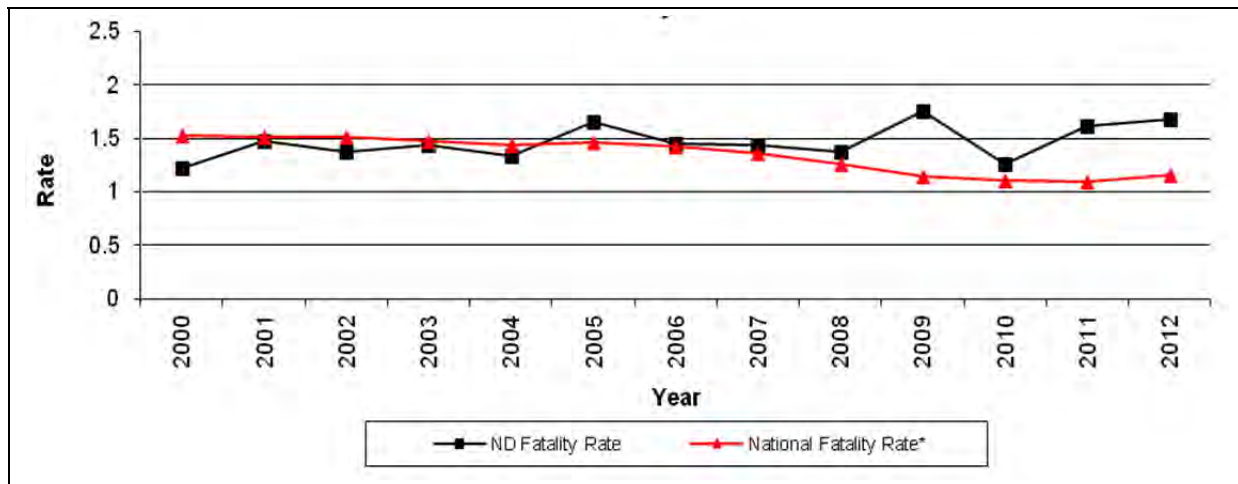


FIGURE 1-2
Fatality Rate – National and North Dakota (2000 to 2012)

In 2013, the NDDOT updated the state’s SHSP. Based on severe crashes (Table 1-1), the 2013 SHSP identified the following safety emphasis areas, as well as priority safety 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 Serious Injury Crashes by AASHTO Safety Emphasis Area

Safety Emphasis Area		Statewide Crashes (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

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

Safety Emphasis Area		Statewide Crashes (All Roads)	
		Percent	Number
Special Users	Pedestrians crashes	5%	117
	Bicycle crashes	2%	46
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 the 2008 to 2012 North Dakota crash data records, which is an update to the information in the 2013 North Dakota SHSP that 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 occurred 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

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.

segments (60 percent of severe crashes), horizontal curves (32 percent of severe crashes), and intersections (32 percent of severe crashes).

Major cities were selected as a focus because approximately 90 percent of the severe local-road crashes occurred within the city boundaries of the 12 cities in this category. Furthermore, 40 percent of the severe crashes occurred on urban arterials and collectors. 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 freeways), the U.S. and state highways were included in the review.

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



FIGURE 1-3
Local Road Safety Program Safety Plan Approach

2.0 Cass County Safety Emphasis Areas and Crash Overview

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

2.1 Cass County Crash Overview

2.1.1 North Dakota Crash Mapping

Crash data was taken from North Dakota Department of Transportation's (NDDOT) 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 Cass County 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: roadway segments, curves, and intersections.

- Paved rural local roadway 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 cities of Fargo and West Fargo. 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 the 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). For Cass County, there were not enough crashes to be statistically reliable; therefore, decisions were based on the crashes for all Phase 2 cities and city-containing counties combined (Figure 2-1), statewide data (Figure 2-2), or national research.

The Cass County data set includes 12,263 crashes on local roads; of these, 157 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	Cass County (Percent/Number)	Statewide (Percent/Number)
Rural Roads	15% (24 crashes)	71% (789 crashes)
Paved Rural Roads	50% (12 crashes)	50% (394 crashes)
CMC Gravel Roads	8% (2 crashes)	9% (73 crashes)
Paved Rural Road Segments	58% (7 crashes)	59% (225 crashes)
Single Vehicle, Lane-Departure Crashes on Paved Rural Road Segments	71% (5 crashes)	76% (170 crashes)
Paved Rural Road Intersections	33% (4 crashes)	36% (137 crashes)
Paved Rural Road Thru-STOP Intersections	100% (4 crashes)	44% (60 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.

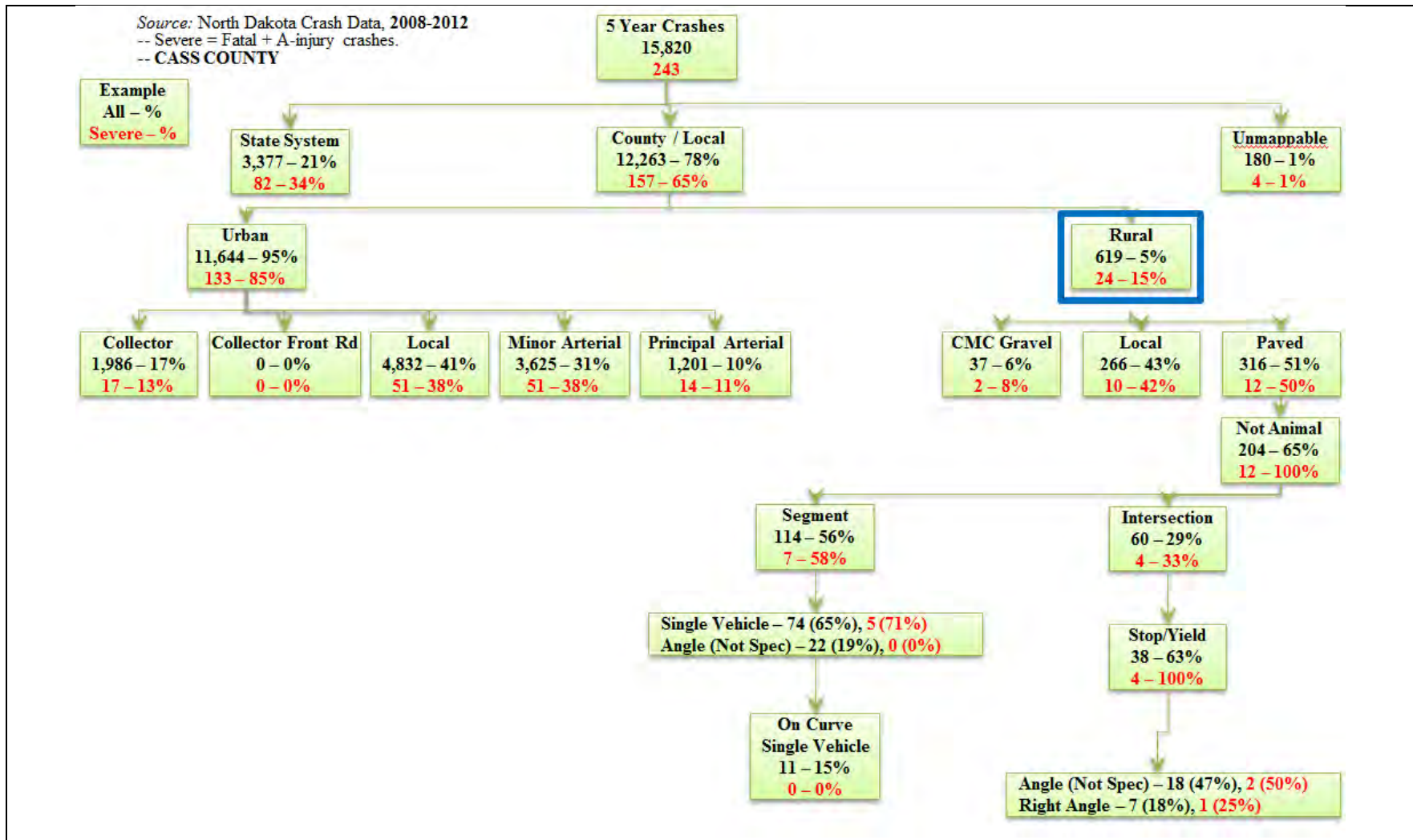


FIGURE 2-1
 Cass County Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

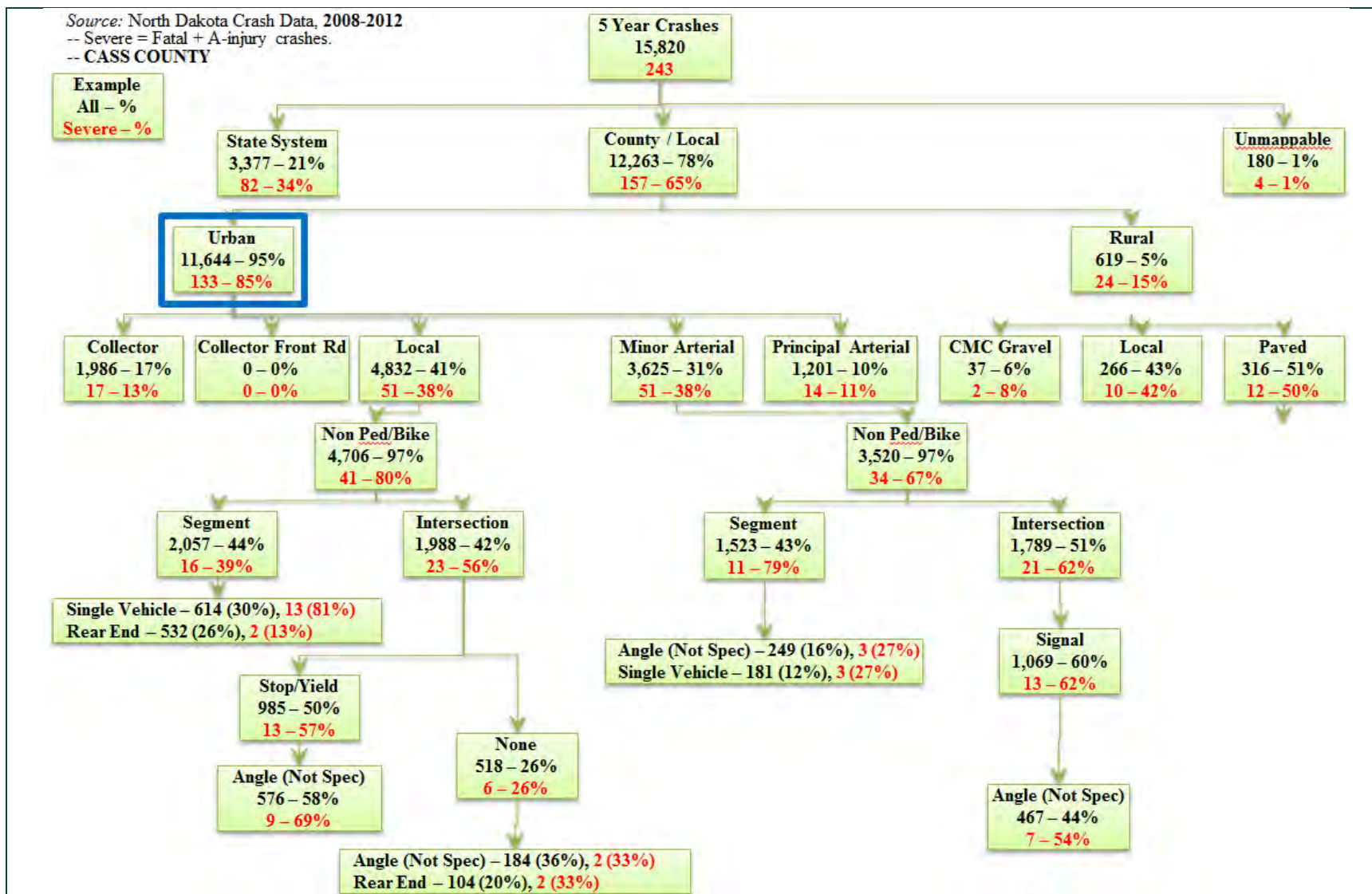


FIGURE 2-1 (Continued)
 Cass County Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

North Dakota Crash Tree: Rural Local System

Source: North Dakota Crash Data, 2008-2012
 -- Severe = Fatal + Incapacitating injury crashes.

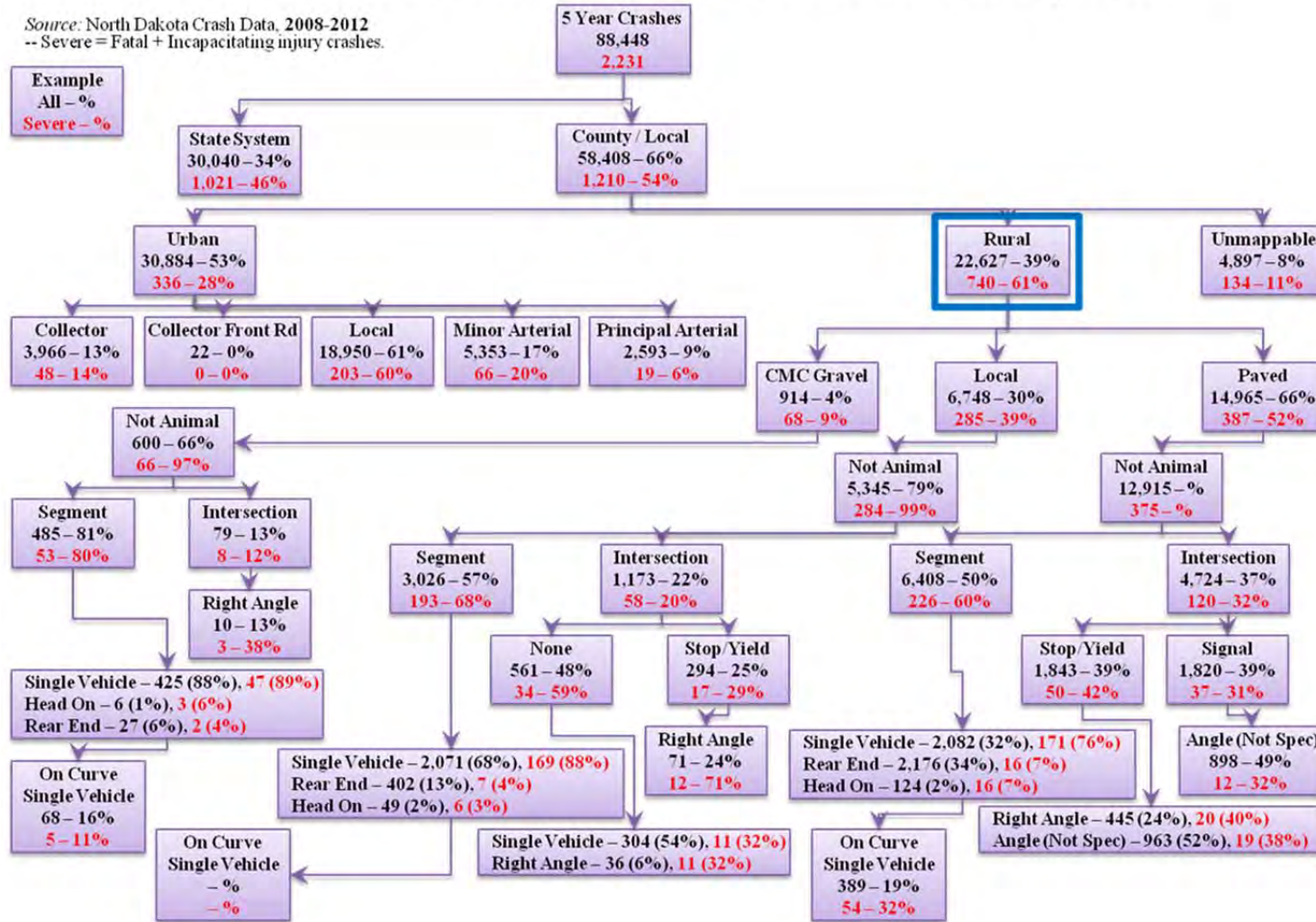


FIGURE 2-2
 North Dakota Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

North Dakota Tree: Urban Local System

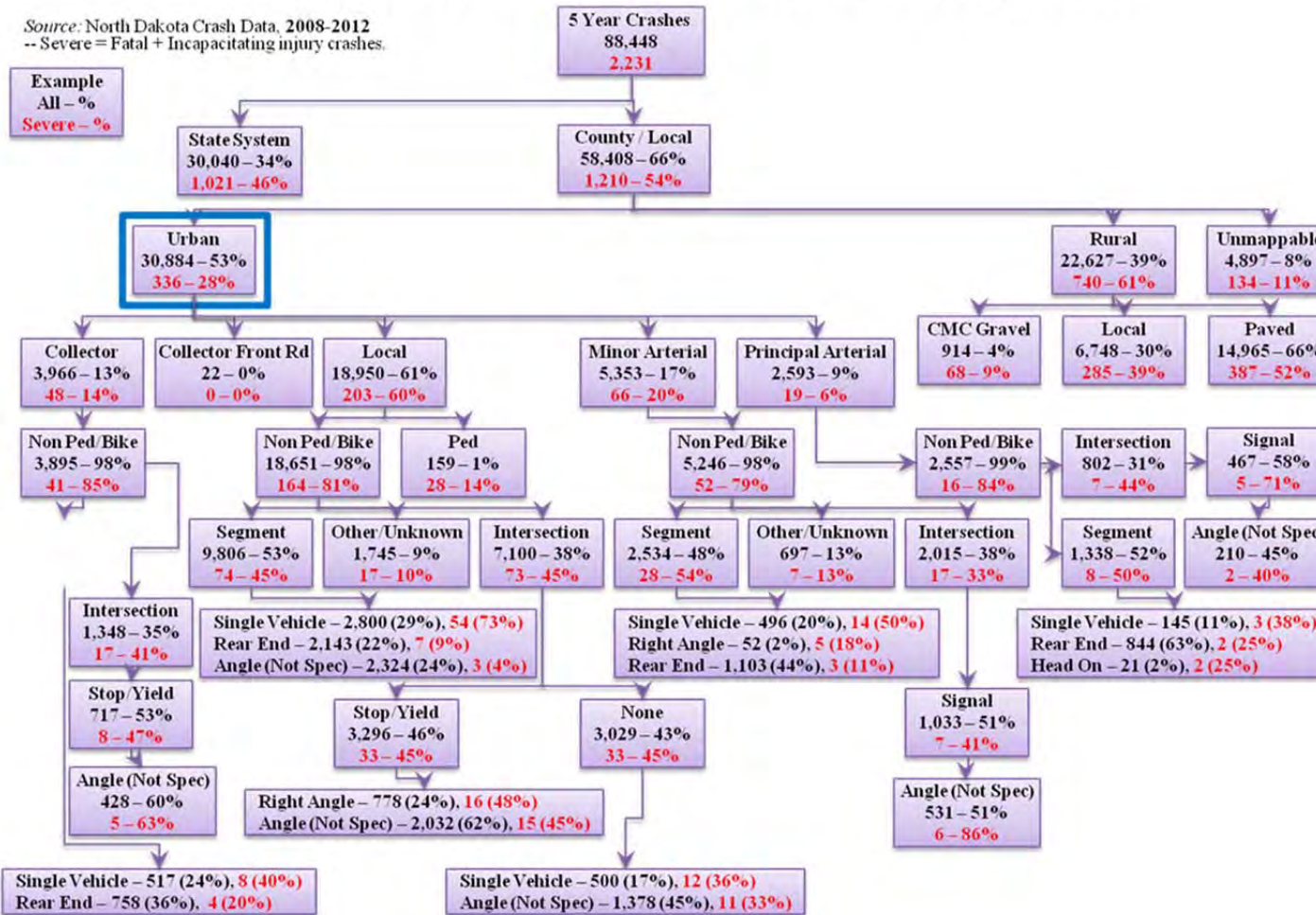


FIGURE 2-2 (Continued)
 North Dakota Crash Data Overview – Rural and Urban Local Road Systems (2008 to 2012)

2.2 Cass 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 was 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 Cass County, resulting in the distribution of severe crashes among AASHTO’s 22 emphasis areas (Table 2-2). The safety emphasis areas for Cass 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
Cass County Severe Crashes by Safety Emphasis Areas (2008 to 2012)

Safety Emphasis Areas	Statewide (% of Total)	2008 to 2012 Severe Crashes					
		Cass County		State Roads		Local System	
		%	#	%	#	%	#
Total Severe Crashes	2,231	243		82		161	
Involving Drivers Under Age 21	22%	25%	60	18%	15	28%	45
Involving Drivers Over Age 64	13%	11%	26	15%	12	9%	14
Excessive Speed or Aggressive Driving	26%	23%	57	33%	27	19%	30
Alcohol-Related	30%	23%	55	26%	21	21%	34
Distracted, Asleep, or Fatigued Drivers	9%	9%	23	10%	8	9%	15
Unbelted Vehicle Occupants	48%	37%	91	40%	33	36%	58
Pedestrian Crashes	5%	12%	29	7%	6	14%	23
Bicycle Crashes	2%	7%	18	6%	5	8%	13
Motorcycle Crashes	12%	13%	31	7%	6	16%	25
Heavy Vehicle Crashes	15%	10%	25	18%	15	6%	10
Train-Vehicle Collisions	1%	0%	0	0%	0	6%	10
Lane-Departure (Run-Off-the-Road and Head-On) Crashes	47%	29%	71	41%	34	23%	37
<i>Head-On</i>	<i>7%</i>	<i>6%</i>	<i>14</i>	<i>9%</i>	<i>7</i>	<i>4%</i>	<i>7</i>
<i>Run-off-the-Road Crashes</i>	<i>40%</i>	<i>23%</i>	<i>57</i>	<i>33%</i>	<i>27</i>	<i>19%</i>	<i>30</i>
Intersection Crashes	23%	30%	74	9%	7	42%	67
Work Zone Crashes	2%	2%	5	2%	2	2%	3

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

Safety Emphasis Areas	Statewide (% of Total)	2008 to 2012 Severe Crashes					
		Cass County		State Roads		Local System	
		%	#	%	#	%	#
Deer Collisions	1%	0%	0	0%	0	0%	0
Adverse (Winter) Weather Related	16%	25%	61	38%	31	19%	30
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, or 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 Cass County and the cities of Fargo and West Fargo are provided in Section 3.2.

2.3 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 additional urban areas and ten additional counties were studied as a part of Phase 2 in the LRSP: the cities of Grand Forks, Wahpeton and Valley City, in addition to Grand Forks County and the Eastern Region counties of Barnes, Eddy, Foster, Griggs, Ransom, Richland, Sargent, Steele, and Traill . The cities of Fargo and West Fargo are the subject of the urban portion of this Plan, but for analysis purposes, the data were combined for all of Phase 2 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 severe crashes occurred on paved roads. Therefore, the focus of the LRSP is on rural paved roadway segments.

There are 310 miles of rural paved county roads in Cass County. From 2008 to 2012, 12 severe crashes were reported on these roads. The predominant crash type on these roads was single-vehicle lane departure (Figure 2-4). 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, 46 percent have an ADT greater than 225 vehicles per day. However, 72% of the severe lane departure crashes occurred above this ADT (Figure 2-5). Therefore, any segment in a rural county with an ADT greater than 225 vehicles per day received a star.
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. North Dakota’s review of severe crashes on their rural county roads, shown in Figure 2-3, demonstrates a slightly lower threshold for the relationship between access density and severe lane departure crashes, therefore any segment in a rural county with an access density greater than or equal to six access points per mile received a star.

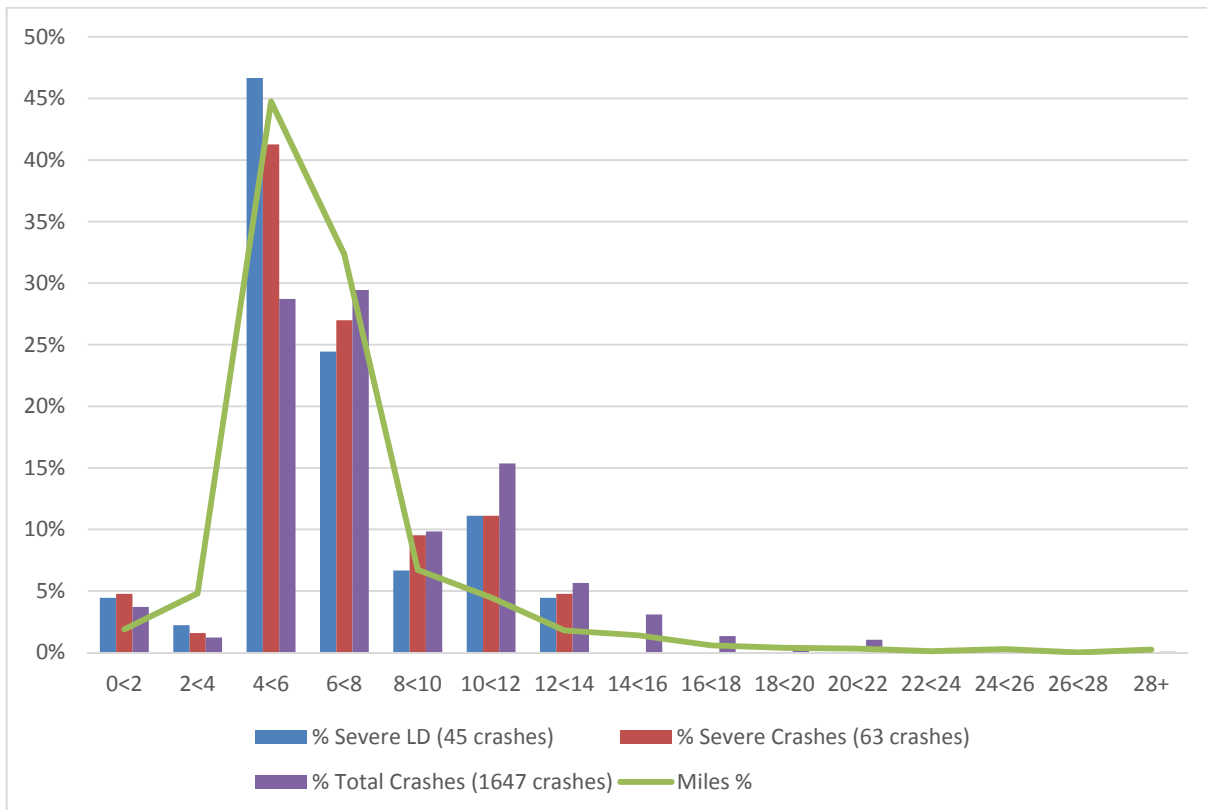


FIGURE 2-3
 Severe Crashes by Access Density on North Dakota Rural County Roads (2008 to 2012)

3. **Lane Departure Density** - The average lane departure density for rural counties was 0.040 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 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 rural county average critical curve radius density for these types of curves along roadway segments was 0.111 curve per mile. Any segment with a curve critical radius density greater than or equal to 0.111 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 using photos taken in the autumn 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.

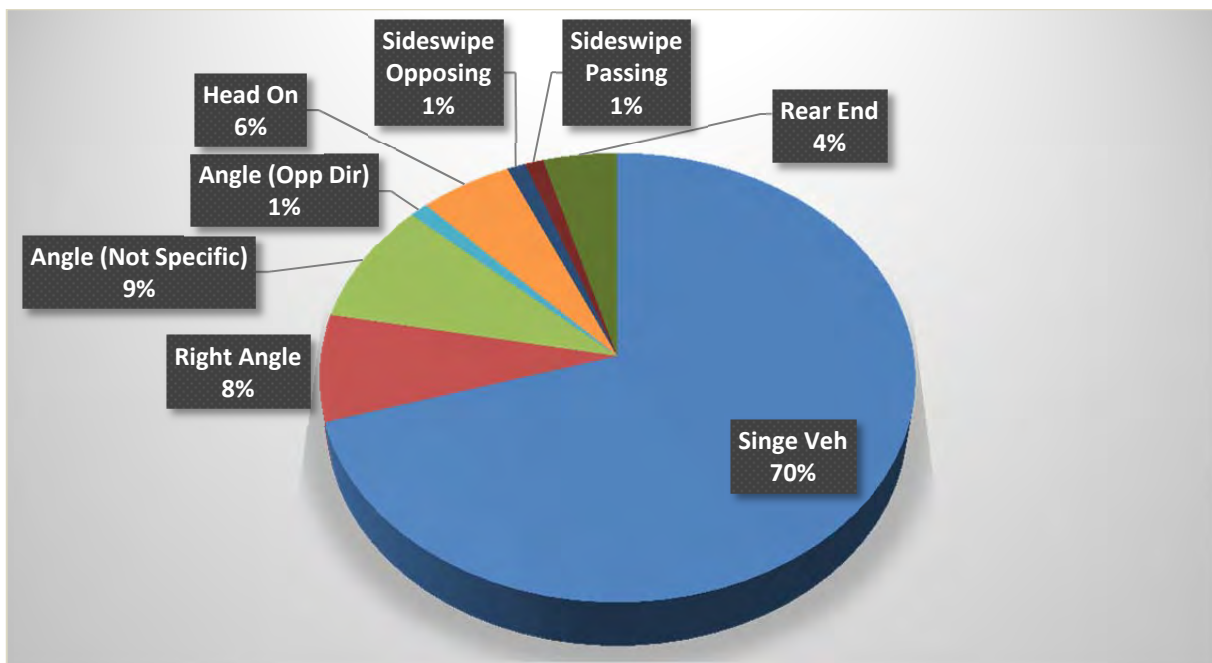


FIGURE 2-4
 Severe Crash Types on Rural Paved Roads (2008 to 2012)

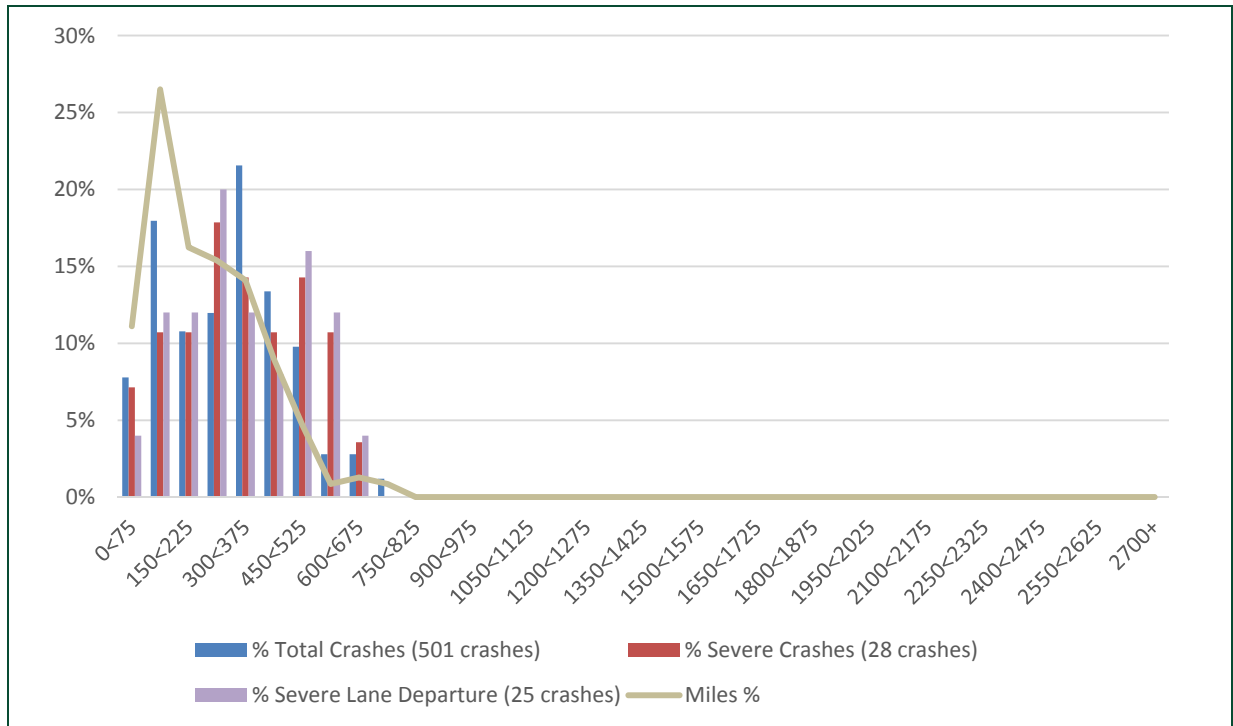


FIGURE 2-5
 Rural Counties Roadway Segment Average Daily Traffic (ADT) Crash Data (2008 to 2012)



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 310 miles of rural paved roads in Cass County contain 31 curves totaling almost 5 miles in length (two percent of the road system mileage).

With only two 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, data for all Phase II counties show the importance of safety improvements on curves to reduce severe crashes since many 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** – Cass County and all counties in Phase I and Phase II 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.

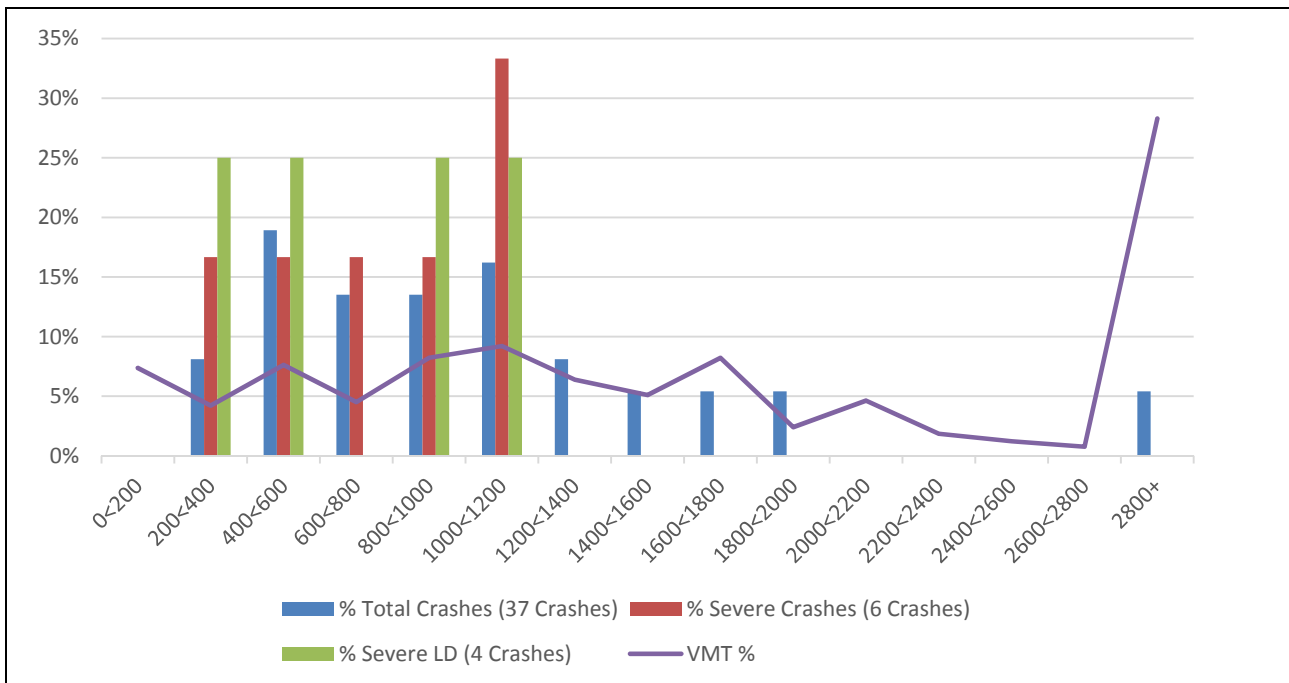


FIGURE 2-7
 Phase I & Phase II Rural Curve Crashes by Radii – 500 to 1,200 feet (2008 to 2012)

- Average Daily Traffic (ADT) -** Traffic volumes over 300 vehicles per day present a risk factor in rural counties and represent a higher risk for crashes (Figure 2-8). Sixty-four percent of severe lane departure crashes occurred along curves with this ADT, while only 31 percent of curves are represented in this range. Therefore, curves with an ADT over 300 vehicles per day received a star.

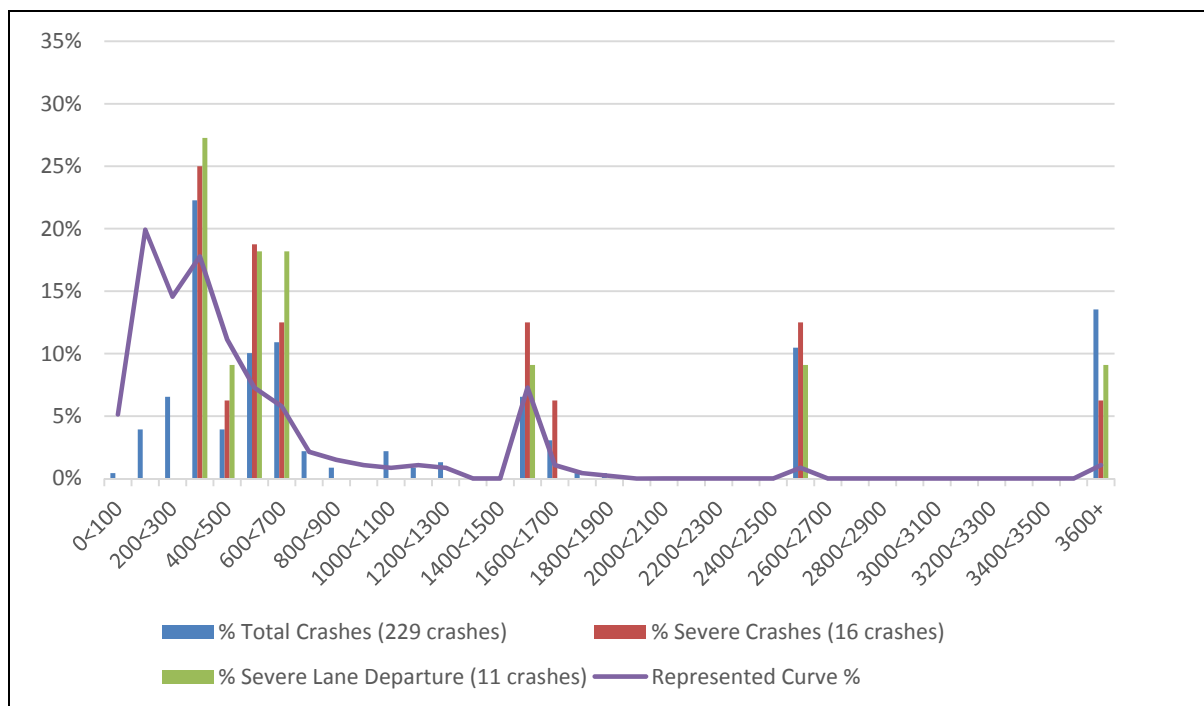


FIGURE 2-8
 Rural Curve Crashes by Average Daily Traffic (ADT) - Greater than 300 Vehicles per Day (2008 to 2012)

- Intersection on the Curve -** Nationally, the presence of an intersection within a curve increased the risk for a severe crash. Curves with at least one intersection within the curve received a star.
- 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 2-9). The presence of a visual trap increased the risk of crashes in Cass County and, therefore, received a star.
- Severe Crashes -** If a severe crash occurred on a curve between 2008 and 2012, the curve received a star.



FIGURE 2-9
Example of a Visual Trap – Minor Road Intersects Roadway on a Curve

Based on 53 total crashes and 7 severe lane departure crashes along the rural 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 in Cass County 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 (the difference 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 Cass County’s rural local roads, a severe crash is most common at Thru-STOP intersections,¹ where 100 percent of severe intersection crashes (4 of 4 severe crashes) occurred from 2008 to 2012. Severe right-angle and angle crashes are the most common types of crashes at these intersections (Figures 2-10 and 2-11).

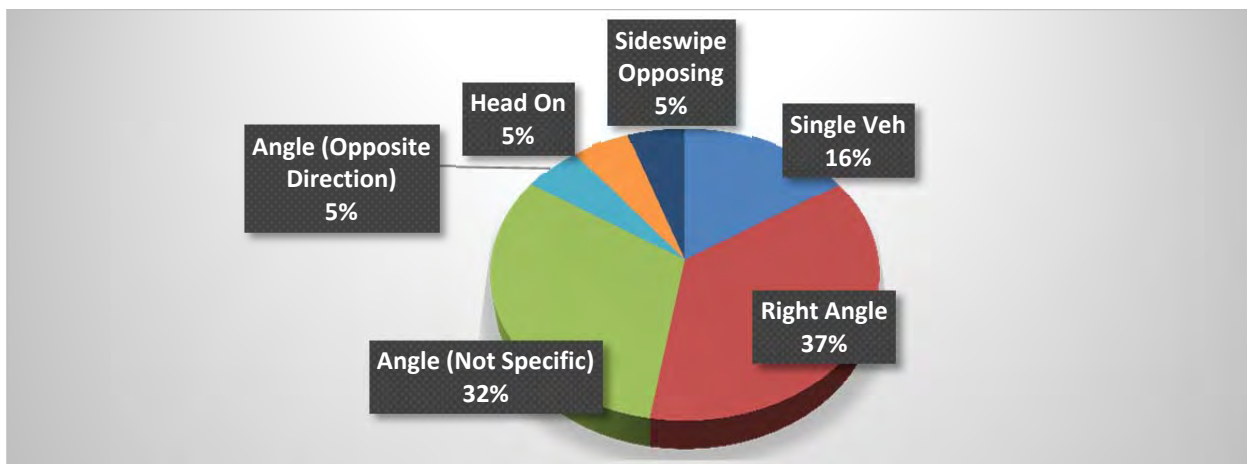


FIGURE 2-10
 Phase II Rural Severe Crashes by Crash Diagram (2008 to 2012)

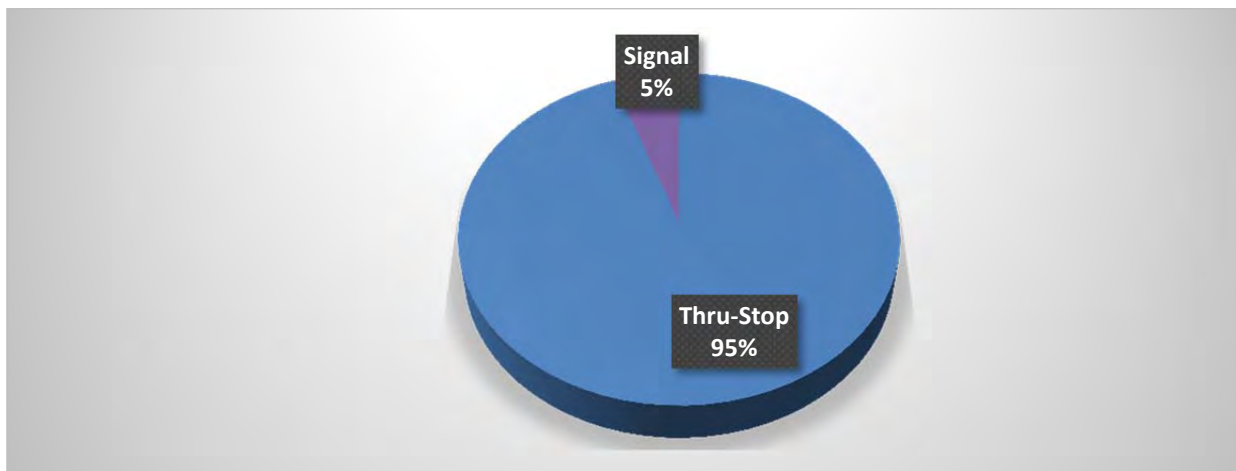


FIGURE 2-11
 Phase II Rural Severe Crashes by Traffic Control Device (2008 to 2012)

¹ 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 proceeding through the intersection.

In Cass County, 139 rural intersections with 87 Thru-STOP locations were reviewed. The average severe crash density at rural Thru-STOP locations is 0.01 severe crashes 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** - 94 percent of the severe right angle crashes at rural Thru-STOP intersections occurred at intersections with an ADT Cross Product² of major and minor entering vehicles greater than 60,000 (Figure 2-12). An intersection was considered to have a higher risk of severe right angle crashes if the ADT Cross Product was greater than 60,000. These intersections received a star.

