

Technical Memorandum 2

US 52 Safety, Access, and Interchange Location Study Project Background

South Limits of Cannon Falls to Hader
Goodhue County, Minnesota
S.P. 2506-66

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Prepared For:



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Introduction

The objective of this memorandum is to document and summarize the relevant background data collected for the US 52 Safety, Access and Interchange Location Study. The one-mile wide project area includes a 10-mile corridor along US 52, extending from the southern limits of Cannon Falls in Goodhue County at the junction of Highview Road and US 52, to south of County Road (CR) 50 (near Hader). The project area is shown Figure 1.

Summaries of previous planning efforts and existing corridor characteristics (demographics; land use; roadway network; traffic; safety; and social, economic and environmental (SEE) resources) within the project area are a part this technical memorandum. This information will provide the Project Management Team (PMT) with an understanding of the key project issues and constraints. It will also be used to identify project problems and needs, and to develop solutions that effectively respond to these issues. This information will serve as the basis for the development and evaluation of alternative improvement options.

A secondary goal of this memorandum is to provide the PMT an opportunity to identify any additional data or background information that may be useful for the study. Information discussed in this memorandum will serve as the framework for the development of the necessary environmental documentation required to meet the National Environmental Pollution Agency (NEPA) requirements for this project. This memorandum will be updated as new data and analysis becomes available.

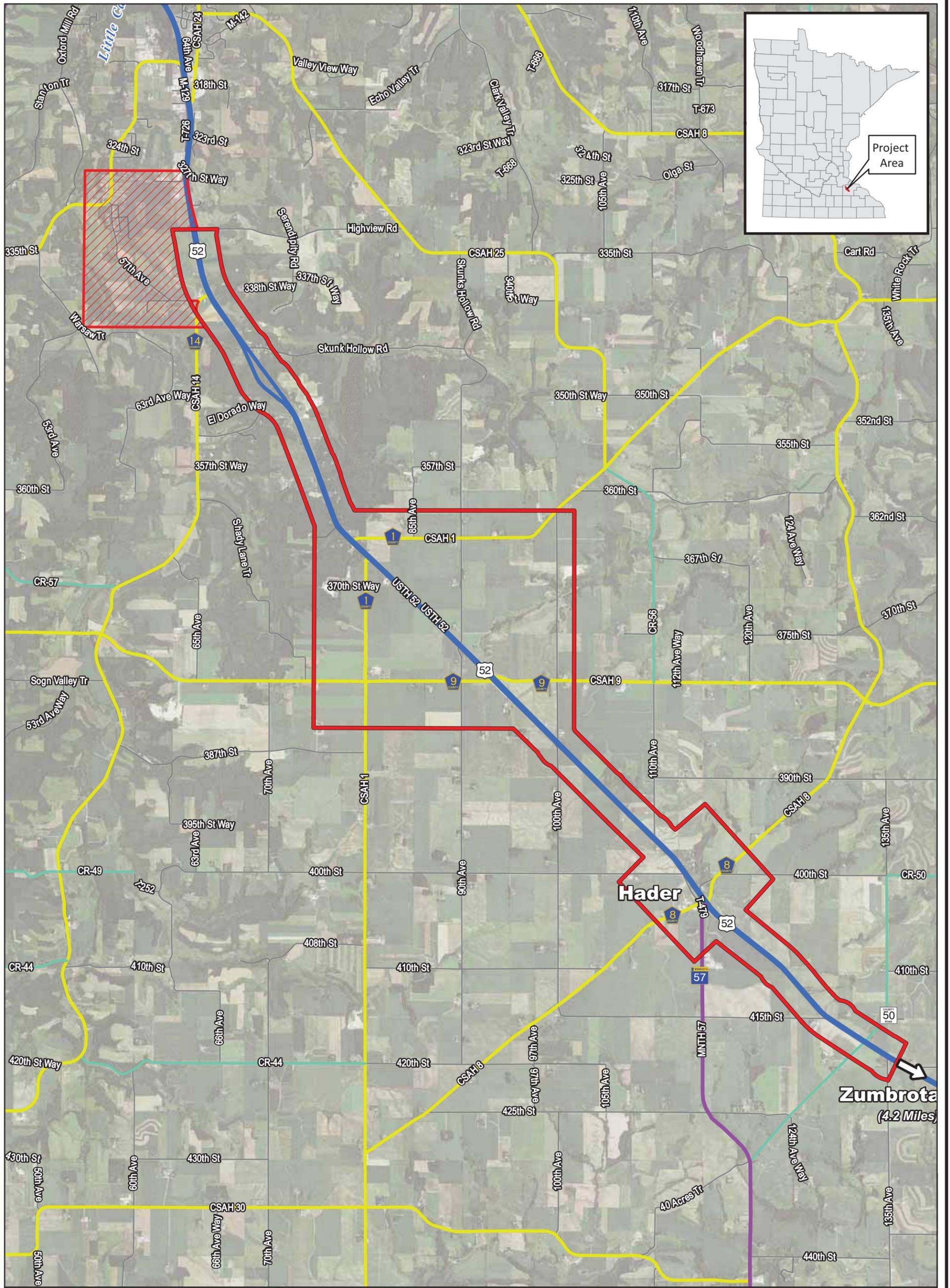
A. Planning Context

Several local and regional planning documents have been developed that provide input and direction on the existing and future transportation system of the project area. Further, the segment of US 52 within the project area is categorized by MnDOT as a High Priority Interregional Corridor (IRC), as it connects two regional trade centers (Twin Cities and Rochester). The long-range comprehensive and transportation plans for Goodhue County, as well as other local planning efforts, are critical to understanding the existing issues and future needs for the transportation system of the area. These documents were reviewed in order to identify the key findings and recommendations relevant to the US 52 Safety, Access and Interchange Location Study.

In addition, the *Statewide IRC Study (1999)*, the *Highway 52 Corridor Study and Management Plan (2000)*, and the *Highway 52 IRC Management Plan (2002)* were reviewed. These planning studies were prepared on behalf of the MnDOT and the affected local jurisdictions, in order to develop a more defined transportation system plan for the IRC system and the US 52 Corridor. The key findings and recommendations from each of these documents, relevant to the proposed US 52 project, are summarized below (presented in chronological order):

Statewide IRC Study (1999)

- The IRC Study identified US 52 as a high-priority interregional corridor and reinforces its principle function of maintaining safe, timely, and efficient transportation services between regional centers by providing predictable and acceptable travel times for corridor travelers. The Study acknowledges that US 52 provides the primary link between Rochester and the Twin Cities.

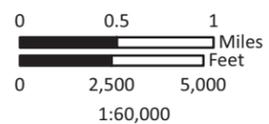


**FIGURE 1
PROJECT AREA MAP**

**US 52 Safety, Access, and
Interchange Location Study**

Goodhue County, Minnesota

- US 52 Project Study Area
- CSAH 14 Subarea
- Corporate Boundaries
- US Highway
- Minnesota Highway
- County State Aid Highway
- County Road



- As a High-Priority Interregional Corridor, a performance goal of 61-65 mph average travel speed has been established for US 52. While the study acknowledges that US 52 currently meets this target, it also notes that the entire length of the corridor is expected to fall below this target by 2020 unless new improvements are made.
- The IRC Study also identified US 52 as being “at-risk” for signal proliferation due to expected growth in mainline traffic and on a number of county roads and city streets intersecting it.

Highway 52 Corridor Study and Management Plan (2000)

- This study was initiated to address growing concerns about the role of the corridor in the State’s transportation system. A key finding of this effort was a determination that US 52 is “at-risk” of not meeting its safety and mobility performance goals in the future.
- A major outcome of this study was the establishment of a long term vision to:
 “Develop US 52 as a fully access-controlled, freeway facility, in order to maintain the corridor’s function as a high-speed, high-mobility route.”
- The recommended corridor management plan includes the identification of eight new interchange locations in order to transition US 52 into a freeway facility, as well as two reconstructed/reconfigured interchanges. This includes a proposed interchange at Goodhue County CSAH 9 within the project area for the *US 52 Safety, Access, and Interchange Location Study*. The corridor management plan also identifies a new alignment of CSAH 1 linking to the proposed interchange at CSAH 9, and a new bridge over US 52 at CSAH 8 to serve regional traffic.
- In addition to converting at-grade intersections to grade-separated interchanges (as described above), the following corridor management strategy recommendations are also consistent with the goals and objectives of the *US 52 Safety, Access, and Interchange Location Study*:
 - Maintain existing levels of safety and mobility, before the transition to a freeway is completed, by building turn lanes, acceleration lanes and other improvements as necessary.
 - Create a supporting local road network, to serve new and existing interchanges.
 - Close existing at-grade access and highway medians as needs arise.

Highway 52 IRC Management Plan (2002)

- This Highway 52 IRC Management Plan identifies a number of actions intended to protect and enhance the US 52 Corridor and to ensure that it provides for high speed, safe, and predictable travel conditions.
- The Plan found that US 52 is at risk for developing performance problems in the future based on increasing traffic volumes and the potential for signal proliferation at cross streets.
 - Traffic volumes on US 52 have increased steadily and are projected to reach between 29,125 and 86,775 vehicles per day by 2025, up from 17,550 to 46,800 in 2000.
 - Traffic has also increased on the cross streets. This creates problems on US 52 as it becomes more difficult to merge onto the highway and signals are installed at these intersections.
 - Due to the large number of access points along the corridor (approximately 4.5 per mile average), the potential for numerous signal installations is high.
- Based on the performance issues described above, the Plan established a vision for future improvements to the highway known as “Vision 52.” The ultimate vision for US 52 is to develop a fully access controlled, freeway facility.

