

TH 15 Corridor Study

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Prepared for:

Mn/DOT District 3

Partnered with:

**St. Cloud Area Planning Organization, Stearns County,
St. Augusta, St. Cloud, Waite Park, Sartell, and Sauk Rapids**

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SI. Introduction and Background

A. Study Overview

The Trunk Highway 15 (TH 15) Corridor Study was undertaken by Mn/DOT District 3 in partnership with Stearns County, Benton County, the St. Cloud Area Planning Organization (APO) and the communities of St. Augusta, St. Cloud, Waite Park, Sartell, and Sauk Rapids. The study focuses on building a vision for TH 15 that can provide a framework for decision-making on land use and transportation investments in the corridor. A vision for TH 15 will help MnDOT, as well as the Cities and Counties, know where to preserve right-of-way for future expansion, and thereby, minimize future impacts on the area's social, economic, cultural, and natural environment.

Study Purpose

The primary objective of the TH 15 Corridor Study is to determine what improvements may be needed on TH 15 to handle traffic demand through 2030 and beyond, and identify an implementation plan that would allow improvements to be made over time. One of the key questions to be answered in this study is whether TH 15 should be upgraded to a freeway in the future, and what are the costs and impacts of a freeway in this corridor.

Study Limits

The segment of TH 15 under study begins at Stearns CSAH 47/CSAH 136 and heads northerly to TH 10 in Benton County. There is no private land access along TH 15 from I-94 to TH 10 where access is limited to collector and arterial roadways. The corridor length under study is 11.2 miles.

Relationship to TH 23/CSAH 75 Study

A similar study is being conducted for TH 23, between I-94 and TH 15; and CSAH 75, from TH 15 to I-94. Because improvements on TH 23/CSAH 75 (2nd Street South) will have an impact on TH 15, and improvements on TH 15 will have an impact on 2nd Street South, these two studies are being conducted jointly to coordinate the decision-making for the two roadways.

Study Organization

A Technical Advisory Committee (TAC) and a Policy Advisory Committee (PAC) were established to provide direction and oversight for the study. The TAC is made up of staff from the Cities, Counties, APO, and Mn/DOT. Their role is to provide technical review of the analysis and findings from the study and communicate those findings with elected representatives. The PAC is made up of elected representatives from the affected agencies, and their role is to provide policy direction and input for the study.

SII. Project Purpose and Need

A. Project Goal and Objectives

Goal

The long-term transportation goal for the TH 15 corridor is to preserve its integrity as a principal arterial moving the longer metro area trips efficiently, reliably, and safely within and through the

St. Cloud Metropolitan Area. Specific objectives and measures for evaluating how well this goal is being achieved are as follows:

Objectives

- ◆ Meet Mn/DOT's access spacing guidelines while maintaining reasonable land access along the corridor.
- ◆ Strive for crash and severity rates that are at or below the statewide rates for similar facilities.
- ◆ Maintain or improve average travel speeds (average speed including control delay) in the corridor.
- ◆ Maintain the reliability of TH 15 by providing Level of Service (LOS) C on all segments of the corridor. Isolated at-grade intersections or ramp terminals should operate at LOS D or better.
- ◆ Proposed improvements in the corridor should have a benefit to cost ratio greater than one.
- ◆ Minimize social, environmental, and economic impacts.

B. Summary of Deficiencies

Table S1 summarizes the existing and No Build conditions on TH 15 and whether the stated objectives are met. Only the first four objectives, access spacing, safety, travel speeds, and LOS are summarized since benefit/cost and SEE impacts are not influenced by the existing and No Build conditions.

Table S1: TH 15 Summary of Deficiencies

Objective	TH 15 Location	2005	2030
		Existing	No Build Includes At-Grade at 33rd St. S.
Access Spacing (miles)	Segment A - CSAH 47/136 to I-94	0.33	0.33
	Segment B - I-94 to 2nd St. S.	4.34	2.19
	Segment C - 2nd St. S. to 12th St. N.	0.41	0.41
	Segment D - 12th St. N. to TH 10	0.73	0.67
Safety (Crashes/MVM ¹)	Segment A - CSAH 47/136 to I-94	2.51	no change
	Segment B - I-94 to 2nd St. S.	0.43	increase
	Segment C - 2nd St. S. to 12th St. N.	10.82	no change
	Segment D - 12th St. N. to TH 10	1.42	no change
Travel Speeds (mph)	Segment A - CSAH 47/136 to I-94 (NB/SB)	63/61	19/33
	Segment B - I-94 to 2nd St. S. (NB/SB)	66/63	29/39
	Segment C - 2nd St. S. to 12th St. N. (NB/SB)	22/28	7/11
	Segment D - 12th St. N. to TH 10 (NB/SB)	45/42	17/11
	Corridor Total Travel Time (NB/SB - min.)	15.8/15.4	38.2/38.6
LOS	Segment A - CSAH 47/136 to I-94 (NB/SB)	A/A	E/C
	Segment B - I-94 to 2nd St. S. (NB/SB)	B/C	C/B
	Segment C - 2nd St. S. to 12th St. N. (NB/SB)	B/B	F/F
	Segment D - 12th St. N. to TH 10 (NB/SB)	B/B	E/F
	Intersection	LOS D or better	2 LOS E 8 LOS F

1. Million Vehicle Miles

Note: Highlighted Areas do not meet stated corridor objectives.

Access Spacing

Mn/DOT access spacing guidelines are not met on Segments A and C. The No-Build assumed an at-grade access at 33rd Street which is not consistent with the access guidelines for this segment. The guideline indicates access should only be provided at interchanges.

Safety

Segment A, from CSAH 47/136 to I-94 has crash rates that are two times greater than the statewide and District 3 averages. Segment C, 2nd Street S. to 12th St. North, has crash rates almost five times greater than the statewide average. There are six intersections along the corridor that are higher than the statewide and District 3 averages. 2nd Street South and 3rd Street North have crash rates that are greater than two times the District 3 averages for signalized intersections.

Travel Speeds

The travel speeds along TH 15 range from 22 to 66 mph along the corridor. The lowest travel speeds of 22 mph are experienced in the "core area" between 2nd Street South and 12th Street North. The high travel speeds are experienced on the freeway segment of TH 15 from I-94 to 2nd Street South. The average travel speeds of future traffic volumes on TH 15 are expected to decrease significantly by 2030 if no improvements are made on TH 15. The decrease in travel speeds range from 15 to 44 mph.

LOS

The objective in this category is to maintain the reliability of TH 15 by providing LOS C on all segments of the corridor with isolated intersections or ramp terminals at LOS D or better. Currently the segments have acceptable LOS of C or better. All of the intersections are also operating at acceptable conditions of LOS D or better. However, by 2030 all but two of the intersections in this corridor are expected to operate at LOS E or F and three of the four segments on TH 15 will operate at LOS E or F. Traffic forecasts indicate that TH 15, from 2nd Street South north to TH 10, will exceed the capacity for a 4-lane expressway by 2030. It is also reaching the capacity of a 6-lane expressway over the Mississippi River (12th Street North to TH 10).

SIII. Alternatives

A. TH 15 Corridor Alternatives

In defining alternatives for the TH 15 Corridor, the corridor was divided into four segments. The segments were selected based on the existing characteristics of the roadway, the adjacent land use, the frequency of access, and the intersecting roadways. Within each segment, except for the segment south of I-94, both at-grade and grade separated alternatives were considered. A freeway segment was not considered south of I-94 because the existing and forecast traffic volumes are lower than other segments of the corridor and I-94 is a logical terminus for the freeway section to the north. TH 15 is currently a rural two-lane roadway south of I-94, and there are no plans to upgrade the section south of I-94 to freeway. However, Mn/DOT does have plans to upgrade this section to a four-lane divided expressway from I-94 to Kimball.

The four corridor alternatives that were selected for further evaluation are shown on Figure S1 and Figure S2.

B. TH 15 Access Alternatives

The location of access to TH 15 is an important issue for each of the alternatives. At-grade alternatives allow more access than freeway alternatives but provide less mobility. This section defines the access that could be provided for both the at-grade and freeway alternatives.

At-Grade Access Alternatives

The following was recommended for at-grade access alternatives:

Segment A: CSAH 47/136 to I-94

- ◆ Signalize CSAH 47/136.
- ◆ Relocate the access at CSAH 74 to CSAH 136 east of TH 15.
- ◆ Remove all private access on TH 15.

Segment B: I-94 to 2nd Street South

- ◆ At-grade access is not recommended at Sportsman Island Drive.
- ◆ At-grade access is not recommended at 22nd Street South (CR 137).
- ◆ At-grade access at 33rd Street was assumed to be signalized.

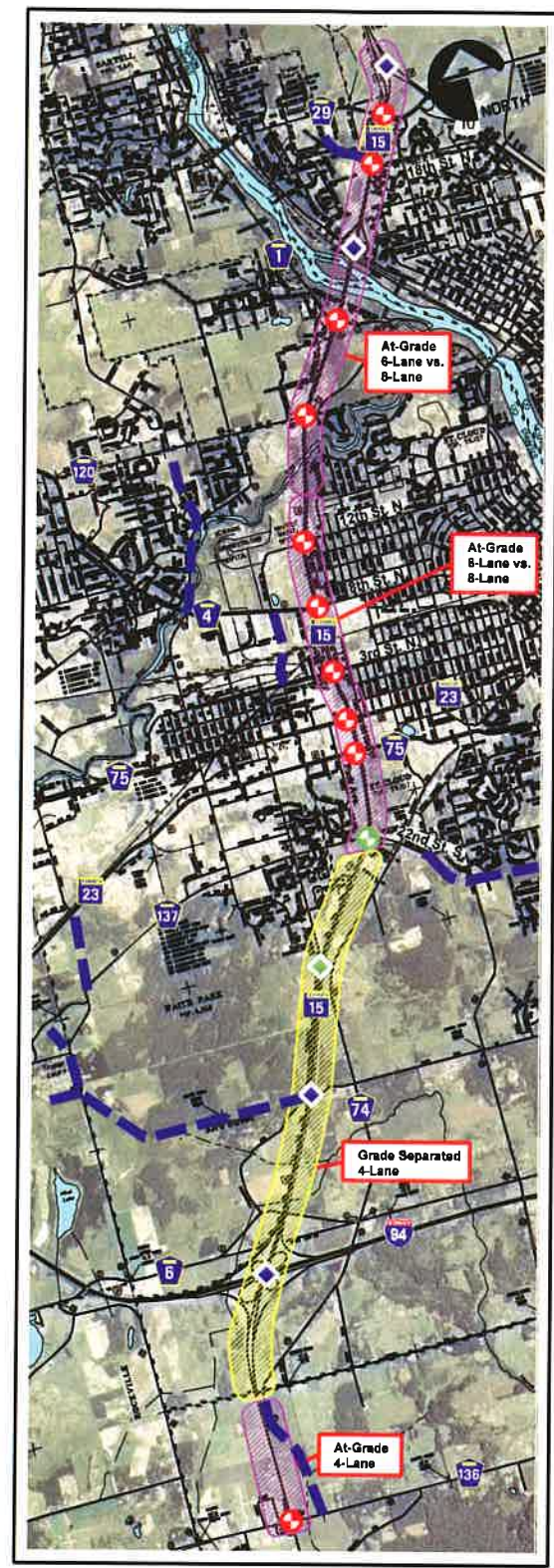
Segment C: 2nd Street South to 12th Street North

- ◆ Maintain the access that exists today.

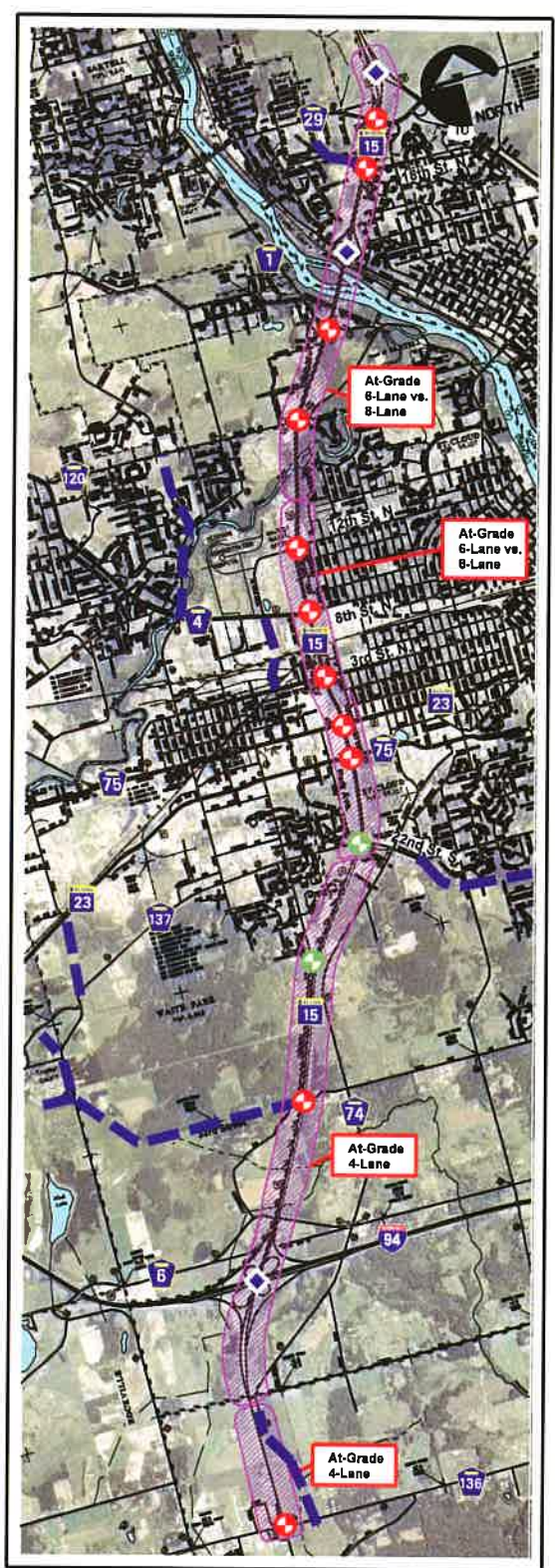
Segment D: 12th Street North to TH 10

- ◆ Maintain the access that exists today with exception to:
- ◆ At-grade access at 18th Street is assumed to have a signal.

Trunk Highway 15 Corridor Study



Alternative 1



Alternative 2



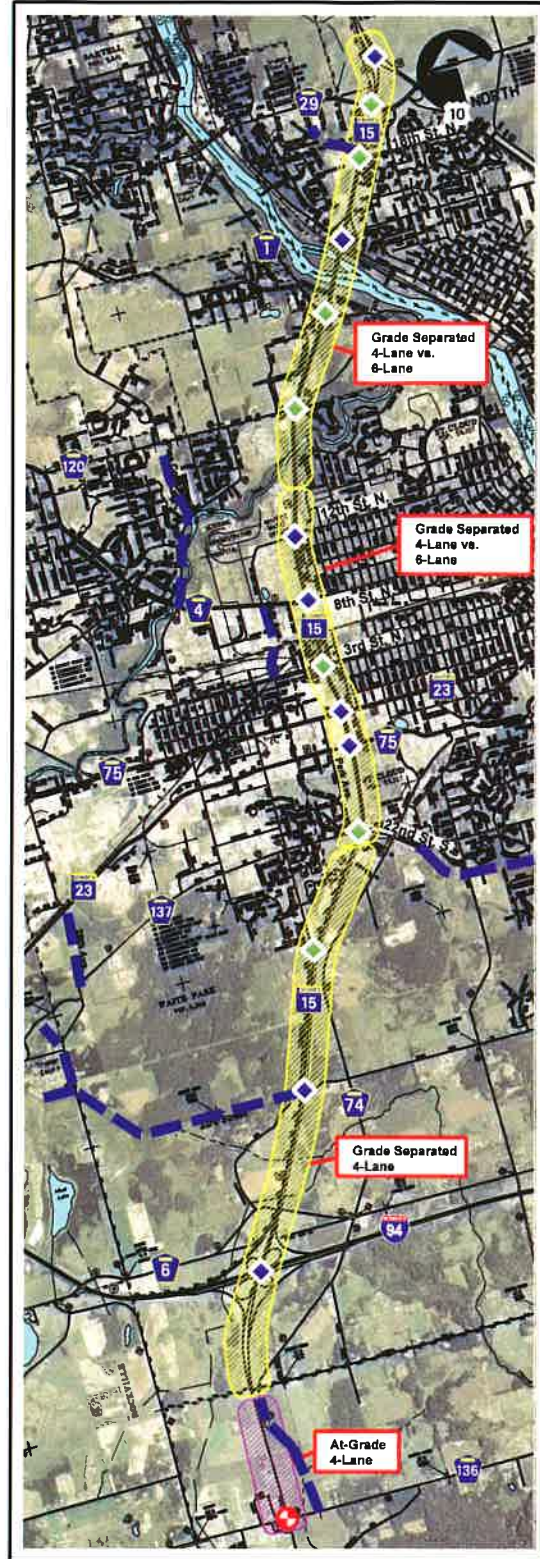
Corridor Alternatives

Figure S1

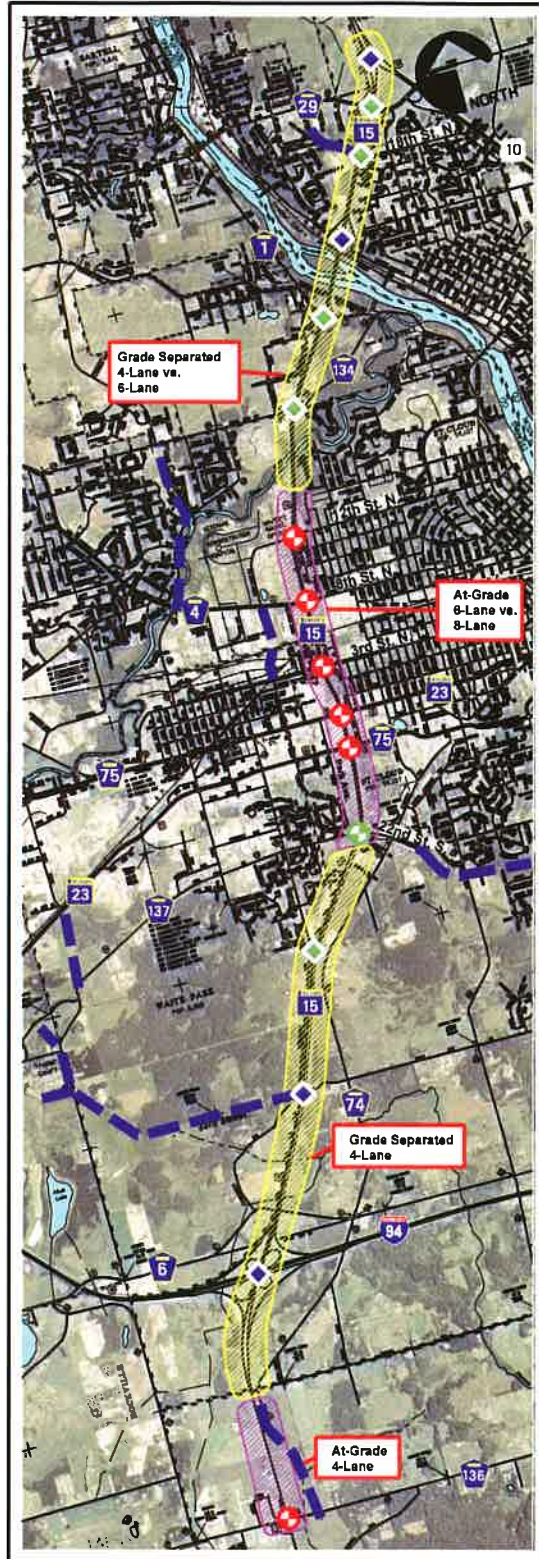
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Alternative 3



Alternative 4



Figure S2

Freeway Access Alternatives

The recommended minimum spacing between interchanges in the Mn/DOT design manual is one mile in an urban area and two miles in a rural area. This spacing is needed to be able to adequately develop entrance and exit ramps to the freeway section. Therefore, with the freeway alternatives, it is not possible to provide direct access to TH 15 at all of the existing access points. All accesses in this scenario would be grade separated; and therefore, a basic interchange configuration is defined to determine the access feasibility and the potential level of impact.

The following was recommended for freeway access alternatives:

Segment B: I-94 to 2nd Street South

- ◆ 33rd Street South: Three alternative interchange configurations are considered feasible for access at 33rd Street South, see Figure S3 for these alternatives.
- ◆ Sportsman Island Drive: Access is not recommended at this location.
- ◆ 22nd Street South: Access is not recommended at this location.

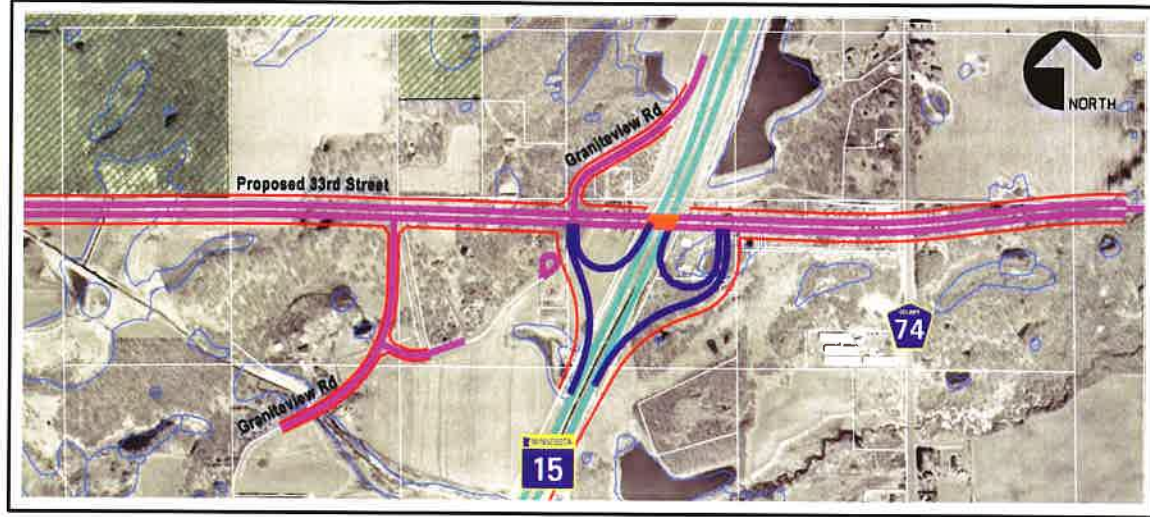
Segment C: 2nd Street South to 12th Street North

- ◆ A system of tight - split diamond interchanges with one-way frontage roads were used for the alternatives evaluation along this segment. The evaluation also includes a range of costs along this segment to represent indirect or direct access from TH 15 to 3rd Street North. Further study is necessary to determine the most appropriate interchange configurations and access at 3rd Street North. See Figure S4.

Segment D: 12th Street North to TH 10

- ◆ **CSAH 134 & CSAH 1:** Tight urban interchanges are recommended at these two intersections with TH 15. See Figure S5.
- ◆ **Benton Drive to TH 10:** An overpass at 18th Street North, a tight urban interchange at CSAH 29, and maintaining the interchange at Benton Drive are recommended along this segment. See Figure S6.

Alternatives Considered



Alternative 1 - 33rd Street Freeway



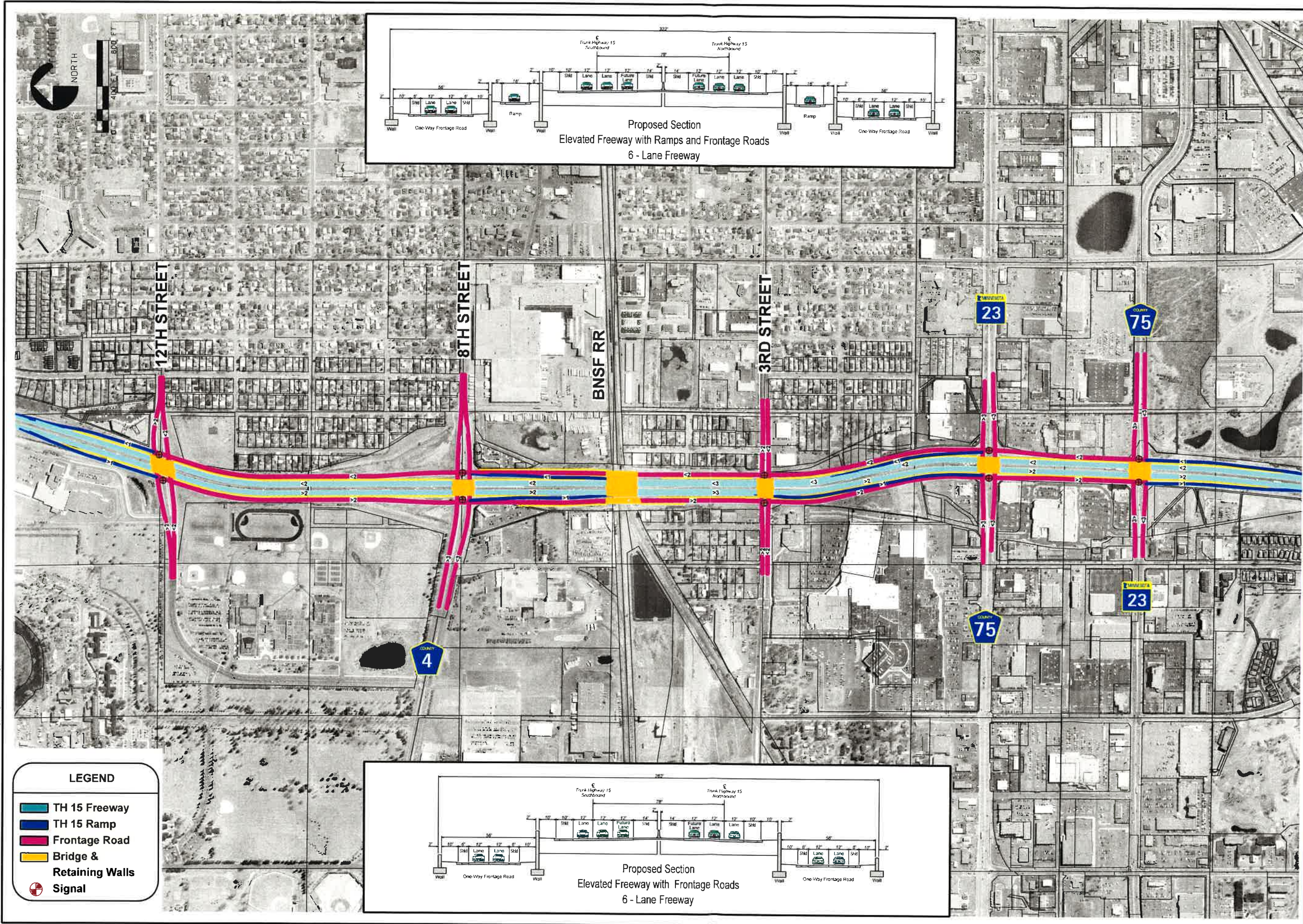
Alternative 2 - 33rd Street Freeway



Alternative 3 - 33rd Street Freeway

TH 15 Freeway	Local Road	Proposed R/W	Parks
TH 15 Ramp	Bridge	Wetlands	

Figure S3



Trunk Highway 15 Corridor Study

2nd Street South to 12th Street North

Freeway - Split Diamond Interchanges with One-Way Frontage Roads to 3rd Street



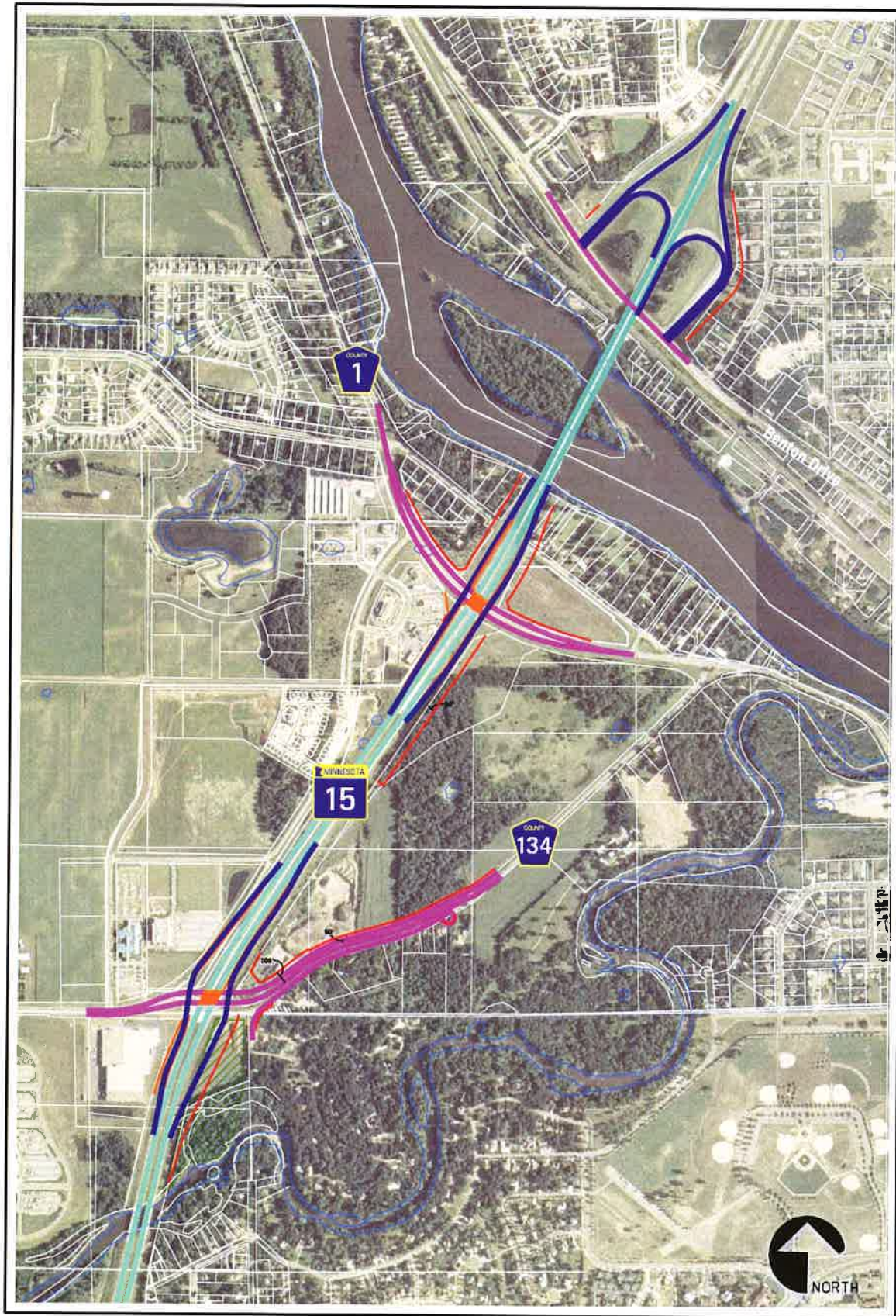
Figure S4



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Preferred Alternative



Alternative 4 - CSAH 134 to Benton Drive

TH 15 Freeway	Local Road	Proposed R/W	Parks
TH 15 Ramp	Bridge	Wetlands	

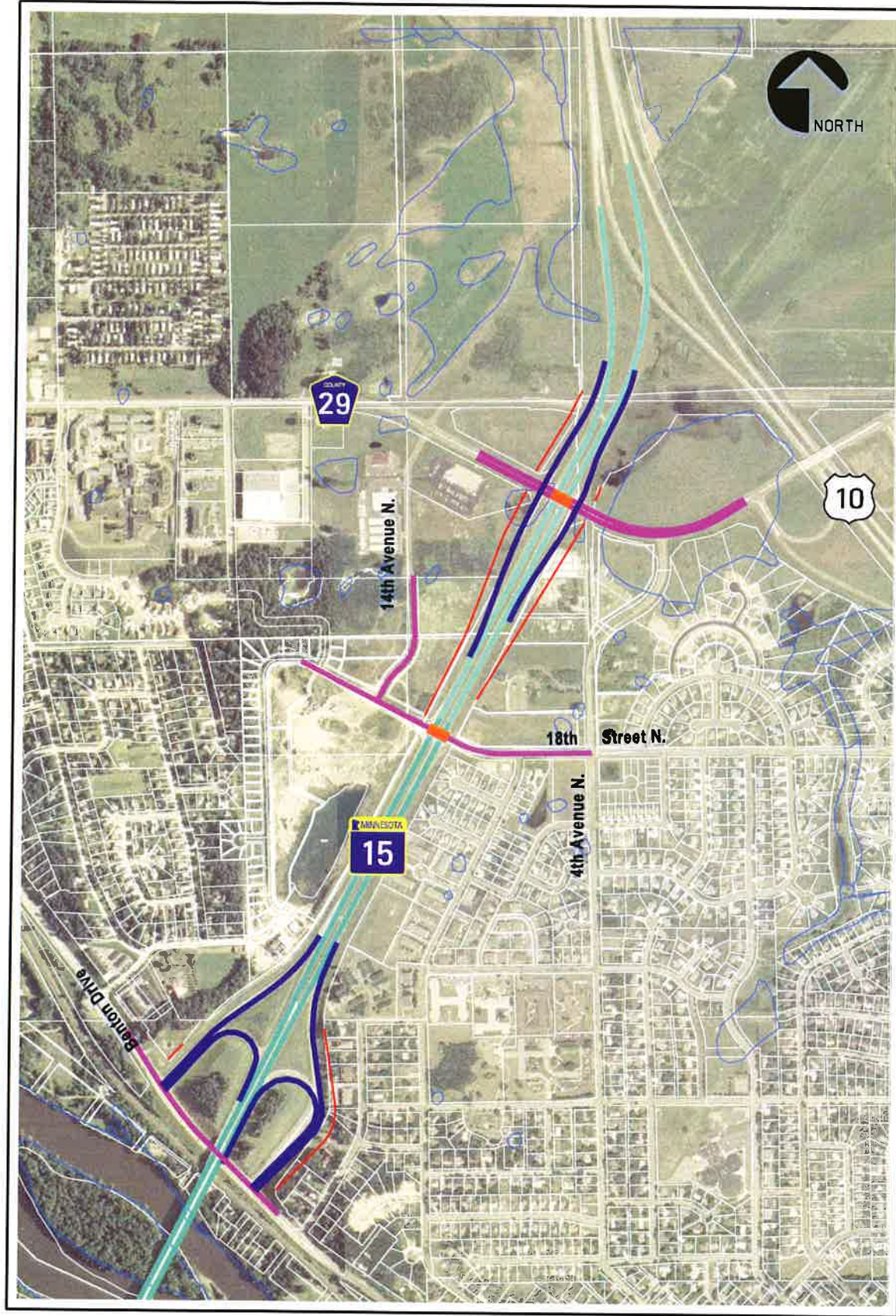
Figure S5



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Preferred Alternative



Alternative 4 - Benton Drive to Trunk Highway 10

TH 15 Freeway	Local Road	Proposed R/W	Parks
TH 15 Ramp	Bridge	Wetlands	

Figure S6

SIV. Evaluation of Alternatives

Based on the access recommendations as detailed in the previous section, the corridor alternatives were evaluated to determine how effectively each alternative addresses the study's six objectives. The following table presents the objective and the measure of effectiveness used for the analysis:

Table S2: Study Objectives and Measures of Effectiveness (MOEs)

Objective	Measure of Effectiveness
1. Access Spacing Guidelines	Does it meet Mn/DOT's access spacing guidelines, yet provide reasonable land access?
2. Crash Rate	Does it have crash or severity rates at or below statewide rates for similar facilities?
3. Travel Speed	Does it maintain or improve average travel speeds?
4. Level of service	Does it provide LOS C on roadway segments and LOS D at isolated at-grade intersections?
5. B/C Ratio	Does it have a benefit/cost ratio greater than 1.0?
6. Social/Environ/Econ. Impacts	Does it minimize social, environmental, and economic impact?