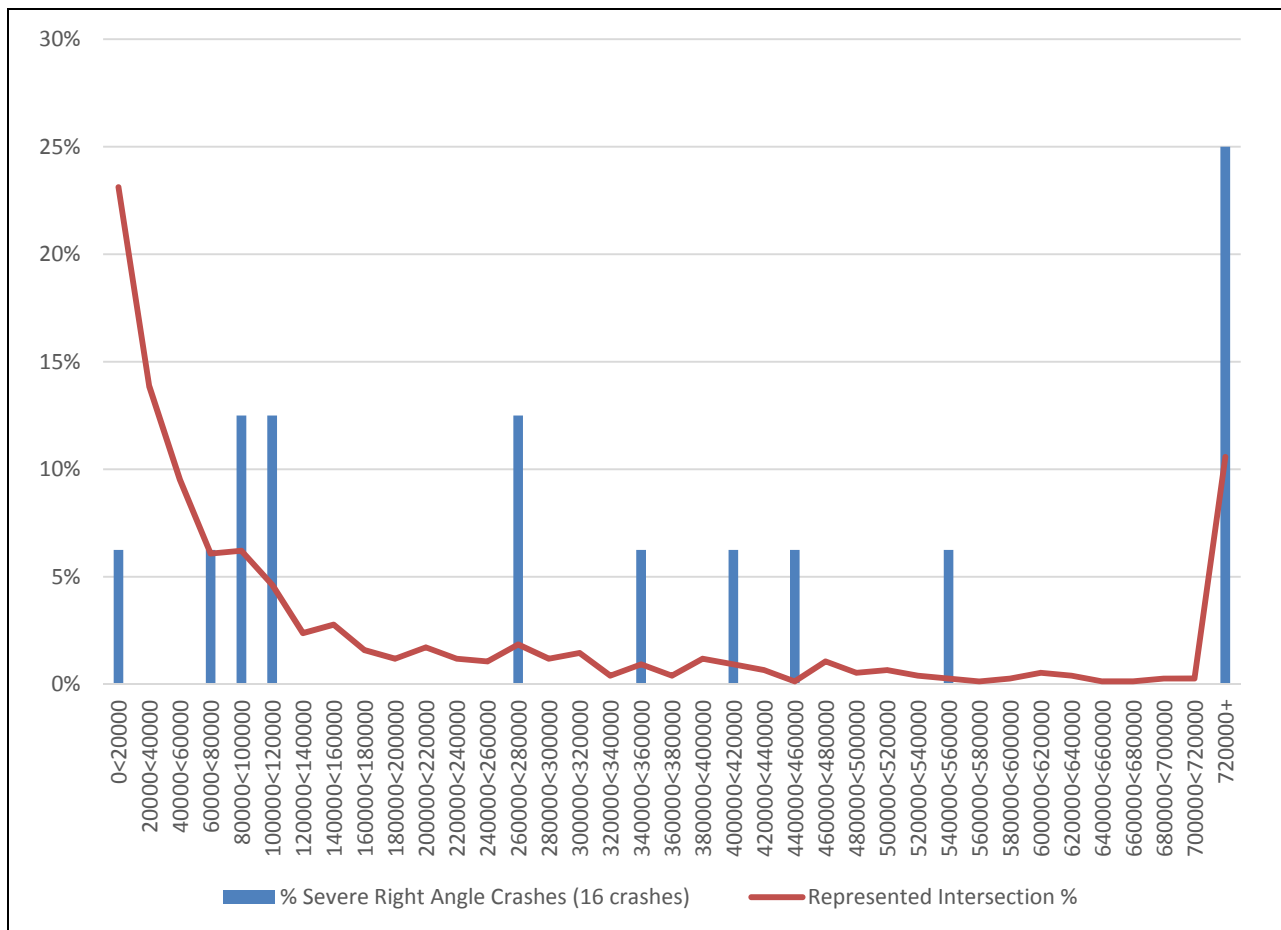


FIGURE 2-12
 Phase I & Phase II Rural ADT Cross Product (2008 to 2012)

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 2-13). Intersections with a skew greater than 20 degrees received a star.

² The ADT Cross Product is the major-street entering volume multiplied by the minor-street entering volume.

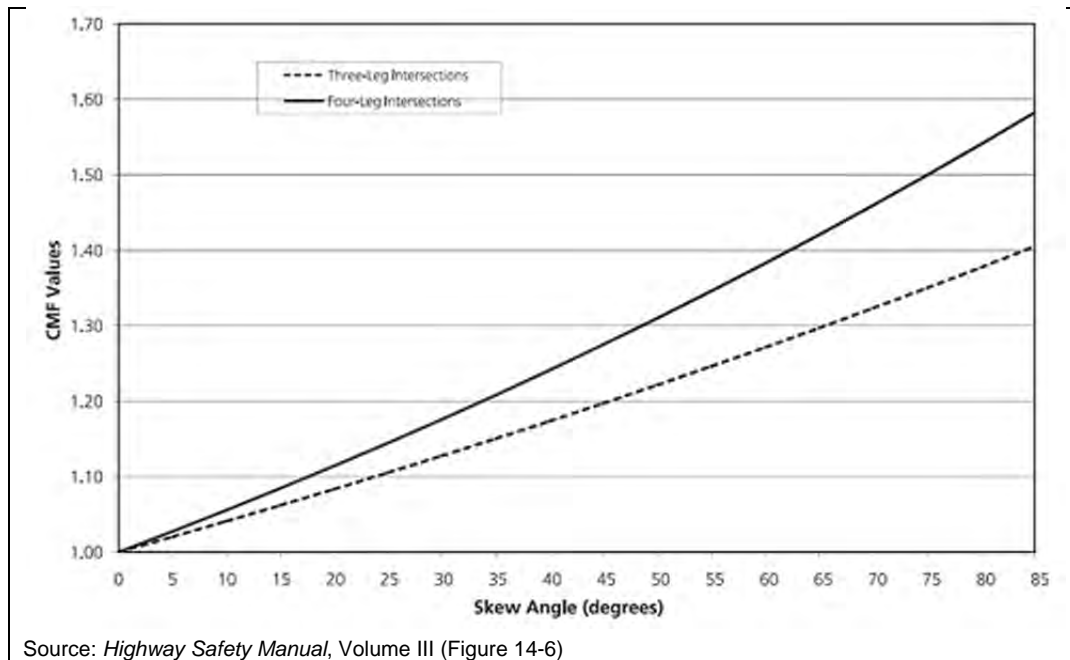


FIGURE 2-13
 Intersection Skew Risk

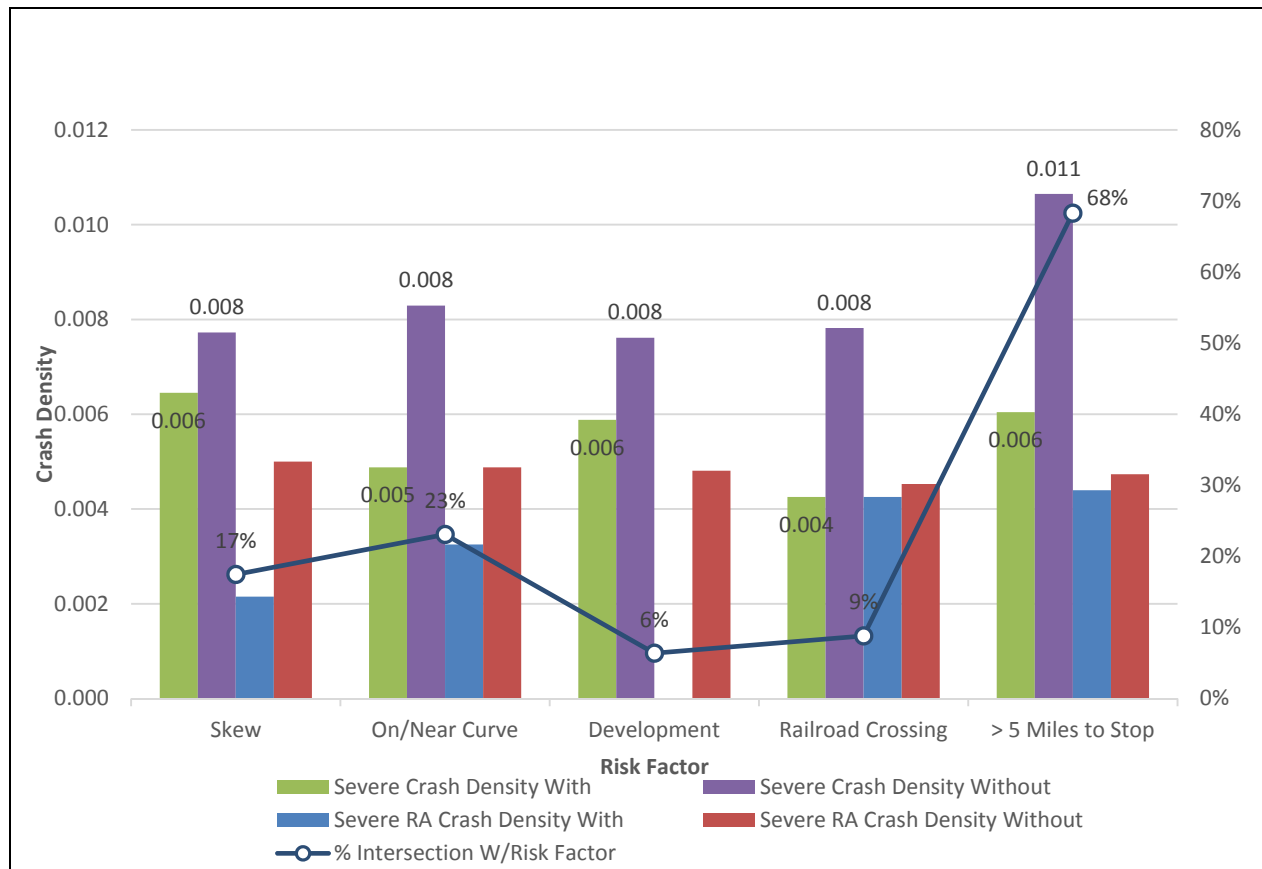


FIGURE 2-14
 Rural Intersection Risk Factors for the Phase I & Phase II Urban-Rural Counties (2008 to 2012)

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. Cass County intersections with development present had more severe crash rates (Figure 2-14) 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 2-14). National data were used to confirm this risk factor. Intersections at which either of the stopped approaches do not encounter 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.

Cass County had 74 total rural intersection crashes from 2008 to 2012, and only 4 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 (Cities of Fargo and West Fargo)

Approximately 190 miles of urban local roads were reviewed, where 10,335 total and 131 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. In the cities of Fargo and West Fargo, 3,833 rear-end crashes and 287 head-on and sideswipe-opposing crashes occurred from 2008 to 2012.

Although a variety of data was collected for each local segment, only the following five risk factors were identified for the cities of Fargo and West Fargo:

1. **Average Daily Traffic (ADT)** – Both rear-end and head-on crashes were overrepresented in road corridors with ADT volumes greater than 6,000 vehicles per day (Figure 2-15). (Note: This ADT volume includes data from Fargo, West Fargo, Grand Forks, Valley City, Wahpeton, Devils Lake, Bismarck, and Minot) Corridors with an ADT greater than 6,000 vehicles per day received a star.

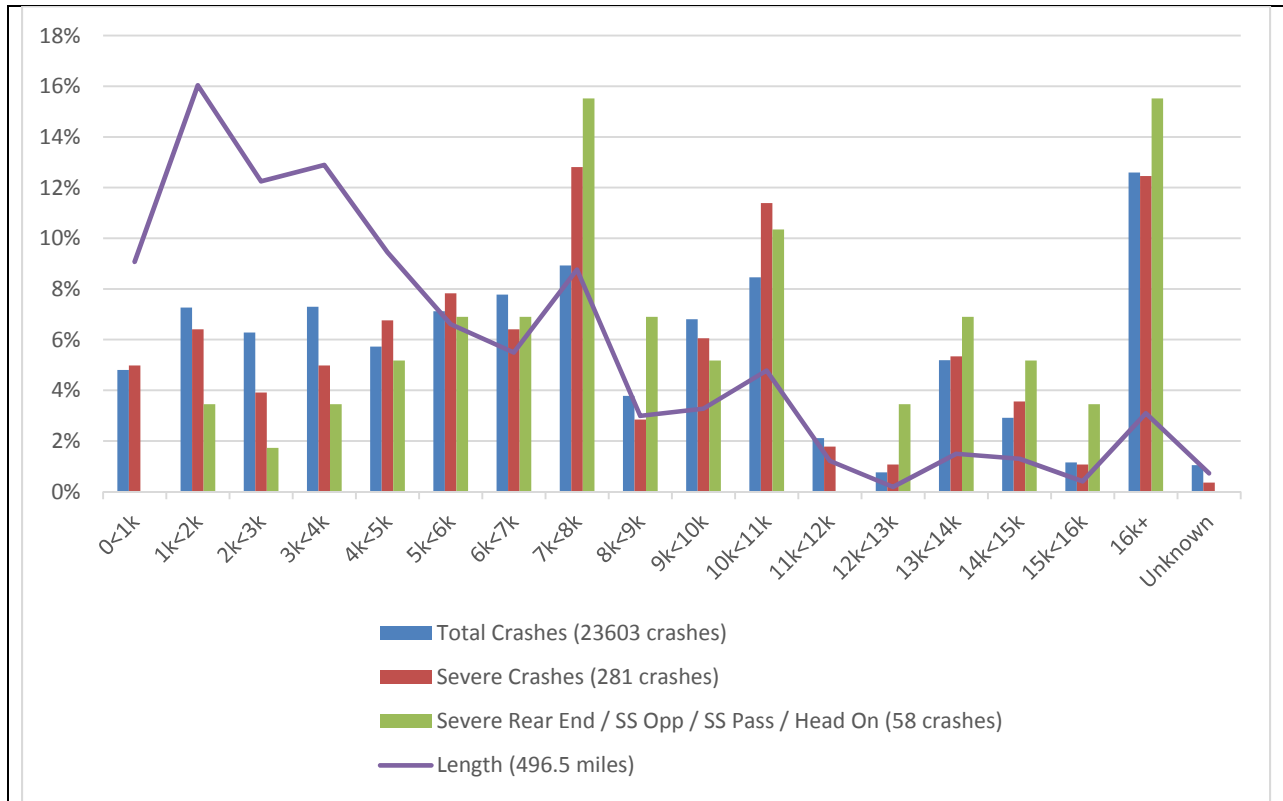


FIGURE 2-15
 Phase I & Phase II Urban Segment Average Daily Traffic (ADT) (2008 to 2012)

- Access Density** - Rear-end and head-on crashes are overrepresented in the cities of Fargo and West Fargo along corridors with access densities greater than or equal to 30 access points per mile (Figure 2-16), and therefore received a star.

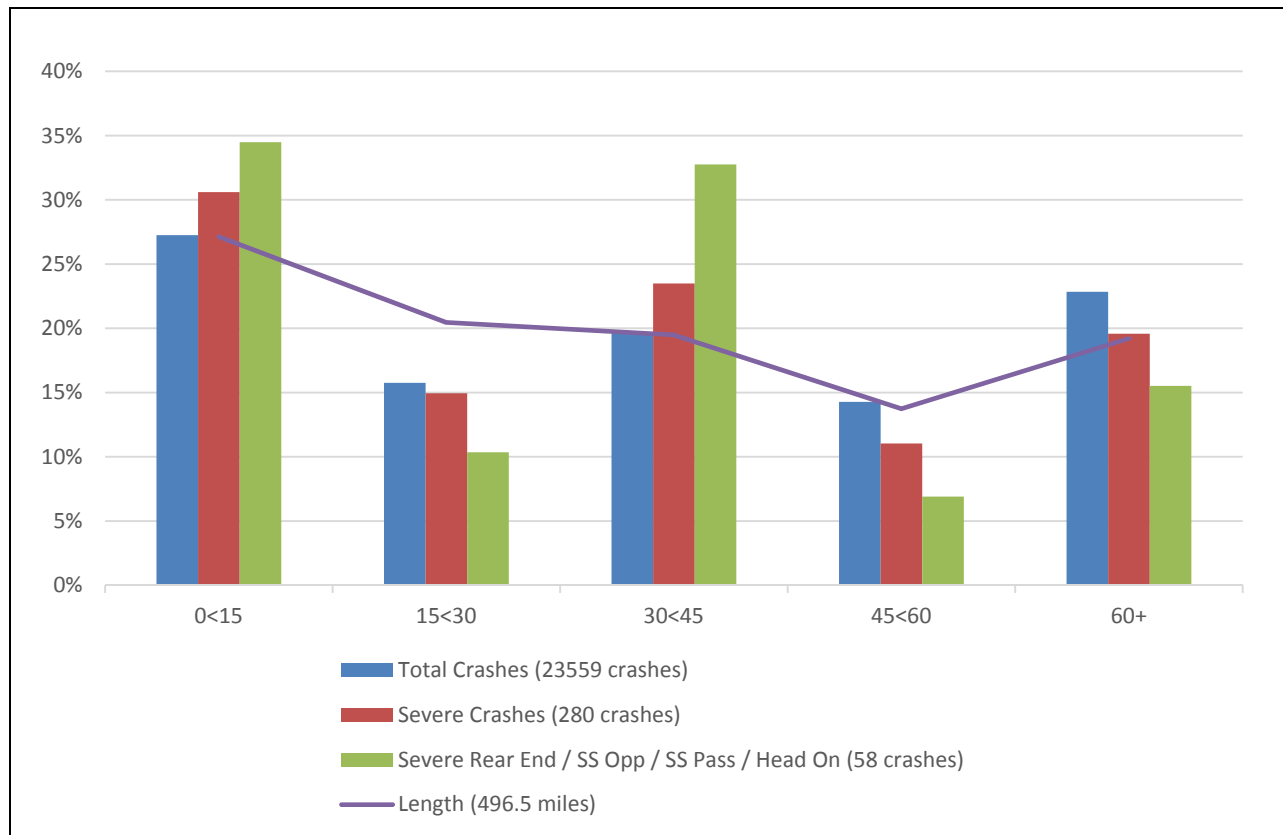


FIGURE 2-16
 Phase I & Phase II Urban Roadway Segment Access Density (2008 to 2012)

3. **Road Geometry** – Crashes are overrepresented per corridor mile on roadways with three or more lanes (Figure 2-17), and therefore multilane roadways 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 2-18), and therefore received a star.
5. **Severe Rear End, Sideswipe or Head-On** – If a corridor had a severe rear end, sideswipe or head-on crash from 2008 to 2012, the corridor received a star.

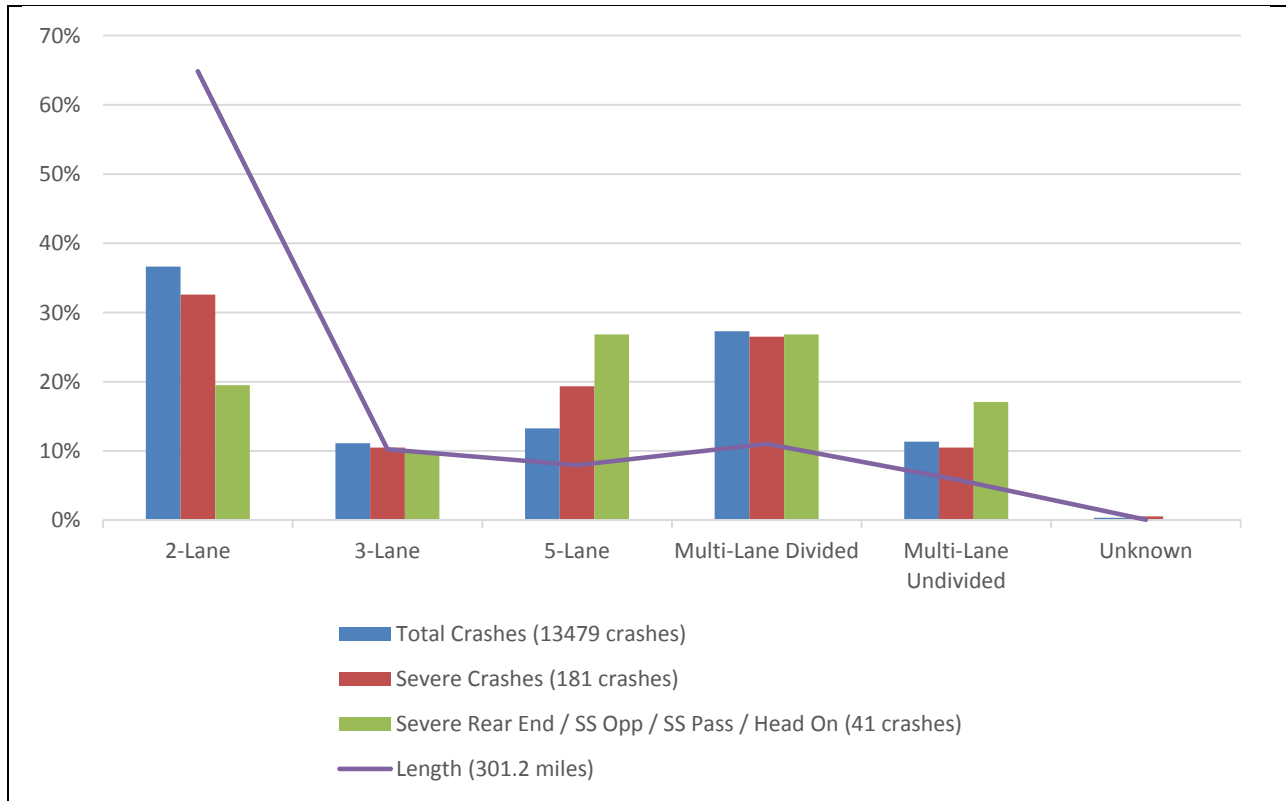


FIGURE 2-17
 Phase I & Phase II Urban Road Geometry (2008 to 2012)

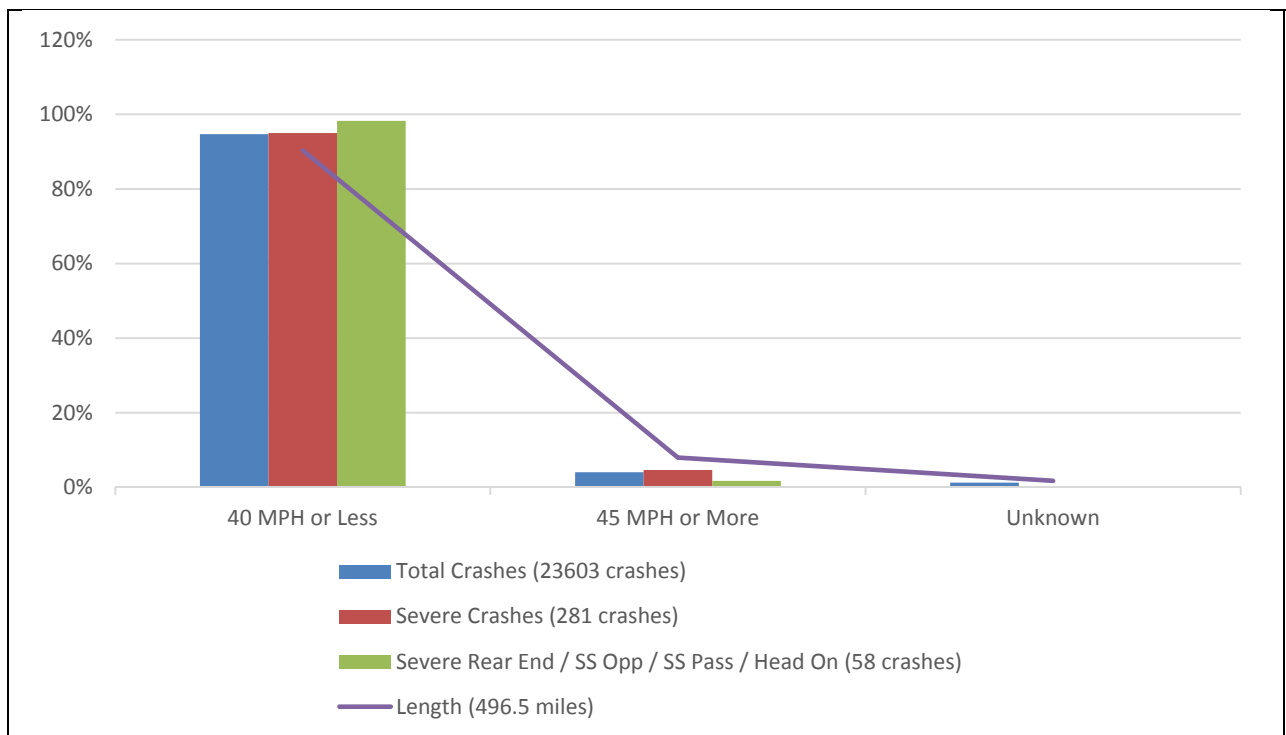


FIGURE 2-18
 Phase I & Phase II Urban Roadway Segment Crashes by Speed (2008 to 2012)

Detailed urban segment analysis and results for the cities of Fargo and West Fargo are provided in Chapter 4. The five 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 (Cities of Fargo and West Fargo)

In the cities of Fargo and West Fargo, 265 intersections including 125 signalized intersections were analyzed. Of the 3,869 total crashes, only 55 severe crashes occurred at the Fargo and West Fargo 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, six 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 2-19). Therefore, signalized intersections received a star.

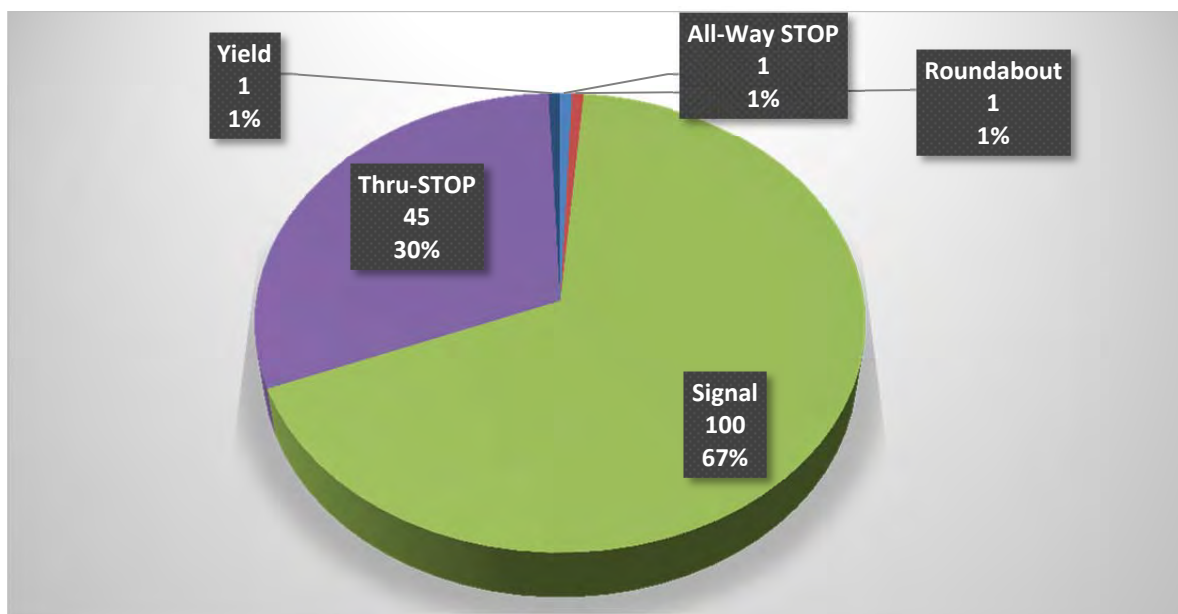


FIGURE 2-19
 Phase I & Phase II Urban Severe Crashes by Intersection Traffic Control Device (2008 to 2012)

2. **Entering ADT** – Higher volumes of vehicles entering intersections was considered a risk factor. Approximately 40% of right angle crashes at signalized intersections in Phase I & Phase II urban areas occurred at intersections with an entering vehicles ADT greater than 18,000 vehicles per day (Figure 2-20). Therefore, any intersection with an entering vehicles ADT greater than 18,000 vehicles per day received a star.

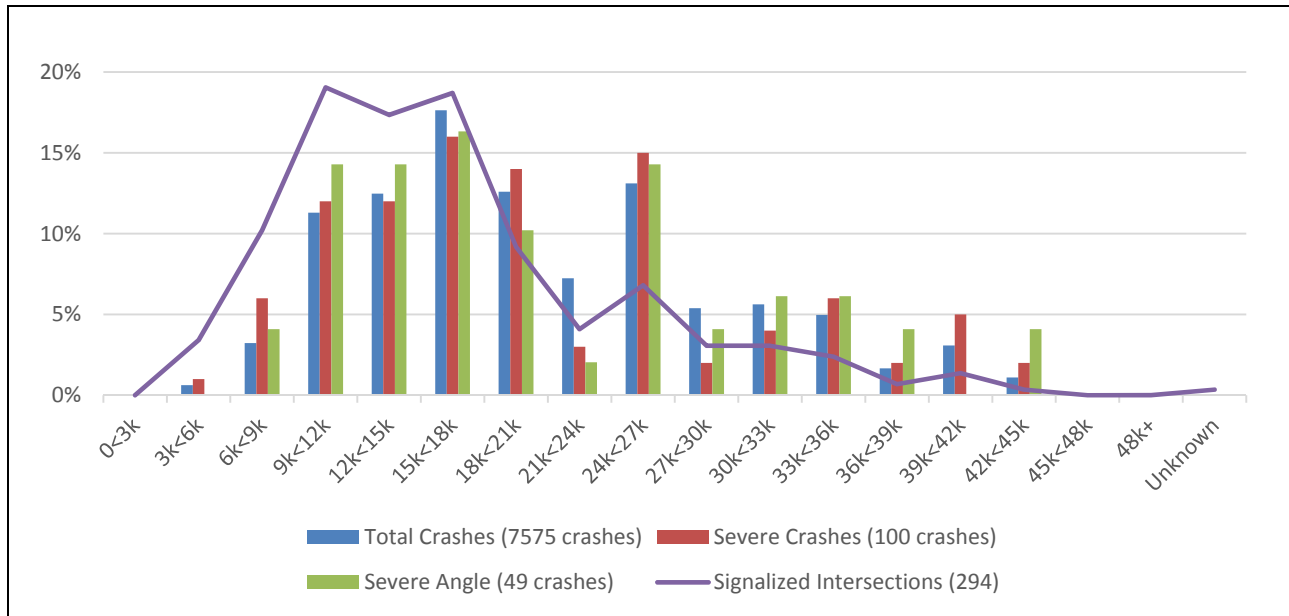


FIGURE 2-20
Phase I & Phase II Urban Crashes by Intersection Entering Vehicles Average Daily Traffic (ADT)

3. **Road Geometry** – Severe and right-angle crashes were overrepresented on divided roadways with signalized intersections (Figure 2-17). Therefore, intersections on divided roadways received a star.
4. **Major Corridor Speeds** – Low-speed corridors were found to act as a surrogate for severe angle crashes (Figure 2-21). Therefore, intersections with low speed limits (40 mph or less) received a star.

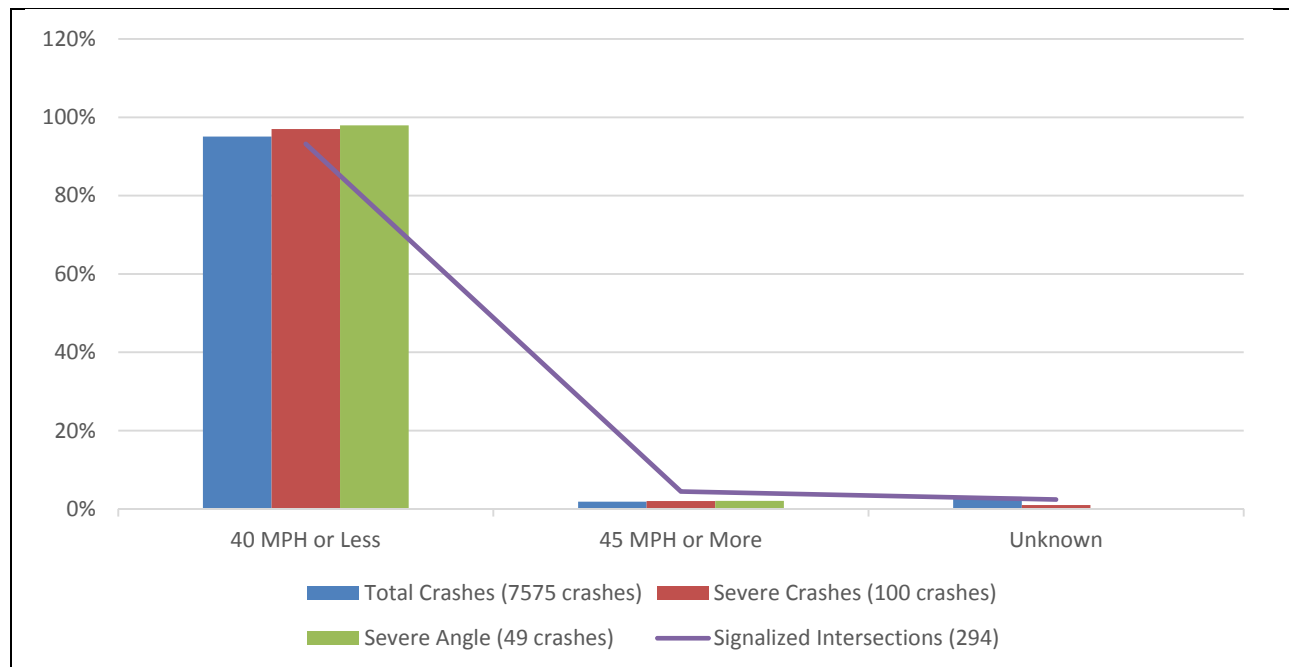


FIGURE 2-21
Phase I & Phase II Urban Crashes by Intersection Configuration

5. **Severe Crashes** – Any intersection where one or more severe crashes had occurred received a star.
6. **Total Lanes on Major Approach** -- Severe and severe angle crashes were overrepresented at intersections containing six or more approach lanes (Figure 2-22). Therefore, intersections with six or more approach lanes received a star.

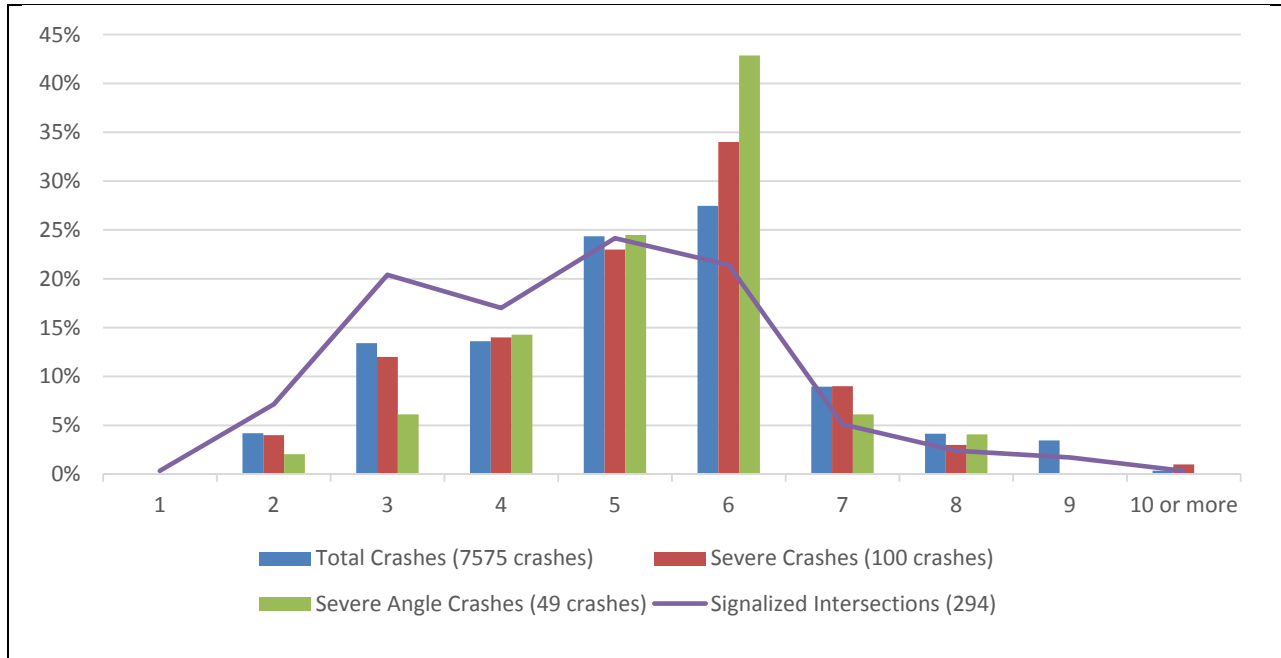


FIGURE 2-22
 Phase I & Phase II Urban Signalized Intersection Crashes by Major Lanes Distribution (ADT)

Detailed urban intersection right angle analysis and results for the cities of Fargo and West Fargo is in Chapter 4. The 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 (Cities of Fargo and West Fargo)

Similar analysis was completed for pedestrian and bicycle crashes at intersections. Only 16 severe pedestrian and bicycle crashes occurred at Fargo and West Fargo intersections from 2008 to 2012, therefore the data has been combined with all of the Phase I & Phase II urban intersection analysis. Seven 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.

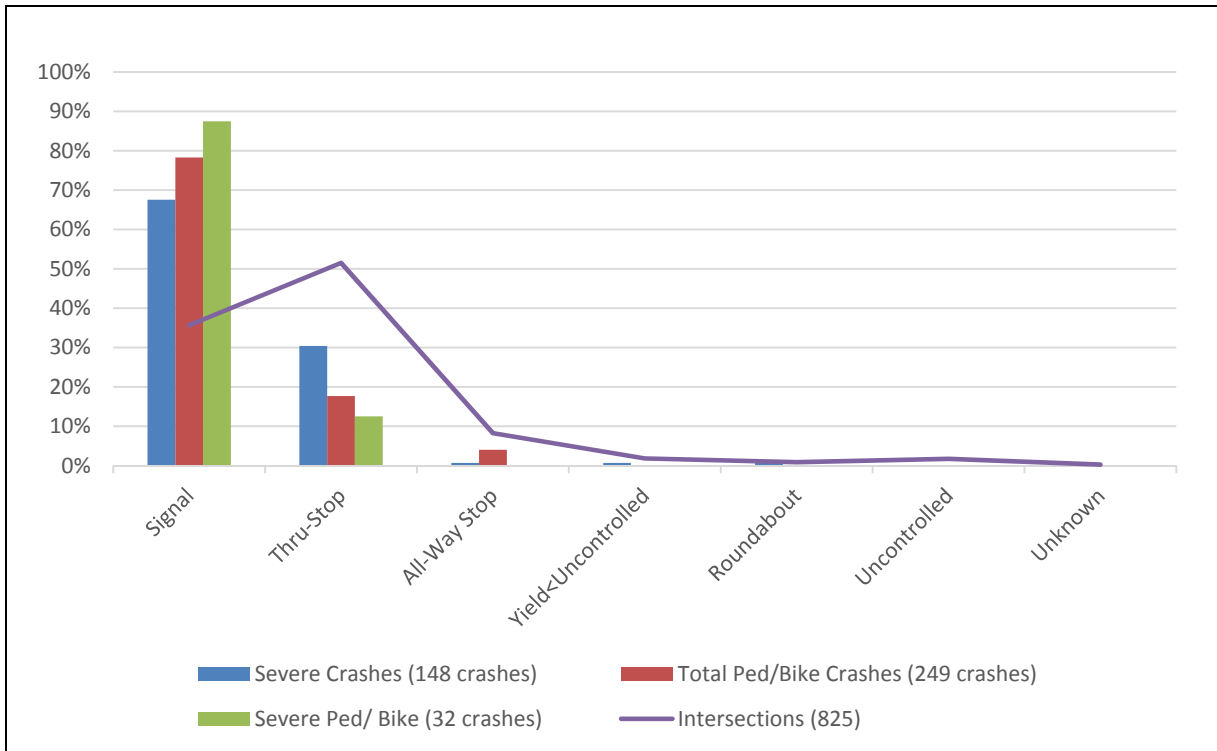


FIGURE 2-23
Phase I & Phase II Urban Pedestrian/Bike Crashes by Intersection Traffic Control Devices

2. **Entering Vehicles ADT** - A high volume of vehicles entering an intersection was considered a risk factor. A majority of the severe pedestrian and bicycle crashes occurred at intersections with an entering vehicles ADT greater than 18,000 vehicles per day (Figure 2-24). Therefore, any intersection with an entering vehicles ADT greater than 18,000 vehicles per day received a star.

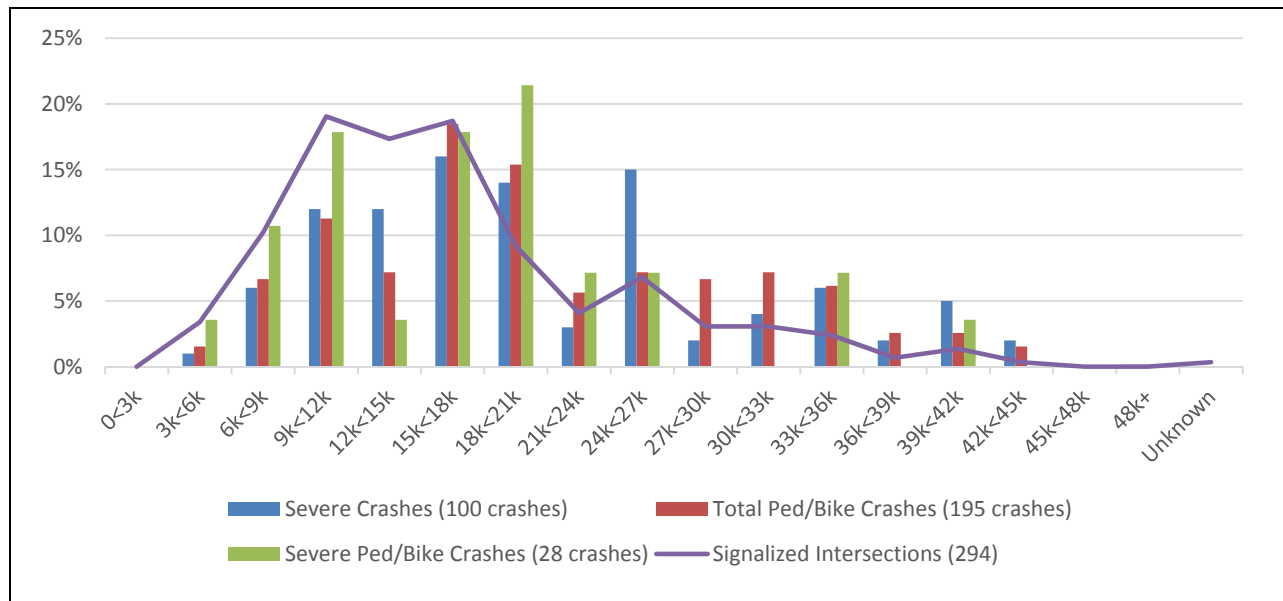


FIGURE 2-24
Phase I & Phase II Urban Pedestrian/Bike Crashes by ADT

3. **Pedestrian Generator** - Intersections with adjacent land uses likely to generate pedestrian traffic (such as a school, playground, bar or gas station) had a higher pedestrian and bicycle crash risk than other intersections (Figure 2-25). Therefore, an intersection with a pedestrian generator present received a star.

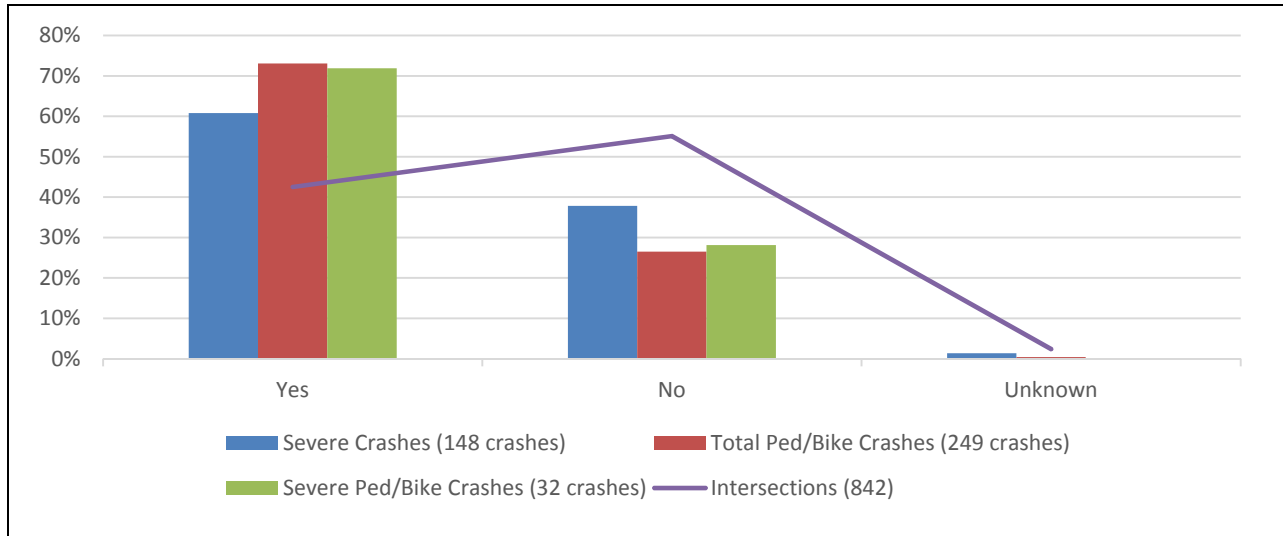


FIGURE 2-25
 Phase I & Phase II Pedestrian and Bicycle Crashes at Urban Intersection with a Pedestrian Generator

4. **Major Corridor Speeds** - Low-speed corridors were found to act as a surrogate for severe pedestrian and bicyclist crashes (Figure 2-26). Therefore, intersections with low speed limits (40 mph or less) received a star.