- In the interim until the ultimate vision is achieved, the Plan recommends US 52 be managed to ensure it continues to serve as the safest, most direct route and highest mobility link for moving people and goods between Rochester and the Twin Cities.
- To work toward the vision, several strategies were identified in the Plan to maintain mobility on US 52 while transitioning to a freeway facility. These strategies are listed below:
 - Strategy 1: Convert selected at-grade intersections to grade-separated interchanges.
 - Strategy 2: Maintain existing levels of safety and mobility before the transition to a freeway is completed by building turn lanes, acceleration lanes, and making other improvements as necessary.
 - Strategy 3: Create a supporting local road network, where necessary, to serve new and existing interchanges.
 - Strategy 4: Severely limit the installation of any additional traffic signals.
 - Strategy 5: Close existing at-grade access and highway medians as needs arise.
 - Strategy 6: Implement local planning and land development strategies that support the Highway 52 vision.
 - Strategy 7: Establish a US 52 Internal Management Team (IMT).
- Within the project area for the *US 52 Safety, Access, and Interchange Location Study*, the Plan identified the following issues:
 - Inadequate median width for truck storage
 - Poor visibility (skewed intersections and grade issues)
 - Need for acceleration lanes
 - Need for access consolidation (township roads, fields, farmsteads)
 - Increasing crashes at intersections
- Based on the issues above, the following recommendations were developed. Recommendations specific to the *US 52 Safety, Access, and Interchange Location study area include:*
 - Continue to monitor safety at County Road 1 and 9 intersections. Consider modifications if safety concerns continue to grow such as median restrictions.
 - Construct an interchange at either County Road 1 or County Road 9. The study concluded that County Road 9 would offer the better location as it better serves the interconnecting county and regional transportation systems.
 - Additional study on access for properties to the north of County Road 1 if the County Road 1 intersection was removed.
 - Close all remaining at-grade access as safety issues and/or opportunities arise.

Goodhue County Transportation Plan (2004)

- The *US 52 Safety, Access and Interchange Location Study* will support the goals of the Goodhue County Transportation Plan, including the following:
 - Goal 1 – Safety: Develop and maintain a transportation network that promotes safety for its users.
 - Goal 2 – Efficient Movement: Strive to ensure that the transportation network promotes the efficient movement of people and goods.
 - Goal 3 – Multimodal: Promote transportation mode choice as part of the county transportation system.
 - Goal 4 – Land Use/Development: Recognize the linkage between Goodhue County’s desired growth and its transportation system to ensure that decisions regarding transportation are fully integrated with locally approved land use planning and development policies.
 - Goal 5 – Coordination between Jurisdictions: Build cooperation and coordination among state and local jurisdictions.

- Goal 6 – Economic Development: Recognize economic development issues when managing the transportation system’s resources.
- Goal 7 – Investments and Use of Funding: Investigate opportunities to secure new funding for transportation needs and maximize the efficiency of current resources.
- The issues map included in the Plan (see Appendix A) identified a number a general issues along US 52 throughout the county, including heavy commercial vehicle traffic, high crash rates, high speeds, skewed/unmarked intersections, and northbound/southbound grade differences. The following were noted as issues within the study area for the US 52 Safety, Access, and Interchange Location Area Study:
 - An uneven grade issue was identified along southbound US 52 between County State Aid Highway (CSAH) 1 and CSAH 9.
 - The existing US 52 intersections with CSAH 9, CSAH 1, CSAH 14, and TH 57/CSAH 8 were identified as high crash locations. The segment of US 52 from CSAH 1 to Cannon Falls was identified as a high crash segment.
 - Planned future interchanges within the project area were identified in the vicinity of CSAH 9 or CSAH 1 and at the intersection of US 52 and TH 57/CSAH 8. The Plan also identified the realignment of CSAH 1 and/or CSAH 9, north of US 52, in order to meet the proposed future interchange.
 - A planned future on-road trail within the project area on CSAH 1, east of US 52 was identified.
- The Future System Designation Section in the Plan identified the existing segment of CSAH 1 from US 52 to County Road (CR) 56 as a potential CSAH to Township turn back as the planned new segment of CSAH 1/CSAH 9 would extend from CR 56 to the planned US 52 interchange in this area. CSAH 1 from US 52 to CR 49 was identified for a potential CSAH to CR designation change.
- The Implementation Section in the Plan identified the recommended access spacing for US 52 as a high priority IRC and a principal arterial. This includes a recommendation for intersections by interchange only and no traffic signals or private access points.
- The Regional Priorities project list in the Plan includes a number of short-, medium-, and long-range planned improvements relevant to the study area. These include the following:
 - Completion of final design for a new 2.2 mile alignment of CSAH 1, from CR 56 to US 52, was identified as a short-range priority.
 - Construction of a new interchange on US 52, south of Cannon Falls in the area of CSAH 24 was identified as a medium-range improvement.
 - Construction of the new 2.2 mile alignment of CSAH 1, from CR 56 to US 52, was identified as a long-range improvement.

Goodhue County Comprehensive Plan, Inventory Document (2004)

- This document includes a summary of the historic development trends within the county, as well as a demographic profile and inventory of the existing characteristics of the county. The plan identifies US 52 as a “Regional Growth Corridor,” connecting the Twin Cities area to Rochester.

The planning direction established by MnDOT and Goodhue County will serve as the basis for the development and evaluation of alternatives for the *US 52 Safety, Access and Interchange Location Study*.

B. Existing Characteristics

It is important to understand the existing characteristics of the study area in order to develop meaningful transportation solutions. The following discussion provides a snapshot of existing characteristics,

including a review of existing development patterns and future land use plans, demographic trends, existing roadway network, traffic operations, and crash history. The key issues identified as part of this review are illustrated in Figure 2.

Land Use

Goodhue County's existing and future land use plans were reviewed in order to identify major trip generators, economic growth factors, and the potential for additional growth and expansion within the study area. The existing and future land use trends relative to the study area are described below.

Goodhue County is an agricultural center with an abundance of farmland and convenient access to the Mississippi River and agricultural transshipment points. The county has placed a high value on these rural, agricultural areas by enacting and enforcing strong zoning policies, maintaining agricultural preservation policies, and encouraging growth within existing communities.

The majority of the land surrounding the US 52 Safety, Access and Interchange Location Study area (approximately CSAH 1 to the south study limit) is zoned as an Agricultural Protection District. The purpose of this zoning district is to maintain, conserve, and enhance agricultural lands that are valuable for crop production, pasture and natural habitat for plant and animal life. The intent is to encourage long-term agricultural uses and preserve prime agricultural farmland by restricting the location and density of non-farm dwellings and other non-farm uses.

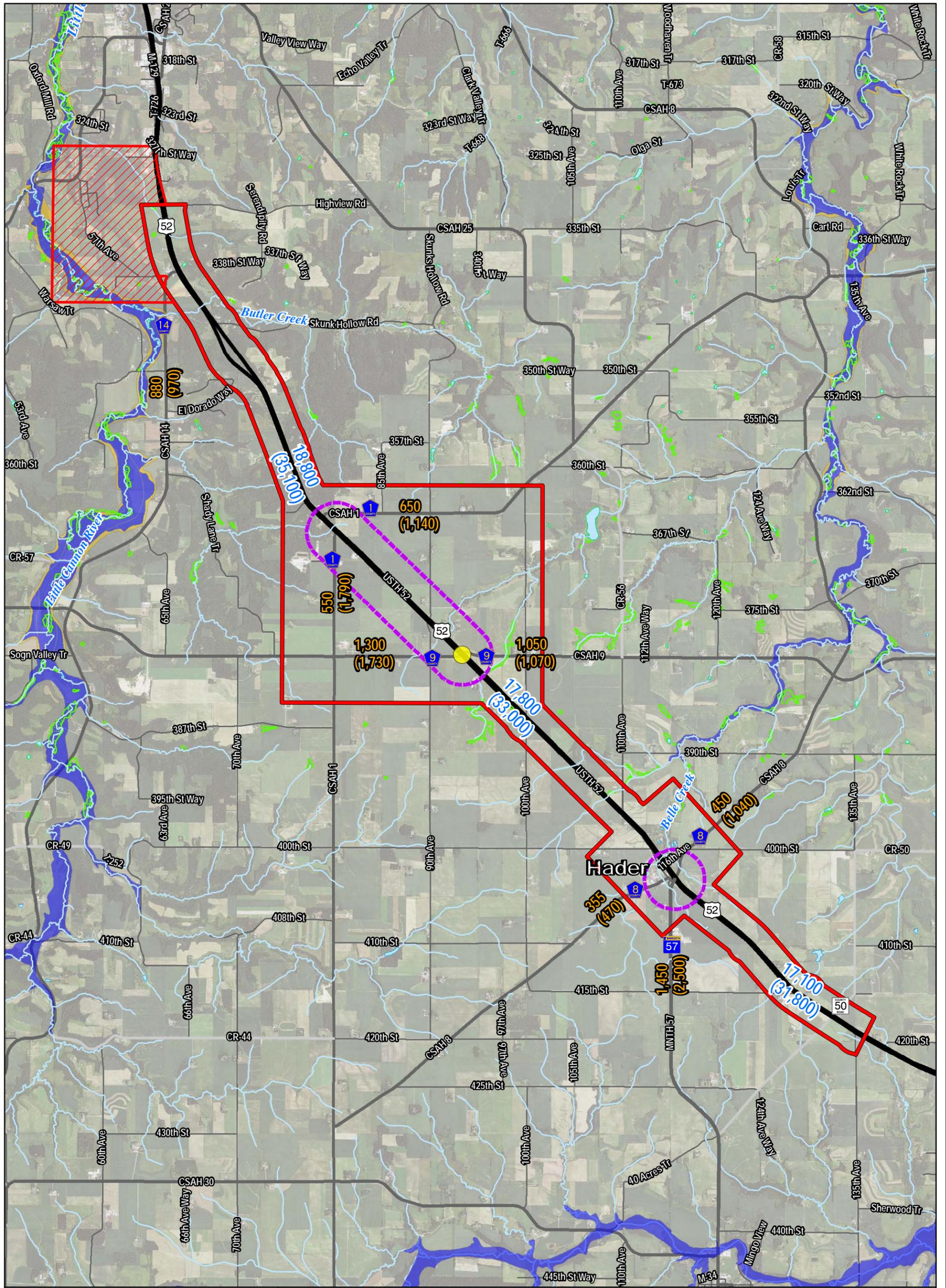
The remainder of the study area (approximately CSAH 1 to the north study limit) falls within a general Agricultural District. Like the Agricultural Protection District, the purpose of the Agricultural District is to conserve and maintain agricultural investments and prime agricultural farmland. However, the Agricultural District allows a slightly higher density of dwellings than the Agricultural Protection District does. Maps showing the Goodhue County Zoning Districts relative to the study area are included in Appendix B.

Based on PMT meeting discussions with Goodhue County, Cannon Falls Township, and Leon Township representatives, it was determined that there are currently no plans for the project area land use to change within the foreseeable future. Therefore, as a baseline for calculations such as traffic growth and future development, it will be assumed that there are no land use changes within the study area.

