Final Corridor Study Report

20th Street and TH 75 (8th Street)

June 2008

Prepared for:

Fargo-Moorhead Metropolitan Council of Governments (Metro COG) and the City of Moorhead

Prepared by:

SRF Consulting Group, Inc.

TH 75 and 20th Street Corridor Study Report

FINAL REPORT

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I. BACKGROUND AND STUDY PURPOSE

The City of Moorhead is experiencing unprecedented southerly growth, particularly in the area between the Red River and 20th Street South. TH 75 and 20th Street South have served a major role in north-south movement of traffic for many years. In recent years, residential and commercial growth south of I-94 has increased demands on these facilities. Growth of the metropolitan area in general has contributed to increased traffic volumes on TH 75 and 20th Street South, particularly en-route to and from the I-94 interchanges. As a result of this growth and the recent and projected travel demand on both TH 75 and 20th Street South, the Fargo-Moorhead Metropolitan Council of Governments (Metro COG) has created a study to better define the short-term and long-term transportation needs along both corridors.

A. Corridor Study Purpose and Study Area

The purpose of the TH 75 and 20th Street South Corridor Studies is to identify the future improvement needs along TH 75 from 20th Avenue South to 60th Avenue South and along 20th Street South from SE Main Avenue to 60th Avenue South. The primary study area is shown in Figure 1. TH 75 is an important US Highway that traverses western Minnesota from north to south, connecting many communities. The northerly terminus is the Canadian border and the southerly terminus is in Dallas, Texas. Within Moorhead, TH 75 is located along 8th Street South from Center Avenue to the southerly edge of the city. With respect to the portion of TH 75 that is within the limits of this study area, it is a four lane divided roadway with turn lanes from 20th Avenue South to approximately 40th Avenue South and is posted at 40 mph. South of 40th Avenue, TH 75 is a rural highway where speeds increase to 55 mph.

The 20th Street South corridor is an urban roadway that begins at SE Main Avenue, currently ends at 34th Avenue South, and is posted at 30 mph. As development continues, the 20th Street corridor will eventually need to be extended to 60th Avenue South. Both the TH 75 and 20th Street corridors are classified as arterial roadways within the City of Moorhead and are approximately one mile apart. The study focuses on the following key intersections:

- TH 75 & 20th Avenue South
- TH 75 & 24th Avenue South
- TH 75 & North I-94 Ramps
- TH 75 & South I-94 Ramps
- TH 75 & 30th Avenue South
- TH 75 & 40th Avenue South
- TH 75 & 50th Avenue South
- TH 75 & 60th Avenue South
- 20th Street & 12th Avenue S
- 20th Street & 20th Avenue S
- 20th Street & 24th Avenue S
- 20th Street & North I-94 Ramp
- 20th Street & South I-94 Ramp
- 20th Street & 30th Avenue S
- 20th Street & 40th Avenue South (future intersection)
- 20th Street & 50th Avenue South (future intersection)
- 20th Street & 60th Avenue South (future intersection)

The key corridor study objectives include:

- Involving affected agencies, stakeholders and the public throughout the study process to build an understanding of the issues, project alternatives, impacts and potential solutions.

- Analyzing existing conditions through a comprehensive review of existing traffic and transportation information and a thorough examination and analysis of issues.

- Developing a range of alternatives that provide creative yet feasible solutions. These alternatives include a combination of safety, geometric, access management, capacity and aesthetic improvements. These alternatives will include roadway capacity improvements to address corridor congestion, future at-grade and grade separated rail crossing options, potential east-west reliever routes within the sub area and the impact that new development will have on the study corridors.

- Completing a detailed analysis of the TH 75/I-94 and 20th Street/I-94 interchanges. The TH 75/I-94 interchange currently experiences significant congestion during the peak hours. The 20th Street/I-94 interchange is a half diamond with access to and from the west only. The half diamond design limits access to the 20th Street corridor and new development to the south of I-94.

- Analyzing traffic operations of I-94 from the future 34th Street interchange in Moorhead to the University Drive interchange in Fargo using CORSIM.

- Creating a matrix for all of the proposed alternatives that evaluates the physical, social, environmental and technical aspects of the proposed alternatives. The evaluation matrix will be used by the involved agencies in choosing a preferred alternative.

- Identifying a preliminary financial plan and implementation strategies.

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STUDY CORRIDORS

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 1

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II. PUBLIC INVOLVEMENT

Public involvement was an important part of the study process. This project used various methods to obtain public input, which included a Study Review Committee, focus group meetings, and open house meetings. The study team and Metro COG also presented the draft study findings to City of Moorhead Planning Commission, and the Moorhead City Council.

A. Study Review Committee

The Study Review Committee (SRC) included representatives from the Minnesota Department of Transportation (Mn/DOT), City of Moorhead, Clay County, Federal Highway Administration (FHWA), Metro COG and BNSF Railway. The purpose of the SRC was to guide the study process, provide input, review alternatives, and assist in refining concepts.

The SRC met four times during the study process. The agendas and meetings minutes are presented in Appendix A.

B. Mn/DOT Management Meeting

A meeting was held on May 14, 2007 between Mn/DOT, the City of Moorhead and SRF Consulting Group, Inc. for members of the SRC to present interchange alternatives to Mn/DOT District 4 and Mn/DOT central office for comments. The meeting was held at Mn/DOT District 4 office in Detroit Lakes with video conferencing to Mn/DOT's central office in St. Paul. Several comments were made by Mn/DOT in regards to the different interchange options that resulted in changes to the alternatives prior to presenting them at the public meeting. Jim Rosenow with Mn/DOT's central office stated that his group can only comment on geometric alternatives, but that he was not in a position to guarantee that Mn/DOT or FHWA would support the idea of updating the 20th Street interchange to a full access interchange. A copy of the record of meeting is presented in Appendix A.

C. Focus Group

The focus group consisted of key stakeholders, including Mn/DOT, Clay County, City of Moorhead, Moorhead Township, Metro COG, BNSF, landowners with development interests, commercial and residential building owners with potential effects to their property, Trollwood Performing Arts School, Moorhead School District, Minnesota State Community and Technical College (MSCTC), Minnesota State University Moorhead (MSUM), and Concordia College The purpose of the focus group was to provide direct input regarding project issues/needs and proposed alternatives.

The study team conducted two focus group meetings. The first meeting was held early in the process where focus group members provided input and discussed issues, needs and constraints. The City of Moorhead's Gateway Overlay Zoning District along TH 75 was described. Existing and future development affecting the project area growth scenarios and future subarea roadway network alternatives were also discussed. The second focus group meeting was held in the middle of the study process, and focus group members were asked to provide input on various alternatives that were presented. The SRC considered focus group input prior to preparing the draft report. Appendix B includes agendas and meeting minutes from each of the focus group meetings.

D. Public Meetings

The study team conducted three open house meetings: one at the beginning of the study process, one in the middle of the project and the other at the end of the project. Each meeting used an open house format with a formal presentation. At the first meeting, the study team presented the study background and purpose, existing traffic volumes and future traffic projections. Participants were asked to provide input on study issues and needs. The purpose of the second open house was to seek input on the proposed alternatives and explain the technical analysis used to develop the alternatives. The purpose of the third public meeting was to present the findings of the draft report including project issues, future traffic projections, future traffic operations, alternatives considered, and the preferred alternative for each corridor. The public was asked to comment on the information presented to them at each of the three meetings. Appendix C includes a public meeting summary, sign-in sheets and comments from each of the public meetings.

E. Planning Commission and City Council Meetings

Upon preparation of the draft report, SRF Consulting Group, Inc. and Metro COG staff met with the City of Moorhead Planning Commission on May 6, 2008. Comments from the planning commission were assembled and considered by the study team prior to finalizing the study report. The Planning Commission moved to recommend that the city council receive the study. Information from this meeting is presented in Appendix D.

SRF Consulting Group, Inc. and Metro COG also met with the Moorhead City Council (Committee of the Whole) on May 12, 2008, to present the draft study findings and recommendations. Upon presenting the study, the council was asked to consider a resolution at their regular meeting on May 19, 2008 to receive the document, which will serve as an official planning document for the study corridors. On May 19, 2008 the City Council of the City of Moorhead resolved that they would receive the TH 75 and 20th Street Corridor Study. Information from this meeting is presented in Appendix D.

III. EXISTING CONDITIONS & NEEDS ASSESSMENT

The study team reviewed existing documents, collected new data and analyzed the existing conditions of the study area to determine current and future transportation needs for both TH 75 and 20th Street South within the project boundaries.

A. Data Collection

Table 1 displays data that was collected to analyze existing and future conditions within the study area.

TABLE 1
Data Collection Completed for TH 75 and 20th Street Corridors

Data Collected	Data Collection Source or Method
Existing AADT Volumes	2005 AADTs from Metro COG and 2005 TH 75 AADTs from Mn/DOT
Existing Geometrics	SRF Field Review and As-Built Drawings
Existing Peak Hour Turning Movements at Key Intersections	Sub consultant LJR, Inc. completed peak hour turning movement counts at all of the key intersections.
Existing Peak Hour Traffic Observations at Key Intersections	SRF Field Review
Existing Traffic Signal Timing Data for Key Intersections	City of Moorhead and Mn/DOT
GIS Data and Digital Aerial Photos	Downloaded from Clay County Website
Existing and Future Land Use and Zoning, Roadway Improvement Plans, and Pedestrian/Bicycle Facility Plans	Moorhead's Growth Area Plan and AUAR, 2004 Metro COG Transportation Plan and Metro COG Bicycle and Pedestrian Plan
Crash Data	Mn/DOT Accident Data Base
Existing Bridge Sufficiency Ratings	Mn/DOT Structure Inventory Report
Structural As-Builts	Mn/DOT As-Builts for the TH 75 and 20th Street Structures over I-94

B. Existing Bridge Ratings

In order to determine the sufficiency ratings of the bridges involved in this project, we requested the structural inventory reports from Mn/DOT for the 20th Street Bridge over I-94 and the northbound and southbound TH 75 bridges over I-94. The bridge sufficiency rating is a method of evaluating highway bridge data for structural adequacy and safety, serviceability and functional obsolescence. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge.

The structural inventory reports indicate the sufficiency rating of the three bridges as 92.7 for the 20th Street Bridge over I-94, 99.0 for the southbound TH 75 Bridge over I-94, and 98.0 for the northbound TH 75 Bridge over I-94. The reports also indicate that the last inspection date for each bridge was August of 2007. These high sufficiency ratings indicate that the three bridges are adequate and are not considered structurally deficient or functionally obsolete.

C. Crash Data Analysis

Several locations within the project area were identified by Mn/DOT and the City of Moorhead as having high crash rates. In particular, the intersection of TH 75 and 60th Avenue South is currently the highest crash rate intersection in Mn/DOT's District 4. A crash data analysis of the entire study area was completed to determine the current crash rates, how the crash rates compare with similar roadways, and the severity of crashes.

Five years of accident information within the project study area (January 1, 2001 to December 31, 2005) was obtained from the Mn/DOT Accident Database. The accident data was input into the SRF Consulting Group, Inc. accident analysis database and divided into accidents that occurred within the key intersections and along segments between the key intersections. The accidents that are shown to occur within an intersection include the intersection itself and the first 100-feet back along each leg of the intersection. The database also divided the severity of the accidents into three categories: fatal, injury and property damage.

The actual crash rates of the intersections and segments were determined using the crash rate method formulas found in the 2006 American Traffic Safety Service Association (ATSSA) publication *Low Cost Local Road Safety Solutions*. The calculated intersection crash rates were compared to the overall intersection system average crash rate for each corridor and the Minnesota state average crash rate. The calculated segment crash rates were compared to the overall segment system average crash rate for each corridor and the Minnesota state average crash rates for Trunk Highways in the case of TH 75 and for City Streets in the case of 20th Street.

The results of the accident analysis indicate higher than average crash rates at the following intersections and segments:

Intersections

- TH 75 & 20th Avenue South
- TH 75 & 24th Avenue South
- TH 75 & 30th Avenue South
- TH 75 & 60th Avenue South
- 20th Street & 12th Avenue S
- 20th Street & 30th Avenue S

Segments

- TH 75 between 20th & 24th Avenue S
- TH 75 between 30th & 40th Avenue S
- 20th Street between I-94 North Ramps & South Ramps

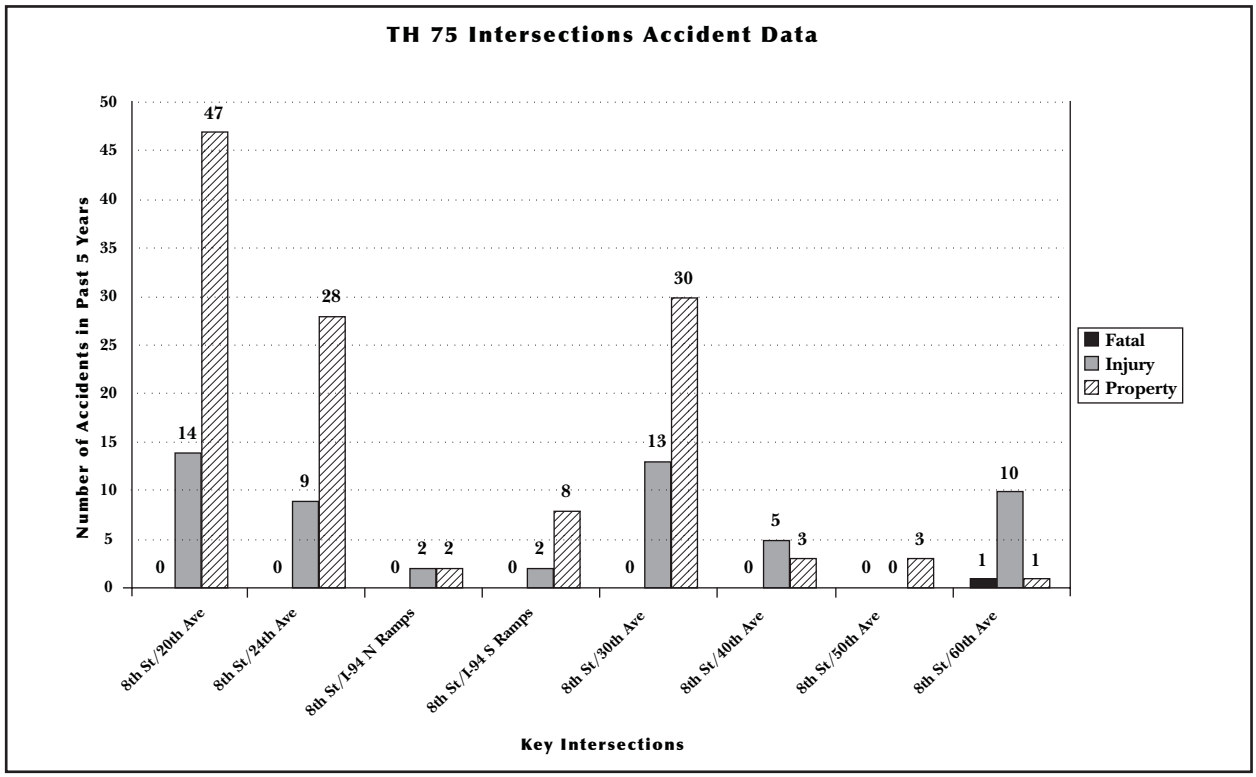
1. TH 75 Crash Data Analysis

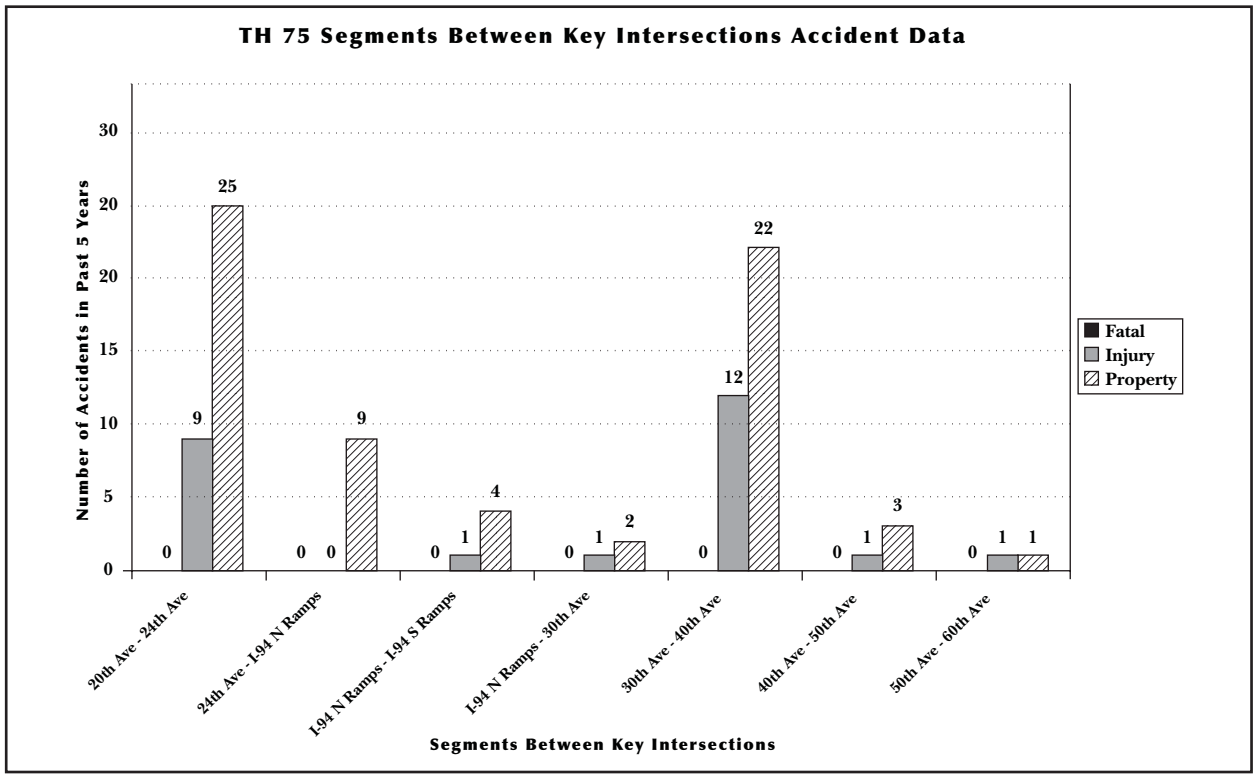
The intersections and segments with higher than average crash rates were further analyzed by reviewing collision diagrams and details of accident history for the same five year period. The intersections of TH 75 and 20th Avenue South, TH 75 and 24th Avenue South and the segment between them had a high number of southbound rear end crashes. Traffic observations during the p.m. peak hour indicated a back up of traffic in the exterior southbound thru lane with little use of the interior thru lane. The heavy use of the exterior lane is due to the demand for traffic to make a right turn onto westbound I-94.

The intersection of TH 75 and 30th Avenue South and the segment between 30th Avenue South and 40th Avenue South had a high number of northbound rear end crashes. Traffic observations at these locations showed a back up of traffic in the northbound interior thru lane, in this case due to the demand for traffic to make a left turn onto westbound I-94.

The intersection of TH 75 and 60th Avenue South has a high crash rate with a high number of right angle crashes. Due to the rural roadway speeds and increasing traffic volumes, the accidents at this intersection have been more severe than others within the study area. Since the completion of the crash analysis in September of 2006, two crashes both resulting in a fatality have occurred at the intersections of TH 75 with 50th Avenue South and 60th Avenue South.