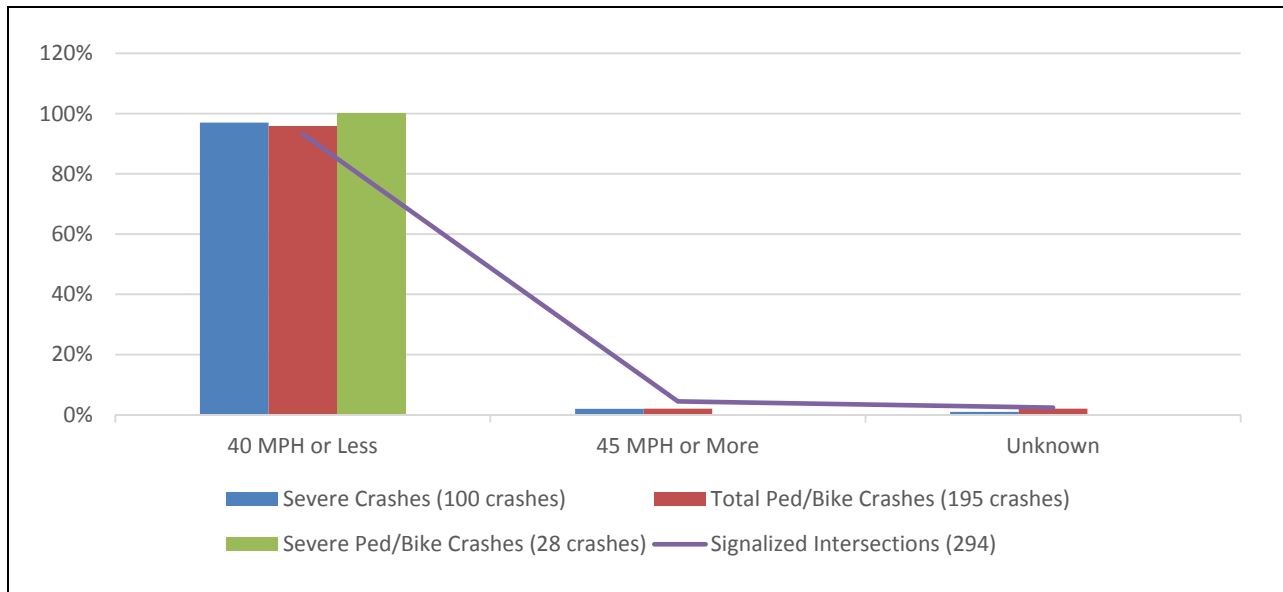


FIGURE 2-26
 Phase I & Phase II Urban Pedestrian/Bike Crashes by Speed Limit

5. **Marked Crosswalk** – The presence of marked crosswalks was found to be a surrogate for severe pedestrian and bicyclist crashes (Figure 2-27). Therefore, intersections with a marked crosswalk received a star.

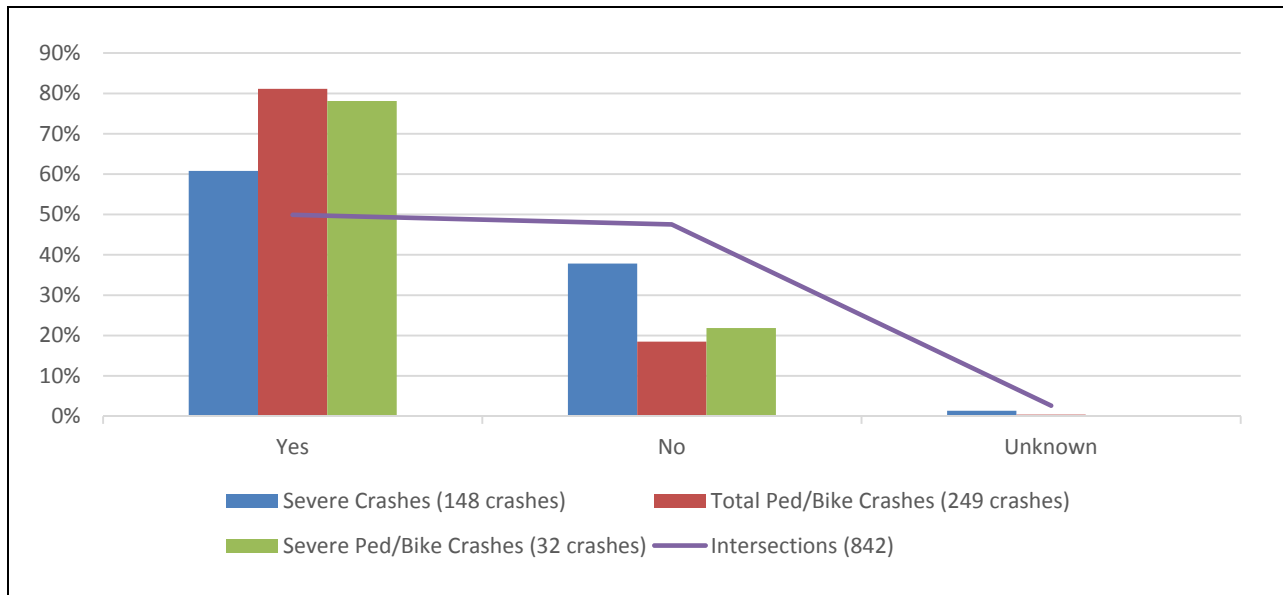


FIGURE 2-27
 Phase I & Phase II Urban Pedestrian/Bike Crashes by Crosswalk Presence

6. **Bus Stop** – The presence of a bus stop was associated with increased rate of pedestrian and bicyclist crashes (Figure 2-28). Therefore, intersections with a bus stop received a star.

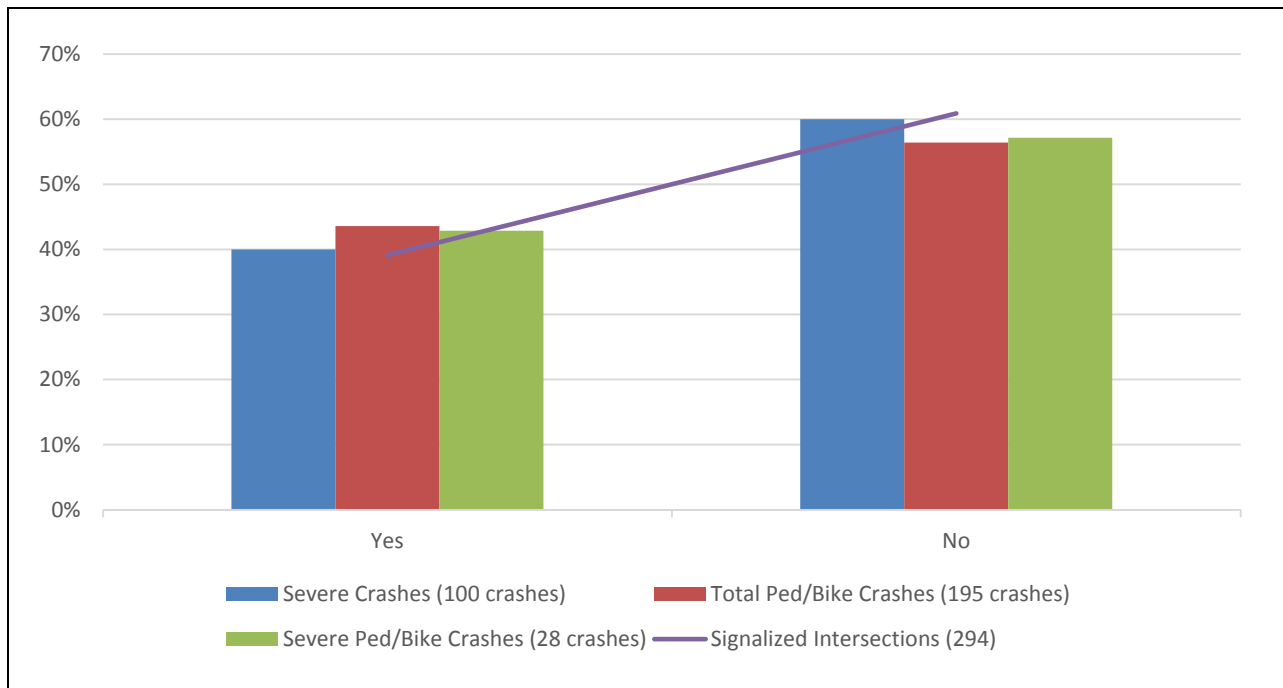


FIGURE 2-28
 Phase I & Phase II Urban Pedestrian/Bike Crashes by Bus Stop Presence

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

Detailed urban intersection pedestrian and bicycle analysis and results for the cities of Fargo and West Fargo are provided in Chapter 4. The 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 Cass County Risk Summary

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

TABLE 2-3
 Cass County Risk Summary

Risk Factors	Cass County County		
	Minimum	Maximum	Source
Rural Segments			
ADT Range	225	Unlimited	Phases I & II
Lane Departure Density	0.04	Unlimited	Phases I & II
Access Density	6	Unlimited	Phases I & II
Curve Critical Radius Density	0.111	Unlimited	Phases I & II
ERA	2	3	Phases I & II
Rural Curves			
Radius	500	1200	National
ADT Range	300	Unlimited	Phases I & II
Intersection on Curve	Present		Phases I & II
Visual Trap	Present		Phases I & II
Severe Crashes	1	Unlimited	Phases I & II
Rural Intersections			
ADT Cross Product	60000	Unlimited	Phases I & II
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	Phases I & II
Urban Segments			
ADT	6000	Unlimited	Phases I & II
Road Geometry	Multi-Lane		Phases I & II
Access Density	30	Unlimited	Phases I & II
Corridor Speeds	Low (≤ 40 mph)		Phases I & II

TABLE 2-3
 Cass County Risk Summary

Risk Factors	Cass County County		
	Minimum	Maximum	Source
Urban Right Angle Crash Corridors			
Entering ADT	18000	Unlimited	Phases I & II
Traffic Control	Signal		Phases I & II
Major Corridor Speeds	Low (\leq 40 mph)		Phases I & II
Road Geometry	Divided		Phases I & II
Total Lanes on Major Approach	\leq 6 Approach Lanes		Phases I & II
Severe Crashes	1	Unlimited	Phases I & II
Urban Ped/Bike Crash Corridors			
Traffic Control	Signal		Phases I & II
Entering ADT	18000	Unlimited	Phases I & II
Major Corridor Speeds	Low (\leq 40 mph)		Phases I & II
Pedestrian Generator	Yes		Phases I & II
Marked Crosswalk	Yes		Phases I & II
Pedestrian/Bicycle Crashes	1	Unlimited	Phases I & II
Bus Stop*	Yes		Grand Forks, Fargo, and West Fargo only

3.0 Cass County 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 for these strategies are the National Cooperative Highway Research Program (NCHRP) *Report 500* series and the National Highway Traffic Safety Administration (NHTSA) *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices*, (Seventh Edition, 2013). 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. NCHRP Report 500 series assigns strategies 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 3-10). 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 effectiveness of the strategy to influence driver behavior based on current best practice and evaluation research results when available.

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
A – Eliminate Drinking and Driving	A1 – Promote Responsible Beverage Service Policies for Alcohol Servers and Retailers	Moderate	Advocate for responsible alcohol server and retailer training and compliance checks.
	A2 – Employ Alcohol Screening and Brief Interventions	Proven	Implement health care provider interventions with crash victim after an alcohol-related crash (traumatic event) to screen for alcohol use problems, educate on risks of impaired driving, & treatment referral. Develop fact sheets and materials to be used.
	A3 – Support Community Programs for Alternative Transportation	Moderate	Employ “Safe Cab” initiatives via partnership among beer distributors, bar owners and/or county/city community programs. Conduct public outreach on accessible safe-ride alternatives.
	A4 – Promote ND “No Refusal” Law	Moderate	Educate high-risk populations/communities on ND’s new “No Refusal” law where consequences of DUI test refusal are greater than test failure.
	A5 – Promote Sobriety Initiatives for DUI offenders	Proven	Promote 24/7, DUI courts, and ignition interlock programs through educating local judicial and legal counsel members, probation officers, counseling and treatment providers as well as the general public.
B – Enforce DWI Laws	B1 – Conduct Regular High-Visibility DUI Enforcement Saturations	Proven	Conduct a multi-agency, multi-squad car enforcement effort. Agencies work in collaboration to provide data-driven, high-visibility education/media outreach and enforcement for high-risk roadways.
	B2 – 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.
	B3 – Educate and Enforce Zero Tolerance Laws for Drivers Under Age 21	Tried	Conduct education and high-visibility enforcement through community events including local media and public outreach about underage drinking and driving.
	B4 – Monitor Prosecution and Sentencing of DUI Offenders	Moderate	Monitor prosecution and judicial sentencing of DUI cases Courts or Intensive Supervision Programs
	B5 – Strengthen Alcohol Compliance	Tried	Promote judicial monitoring of “last place of drink” for bar-related DUI offenders and notify establishments of their over-serving.

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

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Enforce Seat Belt use laws	A1 – Conduct High-Visibility Enforcement to Maximize Restraint Use	Proven	Conduct a multi-agency, multi-squad car enforcement effort. Agencies work in collaboration to provide data-driven, saturated, high-visibility enforcement coupled with media outreach targeted toward high-risk populations. Conduct enhanced enforcement on North Dakota's secondary roads. Incorporate enhanced nighttime enforcement including multi-agency (when possible) and multiple squad cars in well-lit areas where slow moving vehicles are passing and conducting seat belt observations for a limited time.
	A2 – Enforce Secondary Belt Use Law	Proven	Reinforce officers issuing second belt use ticket during traffic stops.
	A3 – Pursue Tribal Ordinances for Primary Enforcement of Seat Belt Laws.	Proven	Under tribal ordinance, pursue primary seat belt enforcement for occupants in all seating positions.
B – Maximize use of occupant restraints by all vehicle occupants	B1 – Encourage Employer Traffic Safety Programs and Policies	Tried	Encourage employers to offer traffic safety education programs to employees and to enact traffic safety policies with clear consequences for failure to comply. Utilize materials and policy statements designed for employers by Network of Employers for Traffic Safety.
	B2 – Brief intervention regarding unbelted risks	Experimental	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.
	B3 – Provide Insurance Incentives	Experimental	Promote local insurance provider incentives (e.g., reduced premium rates) for safe driving practices including belt use at the time of traffic crash.

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

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Deter aggressive driving for high-risk populations and locations	A1 – Identify High-Risk Speed Locations/Corridors for Enforcement.	Proven	Analyze crash data to define high-risk speed locations for enhanced enforcement and public outreach efforts.
	A2 – Conduct High-Visibility Enforcement of Speeding and Aggressive Driving	Proven	Conduct a multi-agency, multi-squad car enforcement effort. Agencies work in collaboration to provide data-driven, saturated, high-visibility enforcement at high-risk speed corridors/roadways coupled with media outreach to high-risk populations.
	A3 – Pursue Local/Tribal Use of Automated Enforcement in High-Risk Areas	Proven	Pursue the use of automated enforcement in high-risk highway work zones and school crossing zones through the use of local/tribal safety ordinances.
	A4 – Conduct Enhanced Enforcement of Red Light Running	Proven	Provide enhanced enforcement for red-light-running violators using officer enforcement support for intersection RLR confirmation lights.
B – Maximize driver compliance and awareness	B1 – Conduct Brief Interventions for Speed-Related Injuries	Tried	Implement health care provider brief intervention with crash victim after crash (traumatic event) due to excessive speed on speed risks and consequences. Develop fact sheets and materials to be used.
	B2 – Increase Driver Awareness of Speed Using Speed Reader Boards	Proven	Expand use of speed reader boards providing feedback to drivers on their actual speed (e.g., flash warnings when speeds exceeds limit). Most effective in slowing traffic on residential streets, near school zones and around playgrounds.

TABLE 3-4
Young Driver Strategies (Behavior Strategies)

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Publicize, enforce, and adjudicate laws pertaining to young drivers	A1 – Conduct high visibility enforcement of GDL, no cell and texting laws, underage drinking and driving, and seatbelt use laws	Proven	Conduct enhanced enforcement and public outreach for young driver safety. Publicizing is best done through community events to attract local media and a community public education campaign about young driver laws, enhanced enforcement, and the necessary parental involvement.
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	Promote required parent education component of local driver education programs (private and public school providers) 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.
	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.
	B3 – Promote Safe Teen Driving Outreach	Tried	Encourage driver education, local insurance, and public health organizations to provide teens and their parents 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 on-line driving logs.
	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.
C – Educate Young Drivers	C1 – Brief interventions regarding driving risks and consequences	Experimental	When teen driver receives a moving violation or is involved in a crash, health care provider conducts brief intervention with crash victim after crash (traumatic event) on driving risks and consequences
	C2 – Conduct Peer-to-Peer safety outreach	Moderate	Promote peer education of traffic safety through peer-to-peer outreach campaigns and contests to engage teens on teen driving risks and socially reinforced safe driving behaviors.

TABLE 3-5
Cross-Cutting Safety Strategy (Behavior Strategy)

Objectives	Strategies	Effectiveness	Programs and Tactics
A – Improved Quality and Timeliness of Crash Data	A1 – Local and Tribal Enforcement use of Traffic and Criminal Software (TraCS)	Proven	Promote local and tribal enforcement full deployment of TraCS for in-the-field incident reporting and electronic submission of crash reports to the NDDOT.

TABLE 3-6
Speeding Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Set appropriate speed limits	A1 – Install speed signage using variable message signs in school zones	Tried	Low	Medium
B – Communicate appropriate speeds through use of traffic control devices	B1 – Implement dynamic speed feedback signs , including dynamic message boards at rural to urban transitions	Tried	Low	Medium
	B2 – Use in-pavement measures to communicate the need to reduce speeds	Tried	Moderate	Short
C – Ensure that roadway supports appropriate and safe speeds	C1 – Effect safe speed transitions through design elements and on approaches to lower-speed areas	Tried	High	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	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Keep vehicles from encroaching on the roadside	A1 – Install edge rumble strips (shoulder or edge line)	Proven	Low	Short
	A2 – Install enhanced pavement markings , 6-inch edge line, or embedded wet-reflective pavement markings on section with narrow or no paved shoulders	Experimental/ Tried	Low	Short
	A3 – Provide enhanced shoulders , lighting, delineation (for example, Chevrons), or pavement markings for sharp horizontal curves	Tried / Proven	Low	Short
	A4 – Provide skid-resistance pavement surfaces	Proven	Moderate	Medium
	A5 – Apply shoulder treatments *Eliminate shoulder drop-offs *Safety edge *Widen and/or pave shoulders	Experimental/ Proven	Moderate	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	Proven	Moderate to High	Medium
	B2 – Remove/relocate objects in hazardous locations	Proven	Moderate to High	Medium
C – Reduce the severity of the crash	C1 – Improve design and application of barrier and attenuation systems	Tried	Moderate to High	Medium
D – Keep vehicles from encroaching into opposite lane	D1 – Install centerline rumble strips for two-lane roads	Tried	Low	Short
	D2 – Reallocate total two-lane roadway width (lane and shoulder) to include a “buffer median”	Tried	Low	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")	Tried	Moderate to High	Medium
<p>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</p>				

TABLE 3-8
 Signalized Intersection Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	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.)	Tried / Proven	Low	Short
	A2 – Optimize clearance intervals	Proven	Low	Short
	A3 – Employ signal coordination along a corridor or route	Proven	Low	Medium
	A4 – Employ emergency vehicle preemption	Proven	Moderate	Medium
B – Reduce intersection conflicts through geometrics	B1 – Provide/improve left-turn channelization	Proven	Moderate	Long
C – Improve pedestrian safety with signal improvements	C1 – Install countdown timers	Tried	Low	Short
	C2 – Re-time signals to provide a leading pedestrian interval (advanced walk)	Tried	Low	Short
D – Improve driver awareness of intersections and signal control	D2 – Improve visibility of signals (overhead indications, 12" lenses, background shields, LED's) and signs (mast arm mounted street names) and signs (mast arm mounted street names) at intersections	Tried	Low	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	Tried	Low	Short
F – Improve safety through other infrastructure treatments	F1 – Restrict or eliminate parking on intersection approaches	Proven	Low	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	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Reduce the frequency and severity of intersection conflicts through geometric design improvements	A1 – Provide left-turn lanes at intersections	Tried	Moderate	Medium
	A2 – Provide offset turn lanes at intersections	Proven	Moderate	Medium
	A3 – Realign intersection approaches to reduce or eliminate intersection skew	Tried	Moderate to High	Medium
	A4 – Improve pedestrian and bicycle facilities to reduce conflicts between motorists and nonmotorists	Proven	High	Medium
	A5 – Use indirect left-turn treatments to minimize conflicts at divided highway intersections	Varies	Moderate	Medium
B – Improve sight distance at unsignalized intersections	B1 – Clear sight triangle on approaches and in medians by clearing grub, eliminating parking, etc	Tried	Moderate	Medium
C – Improve driver awareness of intersections as viewed from the intersection approach	C1 – Improve visibility of intersections by providing enhanced signing, delineation or pavement markings/messages (stop bar, larger regulatory signs, LED stop signs, etc)	Tried	Low	Short
	C2 – Improve visibility of intersections by providing appropriate street lighting	Tried	Low	Short
	C3 – Install larger regulatory and warning signs at intersections, including the use of dynamic warning signs at appropriate intersections	Proven	Low to Moderate	Medium
	C4 – Call attention to the intersection by installing rumble strips or splitter islands on intersection approaches	Tried	Low	Short
D – Appropriate intersection traffic control to minimize crash frequency and severity	D1 – Construct roundabouts at appropriate locations	Tried	Low to Moderate	Medium
<p>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 <i>Report 500 Series</i>, 2003</p>				

TABLE 3-10
 Urban Segment Strategies (Infrastructure Strategies)

Objectives	Strategies	Effectiveness	Cost to Implement and Operate ¹	Timeframe for Implementation ²
A – Include pedestrian and bicycle accommodations	A1 – Install sidewalks in appropriate locations	Proven	Moderate to High	Medium
	A2 – Minimize pedestrian crossing distances using curb extensions or median islands	Proven	Low	Medium
B – Improve roadway configuration to accommodate left turns	B1 – Restripe roadway to a 3-lane (road diet) or 5-lane cross-section.	Proven	Low	Medium
C – Improve access management near intersections	C1 – Restrict or eliminate turning maneuvers by providing channelization or closing median openings	Tried	Low	Short
	C2 – Restrict access to properties using driveway closures or turn restrictions	Tried	Low	Medium
	C3 – Restrict cross-median access near intersections	Tried	Low	Medium
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 <i>Report 500</i> Series, 2003				

3.3 Safety Strategies Workshop

A Safety Planning Workshop was held with Cass County and the cities of Fargo and West Fargo on December 3, 2013. Two additional workshops were held in Grand Forks and Valley City as part of the LRSP Phase 2 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, Robyn Litke Sall (Safe Communities Coalition of the RRV), Sgt. Luke Hendrickson (North Dakota Highway Patrol), Jason Benson (Cass County Engineer), Sgt. Dean Haaland (Cass County Sheriff's Department), and Jeremy Gordon (Transportation Division Engineer, City of Fargo), who 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 discussed potential safety strategies and began the process of prioritizing the strategies. The group reviewed and discussed driver-behavior and 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 Cass County are:

- Behavioral strategies
 - Employ alcohol screening and brief interventions
 - Promote sobriety initiatives for DUI offenders
 - Conduct high-visibility targeted enforcement of speeding and aggressive driving
 - Conduct high-visibility enforcement of GDL and no cell and texting laws
 - Pursue local support for primary seat belt law
- Infrastructure strategies
 - Provide enhanced shoulders, lighting, delineation, or pavement markings for sharp horizontal curves
 - Implement dynamic speed feedback signs, including dynamic message boards at rural to urban transitions
 - Supplement conventional enforcement of red-light running with confirmation lights; include a public information campaign to increase awareness and compliance
 - Improve visibility of intersections by providing appropriate street lighting
 - Restrict or eliminate turning maneuvers by providing channelization or closing median openings

Infrastructure 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 and other published research. Table 3-11 provides a summary for driver behavior strategies reviewed in chapter 5 of this report. In addition, table 3-11 provides a summary of the crash reduction factors that were found in the CMF Clearinghouse for infrastructure safety strategies considered and/or suggested for Cass County and the cities of Fargo and West Fargo, along with an estimated unit cost for each strategy. Most factors reported are based on research that was assigned with higher-quality ratings.

TABLE 3-11
Proposed Strategies, Crash Reduction Factors, and Typical Installation Costs

Strategy	Crash Reduction Factor ^a	Typical Installation Costs
Impaired Driving		
Employ alcohol screening and brief interventions	Varies, depending on the program structure	Low cost; incorporate into existing trauma care
Promote sobriety initiatives for DUI offenders	Varies, depending on the program structure	
Speed and Aggressive Driving		
Conduct high-visibility targeted enforcement of speeding and aggressive driving	3%	Up to \$50 per hour of officer overtime plus media costs
Young Drivers		
Conduct high visibility enforcement of GDL, no cell and texting laws, and underage drinking and driving, and seatbelt use laws.	5%	Up to \$50 per hour of officer overtime plus media costs
Seat Belt Use		
Pursue local support for primary seat belt law	9 percentage point increase in observed belt use when state law is passed	Low to Moderate
Rural Segments		
4-inch latex edge line		\$1,320 per mile
4-inch latex centerline		\$660 per mile
6-inch latex edge line	10% to 45% all rural serious crashes	\$1,980 per mile
Shoulder or edge line rumble strips	20% run off road crashes	\$4,200 per mile
Ground in wet-reflective markings		\$36,000 per mile
Centerline rumble strips	40% head-on/sideswipe-crashes	\$3,600 per mile
6-inch centerline		\$1,020 per mile

TABLE 3-11
Proposed Strategies, Crash Reduction Factors, and Typical Installation Costs

Strategy	Crash Reduction Factor ^a	Typical Installation Costs
Rural Curves		
Chevrons	20% to 30%	\$3,960 per curve
Arrow board only		\$1,200 per curve
Advance warning sign and advisory speed plaque		\$1,440 per curve
2-foot paved shoulder and shoulder rumble strips	20% to 30% run-off-the-road crashes	\$44,400 per mile +\$3,600 per mile
Rural Intersections		
Roundabout	20% to 50% all crashes/ 60% to 90% right-angle crashes	\$3,000,000 per intersection
Directional median (RCI or J-Turn)	17% all crashes/ 100% angle crashes	\$900,000 per intersection
Mainline dynamic warning sign	50% all crashes/ 75% severe right-angle crashes	\$60,000 per intersection
Close median		\$30,000 per intersection
Intersection lighting	25% to 40% nighttime crashes	\$10,200 per streetlight
Upgrade signs and pavement markings	40% upgrade of all signs and pavement markings/ 15% for STOP AHEAD pavement marking	\$2,640 per approach ^b
Clear sight triangle	37% serious injury crashes ^c	\$2,940 per intersection ^d
Urban		
Conversions (three-lane/five-lane)	30% to 50%	\$30,000 per mile [three-lane] \$42,000 per mile [five-lane] +\$30,000 per signalized intersection for updates (for example, loop and signal head placement)
Access management	5% to 31%	\$360,000 per mile ^e
Signal – confirmation lights	25% to 84% reduction in violations	\$1,200 per two approaches
Pedestrian/bicycle – advanced walk	Up to 60% pedestrian/vehicle crashes	\$0 per intersection
Pedestrian/bicycle – countdown timers	25% vehicle/pedestrian crashes	\$12,000 per intersection
Pedestrian/bicycle – curb extensions	Increase in vehicles yielding to pedestrians	\$36,000 per corner
Pedestrian/bicycle – median refuge island	46% in vehicle/pedestrian crashes	\$24,000 per approach

TABLE 3-11
 Proposed Strategies, Crash Reduction Factors, and Typical Installation Costs

Strategy	Crash Reduction Factor ^a	Typical Installation Costs
<p>Notes:</p> <p>^a Crash reduction factors based on review of CMF Clearinghouse and other published research</p> <p>^b Includes \$540 per STOP sign, \$540 per junction sign assembly, \$600 per STOP AHEAD sign, \$600 per STOP AHEAD pavement marking message, and \$360 per stop bar</p> <p>^c Reduction based on increasing sight distance triangle</p> <p>^d Inclusive of sign upgrades identified and materials and labor for clearing of sight triangle.</p> <p>^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.</p> <p>N/A = not applicable</p>		

4.0 Cass County Infrastructure Safety Projects

4.1 Cass 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 Cass County and the cities of Fargo and West Fargo 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 the 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 on roadway segments
 - Angle crashes and pedestrian and bicycle crashes at intersections

For consistency across the county, project decision trees were created so that locations with similar characteristics across the county 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 roadway 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 revised in accordance with input from 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).

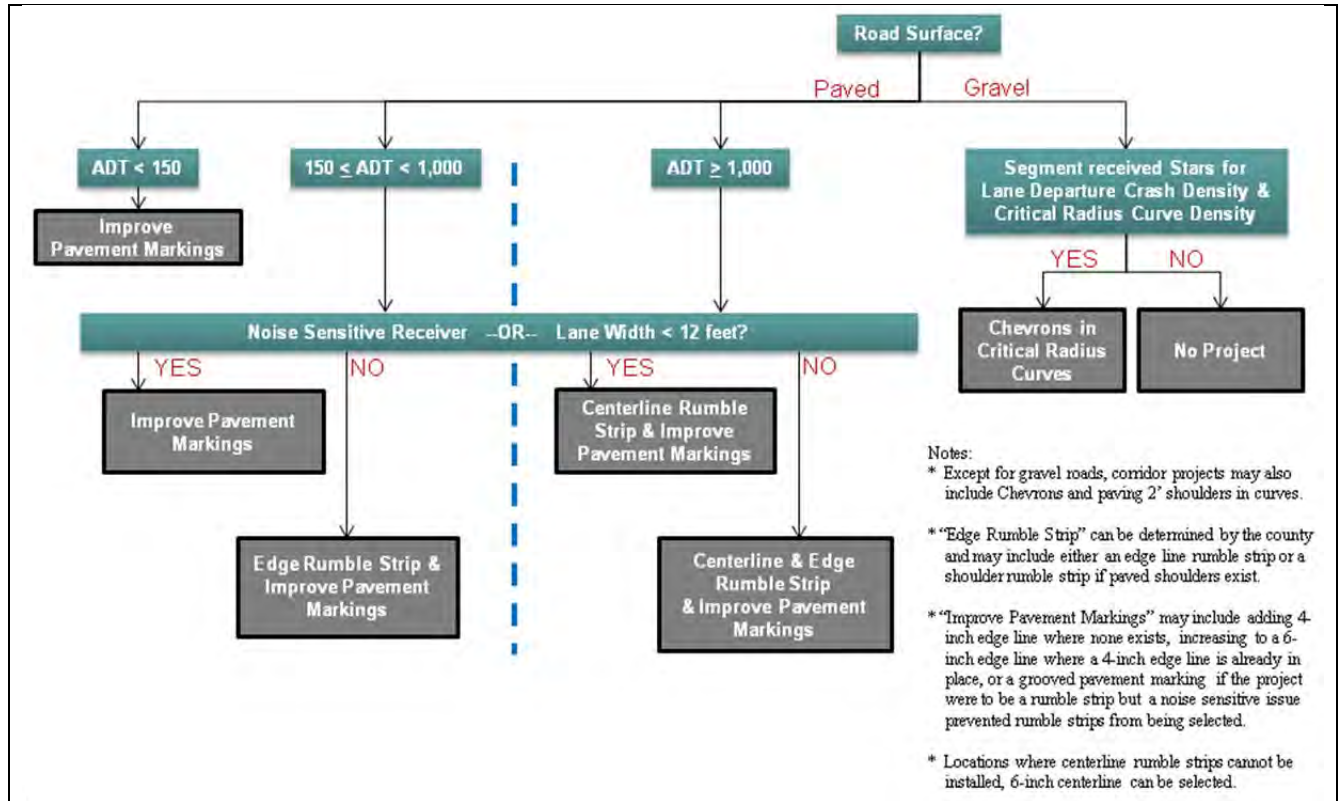


FIGURE 4-1
 High-Priority Rural Roadway Segment Project Decision Tree

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, a curve is eligible for a safety improvement project in three ways.

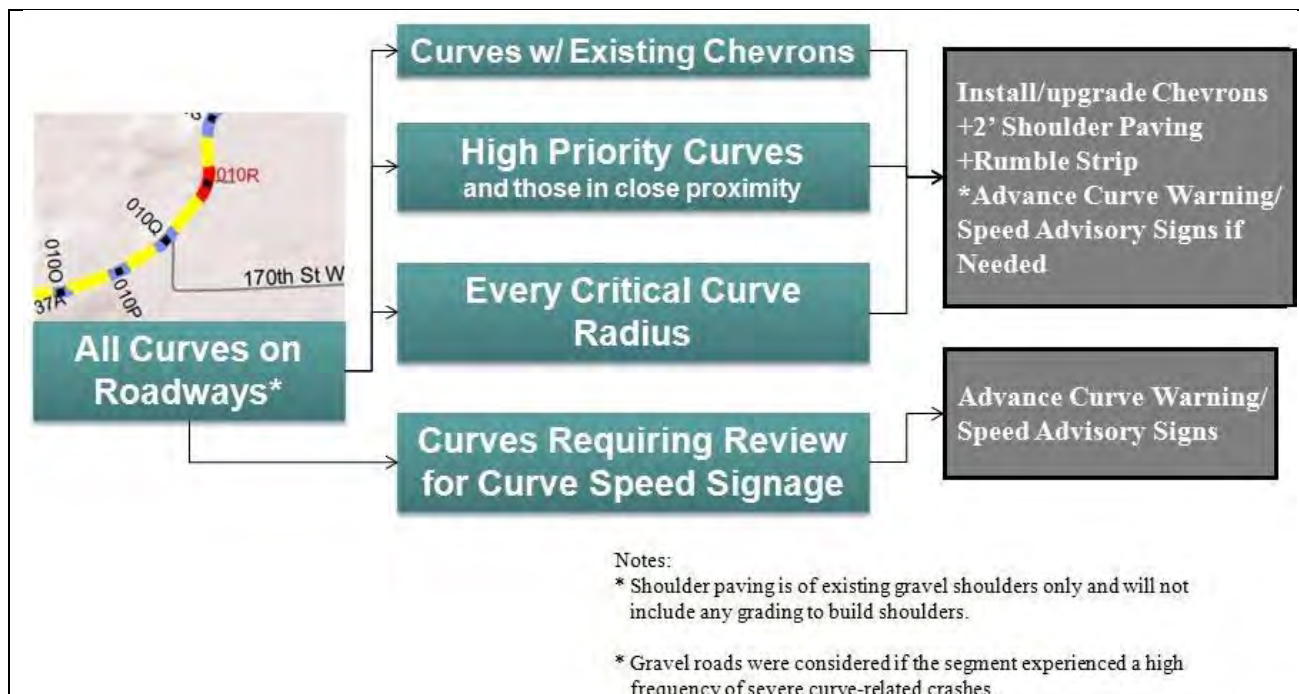


FIGURE 4-2
 High-Priority Rural Curve Project Decision Tree

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.

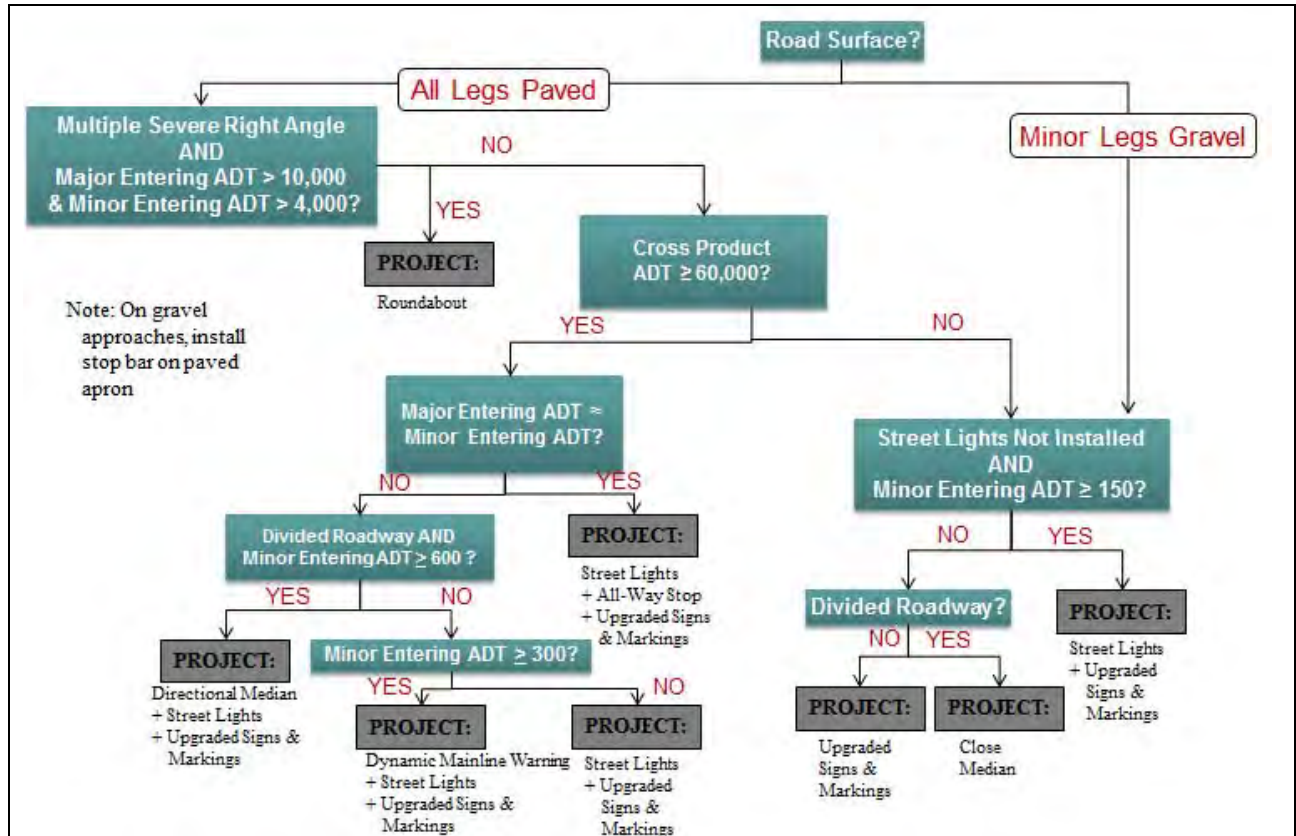


FIGURE 4-3
 High-Priority Rural Intersection Project Decision Tree

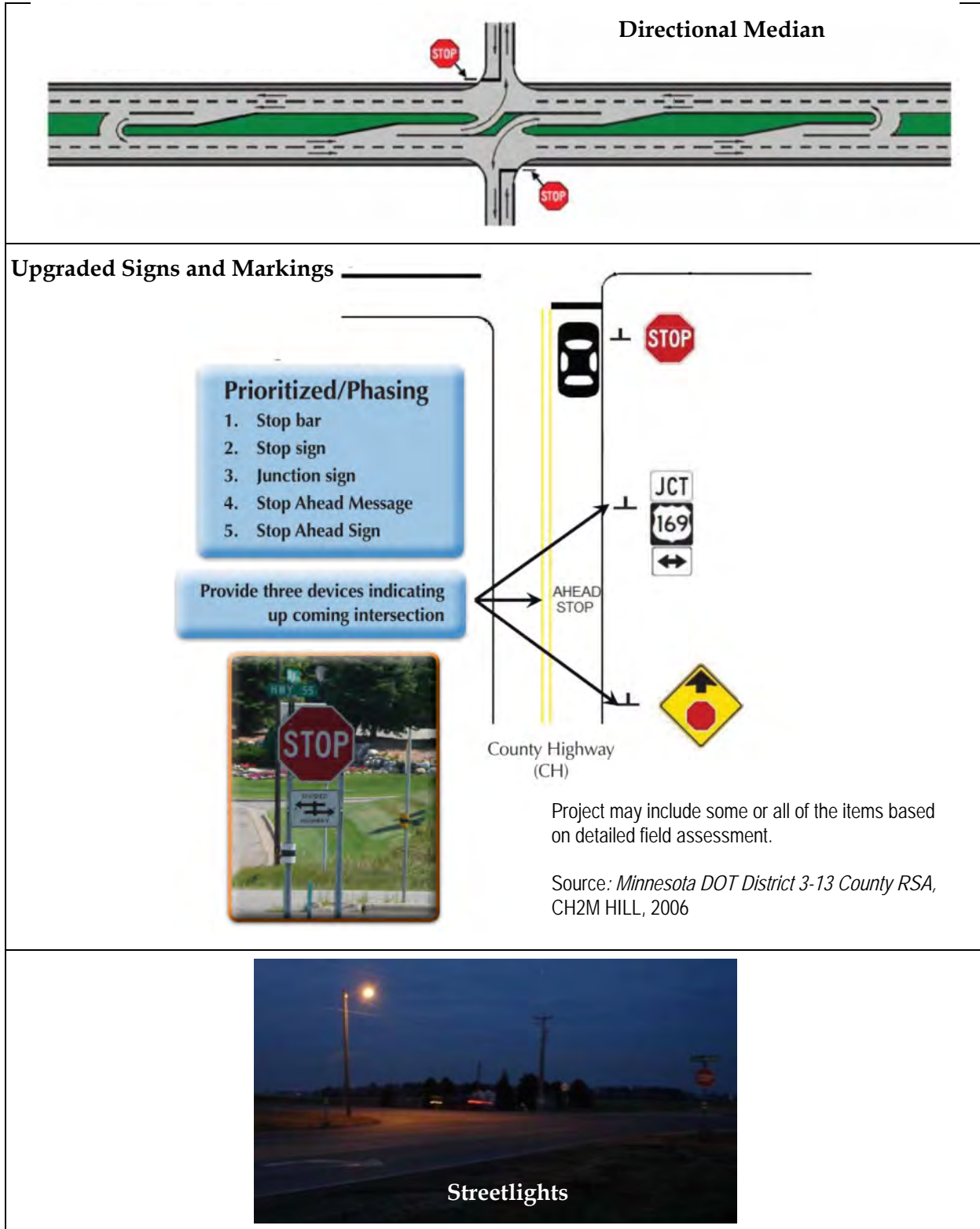


FIGURE 4-4
 Intersection Safety Strategies Considered for Deployment

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. This buffer space would be created by converting to a three-lane or five-lane roadway and by better managing access along divided arterials (Figure 4-5).