Demographic Trends

In addition to existing development patterns and future land use change, growth in population can result in changes in travel patterns and traffic operation. Over the past 20 years, the population of the study area has declined slightly; however, moderate gains are expected over the next decade. Table 1 identifies the historic and forecast growth in population for the townships that comprise the study area and Goodhue County as a whole. While Goodhue County has gained population, Cannon Falls and Leon Townships have lost population. Collectively, the two townships within the study area have lost a total of 330 people over the past 20 years, representing a population decline of 14 percent. During the same time period, the total population of Goodhue County grew by 5,493 people or 13 percent, as development and growth has occurred in population centers such as Red Wing and Cannon Falls.

Despite this moderate decline in population over the past two decades, the study area is expected to add population by the year 2025. According to projections prepared as part of the Goodhue County Transportation Plan (2004), the total population of Cannon Falls Township is expected to grow by 515 people (48 percent) by 2025 reaching a total population of 1,585 by 2025. Likewise, Leon Township is expected to add 323 (36 percent) growing to 1,208 by 2025.



**FIGURE 2
ISSUES MAP**

**US 52 Safety, Access, and
Interchange Location Study**

Goodhue County, Minnesota

- Project Study Area
 - CSAH 14 Subarea
 - High Crash/Severity Intersection
 - Potential Interchange Study Area
 - Lakes/Ponds
 - Streams
 - Wetlands (NWI)
 - 100-Year Floodplain
 - 500-Year Floodplain
 - Corporate Boundaries
- | | |
|--------|-------------------------------------|
| XX,XXX | 2009 Traffic Volume (AADT) |
| YY,YYY | 2025 Forecast Traffic Volume (AADT) |
| XXXX | 2007 Traffic Volume (AADT) |
| (YYY) | 2025 Forecast Traffic Volume (AADT) |

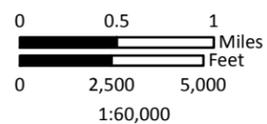


Table 1: Study Area Population Trends

	Population			Forecast (2025)	Growth					
	1990	2000	2010		1990 - 2000		2000 - 2010		2010 - 2025	
Cannon Falls Twp.	1,369	1,236	1,070	1,585	-133	-10%	-166	-13%	515	48%
Leon Twp.	916	942	885	1,208	26	3%	-57	-6%	323	36%
Goodhue Co.	40,690	44,127	46,183	51,180	3,437	8%	2,056	5%	4,997	11%

Source: Historic population and population forecasts from Goodhue Co. Transportation Plan (2004). 2010 population from US Census Bureau, 2010 Census.

In addition to the moderate population growth expected within the study area, the population of the Minneapolis/St. Paul and Rochester Metropolitan areas is also expected to increase by the year 2025. As shown in Table 2, the total population of the Twin Cities area is expected to increase by 828,233 people for a gain of 29 percent. The population of the Rochester Metropolitan Area is also expected to, add 39,080 people (21 percent) by 2025. As a High Priority IRC, the primary function of US 52 is to provide a direct connection between Rochester and the Twin Cities. Given the intended function of the corridor, it is reasonable to assume that the anticipated growth in these regional centers will be accompanied by some growth in travel demand along US 52, including the project study area.

Table 2: Twin Cities/Rochester Population Trends

	Population		Change	
	2010	2025		
Mpls.-St. Paul-Bloomington MSA	2,879,567	3,707,800	828,233	29%
Rochester MSA	188,820	227,900	39,080	21%

Source: 2010 population from US Census Bureau, 2010 Census.
2025 population forecast from MN State Demographic Center, June 2007.

Existing Roadway Network

The existing roadway network within the study area is served by US 52, as well as supporting regional and local roadway networks. US 52 is classified by MnDOT as a High Priority IRC and a Rural Principal Arterial Expressway (1A-F). Its intended function is to provide a high degree of mobility between the Rochester and Twin Cities Metropolitan Areas. US 52 is currently a high-speed, access controlled expressway (four-lane divided) with several at-grade intersections and access points throughout the project area. As shown in Figure 1, the major intersecting roadways within the study area include CSAH 14, CSAH 1, CSAH 9, and CR 8/TH 57, all of which are two-lane undivided, rural facilities and have at-grade, side-street stop controlled intersections along US 52. The CSAH 1 intersection is skewed and off-set, with the east junction approximately 1,140 feet north of the west junction, creating additional turning movements onto and off-of US 52 for through traffic. At the CSAH 9 intersection, there is a hill on southbound US 52, south of CSAH 9, which limits sight distance for through traffic on CSAH 9 and left-turns from US 52. The CSAH 8/TH 57 intersection in Hader is a five-legged intersection at the junction of US 52, TH 57, and CSAH 8.

As discussed in the *Planning Context* section, a future vision for a fully access controlled US 52 has been established, in order to improve safety and maintain a high level of mobility. As part of MnDOT’s *Statewide IRC Study (1999)*, a performance goal of 61 to 65 miles per hour was established for this route. The existing and forecasted performance for US 52 is discussed in further detail in *Traffic Operations* section below.

The primary regional roadways within the study area are CSAH 1, CSAH 9, and CSAH 14, all of which are Goodhue County routes. These routes provide regional connectivity between the study area and the surrounding county and state roadway networks. In addition, these routes provide accessibility to

regional activity centers such as Cannon Falls and Wanamingo for the individual properties within the study area. Given the critical importance of these routes, any improvements to US 52 will need to be planned and designed in a manner which provides efficient regional connections and replacement access for any township road or private driveway modifications.

Access Inventory

Management of roadway access, both in terms of cross-street spacing and driveway placement, is a critical means of preserving and enhancing a roadway’s functional classification and its efficient operation. In addition, providing access management in some form, whether through grade-separated crossings, frontage and backage roads or right-in/right-out access, reduces the number of vehicle conflict points resulting in improved safety. A number of studies conducted by government and academic researchers (FHWA Access Research Report No. FHWA-RD-91-044) have demonstrated a direct relationship between the number of full access points and the rate of crashes, showing a positive correlation between access density (access points per mile) and the frequency of crashes (crash rates). Given this relationship, access management is an important roadway safety tool.

Both MnDOT and Goodhue County have established access management policies and guidelines in order to ensure sound access management on their respective roadways. According to *MnDOT’s Access Management Manual (January 2, 2008)* access along the study segment of US 52 (High-Priority Interregional Corridor) should be permitted by interchange only, with no traffic signals or private access points. Further, primary full movement intersections (e.g., CSAH 1 and CSAH 9) should be spaced at a minimum distance of one-mile apart, to ensure safe and efficient mobility. Secondary or partial movement intersections should be spaced at 1/2-mile. The supporting access management guidelines for Goodhue County are presented in the *Goodhue County Transportation Plan (2004)*, which recognizes MnDOT’s access management policy for US 52 within the study area. These policies and guidelines support the previously established vision to convert US 52 to a fully access controlled (i.e., access by interchange only) freeway facility.

The study segment of US 52 does not currently meet MnDOT’s access spacing guidelines due to multiple at-grade intersections and direct access driveways. Currently, there are 43 at-grade access points along the project segment of US 52 for an average of 4.3 access points per mile. This includes intersections with public roadways (county highways, township roads, etc.), residential driveways, farm and field accesses, and commercial/industrial entrances all with direct US 52 highway access. In addition, the off-set intersection at CSAH 1 does not meet the intersection spacing guidelines (1-mile) as the north and south junctions are spaced at approximately 1,200 feet apart. Table 3 shows the approximate number of direct access points along US 52 by access type, based on a desktop review of current aerial photography.

Table 3: US 52 Access Point Inventory

Type	Number of Accesses
Public Roadway	14
Residential/Farm	18
Private (Non-Residential)	3
Field/Agricultural	8
TOTAL	43

The high number of access points along US 52 detracts from its ability to provide safe and reliable mobility. Consolidation and/or closure of access points should be considered as part of any improvement project, in order to ensure the safe and efficient operations of this corridor. Any access modifications along US 52 should be accompanied by related improvements to the supporting regional and local roadway networks, in order to ensure an adequate level of regional and local mobility. This includes ensuring adequate local roadway connections to the City of Cannon Falls and Hader (unincorporated

community), as well as any existing and/or planned interchanges along US 52 (including the planned interchange at CSAH 24 in Cannon Falls) within the project area, in order to replace any access points along US 52 which are closed.

Traffic Operations

In order to determine how traffic is currently operating in the study area, and to understand traffic growth trends, traffic operations were analyzed for the project area segment of US 52. Average Annual Daily Traffic (AADT) traffic count data was obtained from MnDOT traffic volumes maps for the years 1999 through 2009. As shown in Table 4, during the past decade (1999 – 2009), the annual rate of traffic growth along the study segment of US 52 was modest, ranging from 1.6 percent to 2.9 percent annually. Growth in traffic volumes appeared to level off towards the latter half of the 10-year period, which is a trend comparable to that experienced on many roadways throughout the region.

Table 4: US 52 AADT Trends

Location	1999	2000	2002	2004	2006	2007	2009	Growth Factor	Annual Growth Rate
North of CSAH 1	15,200	18,400	18,900	17,800	17,900	17,900	18,800	1.24	2.2%
CSAH 1 to CSAH 8/TH 57	15,200	16,600	17,500	15,500	17,100	17,100	17,800	1.17	1.6%
CSAH 8/TH 57 to CSAH 7	12,900	15,900	16,500	16,500	17,800	17,800	17,100	1.33	2.9%

Source: MnDOT Traffic Volume Maps, 2009

In addition, traffic volumes for the key cross streets within the study area for the years 1999, 2003, 2007, and 2011 was obtained from MnDOT and Goodhue County. AADT volumes for study area cross streets are shown in Table 5. Cross street traffic volume growth has been varied, with modest growth in traffic volumes on CSAH 9 (3.9 to 4.1%) and TH 57 (1.4%) and a modest decline in traffic volumes on CSAH 1 (-2.3 to -0.4%). Traffic volume trends on CSAH 8 have been mixed with modest growth south of US 52 (2.3%) and modest decline north of US 52 (-1.7%).

Table 5: Cross Street AADT Trends

Year	CSAH 1 (North)	CSAH 1 (South)	CSAH 9 (West)	CSAH 9 (East)	CSAH 8 (North)	CSAH 8 (South)	CSAH 14	TH 57
1999	900	580	840	650	620	260	810	1,150
2003	1,050	530	990	860	570	465	1,000	1,350
2007	550*	550	1,200	990	550	250	930	1,350
2011	650	550	1,300	1,050	450	355	880	1,450*
Growth Factor	0.72	0.95	1.55	1.62	0.73	1.37	1.09	1.26
Growth Rate	-2.3%	-0.4%	3.9%	4.1%	-1.7%	2.1%	0.5%	1.4%

Source: Goodhue County 2011 Draft AADT Report

* TH 57 volumes are from MnDOT Traffic Volume Maps, 2009.