TH 75 crash numbers and crash rates for intersections and segments are shown in Figure 2 and Figure 3, respectively.





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TH 75 CRASH ANALYSIS

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Figure 2

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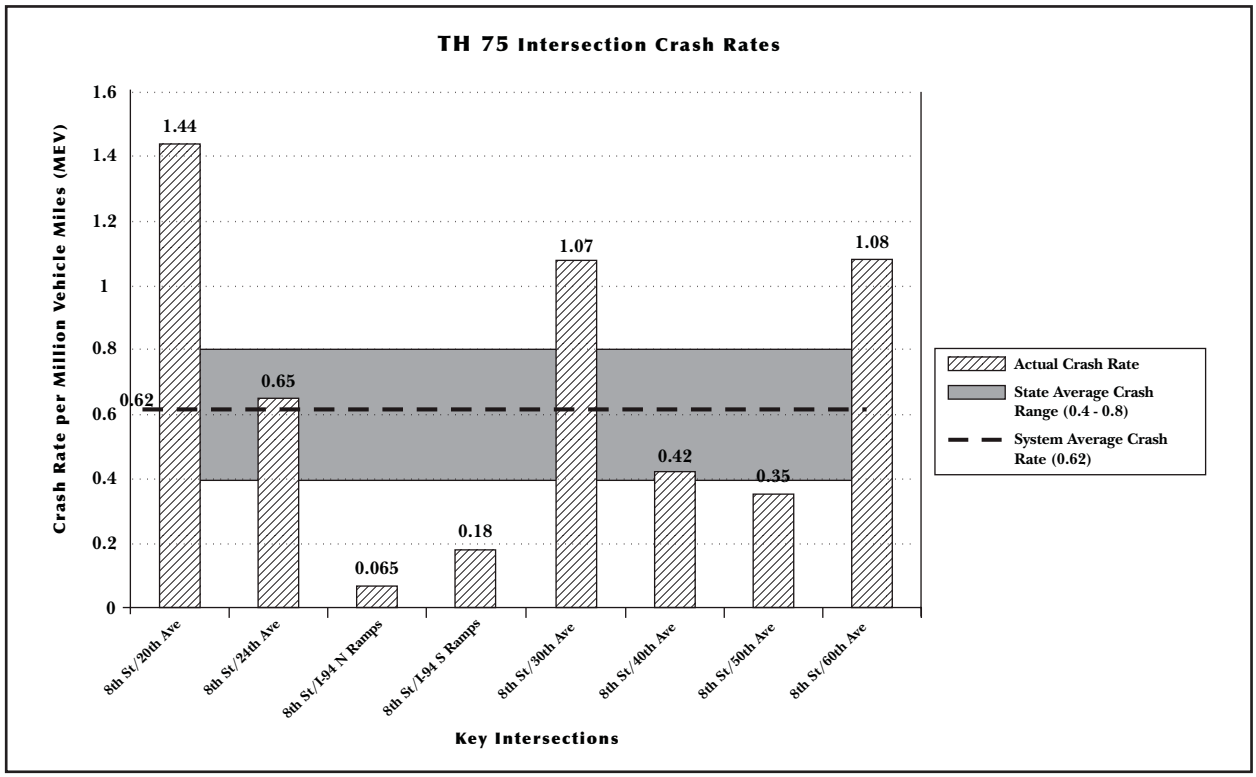

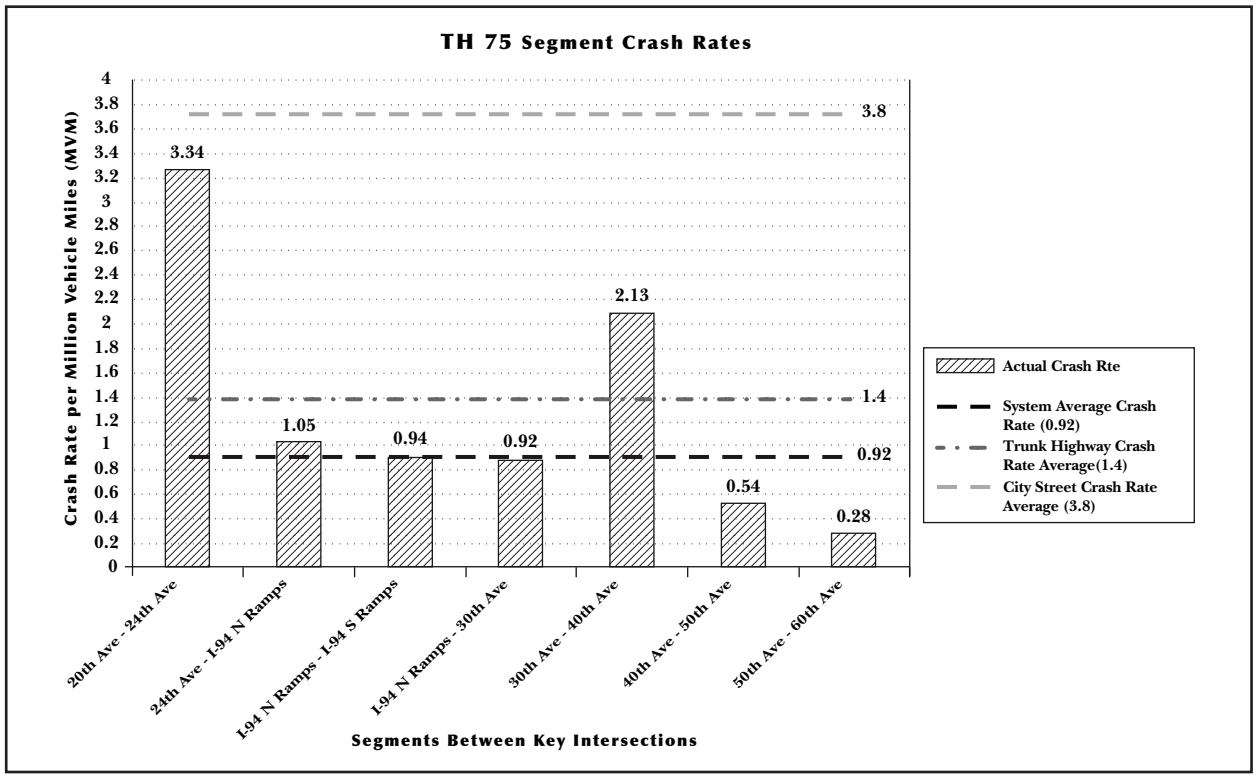

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TH 75 CRASH ANALYSIS

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 3

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20th Street South Crash Data Analysis

The intersection at 20th Street South and 12th Avenue South had a high number of various types of crashes at various legs of the intersection. No particular pattern or cause of crashes was discernable.

The intersection of 20th Street and 30th Avenue South and the segment along 20th Street South between the I-94 ramps did not have a high number of crashes within the five year period but show a high crash rate due to the lower volumes of traffic and short segment length between the interstate ramps.

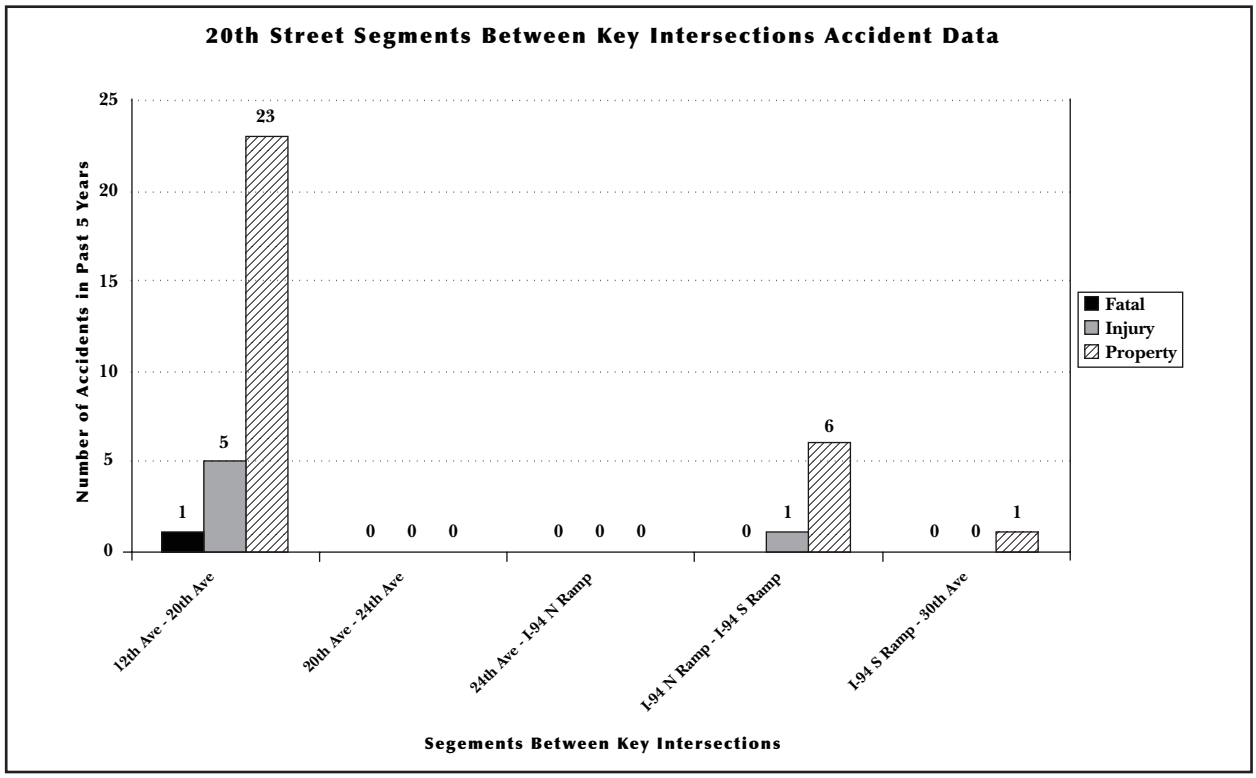
The segment along 20th Street between 12th Avenue and 20th Avenue South has a lower than average crash rate as compared to similar city streets, however, it has a higher than average crash rate as compare to the system wide average crash rate.

Twentieth Street crash numbers and crash rates for intersections and segments are shown in Figure 4 and Figure 5, respectively.

D. Traffic Counts

Morning and afternoon peak hour traffic counts were carried out at each of the key intersections along TH 75 and 20th Street South. The counts were taken mid week in early May of 2006, while all schools and colleges in the area were still in session. The morning counts were taken from 6:30 a.m. to 9:00 a.m. with the peak hour occurring from 7:30 a.m. to 8:30 a.m. The afternoon peak hour counts were taken from 4:00 p.m. to 6:00 p.m. with the peak hour occurring from 4:30 p.m. to 5:30 p.m. The counts were completed with the use of Jamar turning movement count boards and included a breakout count of pedestrian and truck traffic.

Road tube counts were taken for 48 hours at the entrance and exit ramps to the interstate. The counts included the eastern ramps of the University Drive/I-94 interchange, all ramps for the TH 75/I-94 interchange, all ramps for the 20th Street/I-94 interchange and western ramps for the SE Main/I-94 interchange. The existing geometrics and key turning movement counts are shown in Figure 6.



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20TH STREET CRASH ANALYSIS

TH 75 & 20TH STREET CORRIDOR STUDIES

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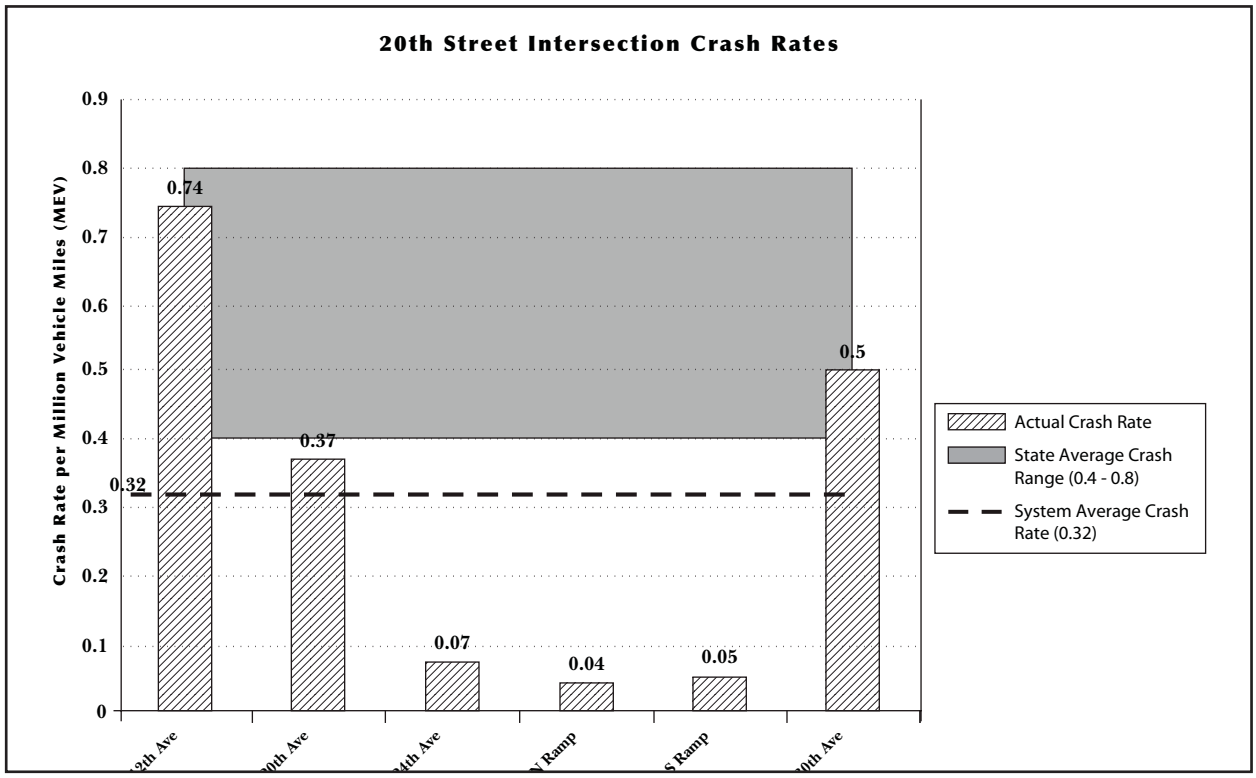
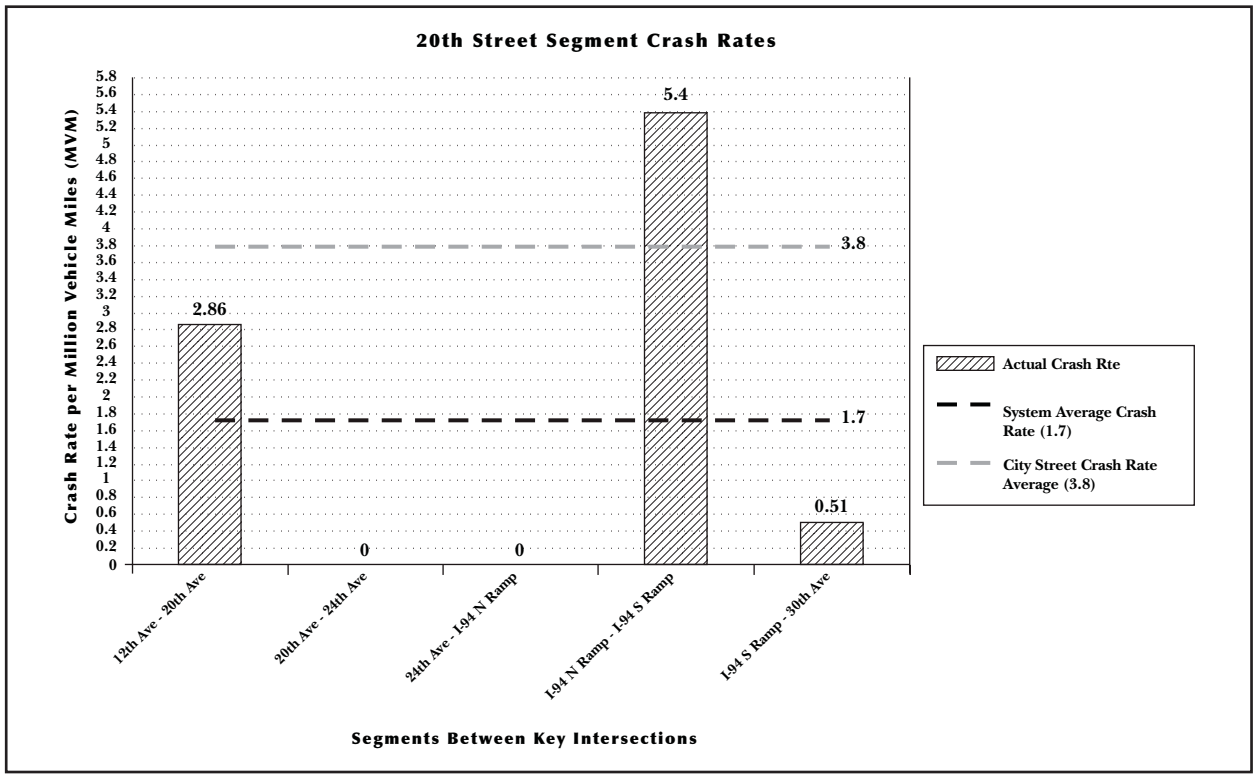
Figure 4





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20TH STREET CRASH ANALYSIS

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 5

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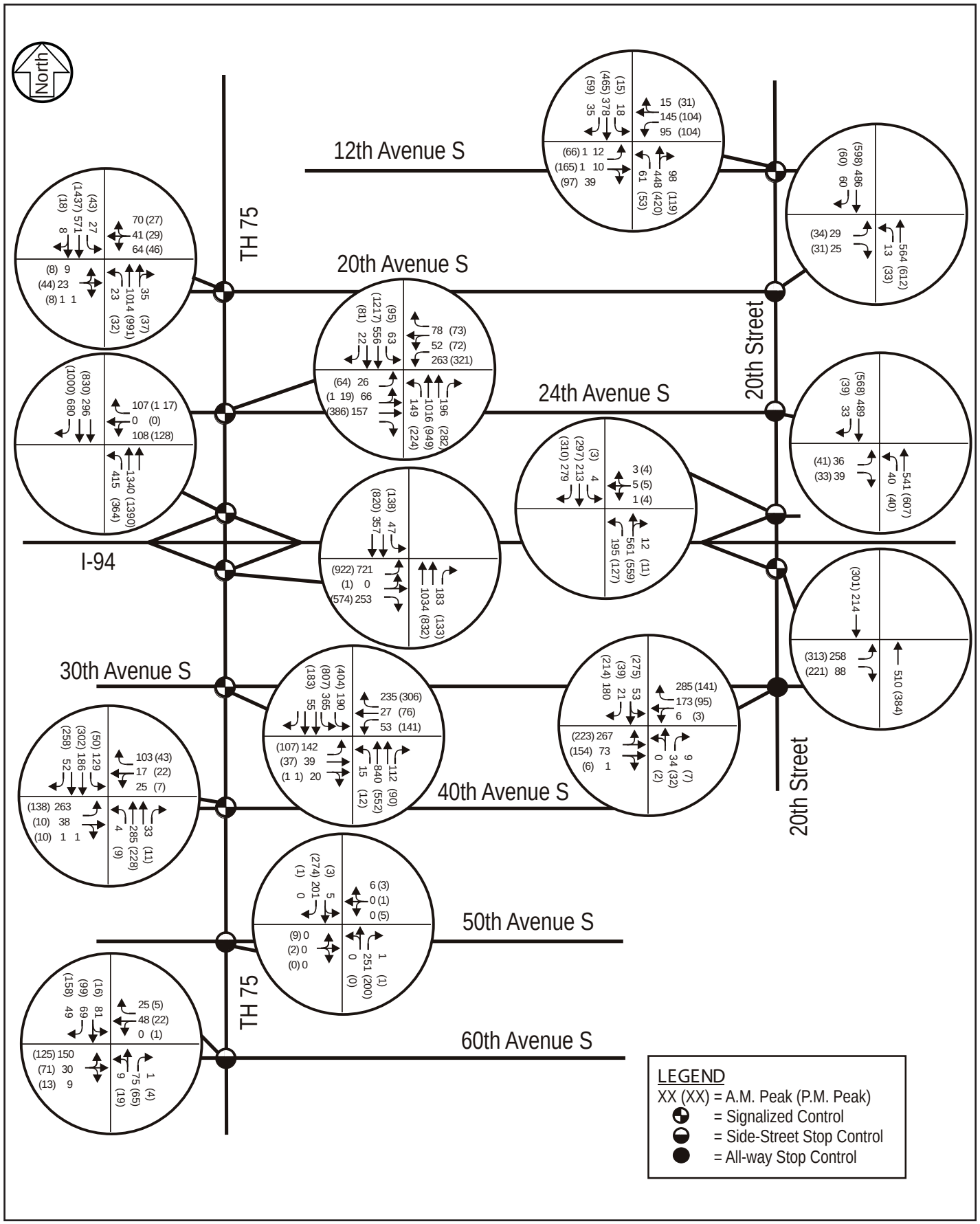

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EXISTING GEOMETRICS AND PEAK HOUR VOLUMES

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 6

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E. Existing Access Management

Numerous access points are located along the TH 75 and 20th Street corridors within the project area. Tables 2 and 3 show the number and type of accesses along segments of each corridor including the total number of calculated access points per mile.