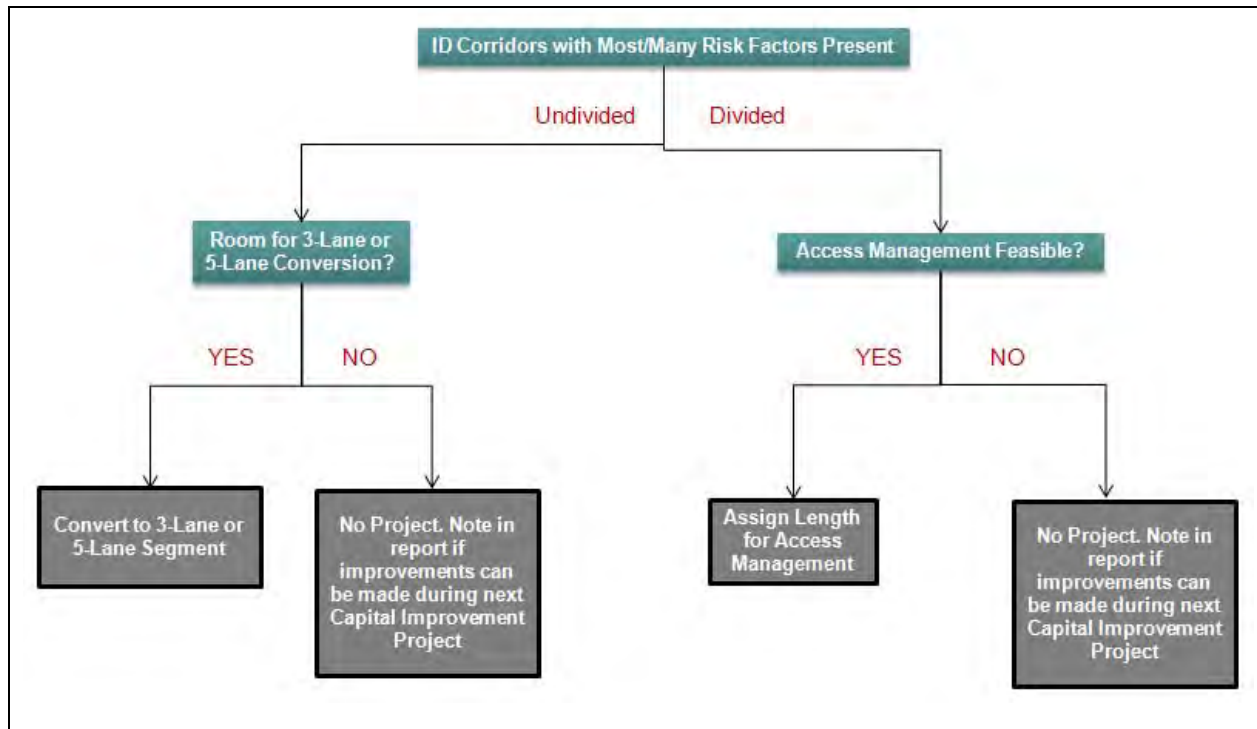


FIGURE 4-5
High-Priority Urban Roadway Segment (Turning) Project Decision Process

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

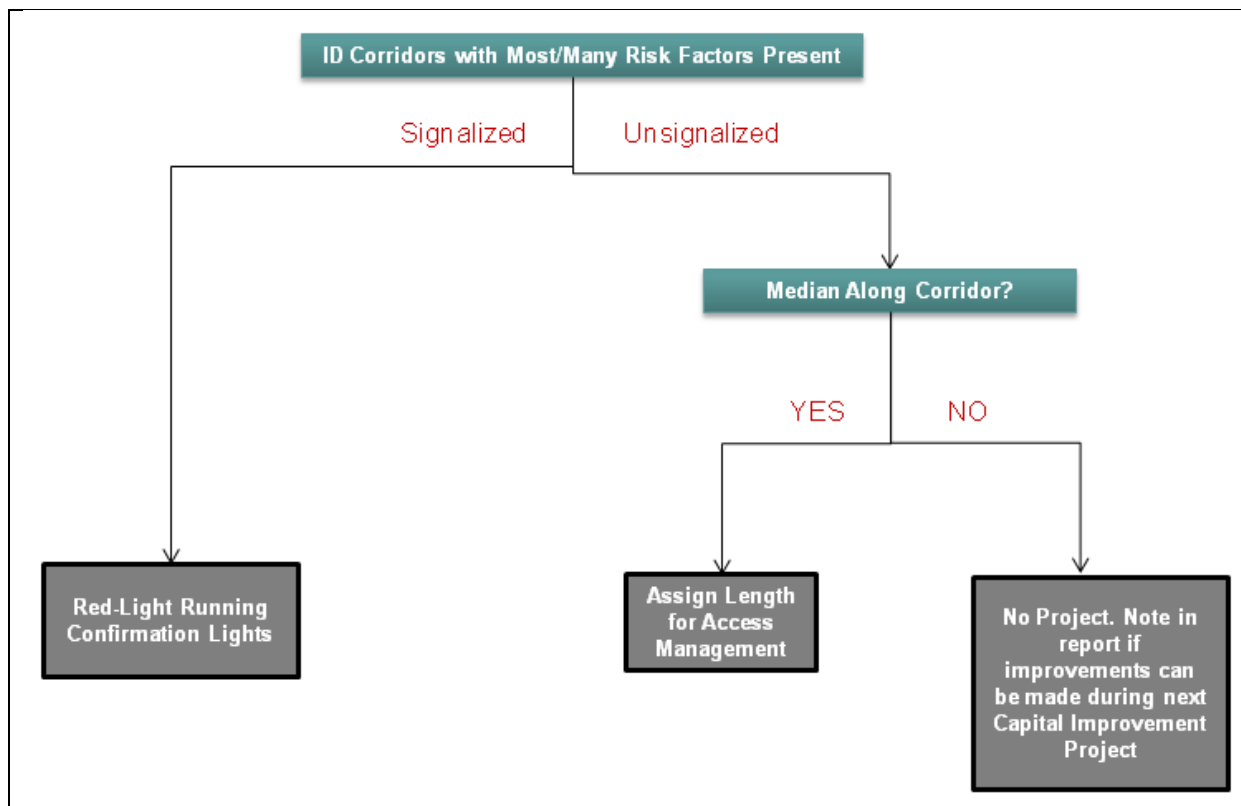


FIGURE 4-6
High-Priority Urban Right-Angle Intersection (Signalized) Project Decision Process

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

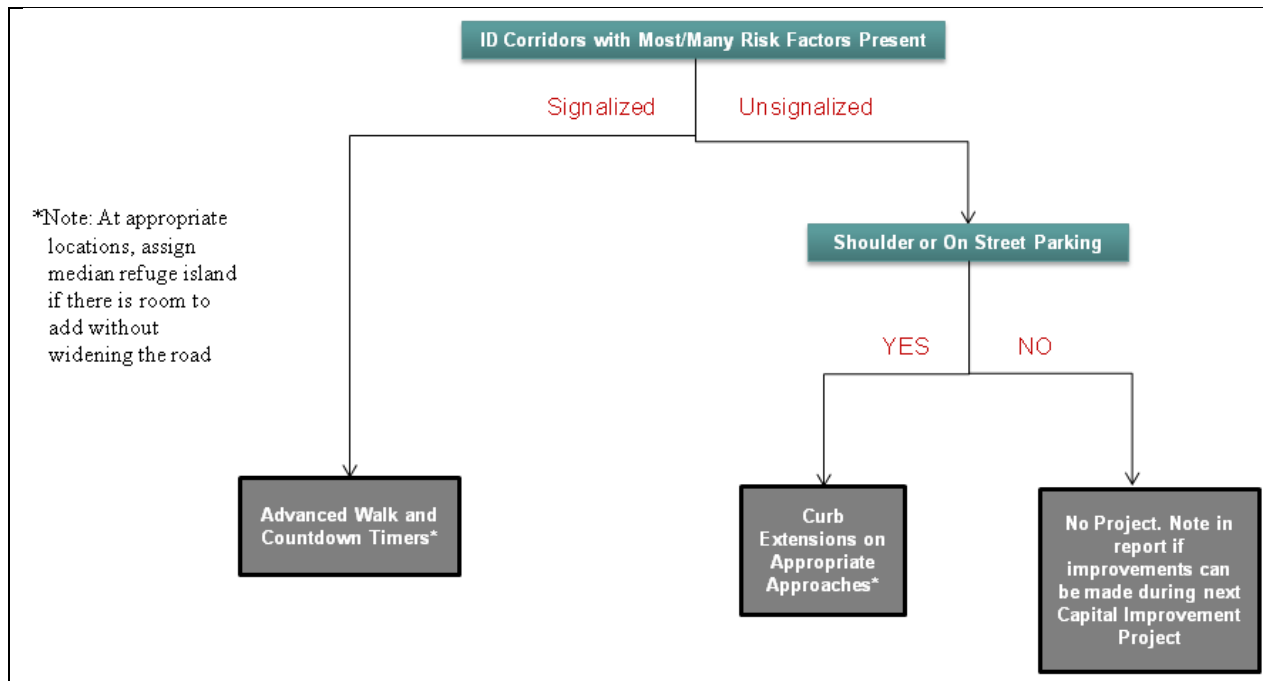


FIGURE 4-7
 High-Priority Urban Pedestrian and Bicyclist Intersection Project Decision Process

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 Cass County and the cities of Fargo and West Fargo 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 Cass 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 Cass County is \$2,693,734. A cost breakout by project type and county/city is provided in Table 4-1.

TABLE 4-1
 Cass County Total Safety Project Costs

Rural Projects	Roadway Segments	Intersections	Curves	Total
Cass County	\$267,804	\$903,120	\$62,166	\$1,233,090
Urban Projects	Roadway Segments	Intersections – Right-Angle	Intersections – Pedestrians and Bicyclists	Total
Fargo	\$51,507	\$34,800	\$1,044,000	\$1,130,307
West Fargo	\$272,737	\$9,600	\$48,000	\$330,337

4.2 Cass County

The total project cost suggested for Cass County is \$1,233,090. 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. These locations are described in further detail in the Cass County Appendix along with priority rankings and suggested project sheets.

TABLE 4-2
Cass County Project Costs

Project Type	Cost
Intersections	\$903,120
Roadway Segments	\$267,804
Curves	\$62,166
Total	\$1,233,090

Thirty-four roadway segments were identified as high-priority locations. However, 21 of the roadway segments have existing treatments, the suggested treatments are planned for 2014 or the suggested treatments are not applicable. (Table 4-3).

TABLE 4-3
Cass County Roadway Segment Locations with Existing Treatments or Treatments not Applicable

Segment ID	Route #	Segment Start	Segment End	Treatment In Place
81.10	Cass 81	Cass 34	Cass 26	Existing Rumbles
81.02	Cass 81	Cass 18	Cass 16	Rumbles Planned - 2014
16.09	Cass 16	Cass 21	Cass 81	Rumbles Planned - 2014
11.03	Cass 11	Cass 20	Cass 32	Rumbles Planned - 2014
10.06	Cass 10	ND 18	163rd Ave SE	Existing Rumbles
4.06	Cass 4	Cass 11	Cass 81	Existing Rumbles
10.04	Cass 10	Cass 5	Stevens St	Existing Rumbles
26.08	Cass 26	Cass 81	Cass 31	Existing Rumbles
31.05	Cass 31	Cass 26	16th St SE	Existing Rumbles
20.04	Cass 20	Cass 81	University Dr N	Segment is being turned over to City of Fargo and speed limit is being reduced to 40 mph
17.04	Cass 17	Cass 6	64th Ave S	Existing Rumbles
17.03	Cass 17	Cass 14	Cass 6	Existing Rumbles
22.03	Cass 22	170th Ave SE	Cass 81	Short Segment – Removed from Consideration
11.01	Cass 11	37th St SE	Cass 10	25 MPH Speed Limit – Removed from Consideration
22.05	Cass 22	Cass 81	East Border of Cass County	Short Segment – Removed from Consideration
26.07	Cass 26	Cass 11	Cass 81	Existing Rumbles
6.08	Cass 6	81st St S	Cass 17	40 MPH Speed Limit – Removed from Consideration

TABLE 4-3

Cass County Roadway Segment Locations with Existing Treatments or Treatments not Applicable

Segment ID	Route #	Segment Start	Segment End	Treatment In Place
26.03	Cass 26	ND 38	Cass 5	Existing Rumbles
501.01	No designation	Interstate 29	Cass 81	Short Segment – Removed from Consideration
15.02	Cass 15	Cass 16	Cass 6	Existing Rumbles
22.01	Cass 22	Cass 11	165th Ave SE	40 MPH Speed Limit – Removed from Consideration

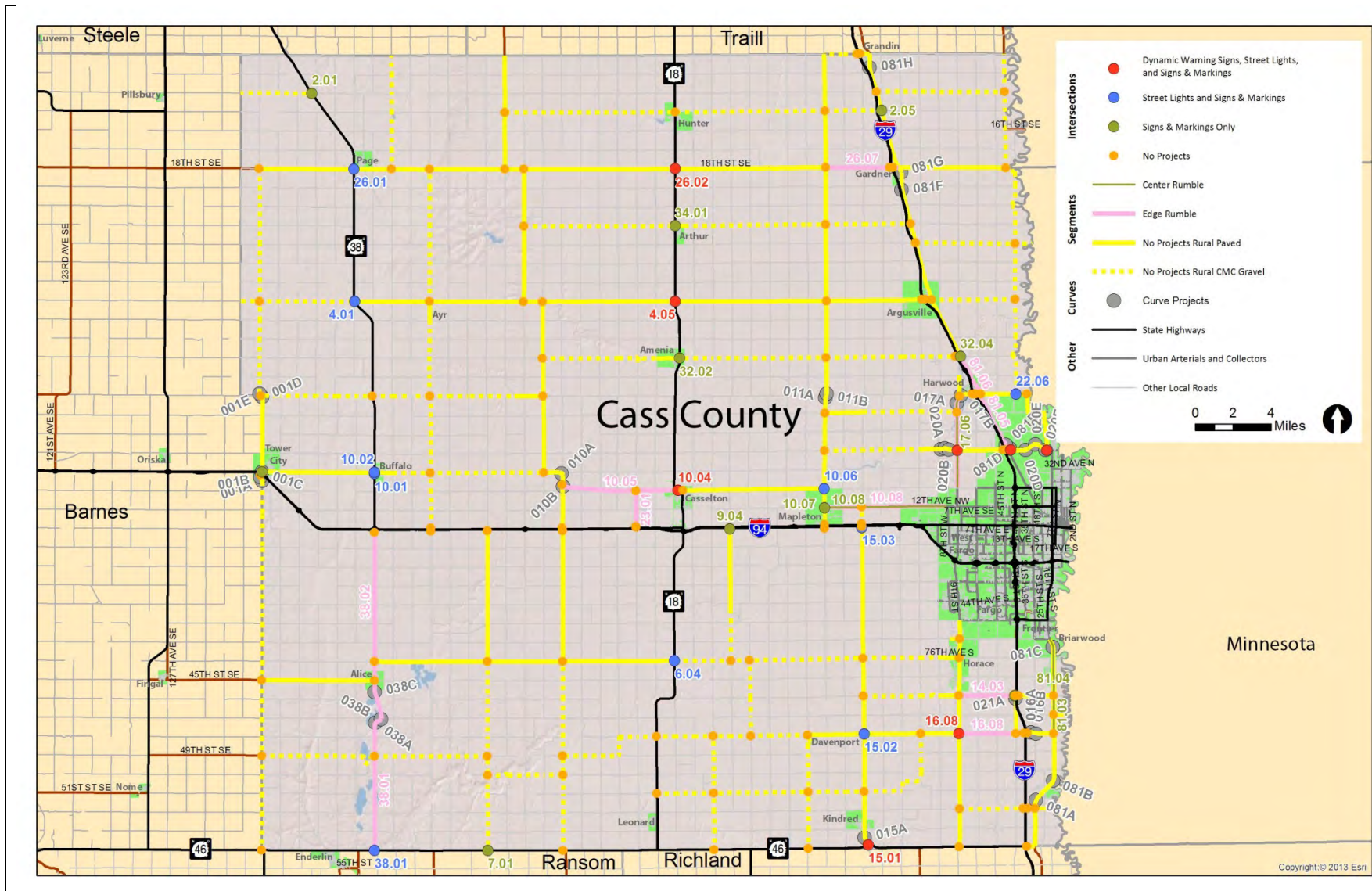


FIGURE 4-8
 Cass County Projects Location Map

4.3 City of Fargo

The total project cost suggested for the City of Fargo is \$1,130,307. The project cost breakout for roadway segment, right-angle intersection, and pedestrian/bicyclist intersection projects are listed in Table 4-4. High-priority locations that received a project are shown in Figure 4-9. These locations are described in further detail in the Fargo Appendix along with priority rankings and suggested project sheets.

TABLE 4-4
City of Fargo Project Costs

Project Type	Cost
Roadway Segments	\$51,507
Right-Angle Intersections	\$34,800
Pedestrian and Bicyclist Intersections	\$1,044,000
Total	\$1,130,307

Forty-six roadway segments were identified as high-priority locations. However, 44 of the roadway segments have existing treatments or the suggested treatments are not applicable. (Table 4-5).

TABLE 4-5
City of Fargo High Priority Urban Roadway Segment Locations with Existing Treatments or Treatments not Applicable

Segment ID	Local Name	Segment Start	Segment End	Treatment In Place
10.24	Main Ave	I-29 Interchange	10th St (US 81)	Existing roadway too narrow
846.02	25th St S	I-94	12th Ave N	Existing roadway too narrow
81.25	University Dr	I-94 Interchange	13th Ave S	Existing five-lane section
842.02	42nd St S	I-94	Main Ave	Existing five-lane section
816.02	13th Ave S	17th St E (West Fargo)	I-94	Existing access management
841.02	45th St S & 45th St N	I-94	(Turns into Township Road)	Existing access management
810.03	32nd Ave S	I-94	University Drive South	Existing access management
846.01	25th St S	64th Ave S	I-94	Existing access management/ existing five-lane section
816.03	13th Ave S	I-94	25th St S	Existing access management
81.30	10th St S/N	13th Ave S	12th Ave N	One-way undivided roadway
855.02	Broadway N	Main Ave	MN/ND Border	Existing access management
81.27	University Dr	Main Ave	12th Ave N	One-way undivided roadway
841.01	45th St S	52nd Ave S	I-94	Existing access management
816.04	13th Ave S	25th St S	University Drive South	Existing three-lane section
81.26	University Dr	13th Ave S	Main Ave	One-way undivided roadway
81.24	University Dr	32nd Ave S	I-94 Interchange	Existing access management
810.02	32nd Ave S	Veteran's Blvd	I-29	Existing access management/

TABLE 4-5
City of Fargo High Priority Urban Roadway Segment Locations with Existing Treatments or Treatments not Applicable

Segment ID	Local Name	Segment Start	Segment End	Treatment In Place
				existing three-lane section
827.03	7th Ave N	I-29	Oak St N	Existing three-lane section
857.01	4th St S/4th St N	13th Ave S	12th Ave N	Existing roadway too narrow
10.25	Main Ave	10th St (US 81)	ND/MN Border	Existing five-lane section
81.31	10th St N	12th Ave N	19th Ave N	One-way undivided roadway
850.02	University Dr N	19th Ave N	40th Ave N	Existing five-lane section
81.23	University Dr	52nd Ave S	32nd Ave S	Existing access management
830.02	19th Ave N	10th St N	Elm St N	Existing three-lane section
816.05	13th Ave S	10th St S	4th St S	Existing roadway too narrow
81.28	University Dr	12th Ave N	19th Ave N	Existing roadway too narrow
294.01	ND 294	I-29	10th St N	Existing three-lane/five-lane section
815.02	17th Ave E/17th Ave S	16th St E	I-29	Existing roadway too narrow
822.01	N.P. Ave N	1st Ave N	ND/MN Border	Recently converted to two-way roadway
818.03	5th Ave S/2nd St S	Fletcher Dr S	Main Ave	Existing roadway too narrow
829.02	12th Ave N	9th Ave NE (West Fargo)	I-29	Existing five-lane section
823.03	1st Ave N	N.P. Ave N	ND/MN Border	Existing three-lane section
81.29	19th Ave N	I-29 Interchange	University Ave	Existing four-lane undivided with left turn at accesses
859.01	2nd St N	Main Ave	12th Ave N	Existing roadway too narrow
10.23	Main Ave	45th St S/N	I-29 Interchange	Existing access management
824.01	2nd Ave N	University Drive North	4th St N	Undivided roadway with angle parking
842.01	42nd St S	52nd Ave S	I-94	Existing five-lane section
847.03	17th St S	20th Ave S	Main Ave	Existing roadway too narrow
814.03	20th Ave S/13 1/2 St S/18th Ave S	25th St S	University Drive South	Existing roadway too narrow
839.01	57th St S/Veterans Blvd	52nd Ave S	I-94	Existing roadway too narrow
827.02	7th Ave N	45th St N	I-29	Existing roadway too narrow
843.04	40th St S	2nd Ave S	Main Ave	Existing three-lane section
81.22	52nd Ave S	25th St S	University Dr S	Existing access management
854.01	Roberts St N	Main Ave	(Just North of N.P. Ave)	Existing roadway too narrow

One intersection corridor was identified as a high-priority pedestrian and bicycle corridor and right angle corridor. However, the corridor is being reconstructed during the summer of 2014, so no projects were suggested along this corridor (Table 4-6).

TABLE 4-6
City of Fargo Urban Pedestrian/Bicycle and Right Angle Locations with Existing Treatments or Treatments not Applicable

Intersection Corridor (Segment) ID	Local Name	Segment Start	Segment End	Treatment in Place
846.01	25th Street S	64th Avenue S	I-94	Reconstruction in summer 2014

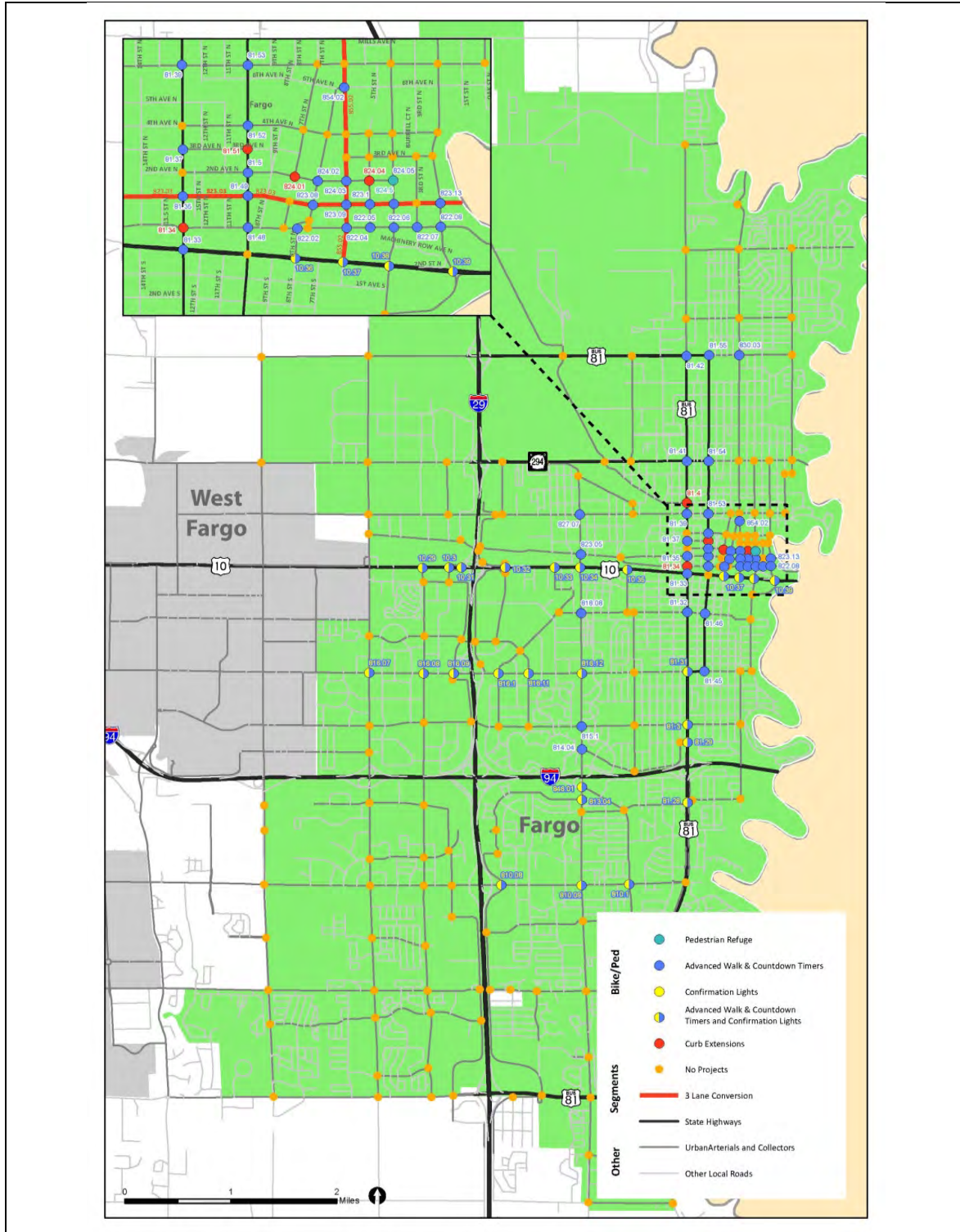


FIGURE 4-9
 City of Fargo Projects Location Map

4.4 City of West Fargo

The total project cost suggested for the City of West Fargo is \$330,337. The project cost breakout for roadway segment, right-angle intersection, and pedestrian/bicyclist intersection projects are listed in Table 4-7. High-priority locations that received a project are shown in Figure 4-10.

These locations are described in further detail in the West Fargo Appendix along with priority rankings and suggested project sheets.

TABLE 4-7
 City of West Fargo Project Costs

Project Type	Cost
Roadway Segments	\$272,738
Right-Angle Intersections	\$9,600
Pedestrian and Bicyclist Intersections	\$48,000
Total	\$330,337

Twenty roadway segments were identified as high-priority locations. However, 12 of the roadway segments have existing treatments or the suggested treatments are not applicable. (Table 4-8).

TABLE 4-8
 City of West Fargo High Priority Urban Roadway Segment Locations with Existing Treatments or Treatments not Applicable

Segment ID	Local Name	Segment Start	Segment End	Treatment In Place
839.02	9th St E/Veteran's Blvd	I-94	12th Ave NE	Existing three-lane section
816.01	13th Ave W	15th St NW	17th St E	Existing access management
10.21	Main Ave	Interchange with I-94	Intersection with 9th St E	Existing four-lane undivided with left turn at accesses
10.22	Main Ave	Intersection with 9th St E	Intersection with 45th St S	Existing four-lane undivided with left turn at accesses
819.01	4th Ave W	Sheyene St	9th St E	Existing roadway too narrow
838.01	6th St E	17th Ave E	7th Ave E	Existing roadway too narrow
820.06	10 Access	5th St E	12th St E	Existing roadway too narrow
820.03	10 Access	Main Ave (E of 1st St E)	Main Ave (W of 3rd St E)	Short frontage road with angle parking
821.01	10 Access	21st St NW	Main Ave (E of 12th St NW)	Existing roadway too narrow
808.01	38th Ave W	9th St W	Sheyene St	Existing access management
820.01	10 Access	11th St W	Morrison St W	Existing roadway too narrow
820.02	10 Access	Main Ave (E of Sheyenne St)	Main Ave (W of 1st St E)	Short frontage road with angle parking

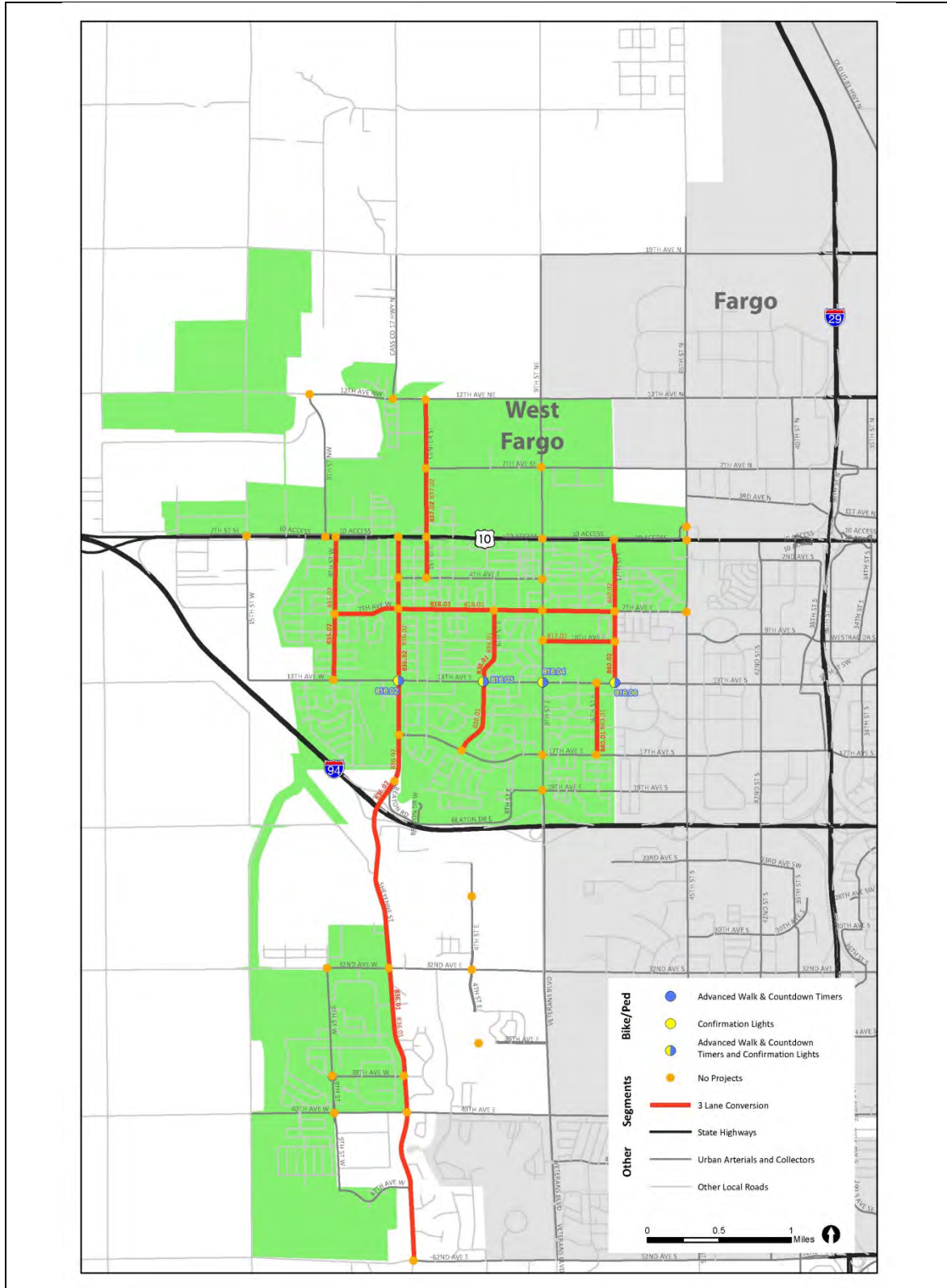


FIGURE 4-10
 City of West Fargo Projects Location Map

23 USC 409
NDDOT Reserves All Objections

Cass County
Summary of Rural Segment Projects

Page	Corridor ID	Route #	Start	End	Length	Risk Ranking	4" Edge Line	6" Edge Lines	Edge Rumble Strip	Center Line Rumble	4" Center Line	6" Center Line	Project Cost (\$)
1	38.01	Cass 38 38	South Border of Cass County	Intersection with 45th St SE	9.2	*****	0.0	0.0	9.2	0.0	0.0	0.0	\$ 38,640
2	81.10	Cass 81 81	Intersection with Cass 34 (21st St SE)	Intersection with Cass 26	3.1	*****	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
3	81.04	Cass 81 81	Intersection with Cass 14	Intersection with 64th Ave S	3.0	****	0.0	0.0	0.0	3.0	0.0	0.0	\$ 10,800
4	17.06	Cass 17 17	Intersection with 19th Ave NW	Intersection with 170th Ave SE (and Cass 22)	4.9	****	0.0	0.0	4.9	4.9	0.0	0.0	\$ 38,220
5	81.02	Cass 81 81	Intersection with Cass 18	Intersection with Cass 16	4.3	****	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
6	81.05	Cass 81 81	Intersection with Cass 20	Intersection with Cass 22	3.4	****	0.0	0.0	3.4	0.0	0.0	0.0	\$ 14,280
7	16.09	Cass 16 16	Intersection with Cass 21	Intersection with Cass 81	2.0	****	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
8	11.03	Cass 11 11	Intersection with Cass 20	Intersection with Cass 32	4.9	****	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
9	10.06	Cass 10 10	Intersection with ND 18 (Langer Ave N)	Intersection with 163rd Ave SE	7.5	***	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
10	4.06	Cass 4 4	Intersection with Cass 11	Intersection with Cass 81	5.6	***	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
11	10.04	Cass 10 10	Intersection with Cass 5	Intersection with Stevens St	1.6	***	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
12	38.02	Cass 38 38	Intersection with 45th St SE	Intersection with Interstate 94 EB ramps	7.8	***	0.0	0.0	7.8	0.0	0.0	0.0	\$ 32,760
13	26.08	Cass 26 26	Intersection with Cass 81	Intersection with Cass 31	5.7	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
14	31.05	Cass 31 31	Intersection with Cass 26	Intersection with 16th St SE	2.0	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
15	20.04	Cass 20 20	Intersection with Cass 81	Intersection with University Dr N	2.4	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
16	17.04	Cass 17 17	Intersection with Cass 6	Intersection with 64th Ave S	1.0	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
17	17.03	Cass 17 17	Intersection with Cass 14	Intersection with Cass 6	2.0	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
18	22.03	Cass 22 22	Intersection with 170th Ave SE (and Cass 22)	Intersection with Cass 81	1.1	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
19	11.01	Cass 11 11	Intersection with 37th St SE	Intersection with Cass 10	1.1	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
20	10.08	Cass 10 10	Intersection with Cass 11	Intersection with 9th St NW	6.4	**	0.0	0.0	6.4	6.4	0.0	0.0	\$ 49,920
21	81.03	Cass 81 81	Intersection with Cass 16	Intersection with Cass 14	2.0	**	0.0	0.0	0.0	2.0	0.0	0.0	\$ 7,200
22	22.05	Cass 22 22	Intersection with Cass 81	East Border of Cass County	0.8	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
23	31.01	Cass 31 31	Intersection with Cass 20	Intersection with Cass 22	3.8	**	0.0	3.8	0.0	0.0	0.0	0.0	\$ 7,524
24	16.08	Cass 16 16	Intersection with Cass 17	Intersection with Cass 21	3.0	**	0.0	0.0	3.0	0.0	0.0	0.0	\$ 12,600
25	26.07	Cass 26 26	Intersection with Cass 11	Intersection with Cass 81	3.8	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
26	14.03	Cass 14 14	Intersection with Cass 17	Intersection with 38th St S	2.9	**	0.0	0.0	2.9	0.0	0.0	0.0	\$ 12,180
27	81.06	Cass 81 81	Intersection with Cass 22	Intersection with Cass 32	2.3	**	0.0	0.0	2.3	0.0	0.0	0.0	\$ 9,660
28	6.08	Cass 6 6	Intersection with 81st St S	Intersection with Cass 17	1.1	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
29	26.03	Cass 26 26	Intersection with ND 38	Intersection with Cass 5	8.0	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
30	501.01	No designation	Intersection with Interstate 29 northbound ramps	Intersection with Cass 81	0.4	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
31	15.02	Cass 15 15	Intersection with Cass 16	Intersection with Cass 6	4.0	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
32	10.05	Cass 10 10	Intersection with Stevens St	Intersection with ND 18 (Langer Ave N)	6.2	**	0.0	0.0	6.2	0.0	0.0	0.0	\$ 26,040
33	23.01	Cass 23 23	Intersection with Interstate 94 WB ramps	Intersection with Cass 10	1.9	**	0.0	0.0	1.9	0.0	0.0	0.0	\$ 7,980
34	22.01	Cass 22 22	Intersection with Cass 11	Intersection with 165th Ave SE	2.0	**	0.0	0.0	0.0	0.0	0.0	0.0	\$ -
23 USC 409 NDDOT Reserves All Objections							0.0	3.8	48.0	16.3	0.0	0.0	\$ 267,804

**Cass County
Rural Segment Listing**

23 USC 409
NDDOT Reserves All Objections

*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
-	1.02	Cass 1	About 0.3. miles south of 34th St SE	Intersection with 132nd Ave SE (on curve)	4.1	0	163	0.00	5.4	1.22	2
-	3.04	Cass 3	Intersection with 26th St SE	Intersection with Cass 4	1.0	0	198	0.00	3.0	0.00	1
-	4.02	Cass 4	Intersection with ND 38	Intersection with Cass 5	9.0	0	405	0.00	4.8	0.00	1
-	4.03	Cass 4	Intersection with Cass 5 (147th Ave SE)	Intersection with Cass 5 (148th Ave SE)	1.0	0	380	0.00	7.0	0.00	1
-	4.04	Cass 4	Intersection with Cass 5 (148th Ave SE)	Intersection with ND 18	7.0	1	445	0.03	6.8	0.00	1
-	4.05	Cass 4	Intersection with ND 18	Intersection with Cass 11	8.0	1	610	0.03	4.5	0.00	2
NA	4.06	Cass 4	Intersection with Cass 11	Intersection with Cass 81	5.6	6	716	0.21	5.4	0.00	2
-	5.02	Cass 5	Intersection with Cass 6	Intersection with Stevens St	9.4	0	255	0.00	7.1	0.00	1
-	5.03	Cass 5	Intersection with Cass 10	Intersection with Cass 32	4.1	1	200	0.05	4.4	0.00	2
-	5.06	Cass 5	Intersection with Cass 4	Intersection with Cass 34	4.0	0	100	0.00	5.3	0.00	1
-	5.07	Cass 5	Intersection with Cass 34	Intersection with Cass 26	3.0	0	150	0.00	4.3	0.00	2
-	5.08	Cass 5	Intersection with Cass 26	North Border of Cass County	6.0	0	170	0.00	5.3	0.00	1
-	6.01	Cass 6	Intersection with 133rd Ave SE	Intersection with 139th Ave SE	6.0	0	130	0.00	7.7	0.00	2
-	6.02	Cass 6	Intersection with 139th Ave SE	Intersection with 145th Ave SE	6.0	0	118	0.00	6.0	0.00	1
-	6.03	Cass 6	Intersection with 145th Ave SE	Intersection with 149th Ave SE	4.0	0	404	0.00	5.0	0.00	2
-	6.04	Cass 6	Intersection with 149th Ave SE	Intersection with ND 18	5.9	1	323	0.03	4.7	0.00	2
NA	6.08	Cass 6	Intersection with 81st St S	Intersection with Cass 17	1.1	1	400	0.18	17.4	0.00	1
-	7.03	Cass 7	Intersection with 44th St SE	Intersection with Interstate 94 eastbound ramps	7.0	0	240	0.00	5.8	0.00	2
-	9.05	Cass 9	Intersection with 41st 1/2 St SE	Intersection with 37th St SE	4.5	1	150	0.04	6.0	0.00	2
-	10.01	Cass 10	Intersection with Cass 1	Intersection with ND 18	6.0	1	589	0.03	5.5	0.00	2
-	10.02	Cass 10	Intersection with ND 18	Intersection with 140th Ave SE	1.0	0	200	0.00	2.1	0.00	2
NA	10.04	Cass 10	Intersection with Cass 5	Intersection with Stevens St	1.6	0	360	0.00	5.1	0.64	2
-	10.05	Cass 10	Intersection with Stevens St	Intersection with ND 18 (Langer Ave N)	6.2	2	345	0.06	4.2	0.16	1
NA	10.06	Cass 10	Intersection with ND 18 (Langer Ave N)	Intersection with 163rd Ave SE	7.5	4	738	0.11	5.9	0.00	2
-	10.07	Cass 10	Intersection with Cass 10 (36th St SE)	Intersection with Cass 10 (35th St SE)	1.0	0	770	0.00	8.0	0.00	1
6	10.08	Cass 10	Intersection with Cass 11	Intersection with 9th St NW	6.4	4	1,530	0.12	8.7	0.00	1
NA	11.01	Cass 11	Intersection with 37th St SE	Intersection with Cass 10	1.1	3	1,650	0.55	11.9	0.00	1
-	11.02	Cass 11	Intersection with Cass 10 (35th St SE)	Intersection with Cass 20	2.0	3	540	0.30	6.0	0.00	1
NA	11.03	Cass 11	Intersection with Cass 20	Intersection with Cass 32	4.9	1	240	0.04	7.5	0.40	1
-	11.04	Cass 11	Intersection with Cass 32	Intersection with Cass 4	3.0	0	100	0.00	5.3	0.00	1
-	14.02	Cass 14	Intersection with 81st St S	Intersection with Cass 17	1.0	0	265	0.00	11.5	0.00	1
10	14.03	Cass 14	Intersection with Cass 17	Intersection with 38th St S	2.9	2	568	0.14	8.2	0.00	1
-	14.04	Cass 14	Intersection with 38th St S	Intersection with Cass 81	2.1	1	210	0.10	11.6	0.00	1
-	15.01	Cass 15	South Border of Cass County	Intersection with Cass 16	5.9	3	1,258	0.10	5.6	0.00	1
-	15.02	Cass 15	Intersection with Cass 16	Intersection with Cass 6	4.0	1	350	0.05	8.5	0.00	1
-	15.03	Cass 15	Intersection with Cass 6	Intersection with roadway north of Interstate 94 westbound ramps	7.2	1	755	0.03	5.7	0.00	1
-	16.06	Cass 16	Intersection with 162nd Ave SE	Intersection with Cass 15	3.0	1	568	0.07	5.7	0.00	1
-	16.07	Cass 16	Intersection with Cass 15	Intersection with Cass 17	5.0	2	1,065	0.08	5.8	0.00	1
9	16.08	Cass 16	Intersection with Cass 17	Intersection with Cass 21	3.0	1	750	0.07	9.6	0.00	1
NA	16.09	Cass 16	Intersection with Cass 21	Intersection with Cass 81	2.0	1	530	0.10	10.4	0.99	1
-	16.1	Cass 16	Intersection with Cass 81	East Border of Cass County (Red River bridge)	0.7	0	270	0.00	10.4	0.00	1
-	17.01	Cass 17	South Border of Cass County	Intersection with Cass 16	6.0	1	390	0.03	7.0	0.00	1
-	17.02	Cass 17	Intersection with Cass 16	Intersection with Cass 14	2.0	0	1,195	0.00	6.0	0.00	1
NA	17.03	Cass 17	Intersection with Cass 14	Intersection with Cass 6	2.0	2	2,501	0.20	7.5	0.00	1
NA	17.04	Cass 17	Intersection with Cass 6	Intersection with 64th Ave S	1.0	5	3,862	1.00	9.0	0.00	1
-	17.05	Cass 17	Intersection with 64th Ave S	Intersection with 52nd Ave S	1.0	0	5,693	0.00	15.2	0.00	1
3	17.06	Cass 17	Intersection with 19th Ave NW	Intersection with 170th Ave SE (and Cass 22)	4.9	5	1,517	0.20	7.7	0.41	1
-	18.02	Cass 18	Intersection with Interstate 94	Intersection with Cass 81	0.5	0	550	0.00	11.5	0.00	1
-	18.03	Cass 18	Intersection with Cass 81	East Border of Cass County	1.1	0	625	0.00	10.7	0.00	1
-	20.02	Cass 20	About 200 feet west of 93rd St N/26th St NW	Intersection with Cass 17	2.0	0	316	0.00	0.0	1.49	1
-	20.03	Cass 20	Intersection with Cass 17	Intersection with Cass 81	2.8	10	1,459	0.71	0.0	0.00	1
NA	20.04	Cass 20	Intersection with Cass 81	Intersection with University Dr N	2.4	18	4,267	1.53	0.0	1.27	1
-	21.01	Cass 21	Intersection with Cass 16	Intersection with Cass 14	2.0	2	29	0.20	0.0	0.50	0
-	22.01	Cass 22	Intersection with Cass 11	Intersection with 165th Ave SE	2.0	1	230	0.10	10.0	0.00	1
NA	22.03	Cass 22	Intersection with 170th Ave SE (and Cass 22)	Intersection with Cass 81	1.1	2	2,334	0.35	21.2	0.00	1
-	22.04	Cass 22	Intersection with Cass 81	Intersection with Cass 81	1.9	0	1,580	0.00	8.0	0.00	1
NA	22.05	Cass 22	Intersection with Cass 81	East Border of Cass County	0.8	1	900	0.25	12.4	0.00	1
-	23.01	Cass 23	Intersection with Interstate 94 westbound ramps	Intersection with Cass 10	1.9	1	295	0.10	7.2	0.00	1
-	26.01	Cass 26	West Border of Cass County	Intersection with Cass 1	1.0	0	270	0.00	7.0	0.00	1
-	26.02	Cass 26	Intersection with Cass 1	Intersection with ND 38	5.0	0	345	0.00	7.0	0.00	1
NA	26.03	Cass 26	Intersection with ND 38	Intersection with Cass 5	8.0	3	398	0.08	6.6	0.00	1

**Cass County
Rural Segment Listing**

23 USC 409
NDDOT Reserves All Objections

*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 Assessment
-	26.04	Cass 26	Intersection with Cass 5 (146th Ave SE)	Intersection with Cass 5 (147th Ave SE)	1.0	0	550	0.00	5.9	0.00	1
-	26.05	Cass 26	Intersection with Cass 5 (147th Ave SE)	Intersection with ND 18	8.0	1	408	0.02	5.1	0.00	1
-	26.06	Cass 26	Intersection with ND 18	Intersection with Cass 11	8.0	4	510	0.10	5.5	0.00	1
-	26.07	Cass 26	Intersection with Cass 11	Intersection with Cass 81	3.8	4	651	0.21	8.8	0.00	1
NA	26.08	Cass 26	Intersection with Cass 81	Intersection with Cass 31	5.7	2	291	0.07	4.9	0.00	2
8	31.01	Cass 31	Intersection with Cass 20	Intersection with Cass 22	3.8	1	792	0.05	14.5	0.00	1
NA	31.05	Cass 31	Intersection with Cass 26	Intersection with 16th St SE	2.0	0	230	0.00	8.0	0.00	2
-	32.02	Cass 32	About 0.16 miles west of the railroad tracks in Absaraka	Intersection with Cass 5	1.5	0	170	0.00	5.3	0.00	1
-	32.04	Cass 32	Intersection with 154th Ave SE	Intersection with ND 18	1.2	0	109	0.00	1.6	0.00	2
1	38.01	Cass 38	South Border of Cass County	Intersection with 45th St SE	9.2	3	382	0.07	6.4	0.33	2
5	38.02	Cass 38	Intersection with 45th St SE	Intersection with Interstate 94 eastbound ramps	7.8	1	348	0.03	7.6	0.00	2
-	81.01	Cass 81	South Border of Cass County	Intersection with Cass 18	2.0	0	500	0.00	6.0	0.00	1
NA	81.02	Cass 81	Intersection with Cass 18	Intersection with Cass 16	4.3	2	825	0.09	6.9	0.46	1
7	81.03	Cass 81	Intersection with Cass 16	Intersection with Cass 14	2.0	1	1,000	0.10	7.0	0.00	1
2	81.04	Cass 81	Intersection with Cass 14	Intersection with 64th Ave S	3.0	2	1,601	0.13	10.5	0.33	1
4	81.05	Cass 81	Intersection with Cass 20	Intersection with Cass 22	3.4	1	609	0.06	6.2	0.59	1
11	81.06	Cass 81	Intersection with Cass 22	Intersection with Cass 32	2.3	3	480	0.26	7.4	0.00	1
-	81.07	Cass 81	Intersection with Cass 32	Intersection with Cass 4	3.4	0	310	0.00	3.3	0.00	1
-	81.08	Cass 81	Intersection with Cass 4	Intersection with Cass 34 (22nd St SE)	3.1	0	300	0.00	6.4	0.00	1
-	81.09	Cass 81	Intersection with Cass 34 (22nd St SE)	Intersection with Cass 34 (21st St SE)	1.0	0	280	0.00	3.9	0.00	2
NA	81.1	Cass 81	Intersection with Cass 34 (21st St SE)	Intersection with Cass 26	3.1	0	266	0.00	6.5	0.97	2
-	81.11	Cass 81	Intersection with Cass 26	North Border of Cass County	6.2	1	218	0.03	5.0	0.00	2
NA	501.01	No designation	Intersection with Interstate 29 northbound ramps	Intersection with Cass 81	0.4	1	385	0.48	12.0	0.00	1
-	502.01	No designation	Intersection with 76th St S	Intersection with Cass 17	0.5	0	450	0.00	13.9	0.00	1

310.3 121

Edge Risk Legend

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

Critical ADT Range - Lane Departure

225
1,000,000

	Access	Lane Departure	Critical Radius Curves
Total	339	121	8
Total Mileage	310.3	310.3	310.3
Years		5	
Average Density (Total/Mile)	1.1	0.08	0.03

Cass County
Rural Segment Prioritization - Lane Departure Priority

23 USC 409
 NDDOT Reserves All Objections

#	Corridor	Route	Start	End	Length	ADT	ADT Range	Lane Departure Density	Access Density	Curve Critical Radius Density	Edge Risk	Tiebreakers		
												Totals	Edge Risk ADT	
74	17.02	Cass 17	Intersection with Cass 16	Intersection with Cass 14	2.0	1,195	*					*	1	1,195
75	15.03	Cass 15	Intersection with Cass 6	Intersection with roadway north of Interstate 94 westbound ramps	7.2	755	*					*	1	755
76	26.04	Cass 26	Intersection with Cass 5 (146th Ave SE)	Intersection with Cass 5 (147th Ave SE)	1.0	550	*					*	1	550
77	26.05	Cass 26	Intersection with Cass 5 (147th Ave SE)	Intersection with ND 18	8.0	408	*					*	1	408
78	4.02	Cass 4	Intersection with ND 38	Intersection with Cass 5	9.0	405	*					*	1	405
79	81.07	Cass 81	Intersection with Cass 32	Intersection with Cass 4	3.4	310	*					*	1	310
80	6.02	Cass 6	Intersection with 139th Ave SE	Intersection with 145th Ave SE	6.0	118			*			*	1	118
81	3.04	Cass 3	Intersection with 26th St SE	Intersection with Cass 4	1.0	198							1	198
82	5.08	Cass 5	Intersection with Cass 26	North Border of Cass County	6.0	170							1	170
83	32.02	Cass 32	About 0.16 miles west of the railroad tracks in Absaraka	Intersection with Cass 5	1.5	170							1	170
84	5.06	Cass 5	Intersection with Cass 4	Intersection with Cass 34	4.0	100							1	100
85	11.04	Cass 11	Intersection with Cass 32	Intersection with Cass 4	3.0	100							1	100

Total Stars -- 69
 % That Gets Star -- 81%

	#	%	Mileage	%
*****	1	1%	9.2	3%
****	7	8%	25.6	8%
***	26	31%	86.4	28%
**	35	41%	125.6	40%
*	11	13%	48.0	15%
	5	6%	15.5	5%
	85	100%	310.3	100%

Stars

ADT Range - If segment has an ADT in the range of most at risk ADT based on Eastern totals. (225 < ADT < 1000000)

Lane Departure Density - If segment has higher lane departure density than the Eastern average (0.04).