Existing Roadway Capacity

The ratio of volume to capacity provides a common measure of congestion along a stretch of roadway and can help determine where capacity improvements are needed. Congestion on a roadway segment is judged to exist when the ratio of traffic volume to roadway capacity (V/C ratio) approaches or exceeds 1.0.

The *Goodhue County Transportation Plan (2004)* provides typical planning-level average daily traffic (ADT) capacity thresholds for each of the roadway facility types within the project area, based upon guidance from the Highway Capacity Manual and professional engineering judgment. The capacity thresholds for the roadways within the project area are presented in Table 6 below.

Table 6: Planning-Level Capacity Thresholds

Roadway	Facility Type	Planning-Level Capacity Threshold
US 52	Rural Expressway (4-lane divided, 55-65mph)	45,000 vehicles per day
CSAH 14	Two-Lane Undivided, Rural	14,000 vehicles per day
CSAH 1	Two-Lane Undivided, Rural	14,000 vehicles per day
CSAH 9	Two-Lane Undivided, Rural	14,000 vehicles per day
CSAH 8	Two-Lane Undivided, Rural	14,000 vehicles per day
TH 57	Two-Lane Undivided, Rural	14,000 vehicles per day

Source: Goodhue County Transportation Plan (2004)

A V/C analysis for the study segment of US 52 and the key cross streets within the study area was conducted based on the existing traffic volume data presented in Table 4 and Table 5. This analysis is presented in Table 7 and Table 8. It is important to note that this planning-level analysis did not consider delays that a motorist may experience at intersections.

Table 7: US 52 V/C Analysis (Existing Conditions)

Location	Volume (2009 AADT)	Capacity Threshold	V/C Ratio
North of CSAH 1	18,800	45,000	0.42
CSAH 1 to CSAH 8/TH 57	17,800	45,000	0.40
CSAH 8/TH 57 to CSAH 7	17,100	45,000	0.38

Table 8: Cross Street V/C Analysis (Existing Conditions)

Location	Volume (2011 AADT)	Capacity Threshold	V/C Ratio
CSAH 14	880	14,000	0.06
CSAH 1 (north)	650	14,000	0.05
CSAH 1 (south)	550	14,000	0.04
CSAH 9 (west)	1,300	14,000	0.09
CSAH 9 (east)	1,050	14,000	0.08
CSAH 8 (north)	450	14,000	0.03
CSAH 8 (south)	355	14,000	0.03
TH 57	1,450	14,000	0.10

Based on the V/C analysis described above, it is clear that the study segment of US 52, as well as the cross streets analyzed, are not currently capacity deficient (i.e., existing traffic volumes do not exceed roadway capacities). As a result, roadway congestion is not a major concern within the study area based on the existing roadway characteristics and current traffic volumes.

Future Roadway Capacity

In addition to the existing roadway traffic capacity described above, future traffic projections were also reviewed in order to identify future capacity deficiencies within the study area. This included a review of the forecasted 2025 AADT volumes prepared as part of the Goodhue County Transportation Plan (2004).

Using the methodology described in the *Existing Roadway Capacity* section above, a future roadway capacity analysis was conducted. The results are shown in Table 9 and Table 10.

Table 9: US 52 V/C Analysis (2025 Forecasts)

Location	Forecast Volume (2025 AADT)	Capacity Threshold	V/C Ratio
North of CSAH 1	35,100	45,000	0.78
CSAH 1 to CSAH 8/TH 57	33,000	45,000	0.73
CSAH 8/TH 57 to CSAH 7	31,800	45,000	0.71

Source: Goodhue County Transportation Plan (2004)

Table 10: Cross Street V/V Analysis (2025 Forecasts)

Location	Forecast Volume (2025 AADT)	Capacity Threshold	V/C Ratio
CSAH 14	970	14,000	0.07
CSAH 1 (north)	1,140	14,000	0.08
CSAH 1 (south)	1,790	14,000	0.13
CSAH 9 (west)	1,730	14,000	0.13
CSAH 9 (east)	1,070	14,000	0.08
CSAH 8 (north)	1,040	14,000	0.07
CSAH 8 (south)	470	14,000	0.03
TH 57	2,500	14,000	0.18

Source: Goodhue County Transportation Plan (2004)

As shown in the tables above, although traffic volumes are expected to increase, neither the study segment of US 52 or its cross streets are expected to exceed their design capacity based on 2025 traffic forecasts.

It should be noted that the projected traffic volumes reflect a county-wide level of analysis. Traffic volumes on specific roadways may change based on future development and land use changes. As described in the *Land Use* section above, it was determined that there are currently no plans for the project area land use to change within the foreseeable future. Therefore, the county level traffic projects and future capacity analysis presented in the *Goodhue County Transportation Plan (2004)* were deemed to provide an acceptable level of detail for the US 52 Safety, Access and Interchange Location Study.

Safety Analysis

The safety of the roadway network is a high priority for the study partners and for all agencies that are responsible for improving and maintaining transportation facilities. A planning-level crash analysis was performed using the most recent crash data from MnDOT District 6 to evaluate potential safety problems within the study area. This dataset was reviewed to identify the number, location, and severity of crashes within the project study area along US 52 for the years 2006 through 2011. Overall, there were 311 crashes within the study area during this time period. Of these six involved fatalities, nine involved incapacitating injuries, 92 involved personal injury or possible injury, and 204 involved property damage only. Of the six fatalities recorded, two occurred within the last year (2011). These recent fatal crashes within the project area underscore the need to evaluate safety. As described below, three primary factors

were considered when analyzing the historic crash data: (1) crash rates, (2) critical crash rate, and (3) crash severity. Table 11 presents the annual crash totals by severity.

Crash Rate

Crashes are proven to be a function of vehicle exposure. For example, intersections with higher traffic volumes will experience more crashes than similar intersections with lower traffic volumes. Consequently, it is important to understand crash rates rather than simply documenting the number of crashes in order to normalize the traffic volumes at different, but comparable, intersections.

Table 11: US 52 Safety, Access, and Interchange Location Study Area Crashes (2006-2011)

Year	Fatal Crashes	Personal Injury Crashes			Property Damage Crashes	Total Crashes
		Type A Incapacitating Injury	Type B Non-Incapacitating Injury	Type C Possible Injury		
2006	1	2	8	3	21	35
2007	3	1	4	6	28	42
2008	0	2	14	4	39	59
2009	0	1	5	12	40	58
2010	0	2	11	9	39	61
2011	2	1	5	11	37	56
6-Year Total	6	9	47	45	204	311
6-Year Average	1	2	8	8	34	52

Source: MnDOT, District 6

Based on the historic crash data from 2006 through 2011, crash rates were calculated for both intersections and segments within the project area. The intersection crash rate is defined as the number of crashes per million vehicles entering the intersection and the segment crash rate is defined as the number of crashes per million vehicle miles.

To indicate potential problems, the crash rates for intersections or segments were compared to the MnDOT District 6 average crash rates from 2008 through 2010 (most recent data), for similar intersection or roadway facility types (Rural Through/Stop for intersections and Rural Four-Lane Expressway for segments) Locations with a crash rate lower than average are considered to be relatively safe. Locations exhibiting crash rates above average may be due to the random nature of accidents, or may be the result of a problem or defect in the location.

Intersection crash rates calculated as part of this analysis are shown in Table 12. A comparison to the district average crash rates for similar facilities shows that the following three intersections should be evaluated for safety issues:

- US 52 with CSAH 14
- US 52 with CSAH 9
- US 52 with TH 57/CSAH 8

Table 12: US 52 Intersection Crash Rates (2006 - 2011)

Intersection	Crash Rate	Average Crash Rate
US 52 with CSAH 14	0.44	0.40
US 52 with CSAH 1 N	0.29	0.40
US 52 with CSAH 1 S	0.26	0.40
US 52 with CSAH 9	1.21	0.40
US 52 with TH 57 & CSAH 8	0.54	0.40

Segment crash rates were calculated for US 52 as shown in Table 13. A comparison with average crash rates shows the following three segments should be evaluated for safety issues:

- RP 94.961 – RP 91.942 (CSAH 14 to CSAH 1N)
- RP 89.922 – RP 86.704 (CSAH 9 to CSAH 8/TH 57)
- RP 86.704 – RP 85.516 (CSAH 8/TH 57 to South End)

Table 13: US 52 Segment Crash Rates (2006 - 2011)

Segment	Location	Crash Rate	Average Crash Rate
RP 95.565 – RP 94.961	N. END to CSAH 14	0.24	0.70
RP 94.961 – RP 91.942	CSAH 14 to CSAH 1N	0.80	0.70
RP 91.942 – RP 89.922	CSAH 1N to CSAH 9	0.63	0.70
RP 89.922 – RP 86.704	CSAH 9 to CSAH 8/TH 57	0.94	0.70
RP 86.704 – RP 85.516	CSAH 8/TH 57 to SOUTH END	0.85	0.70

Critical Crash Rate

Higher than average crash rates may indicate that there is a safety issue at a given location; however, this alone does not prove that an issue exists. Average crash rates do not account for the variation in traffic volume among facilities or the random nature of crashes. Therefore, the critical crash rate for the key intersections and roadway segments studied was calculated to determine the statistical significance of the crash rate comparison. This method identifies those locations that have a crash rate higher than similar locations at a statistically significant level. This additional comparison helps to provide an additional level of confidence that the safety indicator is reliable and not random, taking into account the traffic volumes of each intersection or segment and the random nature of crashes. For purposes of this calculation a 95th-percentile confidence level was selected as the threshold. This means one can be 95 percent confident that the intersections with crash rates below the critical crash rate but above the district average crash rate are relatively safe and that the higher than average crash rate is due to the random nature of crashes.

Locations where the crash rate is greater than the critical crash rate are thought to have a higher than average crash frequency and therefore a safety issue exists. These locations should be investigated further. The critical crash rates for each intersection and segment studied are summarized in Table 14 and Table 15.