TABLE 2
TH 75 Existing Access Management

TH 75 Segments	City Platted Streets	Private Accesses	Type				Access Points Per Mile
			Full	Three-Quarters	Restricted	Frontage	
20th Avenue South to North I-94 Ramp	4	1	3	0	2	0	7.9*
North I-94 Ramp to 40th Avenue South	5	0	5	0	0	0	5.7*
40th Avenue South to 50th Avenue South	2	8	10	0	0	0	10
50th Avenue South to 60th Avenue South	1	9	10	0	0	0	10

*Segment is not equal to one mile. This rate was calculated to have an equal comparison to the other rates.

TABLE 3
20th Street South Existing Access Management

20th Street South Segments	City Platted Streets	Private Accesses	Type				Access Points Per Mile
			Full	Three-Quarters	Restricted	Frontage	
SE Main to 12th Avenue South	4	3	5	2	0	0	13.2*
12th Avenue South to 24th Avenue South	8	16	24	0	0	0	31.7*
24th Avenue South to 34th Avenue South	7	13	20	0	0	0	26.4*

*Segment is not equal to one mile. This rate was calculated to have an equal comparison to the other rates.

Mn/DOT's 2002 *Access Category System and Spacing Guidelines* recommends access spacing and signal spacing guidelines for different category roadways. Mn/DOT has categorized TH 75 as Category 5B within the project limits from 20th Avenue South to 60th Avenue South. Category 5B is a minor arterial in an urban/urbanizing area. The spacing guidelines for a category 5B roadway are 1/4 mile spacing for primary full movement intersections, 1/8 mile spacing for conditional secondary intersections and 1/4 mile signal spacing, which equates to 8 access points per mile. Private access should be allowed by exception or deviation only.

The City of Moorhead's City Code, Section 11-5-7, discusses street design including recommended spacing between access points on different categories of roadways. 20th Street is classified as a minor arterial roadway. The spacing guidelines for a minor arterial within the City Code states that "Full access to such minor arterials should normally be at intervals of not less than one-fourth (1/4) mile and through existing and established crossroads where possible. Conditional access may be allowed at intervals of not less than one-eighth (1/8) mile." However, the code also states that "Access to principal arterials, minor arterials, and collectors that are located in the urban core may be granted at the discretion of the city engineer at intervals of not less than three hundred (300) to six hundred sixty (660) feet. The 300- to 660-foot spacing equates to approximately 16 access points per mile.

F. Traffic Forecasts

In order to identify both the existing and future needs for the study corridors, it was necessary to develop future traffic volume forecasts. The first task for developing traffic volume forecasts was to determine the growth scenarios on which the volumes would be based. The study committee reviewed the year 2030 forecast based on the Long Range Element of the 2004 Metropolitan Transportation Plan (MTP), which included projected 2030 socio-economic growth and roadway improvements. The study committee determined that 2006 existing and platted residential lots combined with imminent plans for commercial development had already surpassed the jobs and households projected for this portion of Moorhead in the 2030 forecast. As a follow up to the 2030 Metropolitan Transportation Plan, the City of Moorhead completed a South Side Growth Area Plan (GAP) and Alternative Urban Area wide Review (AUAR). The GAP established a land use plan that included all undeveloped land as far as 60th Avenue South between the Red River and TH 75, and half of a mile south of 40th Avenue South between TH 75 and Southeast Main Avenue. The level of development in the GAP was used to modify the 2030 model to provide traffic projections that correlate with the development anticipated in the AUAR. The socioeconomic projections for the various growth scenarios are shown in Table 4.

TABLE 4
Moorhead Households by Traffic Analysis Zones (TAZ)

MTP TAZ	HOUSEHOLDS					
	GAP/ AUAR TAZ	2000 Data	Estimated 2030	2006 Existing & Platted	Per GAP & AUAR Land Use Scenario	Combined GAP/AUAR Totals Using 2030 TAZ Boundaries
283	283	208	600	614	629	1,568
	376				208	
	377				731	
284	284	395	726	899	1,006	1,006
286	286	220	520	947	1,084	1,084
287	287	109	307	223	109	700
	388				591	
289	289	127	530	127	1,285	1,285
293	*293	62	62	62	0	559
	390				559	
	*391				0	
294	294	297	297	805	1,002	3,635
	*381				0	
	*382				0	
	383				1,579	
	389				1,054	
	*392				0	
	*393				0	
295	295	3	3	3	913	3,789
	378				499	
	379				530	
	380				1,056	
	394				410	
	395				381	
Total		1,421	3,045	3,680	13,626	13,626

*These TAZs were created for the purpose of the GAP/AUAR traffic analysis, but had no assigned growth, since they were outside the boundaries of the GAP (see Figure 7).

As shown, the household growth that has occurred near the study area has outpaced the projections that were used to develop the 2030 growth scenario in the 2004 Metropolitan Transportation Plan. The City of Moorhead anticipates a continuation of this growth. As a result, it was important for the traffic projections used in this study to reflect this higher level of growth. Based on the information in Table 4 above, the scenarios for the corridor study analysis are as follows:

- **Existing (2006)**

  This scenario uses the 2006 turning movement counts that were completed at key intersections along the study corridors. A Synchro/Sim Traffic analysis has been prepared using the 2006 roadway capacity, traffic control, and volume information. This analysis is used to determine existing transportation needs within the study area.

- **Interim**

  The basis for this scenario is the job and household projections that were derived from the GAP/AUAR. Some TAZs were assumed to have 100 percent buildout in the interim timeframe, while others are anticipated to be only partially developed. Although a timeframe has not been assigned to this "interim" scenario, it could be used as a point of comparison with the 2035 growth projections when Metro COG carries out the next update of the MTP. This analysis will be used to determine future transportation needs within the study area.

- **Buildout**

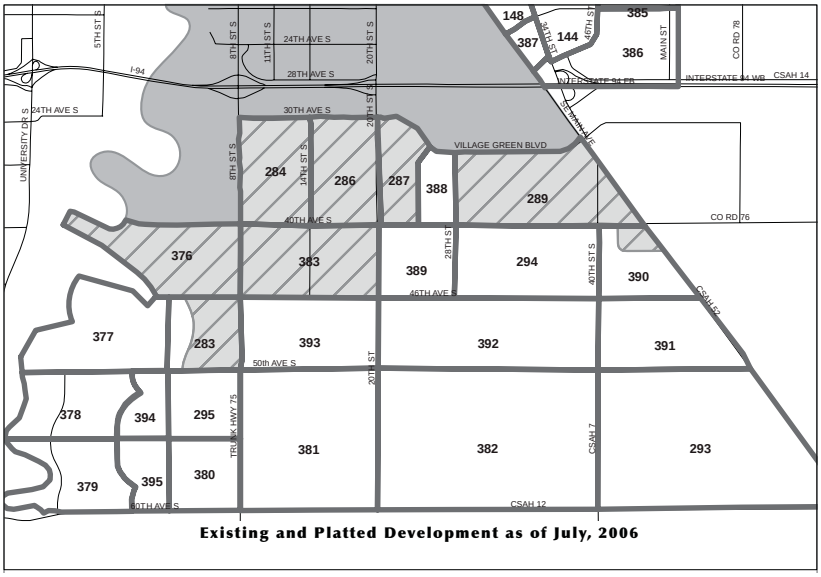
  The buildout scenario assumes 100 percent development of all of the land included in the GAP/AUAR, as well as all other property lying north of 60th Avenue South and west of Southeast Main Avenue. A land use plan does not exist for property located in TAZs 381, 382, 293, 391, 392 and 393. Therefore, full buildout assumptions for jobs and households in these TAZs were prepared by Metro COG, using averaged numbers of households and jobs per acre in the portions of the study area that are covered by the GAP/AUAR. The estimated households under the buildout scenario are also shown in Table 4. This analysis will be used only for the purpose of identifying future right of way needs.

  The proposed level of household development for each TAZ for the interim and buildout scenarios is shown below in Table 5. The TAZ locations and areas associated with each growth scenario are shown in Figure 7.

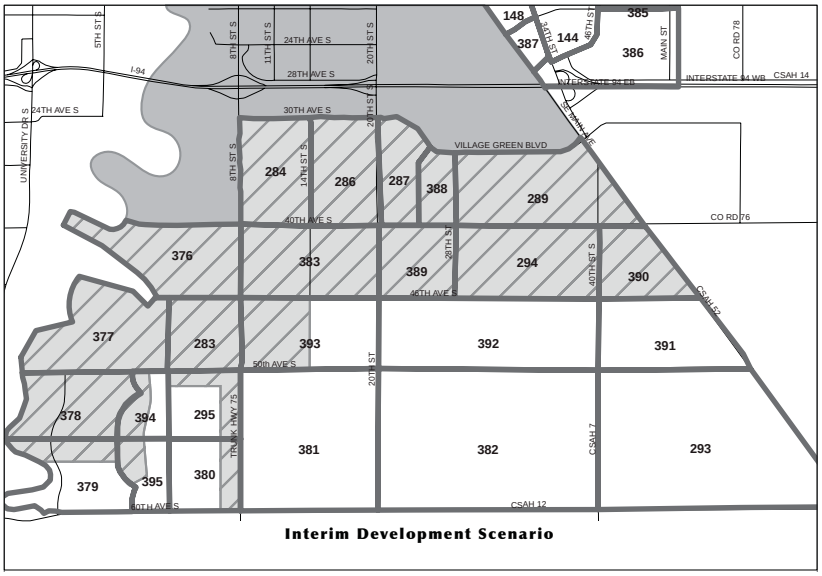
  SRF worked closely with Metro COG and Advanced Traffic Analysis Center (ATAC) to develop the future traffic volume forecasts for the interim and buildout growth scenarios. Figure 8 shows existing, interim and buildout annual average daily traffic (AADT) volumes.

TABLE 5
Households by Traffic Analysis Zones (TAZ) for Interim and Buildout Growth Scenarios

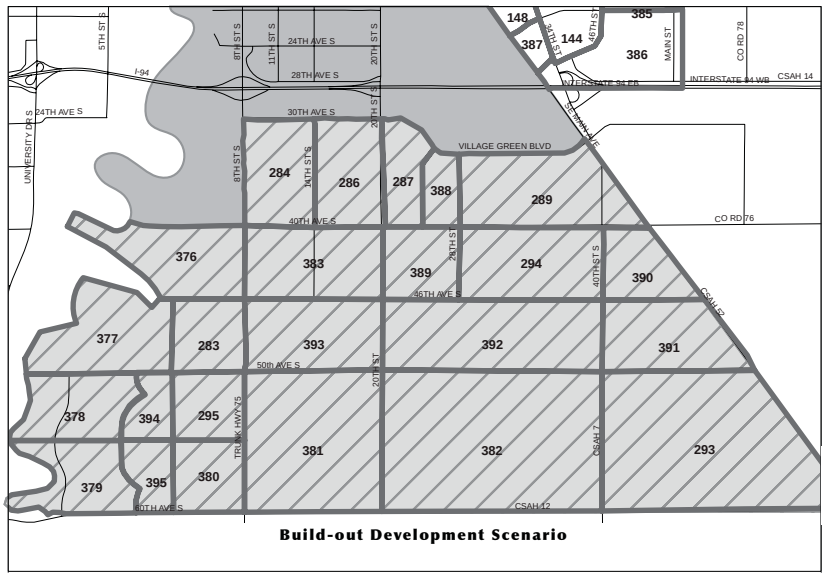
GAP TAZ	HOUSEHOLDS			
	Estimated Households in GAP/AUAR Land Use Scenario	Estimated Percentage of Households in Interim Scenario	Estimated Number of Households in Interim Scenario	Estimated Households in Build-Out Scenario
283	629	100	629	629
376	208	100	208	208
377	731	100	731	731
284	1,006	100	1,006	1,006
286	1,084	100	1,084	1,084
287	109	100	109	109
388	591	100	591	591
289	1,285	100	1285	1285
293	0	0	0	2,650
390	559	100	559	559
391	0	0	0	800
294	1,002	100	1,002	1,002
381	0	0	0	1,800
382	0	0	0	2,900
383	1,579	100	1,579	1,579
389	1,054	100	1,054	1,054
392	0	0	0	1,450
393	0	0	0	900
295	913	50	457	913
378	499	100	499	499
379	530	25	133	530
380	1,056	25	264	1056
394	410	50	205	410
395	381	25	95	381
	13,626		11,490	24,126



Existing and Platted Development as of July, 2006



Interim Development Scenario



Build-out Development Scenario

LEGEND

- Existing Development and Platted Property
- FutureDevelopment
- xxx TAZ Numbers
- Roadway Network
- GAP TAZ Boundaries

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GROWTH SCENARIOS

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 7

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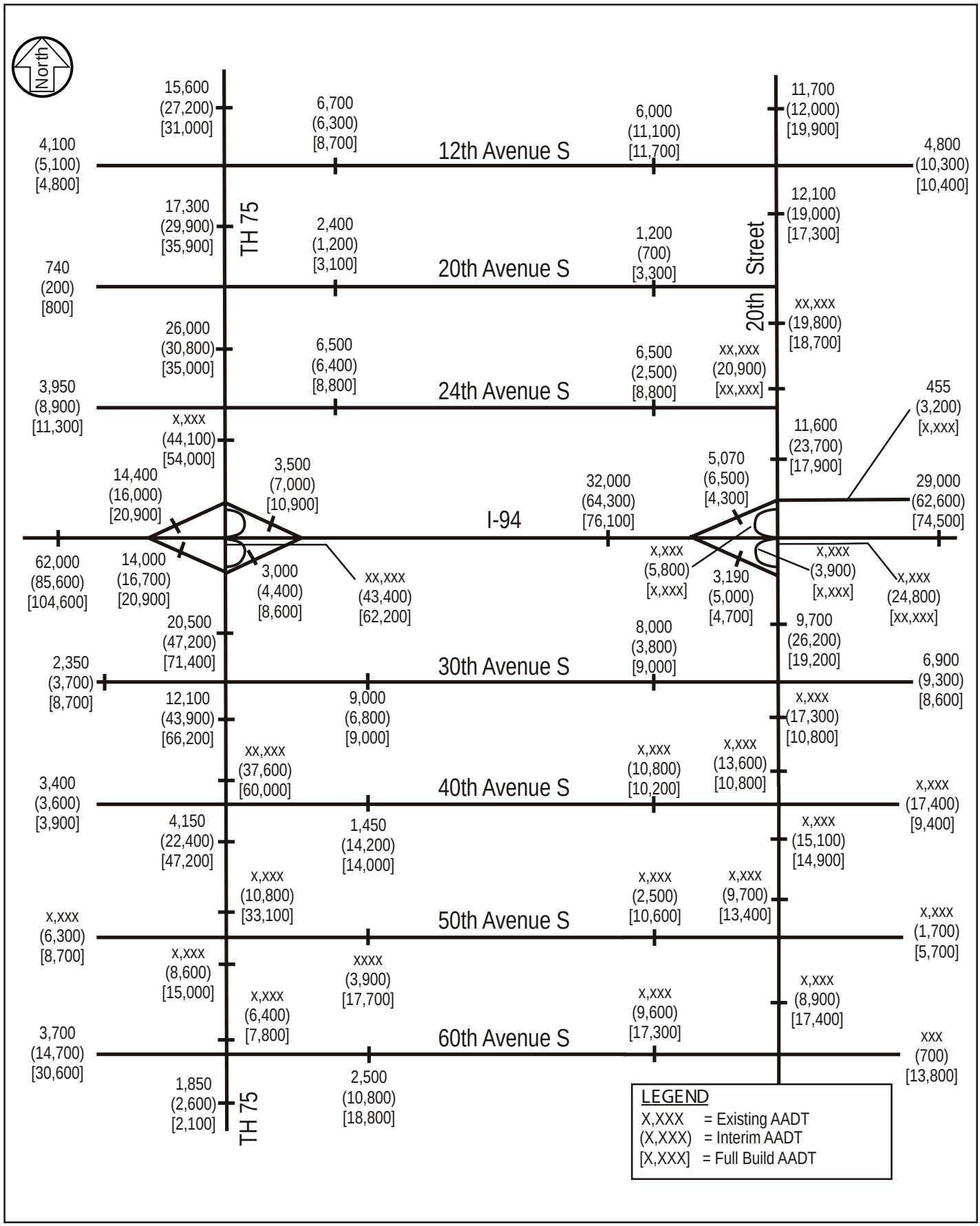

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ANNUAL AVERAGE DAILY TRAFFIC VOLUMES (AADT)

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 8

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G. Traffic Operations Analysis

To determine how the existing roadway network currently operates, an operations analysis was conducted for the a.m. and p.m. peak hours. As shown previously, Figure 6 shows the existing peak hour traffic volumes, geometry, and traffic controls that were used in the analysis. Signalized intersections were analyzed using the Synchro/Sim Traffic software, while unsignalized intersections were analyzed using the highway capacity manual (HCM). Capacity analysis results identify a Level of Service (LOS) that indicates how well an intersection is operating. Intersections are given a ranking from LOS A through LOS F. The LOS results are based on average delay per vehicle. The standard delay threshold values are identified in Table 6. LOS A indicates the best traffic operation and LOS F indicates an intersection where demand exceeds capacity. LOS A through C are generally considered acceptable by drivers. LOS D indicates that an intersection is approaching its capacity and that vehicles experience delays and congestion. Unsignalized intersections identify the overall intersection level of service followed by the worst approach.