Access Density - If segment has access density than the nationwide average (6).

Curve Critical Radius Density - If segment has higher density of curves with critical radius than the Eastern average (0.111).

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)

Cass from South Border of Cass County to Intersection with 45th St SE

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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

Location Description

Start: South Border of Cass County
End: Intersection with 45th St SE
Facility Type: 2-lane
ADT: 382
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 9.2
Rumble Installed: None

- 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	
	Total	Road Dept	K+A
Crashes	6	3	0
Density (per mile per year)	0.13	0.07	0.00
Rate (per MVM)	0.94	0.47	0.00

	Value	Critical	Departure
ADT Range	382	225≤ADT≤1000000	★
RD Density	0.065	0.040	★
Access Density	6.4	6.0	★
Curve Critical Radius Density	0.325	0.111	★
Edge Risk	2	2 or 3	★
			★★★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge Rumbles Planned for 2015-2017
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	9.2	\$38,640	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$34,776
Local Match (10% of Total project cost)	\$3,864
*Total Project Cost	\$38,640

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 1
Segment ID: 38.01
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 14 to Intersection with 64th Ave S

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 14
End: Intersection with 64th Ave S
Facility Type: 2-lane
ADT: 1601
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 8'
Shoulder Type: Paved
Length (miles): 3.0
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	23	2	0
Density (per mile per year)	1.53	0.13	0.00
Rate (per MVM)	2.62	0.23	0.00

	Value	Critical	Departure
ADT Range	1,601	225 ≤ ADT ≤ 1000000	★
RD Density	0.132	0.040	★
Access Density	10.5	6.0	★
Curve Critical Radius Density	0.329	0.111	★
Edge Risk	1	2 or 3	

★★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge Rumbles Planned for 2014 - No Edge Project Assigned
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	3.0	\$10,800	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$9,720
Local Match (10% of Total project cost) \$1,080
***Total Project Cost \$10,800**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

Page: 2

Segment ID: 81.04

Date: 6/13/2014

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with 19th Ave NW to Intersection with 170th Ave SE (and Cass 22)

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with 19th Ave NW
End: Intersection with 170th Ave SE (and Cass 2)
Facility Type: 2-lane
ADT: 1517
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 8'
Shoulder Type: Gravel
Length (miles): 4.9
Rumble Installed: None

- 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

	Total	Road Dept	K+A
Crashes	18	5	1
Density (per mile per year)	0.73	0.20	0.04
Rate (per MVM)	1.33	0.37	0.07



	Value	Critical	Departure
ADT Range	1,517	225 ≤ ADT ≤ 1000000	★
RD Density	0.204	0.040	★
Access Density	7.7	6.0	★
Curve Critical Radius Density	0.407	0.111	★
Edge Risk	1	2 or 3	★ ★ ★ ★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes
4" Edge Lines	Proactive	\$1,320	0.0	\$0	Notes - Currently is concrete, will be overlaying shoulders with asphalt in future
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	4.9	\$20,580	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	4.9	\$17,640	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$34,398
Local Match (10% of Total project cost)	\$3,822
*Total Project Cost	\$38,220

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 3
Segment ID: 17.06
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 20 to Intersection with Cass 22

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 20
End: Intersection with Cass 22
Facility Type: 2-lane
ADT: 609
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 10'
Shoulder Type: Gravel
Length (miles): 3.4
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	3	1	0
Density (per mile per year)	0.18	0.06	0.00
Rate (per MVM)	0.79	0.26	0.00

	Value	Critical	Departure
ADT Range	609	225≤ADT≤1000000	★
RD Density	0.059	0.040	★
Access Density	6.2	6.0	★
Curve Critical Radius Density	0.590	0.111	★
Edge Risk	1	2 or 3	

★★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes
4" Edge Lines	Proactive	\$1,320	0.0	\$0	Notes - Currently is concrete, will be overlaying shoulders with asphalt in future
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	3.4	\$14,280	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$12,852
Local Match (10% of Total project cost)	\$1,428
*Total Project Cost	\$14,280

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

Page: 4

Segment ID: 81.05

Date: 6/13/2014

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with 45th St SE to Intersection with Interstate 94 EB ramps

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with 45th St SE
End: Intersection with Interstate 94 EB ramps
Facility Type: 2-lane
ADT: 348
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 7.8
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	2	1	0
Density (per mile per year)	0.05	0.03	0.00
Rate (per MVM)	0.40	0.20	0.00



	Value	Critical	Departure
ADT Range	348	225 ≤ ADT ≤ 1000000	★
RD Density	0.025	0.040	
Access Density	7.6	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	2	2 or 3	★
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge Rumbles Planned for 2015-2017
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	7.8	\$32,760	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$29,484
Local Match (10% of Total project cost) \$3,276
***Total Project Cost \$32,760**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 5
Segment ID: 38.02
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 11 to Intersection with 9th St NW

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 11
End: Intersection with 9th St NW
Facility Type: 2-lane
ADT: 1530
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 6'
Shoulder Type: Paved
Length (miles): 6.4
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	17	4	0
Density (per mile per year)	0.53	0.13	0.00
Rate (per MVM)	0.95	0.22	0.00



	Value	Critical	Departure
ADT Range	1,530	225 ≤ ADT ≤ 1000000	★
RD Density	0.124	0.040	★
Access Density	8.7	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	6.4	\$26,880	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	6.4	\$23,040	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$44,928
Local Match (10% of Total project cost)	\$4,992
*Total Project Cost	\$49,920

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 6
Segment ID: 10.08
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 16 to Intersection with Cass 14

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 16
End: Intersection with Cass 14
Facility Type: 2-lane
ADT: 1000
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 6'
Shoulder Type: Paved
Length (miles): 2.0
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	5	1	0
Density (per mile per year)	0.50	0.10	0.00
Rate (per MVM)	1.37	0.27	0.00



	Value	Critical	Departure
ADT Range	1,000	225 ≤ ADT ≤ 1000000	★
RD Density	0.100	0.040	★
Access Density	7.0	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes - Edge Rumbles Planned for 2014 - No Edge Project Assigned
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	2.0	\$7,200	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$6,480
Local Match (10% of Total project cost)	\$720
*Total Project Cost	\$7,200

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 7
Segment ID: 81.03
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 20 to Intersection with Cass 22

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 20
End: Intersection with Cass 22
Facility Type: 2-lane
ADT: 792
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: Low
Shoulder Width: 6'
Shoulder Type: Paved
Length (miles): 3.8
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	7	1	0
Density (per mile per year)	0.37	0.05	0.00
Rate (per MVM)	1.27	0.18	0.00

	Value	Critical	Departure
ADT Range	792	225 ≤ ADT ≤ 1000000	★
RD Density	0.053	0.040	★
Access Density	14.5	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	1	2 or 3	

★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	3.8	\$7,524	
Edge Rumble Strip	Proactive	\$4,200	0.0	\$0	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$6,772
Local Match (10% of Total project cost)	\$752
*Total Project Cost	\$7,524

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 8
Segment ID: 31.01
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 17 to Intersection with Cass 21

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 17
End: Intersection with Cass 21
Facility Type: 2-lane
ADT: 750
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 3.0
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	2	1	0
Density (per mile per year)	0.13	0.07	0.00
Rate (per MVM)	0.49	0.24	0.00

	Value	Critical	Departure
ADT Range	750	225≤ADT≤1000000	★
RD Density	0.066	0.040	★
Access Density	9.6	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	1	2 or 3	

★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	3.0	\$12,600	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$11,340
Local Match (10% of Total project cost) \$1,260
***Total Project Cost \$12,600**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

Page: 9

Segment ID: 16.08

Date: 6/13/2014

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 17 to Intersection with 38th St S

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 17
End: Intersection with 38th St S
Facility Type: 2-lane
ADT: 568
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 6'
Shoulder Type: Paved
Length (miles): 2.9
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	3	2	0
Density (per mile per year)	0.21	0.14	0.00
Rate (per MVM)	1.00	0.67	0.00



	Value	Critical	Departure
ADT Range	568	225 ≤ ADT ≤ 1000000	★
RD Density	0.136	0.040	★
Access Density	8.2	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	1	2 or 3	
			★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes -
4" Edge Lines	Proactive	\$1,320	0.0	\$0	
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	2.9	\$12,180	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$10,962
Local Match (10% of Total project cost)	\$1,218
*Total Project Cost	\$12,180

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 10
Segment ID: 14.03
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Cass 22 to Intersection with Cass 32

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Cass 22
End: Intersection with Cass 32
Facility Type: 2-lane
ADT: 480
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 6'
Shoulder Type: Gravel
Length (miles): 2.3
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	5	3	0
Density (per mile per year)	0.43	0.26	0.00
Rate (per MVM)	2.48	1.49	0.00

	Value	Critical	Departure
ADT Range	480	225≤ADT≤1000000	★
RD Density	0.263	0.040	★
Access Density	7.4	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	1	2 or 3	

★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes
4" Edge Lines	Proactive	\$1,320	0.0	\$0	Notes - Currently is concrete, will be overlaying shoulders with asphalt in future
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	2.3	\$9,660	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$8,694
Local Match (10% of Total project cost)	\$966
*Total Project Cost	\$9,660

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

Page: 11

Segment ID: 81.06

Date: 6/13/2014

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Stevens St to Intersection with ND 18 (Langer Ave N)

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Stevens St
End: Intersection with ND 18 (Langer Ave N)
Facility Type: 2-lane
ADT: 345
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 5'
Shoulder Type: Gravel
Length (miles): 6.2
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	2	2	1
Density (per mile per year)	0.06	0.06	0.03
Rate (per MVM)	0.51	0.51	0.26

	Value	Critical	Departure
ADT Range	345	225≤ADT≤1000000	★
RD Density	0.064	0.040	★
Access Density	4.2	6.0	
Curve Critical Radius Density	0.161	0.111	★
Edge Risk	1	2 or 3	
			★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes
4" Edge Lines	Proactive	\$1,320	0.0	\$0	Notes - Currently is concrete, will be overlaying shoulders with asphalt in future
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	6.2	\$26,040	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$23,436
Local Match (10% of Total project cost)	\$2,604
*Total Project Cost	\$26,040

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
Notes			

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 12
Segment ID: 10.05
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Cass from Intersection with Interstate 94 WB ramps to Intersection with Cass 10

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description

Start: Intersection with Interstate 94 WB ramps
End: Intersection with Cass 10
Facility Type: 2-lane
ADT: 295
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 6'
Shoulder Type: Paved
Length (miles): 1.9
Rumble Installed: None

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

	Total	Road Dept	K+A
Crashes	3	1	0
Density (per mile per year)	0.32	0.11	0.00
Rate (per MVM)	2.93	0.98	0.00

	Value	Critical	Departure
ADT Range	295	225 ≤ ADT ≤ 1000000	★
RD Density	0.103	0.040	★
Access Density	7.2	6.0	★
Curve Critical Radius Density	0.000	0.111	
Edge Risk	1	2 or 3	

★★★



Describe Proposed Safety Improvements

Description	Type	Cost per mi	Mileage	Cost	Notes
4" Edge Lines	Proactive	\$1,320	0.0	\$0	Notes - Currently is concrete, will be overlaying shoulders with asphalt in future
6" Edge Lines	Proactive	\$1,980	0.0	\$0	
Edge Rumble Strip	Proactive	\$4,200	1.9	\$7,980	
Ground In Wet-Reflective Markings	Proactive	\$36,000	0.0	\$0	
Center Line Rumble Strip	Proactive	\$3,600	0.0	\$0	
4" Center Line	Proactive	\$660	0.0	\$0	
6" Center Line	Proactive	\$1,020	0.0	\$0	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$7,182
Local Match (10% of Total project cost) \$798
*Total Project Cost **\$7,980**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

Page: 13

Segment ID: 23.01

Date: 6/13/2014

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Cass County Curves

Curve Count	ID	Corridor	Segment	Start	End	Inside	Outside	Curve Advisory Sign	Speed Advisory Sign	Chevrons	Crashes		Radius (ft)	ADT	Intersection on Curve	Visual Trap	Speed Limit	Risk Ranking	Notes
						Shoulder Type	Shoulder Type				Total	Total Severe							
1	001A	1.02	Cass	About 0.3. miles south of 34th St SE	Intersection with 132nd Ave SE (on curve)	None	None	Yes	Yes	No	-	-	999	163	No	No	High	*	
2	001B	1.02	Cass	About 0.3. miles south of 34th St SE	Intersection with 132nd Ave SE (on curve)	None	None	Yes	Yes	No	-	-	1263	163	Yes	No	High	*	
3	001C	1.02	Cass	About 0.3. miles south of 34th St SE	Intersection with 132nd Ave SE (on curve)	None	None	No	No	No	-	-	186	163	Yes	No	High	*	
4	001D	1.02	Cass	About 0.3. miles south of 34th St SE	Intersection with 132nd Ave SE (on curve)	None	None	Yes	Yes	No	-	-	990	163	Yes	Yes	High	***	
5	001E	1.02	Cass	About 0.3. miles south of 34th St SE	Intersection with 132nd Ave SE (on curve)	None	None	Yes	Yes	No	-	-	1194	163	Yes	Yes	High	***	
6	010A	10.04	Cass	Intersection with Cass 5	Intersection with Stevens St	None	None	Yes	Yes	Yes	-	-	1192	360	Yes	Yes	High	****	
7	010B	10.05	Cass	Intersection with Stevens St	Intersection with ND 18 (Langer Ave N)	Gravel	Gravel	Yes	Yes	No	-	-	742	345	Yes	No	High	***	
8	011A	11.03	Cass	Intersection with Cass 20	Intersection with Cass 32	Paved	Paved	Yes	No	No	-	-	1080	240	No	No	High	*	
9	011B	11.03	Cass	Intersection with Cass 20	Intersection with Cass 32	Paved	Paved	Yes	No	No	-	-	1559	240	No	No	High	*	
10	016A	16.09	Cass	Intersection with Cass 21	Intersection with Cass 81	Paved	Paved	Yes	No	No	-	-	1204	530	No	No	High	*	
11	016B	16.09	Cass	Intersection with Cass 21	Intersection with Cass 81	Paved	Paved	Yes	No	No	1	-	2938	530	Yes	No	High	**	
12	017A	17.06	Cass	Intersection with 19th Ave NW	Intersection with 170th Ave SE (and Cass 22)	Gravel	Gravel	Yes	No	No	3	1	2607	1517	No	No	High	**	
13	017B	17.06	Cass	Intersection with 19th Ave NW	Intersection with 170th Ave SE (and Cass 22)	Gravel	Gravel	Yes	No	No	-	-	1917	1517	Yes	No	High	**	
14	020A	20.02	Cass	About 200 feet west of 93rd St N/26th St NW	Intersection with Cass 17	Paved	Paved	Yes	No	No	-	-	1830	316	No	No	High	*	
15	020B	20.02	Cass	About 200 feet west of 93rd St N/26th St NW	Intersection with Cass 17	Paved	Paved	Yes	No	No	-	-	1324	316	No	No	High	*	
16	020C	20.02	Cass	About 200 feet west of 93rd St N/26th St NW	Intersection with Cass 17	Paved	Paved	Yes	No	No	-	-	1439	316	No	No	High	*	
17	020D	20.04	Cass	Intersection with Cass 81	Intersection with University Dr N	Paved	Paved	Yes	No	Yes	1	-	1328	4267	Yes	Yes	High	***	
18	020E	20.04	Cass	Intersection with Cass 81	Intersection with University Dr N	Paved	Paved	Yes	No	No	3	-	1352	4267	Yes	No	High	**	
19	020F	20.04	Cass	Intersection with Cass 81	Intersection with University Dr N	Paved	Paved	Yes	No	No	8	1	1491	4267	Yes	No	High	***	
20	021A	21.01	Cass	Intersection with Cass 16	Intersection with Cass 14	Paved	Paved	Yes	No	No	-	-	943	29	No	No	High	*	
21	038A	38.01	Cass	South Border of Cass County	Intersection with 45th St SE	None	None	Yes	No	No	1	-	1408	382	No	No	High	*	
22	038B	38.01	Cass	South Border of Cass County	Intersection with 45th St SE	None	None	Yes	No	No	-	-	1063	382	Yes	No	High	***	
23	038C	38.01	Cass	South Border of Cass County	Intersection with 45th St SE	None	None	Yes	Yes	Yes	1	-	2004	382	No	No	High	*	
24	081A	81.02	Cass	Intersection with Cass 18	Intersection with Cass 16	Paved	Paved	Yes	No	No	-	-	2930	825	No	No	High	*	
25	081B	81.02	Cass	Intersection with Cass 18	Intersection with Cass 16	Paved	Paved	Yes	No	No	-	-	2924	825	Yes	No	High	**	
26	081C	81.04	Cass	Intersection with Cass 14	Intersection with 64th Ave S	Paved	Paved	Yes	No	No	5	-	3521	1601	Yes	No	High	**	
27	081D	81.05	Cass	Intersection with Cass 20	Intersection with Cass 22	Paved	Paved	Yes	Yes	No	4	-	1300	609	Yes	No	High	**	
28	081E	81.05	Cass	Intersection with Cass 20	Intersection with Cass 22	Paved	Paved	Yes	Yes	No	1	-	1622	609	No	No	High	*	
29	081F	81.1	Cass	Intersection with Cass 34 (21st St SE)	Intersection with Cass 26	None	None	Yes	No	No	-	-	4435	266	No	No	High	*	
30	081G	81.1	Cass	Intersection with Cass 34 (21st St SE)	Intersection with Cass 26	None	None	Yes	No	No	-	-	2207	266	Yes	Yes	High	**	
31	081H	81.1	Cass	Intersection with Cass 34 (21st St SE)	Intersection with Cass 26	None	None	Yes	No	No	-	-	1752	266	No	No	High	*	

28 2

Stars	Total #	Total %	Chevroned (% of stars)
*****	0	0%	0%
****	1	3%	100%
***	6	19%	17%
**	8	26%	0%
*	13	42%	8%
	3	10%	0%
	31	100%	10%

23 USC 409
NDDOT Reserves All Objections

Critical Ranges	Min	Max
Radius	500	1,200
ADT	300	1,000,000

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Curves on Cass from About 0.3. miles south of 34th St SE to Intersection with 132nd Ave SE (on curve)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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

Location Description (Corridor Containing Curves)

Start: About 0.3. miles south of 34th St SE
End: Intersection with 132nd Ave SE (on cu
Facility Type: 2-lane
ADT: 163
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 4.1
Rumble Installed: None

- 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	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
001A	0	0	999	163	No	No	★	-	x	Chevron	-	-	x	50
001B	0	0	1263	163	Yes	No	★	-	-	-	-	-	-	-
001C	0	0	186	163	Yes	No	★	-	-	-	-	-	-	-
001D	0	0	990	163	Yes	Yes	★★★	-	x	Chevron	-	-	x	50
001E	0	0	1194	163	Yes	Yes	★★★	-	x	Chevron	-	-	-	-

*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 30 to 1000000 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
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Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,960 per curve	3	\$11,880	
Arrow Board Only	Proactive	\$1,200 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$1,440 per curve	2	\$2,880	
Shoulder Rumble Strip	Proactive	\$3,600 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$44,400 per mile	.0 miles	\$0	
				\$14,760	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$13,284
Local Match (10% of Total project cost)	\$1,476
*Total Project Cost	\$14,760

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 1
Segment ID: 1.02
Date: 6/13/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Curves on Cass from Intersection with Cass 5 to Intersection with Stevens St

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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

Location Description (Corridor Containing Curves)

Start: Intersection with Cass 5 End: Intersection with Stevens St Facility Type: 2-lane ADT: 360 Road Type Rural Paved County Road Cass	Lane Width: 12' Speed Limit: High Shoulder Width: 0' Shoulder Type: None Length (miles): 1.6 Rumble Installed: None	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input checked="" type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase Survivability <input type="checkbox"/> Improve Intersection Safety
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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	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
010A	0	0	1192	360	Yes	Yes	★★★★	x	x	Chevron	-	-	-	-

*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	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 30 to 1000000	- x in High Priority Segment + Critical Radius column
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,960 per curve	1	\$3,960	
Arrow Board Only	Proactive	\$1,200 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$1,440 per curve	0	\$0	
Shoulder Rumble Strip	Proactive	\$3,600 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$44,400 per mile	.0 miles	\$0	
				\$3,960	

Project Cost Estimate (attach detailed copy)

Federal Funds	\$3,564
Local Match (10% of Total project cost)	\$396
*Total Project Cost	\$3,960

Proposed Year of Construction

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number	ID Number
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Curves on Cass from Intersection with Stevens St to Intersection with ND 18 (Langer Ave N)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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

Location Description (Corridor Containing Curves)

Start: Intersection with Stevens St
End: Intersection with ND 18 (Langer Ave N)
Facility Type: 2-lane
ADT: 345
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 5'
Shoulder Type: Gravel
Length (miles): 6.2
Rumble Installed: None

- 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	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
010B	0	0	742	345	Yes	No	★★★	-	x	Chevron	Inside/Outside	Inside/Outside	x	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 30 to 1000000 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
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Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,960 per curve	1	\$3,960	
Arrow Board Only	Proactive	\$1,200 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$1,440 per curve	1	\$1,440	
Shoulder Rumble Strip	Proactive	\$3,600 per mile	.2 miles	\$630	
Shoulder Paving	Proactive	\$44,400 per mile	.2 miles	\$7,769	
				\$13,799	

Project Cost Estimate (attach detailed copy)

Federal Funds	\$12,419
Local Match (10% of Total project cost)	\$1,380
*Total Project Cost	\$13,799

Proposed Year of Construction

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Cass from Intersection with Cass 20 to Intersection with Cass 32

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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

Location Description (Corridor Containing Curves)

Start: Intersection with Cass 20 End: Intersection with Cass 32 Facility Type: 2-lane ADT: 240 Road Type Rural Paved County Road Cass	Lane Width: 12' Speed Limit: High Shoulder Width: 6' Shoulder Type: Paved Length (miles): 4.9 Rumble Installed: None	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input checked="" type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase Survivability <input type="checkbox"/> Improve Intersection Safety
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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	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
011A	0	0	1080	240	No	No	*	-	x	Chevron	-	Inside/Outside	x	50
011B	0	0	1559	240	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	Curves are selected for project if:
Severe Crashes > 0	- 3 or more *s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 30 to 1000000	- x in High Priority Segment + Critical Radius column
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,960 per curve	1	\$3,960	
Arrow Board Only	Proactive	\$1,200 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$1,440 per curve	1	\$1,440	
Shoulder Rumble Strip	Proactive	\$3,600 per mile	.1 miles	\$195	
Shoulder Paving	Proactive	\$44,400 per mile	.0 miles	\$0	
				\$5,595	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$5,036
Local Match (10% of Total project cost)	\$560
*Total Project Cost	\$5,595

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Cass from Intersection with Cass 81 to Intersection with University Dr N

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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

Location Description (Corridor Containing Curves)

Start: Intersection with Cass 81
End: Intersection with University Dr N
Facility Type: 2-lane
ADT: 4267
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 4'
Shoulder Type: Paved
Length (miles): 2.4
Rumble Installed: #N/A

- 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	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
020D	0	0	1328	4267	Yes	Yes	★★★	x	-	Chevron	-	Inside/Outside	-	-
020E	0	0	1352	4267	Yes	No	★★	-	-	-	-	-	-	-
020F	1	0	1491	4267	Yes	No	★★★	-	-	Chevron	-	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 30 to 1000000 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
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Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,960 per curve	2	\$7,920	
Arrow Board Only	Proactive	\$1,200 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$1,440 per curve	0	\$0	
Shoulder Rumble Strip	Proactive	\$3,600 per mile	.3 miles	\$1,138	
Shoulder Paving	Proactive	\$44,400 per mile	.0 miles	\$0	
				\$9,058	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$8,152
Local Match (10% of Total project cost)	\$906
*Total Project Cost	\$9,058

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Cass from Intersection with Cass 16 to Intersection with Cass 14

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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

Location Description (Corridor Containing Curves)

Start: Intersection with Cass 16 End: Intersection with Cass 14 Facility Type: 2-Lane ADT: 29 Road Type Rural Paved County Road Cass	Lane Width: ' Speed Limit: 0 Shoulder Width: 0' Shoulder Type: None Length (miles): 2.0 Rumble Installed: #N/A	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input checked="" type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase Survivability <input type="checkbox"/> Improve Intersection Safety
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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	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
021A	0	0	943	29	No	No	★	-	x	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	Curves are selected for project if:
Severe Crashes > 0	- 3 or more ★s
Radius 500 to 1200	- x in Proximity or Existing Chevron column
ADT 30 to 1000000	- x in High Priority Segment + Critical Radius column
Intersection on Curve Yes	
Visual Trap Yes	

Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,960 per curve	1	\$3,960	
Arrow Board Only	Proactive	\$1,200 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$1,440 per curve	1	\$1,440	
Shoulder Rumble Strip	Proactive	\$3,600 per mile	.1 miles	\$233	
Shoulder Paving	Proactive	\$44,400 per mile	.0 miles	\$0	
				\$5,633	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$5,070
Local Match (10% of Total project cost)	\$563
*Total Project Cost	\$5,633

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Cass from South Border of Cass County to Intersection with 45th St SE

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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

Location Description (Corridor Containing Curves)

Start: South Border of Cass County
End: Intersection with 45th St SE
Facility Type: 2-lane
ADT: 382
Road Type Rural Paved
County Road Cass

Lane Width: 12'
Speed Limit: High
Shoulder Width: 0'
Shoulder Type: None
Length (miles): 9.2
Rumble Installed: #N/A

- 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	Proximity or Existing Chevrons	High Priority Segment + Critical Radius	Sign Improvement Project	Shoulder Paving Project	Shoulder Rumble Strip Project	Advance Horizontal Alignment Warning Sign	Advisory Speed Plaque
038A	0	0	1408	382	No	No	*	-	-	-	-	-	-	-
038B	0	0	1063	382	Yes	No	***	-	x	Chevron	-	-	x	50
038C	0	0	2004	382	No	No	*	x	-	Chevron	-	-	-	-

*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

<p style="text-align: center;">Criteria</p> <p>Severe Crashes > 0</p> <p>Radius 500 to 1200</p> <p>ADT 30 to 1000000</p> <p>Intersection on Curve Yes</p> <p>Visual Trap Yes</p>	<p>Curves are selected for project if:</p> <ul style="list-style-type: none"> - 3 or more * - x in Proximity or Existing Chevron column - x in High Priority Segment + Critical Radius column
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Describe Proposed Safety Improvements

Description	Type	Unit Cost	Quantity	Total cost	Notes -
Chevrons	Proactive	\$3,960 per curve	2	\$7,920	
Arrow Board Only	Proactive	\$1,200 per curve	0	\$0	
Advance Warning Sign/Speed Advisory Plaque	Proactive	\$1,440 per curve	1	\$1,440	
Shoulder Rumble Strip	Proactive	\$3,600 per mile	.0 miles	\$0	
Shoulder Paving	Proactive	\$44,400 per mile	.0 miles	\$0	
				\$9,360	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$8,424
Local Match (10% of Total project cost)	\$936
*Total Project Cost	\$9,360

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number _____ ID Number _____

Notes

Cass County
Summary of Suggested Rural Intersection Projects

Page	Intersection ID	Description	Risk Ranking	Directional Median	Mainline Dynamic Warning Sign	Close Median	Install Street Lights	Signs & Markings	Project Cost (\$)
1	15.01	54th St SE (ND 46) & 165th Ave SE (Cass 15)	★★★★★	-	X	-	X	X	\$ 72,840
2	6.04	44th St SE (Cass 6) & 155th Ave (ND 18)	★★★★	-	-	-	X	X	\$ 25,080
3	10.07	36th St SE (Cass 10) & Meridian Rd (Cass 11)	★★★★	-	-	-	-	X	\$ 5,280
4	32.04	28th St SE (Cass 32) & Cass 81	★★★★	-	-	-	-	X	\$ 4,320
5	81.01	18th St SE (Cass 26) & Cass 81	★★★★	-	-	-	X	X	\$ 25,680
6	1.04	34th St SE (Cass 10) & 133rd Ave (Cass 1)	★★★★	-	-	-	-	X	\$ 2,640
7	10.02	34th St SE/Main St (Cass 10) & 139th Ave SE (ND 38)	★★★★	-	-	-	X	X	\$ 24,720
8	34.01	21st St SE (Cass 34) & 155th Ave SE (ND 18)	★★★★	-	-	-	-	X	\$ 4,680
9	17.04	40th Ave NW (Cass 20) & 69th St N (Cass 17)	★★★	-	X	-	X	X	\$ 85,680
10	20.03	40th Ave N (Cass 20) & Cass 81	★★★	-	X	-	X	X	\$ 85,680
11	7.01	54th St SE (ND 46) & 145th Ave (Cass 7)	★★★	-	-	-	-	X	\$ 2,040
12	38.01	54th St SE (ND 46) & 139th Ave SE (Cass 38)	★★★	-	-	-	X	X	\$ 12,840
13	15.02	48th St SE (Cass 16) & 165th Ave (Cass 15)	★★★	-	-	-	X	X	\$ 30,960
14	20.04	40th Ave N (Cass 20) & 16th St N (Cass 31)	★★★	-	X	-	-	X	\$ 62,640
15	16.08	124th Ave S (Cass 16) & 170th Ave SE (Cass 17)	★★★	-	X	-	X	X	\$ 85,680
16	2.05	15th St SE (Cass 2) & 166th St SE (Cass 81)	★★★	-	-	-	-	X	\$ 4,680
17	10.06	35th St SE (Cass 10) & 163rd Ave SE (Cass 11)	★★★	-	-	-	X	X	\$ 12,840
18	4.05	25th St SE (Cass 4) & 155th Ave (ND 18)	★★★	-	X	-	X	X	\$ 85,680
19	14.03	100th Ave S (Cass 14) & 38th St S (Cass 21)	★★★	-	-	-	-	X	\$ 4,680
20	9.04	37th St SE & 158th Ave SE (Cass 9)	★★★	-	-	-	-	X	\$ 5,280
21	15.03	37th St SE & 165th Ave (Cass 15)	★★★	-	-	-	X	X	\$ 25,680
22	22.06	76th Ave N (Cass 22) & 173rd Ave SE (Cass 31)	★★★	-	-	-	X	X	\$ 12,240
23	26.01	18th St SE (Cass 26) & 138th St SE (ND 38)	★★★	-	-	-	X	X	\$ 25,680
24	32.02	28th St SE (Cass 32) & 155th Ave SE (ND 18)	★★★	-	-	-	-	X	\$ 5,280
25	2.01	14th St SE (Cass 2) & ND 38	★★★	-	-	-	-	X	\$ 4,080
26	4.01	25th St SE (Cass 4) & ND 38	★★★	-	-	-	X	X	\$ 25,080
27	10.01	34th St SE (Cass 10) & 139th Ave SE (ND 38)	★★★	-	-	-	X	X	\$ 12,840
28	10.04	5th St (Cass 10) & 155th Ave SE (ND 18)	★★★	-	X	-	-	X	\$ 62,640
29	26.02	18th St SE (Cass 26) & 155th St SE (ND 18)	★★★	-	X	-	X	X	\$ 85,680
23 USC 409				0	8	0	17	29	\$ 903,120
NDDOT Reserves All Objections									

**Cass County
Rural Intersection Listing**

23 US 409
NDDOT Reserves All Objections

Int #	Sys	Num	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 60000	Crash Cost
1.01	Cass	1	45th St SE (Cass 6) & 133rd Ave (Cass 37/1)	No	No	No	No	203	Yes	0	No	\$ -
1.04	Cass	1	34th St SE (Cass 10) & 133rd Ave (Cass 1)	No	Yes	Yes	No	1658	Yes	0	Yes	\$ -
1.07	Cass	1	10th St SE (Cass 26) & 133rd Ave (Cass 1)	No	No	No	No	269	Yes	0	No	\$ -
2.01	Cass	2	14th St SE (Cass 2) & ND 38	Yes	No	No	Yes	652	Yes	0	No	\$ -
2.02	Cass	2	15th St SE (Cass 2) & 146th St SE (Cass 5)	No	No	No	Yes	245	Yes	0	No	\$ -
2.03	Cass	2	15th St SE (Cass 2) & 155th St SE (ND 18)	No	No	No	No	1263	Yes	0	Yes	\$ -
2.05	Cass	2	15th St SE (Cass 2) & 166th St SE (Cass 81)	No	No	No	Yes	234	Yes	1	No	\$ 91,000
2.06	Cass	2	14th St SE (Cass 2) & 166th St SE (Cass 81)	No	No	No	No	305	Yes	1	No	\$ 12,000
3.05	Cass	3	25th St SE (Cass 4) & 142nd Ave (Cass 3)	No	No	No	No	505	Yes	0	No	\$ -
3.06	Cass	3	18th St SE (Cass 26) & 142nd Ave (Cass 3)	No	No	No	No	564	Yes	0	No	\$ -
4.01	Cass	4	25th St SE (Cass 4) & ND 38	Yes	No	No	No	658	Yes	0	Yes	\$ -
4.02	Cass	4	25th St SE (Cass 4) & 147th Ave (Cass 5)	No	No	No	No	460	Yes	0	No	\$ -
4.05	Cass	4	25th St SE (Cass 4) & 155th Ave (ND 18)	No	No	No	No	1885	Yes	2	Yes	\$ 24,000
4.06	Cass	4	25th St SE (Cass 4) & 163rd Ave (Cass 11)	No	No	No	No	815	Yes	0	Yes	\$ -
4.09	Cass	4	25th St SE (Cass 4) & Cass 81	No	No	No	Yes	455	Yes	0	No	\$ -
5.01	Cass	5	54th St SE (ND 46) & 149th Ave (Cass 5)	No	No	No	No	1375	Yes	0	No	\$ -
5.02	Cass	5	44th St SE (Cass 6) & 149th Ave (Cass 5)	No	No	No	No	575	Yes	0	Yes	\$ -
5.06	Cass	5	34th St SE (Cass 10) & 148th Ave SE (Cass 5)	No	No	No	Yes	395	Yes	0	No	\$ -
5.07	Cass	5	30th St SE (Cass 32) & 148th Ave SE (Cass 5)	No	No	No	No	247	Yes	0	No	\$ -
5.09	Cass	5	21st St SE (Cass 34) & 148th Ave SE (Cass 5)	No	No	No	No	210	Yes	0	No	\$ -
5.1	Cass	5	10th St SE (Cass 26) & 147th Ave SE (Cass 5)	No	No	No	No	462	Yes	0	No	\$ -
5.11	Cass	5	10th St SE (Cass 26) & 146th Ave SE (Cass 5)	No	No	No	No	405	Yes	0	No	\$ -
6.01	Cass	6	45th St SE (Cass 6) & 139rd Ave (Cass 38)	No	No	No	No	477	Yes	0	No	\$ -
6.02	Cass	6	44th St SE (Cass 6) & 139rd Ave (Cass 38)	No	No	No	No	445	Yes	0	No	\$ -
6.03	Cass	6	44th St SE (Cass 6) & 145th Ave (Cass 7)	No	No	No	No	445	Yes	0	No	\$ -
6.04	Cass	6	44th St SE (Cass 6) & 155th Ave (ND 18)	No	No	No	Yes	1395	Yes	3	Yes	\$ 436,000
6.05	Cass	6	44th St SE (Cass 6) & 158th Ave (Cass 9)	No	No	No	No	512	Yes	0	Yes	\$ -
6.06	Cass	6	44th St SE (Cass 6) & 159th Ave (Cass 9)	No	No	No	No	398	No	0	No	\$ -
6.07	Cass	6	44th St SE (Cass 6) & 165th Ave (Cass 15)	No	No	No	No	713	Yes	0	Yes	\$ -
6.08	Cass	6	76th Ave (Cass 6) & Main St (17)	No	No	No	No	4517	No	2	Yes	\$ 24,000
7.01	Cass	7	54th St SE (ND 46) & 145th Ave (Cass 7)	No	No	No	No	1343	Yes	2	Yes	\$ 182,000
7.04	Cass	7	44th St SE (Cass 16) & 145th Ave (Cass 7)	No	No	No	No	445	Yes	0	No	\$ -
9.01	Cass	9	54th St SE (ND 18) & 157th Ave (Cass 9)	No	No	No	No	1075	Yes	0	No	\$ -
9.04	Cass	9	37th St SE & 158th Ave SE (Cass 9)	Yes	No	No	No	308	Yes	1	No	\$ 12,000
10.01	Cass	10	34th St SE (Cass 10) & 139th Ave SE (ND 38)	No	No	No	Yes	1135	Yes	0	Yes	\$ -
10.02	Cass	10	34th St SE/Main St (Cass 10) & 139th Ave SE (ND 38)	Yes	No	No	Yes	1030	Yes	0	Yes	\$ -
10.03	Cass	10	35th St SE (Cass 10) & 153rd Ave SE (Cass 23)	No	No	No	No	560	No	0	No	\$ -
10.04	Cass	10	5th St (Cass 10) & 155th Ave SE (ND 18)	No	Yes	No	No	2495	Yes	0	Yes	\$ -
10.06	Cass	10	35th St SE (Cass 10) & 163rd Ave SE (Cass 11)	No	No	No	No	1135	Yes	3	Yes	\$ 36,000
10.07	Cass	10	36th St SE (Cass 10) & Meridian Rd (Cass 11)	No	No	No	Yes	1905	Yes	1	Yes	\$ 12,000
10.08	Cass	10	36th St SE (Cass 10) & 165th Ave SE (Cass 15)	No	No	No	No	1710	Yes	0	Yes	\$ -

**Cass County
Rural Intersection Listing**

23 US 409
NDDOT Reserves All Objections

Int #	Sys	Num	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 60000	Crash Cost
11.01	Cass	11	37th St SE & 163rd Ave SE (Cass 11)	No	No	No	No	310	No	0	No	\$ -
11.04	Cass	11	33rd St SE (Cass 20) & 163rd Ave SE (Cass 11)	No	No	No	No	545	Yes	0	No	\$ -
11.05	Cass	11	28th St SE (Cass 32) & 163rd Ave SE (Cass 11)	No	No	No	No	250	Yes	0	No	\$ -
11.07	Cass	11	18th St SE (Cass 26) & 163rd Ave (Cass 11)	No	No	No	No	503	Yes	3	No	\$ 115,000
14.01	Cass	14	46th St SE (Cass 14) & 165th Ave SE (Cass 15)	No	No	No	No	595	Yes	1	No	\$ 12,000
14.02	Cass	14	100th Ave S (Cass 14) & 170th Ave SE (Cass 17)	No	No	No	No	2078	No	1	Yes	\$ 12,000
14.03	Cass	14	100th Ave S (Cass 14) & 38th St S (Cass 21)	Yes	Yes	No	No	280	No	2	No	\$ 24,000
14.06	Cass	14	100th Ave S (Cass 14) & University Dr S (Cass 81)	No	No	No	No	1145	No	1	Yes	\$ 12,000
15.01	Cass	15	54th St SE (ND 46) & 165th Ave SE (Cass 15)	Yes	Yes	No	Yes	2948	Yes	1	Yes	\$ 12,000
15.02	Cass	15	48th St SE (Cass 16) & 165th Ave (Cass 15)	No	No	No	No	1445	Yes	1	Yes	\$ 136,000
15.03	Cass	15	37th St SE & 165th Ave (Cass 15)	No	Yes	No	No	750	No	1	Yes	\$ 12,000
16.01	Cass	16	49th St SE (Cass 16) & 139th Ave (Cass 38)	No	Yes	No	No	407	Yes	0	No	\$ -
16.04	Cass	16	48th St SE (Cass 16) & 154th Ave (ND 18)	No	No	No	No	965	Yes	0	No	\$ -
16.06	Cass	16	48th St SE (Cass 16) & 162nd Ave SE (Cass 27)	No	No	No	No	535	No	0	No	\$ -
16.07	Cass	16	48th St SE (Cass 16) & 168th Ave SE (Cass 36)	No	No	No	No	1129	No	0	No	\$ -
16.08	Cass	16	124th Ave S (Cass 16) & 170th Ave SE (Cass 17)	No	No	No	No	1790	Yes	2	Yes	\$ 103,000
16.09	Cass	16	124th Ave S (Cass 16) & 38th St S (Cass 21)	No	No	No	No	840	No	0	No	\$ -
16.12	Cass	16	124th Ave S (Cass 16) & 175th Ave SE (Cass 81)	No	No	No	No	1275	No	2	Yes	\$ 148,000
16.13	Cass	16	112th Ave S (Cass 16) & University Dr S (Cass 81)	No	No	No	No	1275	No	0	Yes	\$ -
17.01	Cass	17	54th St SE (ND 46) & 170th Ave SE (Cass 17)	No	No	No	No	2223	Yes	0	Yes	\$ -
17.02	Cass	17	52nd St SE (Cass 18) & 170th Ave SE (Cass 17)	No	No	No	No	2435	No	0	Yes	\$ -
17.03	Cass	17	64th Ave S (Cass 502) & 170th Ave SE (Cass 17)	No	No	No	No	5765	No	0	Yes	\$ -
17.04	Cass	17	40th Ave NW (Cass 20) & 69th St N (Cass 17)	No	No	No	No	2153	Yes	6	Yes	\$ 872,000
17.05	Cass	17	170th Ave SE (Cass 503) & 69th St N (Cass 17)	No	Yes	No	No	1188	No	0	Yes	\$ -
18.03	Cass	18	52nd St SE (Cass 18) & 174th Ave SE (Cass 81)	No	No	No	No	1063	No	3	Yes	\$ 848,000
20.03	Cass	20	40th Ave N (Cass 20) & Cass 81	No	Yes	No	No	5493	No	4	Yes	\$ 206,000
20.04	Cass	20	40th Ave N (Cass 20) & 16th St N (Cass 31)	No	Yes	No	No	4800	No	3	Yes	\$ 115,000
22.01	Cass	22	31st St SE (Cass 22) & 163rd Ave SE (Cass 11)	No	No	No	No	435	Yes	0	No	\$ -
22.02	Cass	22	64th Ave N (Cass 22) & Cass 17	No	No	No	No	1175	Yes	0	Yes	\$ -
22.06	Cass	22	76th Ave N (Cass 22) & 173rd Ave SE (Cass 31)	No	No	No	No	1303	Yes	1	Yes	\$ 12,000
22.07	Cass	22	76th Ave N (Cass 22) & Cass 31	No	No	No	No	2000	No	1	Yes	\$ 12,000
23.02	Cass	23	37th St SE & 153rd Ave (Cass 23)	No	Yes	No	No	568	No	1	No	\$ 12,000
26.01	Cass	26	18th St SE (Cass 26) & 138th St SE (ND 38)	No	No	No	No	1075	Yes	1	Yes	\$ 12,000
26.02	Cass	26	18th St SE (Cass 26) & 155th St SE (ND 18)	No	No	No	Yes	1803	Yes	0	Yes	\$ -
31.02	Cass	31	18th St SE (Cass 26) & 172nd 1/2 Ave (Cass 31)	No	Yes	No	No	265	Yes	0	No	\$ -
32.01	Cass	32	30th St SE (Cass 32) & 139th Ave SE (ND 38)	No	No	No	No	695	Yes	0	No	\$ -
32.02	Cass	32	28th St SE (Cass 32) & 155th Ave SE (ND 18)	No	No	No	No	1120	Yes	1	Yes	\$ 12,000
32.04	Cass	32	28th St SE (Cass 32) & Cass 81	Yes	No	No	Yes	407	Yes	1	No	\$ 12,000
34.01	Cass	34	21st St SE (Cass 34) & 155th Ave SE (ND 18)	No	No	Yes	Yes	1523	Yes	0	Yes	\$ -
34.02	Cass	34	21st St SE (Cass 34) & Cass 81	Yes	No	No	Yes	340	No	0	No	\$ -
34.03	Cass	34	22nd St SE (Cass34) & Cass 81	Yes	No	No	No	360	No	0	No	\$ -