Table 14: US 52 Critical Crash Rates – Intersections (2006-2011)

Intersection	Crash Rate	Critical Crash Rate
US 52 with CSAH 14	0.44	0.57
US 52 with CSAH 1 N	0.29	0.57
US 52 with CSAH 1 S	0.26	0.58
US 52 with CSAH 9	1.21	0.58
US 52 with TH 57 & CSAH 8	0.54	0.58

Table 15: US 52 Critical Crash Rates – Segments (2006-2011)

Segment	Location	Crash Rate	Critical Crash Rate
RP 95.565 – RP 94.961	N. END to CSAH 14	0.24	1.00
RP 94.961 – RP 91.942	CSAH 14 to CSAH 1N	0.80	0.83
RP 91.942 – RP 89.922	CSAH 1N to CSAH 9	0.63	0.86
RP 89.922 – RP 86.704	CSAH 9 to CSAH 8/CR 57	0.94	0.83
RP 86.704 – RP 85.516	CSAH 8/CR 57 to SOUTH END	0.85	0.92

As shown in Table 14, when comparing crash rates to the critical crash rates, all intersections are below the critical crash rate, with the exception of the following intersection:

- US 52 at CSAH 9

As the intersection of US 52 at CSAH 9 has a crash rate which exceeds the critical crash rate, it can be concluded that this location has a higher than average crash frequency and a safety deficiency exists.

As shown in in Table 15, a similar analysis for segments along US 52 shows that all segments are below the critical crash rate, with the exception of the following segment:

- RP 89.922 – RP 86.704 (CSAH 9 to CSAH 8/TH 57)

The segment of US 52 from RP 89.922 to RP 86.704 (CSAH 9 to CSAH 8/TH 57) has a crash rate which exceeds the critical crash rate, and therefore it can be concluded that this location has a higher than average crash frequency and a safety deficiency exists.

Crash Severity Rate

The simplest definition of crash severity rate is “How bad are the crashes?” As noted in Table 11, crashes are typically categorized as follows:

- Property damage (no injuries occurred) – not severe
- Injury crashes (injuries occurred, but no fatalities) – more severe
- Fatal crashes – most severe

The calculation of crash severity rates allows the identification of locations that may experience a low crash rate but have a high percentage of injury or fatal crashes. Conversely, intersections which have higher crash rates, but have a higher percentage of property damage crashes, may not be as deficient as the crash rate alone would indicate. The severity rate is simply the percentage of injury and fatal crashes at an intersection or segment as compared to the total number of crashes. Table 16 and Table 17 summarize the severity rates for the study area.

Table 16: US 52 Crash Severity Rate – Intersections (2006 – 2011)

Intersection	Severity Rate	Avg. Severity Rate
US 52 with CSAH 14	0.53	0.60
US 52 with CSAH 1 N	0.34	0.60
US 52 with CSAH 1 S	0.44	0.60
US 52 with CSAH 9	2.69	0.60
US 52 with TH 57 & CSAH 8	1.15	0.60

Table 17: US 52 Crash Severity Rate – Segments (2006-2011)

Segment	Location	Severity Rate	Avg. Severity Rate
RP 95.565 – RP 94.961	N. END to CSAH 14	0.36	1.10
RP 94.961 – RP 91.942	CSAH 14 to CSAH 1N	1.06	1.10
RP 91.942 – RP 89.922	CSAH 1N to CSAH 9	0.94	1.10
RP 89.922 – RP 86.704	CSAH 9 to CSAH 8/TH 57	1.71	1.10
RP 86.704 – RP 85.516	CSAH 8/TH 57 to SOUTH END	1.60	1.10

As shown in the Table 16, the following two intersections have a crash severity rate above the MnDOT average:

- US 52 with CSAH 9
- US 52 with TH 57 & CSAH 8

As shown in the Table 17, the following two segments have a crash severity rate above the MnDOT average:

- RP 89.922 – RP 86.704 (CSAH 9 to CSAH 8/TH 57)
- RP 86.704 – RP 85.516 (CSAH 8/TH 57 to SOUTH END)

Safety Analysis Results

Based on the analysis described above, one intersection and two segments along US 52 within the study area were identified as safety deficient, as they exhibit a high crash frequency and a high crash severity. These include the intersection of TH 52 with CSAH 9, the segment from CSAH 9 to CSAH 8/TH 57, and the segment from CSAH 8/TH 57 to the southern terminus of the study area (CR 50). In addition, although not a high crash frequency location, the intersection of US 52 and TH 57/CSAH 8 was identified as a high crash severity location. The following is an overview of the crash history for each of these high crash frequency and/or severity locations:

US 52 and CSAH 9 Intersection

At the intersection of TH 52 at CSAH 9, an analysis of crash report data indicates that 57 percent of the reported crashes are right angle collisions. Of these, 27 right angle crashes, a total of 23 (85%) involved the northbound/eastbound direction of travel. A failure to yield was listed as a contributing factor in 15 of the 27 right angle crashes. Finally, over 26 percent of the drivers involved in crashes at the intersection were age 60 or older. Further analysis of this intersection is recommended with particular attention given to the apparent failure to yield the right of way on the northbound and eastbound approaches. A sight distance study may be appropriate to evaluate if the existing guard rail (along the north bound lanes) is obstructing a motorist’s line of sight at this intersection or if there are other contributing factors that may be corrected.

US 52 and TH 57/CSAH 8 Intersection

An analysis of crash report data for the intersection of TH 52 at TH 57/CSAH 8 indicates that 52 percent of the reported crashes are right angle collisions. This amounts to 82 percent of all reported injury crashes at the intersection. Also, it should be noted that 17 percent of the drivers involved with accidents at the intersection were age 60 and older.

US 52 from CSAH 9 to CSAH 8/TH 57

An analysis of the crash report data along the segment between the intersections of CSAH 9 and CSAH 8/TH 57 on US 52 indicates that 58 percent (41 of 71) of the reported crashes were vehicles that had ran off the road. Of these, a total of 21 occurred during poor weather conditions. The crash report data for the intersection of US 52 and CSAH 9, as discussed above, contributes heavily to the overall high segment crash rate and high segment crash severity rate.

US 52 from CSAH 8/TH 57 to Southern Terminus

Analysis of the crash data along the segment of US 52 south of the intersection of TH 57/CSAH 8 indicates that 82 percent (14 of 17) of the reported crashes were vehicles that had ran off the road. Of these, a total of 12 occurred during poor weather conditions. The crash report data for the intersection of US 52 and CSAH 8/TH 57, as discussed above, contributes heavily to the overall high segment crash rate and high segment crash severity rate.

It should be noted that there is currently a safety study underway for the intersection of US 52 and CSAH 9 within the project area, as part of a separate project. Recognizing the significant safety concerns in this area, MnDOT and the University of Minnesota initiated a safety improvement study in 2009, focusing on the intersection of US 52 and CSAH 9. This initiative is currently underway and includes the implementation of innovative Intelligent Transportation Systems (ITS) designed to help drivers judge when it is safe to enter the intersection. This treatment is still under evaluation.

Social, Economic, and Environmental (SEE) Concerns

Potential SEE issues will be addressed in greater detail during the formal environmental documentation or Planning and Environmental Linkages (PEL) study for the proposed US 52 Safety, Access and Interchange Location Study improvements. Additional information will also be obtained through agency coordination and the public input process.

Potential issues include farmland impacts, wetlands, Karst (sinkhole) conditions, stream crossings, woodlands, and socio-economic concerns associated with access management (travel time impacts, emergency vehicle impacts, etc.). Rare, threatened, and endangered species are also present in the study area. Potential cultural resources impacts are expected but unknown at this time.

There are no known historic structures within 1/2 mile of the intersection of US 52 and CSAH 1 or CSAH 9. However, there may be other properties in the general project area that have not been inventoried. A broad map of archaeological potential for cultural resources within the project area was also obtained; no known cultural resource sites were identified in the project area. However, much of the area has not been surveyed. Therefore it is likely that a cultural resources survey will be necessary once a general area for the interchange has been selected. The cultural resource information will inform the selection of a preferred alternative.

C. Public Meeting Results

A public informational meeting for the US 52 Safety, Access and Interchange Location Study was held on August 25, 2010. The purpose of this meeting was to provide interested stakeholders with an overview of the project, including schedule, study process and partners, issues and opportunities, and potential interchange concepts.

In addition, a project questionnaire was also administered. The purpose of this questionnaire was to solicit stakeholder input on several of the important aspects of the project, and to allow stakeholders to provide other comments and feedback. A summary of the questionnaire results are included in Appendix C.

D. Other Issues

CAPX2020

A transmission line project known as CapX2020 has been proposed within the study area. This project would be built in phases and would be designed to meet the growth in electricity demand as well as to tap into vast wind energy resources in southern and western Minnesota and the Dakotas. Maps showing the location of the proposed CAPX2020 project, relative to the study segment of US 52, are included in Appendix D.

The proposed CapX2020 project will include construction of three 345 kilovolt (kV) transmission lines, one 230 kV line, and associated substations. The Group 1 projects include a 150-mile, 345 kV line between Hampton and Rochester continuing to La Crosse, Wisconsin.

The route of this power line could provide the ability to create north-south mobility improvements for local traffic that is currently served by direct access on US 52. The power lines need continuous maintenance access throughout the project area. If the utility line is constructed, a potential opportunity for MnDOT and Goodhue County exists to expand this access road, creating a township road for the low volume of local traffic to use and potentially eliminate several access points directly onto US 52.

Rochester Rail Link Feasibility Study (2003)

The City of Rochester, together with MnDOT, assessed the potential of the US 52 Corridor as a multi-modal corridor and a key connector for the future. The study examined the feasibility of rail service supporting interurban mobility and connections between its cities at the regional level of the Midwest. The study evaluated the potential for the US 52 corridor as a high speed rail connection between the Twin Cities and Rochester international airports. The report identified two alternative routes (See Appendix E). No recommendations were made in the report.

E. PMT Approval of Project Background

Technical Memorandum No. 2 – Project Background was presented to the PMT on January 6, 2012 for discussion and comments. After review and comment, the memorandum was amended and reissued for PMT approval on March 9, 2012. Final approval of Technical Memorandum 2 was received on May 4, 2012.