TABLE 6
Level of Service Criteria for Signalized and Unsignalized Intersections

LOS Designation	Signalized Intersection Avg. Control Delay/Vehicle (seconds)	Unsignalized Intersection Avg. Control Delay/Vehicle (seconds)
A	<10	<10
B	10-20	10-15
C	20-35	15-25
D	35-55	25-35
E	55-80	35-50
F	80<	50<

Source: Highway Capacity Manual 2000

Results of the analysis shown in Table 7 indicate that the majority of the key intersections currently operate at an acceptable LOS C or better during the peak hours with existing geometry and traffic controls. The intersections of TH 75/24th Avenue South and TH 75/I-94 South Ramp currently operate at or below an unacceptable LOS D.

TABLE 7
Existing Peak Hour Capacity Analysis Level of Service Results

Intersection	Level of Service	
	A.M.	P.M.
TH 75/20th Avenue South	B	C
TH 75/24th Avenue South	C	E
TH 75/I-94 North Ramp	B	C
TH 75/I-94 South Ramp	C	D
TH 75/30th Avenue South	C	C
TH 75/40th Avenue South	B	B
TH 75/50th Avenue South [(1)]	A/A	A/A
TH 75/60th Avenue South [(1)]	A/B	A/B
20th Street/12th Avenue South	C	C
20th Street/20th Avenue South [(1)]	A/A	A/B
20th Street/24th Avenue South [(1)]	A/A	A/A
20th Street/I-94 North Ramp [(1)]	A/B	A/B
20th Street/I-94 South Ramp	B	B
20th Street/30th Avenue South [(2)]	A	B
20th Street/40th Avenue South [(3)]	N/A	N/A
20th Street/50th Avenue South [(3)]	N/A	N/A
20th Street/60th Avenue South [(3)]	N/A	N/A

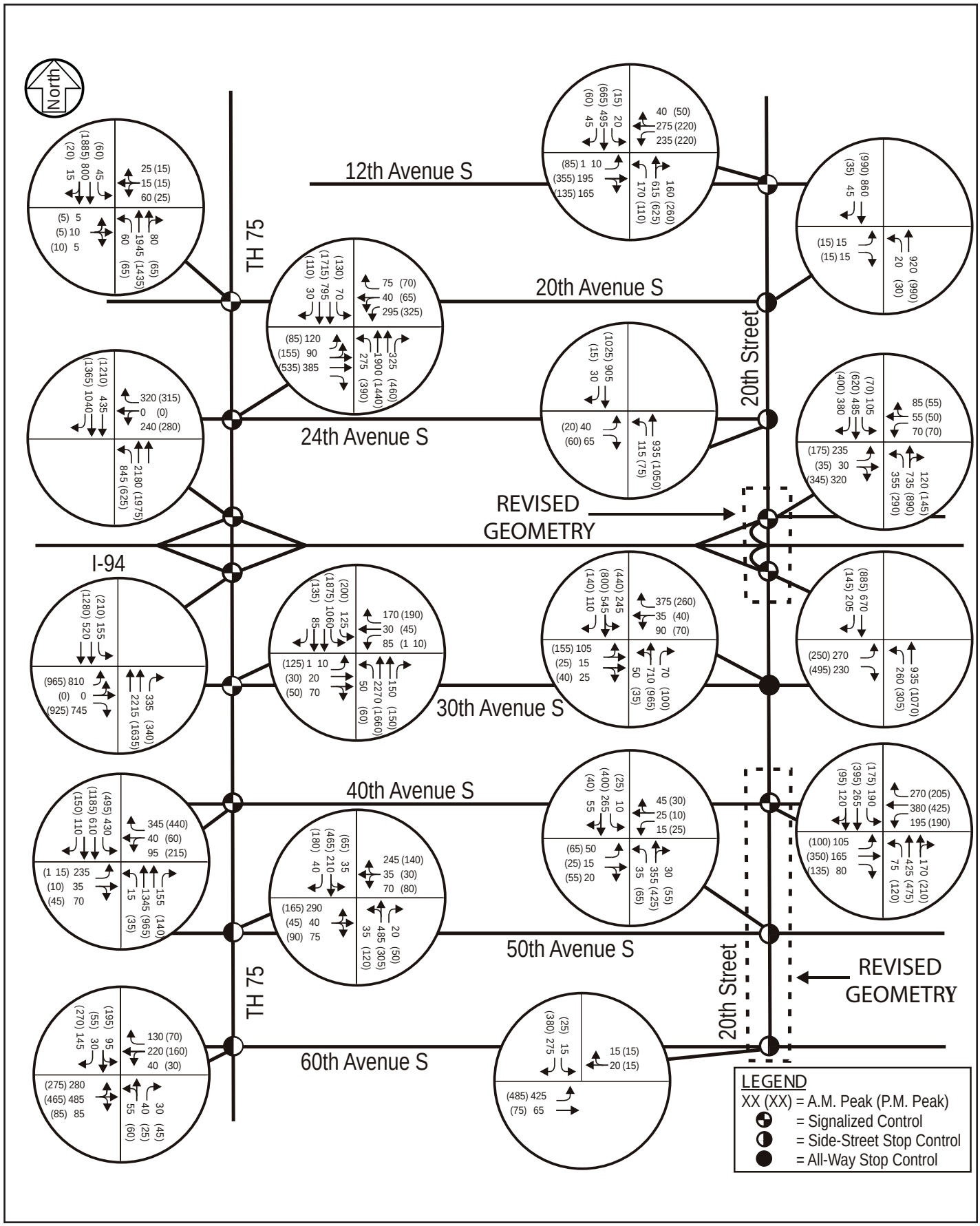
[(1)] Indicates an intersection with side-street stop control.
[(2)] Indicates an intersection with all-way stop control.
[(3)] Indicates an intersection that does not currently exist.

To determine how the existing roadway network will accommodate the interim year traffic forecasts, an operations analysis was conducted for the a.m. and p.m. peak hours. It should be noted that the I-94/20th Street interchange was modeled with the proposed access modification to include access to and from the east (i.e., a westbound exit and eastbound entrance). The geometry at the north and south ramps were updated to reflect the changes to the interchange, while maintaining the existing capacity of the roadway along the corridor. In addition, the intersections of 20th Street with 40th Avenue South, 50th Avenue South and 60th Avenue South do not currently exist, and therefore were analyzed with the geometry and traffic controls necessary to operate at acceptable levels of service. Results of the analysis shown in Table 8 indicate that the majority of the key intersections will operate at an unacceptable LOS D or worse during the a.m. and p.m. peak hours under interim year no build conditions, with existing geometry and traffic controls and revised geometry at the 20th Street/I-94 interchange and 20th Street from 34th Avenue South to 60th Avenue South. Figure 9 shows the interim peak hour traffic volumes with the existing and revised geometry used for this analysis.

TABLE 8
Interim Year Condition
Peak Hour Capacity Analysis – Existing/Revised Geometry Level of Service Results

Intersection	Level of Service	
	A.M.	P.M.
TH 75/20th Avenue South	F	F
TH 75/24th Avenue South	F	F
TH 75/I-94 North Ramp	E	F
TH 75/I-94 South Ramp	F	F
TH 75/30th Avenue South	F	F
TH 75/40th Avenue South	E	D
TH 75/50th Avenue South [(1)]	F/F	C/F
TH 75/60th Avenue South [(1)]	F/F	F/F
20th Street/12th Avenue South	F	F
20th Street/20th Avenue South [(1)]	F/F	F/F
20th Street/24th Avenue South [(1)]	F/F	F/F
20th Street/I-94 North Ramp [(3)]	F	F
20th Street/I-94 South Ramp [(3)]	D	F
20th Street/30th Avenue South [(2)]	F	F
20th Street/40th Avenue South	C	C
20th Street/50th Avenue South [(1)] [(4)]	C/C	C/C
20th Street/60th Avenue South [(1)] [(4)]	C/C	C/D

[(1)] Indicates an intersection with side-street stop control.
[(2)] Indicates an intersection with all-way stop control.
[(3)] Indicates an intersection with revised geometry due to access modification.
[(4)] New intersection under interim year conditions.



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INTERIM PEAK HOUR TRAFFIC VOLUMES - EXISTING/REVISED GEOMETRY

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 9

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H. Related Planning Studies and Projects

Several studies and projects have already been adopted that affect the future development of the study area. The studies that we have identified include the following:

- 2006 Metropolitan Bicycle and Pedestrian Plan – Continue with plans recommendations within the study area.
- 2004 Metropolitan Transportation Plan – This plan was used to identify existing traffic volumes. Some of the proposed improvements have already been included in this plan. The recommendations that were not included in the plan should be considered to be adopted in the next plan.
- Moorhead's Southside GAP and AUAR – The area of development in this plan was used as our interim year traffic scenario.
- Pedestrian Underpass of TH 75 at 40th Avenue South
- SE Main and 20th/21st Grade Separation – The geometrics for 20th Street at the north end of our study, tied into the proposed geometrics of the grade separation project.
- 40th Avenue South Street and Utility Improvements – We tied the intersection of 20th Street and 40th Avenue South into the existing 40th Avenue South geometrics.
- 50th Avenue South Parkway – This plan was not finished during this study, however, 50th Avenue South within our study area should be designed according to the Parkway Design.
- 120-Acre Southside Regional Park – The location of this park influences the location of a grade-separated pedestrian crossing of 20th Street.
- Moorhead Gateway Overlay District – The Gateway Overlay District will apply to new buildings and additions to existing buildings along TH 75 south of 24th Avenue South.
- Neighborhood Planning Study – The Neighborhood Planning Study focuses on 8th Street (TH 75) and 20th Street as corridor gateways into the City of Moorhead.

In most cases the recommendations from the related planning studies and project will be followed. However, there are some instances where the findings of this corridor study have identified greater needs that will be recommended instead of carrying through the recommendations of another study or plan. Those instances will be specified throughout the body of this report.

I. Identification of Issues

A number of issues have been identified along the study corridors based on the results of the traffic operations analyses at key intersections for the existing and interim volumes, traffic observations, crash data analysis, existing access management review, Metro COG's Bicycle and Pedestrian Plan and public input.

1. TH 75 Corridor and Interchange

- Capacity constraints and delays have been observed along the corridor.
- Existing traffic operations analysis indicates an unacceptable LOS at the intersections of TH 75/24th Avenue South and TH 75/South Interchange Ramps.
- Traffic operations analysis for interim year volumes on an existing/revised roadway network indicates failing LOS at all key intersections along the TH 75 corridor within the study area.
- High crash rates and high severity crash locations along the corridor.
- Existing access location to the adjacent commercial site on southbound TH 75 near the north ramp is affecting interchange traffic operations.
- Existing access locations along the southerly portion of the corridor (between 40th Avenue South and 60th Avenue South) should be considered for removal or reconfiguration within the future street system when the area develops.
- Public input has expressed a need for improved pedestrian and bicycle safety and trail continuity.
- Identify existing and future transit enhancement opportunities within the study area.
- Roadway widening will have an impact on existing boulevards and trees in some segments of the corridor, and will limit the amount of amenities and green space that can be accommodated in the boulevard to enhance and contribute to the on-site features required by Moorhead's Gateway Overlay District

2. 20th Street South Corridor and Interchange

- Traffic operations analysis for interim year volumes on an existing/revised roadway network indicates failing LOS at all key intersections along the 20th Street corridor within the study area.
- 20th Street currently ends at 34th Avenue South which forces traffic bound to or from the area south of 34th Avenue South to use TH 75.
- The interchange at I-94 and 20th Street is limited to movements to and from the west. The interchange ramps for 20th Street are spaced very close together. The area surrounding the interchange is fully developed. Therefore, any improvements made to the interchange to widen the spacing of the ramps and add ramps to and from the east have major impacts to the surrounding environment.
- A high number of full movement access points along the 20th Street South corridor.

- Existing frontage road access location is too close to the north interchange ramp.
- High crash rates were identified at certain locations along the corridor.
- Public input has expressed a need for improved pedestrian and bicycle safety and trail continuity.
- Identify existing and future transit enhancement opportunities within the study area.
- The BNSF Moorhead Subdivision Line runs parallel along the east side of 20th Street and limits opportunities for vehicle and pedestrian/bicycle traffic with destinations to the east.
- The City of Moorhead has finalized a Neighborhood Planning Study that identifies 20th Street as the second gateway due to MSUM's campus entrance at 6th Avenue. According to the plan, the new gateway concept aims to provide a sense of arrival to the campus, as well as providing a safer pedestrian environment. The typical section as recommended in the Neighborhood Planning Study provides less capacity than the analysis completed for this study shows as necessary. Therefore, the recommended cross section provides an additional thru lane in each direction in this area. However, we are recommending similar aesthetic improvements as recommended in the Neighborhood Plan.
- Current right of way south of 34th Avenue South is 70-feet which limits opportunities for roadway improvements.

3. Systemwide Continuity

- The study area is bound by the Red River to the west, I-94 running east/west through the center of the study area and the BNSF Moorhead Subdivision Line to the east. These boundaries create limited continuous routes through the study area.
- Limited number of Red River crossings creates increased traffic volumes on I-94 and the north/south routes such as TH 75 and 20th Street South that bring traffic to the interstate.
- New and proposed development in the southern portion of the study area, including Trollwood Performing Arts School, S.G. Reinertson Elementary School, and 120-Acre Southside Regional Park; create a need for safe pedestrian/bike trails and transit routes that extend further south.

4. Pedestrian and Bicycle Facilities

- Public input has expressed a need for pedestrian/bike trail connections between the corridors and safe crossings of TH 75, 20th Street, BNSF Moorhead Subdivision Line, Red River and I-94.
- Concern about pedestrian safety increases as the traffic volumes increase.
- A pedestrian grade separation at TH 75 and 40th Avenue South has already been planned under a separate project.

J. Purpose and Need

This project is proposing preliminary design improvements along the TH 75 Corridor from 20th Avenue South to 60th Avenue South and along the 20th Street Corridor from SE Main Avenue to 60th Avenue South. The preliminary design improvements include but are not limited to roadway reconstruction along both study corridors, the extension of 20th Street from 34th Avenue South to 60th Avenue South, TH 75 and I-94 interchange reconstruction, 20th Street and I-94 interchange reconstruction, construction of a roundabout at TH 75 with 50th Avenue South and 60th Avenue South, construction of new pedestrian facilities including sidewalks, trails and grade separated crossings, and installation of intersection control such as signing and signals.

1. Need for the Project

The need for reconstruction of the TH 75 corridor is based on existing capacity constraints, unacceptable LOS at a few of the key intersections along the corridor for existing year traffic, unacceptable LOS at most of the key intersections along the study corridor with interim year traffic, higher than average crash rates at some locations along the corridor, high severity crash rate at the 50th Avenue and 60th Avenue South intersections and access points along the corridor that interfere with traffic operations.

The need for reconstruction of the TH 75 and I-94 interchange is based on unacceptable LOS at both of the interchange ramps with existing and interim year traffic, queues of traffic backing onto the interstate for the westbound exit ramp with interim year traffic volumes and a high number of rear end crashes for both northbound and southbound TH 75 traffic waiting to go westbound onto I-94. Improving the function of the TH 75 and I-94 interchange would also be consistent with the City of Moorhead's Gateway Overlay Plan and Neighborhood Development Plan to make TH 75 a gateway to the City and would potentially increase the City of Moorhead's economic development.

The need for reconstructing the 20th Street corridor and extending it to 60th Avenue South is based on unacceptable LOS at all of the key intersections along the corridor with interim year traffic on the existing network, a high number of full access points along the corridor that interfere with traffic operations and increase the potential for vehicle conflicts as traffic volumes increase, higher than average crash rates at some locations along the corridor, the City of Moorhead's heavy growth and development to the south of 40th Avenue South and consistency with the City of Moorhead's Neighborhood Plan to make 20th Street the city's second gateway.

The need for reconstruction of the 20th Street and I-94 interchange is based on unacceptable LOS at the ramp intersections with interim year traffic and existing geometrics, the close spacing of the two existing ramps which affects traffic operations, the existing interchange only serves traffic to and from the west which increases travel time and vehicle miles for traffic traveling to and from the east within the vicinity of the corridor, the City of Moorhead's potential to develop to the east, the City of Moorhead losing the west ramps at SE Main Avenue and the interchange and 20th Street serving as a gateway entrance for MSUM, MSCTC and the City of Moorhead according to their Neighborhood Plan.

The need for constructing additional pedestrian facilities including some grade separated crossings is based on comments received through the public input process, increasing traffic volumes on the major corridors, location of the S.G. Reinertson Elementary School, location of the future Trollwood Performing Arts School, the limited number of safe pedestrian crossings of the BNSF Moorhead Subdivision Line, I-94 and 20th Street south, continuity of the bike trail system, and consistency with the 2006 Metropolitan Pedestrian and Bicycle Plan.

IV. ALTERNATIVE DEVELOPMENT AND ANALYSIS

Development of alternatives to improve the TH 75 and 20th Street corridors is based on the issues that are identified in the previous section. The main objectives are to improve traffic operations at key intersections for interim year volumes to a LOS C or better, reduce crash rates, minimize the amount of unnecessary access points, improve pedestrian/bicycle safety and continuity, identify transit enhancement opportunities, offer corridor landscape concepts to enhance the corridors' aesthetics, and preserve right of way for future transportation needs.

A. TH 75 Corridor Improvement Alternatives

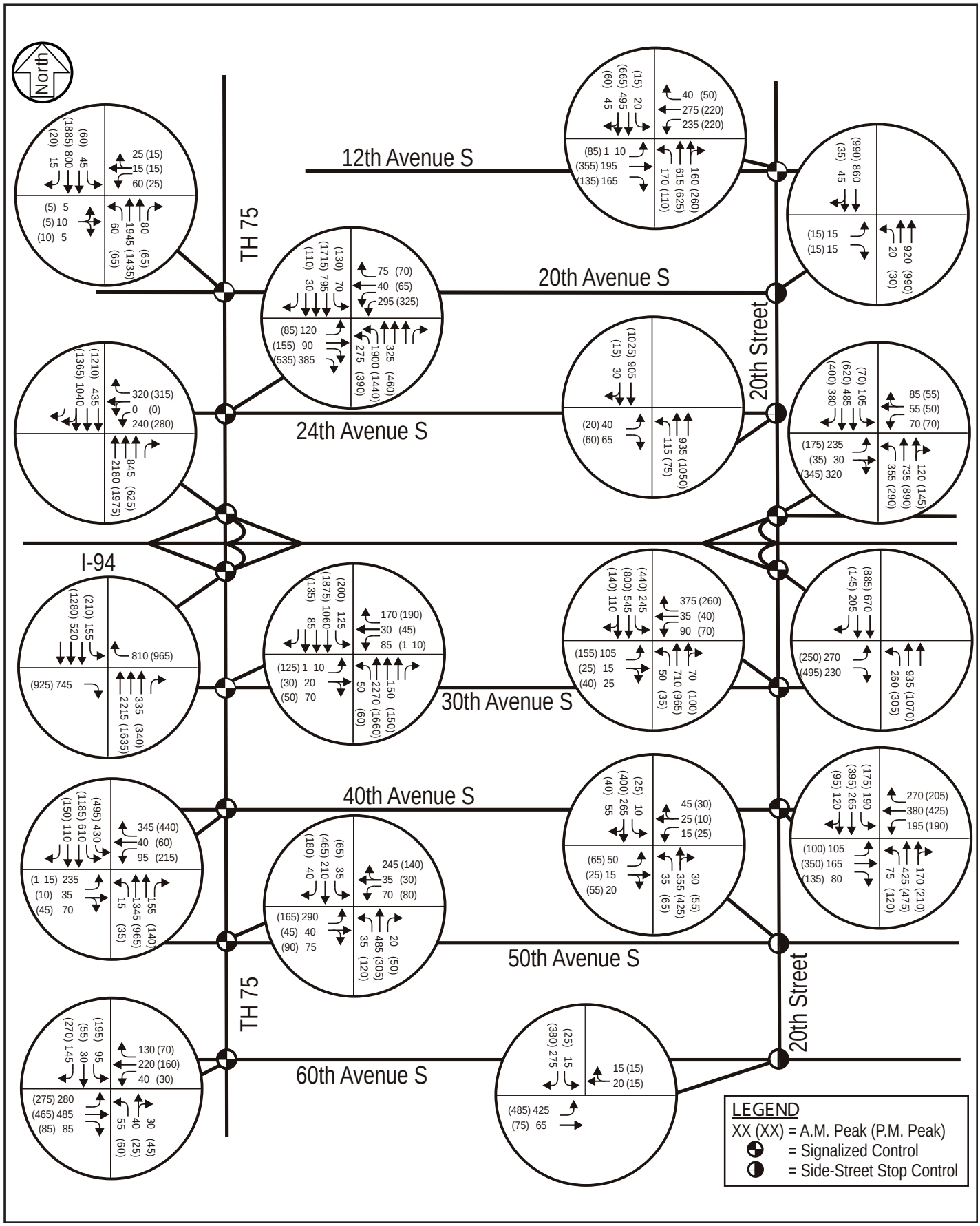
Preliminary design has been completed to develop alternatives that would improve the TH 75 Corridor. Alternatives for the TH 75 Corridor are discussed in this section. Alternative cross sections and recommended layouts are shown in Appendix E.