**Cass County
Rural Intersection Listing**

23 US 409
NDDOT Reserves All Objections

Int #	Sys	Num	Intersection Description	Skew	On/Near Curve	Development	RR Xing	ADT	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 60000	Crash Cost
36.01	Cass	36	51st St SE (Cass 36) & 154th Ave SE (ND 18)	No	No	No	No	840	No	0	No	\$ -
36.02	Cass	36	51st St SE (Cass 36) & 165th Ave SE (Cass 15)	No	No	No	No	1262	Yes	0	No	\$ -
37.01	Cass	37	54th St SE (ND 46) & 133rd Ave SE (Cass 37)	No	No	No	No	1275	Yes	0	Yes	\$ -
38.01	Cass	38	54th St SE (ND 46) & 139th Ave SE (Cass 38)	No	No	No	No	1833	Yes	2	Yes	\$ 148,000
81.01	Cass	81	18th St SE (Cass 26) & Cass 81	Yes	No	No	No	638	Yes	1	Yes	\$ 12,000

Cass County
Rural Intersection Prioritization

23 US 409
NDDOT Reserves All Objections

Rank	Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 60000	Priority	Crash Cost
1	15.01	54th St SE (ND 46) & 165th Ave SE (Cass 15)	*	*		*	*	*	*	*****	\$ 12,000
2	6.04	44th St SE (Cass 6) & 155th Ave (ND 18)				*	*	*	*	****	\$ 436,000
3	10.07	36th St SE (Cass 10) & Meridian Rd (Cass 11)				*	*	*	*	****	\$ 12,000
4	32.04	28th St SE (Cass 32) & Cass 81	*			*	*	*	*	****	\$ 12,000
5	81.01	18th St SE (Cass 26) & Cass 81	*				*	*	*	****	\$ 12,000
6	1.04	34th St SE (Cass 10) & 133rd Ave (Cass 1)		*	*		*		*	****	\$ -
7	10.02	34th St SE/Main St (Cass 10) & 139th Ave SE (ND 38)	*			*	*		*	****	\$ -
8	34.01	21st St SE (Cass 34) & 155th Ave SE (ND 18)			*	*	*		*	****	\$ -
9	17.04	40th Ave NW (Cass 20) & 69th St N (Cass 17)					*	*	*	***	\$ 872,000
10	20.03	40th Ave N (Cass 20) & Cass 81		*				*	*	***	\$ 206,000
11	7.01	54th St SE (ND 46) & 145th Ave (Cass 7)					*	*	*	***	\$ 182,000
12	38.01	54th St SE (ND 46) & 139th Ave SE (Cass 38)					*	*	*	***	\$ 148,000
13	15.02	48th St SE (Cass 16) & 165th Ave (Cass 15)					*	*	*	***	\$ 136,000
14	20.04	40th Ave N (Cass 20) & 16th St N (Cass 31)		*				*	*	***	\$ 115,000
15	16.08	124th Ave S (Cass 16) & 170th Ave SE (Cass 17)					*	*	*	***	\$ 103,000
16	2.05	15th St SE (Cass 2) & 166th St SE (Cass 81)				*	*	*		***	\$ 91,000
17	10.06	35th St SE (Cass 10) & 163rd Ave SE (Cass 11)					*	*	*	***	\$ 36,000
18	4.05	25th St SE (Cass 4) & 155th Ave (ND 18)					*	*	*	***	\$ 24,000
19	14.03	100th Ave S (Cass 14) & 38th St S (Cass 21)	*	*				*	*	***	\$ 24,000
20	9.04	37th St SE & 158th Ave SE (Cass 9)	*				*	*		***	\$ 12,000
21	15.03	37th St SE & 165th Ave (Cass 15)		*				*	*	***	\$ 12,000
22	22.06	76th Ave N (Cass 22) & 173rd Ave SE (Cass 31)					*	*	*	***	\$ 12,000
23	26.01	18th St SE (Cass 26) & 138th St SE (ND 38)					*	*	*	***	\$ 12,000
24	32.02	28th St SE (Cass 32) & 155th Ave SE (ND 18)					*	*	*	***	\$ 12,000
25	2.01	14th St SE (Cass 2) & ND 38	*			*	*			***	\$ -
26	4.01	25th St SE (Cass 4) & ND 38	*				*		*	***	\$ -
27	10.01	34th St SE (Cass 10) & 139th Ave SE (ND 38)				*	*		*	***	\$ -
28	10.04	5th St (Cass 10) & 155th Ave SE (ND 18)		*			*		*	***	\$ -
29	26.02	18th St SE (Cass 26) & 155th St SE (ND 18)				*	*		*	***	\$ -
30	18.03	52nd St SE (Cass 18) & 174th Ave SE (Cass 81)						*	*	**	\$ 848,000
31	16.12	124th Ave S (Cass 16) & 175th Ave SE (Cass 81)						*	*	**	\$ 148,000
32	11.07	18th St SE (Cass 26) & 163rd Ave (Cass 11)					*	*		**	\$ 115,000
33	6.08	76th Ave (Cass 6) & Main St (17)						*	*	**	\$ 24,000
34	2.06	14th St SE (Cass 2) & 166th St SE (Cass 81)					*	*		**	\$ 12,000
35	14.01	46th St SE (Cass 14) & 165th Ave SE (Cass 15)					*	*		**	\$ 12,000
36	14.02	100th Ave S (Cass 14) & 170th Ave SE (Cass 17)						*	*	**	\$ 12,000
37	14.06	100th Ave S (Cass 14) & University Dr S (Cass 81)						*	*	**	\$ 12,000
38	22.07	76th Ave N (Cass 22) & Cass 31						*	*	**	\$ 12,000
39	23.02	37th St SE & 153rd Ave (Cass 23)		*				*		**	\$ 12,000
40	2.02	15th St SE (Cass 2) & 146th St SE (Cass 5)				*	*			**	\$ -
41	2.03	15th St SE (Cass 2) & 155th St SE (ND 18)					*		*	**	\$ -

**Cass County
Rural Intersection Prioritization**

23 US 409
NDDOT Reserves All Objections

Rank	Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 60000	Priority	Crash Cost
42	4.06	25th St SE (Cass 4) & 163rd Ave (Cass 11)					★		★	★★	\$ -
43	4.09	25th St SE (Cass 4) & Cass 81				★	★			★★	\$ -
44	5.02	44th St SE (Cass 6) & 149th Ave (Cass 5)					★		★	★★	\$ -
45	5.06	34th St SE (Cass 10) & 148th Ave SE (Cass 5)				★	★			★★	\$ -
46	6.05	44th St SE (Cass 6) & 158th Ave (Cass 9)					★		★	★★	\$ -
47	6.07	44th St SE (Cass 6) & 165th Ave (Cass 15)					★		★	★★	\$ -
48	10.08	36th St SE (Cass 10) & 165th Ave SE (Cass 15)					★		★	★★	\$ -
49	16.01	49th St SE (Cass 16) & 139th Ave (Cass 38)		★			★			★★	\$ -
50	17.01	54th St SE (ND 46) & 170th Ave SE (Cass 17)					★		★	★★	\$ -
51	17.05	170th Ave SE (Cass 503) & 69th St N (Cass 17)		★					★	★★	\$ -
52	22.02	64th Ave N (Cass 22) & Cass 17					★		★	★★	\$ -
53	31.02	18th St SE (Cass 26) & 172nd 1/2 Ave (Cass 31)		★			★			★★	\$ -
54	34.02	21st St SE (Cass 34) & Cass 81	★			★				★★	\$ -
55	37.01	54th St SE (ND 46) & 133rd Ave SE (Cass 37)					★		★	★★	\$ -
56	1.01	45th St SE (Cass 6) & 133rd Ave (Cass 37/1)					★			★	\$ -
57	1.07	10th St SE (Cass 26) & 133rd Ave (Cass 1)					★			★	\$ -
58	3.05	25th St SE (Cass 4) & 142nd Ave (Cass 3)					★			★	\$ -
59	3.06	18th St SE (Cass 26) & 142nd Ave (Cass 3)					★			★	\$ -
60	4.02	25th St SE (Cass 4) & 147th Ave (Cass 5)					★			★	\$ -
61	5.01	54th St SE (ND 46) & 149th Ave (Cass 5)					★			★	\$ -
62	5.07	30th St SE (Cass 32) & 148th Ave SE (Cass 5)					★			★	\$ -
63	5.09	21st St SE (Cass 34) & 148th Ave SE (Cass 5)					★			★	\$ -
64	5.1	10th St SE (Cass 26) & 147th Ave SE (Cass 5)					★			★	\$ -
65	5.11	10th St SE (Cass 26) & 146th Ave SE (Cass 5)					★			★	\$ -
66	6.01	45th St SE (Cass 6) & 139rd Ave (Cass 38)					★			★	\$ -
67	6.02	44th St SE (Cass 6) & 139rd Ave (Cass 38)					★			★	\$ -
68	6.03	44th St SE (Cass 6) & 145th Ave (Cass 7)					★			★	\$ -
69	7.04	44th St SE (Cass 16) & 145th Ave (Cass 7)					★			★	\$ -
70	9.01	54th St SE (ND 18) & 157th Ave (Cass 9)					★			★	\$ -
71	11.04	33rd St SE (Cass 20) & 163rd Ave SE (Cass 11)					★			★	\$ -
72	11.05	28th St SE (Cass 32) & 163rd Ave SE (Cass 11)					★			★	\$ -
73	16.04	48th St SE (Cass 16) & 154th Ave (ND 18)					★			★	\$ -
74	16.13	112th Ave S (Cass 16) & Univesity Dr S (Cass 81)							★	★	\$ -
75	17.02	52nd St SE (Cass 18) & 170th Ave SE (Cass 17)							★	★	\$ -
76	17.03	64th Ave S (Cass 502) & 170th Ave SE (Cass 17)							★	★	\$ -
77	22.01	31st St SE (Cass 22) & 163rd Ave SE (Cass 11)					★			★	\$ -
78	32.01	30th St SE (Cass 32) & 139th Ave SE (ND 38)					★			★	\$ -
79	34.03	22nd St SE (Cass34) & Cass 81		★						★	\$ -
80	36.02	51st St SE (Cass 36) & 165th Ave SE (Cass 15)					★			★	\$ -
81	6.06	44th St SE (Cass 6) & 159th Ave (Cass 9)									\$ -
82	10.03	35th St SE (Cass 10) & 153rd Ave SE (Cass 23)									\$ -

**Cass County
Rural Intersection Prioritization**

23 US 409
NDDOT Reserves All Objections

Rank	Int #	Intersection Description	Skew	On/Near Curve	Development	RR Xing	Previous STOP (>5mi)	Total Crashes	ADT Cross Product > 60000	Priority	Crash Cost
83	11.01	37th St SE & 163rd Ave SE (Cass 11)									\$ -
84	16.06	48th St SE (Cass 16) & 162nd Ave SE (Cass 27)									\$ -
85	16.07	48th St SE (Cass 16) & 168th Ave SE (Cass 36)									\$ -
86	16.09	124th Ave S (Cass 16) & 38th St S (Cass 21)									\$ -
87	36.01	51st St SE (Cass 36) & 154th Ave SE (ND 18)									\$ -

	Total Stars --	10	11	2	14	63	31	43		
Totals	% That Gets Star --	11%	13%	2%	16%	72%	36%	49%		

	#	%	
★★★★★★	0	0%	Stars
★★★★★	1	1%	Skew - If intersection is skewed at an angle of 20 degrees or greater.
★★★★	0	0%	On/Near Curve - If intersection is on or within 1,000 feet of curve.
★★★	7	8%	Development - If intersection aerial shows a commercial development with access near intersection.
★★	21	24%	RR Xing - If intersection has a railroad crossing on any approach within 500 feet.
★	26	30%	Previous STOP (>5 mi) - If vehicles approaching the stop control have not had a previous stop along the roadway within 5 miles
	25	29%	Total Crashes - If intersection has at least 1 crash.
-	7	8%	ADT Cross Product - If intersection has an ADT cross product > 60000
	87	100%	

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

54th St SE (ND 46) & 165th Ave SE (Cass 15)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 2110
Entering ADT: 2948 Minor Entering ADT: 838

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	0.2	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	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	1	>0	★

★★★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	1	\$10,200.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$72,840.00	

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)

Proposed Year of Construction

Federal Funds	\$65,556
Local Match (10% of Total project cost)	\$7,284
*Total Project Cost	\$72,840

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 1
Intersection ID: 15.01
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

44th St SE (Cass 6) & 155th Ave (ND 18)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1073
Entering ADT: 1395 Minor Entering ADT: 323

- 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

	Total	Angle	K+A
Crashes	3	1	1
Rate (per MVM)	1.2	0.4	0.4

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	3	>0	★

★★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - WB approach is gravel.
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$25,080.00	

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)

Proposed Year of Construction

Federal Funds	\$22,572
Local Match (10% of Total project cost)	\$2,508
*Total Project Cost	\$25,080

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 2
Intersection ID: 6.04
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

36th St SE (Cass 10) & Meridian Rd (Cass 11)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1250
Entering ADT: 1905 Minor Entering ADT: 655

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	0.3	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	1	>0	★

★★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$5,280.00	

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)

Proposed Year of Construction

Federal Funds	\$4,752
Local Match (10% of Total project cost)	\$528
*Total Project Cost	\$5,280

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 3

Intersection ID: 10.07

Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

28th St SE (Cass 32) & Cass 81

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 355
Entering ADT: 407 Minor Entering ADT: 52

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	1.3	0.0	0.0

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥60,000	
Total Crashes	1	>0	★

★★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	0	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$4,320.00	

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)

Proposed Year of Construction

Federal Funds	\$3,888
Local Match (10% of Total project cost)	\$432
*Total Project Cost	\$4,320

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 4

Intersection ID: 32.04

Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

18th St SE (Cass 26) & Cass 81

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 393
Entering ADT: 638 Minor Entering ADT: 245

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	0.9	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	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	1	>0	★

★★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$25,680.00	

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)

Proposed Year of Construction

Federal Funds	\$23,112
Local Match (10% of Total project cost)	\$2,568
*Total Project Cost	\$25,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 5

Intersection ID: 81.01

Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

34th St SE (Cass 10) & 133rd Ave (Cass 1)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1213
Entering ADT: 1658 Minor Entering ADT: 445

- 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

	Total	Angle	K+A
Crashes	0	0	0
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	≥60,000	★
Total Crashes	0	>0	

★★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$2,640.00	

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)

Proposed Year of Construction

Federal Funds	\$2,376
Local Match (10% of Total project cost)	\$264
*Total Project Cost	\$2,640

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 6
Intersection ID: 1.04
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

34th St SE/Main St (Cass 10) & 139th Ave SE (ND 38)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 928
Entering ADT: 1030 Minor Entering ADT: 102

- 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

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

	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	0	>0	

★★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$24,720.00	

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)

Proposed Year of Construction

Federal Funds	\$22,248
Local Match (10% of Total project cost)	\$2,472
*Total Project Cost	\$24,720

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 7

Intersection ID: 10.02

Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

21st St SE (Cass 34) & 155th Ave SE (ND 18)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1390
Entering ADT: 1523 Minor Entering ADT: 133

- 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

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

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	Yes	Yes	★
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	0	>0	

★★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - WB approach & arpon are gravel.
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$4,680.00	

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)

Proposed Year of Construction

Federal Funds	\$4,212
Local Match (10% of Total project cost)	\$468
*Total Project Cost	\$4,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 8

Intersection ID: 34.01

Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

40th Ave NW (Cass 20) & 69th St N (Cass 17)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1528
Entering ADT: 2153 Minor Entering ADT: 625

- 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

	Total	Angle	K+A
Crashes	6	2	2
Rate (per MVM)	1.5	0.5	0.5

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	6	>0	★

★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$85,680.00	

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)

Proposed Year of Construction

Federal Funds	\$77,112
Local Match (10% of Total project cost)	\$8,568
*Total Project Cost	\$85,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 9
Intersection ID: 17.04
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

40th Ave N (Cass 20) & Cass 81

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 4858
Entering ADT: 5493 Minor Entering 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 Crashes, 2008 - 2012 5 years

	Total	Angle	K+A
Crashes	4	4	0
Rate (per MVM)	0.4	0.4	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	≥60,000	★
Total Crashes	4	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$85,680.00	

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)

Proposed Year of Construction

Federal Funds	\$77,112
Local Match (10% of Total project cost)	\$8,568
*Total Project Cost	\$85,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 10
Intersection ID: 20.03
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

54th St SE (ND 46) & 145th Ave (Cass 7)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1293
Entering ADT: 1343 Minor Entering ADT: 50

- 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

	Total	Angle	K+A
Crashes	2	0	0
Rate (per MVM)	0.8	0.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	2	>0	★

★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	0	\$0.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	0	\$0.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$2,040.00	

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)

Proposed Year of Construction

Federal Funds	\$1,836
Local Match (10% of Total project cost)	\$204
*Total Project Cost	\$2,040

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 11
Intersection ID: 7.01
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

54th St SE (ND 46) & 139th Ave SE (Cass 38)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1618
Entering ADT: 1833 Minor Entering ADT: 215

- 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

	Total	Angle	K+A
Crashes	2	2	0
Rate (per MVM)	0.6	0.6	0.0



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	2	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - EB approach is gravel
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	1	\$10,200.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$12,840.00	

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)

Proposed Year of Construction

Federal Funds	\$11,556
Local Match (10% of Total project cost)	\$1,284
*Total Project Cost	\$12,840

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 12
Intersection ID: 38.01
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

48th St SE (Cass 16) & 165th Ave (Cass 15)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 745
Entering ADT: 1445 Minor Entering ADT: 700

- 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

	Total	Angle	K+A
Crashes	1	1	0
Rate (per MVM)	0.4	0.4	0.0



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	1	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - EB approach is gravel
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	4	\$2,160.00	
Upgrade Junction Sign	\$540 per sign	4	\$2,160.00	
Upgrade Stop Ahead Sign	\$600 per sign	4	\$2,400.00	
Upgrade Stop Ahead Marking	\$600 per marking	4	\$2,400.00	
Upgrade Stop Bar	\$360 per marking	4	\$1,440.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$30,960.00	

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)

Proposed Year of Construction

Federal Funds	\$27,864
Local Match (10% of Total project cost)	\$3,096
*Total Project Cost	\$30,960

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 13
Intersection ID: 15.02
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

40th Ave N (Cass 20) & 16th St N (Cass 31)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 4100
Entering ADT: 4800 Minor Entering ADT: 700

- 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

	Total	Angle	K+A
Crashes	3	0	0
Rate (per MVM)	0.3	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	≥60,000	★
Total Crashes	3	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$62,640.00	

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)

Proposed Year of Construction

Federal Funds	\$56,376
Local Match (10% of Total project cost)	\$6,264
*Total Project Cost	\$62,640

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 14
Intersection ID: 20.04
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

124th Ave S (Cass 16) & 170th Ave SE (Cass 17)

Agency Name: Cass County

ND DOT District: 8

Contact Name: Jason Benson

Telephone Number: 701-298-2372

Email Address: bensonj@casscountynd.gov

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: Cass Major Entering ADT: 1013
 Entering ADT: 1790 Minor Entering ADT: 778

- 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

	Total	Angle	K+A
Crashes	2	1	0
Rate (per MVM)	0.6	0.3	0.0



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	2	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - SB approach is gravel
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$85,680.00	

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)

Proposed Year of Construction

Federal Funds	\$77,112
Local Match (10% of Total project cost)	\$8,568
*Total Project Cost	\$85,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 15
Intersection ID: 16.08
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

15th St SE (Cass 2) & 166th St SE (Cass 81)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 205
Entering ADT: 234 Minor Entering ADT: 29

- 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

	Total	Angle	K+A
Crashes	1	1	0
Rate (per MVM)	2.3	2.3	0.0



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥60,000	
Total Crashes	1	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	0	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$4,680.00	

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)

Proposed Year of Construction

Federal Funds	\$4,212
Local Match (10% of Total project cost)	\$468
*Total Project Cost	\$4,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 16
Intersection ID: 2.05
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

35th St SE (Cass 10) & 163rd Ave SE (Cass 11)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 770
Entering ADT: 1135 Minor Entering ADT: 365

- 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

	Total	Angle	K+A
Crashes	3	2	0
Rate (per MVM)	1.4	1.0	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	3	>0	★

★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	1	\$10,200.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
				\$12,840.00

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)

Proposed Year of Construction

Federal Funds	\$11,556
Local Match (10% of Total project cost)	\$1,284
*Total Project Cost	\$12,840

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 17
Intersection ID: 10.06
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

25th St SE (Cass 4) & 155th Ave (ND 18)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1370
Entering ADT: 1885 Minor Entering ADT: 515

- 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

	Total	Angle	K+A
Crashes	2	1	0
Rate (per MVM)	0.6	0.3	0.0



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	2	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - WB approach is gravel
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$85,680.00	

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)

Proposed Year of Construction

Federal Funds	\$77,112
Local Match (10% of Total project cost)	\$8,568
*Total Project Cost	\$85,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 18
Intersection ID: 4.05
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

100th Ave S (Cass 14) & 38th St S (Cass 21)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 240
Entering ADT: 280 Minor Entering ADT: 40

- 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

	Total	Angle	K+A
Crashes	2	0	0
Rate (per MVM)	3.9	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	No	≥60,000	
Total Crashes	2	>0	★

★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	0	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$4,680.00	

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)

Proposed Year of Construction

Federal Funds	\$4,212
Local Match (10% of Total project cost)	\$468
*Total Project Cost	\$4,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 19
Intersection ID: 14.03
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

37th St SE & 158th Ave SE (Cass 9)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 188
Entering ADT: 308 Minor Entering ADT: 120

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	1.8	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	Yes	Yes	★
Volume Cross Product	No	≥60,000	
Total Crashes	1	>0	★
			★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - SB approach is gravel, frontage road owned by DOT
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	0	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$5,280.00	

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)

Proposed Year of Construction

Federal Funds	\$4,752
Local Match (10% of Total project cost)	\$528
*Total Project Cost	\$5,280

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 20
Intersection ID: 9.04
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

37th St SE & 165th Ave (Cass 15)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 653
Entering ADT: 750 Minor Entering ADT: 98

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	0.7	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	≥60,000	★
Total Crashes	1	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$25,680.00	

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)

Proposed Year of Construction

Federal Funds	\$23,112
Local Match (10% of Total project cost)	\$2,568
*Total Project Cost	\$25,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 21
Intersection ID: 15.03
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

76th Ave N (Cass 22) & 173rd Ave SE (Cass 31)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1240
Entering ADT: 1303 Minor Entering ADT: 63

- 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

	Total	Angle	K+A
Crashes	1	2	0
Rate (per MVM)	0.4	0.8	0.0

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	1	>0	★

★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	1	\$10,200.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	0	\$0.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
				\$12,240.00

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)

Proposed Year of Construction

Federal Funds	\$11,016
Local Match (10% of Total project cost)	\$1,224
*Total Project Cost	\$12,240

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 22
Intersection ID: 22.06
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

18th St SE (Cass 26) & 138th St SE (ND 38)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 643
Entering ADT: 1075 Minor Entering ADT: 433

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	0.5	0.0	0.0



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	1	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$25,680.00	

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)

Proposed Year of Construction

Federal Funds	\$23,112
Local Match (10% of Total project cost)	\$2,568
*Total Project Cost	\$25,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409
NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 23
Intersection ID: 26.01
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

28th St SE (Cass 32) & 155th Ave SE (ND 18)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 978
Entering ADT: 1120 Minor Entering ADT: 143

- 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

	Total	Angle	K+A
Crashes	1	0	0
Rate (per MVM)	0.5	0.0	0.0



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	No	Yes	
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	1	>0	★
			★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$5,280.00	

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)

Proposed Year of Construction

Federal Funds	\$4,752
Local Match (10% of Total project cost)	\$528
*Total Project Cost	\$5,280

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 24
Intersection ID: 32.02
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

14th St SE (Cass 2) & ND 38

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 623
Entering ADT: 652 Minor Entering ADT: 29

- 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

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



	Value	Critical	Risk Ranking
Skew	Yes	Yes	★
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	No	≥60,000	
Total Crashes	0	>0	

★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	0	\$0.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	0	\$0.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$4,080.00	

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)

Proposed Year of Construction

Federal Funds	\$3,672
Local Match (10% of Total project cost)	\$408
*Total Project Cost	\$4,080

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 25
Intersection ID: 2.01
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

25th St SE (Cass 4) & ND 38

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 453
Entering ADT: 658 Minor Entering ADT: 205

- 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

	Total	Angle	K+A
Crashes	0	0	0
Rate (per MVM)	0.0	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	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	0	>0	

★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes -
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$25,080.00	

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)

Proposed Year of Construction

Federal Funds	\$22,572
Local Match (10% of Total project cost)	\$2,508
*Total Project Cost	\$25,080

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 26
Intersection ID: 4.01
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

34th St SE (Cass 10) & 139th Ave SE (ND 38)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 923
Entering ADT: 1135 Minor Entering ADT: 213

- 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

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

	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	0	>0	

★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	0	\$0.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	1	\$10,200.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$12,840.00	

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)

Proposed Year of Construction

Federal Funds	\$11,556
Local Match (10% of Total project cost)	\$1,284
*Total Project Cost	\$12,840

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 27
Intersection ID: 10.01
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

5th St (Cass 10) & 155th Ave SE (ND 18)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1945
Entering ADT: 2495 Minor Entering ADT: 550

- 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

	Total	Angle	K+A
Crashes	0	0	0
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	≥60,000	★
Total Crashes	0	>0	

★★★



Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes
Roundabout	\$3,000,000 per intersection	0	\$0.00	Project to correct visual trap in summer of 2015, DOT is working with city/county to improve this area (drainage, signs and markings)
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	Installed	\$0.00	
Upgrade Stop Sign	\$540 per sign	1	\$540.00	
Upgrade Junction Sign	\$540 per sign	1	\$540.00	
Upgrade Stop Ahead Sign	\$600 per sign	1	\$600.00	
Upgrade Stop Ahead Marking	\$600 per marking	1	\$600.00	
Upgrade Stop Bar	\$360 per marking	1	\$360.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$62,640.00	

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)

Proposed Year of Construction

Federal Funds	\$56,376
Local Match (10% of Total project cost)	\$6,264
*Total Project Cost	\$62,640

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 28
Intersection ID: 10.04
Date: 5/14/2014

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

18th St SE (Cass 26) & 155th St SE (ND 18)

Agency Name: Cass County
Contact Name: Jason Benson
Email Address: bensonj@casscountynd.gov

ND DOT District: 8
Telephone Number: 701-298-2372

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: Cass Major Entering ADT: 1138
Entering ADT: 1803 Minor Entering ADT: 665

- 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

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



	Value	Critical	Risk Ranking
Skew	No	Yes	
On/Near Curve	No	Yes	
Development	No	Yes	
Near RR Crossing	Yes	Yes	★
Distance from previous STOP	Yes	Yes	★
Volume Cross Product	Yes	≥60,000	★
Total Crashes	0	>0	★★★

Describe Proposed Safety Improvements

Description	Unit Cost	Units	Cost	Notes - .
Roundabout	\$3,000,000 per intersection	0	\$0.00	
Directional Median	\$900,000 per intersection	0	\$0.00	
Mainline Dynamic Warning Sign	\$60,000 per intersection	1	\$60,000.00	
Close Median	\$30,000 per intersection	0	\$0.00	
Installing Street Lights	\$10,200 per street light	2	\$20,400.00	
Upgrade Stop Sign	\$540 per sign	2	\$1,080.00	
Upgrade Junction Sign	\$540 per sign	2	\$1,080.00	
Upgrade Stop Ahead Sign	\$600 per sign	2	\$1,200.00	
Upgrade Stop Ahead Marking	\$600 per marking	2	\$1,200.00	
Upgrade Stop Bar	\$360 per marking	2	\$720.00	
Review Signs and CST	\$2,940 per intersection	0	\$0.00	
			\$85,680.00	

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)

Proposed Year of Construction

Federal Funds	\$77,112
Local Match (10% of Total project cost)	\$8,568
*Total Project Cost	\$85,680

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409

NDDOT Reserves All Objections

Project suggested for agency's consideration.

Page: 29
Intersection ID: 26.02
Date: 5/14/2014

23 USC 409
NDDOT Reserves All Objections

City of Fargo
Urban Segment Listing

23 USC 409
NDDOT Reserves All Objections

Seg #	Sys	Local Name	Start	End	Length	ADT	Multi-Lane	Access Density	Major Speed Limit	Total Severe Sideswipe / Head On Crash	Rear End /	Crash Cost
10.23	US 10	Main Ave	45th St S/N	I-29 Interchange	1.0	37,563	Yes	29.25	40	0		\$ 3,353,000
10.24	US 10	Main Ave	I-29 Interchange	10th St (US 81)	2.2	23,415	Yes	40.73	35	4		\$ 17,414,000
10.25	US 10	Main Ave	10th St (US 81)	ND/MN Border	0.8	20,505	Yes	32.32	30	0		\$ 6,028,000
81.21	US 81	52nd Ave S	I-94 Interchange	25th St S	1.1	9,105	Yes	7.29	45	0		\$ 1,034,000
81.22	US 81	52nd Ave S	25th St S	University Dr S	0.7	6,608	Yes	13.44	35	0		\$ 375,000
81.23	US 81	University Dr	52nd Ave S	32nd Ave S	2.1	10,476	Yes	12.14	40	1		\$ 3,318,000
81.24	US 81	University Dr	32nd Ave S	I-94 Interchange	1.1	27,339	Yes	17.43	35	1		\$ 8,153,000
81.25	US 81	University Dr	I-94 Interchange	13th Ave S	0.9	28,217	Yes	37.49	35	3		\$ 10,489,000
81.26	US 81	University Dr	13th Ave S	Main Ave	0.9	12,833	No	75.19	30	2		\$ 8,290,000
81.27	US 81	University Dr	12th Ave N	12th Ave N	1.1	13,944	No	68.89	30	1		\$ 11,010,000
81.28	US 81	University Dr	12th Ave N	19th Ave N	1.2	9,419	No	32.91	30	0		\$ 9,827,000
81.29	US 81	19th Ave N	I-29 Interchange	University Ave	1.8	18,381	Yes	9.32	30	0		\$ 3,939,000
81.3	US 81	10th St S/N	13th Ave S	12th Ave N	2.1	10,874	No	62.00	30	4		\$ 12,910,000
81.31	US 81	10th St N	12th Ave N	19th Ave N	1.2	7,763	No	79.25	30	2		\$ 4,791,000
294.01	No Designation	ND 294	I-29	10th St N	2.2	10,137	No	22.30	40	2		\$ 9,265,000
801.01	No Designation	64th Ave S	25th St S	University Drive South	0.8	146	No	13.97	25	0		\$ -
802.01	No Designation	58th Ave S	26th St S	University Drive South	0.8	2,015	No	10.19	25	0		\$ 208,000
803.01	No Designation	52nd Ave S	Sheyene St (West Fargo)	I-29	3.1	5,336	No	3.85	55	1		\$ 2,129,000
803.02	No Designation	52nd Ave S	University Drive South	(Dead End)	0.4	3,985	No	2.62	35	0		\$ 366,000
804.01	No Designation	49th Ave S	45th St S	42nd St S	0.5	965	No	10.13	25	0		\$ 115,000
805.01	No Designation	Rosecreek Pk S	(Dead End)	25th St S	0.2	400	No	19.56	30	0		\$ 24,000
806.01	No Designation	44th Ave/Great Plans Dr	Veteran's Blvd	38th St S	2.1	2,247	No	18.50	25	0		\$ 1,150,000
807.02	No Designation	40th Ave S	Sheyene St (West Fargo)	I-29 Interchange	3.1	7,150	No	15.25	30	0		\$ 2,774,000
807.03	No Designation	40th Ave S	I-29 Interchange	University Drive South	1.6	5,060	No	20.07	30	0		\$ 532,000
808.02	No Designation	36th Ave S	45th St S	42nd St S	0.5	1,660	No	13.59	25	0		\$ 12,000
809.01	No Designation	35th Ave S	36th St S	University Drive South	1.8	2,073	No	86.28	25	0		\$ 491,000
810.02	No Designation	32nd Ave S	Veteran's Blvd	I-29	2.1	10,918	Yes	9.75	40	1		\$ 7,883,000
810.03	No Designation	32nd Ave S	I-94	University Drive South	1.9	17,863	Yes	12.99	35	6		\$ 20,653,000
811.01	No Designation	30th Ave S	45th St S	(Dead End)	1.0	705	No	16.28	25	0		\$ 650,000
812.01	No Designation	25th Ave S/24th Ave S	25th St S	5th St S	1.6	4,094	No	86.33	25	0		\$ 1,574,000
813.01	No Designation	23rd Ave S	Veteran's Blvd	42nd St S	1.8	3,464	Yes	7.43	30	0		\$ 323,000
813.02	No Designation	23rd Ave S/Wheatland Dr S	26th Ave S	25th St S	0.8	2,704	No	88.84	25	0		\$ 1,314,000
814.02	No Designation	19th Ave E/19th Ave SW	9th St E	45th St S	1.0	5,238	No	19.98	30	0		\$ 987,000
814.03	No Designation	20th Ave S/13 1/2 St S/18th Ave S	25th St S	University Drive South	1.2	2,386	No	58.06	25	1		\$ 1,468,000
815.02	No Designation	17th Ave E/17th Ave S	16th St E	I-29	1.6	9,387	No	32.46	30	0		\$ 6,873,000
815.03	No Designation	17th Ave S	I-29	5th St S	2.5	7,633	No	44.44	30	1		\$ 4,470,000
816.02	No Designation	13th Ave S	17th St E (West Fargo)	I-94	1.5	23,917	Yes	12.88	35	3		\$ 24,136,000
816.03	No Designation	13th Ave S	I-94	25th St S	1.0	31,069	Yes	10.72	35	3		\$ 13,836,000
816.04	No Designation	13th Ave S	25th St S	University Drive South	1.0	15,222	No	67.09	25	1		\$ 8,851,000
816.05	No Designation	13th Ave S	10th St S	4th St S	0.5	7,133	No	49.82	20	1		\$ 1,988,000
817.02	No Designation	9th Ave S/Westrac Dr S	45th St S	Fletcher Dr S	1.5	6,171	No	29.46	25	0		\$ 5,208,000
817.03	No Designation	Westrac Dr S/32nd St S	Fletcher Dr S	17th Ave S	0.7	5,192	No	60.28	25	0		\$ 1,672,000
818.02	No Designation	7th Ave E	17th St E (West Fargo)	45th St S	0.5	3,860	No	25.91	25	0		\$ 120,000
818.03	No Designation	5th Ave S/2nd St S	Fletcher Dr S	Main Ave	2.2	5,028	No	56.96	25	2		\$ 4,963,000
819.02	No Designation	2nd Ave S	42nd St S	38th St S	0.4	2,045	No	50.23	25	1		\$ 905,000
820.08	No Designation	10 Access (b/w 40th St S & I-94)	40th St S	Main Ave	0.2	529	No	44.54	25	0		\$ 163,000
821.04	No Designation	38th St N	Main Ave (b/w 42nd St S & I-94)	(Dead End)	0.1	529	No	48.32	25	0		\$ 24,000
821.05	No Designation	10 Access	36th St N	34th St S	0.2	3,600	No	33.68	25	0		\$ 342,000
822.01	No Designation	N.P. Ave N	1st Ave N	ND/MN Border	1.7	6,000	No	30.44	25	0		\$ 5,321,000
823.01	No Designation	3rd Ave N	45th St NW	39th St N	1.1	1,030	No	29.85	30	0		\$ 175,000
823.02	No Designation	1st Ave N	36th St N	N.P. Ave N	1.0	3,007	No	59.39	35	0		\$ 275,000
823.03	No Designation	1st Ave N	N.P. Ave N	ND/MN Border	1.9	8,000	No	33.25	25	0		\$ 3,976,000
824.01	No Designation	2nd Ave N	University Drive North	4th St N	0.6	3,566	No	51.16	25	1		\$ 1,953,000
825.01	No Designation	3rd Ave N	University Drive North	10th St N	0.2	2,251	No	60.64	25	0		\$ 323,000
825.02	No Designation	3rd Ave N	Broadway N	2nd St N	0.3	1,640	No	68.21	25	0		\$ 232,000
826.01	No Designation	4th Ave N	University Drive North	2nd St N	0.8	3,683	No	55.11	25	0		\$ 2,472,000
827.02	No Designation	7th Ave N	45th St N	I-29	1.0	7,592	No	20.22	35	1		\$ 1,102,000
827.03	No Designation	7th Ave N	I-29	Oak St N	2.9	9,719	No	52.19	35	2		\$ 6,381,000
828.01	No Designation	Great Northern Dr/18th St N	25th St N	7th Ave N	0.7	1,475	No	44.12	25	0		\$ 175,000
829.02	No Designation	12th Ave N	9th Ave NE (West Fargo)	I-29	2.0	7,600	Yes	12.35	40	0		\$ 4,842,000
829.03	No Designation	12th Ave N	10th St N	ND/MN Border	0.9	3,329	No	69.84	25	0		\$ 534,000
830.01	No Designation	19th Ave N	57th St N	I-29	1.9	4,196	No	8.25	50	0		\$ 242,000
830.02	No Designation	19th Ave N	10th St N	Elm St N	0.8	6,981	No	70.04	25	2		\$ 2,861,000

City of Fargo
Urban Segment Listing

23 USC 409
NDDOT Reserves All Objections

Seg #	Sys	Local Name	Start	End	Length	ADT	Multi-Lane	Access Density	Major Speed Limit	Total Severe Rear End / Sideswipe / Head On Crash	Crash Cost
831.01	No Designation	25th Ave N	University Drive North	Elm St N	1.0	2,814	No	61.96	25	0	\$ 958,000
832.01	No Designation	32nd Ave N	University Drive North	Eagle St NE	1.6	2,548	No	67.69	25	0	\$ 981,000
833.01	No Designation	40th Ave N	University Drive North	ND/MN Border	0.3	3,676	No	3.24	40	0	\$ 491,000
839.01	No Designation	57th St S/Veterans Blvd	52nd Ave S	I-94	3.0	6,027	No	4.39	35	1	\$ 1,444,000
839.03	No Designation	9th St NE/57th St N	12th Ave N	19th Ave N	1.0	1,845	No	3.00	40	0	\$ 91,000
841.01	No Designation	45th St S	52nd Ave S	I-94	3.0	8,726	Yes	5.61	40	1	\$ 9,853,000
841.02	No Designation	45th St S & 45th St N	I-94	(Turns into Township Road)	4.2	14,930	Yes	10.41	40	4	\$ 22,220,000
842.01	No Designation	42nd St S	52nd Ave S	I-94	3.0	7,849	Yes	9.87	40	0	\$ 1,901,000
842.02	No Designation	42nd St S	I-94	Main Ave	2.0	10,961	Yes	30.30	30	5	\$ 7,255,000
843.01	No Designation	38th St SW/34th Ave S	52nd Ave S	39th St S	2.4	1,960	No	11.06	35	0	\$ 151,000
843.02	No Designation	39th St S	34th Ave S	30th Ave S	1.0	2,645	No	27.86	25	0	\$ 1,191,000
843.03	No Designation	38th St SW	17th Ave S	2nd Ave S	1.5	6,501	No	21.14	35	0	\$ 5,340,000
843.04	No Designation	40th St S	2nd Ave S	Main Ave	0.1	6,510	No	49.12	30	0	\$ 943,000
843.05	No Designation	40th St N	7th Ave N	12th Ave N	0.5	1,703	No	44.40	25	0	\$ -
843.06	No Designation	38th St SW	55th Ave S	(Turns into Township Road)	0.2	0	No	0.00	0	0	\$ 91,000
844.01	No Designation	36th St S/36th St SW/30th Ave S/Weatland Dr	60th Ave S	26th Ave S	4.4	2,047	No	29.03	30	0	\$ 2,947,000
844.02	No Designation	36th St SW/36th St S	(Dead End)	34th St S	1.2	2,084	No	30.76	30	0	\$ 932,000
844.03	No Designation	36th St N	Main Ave	(Dead End)	0.8	3,873	No	8.61	30	0	\$ 508,000
845.01	No Designation	32nd St S	(Dead End)	40th Ave S	0.5	2,110	No	40.47	25	0	\$ 12,000
845.02	No Designation	34th St S/Fletcher Dr S/Leahy Ave S/27th St S/3rd Ave S/28th St S	17th Ave S	Main Ave	2.0	4,586	No	53.09	30	0	\$ 2,002,000
845.03	No Designation	34th St S	Westrac Dr S	10 Access (E of I-94 & 34th St S)	0.7	1,610	No	17.53	25	1	\$ 917,000
845.04	No Designation	35th St N	7th Ave N	12th Ave N	0.5	8,225	No	20.29	30	0	\$ 175,000
846.01	No Designation	25th St S	64th Ave S	I-94	4.0	10,368	Yes	18.28	35	2	\$ 18,661,000
846.02	No Designation	25th St S	I-94	12th Ave N	3.3	13,701	Yes	32.30	35	6	\$ 15,747,000
847.01	No Designation	21st St S/Bishops Blvd S	Bennett Court S	52nd Ave S	0.8	1,664	No	41.90	25	0	\$ 218,000
847.02	No Designation	18th St S	40th Ave S	25th St S	2.2	3,015	No	90.21	25	0	\$ 1,896,000
847.03	No Designation	17th St S	20th Ave S	Main Ave	1.9	1,956	No	100.37	25	1	\$ 1,874,000
848.01	No Designation	8th Ave N/Dakota Drive N/Old US 81	University Drive North	(Continues into County)	4.4	1,059	No	12.69	40	0	\$ 2,175,000
849.01	No Designation	18th St N	12th Ave N	19th Ave N	1.0	5,805	No	12.04	35	1	\$ 1,140,000
850.01	No Designation	University Dr S	64th Ave S	52nd Ave S	1.0	4,142	No	5.93	45	0	\$ 342,000
850.02	No Designation	University Dr N	19th Ave N	40th Ave N	2.0	7,628	Yes	8.04	40	1	\$ 3,362,000
851.01	No Designation	81 Access	N of 35th Ave S	S of 32nd Ave S	0.3	398	No	44.22	25	0	\$ 12,000
851.02	No Designation	81 Access	15th St S	21st Ave S	1.1	486	No	32.05	25	0	\$ 728,000
852.01	No Designation	81 Access	32nd Ave S	24th Ave S	0.8	1,062	No	44.73	25	0	\$ 598,000
853.01	No Designation	7th St N	N.P. Ave N	1st Ave N	0.1	665	No	37.15	25	0	\$ 48,000
853.02	No Designation	7th St N	2nd Ave N	7th Ave E	0.4	1,541	No	54.19	25	0	\$ 60,000
854.01	No Designation	Roberts St N	Main Ave	(Just North of N.P. Ave)	0.1	2,965	Yes	35.78	25	0	\$ 335,000
854.02	No Designation	Roberts St N/6th Ave	(Just North of N.P. Ave)	Broadway	0.5	3,441	No	54.04	25	0	\$ 1,234,000
855.01	No Designation	5th St S	24th Ave S	13th Ave S	1.1	3,634	No	67.77	25	0	\$ 302,000
855.02	No Designation	Broadway N	Main Ave	MN/ND Border	3.9	6,329	No	57.92	25	3	\$ 12,096,000
856.01	No Designation	5th St N	N.P. Ave N	4th Ave N	0.3	1,943	No	45.42	25	0	\$ 156,000
857.01	No Designation	4th St S/4th St N	13th Ave S	12th Ave N	1.9	6,939	No	51.24	25	2	\$ 6,160,000
858.01	No Designation	3rd St N	N.P. Ave N	3rd Ave N	0.2	938	No	27.53	25	0	\$ 187,000
859.01	No Designation	2nd St N	Main Ave	12th Ave N	1.2	8,885	Yes	18.19	25	0	\$ 3,697,000
860.01	No Designation	Oak St N/11th Ave N/Elm St N/N River Rd	7th Ave N	32nd Ave N	2.6	3,708	No	60.59	25	0	\$ 1,154,000