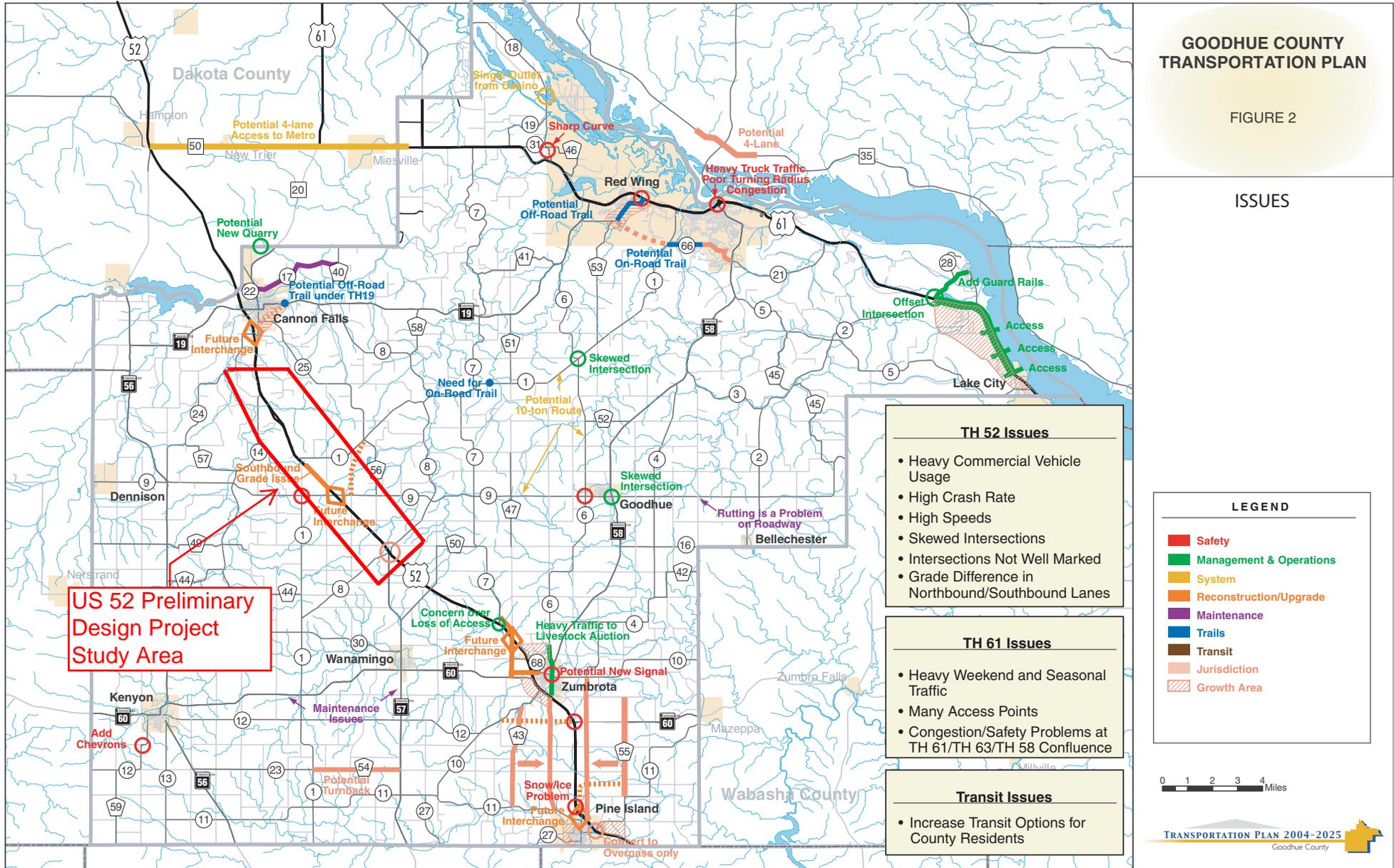
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- Minnesota Department of Transportation. *Interregional Corridor Study*. November 1999.
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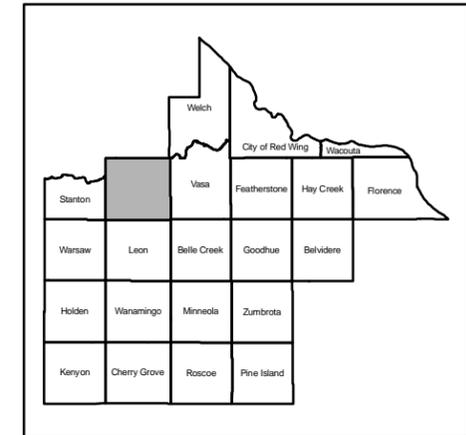
Appendix A: Goodhue County Transportation Plan (2004) – Issues Map



Appendix B: Goodhue County Zoning Districts – Cannon Falls and Leon Townships

Goodhue County Zoning Districts

Cannon Falls Township



ABOUT THIS MAP:
This map is derived from a combination of data sets. The information on this map is only as accurate as the original source material.

FLOODPLAIN:
100 and 500-year flood inundation areas are provided via Q3 Flood Data produced for Flood Insurance Rate Maps by FEMA (Federal Emergency Management Agency).

WILD & SCENIC:
River layer encompassing wild and scenic river management districts created by the DNR and based on State PLS section boundary lines. Due to the fit of this shapefile to section lines, it is NOT considered to be legally accurate.

SHORELINE:
The shoreline coverage was developed by creating a 300ft buffer of protected streams and a 1000ft buffer from lakes. The protected streams coverage was developed in-house using 1980 DNR 24K stream data along with a 1996 map of Protected Waters and Wetlands provided by the DNR Division of Waters.

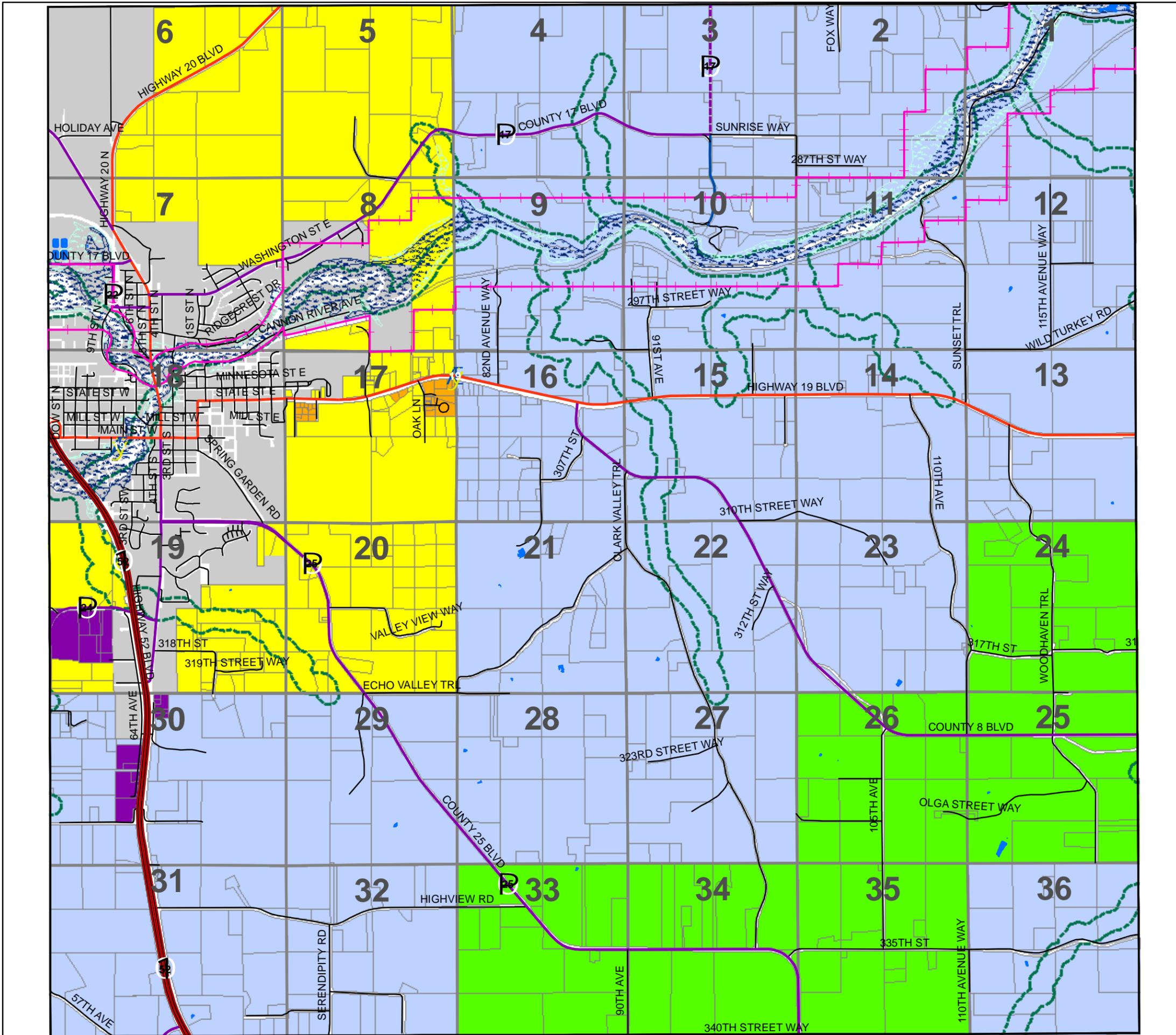
ZONING:
Zoning information was provided by the Goodhue County Land Use Management Office and was best fit to the existing digital parcel coverage.