Source: WSB & Associates

Table S3: Evaluation of TH 15 Corridor Alternatives

Objective	2005	2030 Alternative				
	Existing	No Build	2	1	4	3
		Includes At-Grade at 33rd St. S.	All At-grade (8-Lanes from 2nd St. S. to Benton Dr.)	Freeway (I-94 to 2nd St. S.) Rest At-Grade	Freeway (I-94 to 2nd St. S. & CR 134 to TH 10) Rest At-Grade	Freeway (I-94 to TH 10) Rest At-Grade
Access Spacing (miles)						
Segment A - CSAH 47/136 to I-94	0.33	0.33	1.43	1.43	1.43	1.43
Segment B - I-94 to 2nd St. S.	4.34	2.19	2.19	2.19	2.19	2.19
Segment C - 2nd St. S. to 12th St. N.	0.41	0.41	0.41	0.41	0.41	0.82
Segment D - 12th St. N. to TH 10	0.73	0.67	0.67	0.67	0.82	0.82
Safety (crashes/million vehicle miles)						
Segment A - CSAH 47/136 to I-94	2.51	no change	decrease	decrease	decrease	decrease
Segment B - I-94 to 2nd St. S.	0.43	increase	increase	no change	no change	no change
Segment C - 2nd St. S. to 12th St. N.	10.82	no change	no change	no change	no change	decrease
Segment D - 12th St. N. to TH 10	1.42	no change	no change	no change	decrease	decrease
Corridor Average Travel Speed (NB/SB - mph)		18/18	32/29	40/33	49/40	60/60
Segment A - CSAH 47/136 to I-94 (NB/SB)	63/61	19/33	50/48	50/48	50/48	50/48
Segment B - I-94 to 2nd St. S. (NB/SB)	66/63	29/39	33/41	66/67	66/67	66/67
Segment C - 2nd St. S. to 12th St. N. (NB/SB)	22/28	7/11	21/14	21/14	21/14	60/59
Segment D - 12th St. N. to TH 10 (NB/SB)	45/42	17/11	33/30	33/30	59/58	59/58
Corridor Total Travel Time (NB/SB - min.)	15.8/15.4	38.2/38.6	20.9/22.8	16.9/20.4	13.8/17.0	10.8/10.9
LOS						
Segment A - CSAH 47/136 to I-94 (NB/SB)	A/A	E/C	A/A	A/A	A/A	A/A
Segment B - I-94 to 2nd St. S. (NB/SB)	B/C	C/B	C/B	B/C	B/C	B/C
Segment C - 2nd St. S. to 12th St. N. (NB/SB)	B/B	F/F	D/E	D/E	D/E	B/B
Segment D - 12th St. N. to TH 10 (NB/SB)	B/B	E/F	C/C	C/C	B/B	B/B
Intersection	LOS D or better	2 LOS E 8 LOS F	1 LOS E 3 LOS F	1 LOS E 2 LOS F	1 LOS E 1 LOS F	LOS D or better
Benefit/Cost	NA	NA	0.48	1.33	1.60	1.71-1.60
Social/Environmental/Economic						
Right-of-Way - Strip (Acres)	NA	---	14.3	42.0	54.1	59.9
Residential Total Takes (#)	NA	---	---	2	3	3
Business Total Takes (#)	NA	---	---	1	2	3
Parks (Acres)	NA	---	0.06	0.06	2.61	2.70
Wetlands (Acres)	NA	---	---	3.47	4.20	4.20
Construction Cost (millions)	NA	---	\$105.5	\$122.5	\$150.6	\$225.1 - \$244.1
Right-of-Way Cost (millions)	NA	---	\$12.78	\$21.90	\$31.04	\$37.19

Source: WSB & Associates

The recommended improvements and how well they meet the stated objectives are described in the table above. The alternatives are placed in the order of improvement and objective MOE. Alternative 2, all at-grade is first; while Alternative 3, mostly freeway is last.

Conclusion

Upgrading TH 15 to a freeway, Alternative 3, from I-94 to TH 10 is the best alternative for meeting the transportation goals for the corridor. However, this option does have higher costs and social, economic, and environmental impacts than other alternatives. The benefit/cost analysis indicates that the greatest benefits can be achieved by upgrading the section of TH 15 between TH 10 and 12th Street North to a freeway. The section of TH 15 between 2nd Street South and 12th Street North will also need to be upgraded, but the benefits of the freeway alternative are offset by the higher costs and impacts in this section. The at-grade options will not be able to accommodate the traffic beyond 2030 and the parallel corridors will also have limited ability to accommodate growth. Therefore, eventually this middle section of TH 15 should be upgraded to a freeway section.

SV. Public Involvement

The public involvement plan for this study was comprised of monthly study update meetings with the Technical Advisory Committee and periodic study update meetings with the Policy Advisory Committee.

Two public meetings were held to gather public input on the needs in the TH 15 Corridor and potential solutions. In addition, information was mailed to interested property owners and citizens. The report and recommendations will be posted on MnDOT's website and all adjacent property owners will be notified of the availability of the recommendations and report.

SVI. Implementation

Based on the Alternatives Evaluation, Alternative 3 (expressway from CSAH 47/136 to I-94 and a freeway from I-94 to TH 10) best meets the performance objectives 1 through 5. The Alternatives Evaluation indicates that as the level of improvement increases, so does the facility performance while the SEE impact also increases. This suggests that phased-in approach to improvements on TH 15, which over time upgrades the facility to a freeway, would best meet the corridor objectives. MnDOT, the Cities, and Counties should try to preserve the right-of-way that will be needed to upgrade TH 15 to a freeway, and where possible begin to implement solutions that fit with the freeway concept between I-94 and TH 10. Right-of-way preservation could mean keeping existing right-of-way in the corridor that is not currently being used, requiring new development to set buildings back a sufficient distance so that they will not need to be taken with future improvements or requiring dedication of right-of-way. TH 15 should remain a freeway between I-94 and 2nd Street South, and the only new access to TH 15 should be at 33rd Street South.

A. Staging

While specific construction improvements are not in the near future, the preservation of right-of-way as redevelopment occurs along the corridor could occur as the opportunities present themselves.

Short Term (0 to 5 years)

- Add turn lanes to TH 15 intersection at CSAH 47/136 (Programmed for 2008).

- Dedicate right-of-way for interchanges along proposed AUAR development near CSAH 134 and CSAH 1 in Sartell (AUAR is currently under comment period).
- Obtain official map for a new interchange at 33rd Street South (study and official map is underway).

Mid Term (5 to 20 Years)

- Upgrade TH 15 CSAH 47/136 to I-94 to a four-lane expressway (Programmed between 2015 and 2023).
- Construction of 33rd Street interchange (study to determine costs is underway).
- Conduct preliminary engineering and environmental studies needed to establish official map for the corridor.

Long Term (20 plus Years)

Upgrade TH 15 to a freeway from I-94 to TH 10: Even though this upgrade is long term, it is not anticipated that it would occur at the same time. The following illustrates the order of the freeway conversion upgrades along the corridor:

1. Construction of 18th Street overpass, CSAH 29 interchange, and mainline typical section
2. Construction of additional lanes on the Mississippi and Sauk River crossings, CSAH 1 interchange, CSAH 134 interchange and mainline typical section
3. Construction of interchanges from 2nd Street South to 12th Street North and mainline typical section

B. Next Steps

The following actions are recommended by the agencies responsible for implementation of elements of the TH 15 Plan:

Approval of Study through Local Resolutions

- Cities of St. Cloud, Sartell, St. Augusta, Waite Park, and Sauk Rapids approve the study through City Council Resolutions.
- Stearns and Benton County approve study through Resolution from County Boards
- The St. Cloud Area Planning Organization approves study through Resolution from APO Board.

Planning Updates

- Mn/DOT incorporate study into District 3 Plan Update.
- St. Cloud APO incorporate study into Metropolitan Transportation Plan.
- Cities of St. Cloud, Sartell, St. Augusta, Waite Park, and Sauk Rapids incorporate study in Transportation Elements of Comprehensive Plans.

Environmental Documentation

Mn/DOT complete the environmental review for the TH 15 corridor.

Staff Approved Layout and Official Map

Mn/DOT should work with the local agencies to create a staff approved layout for municipal consent. The layout will provide the footprint for an official map that would be adopted after the environmental review is complete.

Pursue Funding

Mn/DOT and the St. Cloud APO should pursue funding for the TH 15 improvements.

I. Introduction and Background

A. Study Overview

The Trunk Highway 15 (TH 15) Corridor Study was undertaken by Mn/DOT District 3 in partnership with Stearns County, Benton County, the St. Cloud Area Planning Organization (APO) and the communities of St. Augusta, St. Cloud, Waite Park, Sartell, and Sauk Rapids. The study focuses on building a vision for TH 15 that can provide a framework for decision-making on land use and transportation investments in the corridor. A vision for TH 15 will help Mn/DOT, as well as the Cities and Counties, know where to preserve right-of-way for future expansion, and thereby, minimize future impacts on the area's social, economic, cultural, and natural environment. The findings and recommendations discussed in this report will be the basis for future preliminary engineering and environmental studies in the corridor. The schedule for future studies is not determined at this time.

Study Purpose

The primary objective of the TH 15 Corridor Study is to determine what improvements may be needed on TH 15 to handle traffic demand through 2030 and beyond, and identify an implementation plan that would allow improvements to be made over time. One of the key questions to be answered in this study is whether TH 15 should be upgraded to a freeway in the future, and what are the costs and impacts of a freeway in this corridor.

Study Limits

The segment of TH 15 under study begins at Stearns CSAH 47/CSAH 136 and heads northerly to TH 10 in Benton County. The study corridor lies within the Cities of St. Augusta, Waite Park, St. Cloud, Sartell, and Sauk Rapids in Stearns and Benton Counties. There is no private land access along TH 15 from I-94 to TH 10 where access is limited to collector and arterial roadways. The corridor length under study is 11.2 miles.

Relationship to TH 23/CSAH 75 Study

A similar study is being conducted for TH 23, between I-94 and TH 15; and CSAH 75, from TH 15 to I-94. Because improvements on TH 23/CSAH 75 (2nd Street South) will have an impact on TH 15, and improvements on TH 15 will have an impact on 2nd Street South, these two studies are being conducted jointly to coordinate the decision-making for the two roadways.

Figure I-1 illustrates the issues identified early in the study process for both TH 23/CSAH 75 and TH 15. Preserving mobility on TH 15 was a common theme along the corridor. However, access to the core business area was also identified as a key issue early in the study process.

Study Organization

A Technical Advisory Committee (TAC) and a Policy Advisory Committee (PAC) were established to provide direction and oversight for the study. The TAC consists of staff from the Cities, Counties, APO, and Mn/DOT. Their role is to provide technical review of the analysis and findings from the study and communicate those findings with elected representatives. The PAC is made up of elected representatives from the affected agencies, and their role is to provide policy direction and input for the study. The representatives for each of these committees are identified in the section on public involvement.

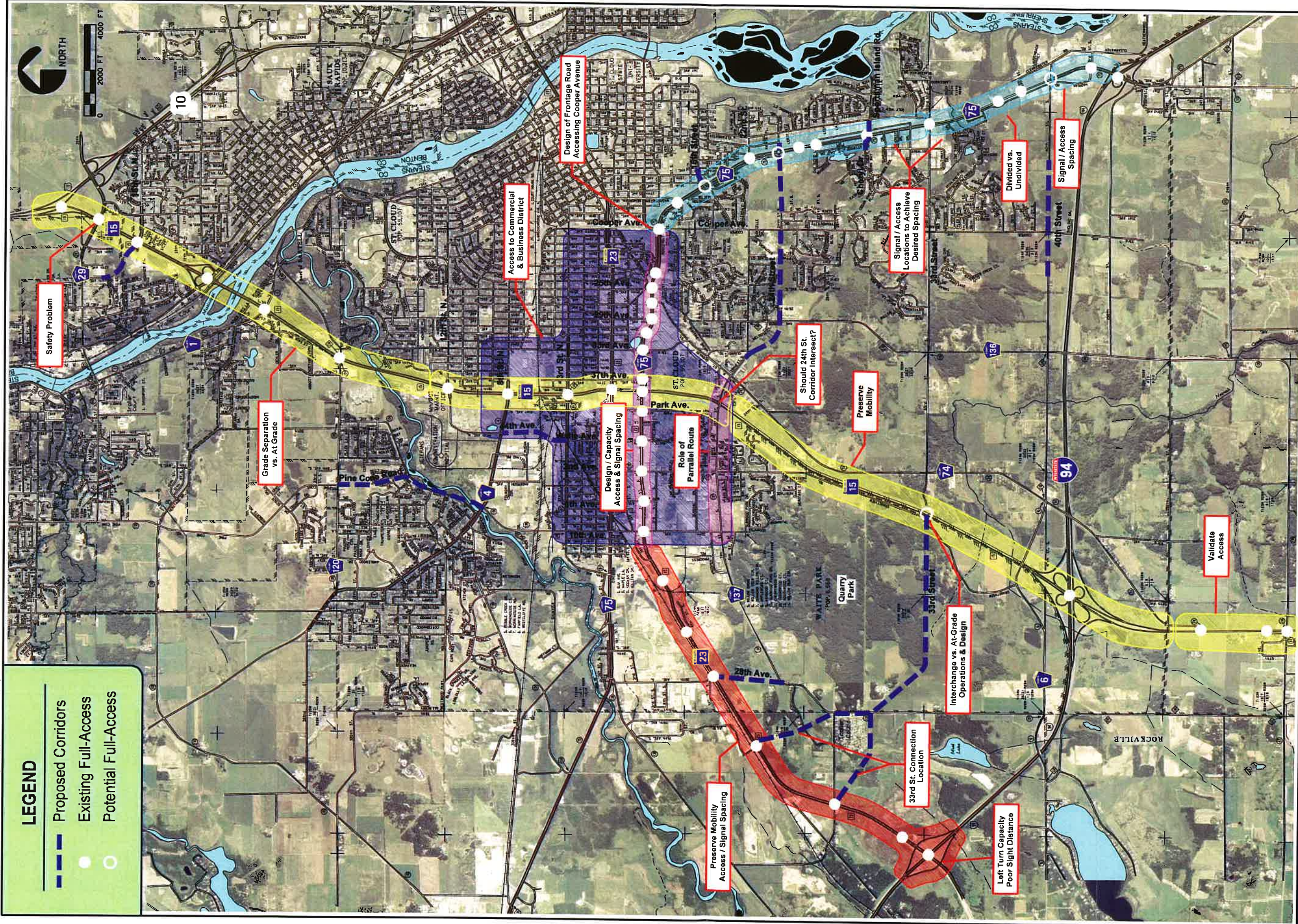


Figure I-1

B. TH 15's History through St. Cloud

Planning for the TH 15 Corridor began in the 1950s (APO, Metrospect, Volume 2, 1989). The design envisioned in the 1970s was a freeway from I-94 to TH 10 through the St. Cloud area. It was intended to provide a high-speed Mississippi River crossing linking I-94 to TH 10. From I-94 to just south of TH 23/CSAH 75 (2nd Street South), TH 15 was constructed as a freeway. However, funding fell short for completing the freeway north to TH 10. It was decided that some of the right-of-way necessary to build the freeway interchanges would be sold to fund the remaining segment of TH 15 over the Mississippi River to TH 10. The result was an expressway facility with at-grade intersections from 2nd Street South to TH 10 as it exists today. As the St. Cloud Metropolitan Area has grown, traffic on TH 15 has increased significantly raising concerns about the ability of this highway to accommodate future growth in the St. Cloud Metropolitan Area.

C. Role of TH 15 in the St. Cloud Area Transportation System

TH 15 is a state trunk highway that extends northerly from the Iowa border through south central Minnesota and ends at TH 10 just north of St. Cloud. In St. Cloud, TH 15 functions as a principal arterial carrying north-south traffic within and through the St. Cloud Metropolitan Area. TH 15 is also defined as a Regional Corridor in the Mn/DOT Interregional Corridor Study, connecting secondary trade centers with St. Cloud, a primary trade center. TH 15 is the only north-south principal arterial in the St. Cloud Metropolitan Area west of the Mississippi River. TH 10 is the other north-south principal arterial in the St. Cloud Metropolitan Area and serves the area east of the Mississippi River.

As a principal arterial, TH 15's function is to provide a higher speed facility for longer metro wide trips. The "St. Cloud Metropolitan Area 1997 External Origin Destination Survey" indicated that the percentage of through trips on TH 15 from south of I-94 (St. Augusta) to TH 10 is 2%. However, the number of through trips from I-94 to TH 10 that would use TH 15 based on the O/D survey, is 1,802. This represents 11% of the 17,000 vehicles per day on TH 15 just north of I-94.

Mn/DOT's District 3 2008-2030 Transportation Plan

Mn/DOT's fiscally constrained 2030 Transportation Plan focuses investment dollars on maintenance/preservation and improving safety deficiencies. The plan states "The District's ability to address congestion-related concerns in its regional trade centers is limited to low-cost improvements to manage the operation efficiency of these corridors."

The fiscally constrained plan currently has no funds dedicated to improve travel speeds on Regional Corridors. The plan also has no funding for congested corridors in the regional trade centers. The plan does show preventative safety expansion on TH 15 from Kimball (TH 55) to I-94. The plan indicates a four-lane expressway along this segment of TH 15 sometime between 2015 and 2023.

Although major improvements on TH 15, north of I-94, are not in the District's 2030 plans, a future vision for the TH 15 Corridor will allow communities to plan future development in a way that will preserve the right-of-way that may be needed for future improvements needed beyond 2030.

APO's 2030 Transportation Plan

The St. Cloud Area Planning Organization 2030 Transportation Plan includes several improvements that will impact TH 15. The plan lists projects in two scenarios, Financially Constrained and Illustrative. The Financially Constrained plan contains projects that can be funded through 2030 based on current funding scenarios. The Illustrative Plan is financially unconstrained and shows projects that are desirable but funding is not available. Unfunded projects in the Illustrative Plan are eligible for High Priority Project funding. The following table lists the improvements in each plan that may impact TH 15:

Table I-1: APO Project's that Impact TH 15

Projects that Directly Impact TH 15		
Financially Constrained Plan		
Roadway	Location	Recommended Design
TH 15	Kimball to I-94	Widen roadway to 4-lane divided section
33rd Street South	TH 23 to CSAH 75	4-lane new alignment
TH 23	10th Ave. to TH 15	*6-lane divided
CSAH 75	TH 15 to 25th Ave.	6-lane divided
CSAH 4	CR 120 to TH 15	Widen roadway to 6-lane divided
CSAH 1	CR 119 to 9th Ave.	Widen roadway to 4-lanes
Benton Dr.	TH 15 to CSAH 29	Widen roadway to 4-lanes
Illustrative Plan		
Roadway	Location	Recommended Design
TH 15	2nd Street to CSAH 29	6-lane expressway
33rd Street South	TH 15 Access	Construct Interchange
Sportsman Island Road	TH 15 Access	Construct Interchange
Sportsman Island Road	CR 136 to TH 15	2-lane new alignment
CSAH 75	10th Ave. to 25th Ave.	6-lane divided
TH 23	TH 15 to 10th Ave.	6-lane divided
18th Street North	TH 15 to CSAH 29	2-lane new alignment
CSAH 29	TH 15 Access	Construct Interchange
Parallel Projects with Traffic Demand Impacts on TH 15		
Financially Constrained Plan		
Roadway	Location	Recommended Design
Pine Cone Road	3rd St. N. to CR 120	Additional lanes
2nd Avenue	Division St. to 8th St. N.	Additional lanes
28th Avenue	CR 137 to TH 23	4-lane new alignment
25th Avenue	1st St. N. to 8th St. N.	Widen roadway to 4-lanes
Illustrative Plan		
Roadway	Location	Recommended Design
Southwest Beltway	TH 23 to CR 133	4-lane new alignment
10th Avenue	CSAH 6 to 3rd St. N.	4-lane new alignment & lane addition
33rd Avenue	1st St. N. to 8th St. N.	Additional lanes
9th Avenue	Clearwater Rd. to CSAH 1	Additional lanes

*Programmed as a study on capacity improvements.

Source: Exhibit 5L and 5I - St. Cloud APO 2030 Transportation Plan

II. Project Purpose and Need

A. Project Goal and Objectives

As stated in the study purpose, the main objective for this study is to determine what improvements may be needed on TH 15 to handle traffic demand through 2030 and beyond. To assist in determining what improvements are necessary on TH 15, the study team identified goals and objectives for the TH 15 Corridor. These goals and objectives are used to establish measures for evaluating improvement alternatives for the corridor.

Goal

The long-term transportation goal for the TH 15 corridor is to preserve its integrity as a principal arterial moving the longer metro area trips efficiently, reliably, and safely within and through the St. Cloud Metropolitan Area. Specific objectives and measures for evaluating how well this goal is being achieved are as follows:

Objectives

- ◆ Meet Mn/DOT's access spacing guidelines while maintaining reasonable land access along the corridor.
- ◆ Strive for crash and severity rates that are at or below the statewide rates for similar facilities.
- ◆ Maintain or improve average travel speeds (average speed including control delay) in the corridor.
- ◆ Maintain the reliability of TH 15 by providing LOS C on all segments of the corridor. Isolated at-grade intersections or ramp terminals should operate at LOS D or better.
- ◆ Proposed improvements in the corridor should have a benefit to cost ratio greater than one (1).
- ◆ Minimize social, environmental, and economic impacts.

B. Analysis of Existing Conditions

In setting the objectives for the corridor the desire is to, at a minimum, maintain the level of service and safety that currently exists in the corridor. This section discusses the existing conditions relative to each of the corridor objectives.

The characteristics of the TH 15 Corridor vary substantially throughout the corridor. Therefore, the corridor was divided into four segments for the purpose of analysis. The analysis segments are:

- A. CSAH 47/136 to I-94
- B. I-94 to 2nd Street S.
- C. 2nd Street S. to 12th Street N.
- D. 12th Street N. to TH 10

Access

Segment A – From CSAH 47/136 to I-94, TH 15 is a two-lane undivided rural roadway with a speed limit of 55 mph. It is designated as a principal arterial but provides both private and public

land access. Along Segment A the private land access along TH 15 consists of some residential sites as well as field access

Segment B – From I-94 to south of 2nd Street South, TH 15 is an access controlled freeway with no direct land access. The speed limit in this segment is 65 mph. Along Segment B, with the exception of the segment end points, no land access is provided.

Segment C and Segment D – From 2nd Street South to TH 10, TH 15 is an urban expressway with multiple at-grade intersections. Private access is not provided in this segment of TH 15. The speed limit ranges from 45 mph through the business district, 55 mph just south of 12th Street North, and 60 mph from north of 12th Street North to TH 10. Along Segment C, the access is located at public collector and arterial roadways which provide access to the core business district, downtown St. Cloud, and other parts of the St. Cloud Metropolitan Area. The access along segment D is also provided at collector and arterial roadways that provide access to businesses as well as to residential neighborhoods.

Table II-1 summarizes the existing access spacing along TH 15 for different segments along the corridor. Access spacing in Segments A and C do not currently meet Mn/DOT's access guidelines. Segment A has multiple private access points which are not recommended on a principal arterial.

Table II-1: TH 15 Access Spacing

Segment	Mn/DOT Access Category	Primary Intersection Spacing	Existing Access Spacing (miles)
A CSAH 47/136 to I-94	3A	1 mile	0.33
B I-94 to 2nd St. S.	3A-F	Interchange Only	4.38
C 2nd St. S. to 12th St. N.	3B	1/2 mile	0.41
D 12th St. N. to TH 10	3B	1/2 mile	0.73

Source: Mn/DOT Access Management Guidelines and WSB & Associates

Safety

TH 15 crash data, between 2002 and 2004, was analyzed to identify the current safety of intersections and segments in the TH 15 Corridor. Crash data was provided by the Minnesota Department of Public Safety and was supplemented with additional data by the St. Cloud Police Department. See Table II-2 and Table II-3 for a summary of crash data. Intersections that have crash rates or severity rates that are above the statewide average for similar facilities are shown in bold. Figure II-1 and Figure II-2 provide a graphic illustration of the crashes along TH 15.

Six (6) of the 11 intersections analyzed had crash rates and severity rates higher than the statewide and district wide averages for similar intersections. The intersection at CSAH 47/136 is in a mostly rural area with stop control. Adding left-turn lanes and a signal on TH 15 is a scheduled (fiscal year 2008) improvement at this intersection. The five (5) other intersections with higher crash rates are in the core business area along TH 15. These intersections are all signalized. Most of the crashes at these intersections are rear-end crashes which account for 64% to 74% of all the crashes in this segment.

The TH 15 intersection with TH 23/CSAH 75 (2nd Street South) had crash rates and severity rates that are more than three times the statewide and district averages for signalized intersections. The intersection just to the north, Division Street, has almost 10,000 more entering

vehicles yet has a much lower crash rate. In 2005, dual left-turn lanes were added to the TH 15 approaches at 2nd Street South which may reduce crashes at this intersection.

Two of the four segments along TH 15 have crash and severity rates higher than the district and statewide averages. Segment A has crash and severity rates greater than 2.5 times the district and statewide averages. Since the segment rates include the intersection crashes, the high segment crash rate is due to the high number of crashes at the CSAH 47/136 and TH 15 intersection. As mentioned before, left-turn lanes are programmed for the TH 15 approaches on this segment.

Segment C has much higher crash and severity rates than the district and statewide averages. In a three-year period, this segment averaged one crash every 2.5 days. The crash and severity rates are consistent with the intersection crash rates in this area, as all the intersections along this segment have crash and severity rates higher than the statewide and district averages. Therefore, the conflicts that exist at intersections are contributing to the high number of crashes in this area.