148.5

	Min	Max
ADT	6000	5000000
Major Lanes	4	40
Access Density	30	5000
Major Speed Limit	0	40

City of Fargo
Urban Segment Prioritization

23 USC 409
NDDOT Reserves All Objections

Rank	Seg #	Sys	Local Name	Start	End	Length	ADT	Major Lanes	Access Density	Speed Limit	Severe Rear End Sideswipe or Head-on Crash	Tiebreakers		
												Priority	Crash Cost	Access Density
1	10.24	US 10	Main Ave	I-29 Interchange	10th St (US 81)	2.2	*	*	*	*	*	*****	\$17,414,000	40.7
2	846.02	No Designation	25th St S	I-94	12th Ave N	3.3	*	*	*	*	*	*****	\$15,747,000	32.3
3	81.25	US 81	University Dr	I-94 Interchange	13th Ave S	0.9	*	*	*	*	*	*****	\$10,489,000	37.5
4	842.02	No Designation	42nd St S	I-94	Main Ave	2.0	*	*	*	*	*	*****	\$7,255,000	30.3
5	816.02	No Designation	13th Ave S	17th St E (West Fargo)	I-94	1.5	*	*	*	*	*	****	\$24,136,000	12.9
6	841.02	No Designation	45th St S & 45th St N	I-94	(Turns into Township Road)	4.2	*	*	*	*	*	****	\$22,220,000	10.4
7	810.03	No Designation	32nd Ave S	I-94	University Drive South	1.9	*	*	*	*	*	****	\$20,653,000	13.0
8	846.01	No Designation	25th St S	64th Ave S	I-94	4.0	*	*	*	*	*	****	\$18,661,000	18.3
9	816.03	No Designation	13th Ave S	I-94	25th St S	1.0	*	*	*	*	*	****	\$13,836,000	10.7
10	81.30	US 81	10th St S/N	13th Ave S	12th Ave N	2.1	*	*	*	*	*	****	\$12,910,000	62.0
11	855.02	No Designation	Broadway N	Main Ave	MN/ND Border	3.9	*	*	*	*	*	****	\$12,096,000	57.9
12	81.27	US 81	University Dr	Main Ave	12th Ave N	1.1	*	*	*	*	*	****	\$11,010,000	68.9
13	841.01	No Designation	45th St S	52nd Ave S	I-94	3.0	*	*	*	*	*	****	\$9,853,000	5.6
14	816.04	No Designation	13th Ave S	25th St S	University Drive South	1.0	*	*	*	*	*	****	\$8,851,000	67.1
15	81.26	US 81	University Dr	13th Ave S	Main Ave	0.9	*	*	*	*	*	****	\$8,290,000	75.2
16	81.24	US 81	University Dr	32nd Ave S	I-94 Interchange	1.1	*	*	*	*	*	****	\$8,153,000	17.4
17	810.02	No Designation	32nd Ave S	Veteran's Blvd	I-29	2.1	*	*	*	*	*	****	\$7,883,000	9.7
18	827.03	No Designation	7th Ave N	I-29	Oak St N	2.9	*	*	*	*	*	****	\$6,381,000	52.2
19	857.01	No Designation	4th St S/4th St N	13th Ave S	12th Ave N	1.9	*	*	*	*	*	****	\$6,160,000	51.2
20	10.25	US 10	Main Ave	10th St (US 81)	ND/MN Border	0.8	*	*	*	*	*	****	\$6,028,000	32.3
21	81.31	US 81	10th St N	12th Ave N	19th Ave N	1.2	*	*	*	*	*	****	\$4,791,000	79.3
22	815.03	No Designation	17th Ave S	I-29	5th St S	2.5	*	*	*	*	*	****	\$4,470,000	44.4
23	850.02	No Designation	University Dr N	19th Ave N	40th Ave N	2.0	*	*	*	*	*	****	\$3,362,000	8.0
24	81.23	US 81	University Dr	52nd Ave S	32nd Ave S	2.1	*	*	*	*	*	****	\$3,318,000	12.1
25	830.02	No Designation	19th Ave N	10th St N	Elm St N	0.8	*	*	*	*	*	****	\$2,861,000	70.0
26	816.05	No Designation	13th Ave S	10th St S	4th St S	0.5	*	*	*	*	*	****	\$1,988,000	49.8
27	81.28	US 81	University Dr	12th Ave N	19th Ave N	1.2	*	*	*	*	*	***	\$9,827,000	32.9
28	294.01	No Designation	ND 294	I-29	10th St N	2.2	*	*	*	*	*	***	\$9,265,000	22.3
29	815.02	No Designation	17th Ave E/17th Ave S	16th St E	I-29	1.6	*	*	*	*	*	***	\$6,873,000	32.5
30	822.01	No Designation	N.P. Ave N	1st Ave N	ND/MN Border	1.7	*	*	*	*	*	***	\$5,321,000	30.4
31	818.03	No Designation	5th Ave S/2nd St S	Fletcher Dr S	Main Ave	2.2	*	*	*	*	*	***	\$4,963,000	57.0
32	829.02	No Designation	12th Ave N	9th Ave NE (West Fargo)	I-29	2.0	*	*	*	*	*	***	\$4,842,000	12.3
33	823.03	No Designation	N.P. Ave N	1st Ave N	ND/MN Border	1.9	*	*	*	*	*	***	\$3,976,000	33.2
34	81.29	US 81	19th Ave N	I-29 Interchange	University Ave	1.8	*	*	*	*	*	***	\$3,939,000	9.3
35	859.01	No Designation	Main Ave	2nd St N	12th Ave N	1.2	*	*	*	*	*	***	\$3,697,000	18.2
36	10.23	US 10	Main Ave	45th St S/N	I-29 Interchange	1.0	*	*	*	*	*	***	\$3,353,000	29.3
37	824.01	No Designation	2nd Ave N	University Drive North	4th St N	0.6	*	*	*	*	*	***	\$1,953,000	51.2
38	842.01	No Designation	42nd St S	52nd Ave S	I-94	3.0	*	*	*	*	*	***	\$1,901,000	9.9
39	847.03	No Designation	17th St S	20th Ave S	Main Ave	1.9	*	*	*	*	*	***	\$1,874,000	100.4
40	814.03	No Designation	20th Ave S/13 1/2 St S/18th Ave S	25th St S	University Drive South	1.2	*	*	*	*	*	***	\$1,468,000	58.1
41	839.01	No Designation	57th St S/Veterans Blvd	52nd Ave S	I-94	3.0	*	*	*	*	*	***	\$1,444,000	4.4
42	827.02	No Designation	7th Ave N	45th St N	I-29	1.0	*	*	*	*	*	***	\$1,102,000	20.2
43	843.04	No Designation	40th St S	2nd Ave S	Main Ave	0.1	*	*	*	*	*	***	\$943,000	49.1
44	819.02	No Designation	2nd Ave S	42nd St S	38th St S	0.4	*	*	*	*	*	***	\$905,000	50.2
45	81.22	US 81	52nd Ave S	25th St S	University Dr S	0.7	*	*	*	*	*	***	\$375,000	13.4
46	854.01	No Designation	Roberts St N	Main Ave	(Just North of N.P. Ave)	0.1	*	*	*	*	*	***	\$335,000	35.8
47	843.03	No Designation	38th St SW	17th Ave S	2nd Ave S	1.5	*	*	*	*	*	**	\$5,340,000	21.1
48	817.02	No Designation	9th Ave S/Westrac Dr S	45th St S	Fletcher Dr S	1.5	*	*	*	*	*	**	\$5,208,000	29.5
49	807.02	No Designation	40th Ave S	Sheyene St (West Fargo)	I-29 Interchange	3.1	*	*	*	*	*	**	\$2,774,000	15.3
50	826.01	No Designation	4th Ave N	University Drive North	2nd St N	0.8	*	*	*	*	*	**	\$2,472,000	55.1
51	845.02	No Designation	34th St S/Fletcher Dr S/Leahy Ave S/27th St S/3rd Ave S/28th St S	17th Ave S	Main Ave	2.0	*	*	*	*	*	**	\$2,002,000	53.1
52	847.02	No Designation	18th St S	40th Ave S	25th St S	2.2	*	*	*	*	*	**	\$1,896,000	90.2
53	817.03	No Designation	Westrac Dr S/32nd St S	Fletcher Dr S	17th Ave S	0.7	*	*	*	*	*	**	\$1,672,000	60.3
54	812.01	No Designation	25th Ave S/24th Ave S	25th St S	5th St S	1.6	*	*	*	*	*	**	\$1,574,000	86.3
55	813.02	No Designation	23rd Ave S/Wheatland Dr S	26th Ave S	25th St S	0.8	*	*	*	*	*	**	\$1,314,000	88.8
56	854.02	No Designation	Roberts St N/6th Ave	(Just North of N.P. Ave)	Broadway	0.5	*	*	*	*	*	**	\$1,234,000	54.0
57	860.01	No Designation	Oak St N/11th Ave N/Elm St N/N River Rd	7th Ave N	32nd Ave N	2.6	*	*	*	*	*	**	\$1,154,000	60.6
58	849.01	No Designation	18th St N	12th Ave N	19th Ave N	1.0	*	*	*	*	*	**	\$1,140,000	12.0
59	81.21	US 81	52nd Ave S	I-94 Interchange	25th St S	1.1	*	*	*	*	*	**	\$1,034,000	7.3
60	832.01	No Designation	32nd Ave N	University Drive North	Eagle St NE	1.6	*	*	*	*	*	**	\$981,000	67.7
61	831.01	No Designation	25th Ave N	University Drive North	Elm St N	1.0	*	*	*	*	*	**	\$958,000	62.0
62	844.02	No Designation	36th St SW/36th St S	(Dead End)	34th St S	1.2	*	*	*	*	*	**	\$932,000	30.8
63	845.03	No Designation	34th St S	Westrac Dr S	10 Access (E of I-94 & 34th St S)	0.7	*	*	*	*	*	**	\$917,000	17.5

City of Fargo
Urban Segment Prioritization

23 USC 409
NDDOT Reserves All Objections

Rank	Seg #	Sys	Local Name	Start	End	Length	ADT	Major Lanes	Access Density	Speed Limit	Severe Rear End Sideswipe or Head-on Crash	Priority	Tiebreakers	
													Crash Cost	Access Density
64	851.02	No Designation	81 Access	15th St S	21st Ave S	1.1			*	*		**	\$728,000	32.1
65	852.01	No Designation	81 Access	32nd Ave S	24th Ave S	0.8			*	*		**	\$598,000	44.7
66	829.03	No Designation	12th Ave N	10th St N	ND/MN Border	0.9			*	*		**	\$534,000	69.8
67	809.01	No Designation	36th St S	36th St S	University Drive South	1.8			*	*		**	\$491,000	86.3
68	821.05	No Designation	10 Access	36th St N	34th St S	0.2			*	*		**	\$342,000	33.7
69	825.01	No Designation	3rd Ave N	University Drive North	10th St N	0.2			*	*		**	\$323,000	60.6
70	813.01	No Designation	23rd Ave S	Veteran's Blvd	42nd St S	1.8		*	*	*		**	\$323,000	7.4
71	855.01	No Designation	5th St S	24th Ave S	13th Ave S	1.1			*	*		**	\$302,000	67.8
72	823.02	No Designation	1st Ave N	36th St N	N.P. Ave N	1.0			*	*		**	\$275,000	59.4
73	825.02	No Designation	3rd Ave N	Broadway N	2nd St N	0.3			*	*		**	\$232,000	68.2
74	847.01	No Designation	21st St S/Bishops Blvd S	Bennett Court S	52nd Ave S	0.8			*	*		**	\$218,000	41.9
75	828.01	No Designation	Great Northern Dr/18th St N	25th St N	7th Ave N	0.7			*	*		**	\$175,000	44.1
76	845.04	No Designation	35th St N	7th Ave N	12th Ave N	0.5	*		*	*		**	\$175,000	20.3
77	820.08	No Designation	10 Access (b/w 40th St S & I-94)	40th St S	Main Ave	0.2			*	*		**	\$163,000	44.5
78	856.01	No Designation	5th St N	N.P. Ave N	4th Ave N	0.3			*	*		**	\$156,000	45.4
79	853.02	No Designation	7th St N	2nd Ave N	7th Ave E	0.4			*	*		**	\$60,000	54.2
80	853.01	No Designation	7th St N	N.P. Ave N	1st Ave N	0.1			*	*		**	\$48,000	37.1
81	821.04	No Designation	38th St N	Main Ave (b/w 42nd St S & I-94)	(Dead End)	0.1			*	*		**	\$24,000	48.3
82	851.01	No Designation	81 Access	N of 35th Ave S	S of 32nd Ave S	0.3			*	*		**	\$12,000	44.2
83	845.01	No Designation	32nd St S	(Dead End)	40th Ave S	0.5			*	*		**	\$12,000	40.5
84	843.05	No Designation	40th St N	7th Ave N	12th Ave N	0.5			*	*		**	\$0	44.4
85	844.01	No Designation	36th St S/36th St SW/30th Ave S/Weatland Dr	7th Ave S	60th Ave S	4.4			*	*		*	\$2,947,000	29.0
86	848.01	No Designation	8th Ave N/Dakota Drive N/Old US 81	University Drive North	(Continues into County)	4.4			*	*		*	\$2,175,000	12.7
87	803.01	No Designation	52nd Ave S	Sheyene St (West Fargo)	I-29	3.1			*	*	*	*	\$2,129,000	3.9
88	843.02	No Designation	39th St S	34th Ave S	30th Ave S	1.0			*	*		*	\$1,191,000	27.9
89	806.01	No Designation	44th Ave/Great Plans Dr	Veteran's Blvd	38th St S	2.1			*	*		*	\$1,150,000	18.5
90	814.02	No Designation	19th Ave E/19th Ave SW	9th St E	45th St S	1.0			*	*		*	\$987,000	20.0
91	811.01	No Designation	30th Ave S	45th St S	(Dead End)	1.0			*	*		*	\$650,000	16.3
92	807.03	No Designation	40th Ave S	I-29 Interchange	University Drive South	1.6			*	*		*	\$532,000	20.1
93	844.03	No Designation	36th St N	Main Ave	(Dead End)	0.8			*	*		*	\$508,000	8.6
94	833.01	No Designation	40th Ave N	University Drive North	ND/MN Border	0.3			*	*		*	\$491,000	3.2
95	803.02	No Designation	52nd Ave S	University Drive South	(Dead End)	0.4			*	*		*	\$366,000	2.6
96	802.01	No Designation	58th Ave S	26th St S	University Drive South	0.8			*	*		*	\$208,000	10.2
97	858.01	No Designation	3rd St N	N.P. Ave N	3rd Ave N	0.2			*	*		*	\$187,000	27.5
98	823.01	No Designation	3rd Ave N	45th St NW	39th St N	1.1			*	*		*	\$175,000	29.8
99	843.01	No Designation	38th St SW/34th Ave S	52nd Ave S	39th St S	2.4			*	*		*	\$151,000	11.1
100	818.02	No Designation	7th Ave E	17th St E (West Fargo)	45th St S	0.5			*	*		*	\$120,000	25.9
101	804.01	No Designation	49th Ave S	45th St S	42nd St S	0.5			*	*		*	\$115,000	10.1
102	839.03	No Designation	9th St NE/57th St N	12th Ave N	19th Ave N	1.0			*	*		*	\$91,000	3.0
103	843.06	No Designation	38th St SW	55th Ave S	(Turns into Township Road)	0.2			*	*		*	\$91,000	0.0
104	805.01	No Designation	Rosecreek Pk S	(Dead End)	25th St S	0.2			*	*		*	\$24,000	19.6
105	808.02	No Designation	36th Ave S	45th St S	42nd St S	0.5			*	*		*	\$12,000	13.6
106	801.01	No Designation	64th Ave S	25th St S	University Drive South	0.8			*	*		*	\$0	14.0
107	850.01	No Designation	University Dr S	64th Ave S	52nd Ave S	1.0			*	*		*	\$342,000	5.9
108	830.01	No Designation	19th Ave N	57th St N	I-29	1.9			*	*		*	\$242,000	8.3

Totals	#	%	Miles	%
*****	0	0%	0.0	0%
****	4	4%	8.3	6%
***	22	20%	42.6	29%
**	20	19%	29.1	20%
*	38	35%	37.3	25%
-	22	20%	28.3	19%
-	2	2%	3.0	2%
	108	100%	148.5	100%

Stars

- If segment has a major entering ADT greater than or equal to 6000 vpd.
- If segment has lanes greater than or equal to 4.
- If segment has an access density > 30.
- If segment has a speed less than or equal to 40 mph.
- If segment has at least 1 severe rear end or sideswipe or head on crash.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

17th Ave S from I-29 to 5th St S Project

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Number: 815.03 Local Road Name: 17th Ave S Start: I-29 End: 5th St S City/Rural: Urban County: Ramsey	ADT: 7633 Lanes: 2 Access Density 44 Speed Limit: 30 Length (miles): 2.5	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	7,633	≥ 10,000	★
Major Approach Lanes:	2	≥ 4	
Access Density:	44	≥ 30	★
Speed Limit:	30	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	≥ 1	★
			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi / #	Mileage / #	Cost	Notes - Conversion may be feasible from 34th Street to 17th Street. Parking will be impacted.
3-Lane Conversion	Proactive	\$30,000	1.3	\$38,964	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$35,068	
Local Match (10% of Total project cost)	\$3,896	
*Total Project Cost	\$38,964	

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
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Notes

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

2nd Ave S from 42nd St S to 38th St S Project

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Number: 819.02 Local Road Name: 2nd Ave S Start: 42nd St S End: 38th St S City/Rural: Urban County: Ramsey	ADT: 2045 Lanes: 2 Access Density: 50 Speed Limit: 25 Length (miles): 0.4	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	2,045	≥ 10,000	
Major Approach Lanes:	2	≥ 4	
Access Density:	50	≥ 30	★
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	Proactive	\$30,000	0.4	\$12,543	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$11,289
Local Match (10% of Total project cost)	\$1,254
*Total Project Cost	\$12,543

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

23 USC 409
NDDOT Reserves All Objections

City of Fargo Right Angle Project Summary						
Segment #	Local Name	Cross Street	Projects		Project Cost	
			Access Management	Confirmation Lights		
10.23	Main Ave	42nd St S	0	1	\$ 2,400	
	Main Ave	40th Ave S	0	1		
	Main Ave	10 Access	0	0		
10.24	Main Ave	34th St S	0	1	\$ 4,800	
	Main Ave	27th St S/28th St S	0	1		
	Main Ave	25th St S	0	1		
	Main Ave	18th St S	0	1		
10.25	Main Ave	8th St N	0	1	\$ 4,800	
	Main Ave	Broadway N	0	1		
	Main Ave	4th St N/4th St S	0	1		
	Main Ave	2nd St N/2nd St S	0	1		
81.23	University Dr S	40th Ave S	0	1	\$ 3,600	
	University Dr S	35th Ave S	0	1		
	University Dr S	32nd Ave S	0	1		
81.24	University Dr S	24th Ave S/25th Ave S	0	1	\$ 1,200	
81.25	University Dr S	18th Ave S	0	1	\$ 3,600	
	University Dr S	17th Ave S	0	1		
	13th Ave S	University Dr S	0	1		
810.02	45th St S	32nd Ave S	0	1	\$ 3,600	
	32nd Ave S	42nd St S	0	1		
	32nd Ave S	39th St S	0	1		
810.03	32nd Ave S	36th St S	0	1	\$ 3,600	
	32nd Ave S	25th St S	0	1		
	32nd Ave S	18th St S	0	1		
816.02	13th Ave S	45th St S	0	1	\$ 3,600	
	13th Ave S	42nd St S	0	1		
	13th Ave S	38th St S	0	1		
816.03	13th Ave S	Fletcher Dr S/ 34th St S	0	1	\$ 3,600	
	13th Ave S	Westrac Dr S	0	1		
	13th Ave S	25th St S	0	1		
846.01	25th St S	25th Ave S	0	0	\$ -	
	25th St S	23rd Ave S	0	0		
	25th St S	18th St S	0	0		
833.01	40th Ave N	University Dr N	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)

Right Angle Crashes @ Signals Intersection Improvements

Intersections on Main Ave from 45th St S/N to I-29 Interchange

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 10.23
Street Name Main Ave
Urban/Rural: Urban
County: Ramsey
Length 1.0

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
10.29	Main Ave	42nd St S	X	Signal	26,070	Divided	0	0	1	None
10.30	Main Ave	40th Ave S	X	Signal	29,025	Divided	0	0	1	None
10.31	Main Ave	10 Access	X	Signal	31,923	Divided	0	0	0	Intersection with ramp terminal

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	2	\$2,400
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$2,400

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$2,160
Local Match (10% of Total project cost) \$240
***Total Project Cost \$2,400**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Main Ave from I-29 Interchange to 10th St (US 81)

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 10.24
Street Name Main Ave
Urban/Rural: Urban
County: Ramsey
Length 2.2

- 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 Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
10.32	Main Ave	34th St S	X	Signal	26,830	Divided	1	0	1	None
10.33	Main Ave	27th St S/28th St S	X	Signal	24,268	Divided	0	0	1	None
10.34	Main Ave	25th St S	X	Signal	40,263	Divided	3	0	1	None
10.35	Main Ave	18th St S	T	Signal	22,008	Undivided	0	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	4	\$4,800
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$4,800

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$4,320
Local Match (10% of Total project cost)	\$480
*Total Project Cost	\$4,800

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Main Ave from 10th St (US 81) to ND/MN Border

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 10.25
Street Name Main Ave
Urban/Rural: Urban
County: Ramsey
Length 0.8

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
10.36	Main Ave	8th St N	X	Signal	20,860	Undivided	0	0	1	None
10.37	Main Ave	Broadway N	X	Signal	19,745	Undivided	0	0	1	None
10.38	Main Ave	4th St N/4th St S	X	Signal	21,643	Divided	1	0	1	None
10.39	Main Ave	2nd St N/2nd St S	X	Signal	27,993	Undivided	0	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	4	\$4,800
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$4,800

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$4,320
Local Match (10% of Total project cost) \$480
***Total Project Cost \$4,800**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from 52nd Ave S to 32nd Ave S

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.23
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Length 2.1

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
81.25	University Dr S	40th Ave S	X	Signal	10,385	Divided	0	0	1	None
81.26	University Dr S	35th Ave S	X	Signal	14,590	Divided	0	0	1	None
81.27	University Dr S	32nd Ave S	X	Signal	25,768	Divided	0	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	3	\$3,600
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$3,600

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$3,240
Local Match (10% of Total project cost)	\$360
*Total Project Cost	\$3,600

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from 32nd Ave S to I-94 Interchange

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.24
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Length 1.1

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
81.28	University Dr S	24th Ave S/25th Ave S	X	Signal	35,265	Divided	1	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	1	\$1,200
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$1,200

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$1,080
Local Match (10% of Total project cost)	\$120
*Total Project Cost	\$1,200

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from I-94 Interchange to 13th Ave S

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.25
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Length 0.9

- 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 Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
81.29	University Dr S	18th Ave S	X	Signal	33,380	Undivided	0	0	1	None
81.30	University Dr S	17th Ave S	X	Signal	32,378	Undivided	0	0	1	None
81.31	13th Ave S	University Dr S	X	Signal	33,740	Undivided	1	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	3	\$3,600
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$3,600

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$3,240
Local Match (10% of Total project cost) \$360
***Total Project Cost \$3,600**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 32nd Ave S from Veteran's Blvd to I-29

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 810.02
Street Name 32nd Ave S
Urban/Rural: Urban
County: Ramsey
Length 2.1

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
810.05	45th St S	32nd Ave S	X	Signal	18,878	Divided	1	1	1	None
810.06	32nd Ave S	42nd St S	X	Signal	26,318	Divided	0	0	1	None
810.07	32nd Ave S	39th St S	X	Signal	24,595	Divided	0	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	3	\$3,600
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$3,600

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$3,240
Local Match (10% of Total project cost) \$360
***Total Project Cost \$3,600**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 32nd Ave S from I-94 to University Drive South

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 810.03
Street Name 32nd Ave S
Urban/Rural: Urban
County: Ramsey
Length 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 Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
810.08	32nd Ave S	36th St S	X	Signal	26,228	Divided	1	0	1	None
810.09	32nd Ave S	25th St S	X	Signal	34,120	Divided	1	1	1	None
810.10	32nd Ave S	18th St S	X	Signal	18,510	Divided	0	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	3	\$3,600
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$3,600

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$3,240
Local Match (10% of Total project cost) \$360
***Total Project Cost \$3,600**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 13th Ave S from 17th St E (West Fargo) to I-94

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 816.02
Street Name 13th Ave S
Urban/Rural: Urban
County: Ramsey
Length 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 Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
816.07	13th Ave S	45th St S	X	Signal	41,458	Divided	0	0	1	None
816.08	13th Ave S	42nd St S	X	Signal	40,225	Divided	2	0	1	None
816.09	13th Ave S	38th St S	X	Signal	40,670	Divided	0	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	3	\$3,600
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$3,600

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$3,240
Local Match (10% of Total project cost) \$360
***Total Project Cost \$3,600**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 13th Ave S from I-94 to 25th St S

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 816.03
Street Name 13th Ave S
Urban/Rural: Urban
County: Ramsey
Length 1.0

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
816.10	13th Ave S	Fletcher Dr S/ 34th St S	X	Signal	36,910	Divided	0	0	1	None
816.11	13th Ave S	Westrac Dr S	X	Signal	35,870	Divided	0	0	1	None
816.12	13th Ave S	25th St S	X	Signal	42,285	Divided	2	2	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	3	\$3,600
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$3,600

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds \$3,240
Local Match (10% of Total project cost) \$360
***Total Project Cost \$3,600**

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

City of Fargo Ped/Bike Project Summary							
Segment #	Local Name	Cross Street	Projects				Intersection Project Cost
			Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge	
10.23	Main Ave	42nd St S	0	1	0	0	\$ 12,000
	Main Ave	40th Ave S	0	1	0	0	\$ 12,000
	Main Ave	10 Access	0	0	0	0	\$ -
10.24	Main Ave	34th St S	0	1	0	0	\$ 12,000
	Main Ave	27th St S/28th St S	0	1	0	0	\$ 12,000
	Main Ave	25th St S	0	1	0	0	\$ 12,000
	Main Ave	18th St S	0	1	0	0	\$ 12,000
10.25	Main Ave	8th St N	1	1	0	0	\$ 12,000
	Main Ave	Broadway N	1	1	0	0	\$ 12,000
	Main Ave	4th St N/4th St S	1	1	0	0	\$ 12,000
	Main Ave	2nd St N/2nd St S	1	1	0	0	\$ 12,000
81.24	University Dr S	24th Ave S/25th Ave S	0	1	0	0	\$ 12,000
81.25	University Dr S	18th Ave S	1	1	0	0	\$ 12,000
	University Dr S	17th Ave S	1	1	0	0	\$ 12,000
	13th Ave S	University Dr S	0	1	0	0	\$ 12,000
81.26	University Dr S	5th Ave S	0	1	0	0	\$ 12,000
	Main Ave	University Dr S	1	1	0	0	\$ 12,000
81.27	University Dr S	N.P. Ave	0	0	1	0	\$ 36,000
	University Dr S	1st Ave N	1	1	0	0	\$ 12,000
	University Dr S	2nd Ave N	0	0	0	0	\$ -
	University Dr N	3rd Ave N	1	1	0	0	\$ 12,000
	University Dr N	4th Ave N	0	0	0	0	\$ -
	University Dr N	7th Ave N	1	1	0	0	\$ 12,000
	University Dr N	8th Ave N	0	0	2	0	\$ 72,000
University Dr N	12th Ave N	1	1	0	0	\$ 12,000	
81.28	19th Ave N	University Dr N	1	1	0	0	\$ 12,000
81.30	13th Ave S	10th St S	0	1	0	0	\$ 12,000
	10th St S	5th Ave S	0	1	0	0	\$ 12,000
	10th St N	N.P. Ave	1	1	0	0	\$ 12,000
	10th St N	1st Ave N	1	1	0	0	\$ 12,000
	10th St N	2nd Ave N	1	1	0	0	\$ 12,000
	10th St N	3rd Ave N	0	0	1	0	\$ 36,000
	10th St N	4th Ave N	1	1	0	0	\$ 12,000
	10th St N	7th Ave N	1	1	0	0	\$ 12,000
10th St N	12th Ave N	1	1	0	0	\$ 12,000	
81.31	19th Ave N	10th St N	1	1	0	0	\$ 12,000
810.03	32nd Ave S	36th St S	0	1	0	0	\$ 12,000
	32nd Ave S	25th St S	0	1	0	0	\$ 12,000
	32nd Ave S	18th St S	0	1	0	0	\$ 12,000
816.02	13th Ave S	45th St S	0	1	0	0	\$ 12,000
	13th Ave S	42nd St S	0	1	0	0	\$ 12,000
816.02	13th Ave S	38th St S	0	1	0	0	\$ 12,000

City of Fargo Ped/Bike Project Summary							
Segment #	Local Name	Cross Street	Projects				Intersection Project Cost
			Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge	
816.03	13th Ave S	Fletcher Dr S/ 34th St S	0	1	0	0	\$ 12,000
	13th Ave S	Westrac Dr S	0	1	0	0	\$ 12,000
822.01	N.P. Ave	7th St N	0	0	0	0	\$ -
	N.P. Ave	8th St N/Roberts St	1	1	0	0	\$ 12,000
	Broadway N	N.P. Ave	1	1	0	0	\$ 12,000
	N.P. Ave	5th St N	1	1	0	0	\$ 12,000
	N.P. Ave	4th St N	1	1	0	0	\$ 12,000
	N.P. Ave	3rd St N	1	1	0	0	\$ 12,000
	2nd St N	N.P. Ave	1	1	0	0	\$ 12,000
823.03	1st Ave N	7th St N	0	0	0	0	\$ -
	1st Ave N	Roberts St N	1	1	0	0	\$ 12,000
	1st Ave N	Broadway N	1	1	0	0	\$ 12,000
	1st Ave N	5th St N	1	1	0	0	\$ 12,000
	1st Ave N	4th St N	1	1	0	0	\$ 12,000
	1st Ave N	3rd St N	0	0	0	0	\$ -
	1st Ave N	2nd St N	1	1	0	0	\$ 12,000
824.01	2nd Ave N	7th St N	0	0	2	0	\$ 72,000
	2nd Ave N	Roberts St N	1	1	0	0	\$ 12,000
	Broadway N	2nd Ave N	1	1	0	0	\$ 12,000
	2nd Ave N	5th St. N	0	0	3	0	\$ 108,000
	4th St S	2nd Ave N	1	1	0	1	\$ 36,000
830.02	19th Ave N	Broadway N	1	1	0	0	\$ 12,000
	Elm St N	19th Ave N	0	0	0	0	\$ -
846.01	25th St S	25th Ave S	0	0	0	0	\$ -
	25th St S	23rd Ave S	0	0	0	0	\$ -
	25th St S	18th St S	0	0	0	0	\$ -
846.02	25th St S	20th Ave S	0	0	0	0	\$ -
	25th St S	17th Ave S	0	0	0	0	\$ -
	13th Ave S	25th St S	0	1	0	0	\$ 12,000
	25th St S	5th Ave S	0	1	0	0	\$ 12,000
	25th St N	1st Ave N	0	1	0	0	\$ 12,000
	7th Ave N	25th St N	0	1	0	0	\$ 12,000
	25th St N	Great Northern Dr N	0	0	0	0	\$ -
12th Ave N	25th St N	0	0	0	0	\$ -	
854.02	Broadway N	6th Ave N	1	1	0	0	\$ 12,000

23 USC 409
 NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Pedestrian and Bicycle Intersection Improvements

Intersections on Main Ave from 45th St S/N to I-29 Interchange

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 10.23
Street Name Main Ave
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 37,563

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
10.29	Main Ave	42nd St S	Signal	26,070	No	0	0	1	0	0	Low PED traffic, no Advanced Walk
10.3	Main Ave	40th Ave S	Signal	29,025	Yes	3	0	1	0	0	Low PED traffic, no Advanced Walk
10.31	Main Ave	10 Access	Signal	31,923	Yes	0	0	0	0	0	Intersection with ramp terminal

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	0	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	2	\$24,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$24,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$21,600
Local Match (10% of Total project cost)	\$2,400
*Total Project Cost	\$24,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Main Ave from I-29 Interchange to 10th St (US 81)

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 10.24
Street Name Main Ave
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 23,415

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
10.32	Main Ave	34th St S	Signal	26,830	No	1	0	1	0	0	Low PED traffic, no Advanced Walk
10.33	Main Ave	27th St S/28th St S	Signal	24,268	No	0	0	1	0	0	Low PED traffic, no Advanced Walk
10.34	Main Ave	25th St S	Signal	40,263	No	1	0	1	0	0	Low PED traffic, no Advanced Walk
10.35	Main Ave	18th St S	Signal	22,008	No	0	0	1	0	0	Low PED traffic, no Advanced Walk

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	0	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	4	\$48,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$48,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$43,200
Local Match (10% of Total project cost)	\$4,800
*Total Project Cost	\$48,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Main Ave from 10th St (US 81) to ND/MN Border

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 10.25
Street Name Main Ave
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 20,505

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
10.36	Main Ave	8th St N	Signal	20,860	Yes	0	1	1	0	0	None
10.37	Main Ave	Broadway N	Signal	19,745	Yes	3	1	1	0	0	None
10.38	Main Ave	4th St N/4th St S	Signal	21,643	Yes	3	1	1	0	0	None
10.39	Main Ave	2nd St N/2nd St S	Signal	27,993	Yes	1	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	4	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	4	\$48,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$48,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$43,200
Local Match (10% of Total project cost)	\$4,800
*Total Project Cost	\$48,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from 32nd Ave S to I-94 Interchange

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.24
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 27,339

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
81.28	University Dr S	24th Ave S/25th Ave S	Signal	35,265	Yes	1	0	1	0	0	Low PED traffic, no Advanced Walk

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	0	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	1	\$12,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$12,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$10,800
Local Match (10% of Total project cost)	\$1,200
*Total Project Cost	\$12,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from I-94 Interchange to 13th Ave S

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.25
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 28,217

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
81.29	University Dr S	18th Ave S	Signal	33,380	Yes	1	1	1	0	0	None
81.3	University Dr S	17th Ave S	Signal	32,378	Yes	3	1	1	0	0	None
81.31	13th Ave S	University Dr S	Signal	33,740	No	0	0	1	0	0	Low PED traffic, no Advanced Walk

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	2	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	3	\$36,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$36,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$32,400
Local Match (10% of Total project cost)	\$3,600
*Total Project Cost	\$36,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from 13th Ave S to Main Ave

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.26
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 12,833

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
81.32	University Dr S	5th Ave S	Signal	16,980	No	1	0	1	0	0	Low PED traffic, no Advanced Walk
81.33	Main Ave	University Dr S	Signal	35,448	No	7	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	2	\$24,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$24,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$21,600
Local Match (10% of Total project cost)	\$2,400
*Total Project Cost	\$24,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from Main Ave to 12th Ave N

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.27
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 13,944

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
81.34	University Dr S	N.P. Ave	Thru-STOP	19,683	Yes	2	0	0	1	0	None
81.35	University Dr S	1st Ave N	Signal	22,078	Yes	1	1	1	0	0	None
81.36	University Dr S	2nd Ave N	Thru-STOP	15,515	Yes	1	0	0	0	0	None
81.37	University Dr N	3rd Ave N	Signal	16,900	Yes	2	1	1	0	0	None
81.38	University Dr N	4th Ave N	Thru-STOP	16,090	Yes	2	0	0	0	0	None
81.39	University Dr N	7th Ave N	Signal	23,690	Yes	3	1	1	0	0	None
81.4	University Dr N	8th Ave N	Thru-STOP	16,298	Yes	1	0	0	2	0	None
81.41	University Dr N	12th Ave N	Signal	17,498	Yes	2	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	4	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	4	\$48,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	3	\$108,000
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$156,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$140,400
Local Match (10% of Total project cost)	\$15,600
*Total Project Cost	\$156,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 University Dr from 12th Ave N to 19th Ave N

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.28
Street Name University Dr
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 9,419

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
81.42	19th Ave N	University Dr N	Signal	27,563	Yes	2	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	1	\$12,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$12,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$10,800
Local Match (10% of Total project cost)	\$1,200
*Total Project Cost	\$12,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 10th St S/N from 13th Ave S to 12th Ave N

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.3
Street Name 10th St S/N
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 10,874

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
81.45	13th Ave S	10th St S	Signal	17,225	No	0	0	1	0	0	Low PED traffic, no Advanced Walk
81.46	10th St S	5th Ave S	Signal	15,215	No	1	0	1	0	0	Low PED traffic, no Advanced Walk
81.48	10th St N	N.P. Ave	Signal	16,495	Yes	1	1	1	0	0	None
81.49	10th St N	1st Ave N	Signal	16,233	Yes	2	1	1	0	0	None
81.5	10th St N	2nd Ave N	Signal	16,050	Yes	0	1	1	0	0	None
81.51	10th St N	3rd Ave N	Thru-STOP	14,118	Yes	0	0	0	1	0	None
81.52	10th St N	4th Ave N	Signal	16,543	Yes	1	1	1	0	0	None
81.53	10th St N	7th Ave N	Signal	20,768	Yes	3	1	1	0	0	None
81.54	10th St N	12th Ave N	Signal	15,018	Yes	0	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria	Description	Unit Cost	Quantity	Total Cost
Traffic Control Device Signal	Advanced Walk	\$0 per intersection	6	\$0
Entering ADT > 18000	Countdown Timers	\$12,000 per intersection	8	\$96,000
Development / Ped Generator Yes	Curb Extensions	\$36,000 per corner	1	\$36,000
Total Ped/Bike Crashes > 0	Median Refuge Island	\$24,000 per side	0	\$0
				\$132,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$118,800
Local Match (10% of Total project cost)	\$13,200
*Total Project Cost	\$132,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 10th St N from 12th Ave N to 19th Ave N

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 81.31
Street Name 10th St N
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 7,763

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
81.55	19th Ave N	10th St N	Signal	17,183	Yes	1	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	1	\$12,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$12,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$10,800
Local Match (10% of Total project cost)	\$1,200
*Total Project Cost	\$12,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 32nd Ave S from I-94 to University Drive South

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 810.03
Street Name 32nd Ave S
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 17,863

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
810.08	32nd Ave S	36th St S	Signal	26,228	No	0	0	1	0	0	Low PED traffic, no Advanced Walk
810.09	32nd Ave S	25th St S	Signal	34,120	Yes	1	0	1	0	0	Low PED traffic, no Advanced Walk
810.1	32nd Ave S	18th St S	Signal	18,510	No	1	0	1	0	0	Low PED traffic, no Advanced Walk

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	0	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	3	\$36,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$36,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$32,400
Local Match (10% of Total project cost)	\$3,600
*Total Project Cost	\$36,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 13th Ave S from 17th St E (West Fargo) to I-94

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 816.02
Street Name 13th Ave S
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 23,917

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
816.07	13th Ave S	45th St S	Signal	41,458	Yes	1	0	1	0	0	Low PED traffic, no Advanced Walk
816.08	13th Ave S	42nd St S	Signal	40,225	Yes	1	0	1	0	0	Low PED traffic, no Advanced Walk
816.09	13th Ave S	38th St S	Signal	40,670	Yes	2	0	1	0	0	Low PED traffic, no Advanced Walk

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	0	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	3	\$36,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$36,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$32,400
Local Match (10% of Total project cost)	\$3,600
*Total Project Cost	\$36,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 13th Ave S from I-94 to 25th St S

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 816.03
Street Name 13th Ave S
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 31,069

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
816.1	13th Ave S	Fletcher Dr S/ 34th St S	Signal	36,910	Yes	3	0	1	0	0	Low PED traffic, no Advanced Walk
816.11	13th Ave S	Westrac Dr S	Signal	35,870	Yes	2	0	1	0	0	Low PED traffic, no advanced walk

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	0	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	2	\$24,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$24,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$21,600
Local Match (10% of Total project cost)	\$2,400
*Total Project Cost	\$24,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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.P. Ave N from 1st Ave N to ND/MN Border

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 822.01
Street Name N.P. Ave N
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 6,000

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
822.01	N.P. Ave	7th St N	Thru-STOP	5,170	Yes	0	0	0	0	0	None
822.02	N.P. Ave	8th St N/Roberts St	Signal	8,195	Yes	1	1	1	0	0	Recently reconstructed
822.04	Broadway N	N.P. Ave	Signal	11,153	Yes	1	1	1	0	0	Recently reconstructed
822.05	N.P. Ave	5th St N	Signal	7,033	Yes	2	1	1	0	0	Recently reconstructed
822.06	N.P. Ave	4th St N	Signal	12,335	Yes	3	1	1	0	0	Recently reconstructed
822.07	N.P. Ave	3rd St N	Signal	6,768	Yes	0	1	1	0	0	Recently reconstructed
822.08	2nd St N	N.P. Ave	Signal	16,895	Yes	1	1	1	0	0	Recently reconstructed

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	6	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	6	\$72,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$72,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$64,800
Local Match (10% of Total project cost)	\$7,200
*Total Project Cost	\$72,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 1st Ave N from N.P. Ave N to ND/MN Border

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 823.03
Street Name 1st Ave N
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 8,000

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
823.07	1st Ave N	7th St N	Thru-STOP	6,700	Yes	1	0	0	0	0	Recently reconstructed
823.08	1st Ave N	Roberts St N	Signal	10,230	Yes	2	1	1	0	0	Recently reconstructed
823.09	1st Ave N	Broadway N	Signal	14,325	Yes	2	1	1	0	0	Recently reconstructed
823.1	1st Ave N	5th St N	Signal	9,175	Yes	0	1	1	0	0	Recently reconstructed
823.11	1st Ave N	4th St N	Signal	13,460	Yes	1	1	1	0	0	Recently reconstructed
823.12	1st Ave N	3rd St N	Thru-STOP	7,893	Yes	0	0	0	0	0	Recently reconstructed
823.13	1st Ave N	2nd St N	Signal	20,628	Yes	1	1	1	0	0	Recently reconstructed

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	5	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	5	\$60,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$60,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$54,000
Local Match (10% of Total project cost)	\$6,000
*Total Project Cost	\$60,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 2nd Ave N from University Drive North to 4th St N

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 824.01
Street Name 2nd Ave N
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 3,566

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
824.01	2nd Ave N	7th St N	Thru-STOP	5,000	Yes	1	0	0	2	0	None
824.02	2nd Ave N	Roberts St N	Signal	7,165	Yes	1	1	1	0	0	None
824.03	Broadway N	2nd Ave N	Signal	9,458	Yes	0	1	1	0	0	None
824.04	2nd Ave N	5th St. N	All-way STOP	3,400	Yes	0	0	0	3	0	None
824.05	4th St S	2nd Ave N	Signal	7,725	Yes	2	1	1	0	1	Inadequate room for median refuge on

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	3	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	3	\$36,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	5	\$180,000
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	1	\$24,000
					\$240,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$216,000
Local Match (10% of Total project cost)	\$24,000
*Total Project Cost	\$240,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 19th Ave N from 10th St N to Elm St N

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 830.02
Street Name 19th Ave N
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 6,981

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
830.03	19th Ave N	Broadway N	Signal	15,738	Yes	1	1	1	0	0	None
830.04	Elm St N	19th Ave N	All-way STOP	8,940	Yes	1	0	0	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	1	\$12,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$12,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$10,800
Local Match (10% of Total project cost)	\$1,200
*Total Project Cost	\$12,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

Notes area for project details.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Pedestrian and Bicycle Intersection Improvements

Intersections on 25th St S from I-94 to 12th Ave N

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 846.02
Street Name 25th St S
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 13,701

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
814.04	25th St S	20th Ave S	Signal	28,475	Yes	1	0	0	0	0	Reconstruct - 2014, no project
815.1	25th St S	17th Ave S	Signal	32,293	No	3	0	0	0	0	Reconstruct - 2014, no project
816.12	13th Ave S	25th St S	Signal	42,285	Yes	3	0	1	0	0	Low PED traffic, no Advanced Walk
818.08	25th St S	5th Ave S	Signal	24,875	Yes	1	0	1	0	0	Low PED traffic, no Advanced Walk
823.05	25th St N	1st Ave N	Signal	17,738	No	0	0	1	0	0	Low PED traffic, no Advanced Walk
827.07	7th Ave N	25th St N	Signal	18,545	Yes	2	0	1	0	0	Low PED traffic, no Advanced Walk
828.01	25th St N	Great Northern Dr N	Thru-STOP	4,370	No	0	0	0	0	0	None
294.02	12th Ave N	25th St N	Signal	7,778	Yes	0	0	0	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	0	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	4	\$48,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$48,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$43,200
Local Match (10% of Total project cost)	\$4,800
*Total Project Cost	\$48,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