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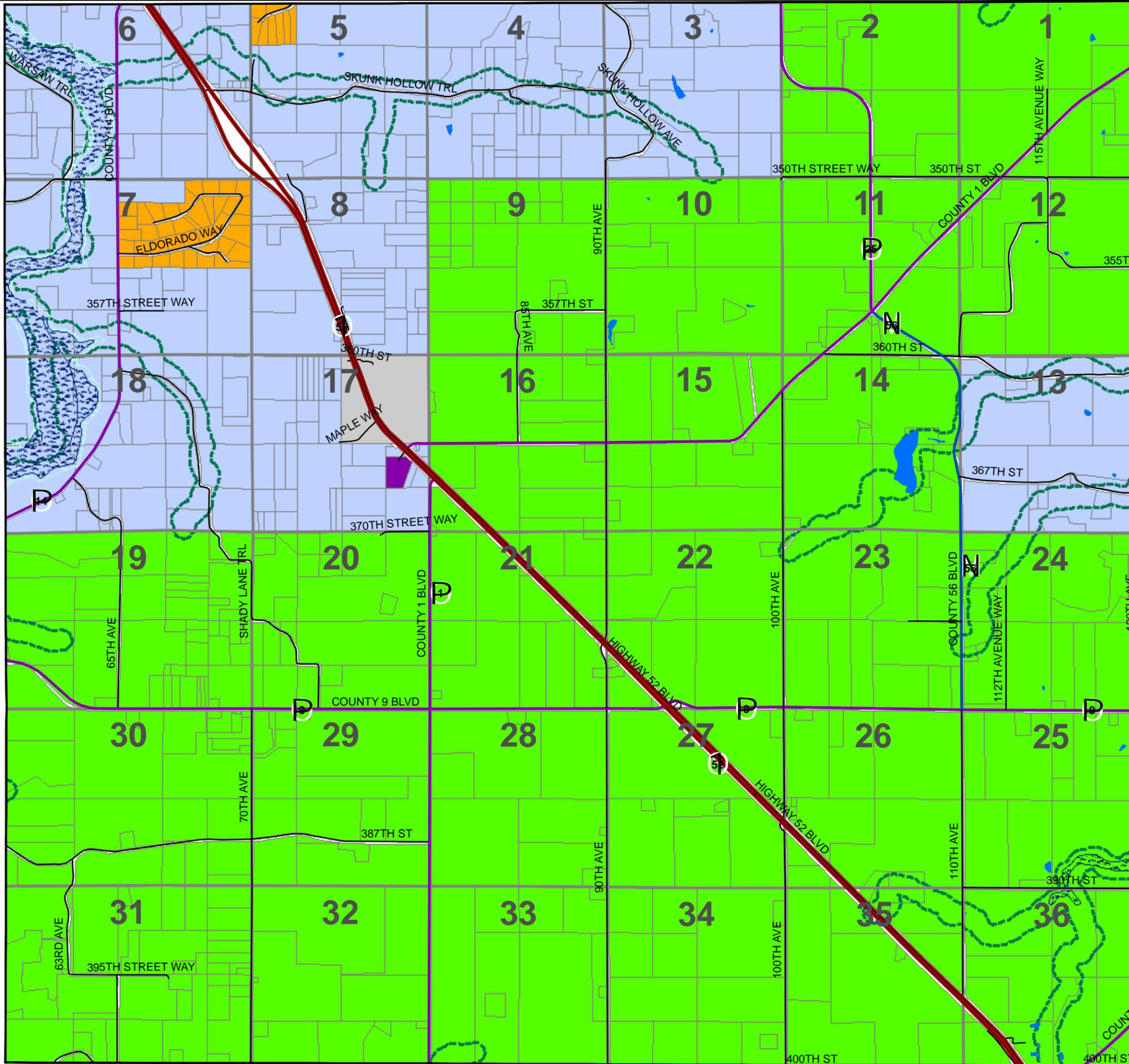
Legend

- Lakes
- Section Lines
- Wild & Scenic
- Shoreland
- 100-year Flood
- 500-year Flood
- Zoning Districts Description**
- A1 - Agricultural Protection
- A2 - Agricultural
- A3 - Urban Fringe
- B1 - General Business
- B2 - Highway Business
- CR - Commercial Recreation
- I - Industry
- R1 - Suburban Residential
- Within City Limits or No Data
- Township Boundaries



Goodhue County Zoning Districts

Leon
Township



ABOUT THIS MAP:
This map is derived from a combination of data sets. The information on this map is only as accurate as the original source material.

FLOODPLAIN:
100 and 500-year flood inundation areas are provided via Q3 Flood Data produced for Flood Insurance Rate Maps by FEMA (Federal Emergency Management Agency).

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River layer encompassing wild and scenic river management districts created by the DNR and based on State PLS section boundary lines. Due to the fit of this shapefile to section lines, it is NOT considered to be legally accurate.

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Legend

- Lakes
- Section Lines
- Wild & Scenic
- Shoreland
- 100-year Flood
- 500-year Flood

Zoning Districts Description

- A1 - Agricultural Protection
- A2 - Agricultural
- A3 - Urban Fringe
- B1 - General Business
- B2 - Highway Business
- CR - Commercial Recreation
- I - Industry
- R1 - Suburban Residential
- Within City Limits or No Data
- Township Boundaries

Appendix C: Stakeholder Questionnaire Results

Hwy 52 Safety & Access Study: Hadar to Cannon Falls

Questionnaire - RESULTS

Project Objective

- To address safety concerns and improvements to the regional and local road networks along the Hwy 52 corridor from Hadar to Cannon Falls.

Project Goal

- To establish priorities for infrastructure investments along the surrounding Hwy 52 corridor.

Study Area

Hwy 52 corridor (Hadar to Cannon Falls)



The Minnesota Department of Transportation and Goodhue County have begun a preliminary design of Hwy 52 from Hadar to the southern limits of Cannon Falls. The first step in the project will be to identify all the potential issues and key factors associated with the corridor improvements. The project team wants to hear from you on the best possible ways to provide these safety improvements along the corridor.

Please take a few minutes and let us know your thoughts – we welcome your comments and suggestions. If you need more space, please attach additional sheets.

A completed questionnaire may be mailed, faxed, or emailed to:

Jack Broz
HR Green Company
2550 University Avenue, Suite 400N
Saint Paul, MN 55114
Fax: 651.644.9446
Jbroz@hrgreen.com

1. Where do you usually get on and off Hwy 52?

Near 88 mile marker, my driveway.	
County 1	6
At Hadar	2
Highway 19.....	1
Highway 52 and County 1 to go north; Highway 52 and 100th to go south.....	1
County 1 but many times #9 to Zumbrota and Rochester.	1
3759 Maple Way	1
Wagner Hill Way	2
County 9.....	2
County 9 and 100 th Ave.....	1
At County Road 14.....	1
At 90 th Avenue.....	1

2. Where do you usually cross Hwy 52?

Near 88 mile marker, my driveway.	1
County 1	2
County 9	6
At Hader	2
90 th Avenue	1
Wagner Hill Way	2
Highway 19 and 24	1
County 1 and also County 9.....	1
County 9 and 100 th Ave.....	1
County Road 14	1
At 90 th Ave. and C.R. 9	1

3. When using Hwy 52 from your home, do you usually go?

North toward Cannon Falls	13
South toward Rochester.....	1
Both equally	8

4. How long is your typical trip on Hwy 52?

Less than 5 miles	0
5-10 miles.....	6
10-25 miles.....	7
Over 25 miles	5
All equally	1

5. Do you have a field access that connects to Hwy 52? If so, where? On what portion of Hwy 52 do you need to drive farm equipment?

Yes, near 110 th Street County 1 to 90 th Avenue	
Yes, Through Wagner Hill Way	
Yes, at 90 th Avenue	
Between 100 th Ave. and County #9	
No	10
N/A	2

Would you be interested in having this access changed right away to avoid the need to use Hwy 52?

- 1 No
- 2 Yes

For the sake of the farmers in the area who need to cross the highway.

6. Do you have a driveway that connects to Hwy 52? If your driveway connected to a road other than Hwy 52, would you prefer this to be:

No.....	6
Street in front of your property	4
Street behind your property.....	0
Cross street that connects to Hwy 52	1
Yes - Prefer to go north towards Skunk Hollow	
If our driveway can connect to Cty. 14, that would be best for us (via a frontage road or access going west on our property lines with no frontage road.	
N/A	1

7. If a new interchange is built, where would you prefer it to be located?

At Hwy 1	6
At Hwy 9	10
At Hader	1

Somewhere between Hwy 1 and Hwy 9 1
 Don't want an interchange 1

Why do you prefer this location?

- Keep County 9 straight - County 1 is a mess already
- Appears to be the logical location.
- Logical location.
- Used most.
- Because our trips go north and it would add miles to a daily commute.
- Closer access.
- Makes more sense - less homes/businesses - interrupted
- For access to Red Wing and to Umland Lutheran Church
- Close to our place
- Located closer to our place
- Closer for me
- Amount of Traffic. I think an overpass at County #1 is also needed.
- Less interruption of homes
- It is more accessible to farmers who need to cross the highway. The C.R. 1 option is at the edge of the area that is farmed intensively by those with large equipment. The area of C.R. 1 has many sinkholes.

8. Do you think there is a need for trails (biking or walking) in the project area? Where?

- No..... 11
- Not necessarily..... 1
- No, I would prefer not to go biking or walking next to a highway. Cannon Falls already has a beautiful bike trail.
- Yes 1
- Yes, by Edgewood @ Salvon now 1
- Snowmobile trail crossing 1
- County Road 14 is already used by bikers as well as our road - 65th Ave. (between 9 & 14)..... 1

9. Do you ever bike or walk across or along Hwy 52? Where do you cross Hwy 52 when biking or walking?

- No..... 16
- No. 1..... 1
- County 9..... 1
- No, we do not cross Hwy 52 walking or biking. I have only seen 1 bicycle in the 12 years of living here riding down the highway. The only people walking were because of a car breakdown.

10. Do you think that Hwy 52 is a safe highway? If not, where are the most serious safety problems?

- No..... 15
- Yes, if people actually droe at the posted speed limit. Hwy. access points are safety issues going from 0 to 65 MPH with no acceleration lane. I used the acceleration lane at 57 & 52 today - Very nice!
- Highway 9 2
- No. 1 going north cannot see traffic coming from South
- No. 1 and No. 9
- At intersections
- Speed
- So many accesses
- All intersections - especially at #9
- County 1 and County 9
- At all accesses
- All over on weekends - It gets very busy.
- Traffic is too fast.
- In 1968 I had a serious accident with injuries crossing #9 east going west.
- Intersections of #9/#1/#8
- Speed, blind/limited vision to access highway
- Yes.....
- For the most part, yes. The biggest challenge is drivers on cell phones not paying attention.
- Most Dangerous sites area CR 1, CR 9, and the Hiwy 57/CR 8 junctions.

11. What important historic features, natural features or tribal lands, if any, are in the project area? Where are they located approximately?

None..... 4

N/A

None known

Unaware, new to area

Obviously, there are streams to cross that must be protected.

A graveyard (unmarked) is present just north of 52 on 90th Ave. My driveway is the first one on the right. The trees at the beginning of my driveway mark the site.

12. What other concerns do you have about this project or issues do you think need to be addressed?

Concerns of emergency vehicles and safe crossings

The effect it would have if #1 would be re-routed through farmland and to 100th Avenue. Believe it would be more cost effective to have an overpass to connect #1 on both sides of Highway #52.

The effect of 100th Avenue between County #1 and 9 - safety of an active gravel pit.

In the interim, the exit lane for Wagner Hill on the southbound could be lengthened when turning east (gravel pit direction).

If access to 52 is restricted, the best solution would be to build a driveway out to Cty. 14 for us but it would require easements from the property owners behind us.

Give us a speed up lane going to the north as I have Rock & Lime Business. Use big trucks to haul.

Would be nice to have start-up lanes at #1 going north. Hard to get on North lane because of hill. Can't see cars coming. Also hard to cross over to get on #1 going east.