Table II-2: TH 15 Intersection Crashes (2002 – 2004)

TH 15 Intersection	ADT	Signalized (Y or N?)	Total Crashes	Crash Rate*	Severity Rate	Crash Type (Number and Percent) of Total Crashes at Intersections								
						1 Rear End	2+9 Sd Swp	3 Left Turn	4+7 ROR Lt + Rt	5 Right Angle	6 Right Turn	8 Head On	0/99/98 Unknown	
CSAH 47/136	9,650	N	15	1.42	2.65	5	2			7		1		
CSAH 74	10,050	N	2	0.18	0.27	1				1				
TH23-CSAH 75 (2nd St. S.)	46,950	Y	153	2.98	3.77	111	8	2		16				16
TH23-CSAH 75 (Division St.)	56,100	Y	83	1.35	1.73	53	5	4	1	7	2	1	10	10%
3rd St. N.	39,400	Y	98	2.27	2.69	64%	6%	5%	1%	8%	2%	1%	12%	12%
8th St. N.	43,950	Y	80	1.66	2.20	65	9	6		12%	2%	1%	3%	3%
12th St. N.	38,500	Y	54	1.28	1.76	66%	4	1	1	7	1		7	9%
CSAH 134	38,100	Y	35	0.84	1.05	37	2		3	8		1	3	6%
CSAH 1	33,550	Y	24	0.65	0.98	20	3	3	2	5				2
18th St. N.	20,450	N	10	0.45	1.12	57%	9%	9%	6%	14%				6%
CSAH 29	24,800	Y	16	0.59	1.18	14	2	1	1	3				3
						2		1	4%	13%				13%
						20%		10%		70%				
						7		1		7				
						44%		6%		44%				
**Statewide average for Unsignalized - Urban or Suburban Thru/Stop						0.3								
**District 3 average for Unsignalized - Urban or Suburban Thru/Stop						0.4								
**Statewide average for Signalized - High Speed and High Volume (≥45mph)						0.8								
**District 3 average for Signalized - High Speed and High Volume (≥45mph)						1.0								

Source: WSB & Associates

Note: Numbers in bold exceed Statewide and/or District 3 Averages

LEGEND

- XX Crashes at Intersections
 - XX Crashes Between Intersections
- Intersections with High¹ Crash Rates

- 0.8 - 1.4 Crashes / MEV²
- 1.4 - 2.0 Crashes / MEV²
- > 2.0 Crashes / MEV²

1. High Crash Rates are Greater than the District and Statewide Averages
2. MEV = Million Entering Vehicles

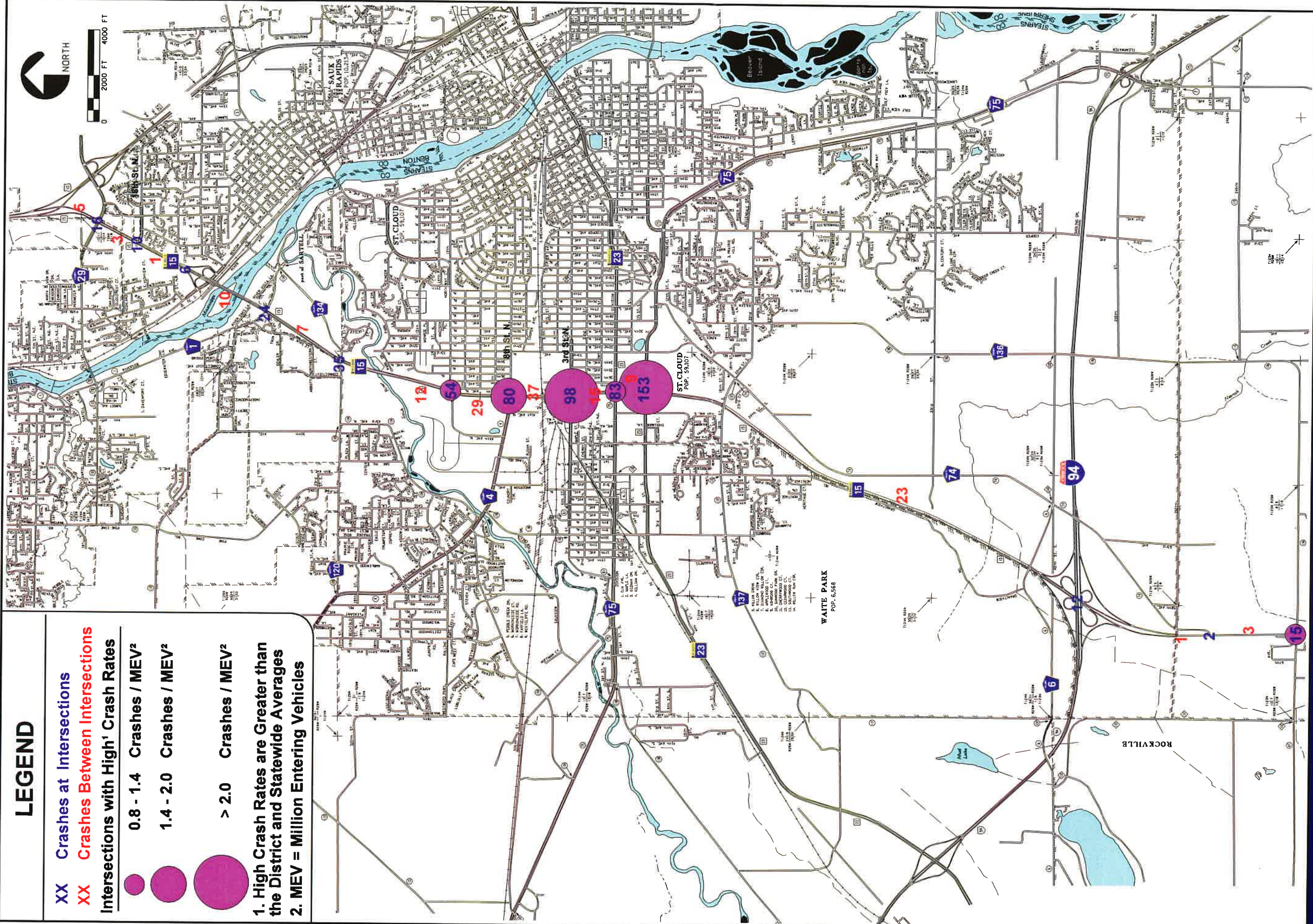


Table II-3: TH 15 Segment Crashes




TH 15 Segment	Total Crashes		Crash Type (Number and Percent) of Total Crashes in Segments							
	Segment Length (miles)	ADT	1 Rear End	2+9 Sd Swp	3 Left Turn	4+7 ROR Lt + Rt	5 Right Angle	6 Right Turn	8 Head On	0/99/98 Unknown
A - TH 15 from CSAH 47/136 to south of I-94.	0.98	7800	6	2		2	10		1	
B - TH 15 from I-94 to south of the southern TH 23/CSAH 75 intersection. - Rural Freeway	4.88	15300	10	4		12	48%		5%	7
C - TH 15 from south of the southern TH 23/CSAH 75 intersection through the 12th St. N. intersection.	1.71	27550	410	30	13	7	3%	45	3%	20%
D - TH 15 from north of the 12th St. N. intersection to the TH 10 interchange.	3.56	23250	63	8	6	14	25		1%	12
4-lane Expressway			49%	6%	5%	11%	19%		1%	9%
**Statewide average for 2-lane Rural			1.10							
**District 3 average for 2-lane Rural			1.00							
**Statewide average for Urban 4&6-Lane Expressways			2.2							
**District 3 average for Urban 4&6-Lane Expressways			3.8							
**Statewide average for Rural Freeway			0.6							
**District 3 average for Rural Freeway			0.5							
Crashes/Million Vehicle Miles			1.70							
Note: Segments include intersection crash numbers and crash types.			1.70							
** Source Mn/DOT 2000 to 2002			3.3							
			5.5							

Source: WSB & Associates

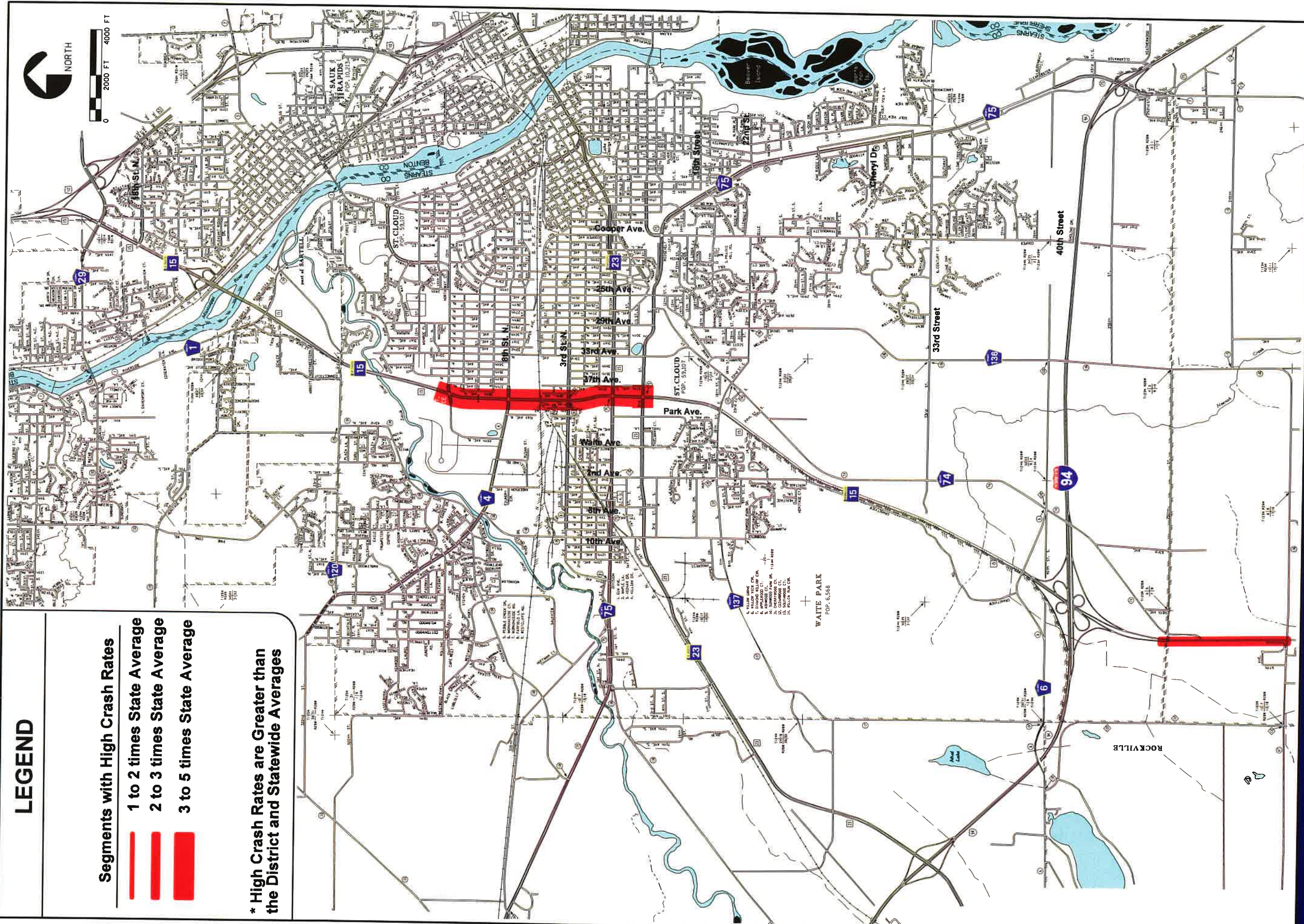
Note: Numbers in bold exceed Statewide and/or District 3 Averages

LEGEND

Segments with High Crash Rates

-  1 to 2 times State Average
-  2 to 3 times State Average
-  3 to 5 times State Average

* High Crash Rates are Greater than the District and Statewide Averages



MINNESOTA

15

Trunk Highway 15 Corridor Study

Segment Crashes - 2002 to 2004 Updated March 21, 2006



Figure II-2

Travel Speeds

Travel time studies were conducted during p.m. peak hours in November 2005 to assess the current p.m. peak hour travel times in the corridor. The travel time runs were made in each direction on TH 15 to record travel times on each segment of the corridor. Table II-4 shows the average travel and running speeds experienced on TH 15 during the p.m. peak hours that were observed during those travel time runs. The average travel speed includes intersection delays while the average running speed is the actual speed of vehicles traveling between intersections. The southern most portion of the corridor has average travel speeds and average running speeds that are close to or above the posted speed limit. These segments of TH 15 have no controlled intersections on TH 15 such as stop signs or signals. Within the core business area (Segment C), the average travel speed is more than 20 mph lower than the lowest posted speed of 45 mph. This is due to the delays at the signalized intersections. The running speed between signals is only 10 mph lower than the posted speed limit of 45 mph. The northern Segment D is performing a little better with average travel and running speeds closer to the posted speed limits.

Table II-4: TH 15 Travel Speeds

Segment	Location	Posted Speed Limits (mph)	Distance (mi)	Northbound		Southbound	
				Travel Speed (mph)	Running Speed (mph)	Travel Speed (mph)	Running Speed (mph)
A	CSAH 47/136 to south of I-94	65/55	1.5	62.9	62.9	61.4	61.2
B	I-94 to south of 2nd Street S.	65	3.7	65.8	65.8	62.8	62.8
C	2nd Street S. to north of 12th St. N.	45/65	2.3	22.5	35.4	28.2	45.8
D	12th St. N. to TH 10 Interchange	60/55	3.8	45.3	50.7	41.8	60.5

Source: WSB & Associates

Notes:	Travel runs were completed on weekdays between 3 p.m. and 6 p.m.
	Travel speed includes the delay at intersections.
	Running speed is the average speed of vehicles moving between intersections and excluding intersection control delay.

LOS

The existing traffic operations were analyzed for TH 15 on each of the segments and at key intersections along the corridor. The traffic operations' analysis is based on established methodologies documented in the Highway Capacity Manual (TRB, 2000). The HCM analysis provides results in the form of a letter grade from A to F, otherwise called level of service (LOS). The letter gives a qualitative estimate of the operational efficiency of the intersection. The system is set up similar to a report card, with A representing high quality operations and F representing poor operations. At LOS A, motorists experience very little delay or interference. On a roadway or intersection with LOS F conditions, motorists would experience extreme delay or severe congestion. Although LOS A conditions represent the best possible level of traffic flow, the cost to construct roadways and intersections to such high standards often exceeds the benefit to the user.

The HCM defines levels of service for both intersections as well as for roadway segments that may contain multiple intersections. Intersection LOS is based on average vehicle delay while

roadway segment LOS is based on average travel speeds for the facility type. For purposes of this study, the roadway segment LOS is based upon the surveyed average travel time and flow rate, while intersection LOS was based on analysis of the p.m. peak hour turning movements using HCM procedures.

Existing Segment Level of Service Analysis

For arterial segments with at-grade intersections, the roadway LOS was based on measures in Table II-5 of the Highway Capacity Manual, using HCM urban street classifications as defined below:

- Type I – Principal arterials with a high-speed design, including low access density, separated left-turn lanes, and no parking – Free-flow speeds tend to be between 45 to 55 mph.
- Type II – Principal or minor arterials with suburban or intermediate design, including a low to moderate access density, separated left-turn lanes, and no parking – Free-flow speeds tend to be between 35 to 45 mph.

Type III or IV – Principal or minor arterials with an urban design, including a high access density, undivided facilities, and possible parking – Free-flow speeds tend to be between 35 to 25 mph.

Table II-5: Roadway Segment Level of Service Measures

Urban Street Class	I	II	III	IV
Range of free-flow speeds (FFS)	55 to 45 mph	45 to 35 mph	35 to 30 mph	35 to 25 mph
Typical FFS	50 mph	40 mph	35 mph	30 mph
LOS	Average Travel Speed (mph)			
A	> 42	> 35	> 30	> 25
B	> 34-42	> 28-35	> 24-30	> 19-25
C	> 27-34	> 22-28	> 18-24	> 13-19
D	> 21-27	> 17-22	> 14-18	> 9-13
E	> 16-21	> 13-17	> 10-14	> 7-9
F	≤ 16	≤ 13	≤ 10	≤ 7

Source: Exhibit 15-2, Highway Capacity Manual (2000)

For freeway segments, the level of service was determined by comparing p.m. peak hour traffic flows to criteria for a basic freeway segment as shown in the Highway Capacity Manual. These criteria are shown in Table II-6. Traffic flow within a basic freeway segment can vary depending upon

conditions constricting flow at upstream and downstream bottleneck locations. However, because of the limited interchange spacing within the freeway section of TH 15, ramp merging and diverging has little impact on the freeway operations.

Table II-6: Freeway LOS Measures

LOS	Flow Rate (pc/h/ln)
A	< 710
B	< 710-1170
C	< 1170-1680
D	< 1680-2090
E	< 2090-2350
F	≥ 2350

Source: Exhibit 23-2, HCM (2000)

The existing LOS for different segments of TH 15 is summarized in Table II-7. The table details the average travel speeds that were measured in the travel time runs and compares them to the

values in Table II-5 to determine segment LOS. For the freeway (Segment B), the flow rate was used. The northbound leg of Segment C has average travel speeds of 22.5 mph which is just above LOS D. This segment's reliability may be compromised as traffic volumes increase.

Table II-7: TH 15 Roadway Existing (2005) Segment Level of Service

Segment	Location	Posted Speed Limits (mph)	HCM Urban Street Classification	Direction	Travel Speed	LOS
A	CSAH 47/136 to south of I-94	65/55	I	Northbound	62.9 mph	A
				Southbound	61.4 mph	A
B	I-94 to south of 2nd Street S.	65	Freeway	Northbound	587 vph ¹	A
				Southbound	720 vph ¹	A
C	2nd Street S. to north of 12th St. N.	45/65	II	Northbound	22.5 mph	C
				Southbound	28.2 mph	B
D	12th Street N to TH 10 Ramps	60/55	I	Northbound	45.3 mph	A
				Southbound	41.8 mph	B

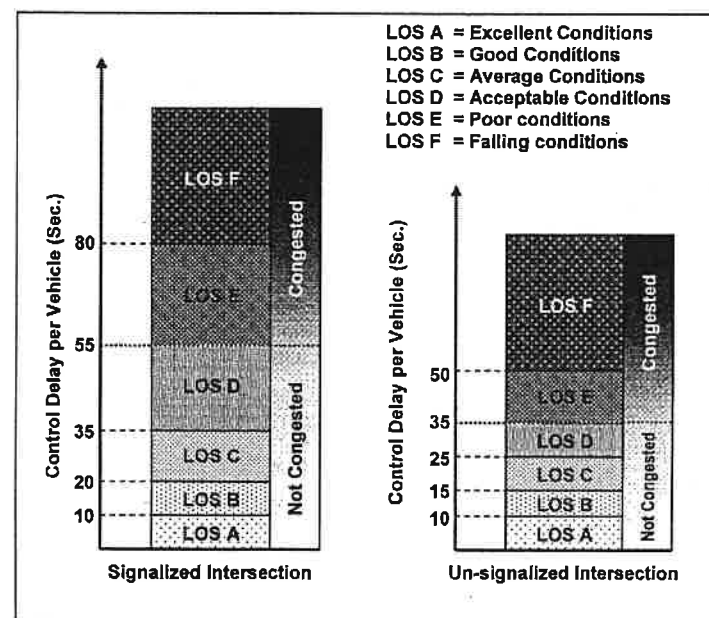
Source: WSB & Associates

Existing Intersection Level of Service Analysis

For intersections, LOS is primarily a function of a.m. and p.m. peak hour turning movement volumes, intersection lane configuration, and traffic control. The average delay per vehicle for each level of service as defined by the HCM is shown on Figure II-3.

Figure II-3: Intersection LOS Measures

The existing intersection levels of service were determined for the p.m. peak hour using Synchro and SimTraffic software. The intersection geometry and turning movements were based upon 2005 conditions. The results of the intersection analysis are illustrated in Table II-8. All intersections are currently operating at better than LOS D. However, the TH 15 corridor is approaching congestion in the core business area during the p.m. peak hour with LOS C and D operations at all intersections.



Source: Tables 16-2 and 17-2, HCM (2000)

Table II-8: TH 15 Existing (2005) Intersection Level of Service

Intersection	Type of Intersection	Traffic Control	SimTraffic Control Delay (sec/veh)	LOS
CSAH 47/136	Full Access	Thru-Stop	3.6	A
CR 74	Partial Access	Thru-Stop	2.1	A
I-94 EB Ramps	Interchange	Thru-Yield	0.6	A
I-94 EB Loop Ramps	Interchange	Thru-Yield	0.4	A
I-94 WB Loop Ramps	Interchange	Thru-Yield	0.8	A
I-94 WB Ramps	Interchange	Thru-Yield	1.7	A
TH 23/CSAH 75 (2nd Street S)	Full Access	Signalized	21.2	C
CSAH 75/TH 23 (Division Street)	Full Access	Signalized	39.7	D
3rd Street N	Full Access	Signalized	31.6	C
8th Street N	Full Access	Signalized	31.5	C
12th Street N	Full Access	Signalized	35.6	D
20th Street N	Full Access	Signalized	34.2	C
CSAH 1	Full Access	Signalized	31.4	C
Benton Drive Loops	Interchange	Thru-Yield	5.8	A
Benton Drive Ramps	Interchange	Thru-Yield	6.2	A
18th Street	Full Access	Thru-Stop	9.2	A
CSAH 29	Full Access	Signalized	11.1	B

Source: WSB & Associates

C. Analysis of Future Conditions

This section discusses what traffic conditions may be like on TH 15 in 20 years if no improvements are made in the corridor.

Forecast Average Daily Traffic on TH 15

Table II-9 below shows the historical traffic volumes on TH 15. Average daily traffic volumes have been growing steadily on TH 15 over the last 12 years, with annual growth rates ranging from 2.9% to as high as 9.5%. The lowest growth rate is at the southern end of the corridor in St. Augusta with a 2.9% annual growth in traffic volumes. The area with the highest growth rate is between CSAH 120/134 and CSAH 1. This growth in traffic demand is anticipated to continue with the development that is expected in the TH 15 Corridor.

Table II-9: Historical Traffic Volumes on TH 15

SEGMENT	1994 AADT	1996 AADT	1998 AADT	2000 AADT	2002 AADT	2004 AADT	Annual Growth Rate
CSAH 47 to I-94	6,700	6,700	8,100	8,100	7,600	8,900	2.9%
I-94 to 2nd Street South	9,800	10,800	13,000	13,100	14,900	14,300	3.9%
2nd Street South to Division Street	18,600	21,900	22,000	25,200	24,000	28,000	4.2%
Division Street to 3rd Street North	13,700	20,200	22,200	25,700	25,900	27,000	7.0%
3rd Street North to 8th Street North	21,600	19,800	25,800	27,800	30,100	34,000	4.6%
8th Street North to 12th Street North	14,700	21,700	18,200	30,800	26,100	29,000	7.0%
12th Street North to CSAH 120/134	12,100	17,800	22,300	27,100	29,800	30,000	9.5%
CSAH 120/134 to CSAH 1	---	15,800	20,000	28,400	24,900	24,500	5.6%
CSAH 1 to Benton Drive	---	11,800	16,100	20,000	20,000	21,100	6.0%
Benton Drive to CSAH 29	---	7,800	11,500	13,400	17,300	18,600	9.1%

Source: WSB & Associates

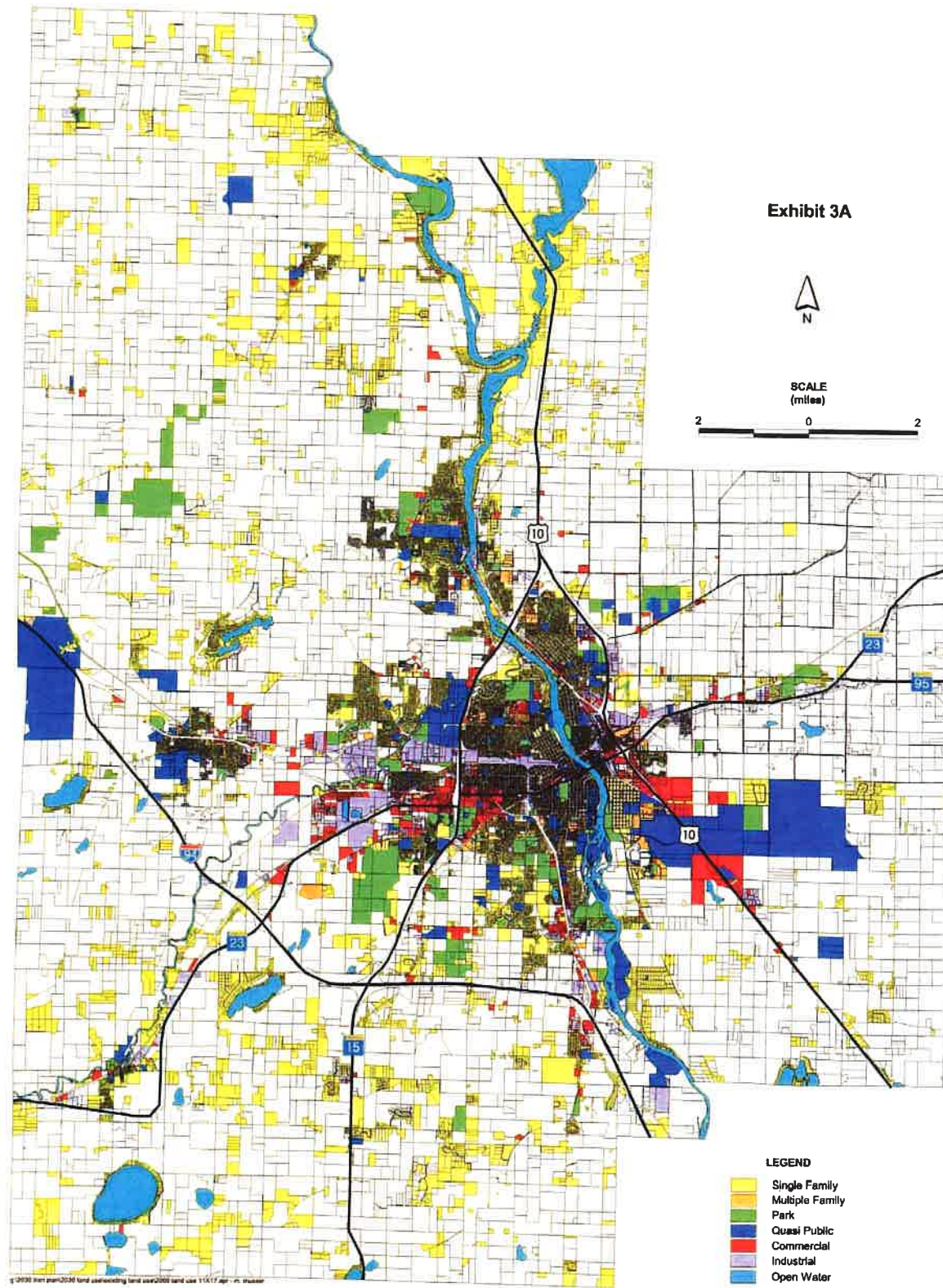
As the St. Cloud Metropolitan Area population and employment continues to grow, the traffic on the existing roadway systems will grow as well. The St. Cloud Area Planning Organization Draft 2030 Transportation Plan indicates that the metropolitan area population and employment is estimated to grow 53% and 41% respectively by 2030 (see Table II-10). While the outer boundary of the metropolitan area is expected to stay the same, the most densely populated area at the center is expected to expand outwards. This results in more development along TH 15 especially along its southern and northern ends. See Figure II-4 and Figure II-5 for 2000 and 2030 land use.

Table II-10: St. Cloud Metropolitan Area Population and Forecasts

	2000	2030	30 Year Increase
Population	113,292	173,161	53%
Employment	65,750	93,003	41%

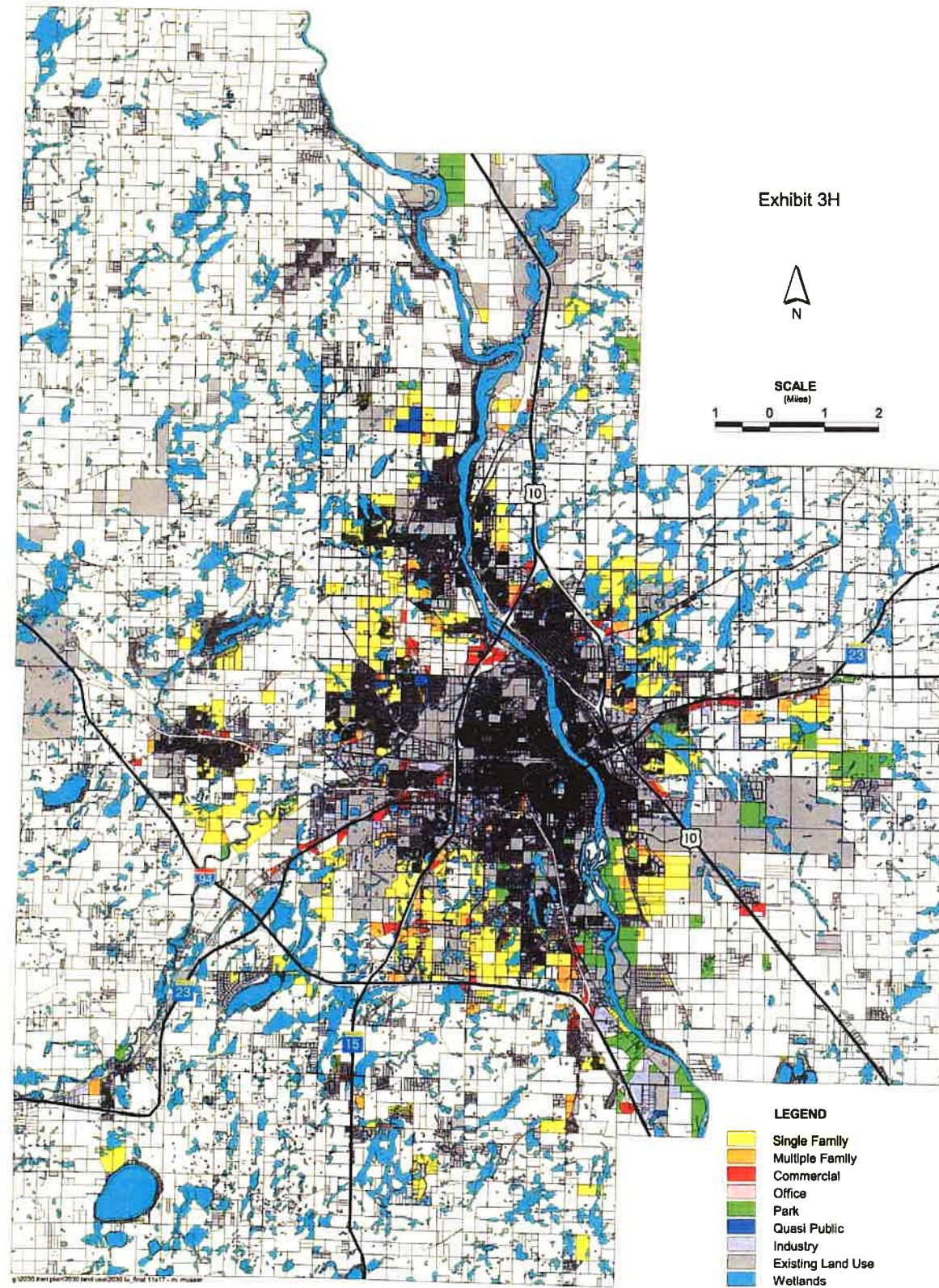
Source: St. Cloud APO 2030 Transportation Plan

2000 Existing Land Use



Source: St. Cloud APO 2030 Transportation Plan
Figure II-4: 2000 Existing Land Use

2030 Land Use Forecast



Source: St. Cloud APO 2030 Transportation Plan

Figure II-5: 2030 Land Use Forecast

The St. Cloud Area Planning Organization's 2030 Financially Constrained travel demand model was used to forecast the potential future demand on TH 15 with the forecast 2030 land use. Table II-11 shows the 2030 forecast travel demand for two scenarios. One scenario, The APO Financially Constrained Plan (see Figure II-6), assumes no improvements on TH 15. The second scenario assumes six lanes on TH 15 but no change in speeds. Since improvements to TH 15 are not included in either Mn/DOT's or the St. Cloud APO's 2030 Transportation Plans (financially constrained), improvements to TH 15 will need to accommodate travel demand beyond 2030. Therefore, a 2050 Forecast was also developed. This scenario assumed that the population and employment in the corridor would continue to grow at the same rate between 2030 and 2050 as it did between 2004 and 2030 and that traffic would grow at the same rate as the population and employment. First, the estimated 30-year population growth from 2000 to 2030 was assumed to be linear. Then it was extrapolated to the year 2050. Finally, the 2030 traffic volumes were extrapolated from the year 2030 to 2050 using the same linear growth rate. Because it is such a distant timeframe, this assumption should provide information for at least scoping level analysis of volumes and levels of service.