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 Roberts St N/6th Ave from (Just North of N.P. Ave) to Broadway

Agency Name: City of Fargo
Contact Name: Jeremy Gorden
Email Address: jgorden@cityoffargo.com

ND DOT District: 8
Telephone Number: 701-241-1545

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

Location Description

Corridor 854.02
Street Name Roberts St N/6th Ave
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 3,441

- 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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
854.02	Broadway N	6th Ave N	Signal	7,538	Yes	3	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria		Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal	Advanced Walk	\$0 per intersection	1	\$0
Entering ADT	> 18000	Countdown Timers	\$12,000 per intersection	1	\$12,000
Development / Ped Generator	Yes	Curb Extensions	\$36,000 per corner	0	\$0
Total Ped/Bike Crashes	> 0	Median Refuge Island	\$24,000 per side	0	\$0
					\$12,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$10,800
Local Match (10% of Total project cost)	\$1,200
*Total Project Cost	\$12,000

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

23 USC 409
NDDOT Reserves All Objections

City of West Fargo
Urban Segment Listing

23 USC 409
NDDOT Reserves All Objections

Seg #	Sys	Local Name	Start	End	Length	ADT	Multi-Lane	Access Density	Major Speed Limit	Total Severe Rear End / Sideswipe / Head On Crash	Crash Cost
10.21	US 10	Main Ave	Interchange with I-94	Intersection with 9th St E	2.6	10,080	Yes	19.38	30	0	\$ 3,002,000
10.22	US 10	Main Ave	Intersection with 9th St E	Intersection with 45th St S	1.0	15,845	Yes	8.95	40	0	\$ 2,382,000
807.01	No designation	40th Ave W	15th St W	Sheyene St	1.1	3,190	No	5.46	40	0	\$ 989,000
808.01	No designation	38th Ave W	9th St W	Sheyene St	0.5	1,735	No	48.25	25	0	\$ 115,000
810.01	No designation	32nd Ave W	9th St W	Veteran's Blvd	1.5	3,732	No	6.61	40	0	\$ 1,527,000
814.01	No designation	Beaton Rd	Sheyene St	9th St E	1.5	886	No	6.71	30	0	\$ 127,000
815.01	No designation	17th Ave W	Sheyene St	16th St E	1.5	4,297	No	15.37	30	0	\$ 979,000
816.01	No designation	13th Ave W	15th St NW	17th St E	2.5	7,478	Yes	12.18	25	0	\$ 4,199,000
817.01	No designation	10th Ave E	9th St E	17th St E	0.5	1,065	No	31.94	25	0	\$ 48,000
818.01	No designation	7th Ave W	8th St W	17th St E	2.0	3,396	No	62.39	25	0	\$ 2,638,000
819.01	No designation	4th Ave W	Sheyene St	9th St E	1.0	2,371	No	93.67	25	0	\$ 750,000
820.01	No designation	10 Access	11th St W	Morrison St W	0.6	381	No	36.42	25	0	\$ 60,000
820.02	No designation	10 Access	Main Ave (E of Sheyenne St)	Main Ave (W of 1st St E)	0.2	380	No	50.98	25	0	\$ 12,000
820.03	No designation	10 Access	Main Ave (E of 1st St E)	Main Ave (W of 3rd St E)	0.1	395	No	36.34	25	0	\$ 263,000
820.04	No designation	10 Access	Main Ave (E of 3rd St E)	Main Ave (W of 4th St E)	0.1	529	No	28.47	25	0	\$ -
820.05	No designation	10 Access	4th St E	(Dead End)	0.1	529	No	16.46	25	0	\$ 12,000
820.06	No designation	10 Access	5th St E	12th St E	0.6	760	No	31.07	25	0	\$ 539,000
820.07	No designation	10 Access	17th St E	Frontage Rd	0.4	360	No	22.16	25	0	\$ 127,000
821.01	No designation	10 Access	21st St NW	Main Ave (E of 12th St NW)	0.9	485	No	32.78	25	0	\$ 230,000
821.02	No designation	10 Access	Main Ave (E of 12th St NW)	6th St NW	0.5	304	No	28.34	25	0	\$ 127,000
821.03	No designation	10 Access	(Dead End)	45th St NW	1.3	435	No	22.23	25	0	\$ 48,000
827.01	No designation	7th Ave N	Center St	45th St N	1.8	3,226	No	13.33	35	0	\$ 520,000
829.01	No designation	12th Ave NE	9th St NW/Cass County 19	9th St NE	1.6	4,409	No	11.21	40	0	\$ 1,362,000
834.01	No designation	15th St W	13th Ave W	Main Ave	1.0	771	No	11.06	40	0	\$ 184,000
835.01	No designation	9th St W	47th Ave W	32nd Ave W	2.4	1,588	No	6.69	25	0	\$ 163,000
835.02	No designation	8th St W	13th Ave W	Main Ave	1.0	2,869	No	38.43	25	0	\$ 783,000
835.03	No designation	9th St NW	Main Ave	12th Ave NW	1.0	2,607	No	12.57	30	0	\$ 769,000
836.01	No designation	Sheyene St	52nd Ave	I-94	3.2	7,343	No	7.83	40	0	\$ 2,953,000
836.02	No designation	Sheyene St	I-94	Main Ave	1.9	7,400	No	49.85	30	1	\$ 3,209,000
836.03	No designation	Cass 17	12th Ave N	19th Ave N	1.0	3,065	No	12.90	55	0	\$ 275,000
837.02	No designation	1st St E/Center St	4th Ave E	12th Ave NE	1.2	3,776	No	30.52	25	0	\$ 888,000
838.01	No designation	6th St E	17th Ave E	7th Ave E	1.1	1,450	No	67.00	25	0	\$ 586,000
839.02	No designation	9th St E/Veteran's Blvd	I-94	12th Ave NE	3.0	7,776	No	14.49	30	1	\$ 9,361,000
840.01	No designation	16th St E	17th Ave E	13th Ave E	0.5	2,225	No	35.97	25	0	\$ 544,000
840.02	No designation	17th St E	13th Ave E	Main Ave	1.0	4,129	No	39.05	25	0	\$ 2,301,000

42.1

	Min	Max
ADT	6000	5000000
Multi-Lane	Yes	
Access Density	30	5000
Major Speed Limit	0	40

City of West Fargo
Urban Segment Prioritization

23 USC 409
NDDOT Reserves All Objections

Rank	Seg #	Sys	Local Name	Start	End	Length	ADT	Multi-Lane	Access Density	Speed Limit	Severe Rear End or Head-on Crash	Sideswipe	Tiebreakers		
													Priority	Crash Cost	Access Density
1	836.02	No designation	Sheyene St	I-94	Main Ave	1.9	*		*	*	*		****	\$3,209,000	49.9
2	839.02	No designation	9th St E/Veteran's Blvd	I-94	12th Ave NE	3.0	*		*	*	*		****	\$9,361,000	14.5
3	816.01	No designation	13th Ave W	15th St NW	17th St E	2.5	*	*	*	*	*		****	\$4,199,000	12.2
4	10.21	US 10	Main Ave	Interchange with I-94	Intersection with 9th St E	2.6	*	*	*	*	*		****	\$3,002,000	19.4
5	10.22	US 10	Main Ave	Intersection with 9th St E	Intersection with 45th St S	1.0	*	*	*	*	*		****	\$2,382,000	9.0
6	836.01	No designation	Sheyene St	52nd Ave	I-94	3.2	*		*	*	*		**	\$2,953,000	7.8
7	818.01	No designation	7th Ave W	8th St W	17th St E	2.0			*	*	*		**	\$2,638,000	62.4
8	840.02	No designation	17th St E	13th Ave E	Main Ave	1.0			*	*	*		**	\$2,301,000	39.1
9	837.02	No designation	1st St E/Center St	4th Ave E	12th Ave NE	1.2			*	*	*		**	\$888,000	30.5
10	835.02	No designation	8th St W	13th Ave W	Main Ave	1.0			*	*	*		**	\$783,000	38.4
11	819.01	No designation	4th Ave W	Sheyene St	9th St E	1.0			*	*	*		**	\$750,000	93.7
12	838.01	No designation	6th St E	17th Ave E	7th Ave E	1.1			*	*	*		**	\$586,000	67.0
13	840.01	No designation	16th St E	17th Ave E	13th Ave E	0.5			*	*	*		**	\$544,000	36.0
14	820.06	No designation	10 Access	5th St E	12th St E	0.6			*	*	*		**	\$539,000	31.1
15	820.03	No designation	10 Access	Main Ave (E of 1st St E)	Main Ave (W of 3rd St E)	0.1			*	*	*		**	\$263,000	36.3
16	821.01	No designation	10 Access	21st St NW	Main Ave (E of 12th St NW)	0.9			*	*	*		**	\$230,000	32.8
17	808.01	No designation	38th Ave W	9th St W	Sheyene St	0.5			*	*	*		**	\$115,000	48.2
18	820.01	No designation	10 Access	11th St W	Morrison St W	0.6			*	*	*		**	\$60,000	36.4
19	817.01	No designation	10th Ave E	9th St E	17th St E	0.5			*	*	*		**	\$48,000	31.9
20	820.02	No designation	10 Access	Main Ave (E of Sheyenne St)	Main Ave (W of 1st St E)	0.2			*	*	*		**	\$12,000	51.0
21	810.01	No designation	32nd Ave W	9th St W	Veteran's Blvd	1.5				*	*		*	\$1,527,000	6.6
22	829.01	No designation	12th Ave NE	9th St NW/Cass County 19	9th St NE	1.6				*	*		*	\$1,362,000	11.2
23	807.01	No designation	40th Ave W	15th St W	Sheyene St	1.1				*	*		*	\$989,000	5.5
24	815.01	No designation	17th Ave W	Sheyene St	16th St E	1.5				*	*		*	\$979,000	15.4
25	835.03	No designation	9th St NW	Main Ave	12th Ave NW	1.0				*	*		*	\$769,000	12.6
26	827.01	No designation	7th Ave N	Center St	45th St N	1.8				*	*		*	\$520,000	13.3
27	834.01	No designation	15th St W	13th Ave W	Main Ave	1.0				*	*		*	\$184,000	11.1
28	835.01	No designation	9th St W	47th Ave W	32nd Ave W	2.4				*	*		*	\$163,000	6.7
29	821.02	No designation	10 Access	Main Ave (E of 12th St NW)	6th St NW	0.5				*	*		*	\$127,000	28.3
30	820.07	No designation	10 Access	17th St E	Frontage Rd	0.4				*	*		*	\$127,000	22.2
31	814.01	No designation	Beaton Rd	Sheyene St	9th St E	1.5				*	*		*	\$127,000	6.7
32	821.03	No designation	10 Access	(Dead End)	45th St NW	1.3				*	*		*	\$48,000	22.2
33	820.05	No designation	10 Access	4th St E	(Dead End)	0.1				*	*		*	\$12,000	16.5
34	820.04	No designation	10 Access	Main Ave (E of 3rd St E)	Main Ave (W of 4th St E)	0.1				*	*		*	\$0	28.5
35	836.03	No designation	Cass 17	12th Ave N	19th Ave N	1.0				*	*		*	\$275,000	12.9

Totals	#	%	Miles	%
*****	0	0%	0.0	0%
*****	0	0%	0.0	0%
****	1	3%	1.9	5%
***	4	11%	9.1	22%
**	15	43%	14.3	35%
*	14	40%	15.8	38%
-	1	3%	0.0	0%
	35	100%	41.1	100%

Total Stars -- 6 3 15 34 2
 % That Gets Star -- 17% 9% 43% 97% 6%

Stars

- If segment has a major entering ADT greater than or equal to 6000 vpd.
- If segment has lanes greater than or equal to Yes.
- If segment has an access density > 30.
- If segment has a speed less than or equal to 40 mph.
- If segment has at least 1 severe rear end or sideswipe or head on crash.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Sheyene St from I-94 to Main Ave Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 836.02 Local Road Name: Sheyene St Start: I-94 End: Main Ave City/Rural: Urban County: Ramsey	ADT: 7400 Lanes: 3 Access Density: 50 Speed Limit: 30 Length (miles): 1.90567267	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	7,400	≥ 10,000	★
Major Approach Lanes:	3	≥ 4	
Access Density:	50	≥ 30	★
Speed Limit:	30	≤ 40	★
Severe Rear End / Sideswipe / Head On Crashes:	0	> 1	★
			★★★★

Describe Proposed Safety Improvements

Description	Type	Cost per mi / #	Mileage / #	Cost	Notes - Do not convert North of 13th Ave W - already 3-lane.
3-Lane Conversion	Proactive	\$30,000	0.8	\$22,868	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$20,581
Local Match (10% of Total project cost)	\$2,287
*Total Project Cost	\$22,868

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Sheyene St from 52nd Ave to I-94 Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 836.01 Local Road Name: Sheyene St Start: 52nd Ave End: I-94 City/Rural: Urban County: Ramsey	ADT: 7343 Lanes: 2 Access Density: 8 Speed Limit: 40 Length (miles): 3.193306739	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	7,343	≥ 10,000	★
Major Approach Lanes:	2	≥ 4	
Access Density:	8	≥ 30	
Speed Limit:	40	≤ 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	Proactive	\$30,000	3.2	\$95,799	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future					No

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$86,219
Local Match (10% of Total project cost)	\$9,580
*Total Project Cost	\$95,799

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

7th Ave W from 8th St W to 17th St E Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 818.01 Local Road Name: 7th Ave W Start: 8th St W End: 17th St E City/Rural: Urban County: Ramsey	ADT: 3396 Lanes: 2 Access Density: 62 Speed Limit: 25 Length (miles): 1.955467573	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	3,396	≥ 10,000	
Major Approach Lanes:	2	≥ 4	
Access Density:	62	≥ 30	★
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 - Do not convert West of Sheyenne St - inadequate room
3-Lane Conversion	Proactive	\$30,000	1.1	\$32,265	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$29,039
Local Match (10% of Total project cost)	\$3,227
*Total Project Cost	\$32,265

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

17th St E from 13th Ave E to Main Ave Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 840.02 Local Road Name: 17th St E Start: 13th Ave E End: Main Ave City/Rural: Urban County: Ramsey	ADT: 4129 Lanes: 2 Access Density: 39 Speed Limit: 25 Length (miles): 0.998676269	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	4,129	≥ 10,000	
Major Approach Lanes:	2	≥ 4	
Access Density:	39	≥ 30	★
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 - Do not convert North of 2nd Ave E - inadequate room
3-Lane Conversion	Proactive	\$30,000	0.8	\$23,968	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$21,571
Local Match (10% of Total project cost)	\$2,397
*Total Project Cost	\$23,968

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

1st St E/Center St from 4th Ave E to 12th Ave NE Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 837.02 Local Road Name: 1st St E/Center St Start: 4th Ave E End: 12th Ave NE City/Rural: Urban County: Ramsey	ADT: 3776 Lanes: 2 Access Density: 31 Speed Limit: 25 Length (miles): 1.245214972	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	3,776	≥ 10,000	
Major Approach Lanes:	2	≥ 4	
Access Density:	31	≥ 30	★
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	Proactive	\$30,000	1.2	\$37,356	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$33,621
Local Match (10% of Total project cost)	\$3,736
*Total Project Cost	\$37,356

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

8th St W from 13th Ave W to Main Ave Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 835.02 Local Road Name: 8th St W Start: 13th Ave W End: Main Ave City/Rural: Urban County: Ramsey	ADT: 2869 Lanes: 2 Access Density 38 Speed Limit: 25 Length (miles): 1.014741312	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	2,869	≥ 10,000	
Major Approach Lanes:	2	≥ 4	
Access Density:	38	≥ 30	★
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	Proactive	\$30,000	1.0	\$30,442	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$27,398
Local Match (10% of Total project cost)	\$3,044
*Total Project Cost	\$30,442

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

16th St E from 17th Ave E to 13th Ave E Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 840.01 Local Road Name: 16th St E Start: 17th Ave E End: 13th Ave E City/Rural: Urban County: Ramsey	ADT: 2225 Lanes: 2 Access Density 36 Speed Limit: 25 Length (miles): 0.500354077	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	2,225	≥ 10,000	
Major Approach Lanes:	2	≥ 4	
Access Density:	36	≥ 30	★
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	Proactive	\$30,000	0.5	\$15,011	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$13,510
Local Match (10% of Total project cost)	\$1,501
*Total Project Cost	\$15,011

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

10th Ave E from 9th St E to 17th St E Project

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Number: 817.01 Local Road Name: 10th Ave E Start: 9th St E End: 17th St E City/Rural: Urban County: Ramsey	ADT: 1065 Lanes: 2 Access Density 32 Speed Limit: 25 Length (miles): 0.500938602	SHSP Emphasis Area (check all that apply) <input type="checkbox"/> Reduce Alcohol Impaired Driving <input type="checkbox"/> Increase the Use of Safety Restraints for all Occupants <input type="checkbox"/> Younger Driver/Older Driver Safety <input type="checkbox"/> Curb Aggressive Driving <input type="checkbox"/> Improvements to Address Lane Departure Crashes <input type="checkbox"/> Enhancing Emergency Medical Capabilities to Increase <input checked="" type="checkbox"/> Improve Intersection Safety
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Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012

5 years

Crashes	K+A
Rear End	0
Sideswipe Passing	0
Head On	0
Sideswipe Opposing	0
	0

	Value	Critical	Star Ranking
ADT:	1,065	≥ 10,000	
Major Approach Lanes:	2	≥ 4	
Access Density:	32	≥ 30	★
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	Proactive	\$30,000	0.5	\$15,028	
5-Lane Conversion	Proactive	\$42,000	0.0	\$0	
Signal Revisions	Proactive	\$30,000	0	\$0	
Consider Access Management in the Future				Yes	

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$13,525
Local Match (10% of Total project cost)	\$1,503
*Total Project Cost	\$15,028

*Based on typical NDDOT costs (March 2014); includes engineering, construction and contingency

NDDOT Central Office Only

Project Accepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Reference Number		ID Number	
Notes					

City of West Fargo Right Angle Project Summary					
Segment #	Local Name	Cross Street	Projects		Project Cost
			Access Management	Confirmation Lights	
10.21	Main Ave W	15th St NW	0	0	\$ 3,600
	Main Ave W	9th St NW	0	0	
	Main Ave W	8th St W	0	0	
	Main Ave W	Sheyenne St	0	1	
	Main Ave W/E	1st St	0	1	
	Main Ave E	9th St E	0	1	
10.22	Main Ave E	17th St E	0	0	\$ 1,200
	Main Ave E	45th St S	0	1	
816.01	13th Ave W	8th St W	0	0	\$ 4,800
	13th Ave W	Sheyenne St	0	1	
	13th Ave E	6th St E	0	1	
	13th Ave E	9th St E	0	1	
	13th Ave E	17th St E	0	0	
	13th Ave E/S	17th St E	0	1	

23 USC 409
 NDDOT Reserves All Objections

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 Main Ave W from Interchange with I-94 to Intersection with 9th St E

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Corridor 10.21
Street Name Main Ave W
Urban/Rural: Urban
County: Ramsey
Length 2.6

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
10.21	Main Ave W	15th St NW	X	Thru-STOP	6,380	Undivided	0	0	0	Access is already adequately managed
10.22	Main Ave W	9th St NW	X	Thru-STOP	6,479	Undivided	0	0	0	Access is already adequately managed
10.23	Main Ave W	8th St W	X	Thru-STOP	8,437	Undivided	0	0	0	Access is already adequately managed
10.24	Main Ave W	Sheyenne St	T	Signal	16,405	Undivided	0	0	1	None
10.25	Main Ave W/E	1st St	X	Signal	18,608	Undivided	0	0	1	None
10.26	Main Ave E	9th St E	X	Signal	19,488	Undivided	0	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	3	\$3,600
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$3,600

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$3,240
Local Match (10% of Total project cost)	\$360
Total Project Cost	\$3,600

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 Main Ave W from Intersection with 9th St E to Intersection with 45th St S

Agency Name: City of West Fargo

ND DOT District: 8

Contact Name: Chris Brungardt

Telephone Number: 701.433.5402

Email Address: Chris.Brungardt@westfargond.gov

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

Location Description

Corridor 10.22
Street Name Main Ave W
Urban/Rural: Urban
County: Ramsey
Length 1.0

- 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	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
10.27	Main Ave E	17th St E	X	Thru-STOP	17,685	Undivided	0	0	0	Access is already adequately managed
10.28	Main Ave E	45th St S	X	Signal	35,620	Divided	1	0	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	1	\$1,200
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$1,200

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$1,080
Local Match (10% of Total project cost)	\$120
Total Project Cost	\$1,200

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 13th Ave W from 15th St NW to 17th St E

Agency Name: City of West Fargo

Contact Name: Chris Brungardt

Email Address: Chris.Brungardt@westfargond.gov

ND DOT District: 8

Telephone Number: 701.433.5402

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

Location Description

Corridor 816.01
Street Name 13th Ave W
Urban/Rural: Urban
County: Ramsey
Length 2.5

- 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 Proposed Safety Improvements

Intersection ID	Street Name	Cross Street	Config	Traffic Control	Entering ADT	Major Config	Severe Crashes	Severe RA Crashes	Confirmation Lights	Notes
816.01	13th Ave W	8th St W	X	All-way STOP	5,675	Divided	0	0	0	Access is already adequately managed
816.02	13th Ave W	Sheyenne St	X	Signal	13,828	Undivided	0	0	1	None
816.03	13th Ave E	6th St E	X	Signal	11,900	Undivided	0	0	1	None
816.04	13th Ave E	9th St E	X	Signal	24,475	Divided	3	1	1	None
816.05	13th Ave E	17th St E	X	Thru-STOP	15,673	Divided	0	0	0	Access is already adequately managed
816.06	13th Ave E/S	17th St E	X	Signal	18,740	Divided	2	2	1	None

Describe Current Safety Issues & Systemic Ranking Review

Intersection Criteria		North Dakota Crashes, 2008 - 2012		5 years	
Traffic Control Device	Signal	Description	Unit Cost	Quantity	Total Cost
Entering ADT	> 18000	Confirmation Lights	\$1,200 per intersection	4	\$4,800
Road Geometry	Divided	Unsignalized and Divided Access Management	\$360,000 per mile	0.0	\$0
Severe Crashes	> 0	*Corridor includes miles of divided roadway.			\$4,800

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$4,320
Local Match (10% of Total project cost)	\$480
Total Project Cost	\$4,800

NDDOT Central Office Only

Project Accepted? Yes No Reference Number ID Number

Notes

City of West Fargo Ped/Bike Project Summary							
Segment #	Local Name	Cross Street	Projects				Intersection Project Cost
			Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge	
816.01	13th Ave W	8th St W	0	0	0	0	\$ -
	13th Ave W	Sheyenne St	1	1	0	0	\$ 12,000
	13th Ave E	6th St E	1	1	0	0	\$ 12,000
	13th Ave E	9th St E	1	1	0	0	\$ 12,000
	13th Ave E	17th St E	0	0	0	0	\$ -
	13th Ave E/S	17th St E	1	1	0	0	\$ 12,000

23 USC 409
 NDDOT Reserves All Objections

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

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

Pedestrian and Bicycle Intersection Improvements

Intersections on 13th Ave W from 15th St NW to 17th St E

Agency Name: City of West Fargo
Contact Name: Chris Brungardt
Email Address: Chris.Brungardt@westfargond.gov

ND DOT District: 8
Telephone Number: 701.433.5402

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

Location Description

Corridor 816.01
Street Name 13th Ave W
Urban/Rural: Urban
County: Ramsey
Corridor ADT: 7,478

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	Traffic Control	Entering ADT	Development / Ped Generator	Total Ped/Bike Crashes	Advanced Walk	Countdown Timers	Curb Extensions	Median Refuge Island	Notes
816.01	13th Ave W	8th St W	All-way STOP	5,675	No	0	0	0	0	0	None
816.02	13th Ave W	Sheyenne St	Signal	13,828	No	0	1	1	0	0	None
816.03	13th Ave E	6th St E	Signal	11,900	Yes	1	1	1	0	0	None
816.04	13th Ave E	9th St E	Signal	24,475	Yes	3	1	1	0	0	Being updated in 2017 to add thru
816.05	13th Ave E	17th St E	Thru-STOP	15,673	Yes	0	0	0	0	0	None
816.06	13th Ave E/S	17th St E	Signal	18,740	Yes	2	1	1	0	0	None

Describe Current Safety Issues & Systemic Ranking Review

North Dakota Crashes, 2008 - 2012 5 years

Intersection Criteria	Description	Unit Cost	Quantity	Total Cost
Traffic Control Device	Signal			
Entering ADT > 18000	Advanced Walk	\$0 per intersection	4	\$0
Development / Ped Generator Yes	Countdown Timers	\$12,000 per intersection	4	\$48,000
Total Ped/Bike Crashes > 0	Curb Extensions	\$36,000 per corner	0	\$0
	Median Refuge Island	\$24,000 per side	0	\$0
				\$48,000

Project Cost Estimate (attach detailed copy)

Proposed Year of Construction

Federal Funds	\$43,200
Local Match (10% of Total project cost)	\$4,800
Total Project Cost	\$48,000

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 Cass County Region can be largely prevented and reduced if motorists, with an emphasis on younger drivers, 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 Cass 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 of drivers and right-front seat passengers is 77.7 percent; lower than the nationwide use of 86 percent in 2012. Unbelted severe crashes are Cass County Region’s greatest opportunity to strengthen road safety through improving driver behavior. The trend of severe unbelted crashes is increasing statewide. Cass County Region is below the 48 percent statewide-unbelted severe crashes with 37 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, 2012). Similarly, over the last decade, each year nearly half of motor vehicle fatalities statewide in North Dakota continue to be alcohol-related. In Cass County Region, 23 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, 2012a). 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 Cass County Region, 25 percent of severe crashes involve young drivers, which is slightly 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, 2012b). 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 Cass County Region, 23 percent of its severe crashes involve speed or aggressive driving, which is just under 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, Cass County Region, 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

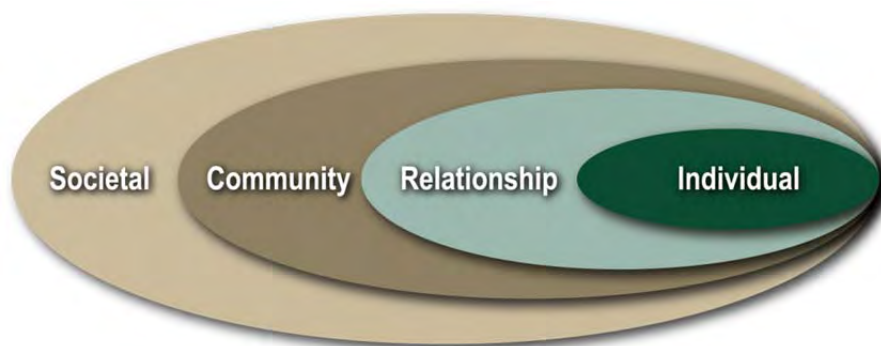


FIGURE 5-1

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 2 Priority Strategies

During the LRSP workshop, participants reviewed Cass County Region’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 2 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 2 LRSP Workshop Priority Behavioral Strategies and Relationship with the North Dakota SHSP

Phase 2 LRSP Workshop Priority Driver Behavior Strategies and Their Relationship with the North Dakota SHSP	Cass County Region	Eastern Region	Grand Forks County Region	2013 ND SHSP
Impaired Driving				
• Employ Alcohol Screening and Brief Interventions	X			X
• Support Community Program for Alternative Transportation		X		X
• Promote Sobriety Initiatives for DUI Offenders (24/7, Ignition Interlock, DUI Courts)	X	X		X
• Educate and Enforce Zero Tolerance Laws for Drivers Under Age 21		X		
• Court Monitoring of Prosecution and Sentencing of DUI Offenders			X	
Speeding and Aggressive Driving				
• Conduct high-visibility targeted enforcement of speeding and aggressive driving • <i>Note: Added following speed and aggressive driving enforcement strategy to support priority lane departure infrastructure safety strategy:</i> ◦ <i>Provide enhanced enforcement on local, at-risk locations for lane departure.</i>	X	X	X	X
• Conduct Enhanced Enforcement of Red Light Running			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
Unbelted Occupants				
• Conduct highly publicized enforcement campaigns to maximize restraint use.			X	X
• Enforce Secondary Belt Use Law		X		X
• Pursue Local Support for Primary Seat Belt	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

Cass County Region Priority Strategy – Employ alcohol screening and brief Interventions by health care providers following an impaired driving crash.

Description: Following a 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. Brief interventions most commonly are short, 10- to 15-minute motivational interviews involving an initial alcohol use 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.

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 such as impaired driving. 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:

- See Section 5.5, Traffic Safety Office Supporting Resources.
- For assistance with identifying local community partners and health/trauma care providers, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To contact local public health unit addressing alcohol use/impaired driving issues, see state listing located at: <http://www.ndhealth.gov/localhd/lphu-directory.pdf>
- For assistance in identifying additional impaired driving resources, contact ND Safety Council, Terry Weaver, Traffic Safety Coordinator, TerryW@ndsc.org, 701-751-6106
- For guidance on developing and implementing brief interventions:

American Public Health Association's *Alcohol Screening and Brief Intervention: A Guide for Public Health Practitioners*.

<http://www.apha.org/programs/additional/progaddNHTSI.htm>

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>

For additional impaired driving safety strategies, see the following high priority ND Local Road Safety Program strategies:

- Support community programs for alternative transportation. (Further explanation can be found in the North Dakota Local Road Safety Program, Phase 2, Eastern Region Report located at: <http://www.dot.nd.gov/divisions/safety/trafficsafety.htm>)
- Educate and enforce zero tolerance laws for drivers under age 21. (Further explanation can be found in the North Dakota Local Road Safety Program, Phase 2, Eastern Region Report located at: <http://www.dot.nd.gov/divisions/safety/trafficsafety.htm>)
- Conduct court monitoring of prosecution and sentencing of DUI offenders. (Further explanation can be found in the North Dakota Local Road Safety Program, Phase 2, Grand Forks Region Report located at: <http://www.dot.nd.gov/divisions/safety/trafficsafety.htm>)

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.

Cass County Region Priority Strategy – Promote Sobriety Initiatives for DUI Offenders: 24/7, Ignition Interlock, DUI Courts.

Description: To reduce impaired driving on state and local roadways, in addition to regular high-visibility DUI enforcement saturation patrols and DUI sobriety checkpoints, North Dakota uses 24/7, alcohol ignition interlocks, and DUI court programs to effectively monitor hardcore DUI offenders. Most hardcore repeat DUI offenders are alcohol dependent and often unable to control their drinking and driving behavior. For this reason, the following programs are important and proven tools in North Dakota's strategy to combat impaired driving.

24/7 - North Dakota's 24/7 Sobriety Program provides an alternative to jail time for DUI offenders charged with or convicted of two or more or drunk driving offenses; first-time drunk driving offenders under the age of 18 are also required to participate in the 24/7 program. The program requires offenders to abstain from alcohol use and submit to sobriety testing twice per day through preliminary breath test (PBTs) or through continuous monitoring via a SCRAM; requiring sobriety 24 hours per day, 7 days per week. If the arrestee's test registers any alcohol use then he or she is immediately taken into custody. If the arrestee fails to show for testing, his or her jail bond is revoked. An offender may participate in the 24/7 Sobriety Program as a condition of bond or pre-trial release and to participate in the program as a condition of sentence or probation.

Ignition Interlock - Ignition interlock is an aftermarket technology device installed in a motor vehicle to prevent a DUI offender from operating a vehicle if the offender has been drinking. Before starting the vehicle, the driver must breathe into the device and if the driver's breath alcohol reading is above a preset blood alcohol concentration (BAC) limit, the interlock device will not allow the vehicle to start. In North Dakota, the use of alcohol ignition interlocks is discretionary for all DUI offenders.

DUI Courts - North Dakota's four Drug/DUI Courts are hybrid courts; namely, they are drug courts that also work with DUI offenders. North Dakota Drug/DUI Courts are an effective tool to combat the hardcore impaired driver by using intensive supervision and treatment to change the offender's behavior. DUI Courts use all the criminal justice stakeholders (judge, prosecutor, defense attorney, law enforcement, probation, and treatment) using a cooperative approach to change the offender's behavior by meeting regularly as a team to discuss the status of each offender's case and to assure that alcohol treatment and all sentencing requirements are satisfied. With the input of all parties, Judges are more informed and can immediately revise restrictions when necessary.

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.
- Enlist the support of local traffic safety stakeholders to conduct a proactive publicity and education campaign on the above discussed tools to:
 - Inform local policy makers – county board and city council members, judges, prosecutors, defense attorneys, treatment officials and other concerned local

- stakeholders of the important role of 24/7, ignition interlock, and DUI courts in combating hard core drunk drivers.
- Educate the public on the nature of the impaired driving problem in the local community and how these tools will provide necessary sanctions on the offenders as well as enhance the safety of all roadway users; and
 - Act as a general deterrent by putting potential offenders on notice that if they are arrested for impaired driving they may become subject to a highly supervised sanction with the costs and stigma associated with its use.

Implementation Resources:

- See Section 5.5, Traffic Safety Office Supporting Resources.
- For information on ND sobriety initiatives (24/7, Ignition Interlock, DUI/Drug Courts) and to inquire about DUI data sources, contact ND Traffic Safety Resource Prosecutors:
 - Aaron Birst at aaron.birst@ndaco.org, 701-328-7342
 - Kristi Pettit Venhuizen at 701/780-9276
- To contact local public health unit addressing alcohol use/impaired driving issues, see state listing located at: <http://www.ndhealth.gov/localhd/lphu-directory.pdf>
- For community outreach using the Deutscher display depicting the remains of the Deutscher family vehicle that was struck and all members killed by a drunk driver, contact Kristi Engelstad, display coordinator, F-M Ambulance Service at kristi.engelstad@fmambulance.com, 701-364-1759.
- To learn about the quarterly Fargo/Cass County Safe Communities Coalition meetings, contact at Kristi Engelstad, coordinator, F-M Ambulance Service at kristi.engelstad@fmambulance.com, 701-364-1759.
- For information on county DUI conviction and recidivism rates, see the North Dakota 2013 DUI Recidivism Fact Sheet at:
http://www.ugpti.org/rtssc/briefs/downloads/2013_Recidivism.pdf
- For information on the North Dakota's 24/7 Program:
<http://www.ag.nd.gov/TwentyFourSeven/>
- For a helpful overview of alcohol interlocks and their use as well as public outreach talking points, see *Ignition Interlocks - What You Need to Know: A Toolkit for Policymakers, Highway Safety Professionals, and Advocates* at:
http://www.nhtsa.gov/staticfiles/nti/pdf/IgnitionInterlocks_811883.pdf
- The following is the Drug/DUI court in the Cass County Region:
East Central Judicial District Adult Court Program
Honorable John C. Irby
PO Box 2806
Fargo, ND 58108-2806

- The National Center for DWI Courts provides quick reference information for traffic safety stakeholders and policy makers on what they need to know about DUI courts:
<http://www.dwicourts.org/sites/default/files/ncdc/The%20Bottom%20Line.pdf>
<http://www.dwicourts.org/node/98>
- For North Dakota road safety information including impaired driver facts sheets, issue briefs, and other education and outreach resources, visit the NDSU Rural Transportation Safety and Security Center (RTSSC) at:
<http://www.ugpti.org/rtssc/resources/>

The NDSU Upper Great Plains Transportation Institute at:

<http://www.ugpti.org/resources/>

5.4.5 Speed and Aggressive Driving

Cass County Region Priority Strategy – Conduct highly publicized and targeted speed and aggressive driving enforcement campaigns

Description: High-visibility enforcement is a high-priority, proven safety strategy to reduce severe crashes in North Dakota and across the nation. The most effective way to deter unsafe driving is through a highly visible enforcement effort to reinforce the driving public's perception that driving behavior, such as speeding, is at high risk of being stopped and ticketed. High-visibility enforcement consists of multiple jurisdictions and/or multiple squads patrolling a segment of roadway at the same time, often using brightly colored signage and vests. Planned high-visibility 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 of the campaign such as tickets issued and arrests made.

North Dakota law enforcement agencies (state, county, city and tribal) participate in the state's cooperative enforcement programs 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 as speeding, following too closely, and running red lights endangering 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 initiatives and enforcement grant opportunities, contact the TSO and the state's Law Enforcement Liaison at (701) 328-4692. Enforcement grant application information for overtime speed enforcement can be found at: <https://www.dot.nd.gov/divisions/safety/trafficsafety.htm>
- 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>
- For North Dakota road safety information including impaired driver facts sheets, issue briefs, and other education and outreach resources, visit the NDSU Rural Transportation Safety and Security Center (RTSSC) at: <http://www.ugpti.org/rtssc/resources/>
The NDSU Upper Great Plains Transportation Institute at: <http://www.ugpti.org/resources/>

Cass County Region'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, Cass County Region 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 5.4.5 for speed and aggressive driving implementation resources.

For additional aggressive driving safety strategies, see the following priority ND Local Road Safety Program strategy:

- Conduct enhanced enforcement of red-light-running using confirmation lights in high-risk intersections. (Further explanation can be found in the North Dakota Local Road Safety Program, Phase 2, Grand Forks County Region Report located at: <http://www.dot.nd.gov/divisions/safety/trafficsafety.htm>)

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.

5.4.6 Young Drivers

Cass County Region 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 5.4.5 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 of 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 5.4.5*.
- See Section 5.5, Traffic Safety Office Supporting Resources.
- 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 *Distracted Driving Campaign Starter Kit: One Text or Call Could Wreck It All*.
http://www.distraction.gov/download/campaign-materials/dd_campaign_starter_kit.pdf
- For North Dakota road safety information including facts sheets, issue briefs, and other education and outreach resources, visit the NDSU Rural Transportation Safety and Security Center (RTSSC) at:
<http://www.ugpti.org/rtssc/resources/>
The NDSU Upper Great Plains Transportation Institute at:
<http://www.ugpti.org/resources/>

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.
- Encourage driver education providers (local schools and private providers) to require parent education component. (Further explanation can be found in the North Dakota Local Road Safety Program, Phase 2, Eastern Region and Grand Forks County Region Reports located at: <http://www.dot.nd.gov/divisions/safety/trafficsafety.htm>)

Consideration 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.

5.4.7 Unbelted Occupants

Cass County Region Priority Strategy – Pursue Local Support for Primary Seat Belt

Description: Seat belts saves lives. Research supports that lap/shoulder seat belts reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. For light-truck occupants, seat belts reduce the risk of fatal injury by 60 percent and moderate-to-critical injury by 65 percent. Seat belts are extremely effective in preventing occupant ejection from the vehicle, the most injurious of crash outcomes (NHTSA, 2014).

Primary enforcement of seat belt laws has a proven track record of getting more people to buckle up. A primary enforcement seat belt law enables a law officer to stop motorists if the driver or any occupant is unbelted. North Dakota's secondary enforcement law permits law enforcement to ticket unbelted motorists only if they are stopped for some other offense such as speeding.

Studies show that seat belt use in states with primary laws is 9 percentage points higher compared to states with secondary laws (Shults and Beck, 2012). Primary enforcement sends a clear message to the motoring public that the State views safety belt use (and the safety belt law) as essential for the safe operation of a motor vehicle. When States upgrade their laws from secondary to primary, the perceived public importance of safety belt use is strengthened leading to greater seat belt compliance. Increasing adult belt use also has a significant impact on child passenger safety, because drivers who wear safety belts are more likely to restrain their child passengers.

The foundation of enacting a primary seat belt law begins with developing grassroots, local-level support. Local community support, when thoughtfully and strategically applied, gets the attention of state elected officials. A community shift toward supporting primary seat belt occurs incrementally, one step at a time. Following are some initial steps and resources to launch North Dakota's Grand Forks Region's efforts.

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.
- Establish a local seat belt coalition or advocacy group to strengthen grassroots support for upgrading North Dakota's secondary belt law to primary seat belt enforcement. Following the national model of engaging multiple disciplines for traffic safety, support for primary enforcement can be found and strengthened throughout the community, including:
 - Enforcement: District State Patrol, county sheriff and city police enforcement personnel
 - Emergency Medical Response/Medical Community: EMS, fire and rescue departments; local county health and injury prevention organizations; injury prevention advocacy groups; ER doctors and nurses, health care professionals
 - Education Outreach: DOT District, county, and city public affairs/media outreach professionals; local school boards, PTAs, school administrators, Mothers Against Drunk Driving [MADD], Students Against Destructive Decision (SADD), North Dakota Safety Council, AAA North Dakota
 - Engineering: DOT District, county, and city traffic safety and road maintenance personnel.
 - Employers/Business Leaders: Chambers of commerce, leading local companies/major employers, insurance companies, auto dealers and manufacturers
- Engage advocacy group members to craft unified key messages for a consistent and clear message of support for primary seat belt (key unbelted crash facts, primary belt benefits,

employer and societal costs of unbelted crashes, key community supporters of primary). Seek example outreach resources from neighboring “Primary” states and states who’ve passed primary seat belt law.

- Create advocacy web portal of information in support of primary seat belt (key unbelted crash facts, primary seat belt benefits, employer and societal costs of unbelted crashes).
- Identify key local champions to help carry the message to local elected officials (city council, county board, mayoral offices) and key community influencers (e.g., business leaders).
- Conduct legislative outreach in support of primary seat belt using interdisciplinary team from primary advocacy group (enforcement, engineering, health/injury prevention).

Implementation Resources:

- For crash data and analysis to educate on unbelted serious crashes, contact the NDDOT Traffic Safety Office (TSO) at (701) 328-4692.
- To arrange for the Rollover Simulator to demonstrate the force of a rollover crash and the importance of proper restraint/primary seat belt law, contact F-M Ambulance Service, Kristi Engelstad, Coordinator at: kristi.engelstad@fmambulance.com or 701-364-1759.
- For seat belt facts and outreach initiatives, contact AAA North Dakota, Gene LaDoucer at: eladoucer@aaand.com.
- To learn about the quarterly Fargo/Cass County Safe Communities Coalition meetings, contact at Kristi Engelstad, coordinator, F-M Ambulance Service at kristi.engelstad@fmambulance.com, 701-364-1759.
- Upgrading Minnesota’s secondary seat belt law to a primary law resulted in an estimated 68 to 92 fewer deaths, between 320 and 550 fewer severe injuries, and \$45 million in avoided hospital charges in the two years the primary law was enacted and enforced. See *Impacts of Minnesota’s Primary Seat Belt Law* at: <https://dps.mn.gov/divisions/ots/seat-belts-air-bags/Documents/dps-eval-primary-seat-belt-law.pdf>
- For Minnesota Seat Belt Coalition’s Primary Seat Belt legislative talking point booklet addressing key questions about Primary Seat Belt, facts sheets, and unbelted fatalities and serious injuries by legislative district, contact the Minnesota Safety Council at 651-291-9150 or msc@minnesotasafetycouncil.org
- Florida’s statewide belt usage leaped from 80.9% in May, 2009 to 87.4% after the 2010 May seat belt enforcement campaign and the passage of the state’s primary seat belt law. See *Impact of Implementing a Primary Enforcement Seat Belt Law in Florida: A Case Study* at: <http://ntl.bts.gov/lib/45000/45800/45875/811656.pdf>
- For seat belt key messages see NHTSA CIOTI web site: <http://www.nhtsa.gov/nhtsa/2013ciot/stats.html>
- Center for Disease Control and Prevention seat belt briefing: <http://www.cdc.gov/motorvehiclesafety/seatbeltbrief/>
- For example tribal council primary seat belt law: <http://staging.dl-online.com/content/white-earth-council-passes-seat-belt-law>

- For North Dakota road safety information including facts sheets, issue briefs, and other education and outreach resources, visit the NDSU Rural Transportation Safety and Security Center (RTSSC) at:

<http://www.ugpti.org/rtssc/resources/>

The NDSU Upper Great Plains Transportation Institute at:

<http://www.ugpti.org/resources/>

For additional unbelted safety strategies, see the following priority ND Local Road Safety Program strategies:

- Conduct high-visibility enforcement to maximize restraint use. (Further explanation can be found in the North Dakota Local Road Safety Program, Phase 2, Grand Forks County Region Report located at: <http://www.dot.nd.gov/divisions/safety/trafficsafety.htm>)
- Enforce secondary belt use law. (Further explanation can be found in the North Dakota Local Road Safety Program, Phase 2, Eastern Region Report located at: <http://www.dot.nd.gov/divisions/safety/trafficsafety.htm>)

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 county employees, county officials, law enforcement, transportation engineering, public health, schools, businesses, nonprofit 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, and is located at:

<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), 2014. *Traffic Safety Facts, 2012: Occupant Protection*. Report No. DOT HS 811 892. Washington DC.
- National Highway Traffic Safety Administration (NHTSA), 2013. *Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices*. 7th Edition. Report No. DOT HS 811 727. Washington DC. April.
- National Highway Traffic Safety Administration (NHTSA), 2012. *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), 2012a. *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), 2012b. *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), 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.
- Shults, RA, Beck, LF, 2012. *Self-reported seatbelt use, United States, 2002-2010: Does prevalence vary by state and type of seatbelt law?* *Journal of Safety Research*; 43 (5-6): 417-42
- 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.