1. Traffic Operations Analysis

Based on the analysis results shown in Table 8, the existing roadway network will not accommodate the interim year forecasts. In order to determine the intersection capacity needs along TH 75 corridor for the interim year forecast an iterative improvement approach was applied. This approach determines the minimum recommended capacity improvements necessary to achieve acceptable levels of service. Results of the analysis shown in Table 9 indicate that all key intersections are expected to operate at an acceptable LOS C or better during the a.m. and p.m. peak hours under interim year conditions, with recommended traffic controls and geometric improvements shown in Figure 10. Figure 11 displays the associated turn-bay lengths.

TABLE 9
TH 75 Interim Year Condition Peak Hour Capacity Analysis –
Recommended Geometry Level of Service Results

Intersection	Level of Service	
	A.M.	P.M.
TH 75/20th Avenue South	B	B
TH 75/24th Avenue South	C	C
TH 75/I-94 North Ramp	B	C
TH 75/I-94 South Ramp	B	B
TH 75/30th Avenue South	C	C
TH 75/40th Avenue South	C	C
TH 75/50th Avenue South	B	B
TH 75/60th Avenue South	C	C



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INTERIM PEAK HOUR TRAFFIC VOLUMES - RECOMMENDED GEOMETRY

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Figure 10

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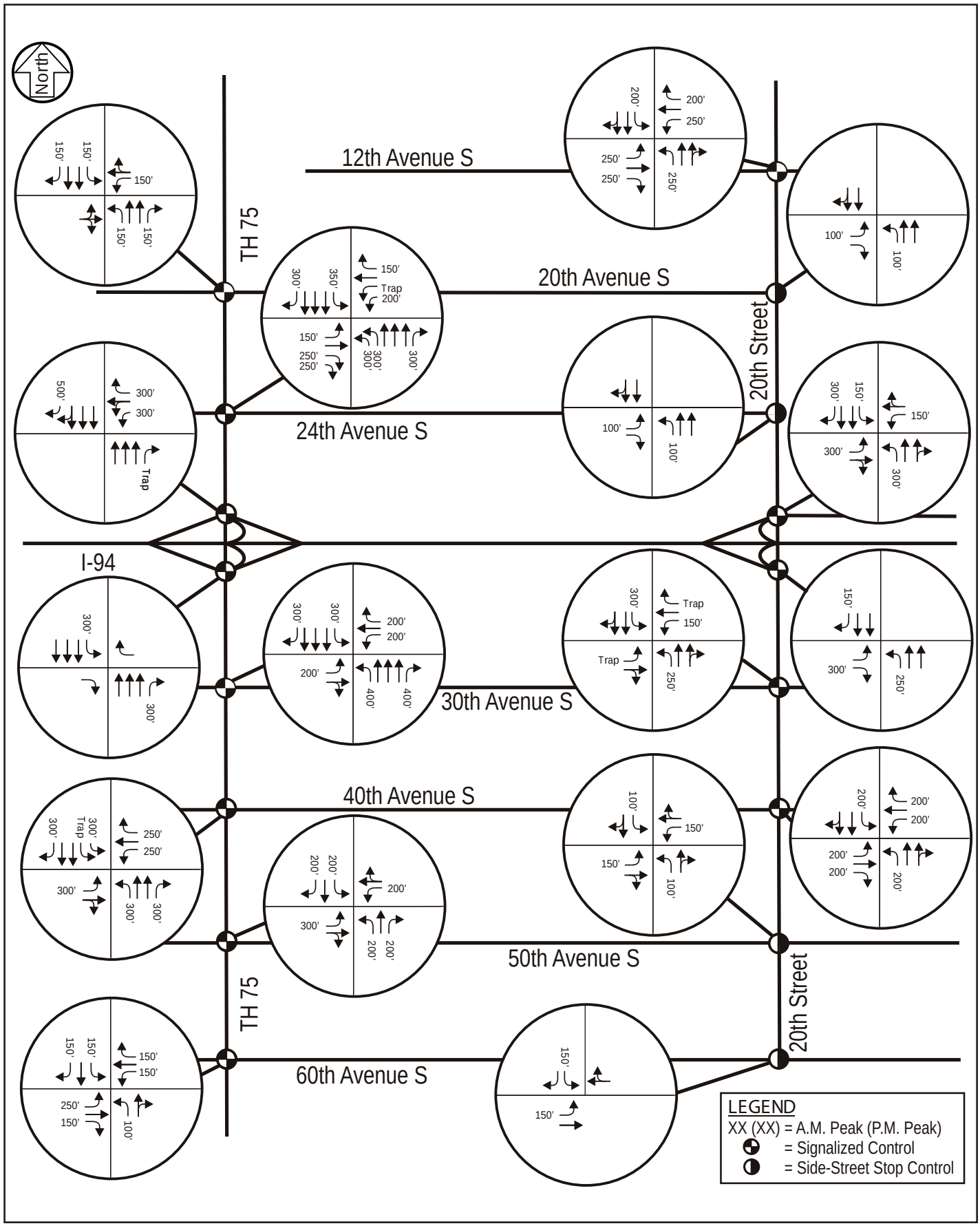

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RECOMMENDED MINIMUM TURN-BAY LENGTHS

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Figure 11

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2. Roadway Network Needs

The previous analysis discussed individual intersection operations and the subsequent traffic controls and geometrics needed in order for the intersections to operate at acceptable levels of service. The recommended geometrics are identified for each intersection approach, which dictate the capacity needs of the roadway segments. An alternative method for determining the capacity needs of the roadway segments involves an analysis of the ADT volumes. The capacity of a road is primarily determined by its facility type, number of lanes and design speed. Typical roadway capacities by facility type as derived from the Highway Capacity Manual are shown in Table 10. Minnesota State Aid (MSA) standards have different roadway capacity recommendations; however, we followed the HCM guidelines for this study since it correlates to the software that was used to analyze the corridors. Using these values as guidelines and the ADTs presented in Figure 8, the roadway segment capacities can be determined. However, please note that the overall operations of a roadway segment are dependant on the intersections at each end. Inadequate intersection geometrics or traffic controls can result in poor operations and congestion. In addition, the directional split of traffic during the peak hours has a significant impact on the roadway capacity needs. For example, an ADT value of 29,900 may indicate a four-lane divided roadway, but in contrast the intersection operations analysis and turning movement counts indicate the need for a six-lane divided roadway. Therefore, the intersection analysis and the peak hour directional traffic are taken into account when determining the overall roadway design.

TABLE 10
Planning Level Roadway Capacities by Facility Type

Facility Type	Daily Capacity Ranges (ADT)
Two-lane undivided urban	8,000 – 10,000
Two-lane undivided rural	14,000 – 15,000
Three-lane urban (two-lane divided with turn lanes)	14,000 – 17,000
Four-lane undivided urban	18,000 – 22,000
Five-lane urban (four-lane divided with turn lanes)	28,000 – 32,000
Four-lane divided rural	35,000 – 38,000

* Derived from the *Highway Capacity Manual 2000*

In applying the guidelines presented in Table 10, roadway segments with volumes approaching the capacity thresholds were recommended for the next capacity level. In addition to thru lanes, turn lanes should be added where appropriate. Based on the guidelines presented in Table 10, the forecast interim year ADT volumes shown in Figure 8, intersection analysis and peak hour directional traffic; the following typical roadway sections are recommended along the TH 75 corridor:

- Extending south from 20th Avenue South to 40th Avenue South

  a. Six-Lane Divided Highway

  *Note that the ADT values shown indicate a four-lane highway extending south from 12th Avenue South to 24th Avenue South, but other considerations dictate a six-lane divided highway.

- 40th Avenue South to approximately one-quarter mile south of 50th Avenue South
  a. Four-Lane Divided Highway
- Approximately one-quarter mile south of 50th Avenue South to 60th Avenue South
  a. Two-Lane Highway

Figure 12 shows the recommended capacities for both study corridors.

3. Corridor Alternatives

Using the recommended TH 75 corridor capacity described above, alternatives were created to minimize impacts and improve safety in various locations along the study corridor. Separate interchange alternatives are described in the next section. The corridor alternatives are described below:

TH 75 – Alternative A

a. TH 75 from 20th Avenue South to 24th Avenue South includes the following:
   - 6-lane divided highway with 12-foot lanes and a 6-foot median width at turn lanes.
   - 6-foot shoulder width and 2-foot gutter width
   - This option reduces the existing boulevard width by 47 feet and impacts 49 trees.
   - Widening of the roadway creates impacts to the traffic operations of the parallel frontage roads intersecting at 20th and 24th Avenue South.
   - Traffic signals at 20th Avenue South and 24th Avenue South

b. TH 75 from 24th Avenue South to 40th Avenue South includes the following:
   - 6-lane divided highway with 12-foot lanes and a 6-foot median width at turn lanes
   - 6-foot shoulder width and 2-foot gutter width
   - Interchange alternatives within this section of roadway are further discussed in the following section.
   - Traffic signals at 24th Avenue South, I-94 North Ramp, I-94 South Ramp, 30th Avenue South, Belsley Boulevard/35th Avenue South and 40th Avenue South.

c. TH 75 from 40th Avenue South to just south of 50th Avenue South includes the following:
   - 4-lane divided highway with 12-foot lanes and a 6-foot median width at turn lanes
   - 6-foot shoulder width and 2-foot gutter width
   - Traffic signals at 40th Avenue South, 46th Avenue South and 50th Avenue South.

d. TH 75 from just south of 50th Avenue South to 60th Avenue South includes the following:

- 2-lane undivided highway with 12-foot lanes
- 6-foot shoulder width and 2-foot gutter width.
- Traffic signals at 50th Avenue South and 60th Avenue South.

TH 75 – Alternative B

a. TH 75 from 20th Avenue South to 24th Avenue South includes the following:

- 6-lane divided highway with 11-foot lanes and a 4-foot median width at turn lanes
- 2-foot shoulder with a 2-foot gutter width
- This option reduces the existing boulevard by 30 feet and impacts 10 trees.
- Widening of the roadway creates impacts to the traffic operations of the parallel frontage roads intersecting at 20th and 24th Avenue South.
- Traffic signals at 20th Avenue South and 24th Avenue South

b. TH 75 from 24th Avenue South to 40th Avenue South includes the following:

- Same roadway section as Alternative A.
- Interchange alternatives within this section of roadway are further discussed in the following section.
- Traffic signals at 24th Avenue South, I-94 North Ramp, I-94 South Ramp, 30th Avenue South, Belsley Boulevard/35th Avenue South and 40th Avenue South.

c. TH 75 from 40th Avenue South to just south of 50th Avenue South includes the following:

- Same roadway section as Alternative A.
- Traffic signals at 40th Avenue South and 46th Avenue South.
- Double-lane urban roundabout at 50th Avenue South.

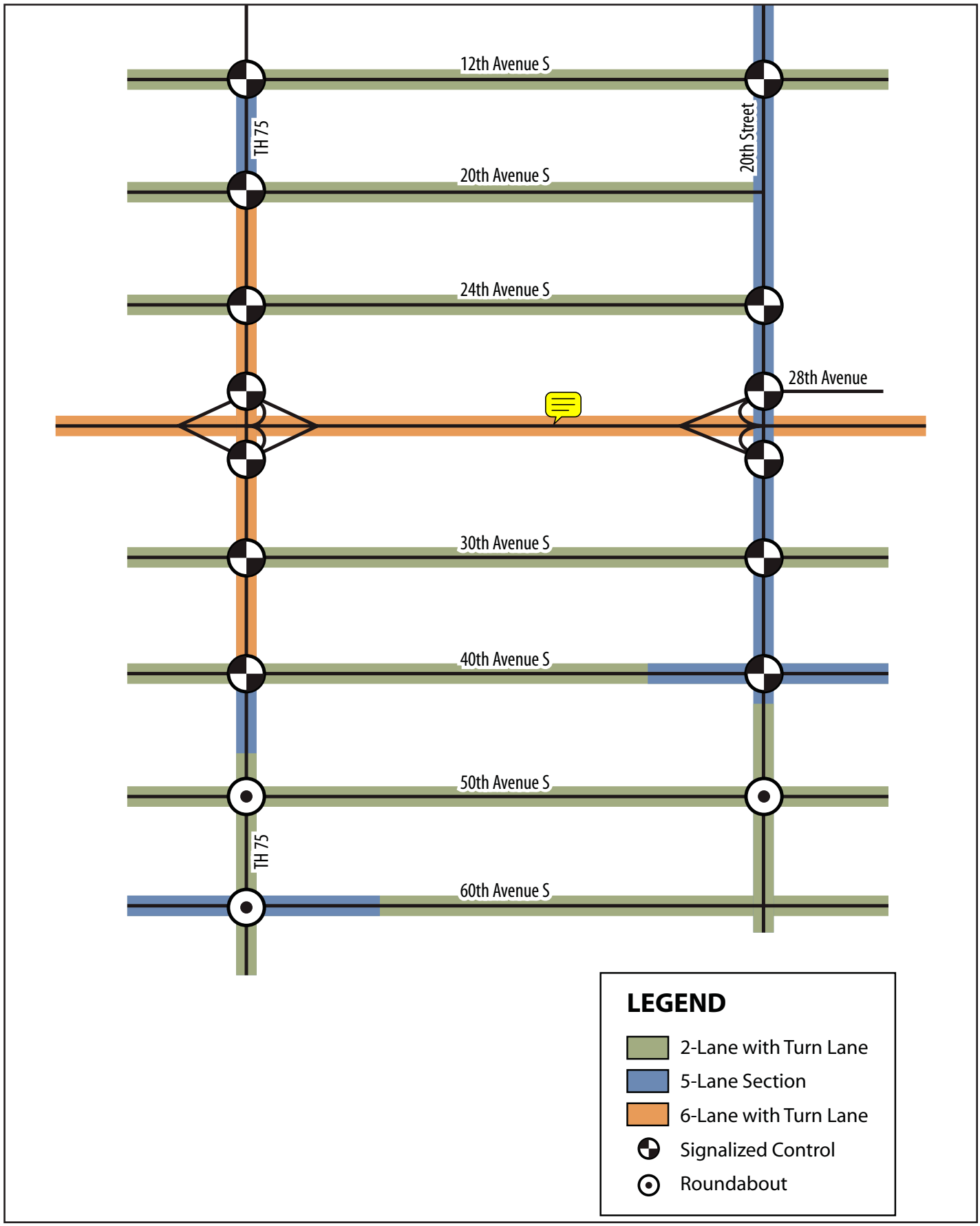
d. TH 75 from just south of 50th Avenue South to 60th Avenue South includes the following:

- Same roadway section as Alternative A.
- Double-lane urban roundabout at 50th Avenue South and a single-lane urban roundabout with a southbound to westbound right turn bypass at the intersection

TH 75 Frontage Road – Alternative A

a. Frontage Road that parallels TH 75 between 20th Avenue and 24th Avenue South includes the following:

- Cul-de-sac of the west frontage road on the south end and eliminate access onto 24th Avenue South. Affects one residential property.



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FUTURE CAPACITY RECOMMENDATIONS

TH 75 & 20TH STREET CORRIDOR STUDIES

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Figure 12

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- Re-alignment of the east frontage road on the south end to intersect at 24th Avenue South further to the east. Affects one apartment building.
- Access points on the north ends of each frontage road that intersect 20th Avenue South would remain as they exist.

TH 75 Frontage Road – Alternative B

a. Frontage Road that parallels TH 75 between 20th Avenue South and 24th Avenue South includes the following:

- The south end of the west frontage road will be limited to a right out movement only.
- The east frontage road will end by turning into 23rd Avenue South. Two apartment buildings will have new driveway access points due to the change in the frontage road. One will connect up to the frontage road and the other will create a new access point onto 24th Avenue South.
- This will remove the impact to the residence on the west side and the apartment building on the east side at 24th Avenue South.

4. Roundabout Analysis

The following intersections along the TH 75 corridor were considered for roundabouts as intersection traffic control. Analysis at these intersections was completed for traffic volumes in the Interim Year a.m. and p.m. peak hours.

- TH 75 and 24th Avenue South
- TH 75 and I-94 North Ramps
- TH 75 and I-94 South Ramps
- TH 75 and 30th Avenue South
- TH 75 and 50th Avenue South
- TH 75 and 60th Avenue South

All of the study intersections are currently signalized except for the intersections of TH 75/50th Avenue South and TH 75/60th Avenue South. TH 75 is currently a four-lane facility at four of the study intersections that means only a double-lane roundabout can be considered at these intersections. The only intersections that currently have one lane approaches are the intersections of TH 75/50th Avenue South and TH 75/60th Avenue South.

The roundabout analysis looks primarily at the traffic volume at each of the four intersection approaches. The entry volume at each approach was graphed versus the circulating volume at the same approach. These results were then compared to the volume to capacity threshold for a single or double-lane roundabout entrance to determine whether or not the study intersection will operate under capacity (Figure 13).