Table II-11: Existing and Future Travel Demand on TH 15

Location along TH 15	2004 Existing 4-Lane	2030 APO Financially Constrained Network		2030 At-Grade 6-lane ²		2050 Population Based Forecast	
	AADT	ADT	*AGR	ADT	*AGR	ADT	*AGR
CSAH 47/136 to I-94 ¹	8,900	25,800	3.9%	26,300	3.9%	32,300	2.7%
I-94 to 2nd St. S.	14,300	46,000	4.3%	46,000	4.3%	56,600	2.9%
2nd St. S. to 12th St. N.	30,100	44,900	1.4%	52,000	2.0%	64,000	1.6%
12th St. N. to TH 10	24,900	55,500	2.9%	62,300	3.3%	76,600	2.4%

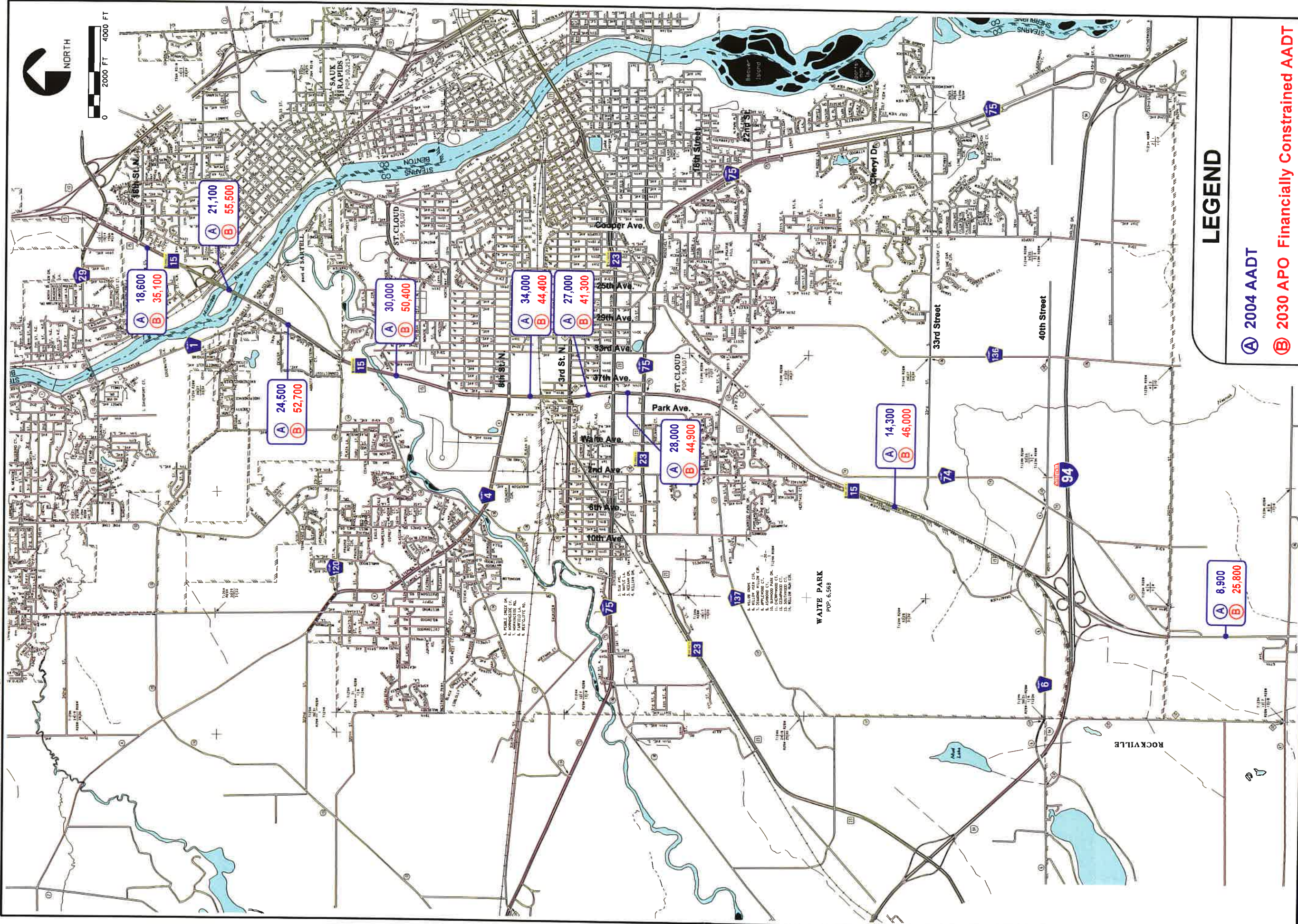
Source: WSB & Associates

*AGR - 2002 to 2030 Annual Growth Rate

1. This segment is upgraded to 4-lane in all scenario's.
2. 6-lane is from I-94 to TH 10

Comparing the two 2030 forecasts for TH 15 suggests that the existing four-lane facility will hold down the demand from 2nd Street South to TH 10. The forecasts indicate that the 2030 travel demand on TH 15 will more than double over the next 20 years.

Figure II-7 shows typical LOS threshold volumes for different roadway facility types. A comparison of the financially constrained forecast volumes with the threshold volumes indicates that a four-lane expressway north of 2nd Street South will not accommodate the future demand at an acceptable LOS. In fact, the 2030 forecast volumes north of 2nd Street South indicate the need for at least a six-lane expressway or a four-lane freeway, and if capacity is added to the corridor, the forecast traffic is expected to be even greater. By 2050, a six-lane freeway may be necessary on this segment. North of 12th Street North, the unconstrained 2030 forecast and the 2050 forecast indicate a six-lane freeway is necessary.



LEGEND

- (A) 2004 AADT
- (B) 2030 APO Financially Constrained AADT

MINNESOTA
15

Trunk Highway 15 Corridor Study 2030 Forecast AADT (Financially Constrained)



Figure 11-6

TH 15 2030 (FINANCIALLY CONSTRAINED) DAILY TRAFFIC VOLUMES & LEVEL OF SERVICE THRESHOLDS FOR ARTERIAL ROADWAYS

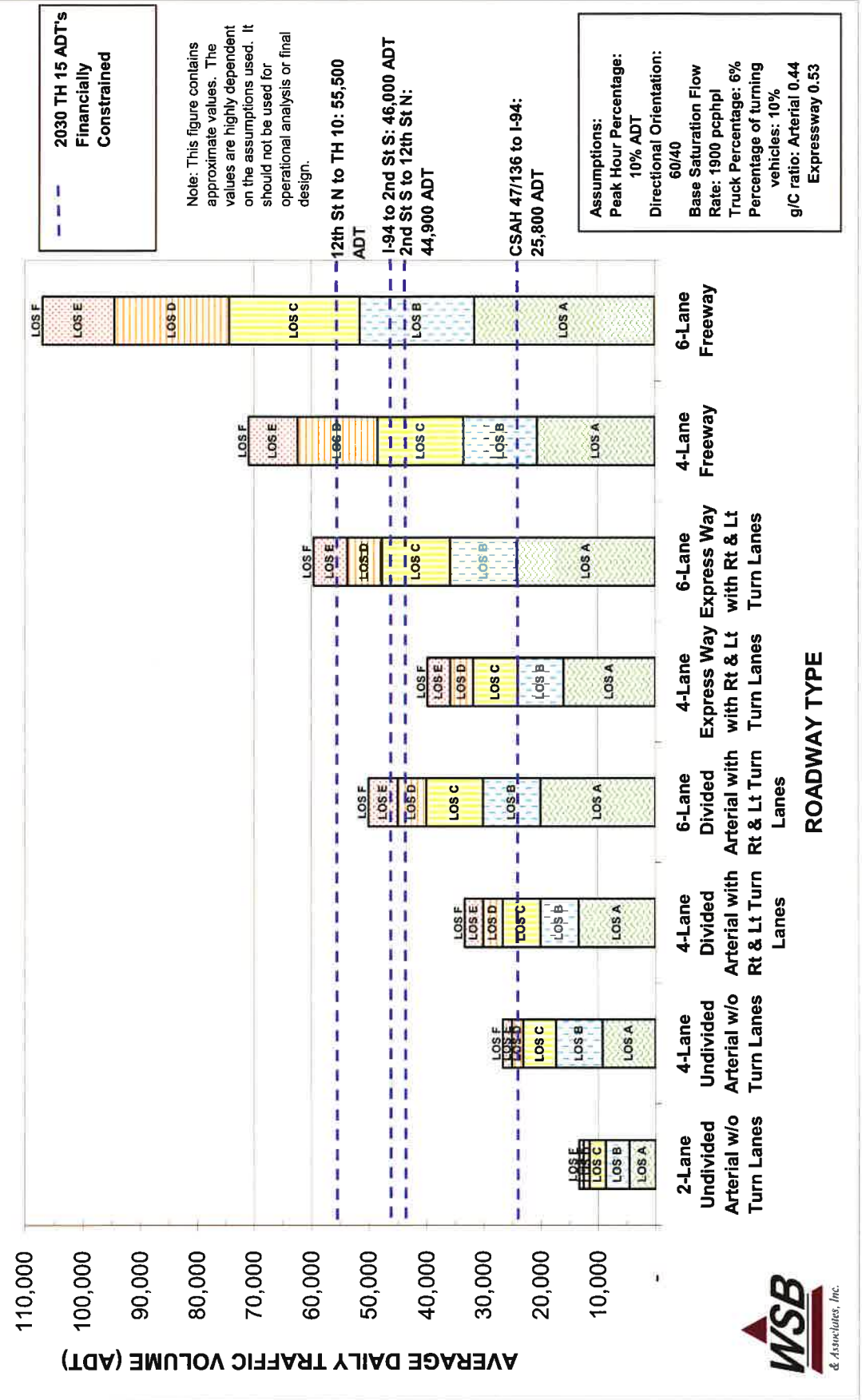


Figure II-7: TH 15 2030 Daily Traffic Volumes and LOS for Arterial Roadways



Travel Speeds

To determine future travel speeds and traffic operations for the in-place network (No Build), forecasted p.m. peak hour turning movement volumes (APO financially constrained network) were modeled in Synchro/SimTraffic. The calibrated existing (2005) Synchro/SimTraffic model for TH 15 was used as a basis for developing the future model for TH 15. The "No Build" future model does assume upgrades on the side street approaches to TH 15 to meet the traffic demand volumes. However, no improvements were assumed on TH 15, with the exception of the planned turn lanes at TH 15 and CSAH 47/136. The future model also includes a new at-grade intersection at 33rd Street South (Segment B). This new access is included in the APO's Financially Constrained Plan.

Table II-12 summarizes the simulated travel speeds and compares them to the existing 2005 conditions on TH 15. With no improvements on TH 15, the future travel speeds are significantly lower (15 to 44 mph lower) than what is experienced today. The No Build condition does not meet the travel speed objective of maintaining or improving average travel speeds along the corridor.

Table II-12: TH 15 No Build Segment Travel Speeds and LOS

TH 15 - Segment LOS			2005 Existing (Field)			2030 No Build (At-Grade access at 33rd St.)		
Segment	Location	Direction	HCM Urban Street Class.	Travel Speed (mph)	LOS	HCM Urban Street Class.	Modeled Travel Speed (mph)	LOS
A	CSAH 47/136 to south of I-94	Northbound	I	62.9	A	I	19	E
		Southbound		61.4	A		33	C
B	I-94 to south of 2nd Street S.	Northbound	Freeway	65.8	A	I	29	C
		Southbound		62.8	A		39	B
C	2nd Street S. to north of 12th St. N.	Northbound	II	22.5	C	II	7	F
		Southbound		28.2	B		11	F
D	12th Street N to TH 10 Ramps	Northbound	I	45.3	A	I	17	E
		Southbound		41.8	B		11	F

Source: WSB & Associates

LOS

Segment Level of Service Analysis

Table II-12 summarizes the results of simulated segment travel speeds and LOS along TH 15 for the No Build Alternative and compares it to existing conditions. The modeled average travel speeds are compared to the values in Table II-5 to determine segment LOS. The intersection signal timing was designed to provide available green time that was balanced between the high-volume cross streets and TH 15. This resulted in better overall intersection operations, but TH 15's through movements experienced more delays at some cross streets. In the future, TH 15

from 2nd Street S. to TH 10, will operate at LOS E and F, which does not meet the segment LOS objectives of LOS C or better described earlier.

Table II-13 summarizes the intersection LOS results from the traffic simulations for 2030 No Build compared to existing conditions. In the future, ten (10) intersections are forecast to operate at LOS E or F. The No Build includes upgrading the approaches on the side streets but not on TH 15. The planned intersection improvement at TH 15 and CSAH 47/136, which includes adding turn lanes and a signal, were also assumed for the No Build Alternative.

Table II-13: TH 15 No Build Intersection Level of Service

Intersection	Type of Intersection	Existing (2005)		2030 No Build (assumes at-grade access at 33rd St. S.)	
		SimTraffic Control Delay (sec/veh)	LOS	SimTraffic Control Delay (sec/veh)	LOS
CSAH 47/136	Full Access	3.6	A	172.2	F
CSAH 74	Full Access	2.1	A	26.3	C
33rd Street S	Full Access	---	---	68.6	E
TH 23/CSAH 75 (2nd Street S)	Full Access	21.2	C	229.3	F
CSAH 75/TH 23 (Division Street)	Full Access	39.7	D	338.2	F
3rd Street N	Full Access	31.6	C	309.8	F
8th Street N	Full Access	31.5	C	122.8	F
12th Street N	Full Access	35.6	D	307.8	F
CSAH 134	Full Access	34.2	C	513.0	F
CSAH 1	Full Access	31.4	C	141.4	F
18th Street	Full Access	9.2	A	26.2	C
CSAH 29	Full Access	11.1	B	63.4	E

Source: WSB & Associates

D. Summary of Deficiencies

Table II-14 summarizes the existing and No Build conditions on TH 15 and whether the stated objectives are met. Only the first four objectives: access spacing, safety, travel speeds, and LOS are summarized since benefit/cost and SEE impacts are not influenced by the existing and No Build conditions.

Access Spacing

Since the No Build Alternative does not remove any of the access that currently exists on TH 15, the segments that are currently not meeting the access guidelines will not meet the guidelines in the future. The No Build assumed an at-grade access at 33rd Street which is not consistent with the access guidelines for this segment, indicates access should only be provided at interchanges.

Safety

It is expected that the future crash rates on TH 15 will not change due to the increased traffic. However, studies show that crash rates are directly related to the frequency of access and that reducing the frequency of access will reduce crash rates. In the future, since no access changes

are anticipated for the No Build for segments A and C, the crash rates are not expected to change. Therefore, they will continue to be above the statewide and district averages for similar facilities. For segment B, adding another access point on TH 15 is expected to increase the crash rate on this segment of the facility.

Travel Speeds

The average travel speeds of future traffic volumes on TH 15 are expected to decrease significantly by 2030 if no improvements are made on TH 15. The decrease in travel speeds range from 15 to 44 mph.

LOS

The objective in this category is to maintain the reliability of TH 15 by providing LOS C on all segments of the corridor with isolated intersections or ramp terminals at LOS D or better. By 2030 all but two of the intersections in this corridor are expected to operate at LOS E or F, and three of the four segments on TH 15 will operate at LOS E or F. The only segment expected to have acceptable level of service is the Segment B between I-94 and 2nd Street South.

Table II-14: TH 15 Summary of Deficiencies

Objective	TH 15 Location	2005	2030
		Existing	No Build
Access Spacing (miles)	Segment A - CSAH 47/136 to I-94	0.33	0.33
	Segment B - I-94 to 2nd St. S.	4.34	2.19
	Segment C - 2nd St. S. to 12th St. N.	0.41	0.41
	Segment D - 12th St. N. to TH 10	0.73	0.67
Safety (Crashes/MVM ¹)	Segment A - CSAH 47/136 to I-94	2.51	no change
	Segment B - I-94 to 2nd St. S.	0.43	increase
	Segment C - 2nd St. S. to 12th St. N.	10.82	no change
	Segment D - 12th St. N. to TH 10	1.42	no change
Travel Speeds (mph)	Segment A - CSAH 47/136 to I-94 (NB/SB)	63/61	19/33
	Segment B - I-94 to 2nd St. S. (NB/SB)	66/63	29/39
	Segment C - 2nd St. S. to 12th St. N. (NB/SB)	22/28	7/11
	Segment D - 12th St. N. to TH 10 (NB/SB)	45/42	17/11
	Corridor Total Travel Time (NB/SB - min.)	15.8/15.4	38.2/38.6
LOS	Segment A - CSAH 47/136 to I-94 (NB/SB)	A/A	E/C
	Segment B - I-94 to 2nd St. S. (NB/SB)	B/C	C/B
	Segment C - 2nd St. S. to 12th St. N. (NB/SB)	B/B	F/F
	Segment D - 12th St. N. to TH 10 (NB/SB)	B/B	E/F
	Intersection	LOS D or better	2 LOS E 8 LOS F

1. Million Vehicle Miles

Source: WSB & Associates

Note: Highlighted Areas do not meet stated corridor objectives.

III. Social, Economic, and Environmental Overview

Improvements to the TH 15 Corridor may result in social, economic, and environmental impacts. Although the need for improvements in this corridor are clearly demonstrated by the analysis in the previous section, the costs and impacts of these improvements need to be considered in determining the most appropriate vision for the corridor. This chapter provides a description of the social, economic, and environmental considerations within the TH 15 area of influence.

Figure III-1 illustrates many of the environmental elements and their physical relationship to TH 15 discussed below. The overview includes a review of readily available environmental and land-use databases. It does not take the place of formal environmental documentation. Issues related to future specific highway improvements will be addressed through the proper environmental documentation in accordance with the National Environmental Policy Act (NEPA), Minnesota Environmental Policy Act (MEPA), and Mn/DOT's Highway Project Development Process (HPDP).

A. Land Use

Segment A – CSAH 47/136 to I-94

This segment begins in St. Augusta and extends north to I-94. The land use around the intersection with CSAH 47/136 is suburban in nature with single-family homes and a few businesses as it crosses through the town of St. Augusta within Stearns County. North of the intersection, the landscape changes to rural with farms adjacent to the corridor.

Segment B – I-94 to 2nd Street South

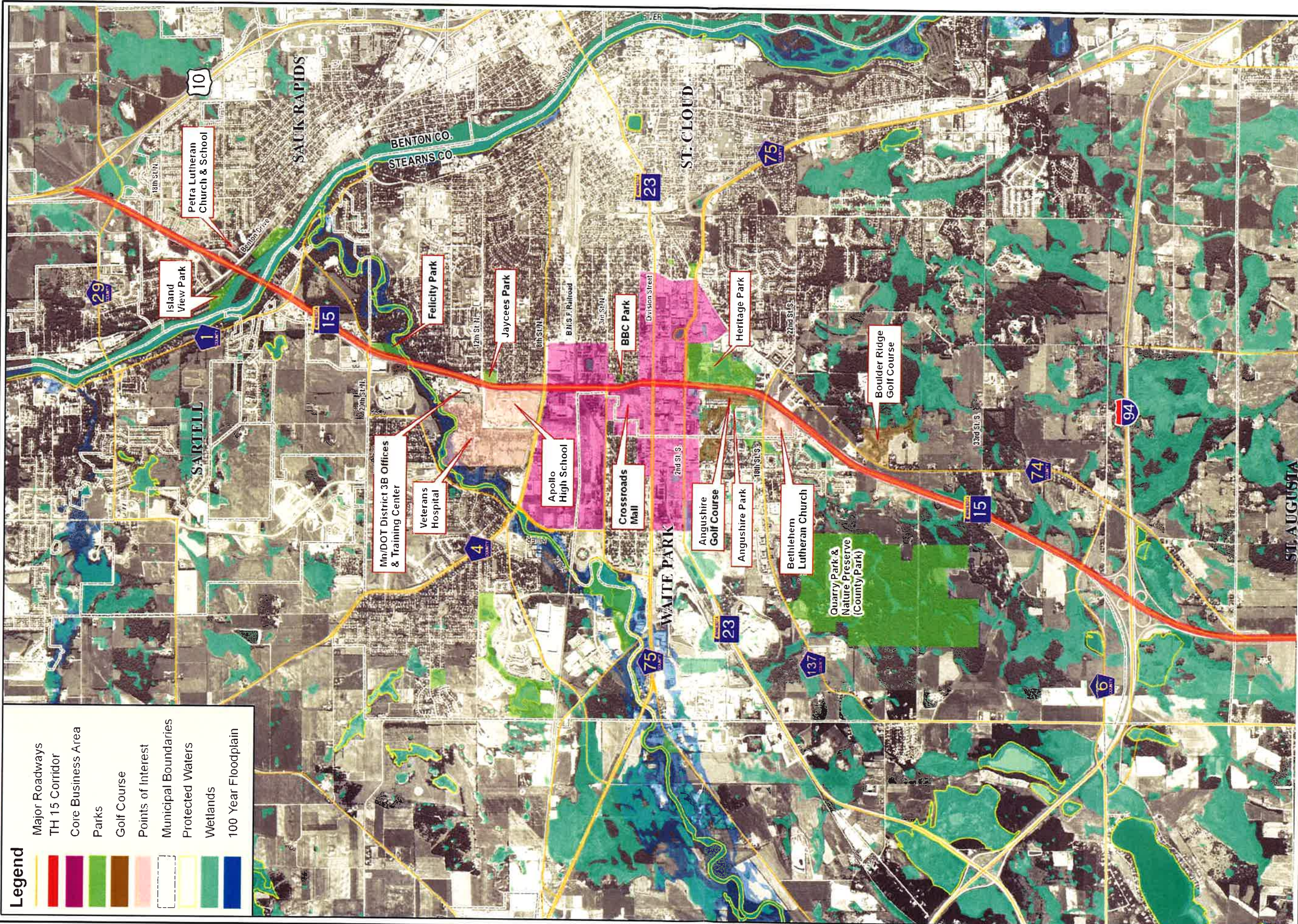
This segment is mostly rural with farmland and some single-family homes. Waite Park is to the west of TH 15 and St. Cloud is east of TH 15 all within Stearns County. Most of the area is expected to remain natural west of TH 15 due to the large county-owned park, Quarry Park, which exists here. On the east side, St. Cloud shows the future land use as mostly residential with some commercial.

Segment C – 2nd Street South to 12th Street North

This segment passes through an urban shopping district which has been identified by the study partners as the Core Business Area. The Cities of St. Cloud and Waite Park are located in this segment, both within Stearns County. TH 15 provides visibility and indirect access to the Crossroads Shopping Mall and several other commercial properties along 2nd Street South, Division Street, 3rd Street North, and 8th Street North. It is important to maintain good access for the businesses in this area.

Segment D – 12th Street North to TH 10

This segment goes through the Cities of St. Cloud, Sartell, and Sauk Rapids. This segment also goes through Stearns and Benton Counties. TH 15 crosses two major rivers, the Mississippi River and the Sauk River, in this segment. There are several planned new developments along this segment of TH 15 near the intersections of CSAH 134, CSAH 1, and 18th Street North within Sartell and Sauk Rapids. An AUAR is currently underway for commercial development at CSAH 134 and CSAH 1 west of TH 15. Residential and some commercial development is also planned at 18th Street North east of TH 15.



Legend

- Major Roadways
- TH 15 Corridor
- Core Business Area
- Parks
- Golf Course
- Points of Interest
- Municipal Boundaries
- Protected Waters
- Wetlands
- 100 Year Floodplain



Trunk Highway 15 Corridor Study

Environmental Issues



Figure III-1

Schools

Apollo High School: This school is located west and adjacent to TH 15 north of 8th Street North. The school's athletic fields border TH 15.

Petra School: Petra Lutheran Church and School is located east of the TH 15 NB on-ramp near Benton Drive. Approximately 400 ft of the school property borders the TH 15 right-of-way.

B. Modal Users

Rail Transportation:

The Burlington Northern Santa Fe Railroad (BNSF) mainline track extends from the West Coast to Chicago. A spur line crosses TH 15 just north of 3rd Street North. The BNSF is a Class I long-haul carrier. TH 15 currently crosses over (grade separated) these tracks. All alternatives for TH 15 assume maintaining the grade separation between the two facilities.

Air Transportation

A public airport, St. Cloud Regional Airport, exists in St. Cloud, but is not within the project vicinity. The airport is located east of the Mississippi River off of TH 10 on Del Tone Road (Sherburne County Road 7). Scheduled commercial air passenger service is provided at this airport. There are no anticipated project impacts for this airport.

Truck Transportation

TH 15 is one of four highways identified in the District 3 2030 Transportation Plan responsible for the greatest amount of freight flow within the District. The corridor currently (2003) carries more than 500 Heavy Commercial Vehicles Per Day (HCAADT). The plan indicates that the corridor will experience huge increases in freight flow by 2020.

The St. Cloud APO solicited input from key stakeholders such as local freight haulers, major retail stores, and large manufacturers to develop an understanding of the trucking issues within the St. Cloud Metropolitan Area. One recommendation for TH 15 indicated providing interchanges along TH 15 at 2nd Street South, Division Street, and 3rd Street North.

Transit Transportation

The St. Cloud Metro Bus has a fixed route on TH 15 from 8th Street North to CR 134 and CSAH 1 to CSAH 29. Transit signal priority has been implemented on all fixed routes including on TH 15. The St. Cloud APO's 2030 Transportation Plan indicates that a long-term travel demand management strategy would be to provide transit vehicles the ability to bypass congested traffic by utilizing bus lanes or shoulders due to projected traffic volume increases and related peak-hour congestion along many priority transit corridors. Therefore, any future improvements on TH 15 should include shoulder wide enough to accommodate bus traffic.

Pedestrian/Bicycle Transportation

The St. Cloud APO 2030 Transportation indicates TH 15 as a trip barrier to pedestrian and bicycle flow across the metro. For a successful pedestrian and bicycle network, TH 15 should accommodate these modes by providing appropriately designed crossings to ensure safe and efficient travel. The plan also calls for local jurisdictions to include pedestrian facilities on both sides of all urban roadways as infrastructure projects occur in existing developed areas and

where there are missing linkages to the sidewalk system. Therefore, any improvements to cross streets should include sidewalks.

Several existing bicycle routes currently cross TH 15. A bicycle route is defined as a roadway which is open to both bicycle and motor vehicle traffic. This may be an existing roadway, street with wide curb lanes, or road with paved shoulders. The existing routes that cross TH 15 include:

- Stearns CSAH 75 (2nd Street South)
- Stearns CSAH 75 (Division Street)
- Stearns CSAH 1

The plan calls for the integration of future bicycle paths that would intersect TH 15. A bicycle shared-use path is defined as a bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the right-of-way or within an independent right-of-way. Shared-use paths may also be used by pedestrians, skaters, wheelchair users, and other non-motorized users. The proposed shared use paths that intersect TH 15 are listed below:

- 3rd Street North
- Stearns CSAH 134
- Benton CSAH 29

Although no pedestrian or bicycle facilities are planned for the TH 15 corridor, several facilities intersect it or are proposed to intersect with TH 15. Any improvements on these cross streets, interchange, or at-grade should accommodate the planned bicycle and pedestrian through movement.

C. Environmental Elements

National Wetland Inventory/Protected Waters

The existing wetland information for the study area shown on Figure III-1 was obtained from the National Wetland Inventory. Proposed right-of-way was positioned to minimize wetland impacts.

Floodplains

Two 100-year floodplains exist within the project limits at the Sauk River and Mississippi River. Any improvements on TH 15 should avoid filling the floodplains. However, if floodplain impacts are expected, Army Corp of Engineer permits will be necessary.

Parks

Quarry Park and Nature Preserve: Quarry Park is located on the west side of TH 15, north of CSAH 6 and south of CSAH 137. The 643-acre park is owned by Stearns County. Wetlands are located within the park. Natural features include woodlands, open prairie, wetlands, and un-quarried bedrock. Plant life includes oaks, aspens, yellow ladyslippers, Indian paintbrush, prickly pear cactus, and the tubercled rein orchid. Man-made features include hills composed of quarried rock remnants and 30 granite quarries, most of which are now filled with water.

Heritage Park: Approximately 3,000 ft of Heritage Park's western boundary is adjacent to TH 15. Second (2nd) Street South borders it to the north. The park is owned by the City of St.

Cloud. It totals 92.5 acres and contains a recreation center, museum, and recreational trails. Wetlands are located within the park.

BBC Park: The BBC Park is located approximately 150 ft east of the existing TH 15 right-of-way. The park is south of 3rd Street North and west of 37th Avenue NE. The park is owned by the City of St. Cloud. It totals 0.89 acres and has a playground, basketball court, tennis court, and pavilion.

Jaycees Park: Approximately 600 ft of Jaycees Park's western boundary is adjacent to TH 15. Second (2nd) Street South borders it to the north and 11th Street South borders it to the south. The park is owned by the City of St. Cloud. It totals 4.86 acres and contains a playground, basketball court, baseball field, and dog park.

Felicity Park: Approximately 1,500 ft of Felicity Park's western boundary is adjacent to TH 15. CR-134 borders it to the north, and the Sauk River borders it to the south. The park is owned by the City of St. Cloud. It totals 15 acres and contains open fields.

Island View Park: Approximately 250 ft of Island View Park's eastern boundary is adjacent to TH 15. River Avenue N. borders it to the north and the Mississippi River borders it to the south. The park is owned by the City of Sauk Rapids. It totals 14 acres and contains recreational trails.

Golf Courses

Angushire Golf Course: Located along the west side of CSAH 15 and north of 18th Street N, Angushire is a nine-hole public course. A hole runs parallel to TH 15 near the right-of-way line.

Boulder Ridge Golf Course: Located east of CSAH 74, Boulder Ridge is a nine-hole public course.

Mississippi River

In 1976, the Mississippi River was designated as a state Wild and Scenic River for the 53-mile length of river from the 10th Street Dam in St. Cloud to the western border of the Cities of Anoka and Champlin at the northwest corner of the Twin Cities metropolitan area. It is also designated as a state Canoe/Boating Route. TH 15 crosses the river a few miles north of the Wild and Scenic River designation. Any river crossing improvements will have to consider the environmental qualities of this important river. Visual impacts from a river crossing improvement will also require an assessment.

Sauk River

Currently, no state river designations belong to this river. TH 15 crosses the river north of 12th Street and south of CSAH 134. Any improvements on TH 15 that involve the river crossing, will require coordination with Mn/DNR.

Sauk River Watershed District

The Sauk River Watershed, located in Central Minnesota, is one of 16 major watersheds in the Upper Mississippi River Basin. Coordination with the District will be necessary with future project development. Improvements on TH 15 may require a permit.