The traffic light at #1 is not very good. I do not think many people are using it. - I'm not!!

What kind/number/location of service roads will be available.

Concern over disrupting beauty of this area.

13. Would you like to be on an email distribution list? If so, please provide your email address.

fhalvorson@frontiernet.net

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sjhome@frontiernet.net

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Please use additional sheets if you need additional space for comments

THANK YOU for completing this questionnaire

Appendix D: CapX2020 Location Maps



Sheetmap 7

Existing Transmission
(HDR, WIPSC)

- Substation
- 69 kV Transmission Line
- 115 kV Transmission Line
- 161 kV Transmission Line
- 345 kV Transmission Line

Route Corridors

- Proposed 1000' Route Corridor
- Preferred 345 kV Route
- Alternative 345 kV Route
- Route Option
- MN Scoping Route

- Preferred 161 kV Route
- Alternative 161 kV Route

Substation Siting Area

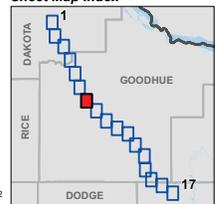
- Preferred
- Alternative

Municipality



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Sheet Map Index





Sheetmap 8

Existing Transmission
(HDR, WIPSC)

- Substation
- 69 kV Transmission Line
- 115 kV Transmission Line
- 161 kV Transmission Line
- 345 kV Transmission Line

Route Corridors

- Proposed 1000' Route Corridor
- Preferred 345 kV Route
- Alternative 345 kV Route
- Route Option
- MN Scoping Route

- Preferred 161 kV Route
- Alternative 161 kV Route

Substation Siting Area

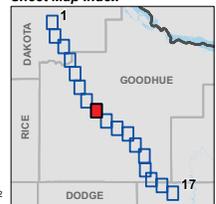
- Preferred
- Alternative

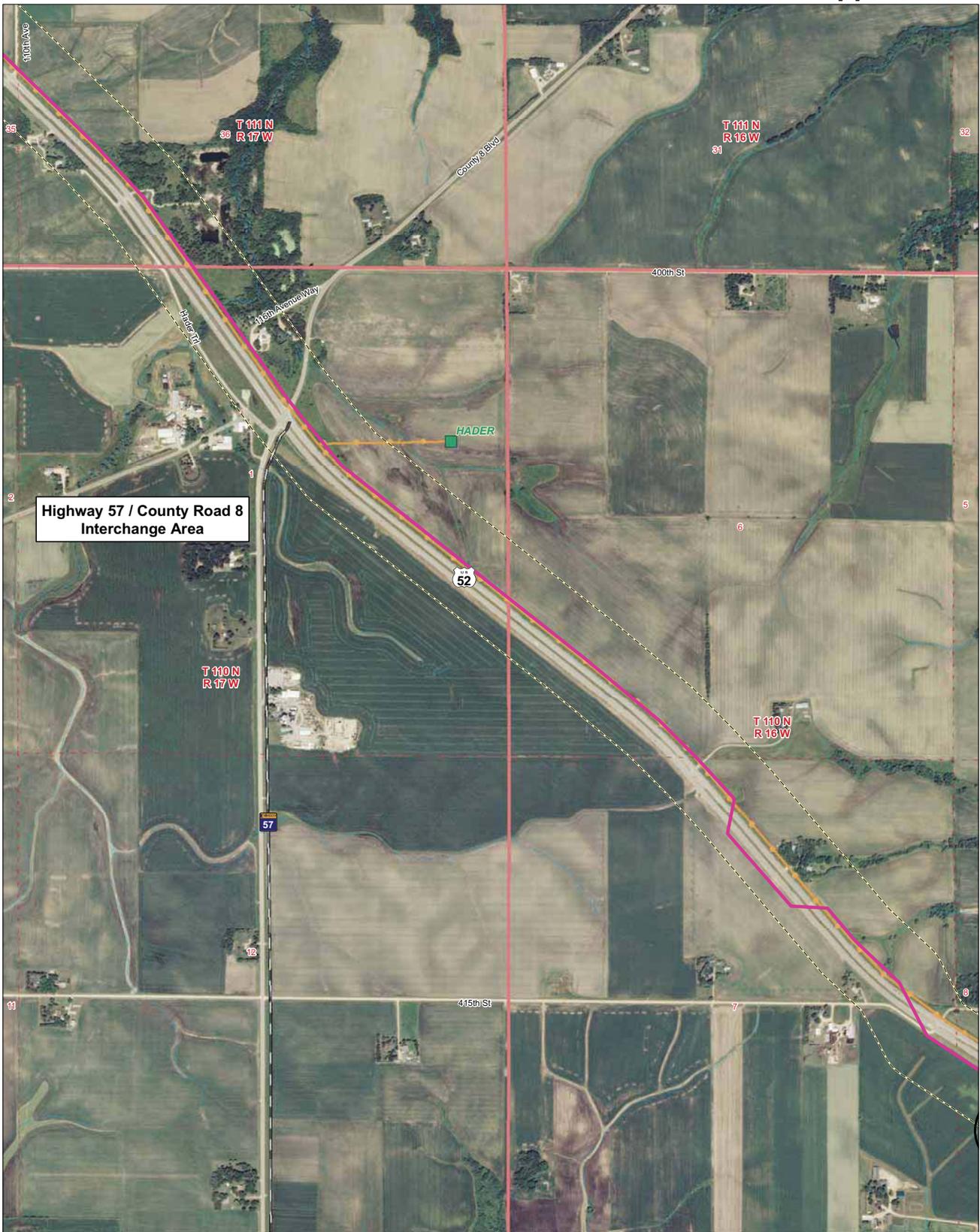
Municipality



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 PDF LOCATION: F:\200707180025_00_CAPX\GIS\Maps\Matrix\Cals\Hwy52

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Highway 57 / County Road 8 Interchange Area

Sheetmap 9

Existing Transmission
(HDR, WIPSC)

- Substation
- 69 kV Transmission Line
- 115 kV Transmission Line
- 161 kV Transmission Line
- 345 kV Transmission Line

Route Corridors

- Proposed 1000' Route Corridor
- Preferred 345 kV Route
- Alternative 345 kV Route
- Route Option
- MN Scoping Route

- Preferred 161 kV Route
- Alternative 161 kV Route

Substation Siting Area

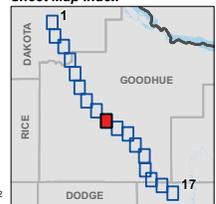
- Preferred
- Alternative

Municipality



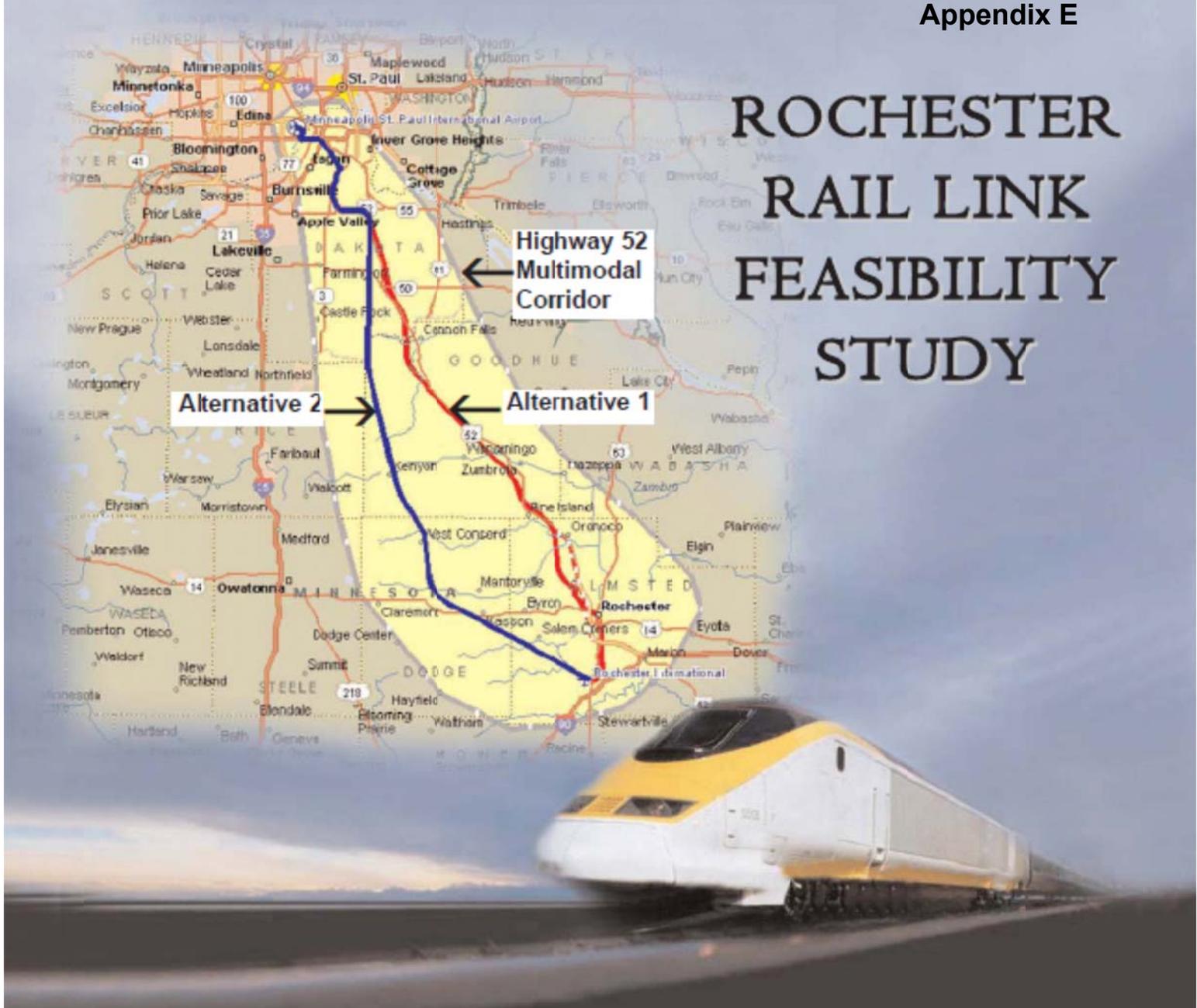
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Appendix E: Rochester Rail Link Alternatives

ROCHESTER RAIL LINK FEASIBILITY STUDY



Prepared for
Minnesota Department of Transportation

Presented by
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Transportation Economics & Management Systems, Inc.

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HNTB

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