TABLE 11
Roundabout Volume to Capacity Results for Interim Traffic Volumes

	INTERSECTION	NB APPROACH		EB APPROACH		SB APPROACH		WB APPROACH	
		Full*	RTB*	Full	RTB	Full	RTB	Full	RTB
A. M.	TH 75/24th Ave.	**3**	2	1	1	1	1	2	2
	TH 75/North Ramp	**3**	**3**	1	1	2	1	**3**	**3**
	TH 75/South Ramp	**3**	**3**	2	1	1	1	2	2
	TH 75/30th Ave.	**3**	**3**	1	1	2	2	**3**	2
	TH 75/50th Ave.	1	1	1	1	1	1	1	1
	TH 75/60th Ave.	1	1	1	1	1	1	1	1
P. M.	TH 75/24th Ave.	2	2	2	2	**3**	2	2	2
	TH 75/North Ramp	**3**	**3**	1	1	**3**	2	2	2
	TH 75/South Ramp	**3**	2	**3**	2	2	2	2	2
	TH 75/30th Ave.	2	2	2	2	**3**	**3**	2	2
	TH 75/50th Ave.	1	1	1	1	1	1	1	1
	TH 75/60th Ave.	1	1	1	1	1	1	1	1

* Full represents a roundabout with full intersection traffic volume; RTB represents a roundabout with Right-Turn Bypasses

1 = Under Capacity for a Single-Lane Roundabout

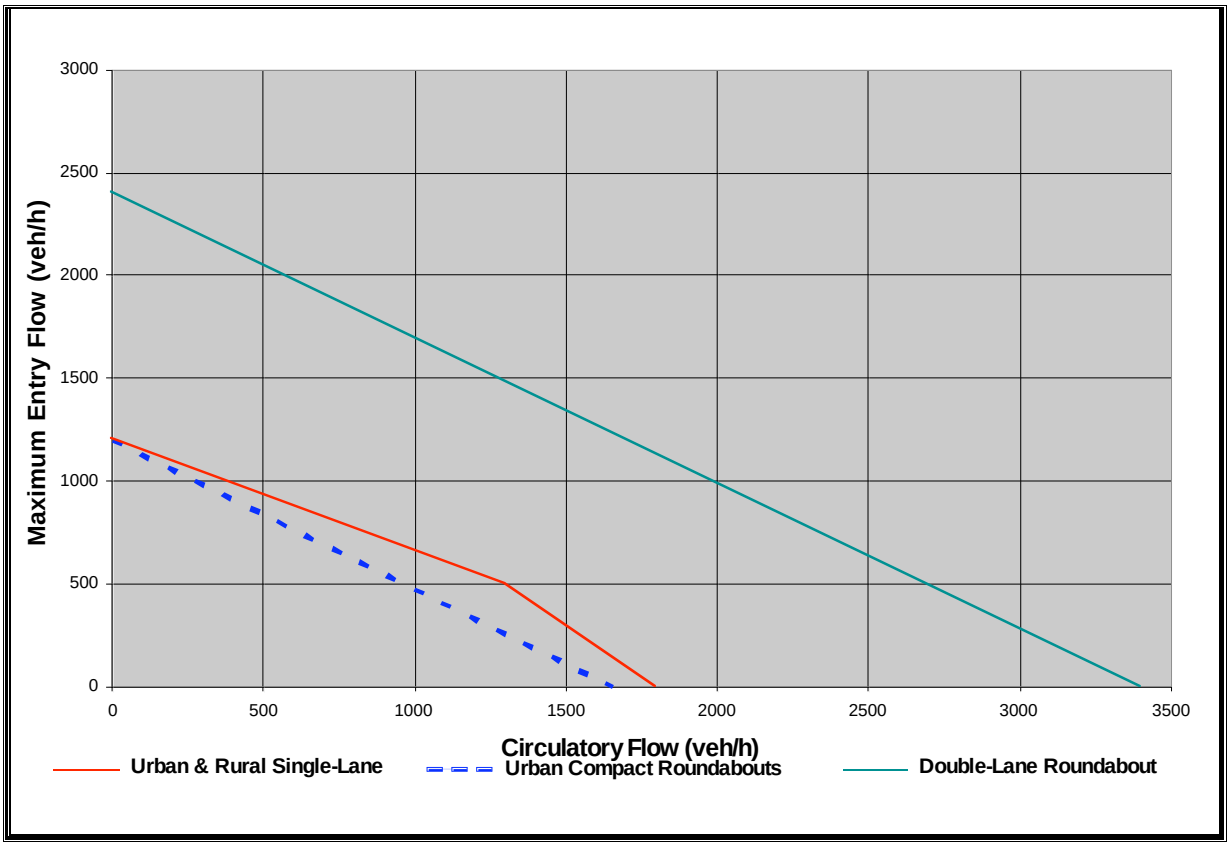
2 = Under Capacity for a Double-Lane Roundabout, Over Capacity for a Single-Lane Roundabout

3 = Over Capacity for a Single-Lane and a Double-Lane Roundabout

Results of the roundabout analysis at each approach are shown in Table 11. All of the key intersections except for the intersections of TH 75/50th Avenue South and TH 75/ 60th Avenue South will have at least one approach that will be near or over the capacity for double-lane roundabout (with and without the right-turn bypasses). The approaches for the intersections of TH 75/ 50th Avenue South and TH 75/60th Avenue South will operate under the capacity for a single-lane roundabout (with and without the right-turn bypasses). The southbound to westbound right turn movement at the 60th Avenue South intersection is just barely under capacity without the right-turn bypass and way under capacity with the right turn bypass. If a roundabout is built at TH 75/60th Avenue South it is recommended to build it with a southbound to westbound right turn bypass.

The interim year traffic volumes for TH 75 indicate the need for a four-lane roadway to approximately one-quarter mile south of the intersection of TH 75 and 50th Avenue South. If a roundabout is built at the TH 75/50th Avenue South intersection after TH 75 is built to a four-lane roadway south of 50th Avenue, the roundabout will need to be a double-lane roundabout. If a single-lane roundabout is built before TH 75 becomes a four-lane roadway through the 50th Avenue South intersection, right-of-way should be preserved so that a double-lane roundabout can be built in the future.

FIGURE 13
Roundabout Capacity Limits



Two separate roundabout analyses were performed at each intersection; one considered a typical roundabout where all traffic volume enters the intersection and one that considers a right-turn bypass lane. The right-turn bypass lane allows traffic making a right turn to avoid entering the circulating traffic in the roundabout. The graphs in Appendix G show the roundabout analysis results at each intersection.

5. Safety Improvements

Increased capacity and geometric improvements at the intersections should increase traffic safety and reduce the number of crashes along the corridor. Other alternatives being considered to reduce crash rates along the corridor include:

- Roundabouts at 50th Avenue and 60th Avenue South. Properly designed roundabouts are known to greatly reduce the number of high severity accidents.
- Interchange improvements at TH 75/I-94 discussed in the next section will greatly reduce the number of conflicting moves and queued traffic which should result in a reduction in crashes between 20th Avenue and 40th Avenue South.

6. Access Management

Mn/DOT has currently categorized the TH 75 corridor as an urban/urbanizing minor arterial. As the traffic volumes for the corridor increase to interim year projections and the need for greater capacity along the corridor increases, it is possible that TH 75 will become a principal arterial. Alternatives have been developed following Mn/DOT's spacing guidelines for an urban/urbanizing principal arterial roadway (Category 4B). The guidelines for a Category 4B roadway include primary full movement intersections at 1/2-mile spacing, conditional secondary intersections at 1/4-mile spacing, signal spacing at 1/2-mile and private access by exception or deviation only. The following alternatives were developed for consideration to improve access management along the TH 75 corridor.

- Closure of the southbound right-in only access to the commercial area just north of I-94. The access is too close to the westbound I-94 interchange ramp and creates confusion as to where the right turn lane for the interstate ramp begins.
- Limit access along the south side of 24th Avenue South that is just west of TH 75 into the commercial area to a right-in/right-out only.
- The frontage road to the west of TH 75 between 20th Avenue and 24th Avenue South would no longer have a full access onto 24th Avenue South due to the proposed widening of TH 75. It would instead become a cul-de-sac or right-in/right-out only.
- The frontage road to the east of TH 75 between 20th and 24th Avenue South would either end at 23rd Avenue South or be realigned to intersect 24th Avenue South further to the east.
- Signalization at Belsly Boulevard/35th Avenue South
- Limited 3/4 controlled, unsignalized access at 32nd and 37th Avenue South
- The intersections of 37th Avenue South and Belsly Boulevard/35th Avenue South are shown as limited 3/4 access and a signalized full access respectively. The access control at these two intersections with TH 75 may be interchangeable as long as one of them is full access with signalization and the other is limited 3/4-mile access.
- Future half mile access control spacing south of 40th Avenue South
- Traffic control continuity at 50th Avenue and 60th Avenue South. Either traffic signals or roundabouts, not a mix of both.
- Limited 3/4 controlled access at 1/2-mile access between 50th and 60th Avenue South.

7. Pedestrian/Bicycle Safety and Continuity

It is important to maintain a safe and convenient pedestrian/bicycle trail along the TH 75 corridor as the traffic volumes continue to increase. The following alternatives have been developed to improve pedestrian/bicycle safety:

- Pedestrian underpass of TH 75 at 40th Avenue South. This improvement is already being completed under a separate project.
- Keep the ped/bike trail along the west side of TH 75 to reduce the amount of crossings.
- Maintain a sidewalk along the east side of the bridge over I-94 and connect the interchange ramps to TH 75 at right angles to keep the pedestrian crossings at the ramps safer for the pedestrians.
- Provide safe crossings that are signalized, properly signed and properly marked.
- Providing a 6-foot shoulder along TH 75 will improve safety for bicyclists that prefer to ride in the roadway.

8. Gateway Aesthetics

The City of Moorhead has adopted the Moorhead Gateway Overlay District. The purpose of the Gateway Overlay District is to provide a higher standard of appearances for corridors that serve as the main entrances to the community. The Gateway Overlay District will apply to new buildings and additions to existing buildings along TH 75 south of 24th Avenue South. Features of the Gateway Overlay District include the following:

- Building Setbacks
  - 45 feet for commercial/industrial uses
  - 50 feet in addition to the required setback of the underlying zoning district for residential uses
- Impervious Surface Setbacks
  - 20 feet from public right of way
  - 10 feet from any other property line
  - 50% reduction with berm or decorative railing may be allowed
- Site Requirements
  - Landscaping
  - Lighting
  - Storage and Display
  - Signs

- Building Design and Construction
  - Materials
  - Design
  - Screening of Mechanical Equipment
  - Overhead Doors and Loading Docks
- View from Gateways
  - Building elevations and vista drawings required for properties adjacent to gateways or their frontage roads
- Appendix H shows conceptual cross section illustrations for possible aesthetic improvements along the corridor.

9. Right of Way Preservation

Right of way preservation is an important part of the planning process. Preserving adequate right of way for future transportation needs can reduce project costs and impacts. The following is a list of right of way needs that are associated with the previously discussed alternatives.

- Preserve existing right of way from 20th Avenue South to 50th Avenue South to allow for future full build road sections.
- Obtain additional right of way along the east and west sides of the TH 75 corridor between 50th and 60th Avenue South to have a 200-foot right of way to accommodate future full build volumes.
- If the roundabout alternatives are chosen at 50th Avenue and 60th Avenue South, preserve enough right of way for a double-lane roundabout to accommodate for full build volumes. Include right of way needed for drainage ditches.

B. TH 75 and I-94 Interchange Options and Impacts

Preliminary design has been completed to develop options that would improve existing and future interchange operations. Options A and B for the TH 75 and I-94 Interchange are shown in Appendix F.

1. Option A

Option A is a full access interchange with ramps in each quadrant and loop ramps in the northeast and southeast quadrants. This option has been designed to meet current Mn/DOT design standards. It includes signalization of both intersections and a pedestrian walk on both sides of the bridge over I-94. The advantages and disadvantages associated with this alternative are listed below:

Advantages

- Eliminates most of the existing left turn conflicts at ramp junctions
- Provides two right turn lanes southbound TH 75 to westbound I-94 to accommodate heavy volume
- Eliminates unusual yield condition on westbound entrance ramp from northbound TH 75 to westbound I-94
- Existing bridges on TH 75 over I-94 will remain. Only widening is required.
- Provides pedestrian\bicycle pathway along the west side of TH 75.
- Provides sidewalk along the east side of bridge
- Meets Mn/DOT Geometric Design Standards

Disadvantages

- Impacts to business in southeast quadrant
- Impacts to County Ditch in northeast quadrant
- Retaining wall required to accommodate proposed northeast ramp and frontage road

2. Option B

Option B is also a full access interchange with ramps in each quadrant and loop ramps in the northeast and southeast quadrants. The loop ramp in the southeast quadrant does not meet Mn/DOT current design standards. It has been designed with a smaller radius to reduce impacts to a business. This option also includes walks on both sides of the bridge. The advantages and disadvantages associated with this alternative are listed below:

Advantages

- Eliminates most of the existing left turn conflicts at ramp junctions
- Provides two right turn lanes southbound TH 75 to westbound I-94 to accommodate heavy volume
- Eliminates unusual yield condition on westbound entrance ramp from northbound TH 75 to westbound I-94
- Existing bridges on TH 75 over I-94 will remain. Only widening is required.
- Provides pedestrian\bicycle pathway along the west side of TH 75.
- Provides sidewalk along the east side of bridge
- Does not impact business in southeast quadrant

Disadvantages

- Loop in southeast quadrant does not meet Mn/DOT Geometric Design Standards
- Impacts to County Ditch in northeast quadrant
- Retaining wall required to accommodate proposed northeast ramp and frontage road.
- Retaining wall required to accommodate proposed southeast ramp and business (O'Leary's Pub – Northernmost business in strip mall).

C. 20th Street Corridor Improvement Alternatives

Preliminary design has been completed to develop alternatives that would improve the 20th Street Corridor. Alternatives for the 20th Street Corridor are discussed in this section. Alternative cross sections and the recommended layouts are shown in Appendix E.

1. Traffic Operations Analysis

Based on the analysis results shown in Table 8, the existing roadway network will not accommodate the interim year forecasts. In order to determine the intersection capacity needs along the 20th Street corridor an iterative improvement approach was applied. This approach determines the minimum recommended improvements necessary to achieve acceptable levels of service. Results of the analysis shown in Table 12 indicate that all key intersections are expected to operate at an acceptable LOS C or better during the a.m. and p.m. peak hours under interim year conditions, with recommended traffic controls and geometric improvements shown in Figure 10. Figure 11 displays the associated turn-bay lengths.

TABLE 12
20th Street Interim Year Condition
Peak Hour Capacity Analysis – Recommended Geometry Level of Service Results

Intersection	Level of Service	
	A.M.	P.M.
20th Street/12th Avenue South	C	C
20th Street/20th Avenue South [(1)]	A/B	A/B
20th Street/24th Avenue South	A	A
20th Street/I-94 North Ramp	C	C
20th Street/I-94 South Ramp	B	C
20th Street/30th Avenue South	B	C
20th Street/40th Avenue South	C	C
20th Street/50th Avenue South [(1)]	C/C	C/C
20th Street/60th Avenue South [(1)]	C/C	C/D

[(1)] Indicates an intersection with side-street stop control.

2. Roadway Network Needs

Based on the guidelines previously discussed, the forecast interim year ADT volumes shown in Figure 8, intersection analysis and peak hour directional traffic; the following typical roadway section is recommended along the 20th Street corridor:

- Extending south from approximately one-quarter mile north of 12th Avenue South to approximately one-eighth mile south of 40th Avenue South
  a. Four-Lane Divided Roadway with Appropriate Turning Lanes

- Approximately one-eighth mile south of 40th Avenue South to 60th Avenue South
  a. Two-Lane Divided Roadway with Appropriate Turning Lanes

3. Corridor Alternatives

Using the recommended 20th Street corridor capacity described above, alternatives were created to minimize impacts and improve safety in various locations along the study corridor. The alternatives are described below:

20th Street – Alternative A

a. 20th Street from 6th Avenue South to Belsley Boulevard includes the following:
   - 4-lane divided roadway with 12-foot lanes and a 4-foot median width at turn lanes (16-foot median width at full section).
   - No shoulder and a 2-foot gutter.
   - Eliminates the 10-foot parking lane along the west side of the corridor.
   - Reduces the boulevard width by 25 feet and impacts 246 trees.
   - No additional right of way needed for this alternative.
   - Traffic signals at 12th Avenue South, 24th Avenue South, 28th Avenue South, I-94 South Ramp and 30th Avenue South.

b. 20th Street from Belsley Boulevard to just south of 40th Avenue South includes the following:
   - 5-lane undivided roadway with 12-foot lanes.
   - No shoulder and a 2-foot gutter.
   - Assumes the purchase of 10-feet of right of way on the west side of the existing right of way for a total of 80-feet of right of way.
   - Traffic signal at 40th Avenue South.

c. 20th Street from just south of 40th Avenue South to 43rd Avenue South includes the following:

- 5-lane undivided roadway with 12-foot lanes.
- No shoulder and a 2-foot gutter.
- Assumes the purchase of 10-feet of right of way and a 10-foot easement both from the railroad right of way on the east side of the roadway for a total of a 90-foot section.

d. 20th Street from just south of 43rd Avenue South to 60th Avenue South includes the following:

- 2-lane divided roadway with 12-foot lanes and a 6-foot median width at turn lanes (18-foot median width at full section).
- 6-foot shoulder width and 2-foot gutter width.
- Alignment of 20th Street shifts one-quarter mile to the west south of 46th Avenue South.
- Assumes the purchase of 120-feet of new right of way for the roadway.

20th Street – Alternative B

a. 20th Street from 6th Avenue South to Belsley Boulevard includes the following:

- 5-lane undivided roadway with 12-foot lanes.
- No shoulder and a 2-foot gutter.
- Eliminates the 10-foot parking lane along the west side of the corridor.
- Reduces the boulevard width by 9 feet and impacts 28 trees.
- No additional right of way needed for this alternative.
- Traffic signals at 12th Avenue South, 24th Avenue South, 28th Avenue South, I-94 South Ramp and 30th Avenue South.

b. 20th Street from Belsley Boulevard to just south of 40th Avenue South includes the following:

- 5-lane undivided roadway with 11-foot lanes
- No shoulder and a 2-foot gutter.
- Assumes the purchase of 10-feet of right of way on the west side of the existing right of way and 4-feet of right of way and a 6-foot easement both from the railroad right of way on the east side of the roadway for a total of a 90-foot section.
- Traffic signal at 40th Avenue South.

c. 20th Street from just south of 40th Avenue South to 43rd Avenue South

- 4-lane divided roadway with 12-foot lanes and a 4-foot median width at turn lanes.
- No shoulder and a 2-foot gutter.
- Assumes the purchase of 10-feet of right of way and a 10-foot easement both from the railroad right of way on the east side of the roadway for a total of a 90-foot section.

d. 20th Street from just south of 43rd Avenue South to 60th Avenue South includes the following:

- Same as Alternative A for this section of roadway.

20th Street – Alternative C

a. 20th Street from 6th Avenue South to Belsley Boulevard includes the following:

- 4-lane divided roadway with 11-foot lanes and a 4-foot median width at turn lanes.
- No shoulder and a 2-foot gutter.
- Median designed to limit access to right in/right out only at the intersections of 20th Street with 8th Avenue S, 14th Avenue S, 18th Avenue S, 21st Avenue S, 22nd Avenue S, 23rd Avenue S and 34th Avenue S.
- Eliminates the 10-foot parking lane along the west side of the corridor.
- Reduces the boulevard width by 17 feet and impacts 149 trees.
- No additional right of way needed for this alternative.
- Traffic signals at 12th Avenue South, 24th Avenue South, 28th Avenue South, I-94 South Ramp and 30th Avenue South.

b. 20th Street from Belsley Boulevard to just south of 40th Avenue South includes the following:

- 4-lane divided roadway with 12-foot lanes and a 4-foot median width at turn lanes.
- No shoulder and a 2-foot gutter.
- Assumes the purchase of 10-feet of right of way to the west of the existing right of way and 10-feet of right of way and a 10-foot easement both from the railroad right of way on the east side of the roadway for a total of a 100-foot section.
- Traffic signal at 40th Avenue South.

c. 20th Street from just south of 40th Avenue South to 43rd Avenue South

- Same as Alternative A for this section of roadway.

d. 20th Street from just south of 43rd Avenue South to 60th Avenue South

- Same as Alternative A for this section of roadway.