IV. Alternatives

A. TH 15 Corridor Alternatives

In defining alternatives for the TH 15 Corridor, the corridor was divided into four segments. These segments are identified in Table IV-1 below. The segments were selected based on the existing characteristics of the roadway, the adjacent land use, the frequency of access, and the intersecting roadways. Within each segment, except for the segment south of I-94, both at-grade and grade separated alternatives were considered. A freeway segment was not considered south of I-94 because the existing and forecast traffic volumes are lower than other segments of the corridor and I-94 is a logical terminus for the freeway section to the north. TH 15 is currently a rural two-lane roadway south of I-94, and there are no plans to upgrade the section south of I-94 to freeway. However, Mn/DOT does have plans to upgrade this section to a four-lane divided expressway from I-94 to Kimball. Table IV-1 shows all the possible combinations of at-grade and grade separated segments for the TH 15 Corridor. The first four alternatives shown in the table were selected for further evaluation. Alternatives 5 and 6 were not considered viable for the following reasons:

- Alternative 5 has a short freeway segment in the middle of the corridor with at-grade segments on either end. In this Alternative, a driver traveling between I-94 and TH 10 would go from freeway to at-grade to freeway to at-grade to freeway. This is inconsistent with driver expectations and inconsistent with the goals for the corridor.
- Alternative 6 would flip flop existing at-grade segments with freeway segments and existing freeway segments with at-grade segments, therefore, downgrading one of the segments while significantly upgrading all the others.

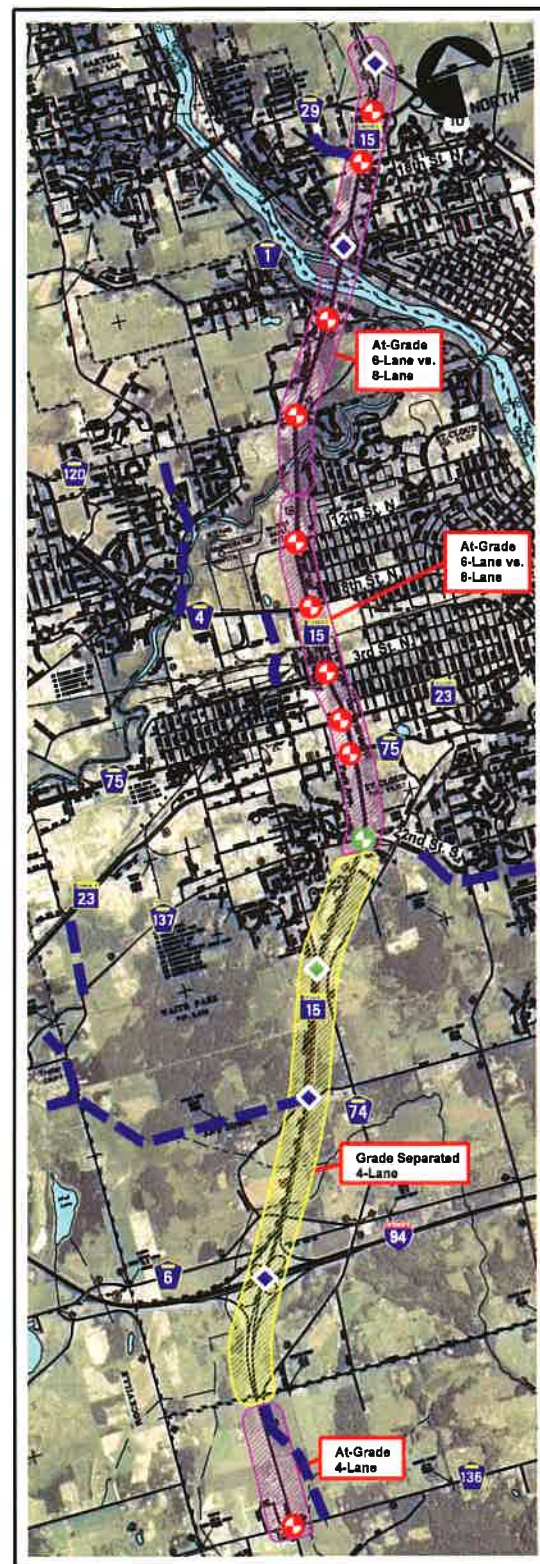
Table IV-1: TH 15 Corridor Alternatives

TH 15 Corridor Segments	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
A CSAH 47/136 to I-94	At-Grade	At-Grade	At-Grade	At-Grade	At-Grade	At-Grade
B I-94 to 2nd Street South	Grade Separated	At-Grade	Grade Separated	Grade Separated	At-Grade	At-Grade
C 2nd Street South to 12th Street North	At-Grade	At-Grade	Grade Separated	At-Grade	Grade-Separated	Grade-Separated
D 12th Street North to TH 10	At-Grade	At-Grade	Grade Separated	Grade Separated	At-Grade	Grade-Separated

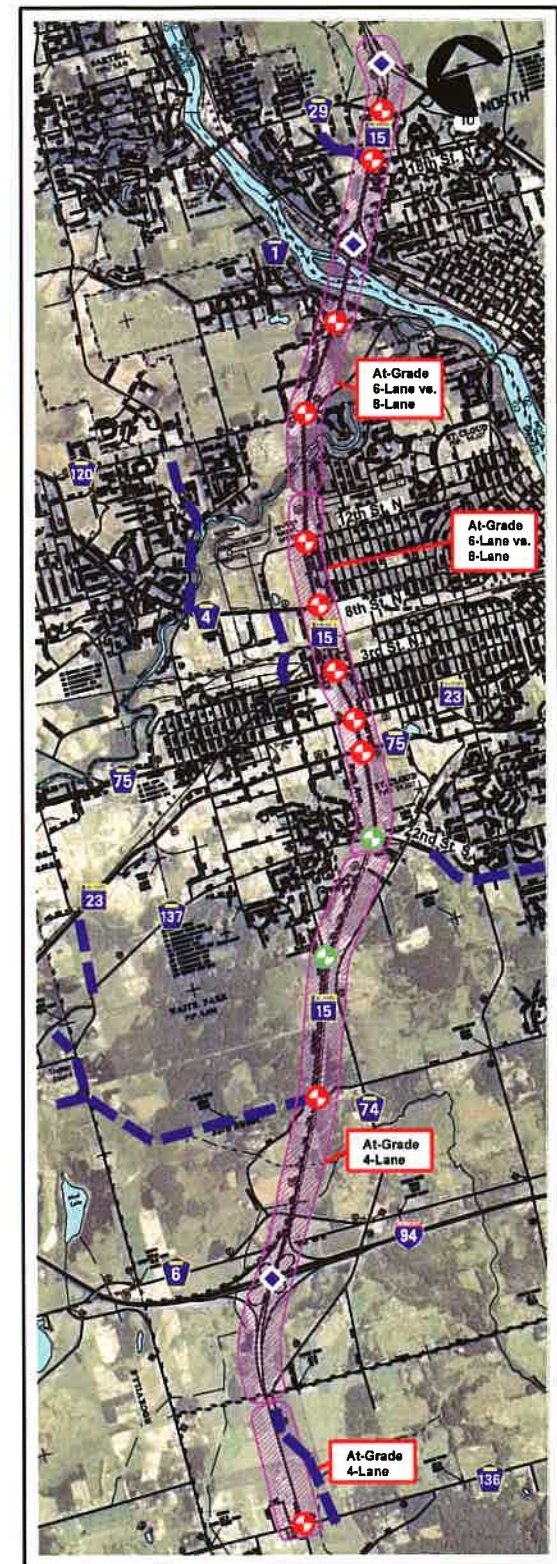
The four corridor alternatives that were selected for further evaluation are shown on Figure IV-1 and Figure IV-2.



Corridor Alternatives



Alternative 1



Alternative 2

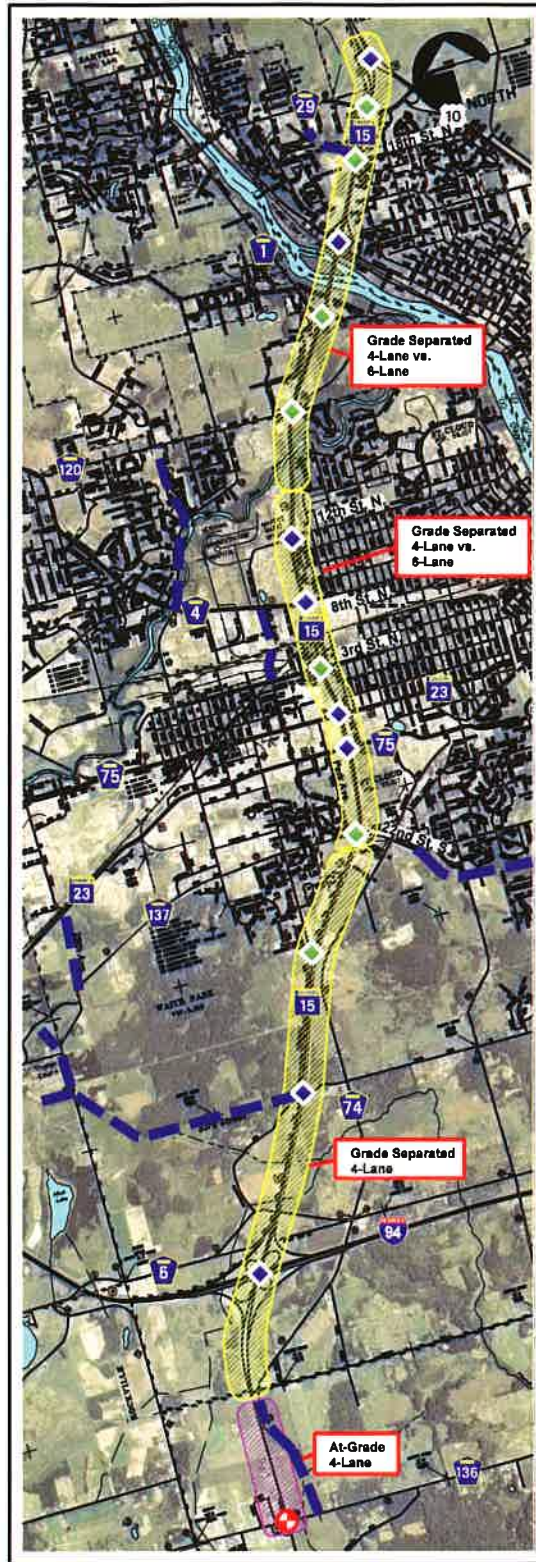


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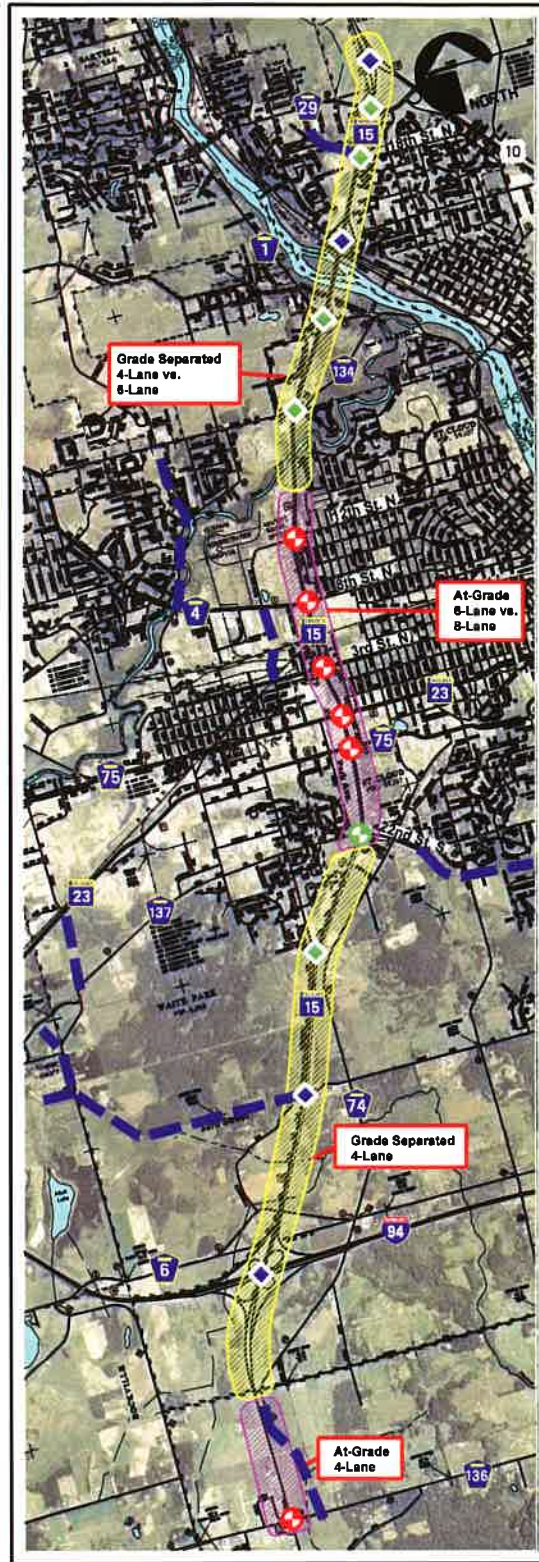
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Corridor Alternatives



Alternative 3



Alternative 4

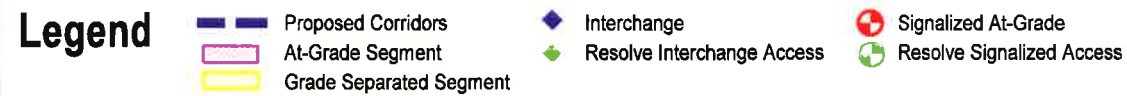


Figure IV-2

Parallel Corridors

The upgrading of parallel corridors was considered as an alternative to improvements on TH 15. The St. Cloud APO's 2030 Illustrative Network includes upgrades of several parallel corridors to TH 15. The parallel route upgrades included in the illustrative network (from west to east) include:

- Southwest Beltway: New north-south minor arterial
- Extension of 28th Avenue to CR 137
- Adding Capacity to the 10th Avenue/Pine Cone Road Corridor
- Adding Capacity to 2nd Avenue from Division St. to 8th St. N.
- Adding Capacity to 33rd Avenue from Division to 8th Street North
- Adding Capacity to 25th Avenue from Division Street to 8th Street North
- Adding Capacity to 9th Avenue/Clearwater Road

Another parallel route that potentially could affect demand on TH 15 was the extension of 28th Avenue from Division Street to the north.

Figure IV-3 compares the existing traffic volumes, the 2030 APO Financially Constrained Network, and the 2030 Illustrative Network with the 28th Avenue Extension for TH 15, and the parallel routes. In comparing the 2030 forecast volumes from the 2030 Illustrative Network with the Financially Constrained Network, there are several demand differences worth noting. First, the demand on TH 15 is higher in the Illustrative Network between 2nd Street and 12th Street. Secondly, the demand on the closest parallel routes to TH 15 (33rd Avenue and 25th Avenue on the east and Waite Avenue on the west) decreases in the Illustrative Network between 2nd Street and 12th Street. This is likely due to the fact that TH 15 is a six-lane arterial in the Illustrative Network and a four-lane arterial in the Financially Constrained Network. The parallel routes farther from TH 15 do not show any significant decrease. Therefore, it appears that the demand on 33rd Avenue, 25th Avenue, and Waite Avenue between 2nd Street South and 12th Street North are affected by the capacity of TH 15; and it could be assumed that demand on TH 15 would be affected by the capacity of these three parallel routes. It is worth noting that even though capacity was also added to 33rd Avenue and 25th Avenue between Division and 8th Street in the Illustrative Network, the demand went down. This is likely because TH 15 is a more desirable route.

There is limited ability to extend 25th Avenue, 33rd Avenue or Waite/44th Avenue north of their current terminus. Existing development and the Sauk River are major barriers to extending 25th Avenue and 33rd Avenue north. The Veteran's Administration, Sauk River, and other development are also barriers to extending Waite Avenue/44th Avenue any farther north than 12th Street. Therefore, the parallel routes are unlikely to be a good alternative to upgrading TH 15 north of 12th Street.

Within the core area, between 2nd Street South and 12th Street North, upgrading the parallel routes will help to relieve the demand on TH 15, although they will not eliminate the need for improvements to TH 15. Long term, 2030 and beyond, the demand on TH 15 will continue to grow with further development in the corridor, and TH 15 will need to be a freeway in order to handle the forecast volumes.

Other potential upgrades of parallel routes not included in the Illustrative Network that were considered include the following:

- 28th Avenue Corridor north of CSAH 75
- Waite Avenue/44th Avenue
- 33rd Avenue north of 8th Street North
- 25th Avenue north of 8th Street North

The limited right-of-way and poor access management along these corridors make it difficult for adding sufficient capacity to effectively relieve the traffic demand on TH 15. Below is a brief description of the corridors and their limitations.

28th Avenue: Poor access management exists along this corridor. Several businesses exist along the corridor with direct access on this roadway. This segment also has limited right-of-way of 80 to 100 feet. This corridor currently ends at CSAH 75. Extending it further north would require a new Sauk River crossing and acquisition of residential homes and businesses,

Waite Avenue/44th Avenue will be extended north to 8th Street in 2007. It is a four-lane undivided section. This roadway also extends through residential and commercial areas with cross streets every block and private access. The right-of-way between 2nd Street and Division is limited with only 66 feet.

33rd Avenue is a four-lane undivided roadway going from 2nd Street South to the Sauk River. This roadway also extends through residential and commercial areas with cross streets every block and private access. 33rd Avenue has limited right-of-way of 66 feet.

25th Avenue: The 25th Avenue corridor is approximately one (1) mile east of TH 15 and in the core business area with significantly developed residential and commercial land uses. The existing right-of-way is limited with only 66 feet. North of 8th Street the access control is poor with several driveways. The roadway also ends at 12th Street North. Upgrading the segment north of 8th Street would require the acquisition of several homes in an effort of providing access control.

Even with these improvements the forecast 2030 travel demand on TH 15 remains high and traffic demand is expected to continue to grow on TH 15 beyond 2030.

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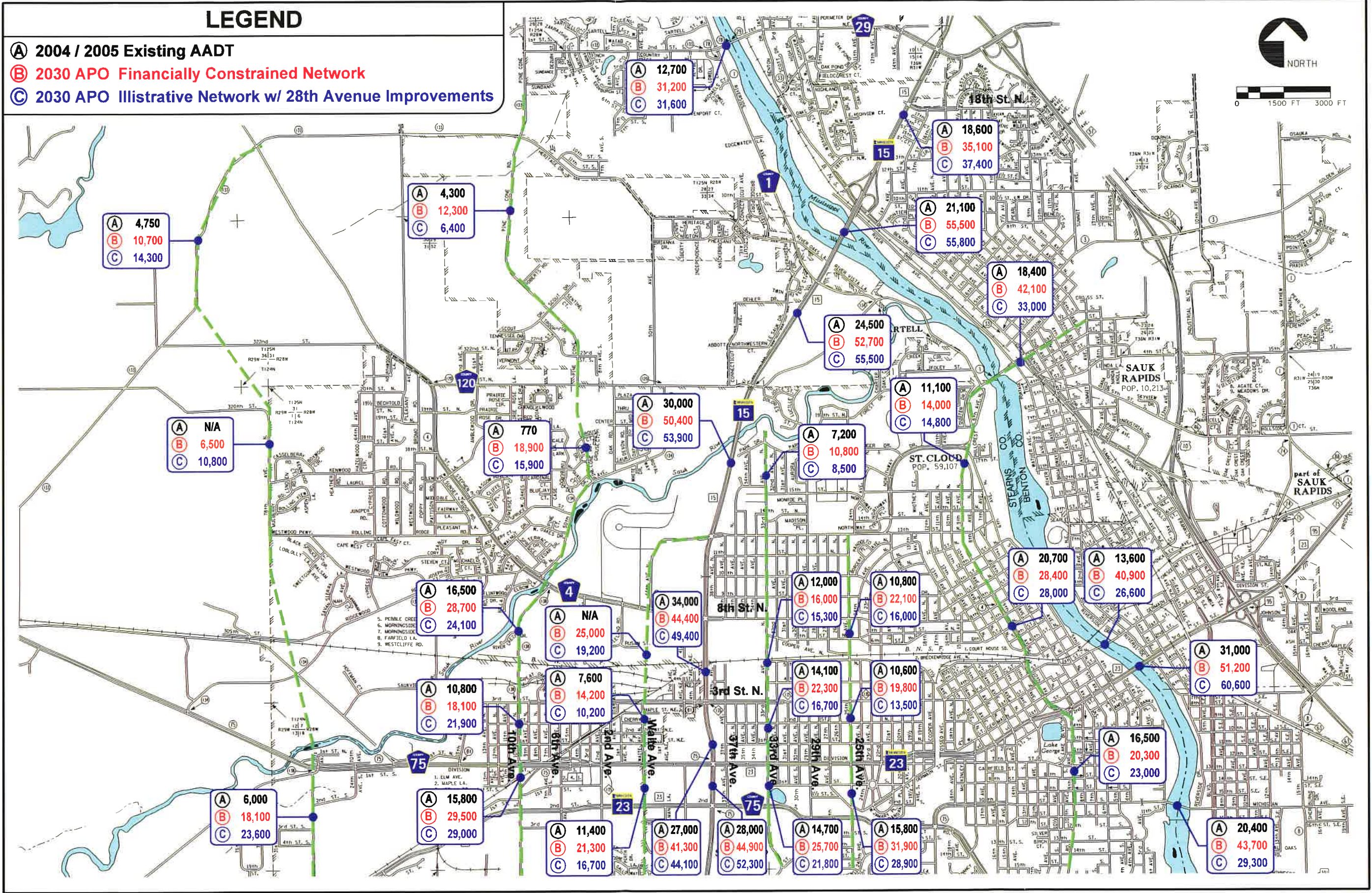


Figure IV-3

Mississippi River Crossing: Even if the above referenced corridors were improved, none of them address the lack of Mississippi River crossings in St. Cloud. The highest 2030 demand volume on TH 15 is at the Mississippi River crossing in both the financially constrained and illustrative networks. The illustrative network is showing that all of the river crossings are over capacity, even though the network includes the addition of one new crossing and capacity improvements on five (5) others (including TH 15). This leaves only one (1) crossing, East St. Germain Street, with no capacity improvements. Even though the plan calls for an additional lane on TH 15 across the river, the forecast demand exceeds the capacity of the improvement. Future traffic operations analysis indicates this is mostly due to the location and operations of the adjacent intersection at CSAH 1. By providing an improved access at this location, an interchange, and adding auxiliary lanes on the Mississippi River Bridge, this segment performs at acceptable LOS. The alternative to this is to add another Mississippi River crossing or close the CSAH 1 access to TH 15.

Extending Sartell's proposed east-west arterial across the Mississippi River to connect to Benton Drive is one crossing that could relieve the river crossing demand on TH 15. However, extending this roadway beyond Benton Drive would require the acquisition of several homes and disruption of in-place developments since no continuous routes exist beyond Benton Drive that the crossing could connect into.

The removal of the access at CSAH 1 and TH 15 would improve the traffic operations on TH 15 across the river and result in a crossing that is not over capacity beyond six lanes. However, CSAH 1 is an important minor arterial in Sartell that is planned for capacity expansion to four lanes. Commercial properties that are adjacent to both TH 15 and CSAH 1 also depend on the access to TH 15.

B. TH 15 Access Alternatives

The location of access to TH 15 is an important issue for each of the alternatives. At-grade alternatives allow more access than freeway alternatives but provide less mobility. This section defines the access that could be provided for both the at-grade and freeway alternatives.

At-Grade Access Alternatives

In general, the existing access in the TH 15 corridor is consistent with Mn/DOT's access spacing guidelines, and therefore, the proposed access for the at-grade alternatives is based on the access that exists today, except for the two segments south of 2nd Street South. The proposed access for these two segments are discussed below.

CSAH 47/136 to I-94

Only one alternative is considered in this segment in all four corridor alternatives under study. This segment is currently a two-lane rural roadway with a speed limit of 55 mph. It functions as a principal arterial but provides both private and public land access.

Since providing private access does not meet Mn/DOT's access spacing guidelines for a rural exurban principal arterial (category 3A), it is recommended that all private access points be closed when this segment is upgraded in the future. It is also recommended to remove the access of CR 74 at TH 15 and relocate it to intersect with CR 136 east of TH 15. These access removals will improve TH 15 access spacing to 1.0 access per mile and meet Mn/DOT's category 3A access spacing guidelines of primary access at one-mile spacing.

I-94 to 2nd Street South

Full access is assumed at 33rd Street South for both the at-grade and freeway alternatives since 33rd Street is a proposed minor arterial and is part of the proposed beltway on the south side of the St. Cloud metro area. For the at-grade alternatives, access was also considered at Sportsman Island Drive and at 22nd Street South. These access locations are discussed below:

Sportsman Island Drive: This potential access point is located between the future 33rd Street interchange and the existing 22nd Street overpass of TH 15, a distance of approximately one mile. Transportation planning principals recommend approximately one-mile spacing between minor arterials. The APO's 2030 Illustrative Plan shows a future connection from TH 15 to CR 136 in the vicinity of Sportsman Island Drive. The benefit of a connection to TH 15 would be to provide another corridor for east-west travel consistent with transportation planning principals. This connection is not in the APO's 2030 Financially Constrained Plan.

Adding an access at Sportsman Island Drive would result in an average access spacing of one access every one mile within this segment. Without this access, the spacing is one access every two miles. This does meet Mn/DOT's access spacing guidelines for a rural at-grade expressway, category 3A.

By adding an access at this location the crash rate is expected to be higher than if there were no access.

With the exception of right-of-way impact, an intersection at Sportsman Island Drive does not have any foreseeable social, environmental, or economical impacts. However, there may be limited development potential surrounding the proposed extension of Sportsman Island Drive. West of TH 15, a large regional park (Quarry Park) exists with rock outcroppings. East of TH 15, the land has several natural areas, wetlands, rock outcroppings, and parks. St. Cloud's future land-use plan in this area shows a mix of residential and commercial land uses.

Even though Sportsman Island Drive may develop east of TH 15, the western segment is unlikely due to Quarry Park. Due to increased delays, an increase in crashes, and since system continuity would likely not progress west of TH 15, it is recommended that Sportsman Island Drive terminate at CR 74 and with no access to TH 15.

Access at 22nd Street South: 22nd Street South is approximately 0.65 miles from 2nd Street South. The 22nd Street/24th Street Corridor is being planned as an east-west minor arterial between CSAH 75 and 10th Avenue. Access to TH 15 at 22nd Street may make the 22nd Street/24th Street corridor a viable alternative to 2nd Street South which is currently at capacity through this area. However, adding an access at this location would result in access spacing on TH 15 that is inconsistent with Mn/DOT access guidelines of one access every mile, and it would create additional delay and crashes on TH 15. The impacts of an at-grade access at 22nd Street on the TH 15 traffic operations were analyzed and are summarized in Table IV-2.

Table IV-2: Intersection LOS at 22nd Street South and TH 15 (2030)

2030 Modeled (At-Grade Scenario)		
Intersection	SimTraffic Control Delay (sec/veh)	LOS
22nd Street S.	120.1	F

Source: WSB & Associates

The at-grade access at 22nd Street South operates at an unacceptable LOS F in the future even with dual lefts at every approach at the intersection.

The resulting travel demand on 2nd Street South with and without access at 22nd Street was also analyzed to determine if adding access would lower the traffic demand on 2nd Street South. Table IV-3 summarizes the impacts with and without 22nd Street South access on TH 15:

Table IV-3: 22nd Street South Access to TH 15 Travel Demand Comparisons

Location	2030 Daily Volumes											
	10th to 2nd			2nd to TH 15			TH 15 to 33rd			33rd to 25th		
	Scenario			Scenario			Scenario			Scenario		
	1	2	3	1	2	3	1	2	3	1	2	3
2nd St. S.	34,200	35,200	35,100	43,000	45,600	43,100	47,600	47,300	46,600	32,400	32,400	31,400
22nd/24th St.	18,200	19,600	19,300	20,700	25,400	25,000	20,700	26,400	25,300	13,400	15,900	17,300
	Scenario			Scenario			Scenario			Scenario		
	4	5	6	4	5	6	4	5	6	4	5	6
2nd St. S.	28,100	27,800	26,200	32,300	31,400	32,800	33,700	35,700	35,200	26,000	25,400	25,800
22nd/24th St.	22,800	24,400	25,200	23,300	25,400	27,800	23,300	26,600	27,300	16,700	17,500	17,000

Scenario 1: APO's Financially Constrained Model: (24th St. extension to CSAH 75 not included, TH23/CSAH75 6-lanes 10th to 25th, no TH 15 access at 22nd St.)
 Scenario 2: APO's Financially Constrained Model Adjusted: (24th St. extension to CSAH 75 included, TH23/CSAH75 6-lanes 10th to 25th, TH 15 access at 22nd St., TH 15 Freeway)
 Scenario 3: APO's Financially Constrained Model Adjusted: (24th St. extension to CSAH 75 included, TH23/CSAH75 6-lanes 10th to 25th, TH 15 access at 22nd St., TH 15 6-Lane At-Grade)
 Scenario 4: APO's Financially Constrained Model Adjusted: (24th St. extension to CSAH 75 included, TH23/CSAH75 4-lanes 10th to 25th, TH 15 no access at 22nd St., TH 15 6-Lane At-Grade)
 Scenario 5: APO's Financially Constrained Model Adjusted: (24th St. extension to CSAH 75 included, TH23/CSAH75 4-lanes 10th to 25th, TH 15 access at 22nd St., TH 15 6-Lane At-Grade)
 Scenario 6: APO's Financially Constrained Model Adjusted: (24th St. extension to CSAH 75 included, TH23/CSAH75 4-lanes 10th to 25th, TH 15 access at 22nd St., TH 15 Freeway)

Source: WSB & Associates

The first three scenarios that were analyzed assumed 2nd Street South was upgraded to a six-lane facility, and the last three assumes 2nd Street South is a four-lane facility as it is today. The analysis shows that by providing access to TH 15 at 22nd Street, traffic demand on 22nd Street increases compared to the situation where there is no access to TH 15 at 22nd Street. However, providing access to TH 15 at 22nd Street does not lower the traffic volumes on 2nd Street South. The model indicates that 22nd Street can provide an alternative route to 2nd Street South without direct access to TH 15.

Due to the increase in delays, poor LOS, increase in crashes, and since 22nd Street does not provide any noticeable relief to 2nd Street South due to access at TH 15, it is not recommended to provide access at this location for an at-grade scenario on TH 15.

Freeway Access Alternatives

The recommended minimum spacing between interchanges in the Mn/DOT design manual is one mile in an urban area and two miles in a rural area. This spacing is needed to be able to adequately develop entrance and exit ramps to the freeway section. Therefore, with the freeway alternatives, it is not possible to provide direct access to TH 15 at all of the existing access points. All accesses in this scenario would be grade separated; and therefore, a basic interchange configuration is defined to determine the access feasibility and the potential level of impact.

Each of the potential interchange locations are discussed below:

I-94 to 2nd Street South

33rd Street: This roadway is currently a local roadway within the City of St. Cloud but is planned as a minor arterial carrying east-west traffic from TH 23 to TH 10. Studies are

underway as to its future alignment west and east of TH 15. It will also provide an additional Mississippi River crossing as it connects to TH 10. Three different interchange configurations were considered at this location and are shown in Figure IV-4. Two of these configurations were also considered in the SW Arterial Alignment Study.

All of these alternatives appear feasible and have a similar level of impact. A separate study will be conducted for this interchange to determine the appropriate design. For the purposes of this study, a range of costs and impacts were determined using the concepts shown in Figure IV-4.

Sportsman Island Drive: As described in the At-grade Access section, this potential access point is located between the future 33rd Street interchange and the existing 22nd Street overpass of TH 15, a distance of approximately one mile. Due to the lack of east-west continuity as described in the previous section and the expected increase in crashes and delay on TH 15 with access at this location, an interchange access is not recommended for Sportsman Island Drive at TH 15.

22nd Street South: As described in the At-Grade Access section, 22nd Street is being planned as an east-west collector between CSAH 75 and 10th Avenue. It was thought that an access to TH 15 at 22nd Street may make the 22nd Street/24th Street corridor a viable alternative to 2nd Street South which is currently at capacity through this area. However, adding an access at this location would result in access spacing on TH 15 that is inconsistent with Mn/DOT interchange spacing guidelines of one mile between interchanges. It is assumed that an interchange would be developed at 2nd Street South under the freeway alternatives. As discussed previously, providing access to TH 15 at 22nd Street South does not relieve traffic demand on 2nd Street South. This is shown in Table IV-3 Scenarios 2 and 6.

By adding an interchange on TH 15 at 22nd Street, a weaving section would be created between 22nd Street and 2nd Street that would be approximately 1,500 feet long. A freeway weaving analysis was completed for this segment and shows freeway speeds of 30 to 37 mph and densities of 22 to 30 veh/lane/mile (northbound and southbound). The densities are equivalent to LOS C and D. LOS D does not meet the LOS objectives for this segment.

Two interchange configurations as shown in Figure IV-5 were considered for grade separated access at TH 15. Both alternatives have right-of-way impacts (see summary Table IV-4). Alternative 1 impacts less land but requires the removal of three buildings, including a church. Alternative 2 impacts more land but takes one office building.

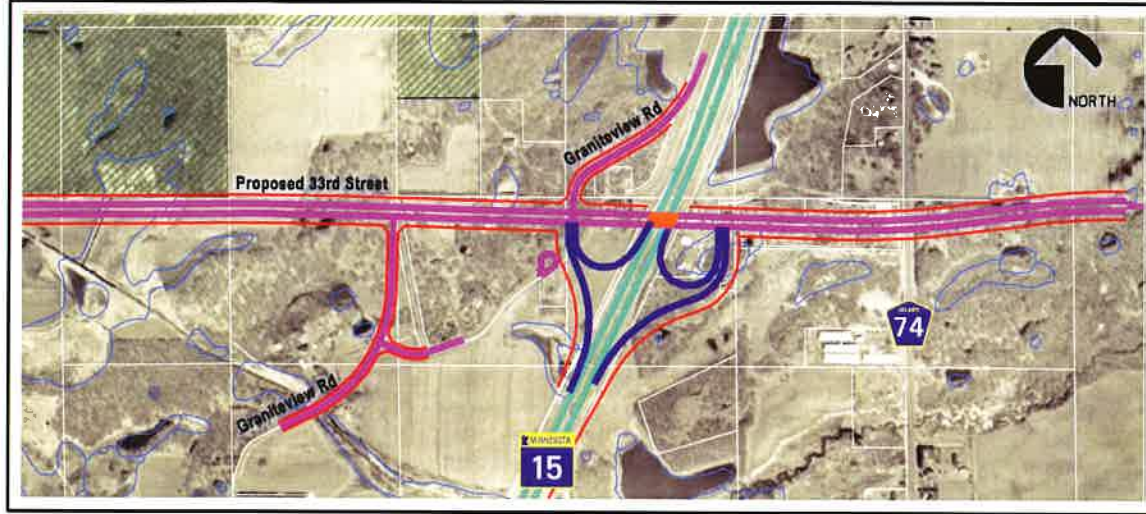
Table IV-4: 22nd Street South Interchange Summary of Right-of-Way Impacts

Alt.	Right-of-Way	
	Strip (acres)	Buildings (#)
1	11.2	3 (1 Church, 2 Office Bldgs.)
2	21.9	1 (Office Bldg.)

Source: WSB & Associates

Access to TH 15 at 22nd Street South is not recommended with the freeway alternatives. Traffic forecasts indicate that the access would not provide any relief to traffic demand on 2nd Street South, and that it would have negative impacts on the traffic operations on TH 15. The interchange would also result in right-of-way impacts and add to project costs.

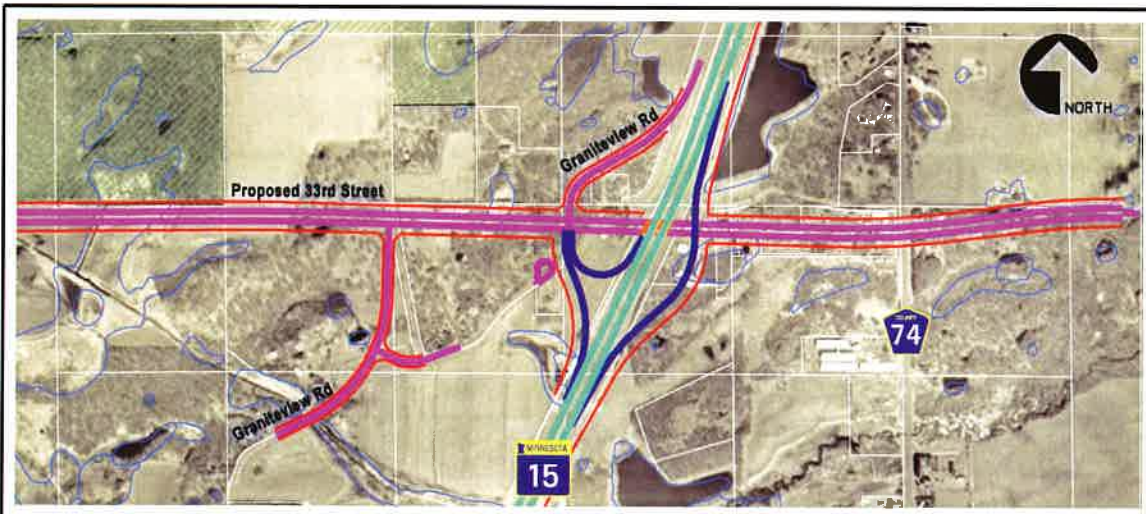
Alternatives Considered



Alternative 1 - 33rd Street Freeway



Alternative 2 - 33rd Street Freeway

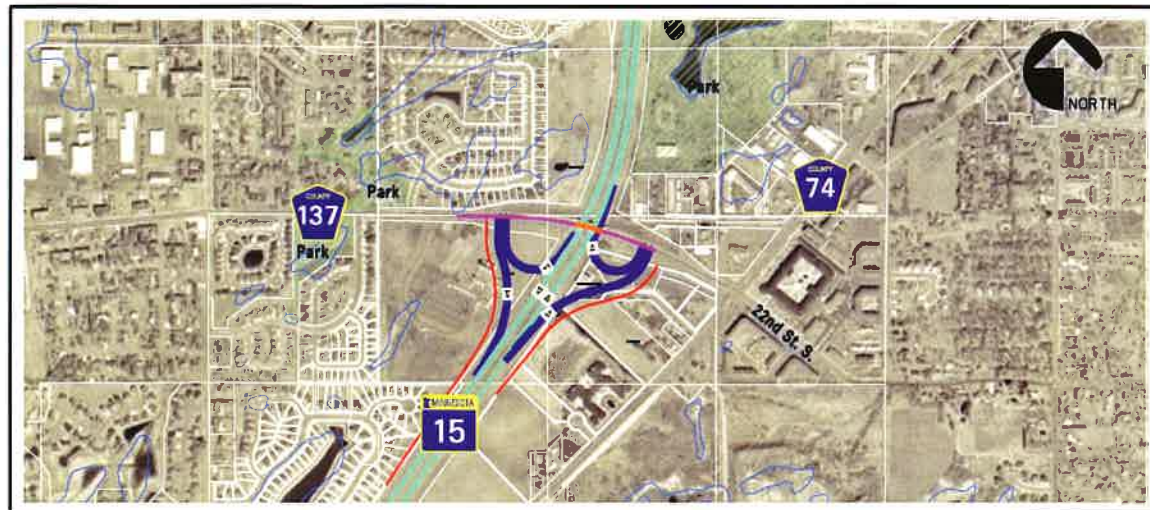


Alternative 3 - 33rd Street Freeway

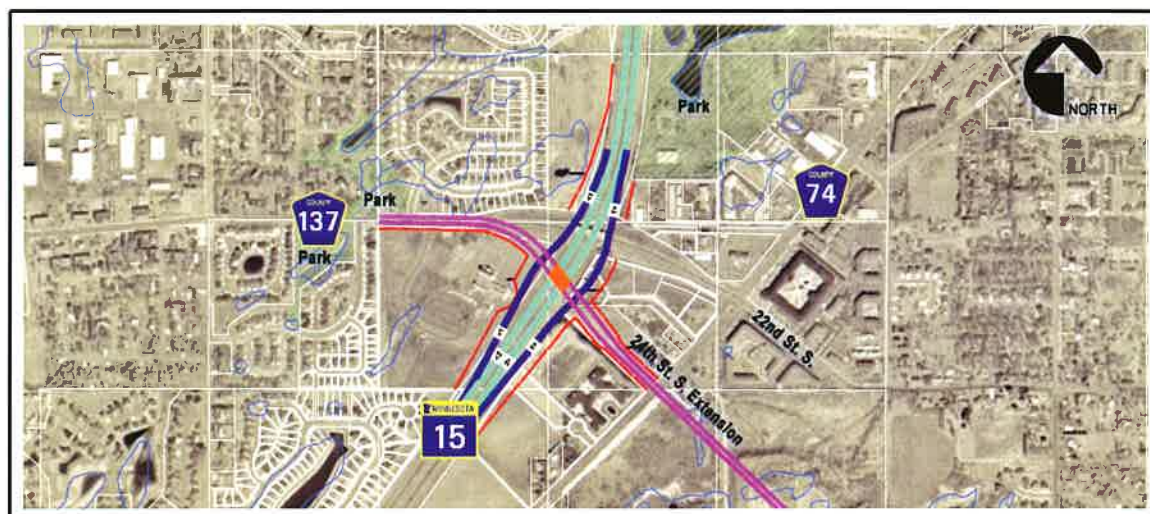
TH 15 Freeway	Local Road	Proposed R/W	Parks
TH 15 Ramp	Bridge	Wetlands	

Figure IV-4

Alternatives Considered



Alternative 1 - 22nd Street Freeway



Alternative 2 - 22nd Street Freeway

TH 15 Freeway	Local Road	Proposed R/W	Parks
TH 15 Ramp	Bridge	Wetlands	

Figure IV-5

2nd Street South to 12th Street North

Several alternatives were evaluated in this area to determine access locations and basic interchange configurations. The following was evaluated and described below:

- Access from 2nd Street South to 12th Street North
- Hybrid Access at 2nd Street South and Division Street (Two Level Intersection)
- Split Diamond Interchanges with One-Way Frontage Roads to 3rd Street North vs. Split Diamond Interchanges with SPUI at 3rd Street North

Access from 2nd Street South to 12th Street North: The current intersection spacing in this segment is approximately one intersection every 0.37 miles. The minimum spacing for interchanges in an urban area is one interchange every mile. Due to the spacing of intersections on this segment and the narrow right-of-way, a system of tight diamond interchanges with frontage roads were considered. The various alternatives for interchange access are shown in Figure IV-6 through Figure IV-8.

- Alternative 1A – Tight Diamond Interchanges at Division and 8th Street with One-way Frontage Roads. Although this alternative provided the best access to TH 15, it was also the most expensive. The distance between ramps between 8th Street and Division did not meet desirable weave distance due to the presence of frontage roads that connected to the ramps. Also, there are several locations where exit ramps merged with parallel frontage roads. This also resulted in difficult weaving along the frontage roads. This alternative is the most expensive alternative since it has the most ramps of all the alternatives considered.
- Alternative 1B – Split Diamond Interchanges at 2nd/Division and 8th/12th Street with One-way Frontage Roads. This alternative provides similar access as Alt. 1A, but without additional ramps at Division and 8th Street. Again, the weaving distance on TH 15 between Division and 8th Street is less than desired. Since this alternative provides similar access as Alternative 1A and is less expensive, this alternative was preferred over Alternative 1A.
- Alternative 1C – Split Diamond Interchanges at 2nd/Division and 8th/12th Street. This alternative is similar to Alternative 1B but excludes the one-way frontage roads between Division and 8th Street. Therefore, direct access to 3rd Street from TH 15 would not be possible. This alternative was rejected since a portion of 3rd Street was recently upgraded and more direct access to 3rd Street from TH 15 was considered an important criteria. Additional capacity improvement projects are also planned on 3rd Street so that it could relieve Division Street as a minor arterial. Cutting off direct access from TH 15 will inhibit its ability to relieve traffic on Division Street.
- Alternative 2 – Diamond Interchange at 3rd Street with One-way Frontage Roads. This alternative eliminates the weaving conflicts on TH 15. However, the primary access along TH 15 is at 3rd Street, a minor arterial, and not at Division or 2nd Street which are principal arterials. This alternative was rejected due to the lack of primary access at the principal arterials.
- Alternative 3 – Half Diamond Interchanges at 2nd Street and 12th Street with One-way Frontage Roads. To access any of the cross streets along this segment of TH 15, the driver would only have one choice depending on their direction. For northbound traffic, the only exit would occur at 2nd Street and for southbound traffic, the only exit would occur at 12th Street. Due to the lack of access, this alternative was rejected.

Trunk Highway 15 Corridor Study



2nd St. S. to 12th Street North

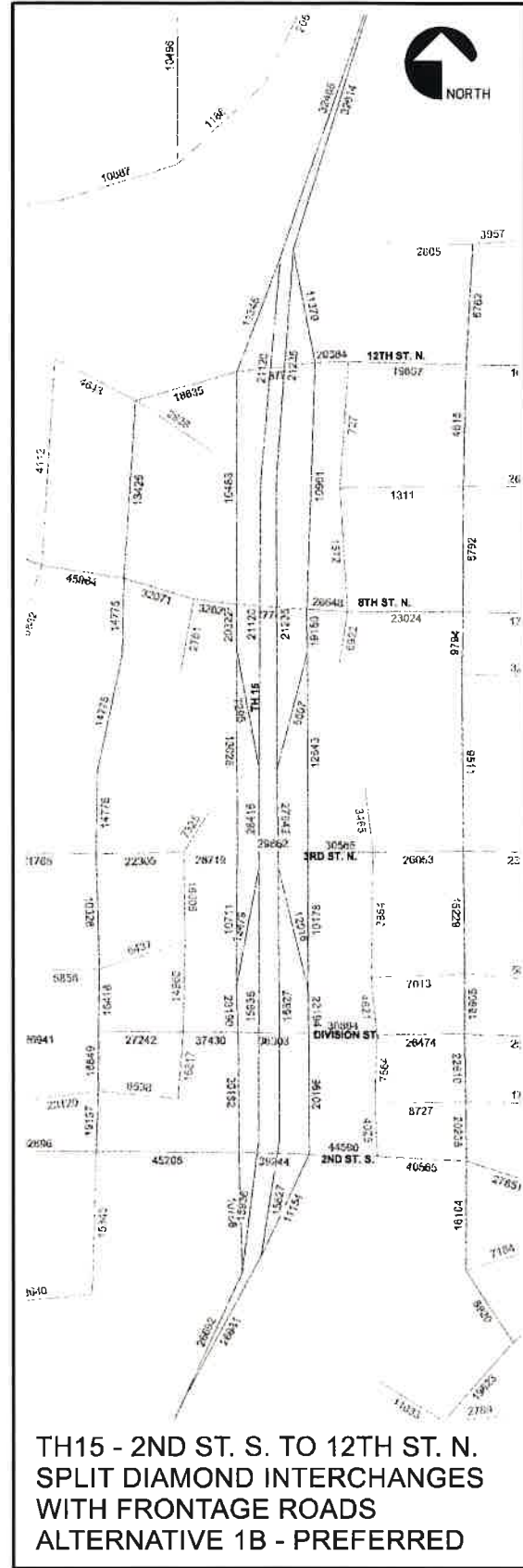
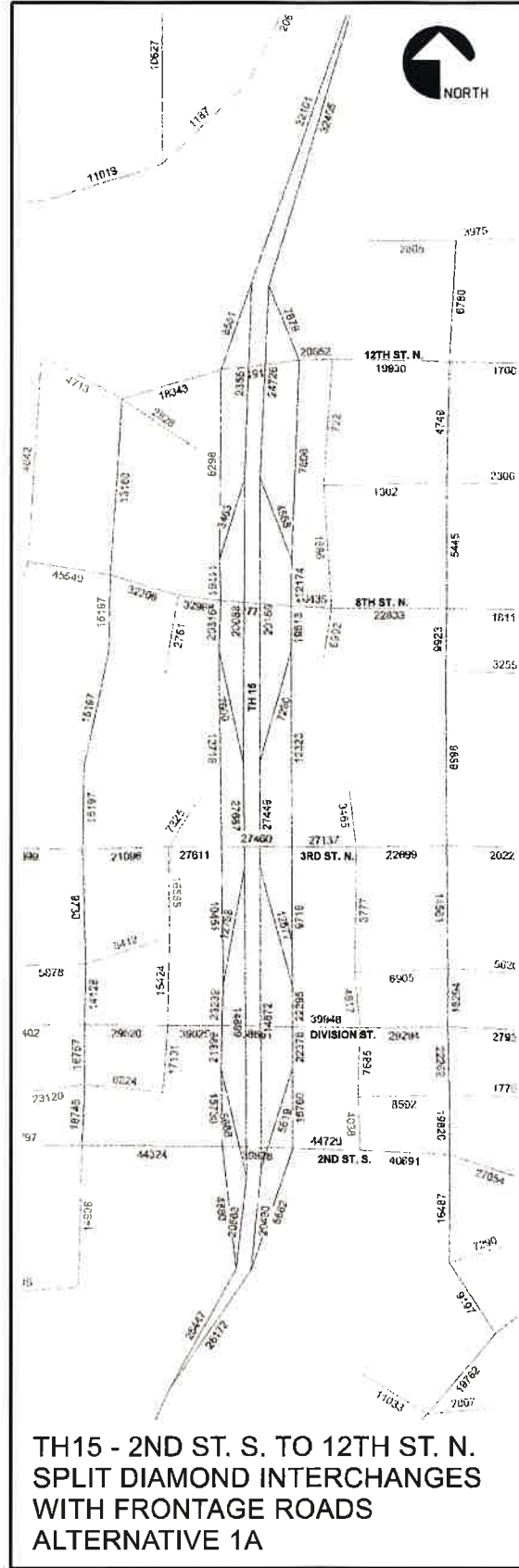


Figure IV-6

MINNESOTA

15

Trunk Highway 15 Corridor Study



2nd St. S. to 12th Street North

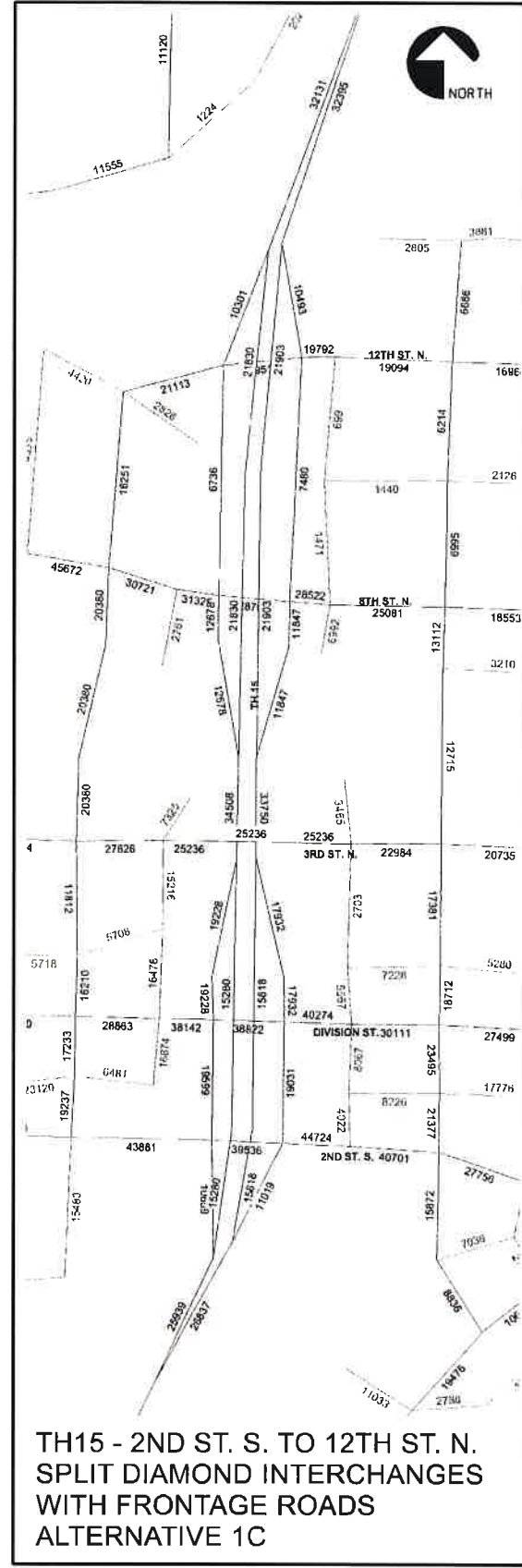


Figure IV-7



Trunk Highway 15 Corridor Study



2nd St. S. to 12th Street North

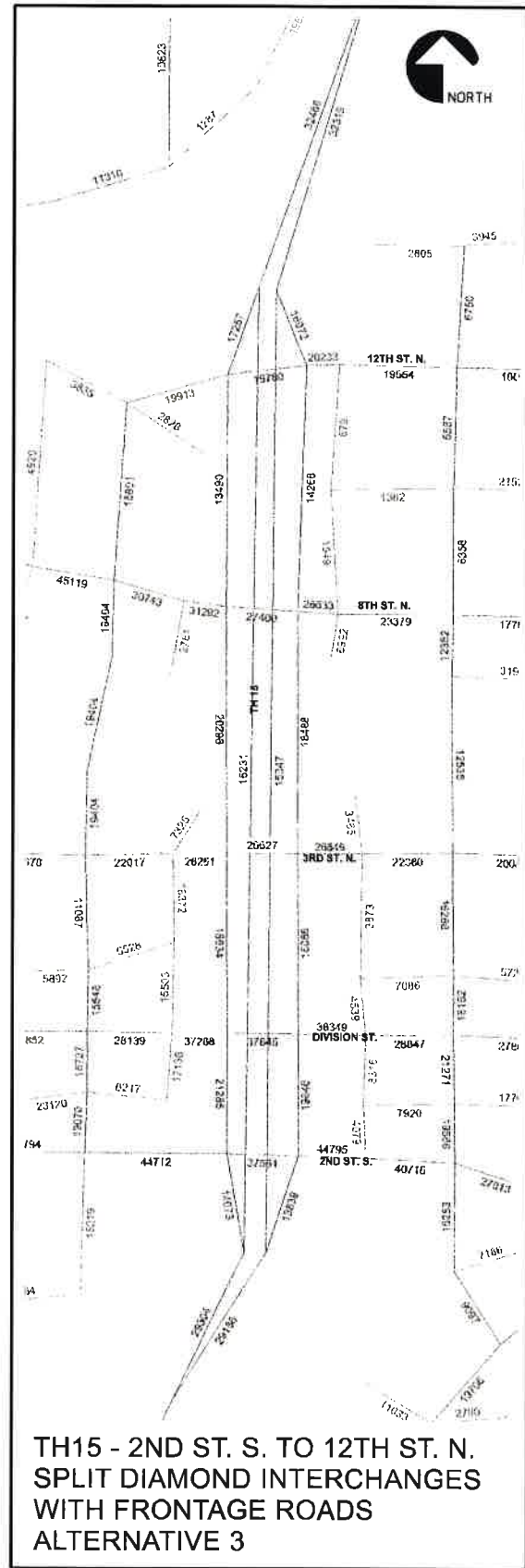
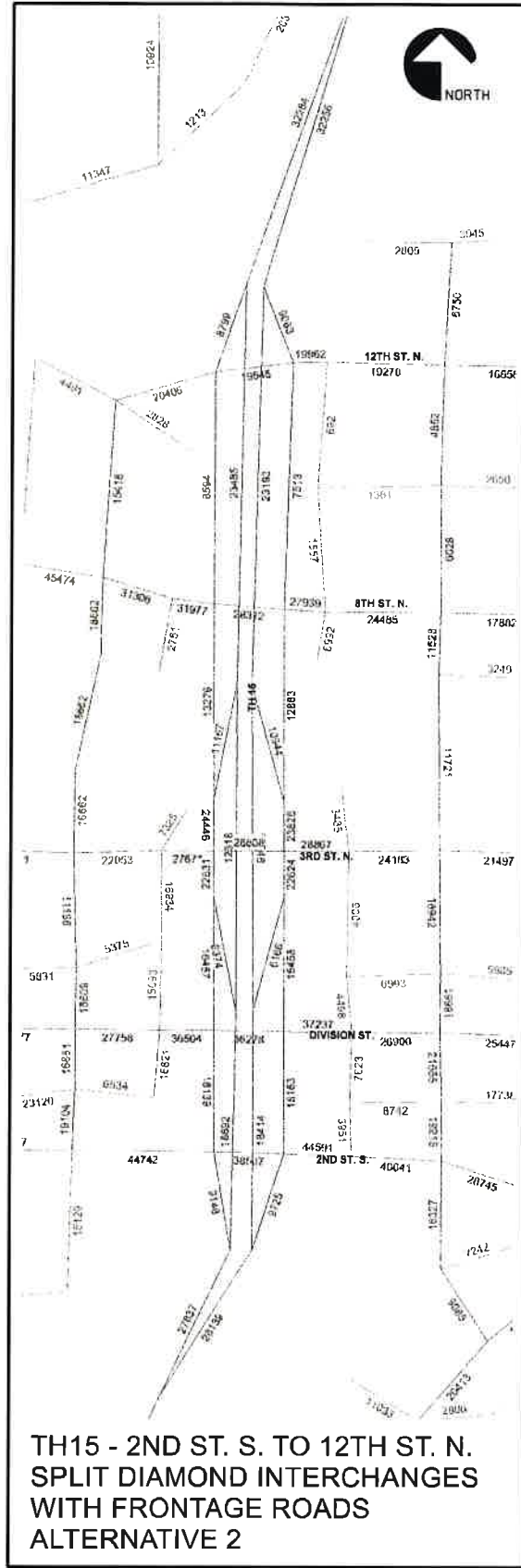


Figure IV-8

Hybrid Access (Two Level Intersection): This concept provides grade separation between NB TH 15 and the WB leg of the crossing roadways and grade separation between SB TH 15 and the EB leg of the crossing roadways. The northbound lanes of TH 15 would intersect with the EB legs of the crossing roadways and southbound TH 15 would intersect with the WB legs of the crossing roadways. The concept creates two signalized intersections at every cross street, but the intersections are between two one-way roadways. This intersection concept adds capacity to an expressway-type facility by reducing the number of signal phases from as many as eight to two, thus, providing more green time for each of the two phases. This concept was evaluated against the Split Diamond Interchange concept at 2nd Street South and Division Street. This location was chosen because it was the most constrained area along the corridor for comparing LOS, travel speeds, and right-of-way impacts. Drawings of the two concepts are detailed in Figure IV-9. The table below summarizes the evaluation.

Table IV-5: 2nd St. S. to Division St. Alternative Comparison

Alternative	PM Peak Hour Modeled 2030 Operations				Const. Costs (million)	Right-of-Way		Access Closures (#)	Safety	Expansion Capability
	Intersections		TH 15 Segment	Avg. Speeds on TH 15 (mph)		Strip (acres)	Buildings (#)			
	2nd St. S.	Division St.	LOS							
	Delay (sec. per veh.)/LOS		LOS	(mph)	(million)	(acres)	(#)	(#)		
Split Diamond Interchange	SB - 33/C	SB - 23/C	SB - B	SB - 62	\$27	1.22	0	2	—	Could double the through trips on TH 15 on 4-lane freeway and adequately serve traffic volumes.
	NB - 20/C	NB - 24/C	NB - B	NB - 63						
Two-Level Intersection	SB - 11/B	SB - 11/B	SB - C	SB - 33	\$40	1.60	*0 or **2	*2 or **11	Less than 100' weave between 2nd St. & Division St.	Can increase thru trips by 22% in southbound direction and still have adequate LOS.
	NB - 15/B	NB - 10/B	NB - B	NB - 34						

* Note: Assumes that half the roadway is depressed and half the roadway is elevated on TH 15 and the cross roads.

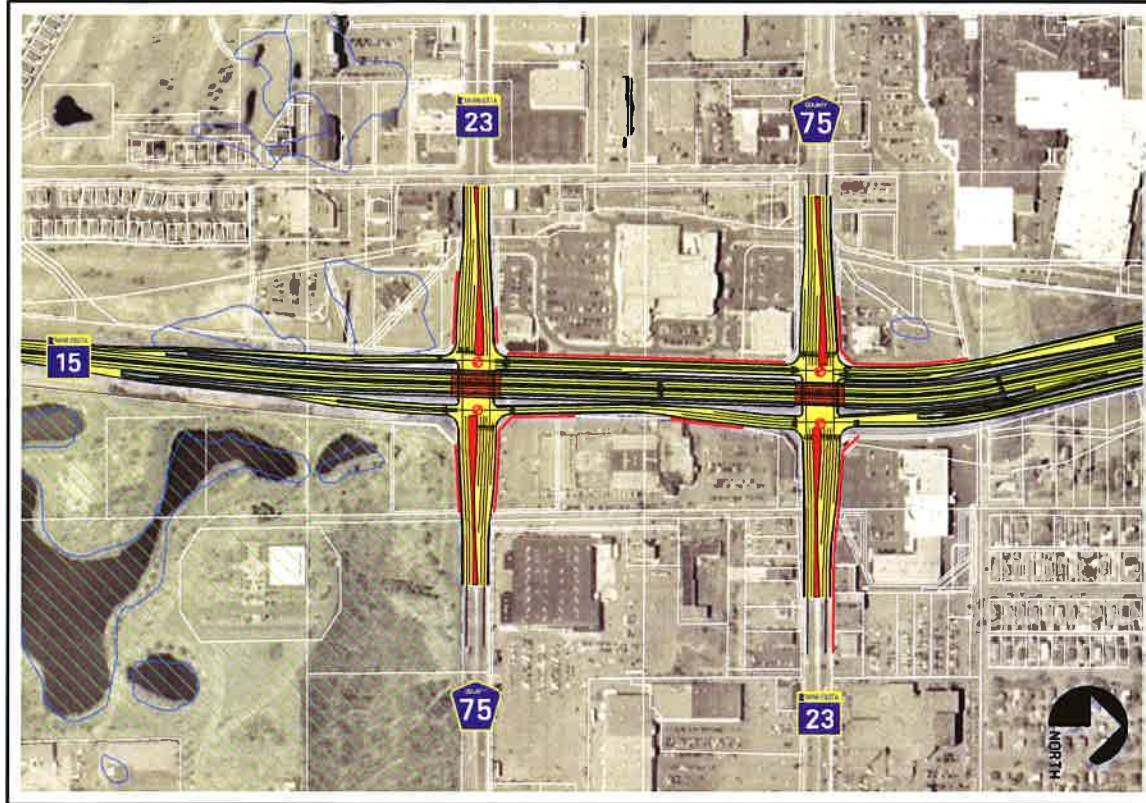
** Note: Assumes that half the roadway is elevated.