4. Roundabout Analysis

A roundabout analysis was not completed at any intersections along 20th Street. The intersections of 20th Street with 40th Avenue South and north may have insufficient right of way for a roundabout due to the close proximity of the railroad to the east and development along the west side of the corridor. The intersections south of 40th Avenue South did not have any recommended traffic control for interim year traffic aside from side street stop control. With the shift of the 20th Street alignment further to the west, it is possible that future roundabouts could be built at the 50th and 60th Avenue South intersections to accommodate traffic volumes beyond the interim year. When acquiring right of way for the 20th Street extension, the City should determine if they would like to acquire enough right of way for future roundabouts at these two intersections.

5. Safety Improvements

Increased capacity, access management improvements, and geometric improvements at the intersections should increase traffic safety and reduce the number of crashes along the corridor. The proposed signal at 24th Avenue South should improve pedestrian/bicycle safety for those wanting to cross 20th Street. The interchange improvements at 20th Street and I-94 should reduce the possibility of wrong way moves and driver confusion. This corridor didn't have any intersections with a history of high severity crashes.

6. Access Management

The following alternatives were developed for consideration to improve access management along the 20th Street corridor.

- Construct a median along the center of the 20th Street corridor and limit existing access at 8th Avenue South, 14th Avenue South, 18th Avenue South, 21st Avenue South, 22nd Avenue South, 23rd Avenue South and 34th Avenue South to right-in/right-out.

- Between 12th Avenue and 14th Avenue South, there are four private entrances to apartment complex parking lots that front 20th Street South. All four parking lot accesses also have an access onto 19th Street South. All four parking lots could function properly if the access points onto 20th Street were closed.

- Between the 14th Avenue and 16th Avenue South, there are two parking lot access points onto 20th Street. The north lot has an additional access onto 14th Avenue South and the south lot has an additional access onto 16th Avenue South. Both parking lots could function properly if the access points onto 20th Street were closed.

- Between 16th Avenue and 18th Avenue South, there are two parking lot access points onto 20th Street. The north lot has an additional access onto 16th Avenue South and the south lot has an additional access onto 18th Avenue South. Both parking lots could function properly if the access points onto 20th Street were closed.

- Between 18th Avenue and 20th Avenue South there are two parking lot access points and one residential driveway. The north lot has an additional access onto 18th Avenue South. The north parking lot could function properly if the access point onto 20th Street was closed. The south parking lot and residential driveway do not have an alternate access and do not have the option of being closed.

- Relocate the access to MSCTC from 20th Street to 24th Avenue South and extend a driveway to the parking lot. The 20th Street access could also be limited to a right-in/right-out access.

- Alternatives for 28th Avenue South (Frontage Road) to the east and west of 20th Street as shown in the interchange alternatives in Appendix F.

- Triumph Lutheran Brethren Church has two entrances onto 20th Street. The south entrance to the Church could be combined with the entrance to the businesses to the south.

- A bank has an entrance onto 30th Avenue South and the parking lot has a connection to the parking lot for the business just north of it. The bank parking lot would still function properly if its access onto 20th Street were closed.

- The parking lot just north of Belsley Boulevard has two entrances onto 20th Street. The parking lot would still function properly if one of the accesses onto 20th Street were closed.

- Limited access at future 41st Avenue South to right-in/right-out only.

- Future 1/4-mile access control spacing south of 40th Avenue South with traffic control, either signals or roundabouts, at 1/2-mile spacing.

7. Pedestrian/Bicycle Safety and Continuity

It is important to maintain a safe and convenient pedestrian/bicycle trail along the 20th Street South corridor as the traffic volumes continue to increase. The corridor currently has a trail that runs parallel between 20th Street South and the BNSF Moorhead Subdivision Line. The following alternatives have been developed to improve pedestrian/bicycle safety:

- Move the 20th Street trail to the east side of the BNSF Moorhead Subdivision Line from south of 30th Avenue to 60th Avenue South.

- Continue the 20th Street Trail from 50th Avenue South to 60th Avenue South along the re-aligned 20th Street and/or continue the trail adjacent to the east side of the BNSF Moorhead Subdivision Line.

- A pedestrian underpass of 20th Street and the BNSF Moorhead Subdivision Line in the vicinity of 40th Avenue South and 120-Acre Southside Regional Park.

8. Corridor Aesthetics

The City of Moorhead's Gateway Overlay District does not apply to the 20th Street South Corridor. However, aesthetic enhancement features should be considered as the 20th Street Corridor extends to the south, particularly due to the limited amount of right of way for the 20th Street extension. Some aesthetic enhancement options to consider may include:

- Boulevard and Median Plantings
- Decorative Lighting
- Building Setbacks
- Impervious Surface Setbacks
- Parking Lot Screening

Appendix H shows conceptual cross section illustrations for possible aesthetic improvements along the corridor.

9. Right of Way Preservation

Right of way preservation is an important part of the planning process. Preserving adequate right of way for future transportation needs can reduce project costs and impacts. The following is a list of right of way needs that are associated with the previously discussed alternatives:

- Acquire 10-feet of right of way along the west side of 20th Street between 34th Avenue South and 40th Avenue South. It has been determined that this 10-foot strip of right of way is not available between 40th Avenue and 43rd Avenue South.
- Acquire 10-feet of right of way and obtain a 10-foot easement both on the east side of existing 20th Street right of way between Belsley Boulevard and 43rd Avenue South. This total 20-feet of proposed right of way is currently railroad right of way. The 10-foot easement would be designated as a boulevard with a fence along the east side of the easement.
- Acquire a minimum of 120-foot right of way from 43rd Avenue South to 60th Avenue South. There is currently no right of way for the extension of 20th Street south of 43rd Avenue. This would not require obtaining right of way from the railroad.

D. 20th Street and I-94 Interchange Options and Impacts

Preliminary design has been completed to develop options that would improve existing and future interchange operations. Five alternatives for the 20th Street South and I-94 Interchange have been developed to allow for full interstate access. The five alternatives are shown in Appendix F. Advantages and disadvantages associated with each alternative are listed below:

1. Option A

Option A is a full access interchange with ramps and loop ramps in the northwest and southwest quadrants. This option has been designed to meet current Mn/DOT design standards. It includes signalization of both intersections, a pedestrian walk on the west side of the bridge over I-94 and a separate existing pedestrian overpass bridge to the east. The interstate frontage road (28th Avenue South) to the west of 20th Street ends at MSCTC parking lot instead of intersecting with 20th Street. The frontage road to the east of 20th Street is realigned to intersect 20th Street further north, across from the northern ramp intersections. The advantages and disadvantages associated with this alternative are listed below:

Advantages

- Full access interchange
- Meets Mn/DOT Geometric Design Standards
- Folded diamond interchange to the west side eliminates the need for new at grade crossings with the railroad
- Railroad and pedestrian bridges over I-94 will remain
- Complete reconstruction of the 20th Street Bridge over I-94 is not necessary. Existing bridge structure can be widened.

Disadvantages

- Very high right of way impacts in the southwest quadrants
- Impacts to electrical lines and station in the southwest quadrant
- Significant impacts to the Minnesota State Community and Technical College in the northwest quadrant
- Significant impacts to the businesses in the northeast quadrant

2. Option B

Option B is a full access interchange with ramps and loop ramps in the northwest and southwest quadrants. The loop ramps for this option do not meet current Mn/DOT design standards. It includes signalization of both intersections, a pedestrian walk on the west side of the bridge over I-94 and a separate existing pedestrian overpass bridge to the east. The interstate frontage road (28th Avenue South) to the west of 20th Street turns into a cul-de-sac just east of the MSCTC entrance instead of intersecting with 20th Street. The frontage road to the east of 20th Street is realigned to intersect 20th Street further north, across from the northern ramp intersections. The advantages and disadvantages associated with this alternative are listed below:

Advantages

- Full access interchange
- Folded diamond interchange on west side eliminates the need for new at grade crossings with railroad
- Reduced Impacts to Minnesota State Community and Technical College in the northwest quadrant

Disadvantages

- Tighter loop radii requires Mn/DOT review and approval
- Replace 20th Street, Railroad and pedestrian bridges over I-94
- Significant impacts to businesses in the northeast quadrant and buildings in the southwest quadrant

3. Option C

Option C is a full access interchange with the existing interchange ramps in the northwest and southwest quadrants and new ramps in the northeast and southeast quadrants. The new eastbound on ramp in the southeast quadrant is grade separated from the eastbound exit ramp into the existing rest stop just east of 20th Street. The new westbound exit ramp in the northeast quadrant is a buttonhook ramp that intersects with the frontage road (28th Avenue South). The frontage road to the east of 20th Street is re-aligned to intersect with 20th Street further north. The purpose for the re-alignment is to allow for enough storage capacity on the westbound exit ramp. The interstate frontage road (28th Avenue South) to the west of 20th Street re-aligns along the east side of MSCTC and intersects with 20th Street directly across the new aligned frontage road to the east of 20th Street. This option also includes signalization of both intersections and a pedestrian walk on both sides of the bridge over I-94. The advantages and disadvantages associated with this alternative are listed below:

Advantages

- Full access interchange
- Both ramps on the west side of 20th Street to remain
- Railroad and pedestrian bridges over I-94 will remain
- Complete reconstruction of the 20th Street Bridge over I-94 is not necessary. Existing bridge structure can be widened.
- No right of way impacts in the southwest quadrant

Disadvantages

- Significant impacts to the businesses in the northeast quadrant
- New at grade crossing with the railroad on the ramp entrance to eastbound I-94
- Reconfigure the entrance and exit ramps to and from Mn/DOT's rest area
- Numerous retaining walls to allow grade separation at off ramp to Mn/DOT's rest area
- Right of way impacts in the southeast and northwest quadrant
- Impacts to the storm drain, retention pond and lift station in the southeast quadrant including replacing the pump station to accommodate for additional drainage.

4. Option D

Option D is a full access interchange with the existing interchange ramps in the northwest and southwest quadrants and new ramps in the northeast and southeast quadrants. The new eastbound on ramp in the southeast quadrant splits into a second ramp for vehicles to access the existing rest stop just east of 20th Street. The new westbound exit ramp in the northeast quadrant is a buttonhook ramp that intersects with the frontage road (28th Avenue South). The frontage road to the east of 20th Street is re-aligned to intersect with 20th Street at 24th Avenue South. The purpose for the re-alignment is to allow for enough storage capacity on the westbound exit ramp. The interstate frontage road (28th Avenue South) to the west of 20th Street re-aligns along the east side of MSCTC and intersects with 20th Street at MSCTC existing access point. This option also includes signalization at 24th Avenue South and the south I-94 ramps intersection and a pedestrian walk on both sides of the bridge over I-94. The advantages and disadvantages associated with this alternative are listed below:

Advantages

- Full access interchange
- Both ramps on west side of 20th Street to remain
- Railroad and pedestrian bridges over I-94 will remain
- Complete reconstruction of the 20th Street Bridge over I-94 is not necessary. Existing bridge structure can be widened.
- No right of way impacts in the southwest quadrants

Disadvantages

- Right of way impacts to property in the northeast quadrant
- New at grade crossing with the railroad on ramp entrance to eastbound I-94
- Reconfigure the entrance and exit ramps to and from Mn/DOT's rest area

- Numerous retaining walls to allow grade separation at off ramp to Mn/DOT's rest area
- Right of way impacts in the northwest and southeast quadrant
- Impacts to the storm drain, retention pond and lift station in the southeast quadrant including replacing the pump station to accommodate for additional drainage.

5. Option E

Option E is a full access interchange with the existing interchange ramp in the northwest quadrant, a new ramp and loop ramp in the southwest quadrant and a new ramp in the northeast quadrant. The eastbound ramp into the rest stop just east of 20th Street has been redesigned. The new westbound exit ramp in the northeast quadrant is a buttonhook ramp that intersects with the frontage road (28th Avenue South). The frontage road to the east of 20th Street is re-aligned to intersect with 20th Street further to the north. The purpose for the re-alignment is to allow for enough storage capacity on the westbound exit ramp. The interstate frontage road (28th Avenue South) to the west of 20th Street re-aligns along the east side of MSCTC and intersects with 20th Street directly across from the frontage road on the east side of 20th Street. The new loop ramp and ramp in the southwest quadrant do not meet Mn/DOT design standards. The loop ramp has been designed with a small radius to minimize impacts to surrounding buildings. This option also includes signalization at 24th Avenue South, 28th Avenue South and the south I-94 ramps intersection. A pedestrian walk on the west side of the bridge and a new pedestrian bridge just east of the 20th Street Bridge over I-94 is shown. The advantages and disadvantages associated with this alternative are listed below:

Advantages

- Full access interchange
- On ramp to westbound I-94 from 20th Street to remain
- Folded modified diamond interchange on west side eliminates the need for a new at grade crossing with the railroad
- No right of way impacts in the southwest quadrants

Disadvantages

- Tighter loop radii require Mn/DOT review and approval
- Replace 20th Street, Railroad and pedestrian bridges over I-94
- Right of way impacts to businesses in the northeast quadrant
- Right of way impacts in the northwest quadrant

E. Systemwide Network Improvement Alternatives

1. Development of East-West Corridors

As 20th Street extends south to meet 60th Avenue South, east-west corridors should be developed to function as collectors and minor arterials, taking traffic to and from the TH 75 and 20th Street arterial roadways. The corridor that has been identified to function as an east-west collector street within the system is 50th Avenue South. 50th Avenue South is currently being designed as the 50th Avenue Parkway under a separate project. The corridors that have been identified to function as east-west minor arterials are 40th Avenue South and 60th Avenue South.

2. Major Transportation Barriers

Within the study area there are transportation barriers that limit opportunities for traffic crossings. These transportation barriers include the Red River, I-94 and the BNSF Moorhead Subdivision Line. The following transportation barrier crossing options were considered to relieve traffic volumes off of the existing roadways:

- 14th Street vehicular overpass of I-94. The study committee was not favorable of further analysis of this alternative due to the low number of vehicles that are projected to use the facility and the impacts to future development.

- Additional Red River crossings. The study committee was not in favor of restudying river crossing that had been studied and turned down in the past at 40th or 50th Avenue South. The study committee was in favor of recommending right of way preservation for future river crossings south of 60th Avenue South.

- Vehicular underpass of the BNSF Moorhead Subdivision Line at 60th Avenue South or some other appropriate location. The study committee was in favor of further analysis of this option to determine the best location for the underpass. The study committee supported an alignment shift for 20th Street South to intersect 60th Avenue South further west of the BNSF Moorhead Subdivision Line. This will improve the future roadway grade lines for a future underpass of the railroad.

- Relocation of the BNSF Moorhead Subdivision Line to the Ottertail Valley RR Line. This option would allow for a full diamond interchange at 20th Street and I-94, and east-west future roadway extensions to the east with no additional railroad crossing or impacts to the BNSF Moorhead Subdivision Line. The study committee was not favorable towards further analysis of the alternative. A previous study considered moving the Ottertail Valley RR Line to the BNSF Moorhead Subdivision Line and the committee felt the same issues would arise with this alternative.

3. Collector/Distributor System

A collector/distributor system along I-94 that would connect at TH 75, 14th Street and 20th Street was considered to reduce traffic volumes at the TH 75 and 20th Street interchanges. Metro COG along with ATAC completed a network traffic projection analysis that included interim year forecasts with the above described collector/distributor system network. The

analysis indicated that little traffic would be relieved from the interchanges. Along with low volume reductions at the interchanges; major right of way impacts, impacts to drainage ditches and high cost brought the study committee to the decision not to pursue further analysis of the collector/distributor system at this location.

4. Interstate Capacity Analysis

A freeway operations analysis was completed for the TH 75 and 20th Street interchanges. This analysis was conducted to provide input for geometric design decisions required for future planning along the I-94 corridor in Moorhead, Minnesota. The analysis was first run to determine how the existing freeway network operates with existing traffic and geometrics and how the freeway network will operate with proposed interchange improvements and interim year traffic volumes.

CORSIM was used to analyze the freeway operations. The interchanges that were analyzed as part of the CORSIM model include University Drive in Fargo, TH 75, 20th Street, the I-94 rest stop and SE Main Avenue. The capacity analysis results identify a Level of Service (LOS) that indicates how well an individual freeway segment is operating. These segments are given a ranking from LOS A through F. The LOS results are based on cars per mile per lane. LOS A indicates the best traffic operation and LOS F indicates an intersection where demand exceeds capacity. LOS A through C are generally considered acceptable by drivers. Results of the existing a.m. and p.m. peak hour freeway operations analysis indicate that all segments of I-94 in both the eastbound and westbound directions operate at an acceptable LOS B or better. Results of the existing a.m. and p.m. peak hour freeway analysis are shown in Figures 1 and 2 in Appendix G.

The interim year CORSIM analysis includes proposed interchange geometrics for TH 75 and 20th Street to accommodate the interim year traffic volumes. Option B was analyzed for the TH 75 interchange and Option E was analyzed for the 20th Street interchange. Layouts for the interchange options can be found in Appendix F. Results of the interim year a.m. and p.m. peak freeway operations analysis indicate that all segments are expected to operate at an acceptable LOS D or better with the exception of the eastbound direction during the p.m. peak hour. The segment that is failing in the eastbound direction is just west of the eastbound off ramp for southbound TH 75. This segment is failing due to the high volume that must travel within the two eastbound lanes at the point where the auxiliary lane exits into the TH 75 exit ramp. Results of the interim year a.m. and p.m. peak hour freeway analysis with a failing LOS in one eastbound segment are shown in Figures 3 and 4 in Appendix G.

In order to improve the eastbound p.m. peak hour operations to an acceptable LOS, the auxiliary lane should be extended through the TH 75 exit ramp and exit to the loop ramp for northbound TH 75. This will prevent vehicles exiting at the loop ramp for northbound TH 75 from having to weave into the center lane west of the eastbound off ramp for southbound TH 75. With this improvement, results of the interim year freeway operations analysis indicate that all segments are expected to operate at an acceptable LOS C or better. A review of the existing TH 75 Bridge over I-94 indicates that the auxiliary lane can be extended under the south end of the bridge without the need to lengthen the bridge. Results of the interim year a.m. and p.m. peak hour freeway analysis with the eastbound extended auxiliary lane between the TH 75 exit ramps are shown in Figures 5 and 6 in Appendix G.