Source: WSB & Associates

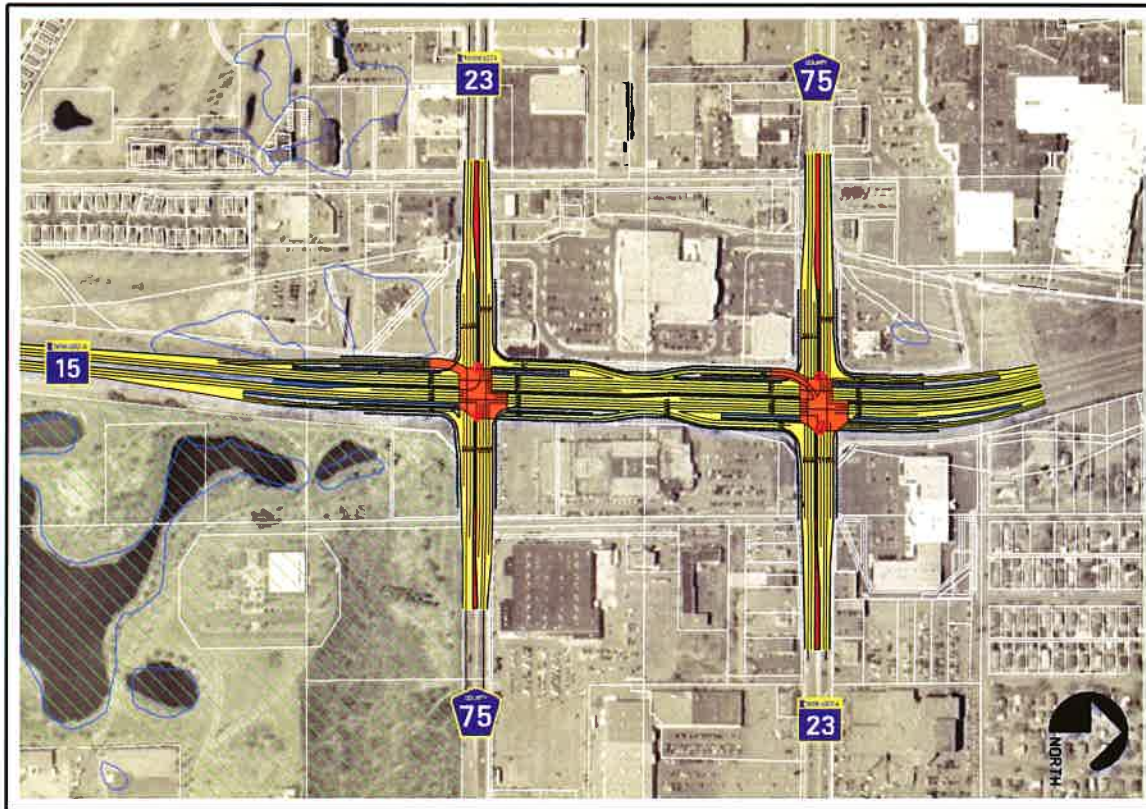
The Two-Level Intersection concept does provide an acceptable LOS along TH 15. However, the travel speeds on TH 15 with the Two-Level Intersection are lower than with the Split Diamond Interchange concept because there are still signals on TH 15. The right-of-way impact is similar for both alternatives. The Two-Level Intersection costs much more than the Split Diamond Interchange concept because retaining walls are necessary on both TH 15 and the cross streets. The distance between on and off ramps with the Two-Level Intersection is less than 100 feet, which is an unacceptable distance for weaving even at a low speed. This poses a safety concern. The weaving between successive ramps could be eliminated by bringing in the left-turning traffic from the side streets onto TH 15 on its inside lane. The successive entering to exiting ramps could overlap and eliminate the weave. With this condition, traffic on TH 23 or on CSAH 75 could not turn onto TH 15 and then turn off at the next intersection; thereby, eliminating the continuity of these roadways. A parallel street such as Park Avenue or 37th Street could be used to complete this maneuver.

The Split Diamond Interchange alternative has a much greater capacity for through traffic on TH 15 than the Two-Level Intersection. This is because the through traffic on TH 15 is grade separated from the cross-street traffic. Therefore, the Split Diamond Interchange would be able to accommodate much higher traffic demands on TH 15 and growth beyond the 2030 forecasts. Also, with the Split Diamond alternative, the typical cross section assumes only four through lanes (two in each direction). It could be designed so that an additional through lane could be added in the future by dedicating the space in the median. The Two-Level intersection alternative assumes six through lanes (three in each direction) to provide the LOS as shown in Table IV-5.

Alternatives Considered



Split Diamond Interchange



Two Level Intersection

Legend:	Roadway	Median	Proposed R/W	Parks
	Shoulder	Bridge	Wetlands	Signal

Figure IV-9

The Two-Level Intersection does not show much of a benefit to TH 15 when compared to the Split Diamond Interchange alternative. It is also more costly. The weaving conditions to allow for traffic to travel through on TH 23 and CSAH 75 via TH 15 is unacceptable. Therefore, the Two-Level Intersection alternative was dropped from further evaluation.

Split Diamond Interchanges with One-Way Frontage Roads to 3rd Street North vs.

Split Diamond Interchanges with SPDI at 3rd Street North: Instead of providing frontage road access to 3rd Street North, a Single Point Diamond Interchange (SPDI) was considered for access to TH 15 at 3rd Street North. The ramps from 3rd Street North would have to be grade separated from the Split Diamond Interchange ramps on either side of 3rd Street North. The table below provides a comparison of the two alternatives at 3rd Street North. See Figure IV-10 and Figure IV-11 for an illustration of these two alternatives.

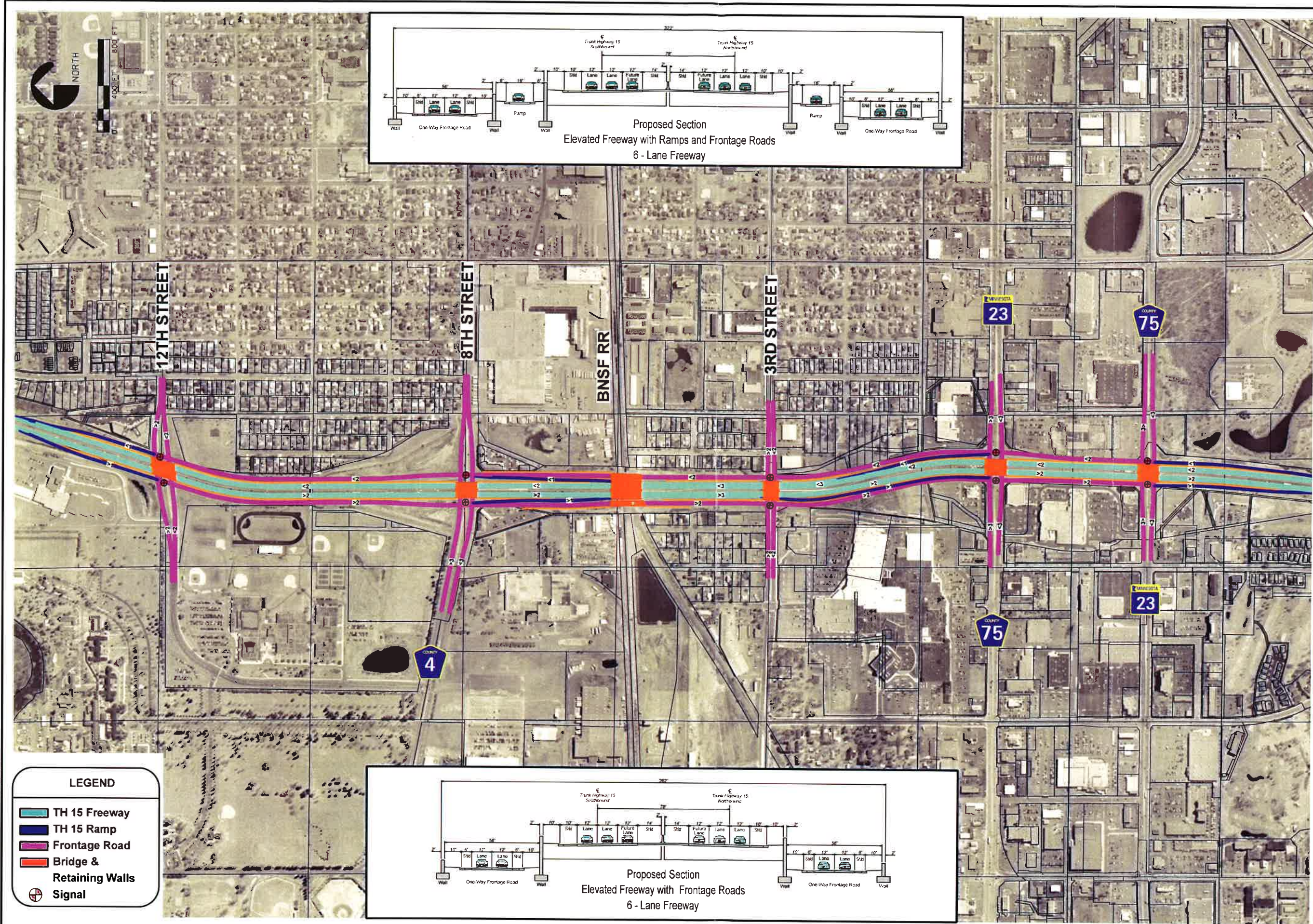
Table IV-6: TH 15 Alternative Access at 3rd Street North

Alternative	Const. Costs (million)	Right-of-Way		Access
		Strip (acres)	Buildings (#)	
Split Diamond Interchange w/ 1-way Frontage @ 3rd Figure IV-10	\$66	2.41	2 Holiday Inn, & Centrasota	Access to/from TH 15 via 1-way frontage road from 2nd/Division or 8th/12th.
Split Diamond Interchange w/SPDI @ 3rd Figure IV-11	\$85	2.49	3 Holiday Inn, Centrasota, & Hwy 15 Business Center	Cannot access any other cross street (2nd, Division, 8th) via TH 15.

Source: WSB & Associates

The alternative with the SPDI is more costly (approximately \$19 million in construction alone) than the frontage road alternative due to the grade separated ramps. For the SPDI alternative, a vehicle cannot access any other crossroads between 2nd Street and 12th Street via TH 15 if they exit or enter from 3rd Street. The one-way frontage roads provide this missing access in the other alternative. The average access spacing along this segment of TH 15 is one access every 1.15 miles with the frontage road alternative and is one (1) access every 0.76 miles with the SPDI alternative. The frontage road alternative meets Mn/DOT's guidelines of one interchange every mile.

For the purposes of this study, a range of costs will be used when identifying the improvements on this segment of corridor to cover both alternatives.



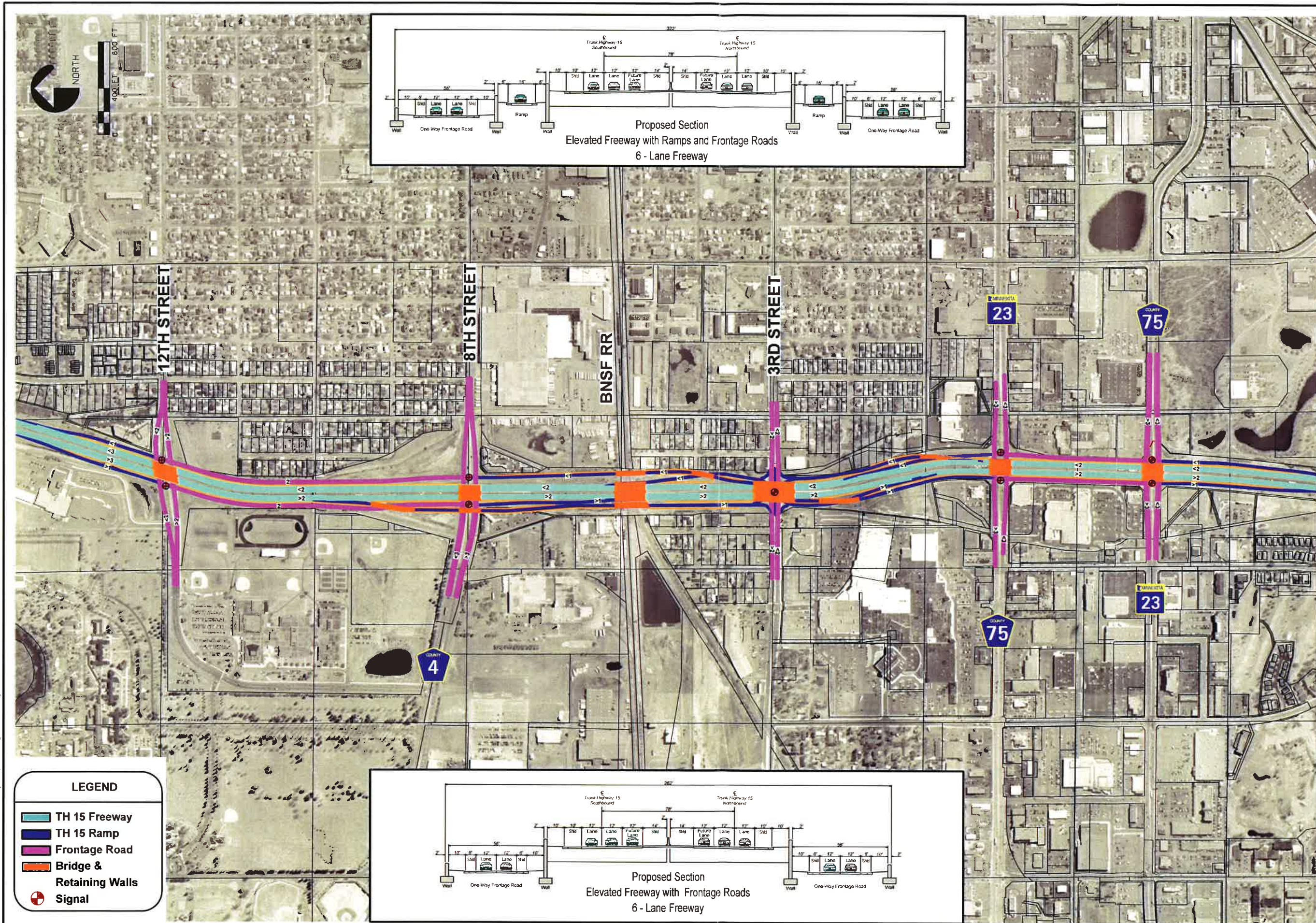
Trunk Highway 15 Corridor Study

2nd Street South to 12th Street North

Freeway - Split Diamond Interchanges with One-Way Frontage Roads to 3rd Street



Figure IV-10



Trunk Highway 15 Corridor Study

2nd Street South to 12th Street North

Freeway - Split Diamond Interchanges with Single Point Diamond Interchange at 3rd Street



Figure IV-11

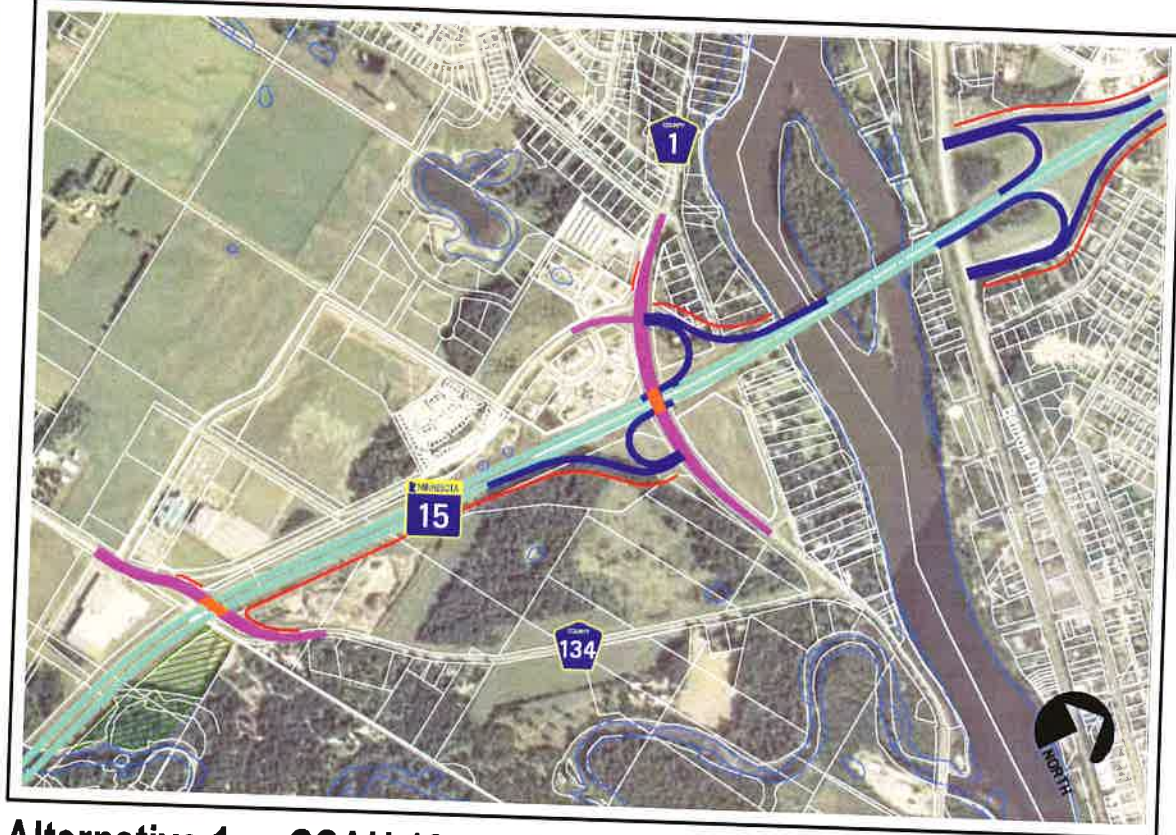
12th Street North to TH 10

Several interchange configurations and access scenarios were evaluated for access points north of 12th Street North. It was assumed that Benton Drive would remain a folded-diamond interchange as it is today. This segment was broken into two segments, CSAH 134 to Benton Drive and Benton Drive to TH 10.

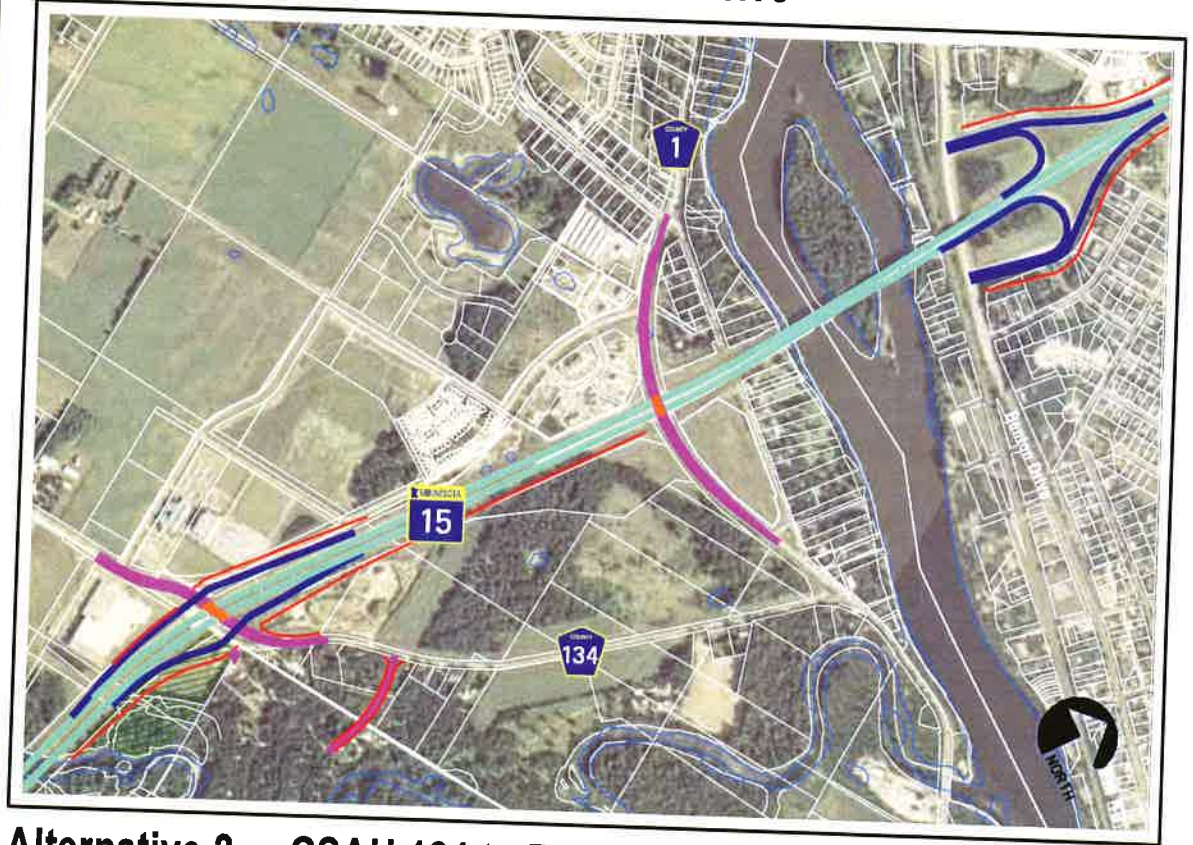
CSAH 134 to Benton Drive: Two at-grade intersections, CSAH 134 and CSAH 1, and the Benton Drive interchange, are located along this segment. The feasibility of maintaining existing access was examined at this location. Four different alternatives were evaluated (see Figure IV-12 and Figure IV-13). Alternative 4 was chosen as the preferred alternative since it maintained access at both the at-grade intersections. It was also determined feasible since Mn/DOT's minimum on-ramp to off-ramp spacing is met between all three interchanges. These two existing intersections are approximately $\frac{3}{4}$ of a mile apart. The concept includes tight urban interchanges at CSAH 134 and CSAH 1. Access to the Tilden Woods neighborhood off of CSAH 134 would need to be relocated farther east if an interchange was provided at CSAH 134. Further analysis will determine whether these interchanges are tight diamond or single-point diamond type configurations.

Benton Drive to TH 10: Along this segment, two at-grade intersections at 18th Street North and CSAH 29 currently exist. Approximately $\frac{3}{4}$ of mile exists between Benton Drive and 18th Street and $\frac{1}{2}$ mile exists between 18th Street and CSAH 29. Several interchange locations and configurations were considered to determine the feasibility and impacts associated with interchanges at these access points. Figure IV-14 and Figure IV-15 detail the interchanges considered. Alternative 4 emerged as the most feasible alternative. This alternative includes a tight urban interchange at CSAH 1 and an overpass at 18th Street. The direction of the folded diamond at Benton Drive and the distance between 18th Street and CSAH 1 did not allow for an interchange at all intersections since Mn/DOT's minimum on-ramp to off-ramp spacing could not be met.

Alternatives Considered



Alternative 1 - CSAH 134 to Benton Drive



Alternative 2 - CSAH 134 to Benton Drive

	TH 15 Freeway		Local Road		Proposed R/W		Parks
	TH 15 Ramp		Bridge		Wetlands		

Figure IV-12

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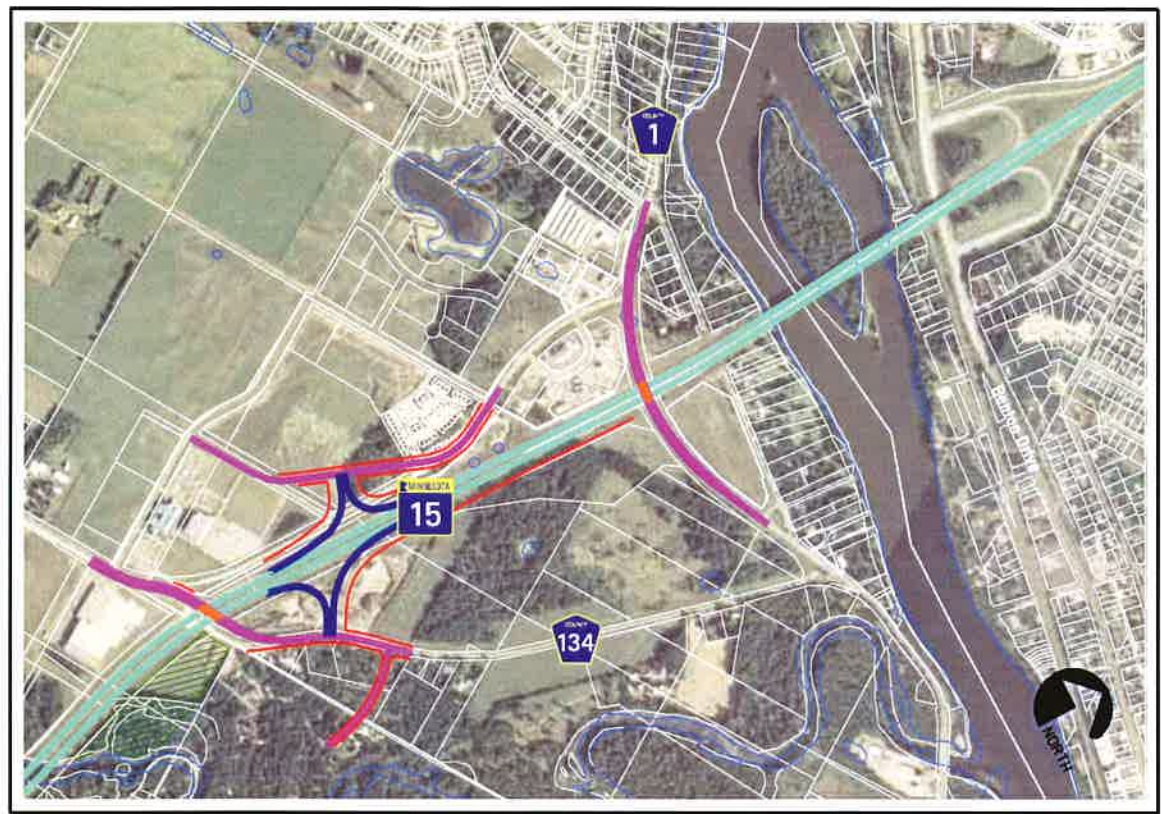
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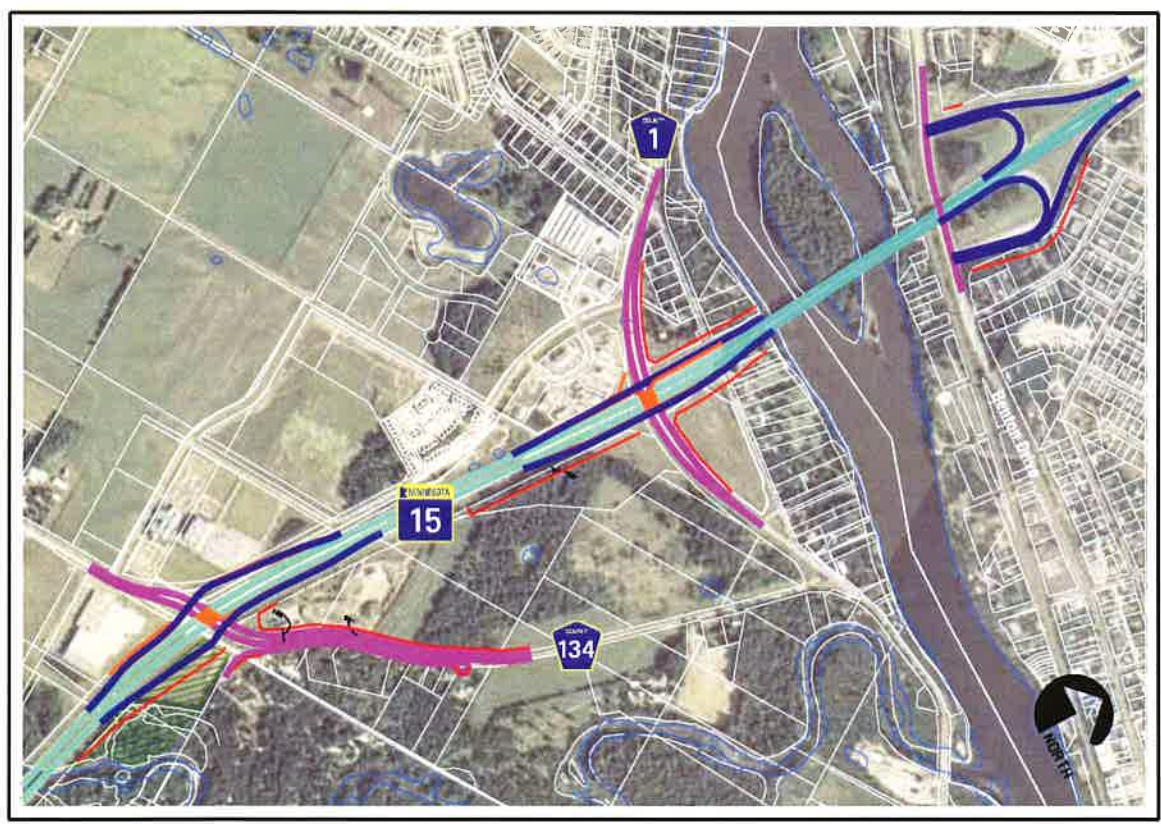
Trunk Highway 15 Corridor Study



Alternatives Considered



Alternative 3 - CSAH 134 to Benton Drive

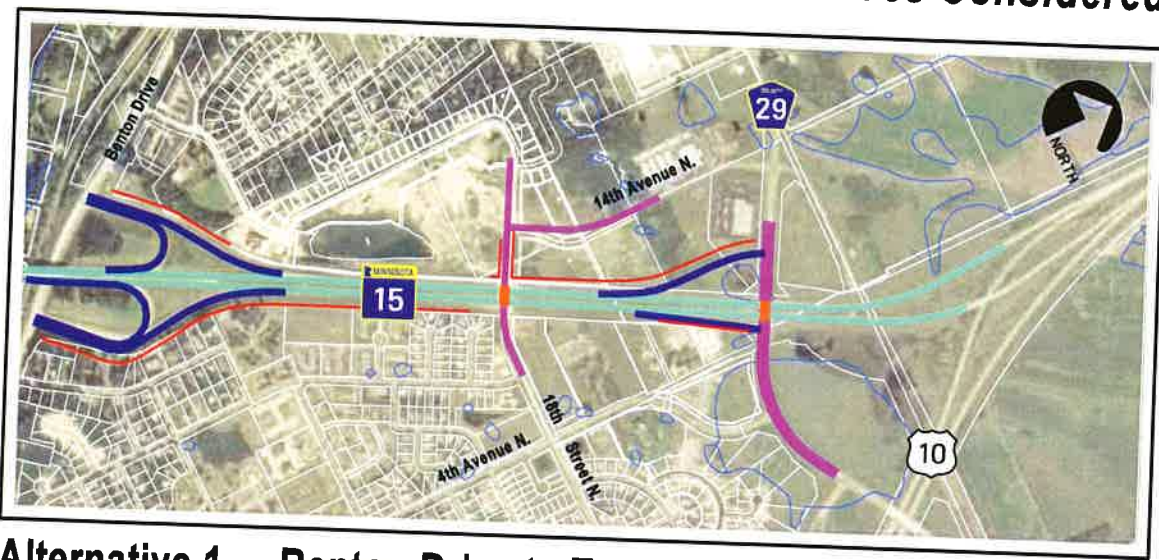


Alternative 4 - CSAH 134 to Benton Drive - Preferred

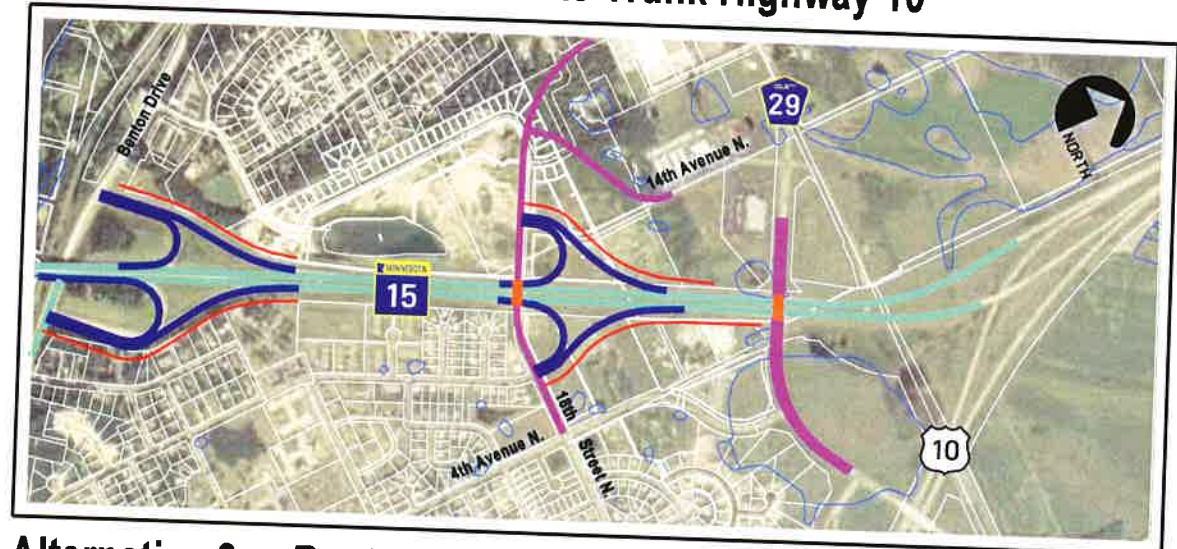
TH 15 Freeway	Local Road	Proposed R/W	Parks
TH 15 Ramp	Bridge	Wetlands	

Figure IV-13

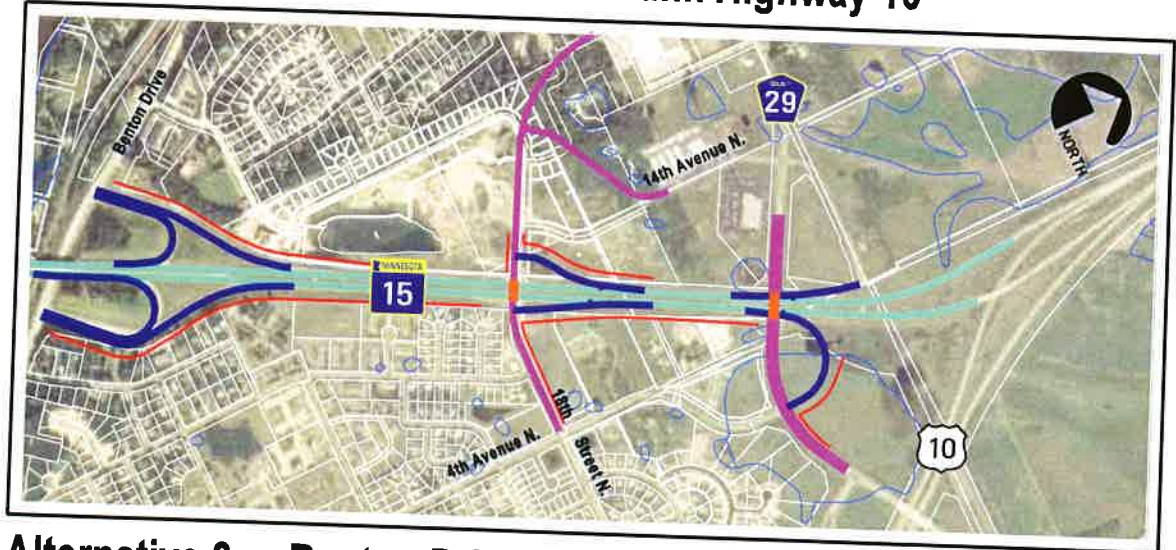
Alternatives Considered



Alternative 1 - Benton Drive to Trunk Highway 10



Alternative 2 - Benton Drive to Trunk Highway 10



Alternative 3 - Benton Drive to Trunk Highway 10

LEGEND:

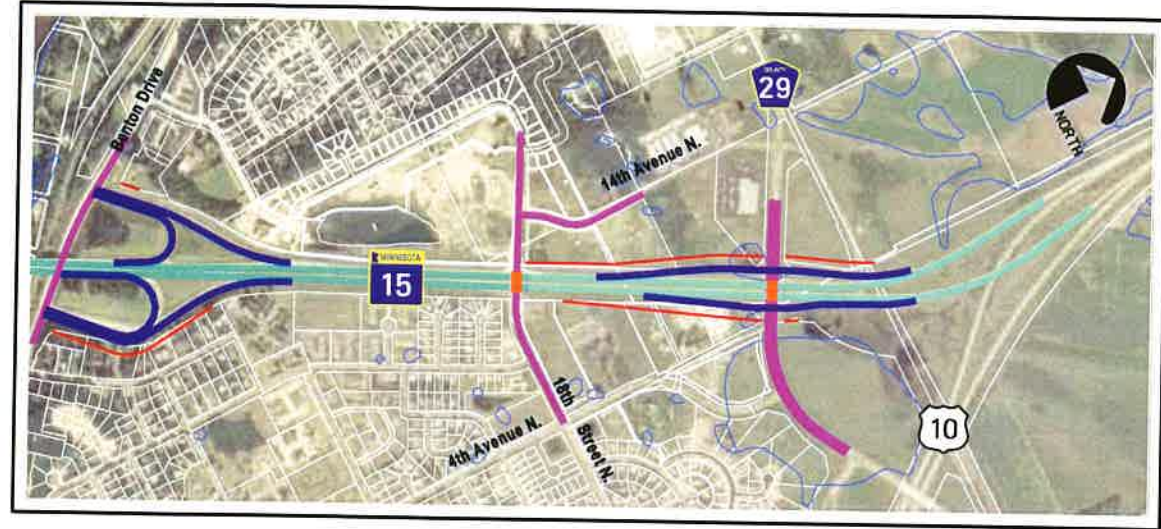
TH 15 Freeway	Local Road	Proposed R/W	Parks
TH 15 Ramp	Bridge	Wetlands	

Figure IV-14

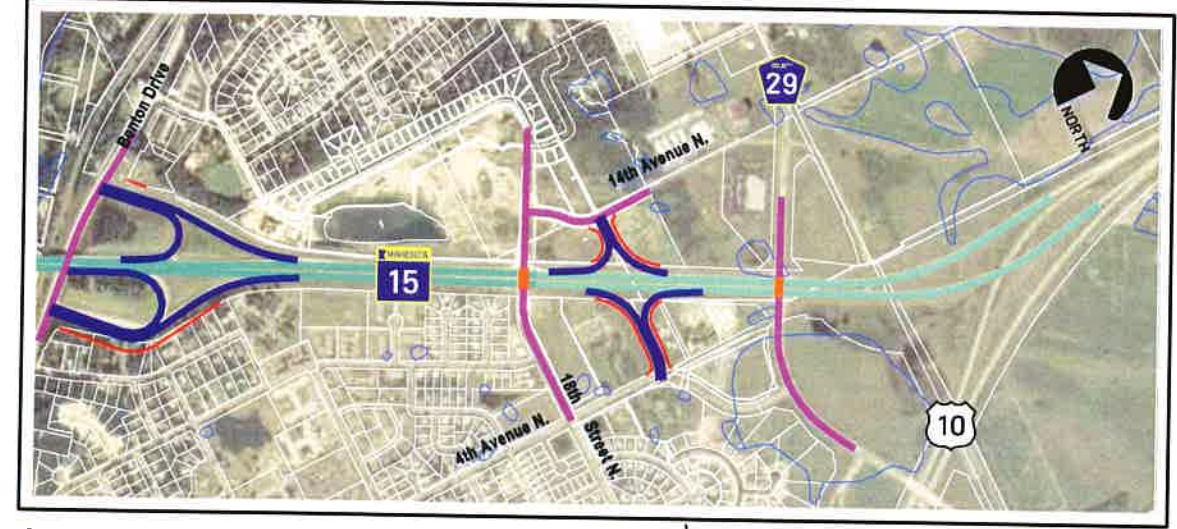
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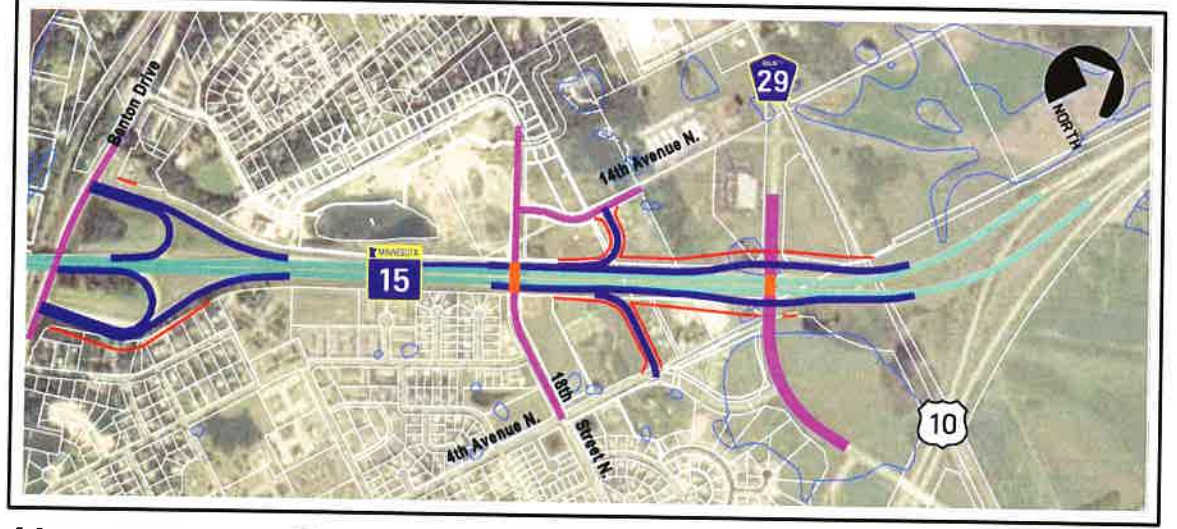
Alternatives Considered



Alternative 4 - Benton Drive to Trunk Highway 10 - Preferred



Alternative 5 - Benton Drive to Trunk Highway 10



Alternative 6 - Benton Drive to Trunk Highway 10



Figure IV-15

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V. Evaluation of Alternatives

Based on the access recommendations as detailed in the previous section, the corridor alternatives were evaluated to determine how effectively each alternative addresses the study's six objectives. The following table presents the objective and the measure of effectiveness used for the analysis:

Table V-1: Study Objectives and Measures of Effectiveness (MOEs)

Objective	Measure of Effectiveness
1. Access Spacing Guidelines	Does it meet Mn/DOT's access spacing guidelines, yet provide reasonable land access?
2. Crash Rate	Does it have crash or severity rates at or below statewide rates for similar facilities?
3. Travel Speed	Does it maintain or improve average travel speeds?
4. Level of service	Does it provide LOS C on roadway segments and LOS D at isolated at-grade intersections?
5. B/C Ratio	Does it have a benefit/cost ratio greater than 1.0?
6. Social/Environ/Econ. Impacts	Does it minimize social, environmental, and economic impact?

Source: WSB & Associates

When determining the measure of effectiveness, the level of improvement had to be determined for each alternative. The following table describes the assumptions made for each alternative and the level of improvement throughout the corridor. The alternatives are placed in the order of improvement to facilitate comparison of the alternatives. Alternative 2, all at-grade is first, while Alternative 3, mostly freeway is last.

Table V-2: Corridor Alternative Improvement Assumptions

	Alternative				
	Existing	2	1	4	3
Location	(2005)	All At-grade	Freeway (I-94 to 2nd St.) Rest At-Grade	Freeway (I-94 to 2nd St. S. & CR 134 to TH 10) Rest At-Grade	Freeway (I-94 to TH 10) Rest At-Grade
CSAH 47/136 to I-94	2-lane Rural	4-Lane Rural Expressway	4-Lane Rural Expressway	4-Lane Rural Expressway	4-Lane Rural Expressway
I-94 to South of 2nd St. S.	4-Lane Rural Freeway	4-Lane Rural Expressway	4-Lane Rural Freeway	4-Lane Rural Freeway	4-Lane Rural Freeway
2nd St. S. to 12th St. N.	4-Lane Urbanizing Expressway	8-Lane Urban Expressway	8-Lane Urban Expressway	8-Lane Urban Expressway	*4-Lane Urban Freeway
12th St. N. to CSAH 134	4-Lane Urbanizing Expressway	8-Lane Urban Expressway	8-Lane Urban Expressway	8-Lane Urban Expressway	6-Lane Urban Freeway
CSAH 134 to Benton Drive	4-Lane Urbanizing Expressway	8-Lane Urban Expressway	8-Lane Urban Expressway	6-Lane Urban Freeway	6-Lane Urban Freeway
Benton Drive to TH 10	4-Lane Urbanizing Expressway	6-Lane Urban Expressway	6-Lane Urban Expressway	*4-Lane Urban Freeway	*4-Lane Urban Freeway

* Typical Section has expansion capabilities to 6-Lanes in Center Median

Source: WSB & Associates

For all the future at-grade Alternatives, the side streets were also upgraded to improve intersection operations. All approaches also included dual lefts and some approaches required dual rights. The following cross streets assumptions were made:

- Upgrade to Four-Lane Divided at CSAH 134, CSAH 1, and CSAH 29
- Upgrade to Six-Lane Divided at 2nd Street South, Division Street, and 8th Street North

The recommended improvements and how well they address the stated objectives are described in the following section. The table below summarizes the improvement and objective MOE. The Alternatives are placed in the order of improvement to facilitate comparison. Alternative 2, all at-grade is first; while Alternative 3, mostly freeway is last.

Table V-3: Evaluation of TH 15 Corridor Alternatives

	2005	2030 Alternative				
	Existing	No Build	2	1	4	3
Objective		Includes At-Grade at 33rd St. S.	All At-grade (8-Lanes from 2nd St. S. to Benton Dr.)	Freeway (I-94 to 2nd St. S.) Rest At-Grade	Freeway (I-94 to 2nd St. S. & CR 134 to TH 10) Rest At-Grade	Freeway (I-94 to TH 10) Rest At-Grade
Access Spacing (miles)						
Segment A - CSAH 47/136 to I-94	0.33	0.33	1.43	1.43	1.43	1.43
Segment B - I-94 to 2nd St. S.	4.34	2.19	2.19	2.19	2.19	2.19
Segment C - 2nd St. S. to 12th St. N.	0.41	0.41	0.41	0.41	0.41	0.82
Segment D - 12th St. N. to TH 10	0.73	0.67	0.67	0.67	0.82	0.82
Safety (crashes/million vehicle miles)						
Segment A - CSAH 47/136 to I-94	2.51	no change	decrease	decrease	decrease	decrease
Segment B - I-94 to 2nd St. S.	0.43	increase	increase	no change	no change	no change
Segment C - 2nd St. S. to 12th St. N.	10.82	no change	no change	no change	no change	decrease
Segment D - 12th St. N. to TH 10	1.42	no change	no change	no change	decrease	decrease
Corridor Average Travel Speed (NB/SB - mph)						
Segment A - CSAH 47/136 to I-94 (NB/SB)	63/61	19/33	50/48	50/48	50/48	50/48
Segment B - I-94 to 2nd St. S. (NB/SB)	66/63	29/39	33/41	66/67	66/67	66/67
Segment C - 2nd St. S. to 12th St. N. (NB/SB)	22/28	7/11	21/14	21/14	21/14	60/59
Segment D - 12th St. N. to TH 10 (NB/SB)	45/42	17/11	33/30	33/30	59/58	59/58
Corridor Total Travel Time (NB/SB - min.)	15.8/15.4	38.2/38.6	20.9/22.8	16.9/20.4	13.8/17.0	10.8/10.9
LOS						
Segment A - CSAH 47/136 to I-94 (NB/SB)	A/A	E/C	A/A	A/A	A/A	A/A
Segment B - I-94 to 2nd St. S. (NB/SB)	B/C	C/B	C/B	B/C	B/C	B/C
Segment C - 2nd St. S. to 12th St. N. (NB/SB)	B/B	F/F	D/E	D/E	D/E	B/B
Segment D - 12th St. N. to TH 10 (NB/SB)	B/B	E/F	C/C	C/C	B/B	B/B
Intersection	LOS D or better	2 LOS E 8 LOS F	1 LOS E 3 LOS F	1 LOS E 2 LOS F	1 LOS E 1 LOS F	LOS D or better
Benefit/Cost	NA	NA	0.48	1.33	1.60	1.71-1.60
Social/Environmental/Economic						
Right-of-Way - Strip (Acres)	NA	---	14.3	42.0	54.1	59.9
Residential Total Takes (#)	NA	---	---	2	3	3
Business Total Takes (#)	NA	---	---	1	2	3
Parks (Acres)	NA	---	0.06	0.06	2.61	2.70
Wetlands (Acres)	NA	---	---	3.47	4.20	4.20
Construction Cost (millions)	NA	---	\$105.5	\$122.5	\$150.6	\$225.1 - \$244.1
Right-of-Way Cost (millions)	NA	---	\$12.78	\$21.90	\$31.04	\$37.19

Source: WSB & Associates

Access

Segment A: The access category for this segment is 3A which suggests primary access spacing at one mile. Since all of the Build alternatives have greater than one mile spacing, this segment meets Mn/DOT's access spacing guidelines.

Segment B: The access category for this segment is 3A-F, which suggests interchanges only. Mn/DOT's rural interchange spacing is two miles. Since Alternative 2 and No Build includes an

at-grade intersection at 33rd Street, it is not consistent with the guideline even though the spacing is greater than two miles.

Segment C: The access category for this segment is 3B, which suggests primary access at 1/2 mile spacing. If this segment were upgraded to a freeway, Mn/DOT's guidelines suggest interchange spacing at one-mile for urban freeways. None of the alternatives meet the guidelines for at-grade or interchange access. However, Alternative 3 increases the average spacing to 0.82 miles which is almost 0.4 miles greater than all the other alternatives including the No Build.

Segment D: The access category for this segment is also 3B, which suggests primary access at 1/2 mile spacing. If this segment were upgraded to a freeway (Alternatives 3 and 4), Mn/DOT guidelines suggest interchange spacing at one-mile for urban areas. If this segment remains at-grade, the intersection spacing is met with the current access that exists along this segment. However, if this segment is upgraded to a freeway, the interchange access spacing guideline of one-mile is not met, but by removing access at 18th Street, the average spacing is improved since it is increased to 0.82 miles between access points.

Alternative 1 best meets the recommended access spacing guidelines based on the facility type. However, for the interchange alternatives, the removal of access was carefully weighed by the TAC against providing adequate land access to adjacent land uses. Even though the desired interchange spacing is not met for the freeway segments, access spacing does increase from the at-grade alternatives.

Safety

Since crash rates typically increase with increased access, it is expected that Alternatives 1 and 2 will have the worst crash rates. Alternative 2 would probably perform worse than Alternative 1 since it downgrades a current freeway to an at-grade facility which would increase the number of conflict points by the introduction of additional intersections. Alternative 4 should have a lower crash rate than Alternatives 1 and 2 since it has one more freeway section and better access control. Since Alternative 3 improves two of the four segments from at-grade to freeway and has the best access control, it is anticipated that it will have the lowest crash rates.

Travel Speeds

With the incremental improvement (upgraded segment from at-grade to freeway), the travel speeds and overall travel time improves along the segments within the corridor. The all at-grade Alternative 2 has the worst speeds of 32 and 29 mph for the Build Alternatives. Alternative 1 improves upon this with one freeway segment and overall travel speeds of 40 and 33 mph. Alternative 4, with two freeway segments, operates at 49 and 40 mph. Alternative 3 has the best overall travel speeds of 60 mph. The travel speeds relate directly to the overall travel time that would occur during the p.m. peak hour from one end of the corridor to the other. Again, Alternative 2 has the longest travel time of 20.9 and 22.8 minutes. Alternative 3 is much more improved by providing half the travel time of 10.8 and 10.9 minutes to travel from one end to the other.

LOS

The segment LOS is based on the facility type. For the alternatives with at-grade facilities, the LOS is based on travel speeds which are lower than freeway facilities due to driver expectations. In Segment C, all of the build alternatives with an at-grade facility are operating at LOS D and E which does not meet the LOS objective defined for the corridor. By upgrading this segment to a

freeway, the LOS improves to LOS B. All other segments have LOS of C or better with the at-grade segments having worse LOS than the freeway segments.

The intersection LOS for the at-grade intersections with TH 15 performed much worse with several LOS E and F. Alternatives 1, 2, and 4 all have intersections that perform at unacceptable LOS E or F. The unacceptable intersections are on the segments with eight-lanes and are mostly due to significantly high cross-street volumes such as 2nd Street South and Division Street.

Benefit/Cost

To meet the benefit/cost (B/C) objective, the corridor should have a B/C ratio greater than one. The B/C analysis was based on St. Cloud's travel demand model's network wide statistics for vehicle hours of travel and vehicle miles of travel. The ratio is a result of comparing the alternative improvement to the No Build Alternative which is defined as the APO's Financially Constrained Plan.

Alternative 2, the all at-grade alternative, does not meet the B/C objective with a B/C of 0.48. This is mostly because of the increase in costs due to higher number of crashes and longer travel time. Alternatives 3 and 4 have B/C of 1.71/1.60 and 1.60 respectively. Alternative 3 has two benefit cost ratios depending on the access concept for 3rd Street North. The more expensive concept, which includes grade separated ramps and a Single Point Diamond Interchange at 3rd Street North, brings the B/C down from 1.71 to 1.60. The difference between Alternative 3 and Alternative 4 is primarily the cost of upgrading Segment C to a freeway. This upgrade alone would result in a B/C ratio of 1.11 or 1.0 (depending on its cost) which is just over the objective. Alternative 1, which is similar to what exists today but includes upgrades on the at-grade facilities, has a B/C of 1.33 which is due to network wide travel time savings and operating cost savings from added lanes on TH 15.

SEE Impacts

Alternative 3, the freeway alternative, has the largest impact to surrounding properties by requiring the most right-of-way. As the level of improvement diminishes, so do the social, environmental, and economic (SEE) impact. However, even with the most extensive improvement, freeway - Alternative 3, the access alternatives and proposed interchange configurations were developed to minimize the impact to surrounding properties with tight urban interchanges at almost all the interchange locations.

Conclusion

Upgrading TH 15 to a freeway from I-94 to TH 10 is the best alternative for meeting the transportation goals for the corridor. However, this option does have higher costs and social, economic, and environmental impacts than other alternatives. The benefit/cost analysis indicates that the greatest benefits can be achieved by upgrading the section of TH 15 between TH 10 and 12th Street North to a freeway. The section of TH 15 between 2nd Street South and 12th Street North will also need to be upgraded, but the benefits of the freeway alternative are offset by the higher costs and impacts in this section. The at-grade options will not be able to accommodate the traffic beyond 2030, and the parallel corridors will also have limited ability to accommodate growth. Therefore, eventually this middle section of TH 15 should be upgraded to a freeway section.

VI. Public Involvement

The public involvement plan for this study was comprised of monthly study update meetings with the Technical Advisory Committee, periodic study update meetings with the Policy Advisory Committee, and two public information meetings.

A. Technical Advisory Committee

The Technical Advisory Committee met monthly to discuss study findings and give direction to the consultant team completing the technical analysis. The committee members were comprised of technical staff from the various local agency partners adjacent to the corridor. The members included:

Claudia Dumont	Project Manager	Mn/DOT District 3
Terry Humbert	District 3 Project Development Engineer	Mn/DOT District 3
Tim Mitchell	Planning Engineer	FHWA
Scott Mareck	Planning Manager	St. Cloud APO
Mitch Anderson	County Engineer	Stearns County
Jodi Teich	Assistant County Engineer	Stearns County
Bob Kozel	County Engineer	Benton County
Steve Gaetz	City Engineer	St. Cloud
Patti Gartland	City Administrator	Sartell
Bill Schluenz	Public Works Director	Waite Park
Todd Schultz	Community Development Director	Sauk Rapids
Bill McCabe	City Administrator	St. Augusta
Tony Heppelmann	Consultant Project Manager	WSB & Associates
Brandi Popenhagen	Consultant Project Engineer	WSB & Associates

B. Policy Advisory Committee

The Policy Advisory Committee met periodically to discuss study findings and give direction to the TAC. The committee members were comprised of elected officials from the various local agencies adjacent to the corridor. The members and the year(s) they were involved on this committee included:

Bob Kroll	St. Augusta Mayor	St. Cloud APO Board/St. Augusta
DeWayne Mareck	Commissioner	Stearns County
Steve Gottwalt	Council Member ('05-'06)	St. Cloud
Sonja Berg	Council Member ('06)	St. Cloud
Art Daniels	Council Member ('05-'06)	Sauk Rapids
Brad Gunderson	Council Member ('07)	Sauk Rapids
Bob Pogatshnik	Mayor ('05-'06)	Sartell
Tim O'Driscoll	Mayor ('07)	Sartell
Carla Schaefer	Mayor	Waite Park
Greg Berg	Chair	St. Joseph Township

C. Public Information Meetings

Two public meetings were held to gather public input on the needs in the TH 15 Corridor and potential solutions. In addition, information was mailed to interested property owners and citizens. The draft report and recommendations will be posted on Mn/DOT's website, and all adjacent property owners will be notified of the availability of the draft recommendations and report.

August 22, 2006 Public Information Meeting

This meeting was advertised in the newspapers and on the radio. Due to the low attendance, a second meeting was scheduled to target property owners along the corridor.

September 26, 2006 Public Information Meeting

The second meeting was held on September 26, 2006 for the property owners adjacent to the corridor. For this meeting a mailing went out to the property owners describing the study and encouraging attendance for the upcoming meeting. Fifty-seven (57) people signed in who attended this meeting. Nineteen (19) comment cards were filled out. The following summarizes their comments.

General Comments:

- Consider bicycles when planning for these roads.
- Work with local governments to preserve right-of-way now for the future needs in these corridors.

TH 15 Comments:

- Interchange at CSAH 1: Support Alternatives 2 and 4. Could not support having no access at CSAH 1 to TH 15.
- Construct the 33rd Street interchange with TH 15 soon. Also need a major east-west corridor.
- Prefer Alternative 2B on TH 15 from CR 137 to 12th Street.
- TH 15 at 33rd Street, prefer interchange Alternative 3.
- TH 15 at 22nd Street prefers interchange Alternative 1.
- TH 15 from CR 137 to 12th St. prefers option without access on 3rd Street.
- Alternative 2B on TH 15 from CR 137 to 12th Street is an excellent proposal.
- Constructing 33rd Street from TH 23 to TH 15 is crucial to building the interchange at 33rd Street and TH 15.
- Do not provide an at-grade intersection at 33rd Street and TH 15.
- In favor of increasing the ease of traffic on TH 15 intersection with 2nd Street. Local access to Timberlodge is of concern. Bypassing would not draw as many people to restaurant.
- Noise barriers are needed on TH 15 near Apollo High School.
- The road past Hennen's and Centra Care is hazardous.
- Right-in/Right-outs on Division Street accessing Rivertown Village are imperative to the success of this development. Turning movements off of Park and 2nd are also necessary.

VII. Implementation

A. Conclusion

Based on the Alternatives Evaluation, Alternative 3 (expressway from CSAH 47/136 to I-94 and a freeway from I-94 to TH 10) best meets the performance objectives 1 through 5. However, this is the most expensive alternative and has the greatest SEE impacts. The Alternatives Evaluation indicates that as the level of improvement increases, so does the facility performance while the SEE impact also increases. This suggests that phased-in approach to improvements on TH 15, which over time upgrades the facility to a freeway, would best meet the corridor objectives. Mn/DOT, the Cities, and Counties should try to preserve the right-of-way that will be needed to upgrade TH 15 to a freeway and where possible begin to implement solutions that fit with the freeway concept between I-94 and TH 10. Right-of-way preservation could mean keeping existing right-of-way in the corridor that is not currently being used, requiring new development to set buildings back a sufficient distance so that they will not need to be taken with future improvements, or requiring dedication of right-of-way. TH 15 should remain a freeway between I-94 and 2nd Street South, and the only new access to TH 15 should be at 33rd Street South. Studies are underway to identify a specific design for this interchange. Between 12th Street North and TH 10, further planning should be done to develop the interchange concepts for these areas and begin to identify potential funding and implementation strategies. Some hurdles that will still have to be overcome are the capacity improvements over the Sauk River and Mississippi River. However, even with the at-grade scenarios, adding through lanes will be required at these two crossings. In the core area between 2nd Street South and 12th Street North, the implementation of a freeway concept is probably very far in the future. However, establishing a better right-of-way footprint will help the Cities and Counties in understanding the right-of-way that should be preserved for the future.

B. Staging

The following is a staging plan for improvements on TH 15. While specific construction improvements are not in the near future, the preservation of right-of-way as redevelopment occurs along the corridor could occur as the opportunities present themselves.

Short Term (0 to 5 Years)

- Add turn lanes to TH 15 intersection at CSAH 47/136.
- Dedicate right-of-way for interchanges along proposed AUAR development near CSAH 134 and CSAH 1 in Sartell.
- Obtain official map for a new interchange at 33rd Street South.

Mid Term (5 to 20 Years)

- Upgrade TH 15 CSAH 47/136 to I-94 to a four-lane expressway.
- Construction of 33rd Street interchange.
- Conduct preliminary engineering and environmental studies needed to establish official map for the corridor.

Long Term (20 plus Years)

Upgrade TH 15 to a freeway from I-94 to TH 10: Even though this upgrade is long term, it is not anticipated that it would occur at the same time. The following illustrates the order of the freeway conversion upgrades along the corridor:

1. Construction of 18th Street overpass, CSAH 29 interchange, and mainline typical section.
2. Construction of additional lanes on the Mississippi and Sauk River crossings, CSAH 1 interchange, CSAH 134 interchange and mainline typical section.
3. Construction of interchanges from 2nd Street South to 12th Street North and mainline typical section.

C. Next Steps

The following actions are recommended by the agencies responsible for implementation of elements of the TH 15 Plan:

Approval of Study through Local Resolutions

- Cities of St. Cloud, Sartell, St. Augusta, Waite Park, and Sauk Rapids approve the study through City Council Resolutions.
- Stearns and Benton County approve study through Resolution from County Boards.
- The St. Cloud Area Planning Organization approves study through Resolution from APO Board.

Planning Updates

- Mn/DOT incorporate study into District 3 Plan Update.
- St. Cloud APO incorporate study into Metropolitan Transportation Plan.
- Cities of St. Cloud, Sartell, St. Augusta, Waite Park, and Sauk Rapids incorporate study in Transportation Elements of Comprehensive Plans.

Environmental Documentation

Mn/DOT complete the environmental review for the TH 15 corridor.

Staff Approved Layout and Official Map

Mn/DOT should work with the local agencies to create a staff approved layout for municipal consent. The layout will provide the footprint for an official map that would be adopted after the environmental review is complete.

Pursue Funding

Mn/DOT and the St. Cloud APO should pursue funding for the TH 15 improvements.