5. Pedestrian/Bicycle Safety and Continuity

Metro COG has previously completed a pedestrian/bike plan for Fargo-Moorhead that includes systemwide continuity within our study area. The recommendations included in the Metro COG Pedestrian/Bike Plan are being carried over as recommendations of this study. Additional alternatives to the pedestrian/bike plan include:

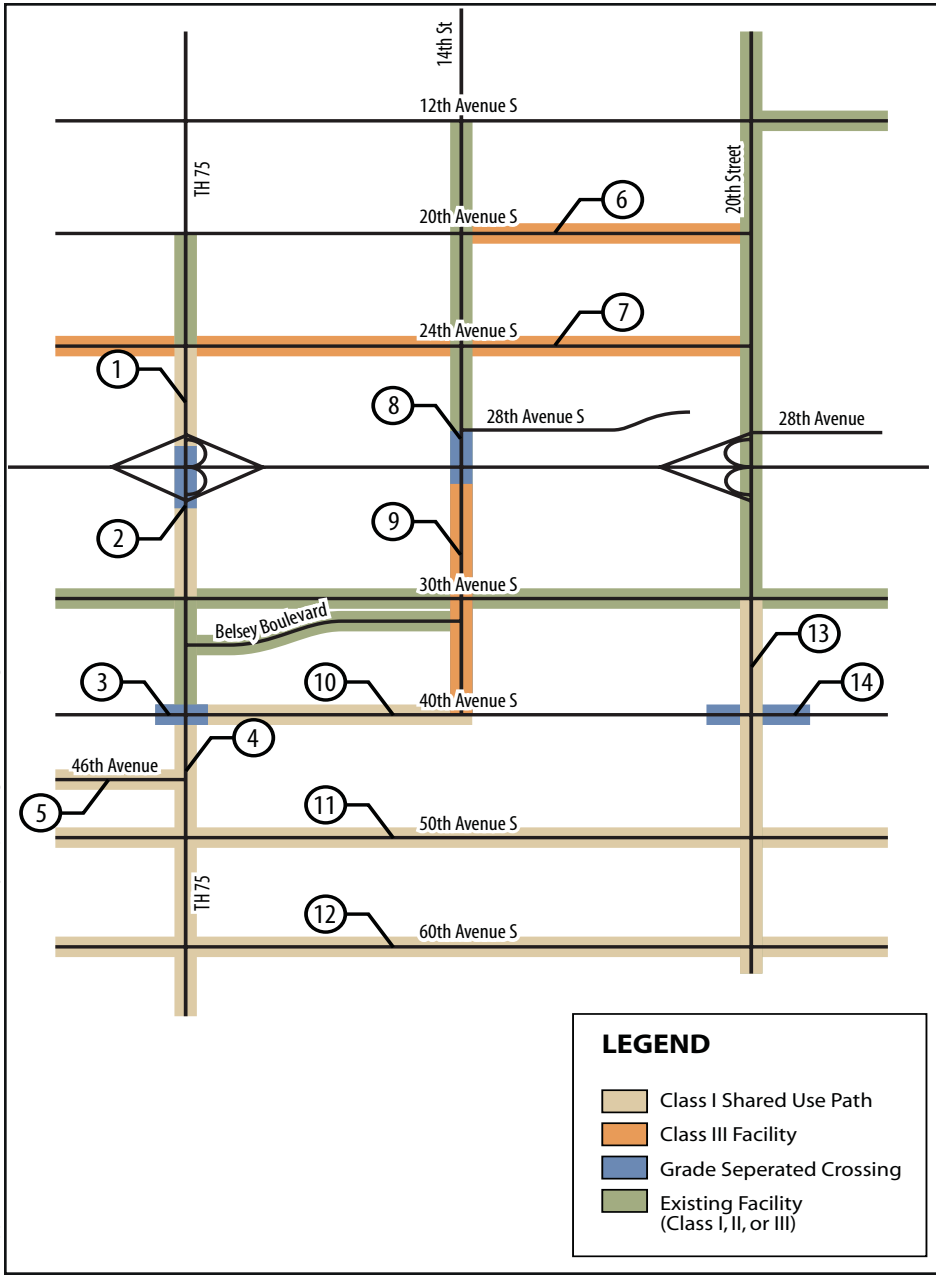
- A pedestrian/bicycle overpass at 14th Street over I-94
- Extending the proposed 24th Avenue South bikeway connection from 14th Street to 20th Street.
- 60th Avenue South Class 1 Trail from the Red River to east of 20th Street South.

Figure 14 shows all of the proposed pedestrian/bicycle improvements along both the TH 75 and 20th Street corridors and the system wide improvements between and adjacent to the corridors.

6. Transit Enhancement Opportunities

Enhancing public transit may encourage more people to choose it as their daily means of travel. More people utilizing the public transit system would decrease the amount of daily traffic volumes on the study corridors. A meeting was held with Lori Van Beek of Metro Area Transit (MAT) to discuss current transit issues/concerns, enhancement opportunities, and effects on transit routes due to the proposed alternatives. The meeting included the following discussions:

- MAT has developed a five-year fixed transit route service boundary with demand response zones outside of the fixed boundary. The southern end of the five-year fixed boundary is 40th Avenue South.
- The alternative to relocate the frontage road connection from 20th Street to dead end at the MSCTC parking lot would require both transit Route 3 and Route 5 to be re-routed to 24th Avenue South. The other option to this alternative is to create a road just west of MSCTC that the routes could follow. However the preferred alternative is to keep a frontage road connection to 20th Street just east of the MSCTC building.
- The alternative to relocate MSCTC main entrance point to 24th Avenue South would affect the location of a transit shelter that is planned to serve MSCTC transit users.
- The alternative to connect 28th Avenue South (east of 20th Street) to 20th Street at the intersection of 24th Avenue South creates a favorable future transit route to serve neighborhoods east of 20th Street.
- MAT is not favorable of bus pullouts since it is difficult for the bus to get back into traffic.
- Transit's main issue is the lack of good pedestrian trails to get pedestrians out of their neighborhoods to the bus routes. MAT recommends that future development includes pedestrian trails that cut through the neighborhoods onto the main roadways to make it easier for pedestrians to get to the bus stops.



1. TH 75 Class I Shared Use Path along the west side of the road connecting 24th Ave S to 30th Ave S. This would replace the path that is currently on the east side of the road.

2. Underpass of the WB I-94 Exit Ramp and overpass of I-94. Keeps pedestrians from crossing a free right movement of traffic. Relocate I-94 Ped/Bike overpass to the west side of the8th St./I-94 overpass.

3. Underpass of TH 75 at 40th Ave S. This is already a proposed project.

4. TH 75 Class I Shared Use Path along the west side of the road connecting 40th Ave S. to 60th Ave S. This is recommended in the Metro COG 2006 Bike and Ped Plan.

5. 46th Ave Class I Shared Use Path from TH 75 to the west into the residential neighborhood. This is recommended in the Metro COG 2006 Bike and Ped Plan.

6. 20th Ave S Class III Shared Use Path from 14th St to 20th St. This is recommended in the Metro COG 2006 Bike and Ped Plan.

7. 24th Ave S Class III Shared Use Path. Metro COG 2006 Bike and Ped Plan recommends path from 20th Street to 14th Street. This study recommends the additional extension from 14th Street to TH 75.

8. Overpass of I-94 at 14th Street.

9. 14th Street Class III Shared Use Path from 28th Ave S to 40th Ave S. This is recommended in the Metro COG 2006 Bike and Ped Plan.

10. 40th Ave S Class I Shared Use Path from TH 75 to 14th St. This is recommended in the Metro COG 2006 Bike and Ped Plan.

11. 50th Ave S Class I Shared Use Path. This is being planned for in the 50th Ave S Parkway Plan.

12. 60th Ave S Class I Shared Use Path from west of TH 75 to 20th St.

13. 20th St S Class I Shared Use Path connecting 30th Ave S to 60th Ave S on the east side of the tracks. South of 50th Ave a second Class I Shared Use Path could follow the re-aligned 20th St S.

14. Underpass of 20th St & BNSF Breck RR Line at or near 40th Ave S.

Support/5728 TH75-20th Street Corridor Study/Report/Figures/5728-FiguresVER_080807.qxd

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PEDESTRIAN/BICYCLE RECOMMENDATIONS

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo-Moorhead Council of Governments

Figure 14

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7. Right of Way Preservation

Right of way preservation is an important part of the planning process. Preserving adequate right of way for future transportation needs can reduce project costs and impacts. The following is a list of right of way needs that is associated with the systemwide network improvement alternatives:

- Pedestrian overpass of I-94 at 14th Street.
- Bridge over the Red River at 70th Avenue or 76th Avenue South, whichever corridor is chosen under a separate study.
- Vehicular underpass of the BNSF Moorhead Subdivision Line at 60th Avenue South

V. ENVIRONMENTAL DOCUMENTATION

Early Coordination Letters, including maps of the project area, were sent to 17 local, state, and federal environmental agencies to solicit comments and concerns regarding future construction along the two corridors and their interchanges with I-94. Feedback from these agencies was considered as the SRC chose preferred alternatives. Identification of the environmental concerns during the corridor study aids in the development of alternatives that avoid environmental impacts. If avoidance is not possible, development of alternatives can be carried out with the understanding that any unavoidable impacts must be minimized and/or mitigated. The comments received in response to the Early Coordination Letters are presented in Table 13. A list of agencies contacted, a copy of the original Early Coordination Letter, and copies of the agency responses are presented in Appendix I.

A. Natural Resource Impacts

1. Soils, Wetlands, Wildlife Habitat, Endangered Species and Water Quality

The Early Coordination Letters were sent to agencies that typically review environmental documents for the purpose of identifying any potential concerns or impacts associated with natural resources such as soils, wetlands, wildlife habitat, endangered species and water quality. The only response regarding natural resources impacts was received from the Minnesota Department of Natural Resources. Their response is summarized in Table 13.

2. Agricultural Land

Farmland in the Red River Valley is considered prime farmland. Future improvements to TH 75 south of 40th Avenue South would have a minor impact on prime farmland if additional right-of-way were needed. It appears that a small amount of right-of-way may be needed if roundabouts are put in place at the intersection of TH 75 with 50th and 60th Avenue South and a small strip of right of way along the east and west sides of TH 75 between 50th and 60th Avenue South. However, the right-of-way needed would be approximately 7.6 acres for both intersections, which is not considered a significant impact. Other recommended improvements to TH 75 do not require additional roadway right-of-way in areas that are currently farmland, thus resulting in no impacts.

The future extension of 20th Street South and associated right-of-way needs will have a minor impact on farmland if the roadway is constructed in advance of urban development on both sides of the corridor. North of 50th Avenue South, 20th Street will remain on the half section line. In some cases, there is a break between farm field on the half section line, and farm production is already somewhat disrupted. South of 50th Avenue, the recommended re-alignment of 20th Street South would curve west of the half section line in order to provide adequate distance between the 20th Street intersection at 60th Avenue and the Moorhead Subdivision Line RR track for a future grade separation of 60th Avenue South and the Railroad.

TABLE 13
Environmental Review Agency Comments

Organization	Name	Title	Address	Phone	Comment
BNSF Railway	Mark C. Bruce	General Manager	80 - 44th Avenue NE Minneapolis, MN 55421	(763) 782-3467	BNSF is increasing the train speed between Moorhead and Breckenridge on April 24, 2007. This will affect all grade crossings from 30th Avenue southward. Additional stop or yield signs will be placed at crossings.
Buffalo-Red River Watershed District (BRRWD)	Bruce E. Albright	Office Administrator	123 Front Street S Barnseville, MN 56514	(218) 354-7710	North side of I-94 – Clay Co Ditch #30 – concrete liner and buried conduit east of 20th Street. Roadwork that would affect this ditch would need BRRWD approval. South side of 50th Avenue S – possible location for drainage corridor. South side of 60th Avenue S – Clay Co Ditch #9 – roadwork and culvert extension would require BRRWD approval.
Department of the Army	Christopher R. Erickson	Chief, Project Management and Development Branch	190 Fifth Street East, Suite 401 St. Paul, MN 55101	(218) 829-8402	The study does not appear to affect any ongoing St. Paul District studies or constructed projects.
Minnesota Department of Natural Resources	Lisa A. Joyal	Endangered Species Environmental Review Coordinator	500 Lafayette Road St. Paul, MN 55155	(651) 259-5109	The MN Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 3 known occurrences of rare species or native plat communities in the area searched. However, based on the nature and location of the proposed project we do not believe it will affect any known occurrences of rare features.

The recommended alignment of 20th Street South would impact prime agricultural land. Approximately 26.1 acres of farmland would be affected by the roadway and associated right-of-way. Keeping the road on the half section line would minimize the impacts to farmland, but would not provide adequate distance between the 20th Street/60th Avenue South intersection and a future grade separation of the railroad tracks. The future extension of 20th Street is not anticipated until such time as urban development is creating the demand for the roadway. Improvements to TH 75 and the extension of 20th Street South are needed to adequately meet the travel demands of planned urban expansion that has been addressed through the City's Comprehensive Plan, the Growth Area Plan (GAP) and Alternative Urban Area-wide Review (AUAR).

3. Boulevard Trees and Ground Cover

Existing and typical roadway sections were used to compare impacts to existing boulevard trees and permeable surfaces. The various alternatives have differing impacts to the boulevards and amount of open (permeable) space within the right-of-way. Tables 14 and 15 below describe the boulevard and tree impacts associated with each alternative.

TABLE 14
TH 75 (8th Street) Boulevard and Tree Impacts

Alternative	# of Trees Impacted	Existing Boulevard Width (Feet)	Impacted Boulevard Width (Feet)
20th to 24th Avenue South – Alternative A	49	88	47
20th to 24th Avenue South – Alternative B	10	88	30

TABLE 15
20th Street Boulevard and Tree Impacts

Alternative	# of Trees Impacted	Existing Boulevard Width (Feet)	Impacted Boulevard Width (Feet)
6th Avenue to 30th Avenue South – Alternative A	246	25	25
6th Avenue to 30th Avenue South – Alternative B	28	25	9
6th Avenue to 30th Avenue South – Alternative C	149	25	17

B. Drainage Impacts

The Buffalo-Red River Watershed District was sent an Early Coordination Letter. Their response is summarized in Table 13. Interchange improvements at TH 75 would impact the Clay County Ditch #30 concrete liner and buried conduit on the north side of I-94. Roadwork that would affect this ditch would need BRRWD approval. The alternatives for a roundabout at 50th Avenue or 60th Avenue South would affect a possible location for a drainage corridor along the south side of 50th Avenue South and Clay County Ditch #9 on the south side of 60th Avenue South. Roadwork and culvert extension at these locations would also require BRRWD approval.

C. Utility Impacts

A Minnesota One Call was made on April 4, 2007. A request was made for electronic or paper plans of any utilities within the project area including both TH 75 and 20th Street Corridors and anything in between the two corridors within our project area. A spreadsheet in Appendix I shows utilities that were contacted by Minnesota One Call, which utilities did or did not respond, and which utilities would potentially be impacted by the proposed alternatives. Some of the major utility impacts include the following:

- Moorhead Public Service 115,000 volt transmission line – The transmission line has a 30-foot easement that lies within the 70-foot future roadway right of way for 20th Street, south of 34th Avenue South. Per telephone conversations with Moorhead Public Service, the transmission line is not centered within the 30-foot easement. It is located just a few feet west of the railroad right of way. The record of telephone conversation with Dave Kaley of Moorhead Public service, discussing the transmission line, is presented in Appendix I.

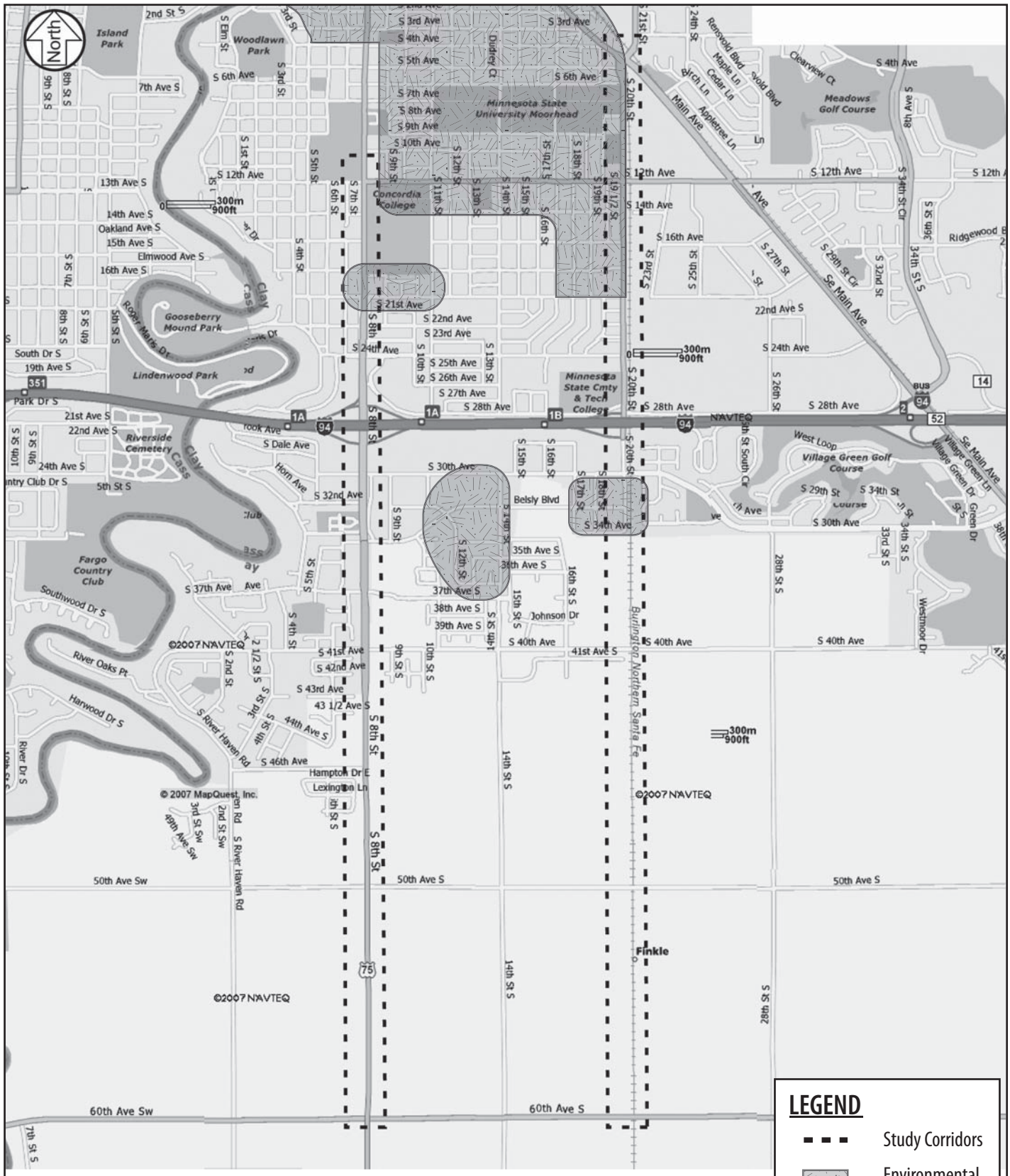
D. Environmental Justice and Neighborhood Impacts

The Metropolitan Transportation Plan update (2004) was reviewed to locate sensitive neighborhoods or environmental justice areas within our project area. Some environmental justice neighborhoods are located within our project area; however, they will not be adversely or disproportionately impacted by any of the alternatives being proposed as part of this corridor study. The designated environmental justice areas are shown in Figure 15.

E. Modal Impacts

The 2006 Metro COG Bicycle and Pedestrian Plan was used as a reference to make recommendations for the bicycle and pedestrian proposed improvements. All of the future proposed improvements that were in the 2006 Metro COG Bicycle and Pedestrian Plan were carried forward as recommendation in this corridor study along with some additional recommendations.

A meeting was held with Metro COG and the City of Moorhead Metro Area Transit (MAT) Manager to discuss transit enhancement opportunities and potential impacts to the transit routes as a result of the alternatives for the corridor study.



SOURCE: Fargo-Moorhead Area Short and Long Range Transportation Plan, October 2004

Support/5728 TH75-20th Street Corridor Study/Report/Figures/5728-FiguresVER_080807.qxd

SRF Consulting Group, Inc.

ENVIRONMENTAL JUSTICE SENSITIVITY AREAS

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo-Moorhead Council of Governments

Figure 15

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The alternative to dead end the 28th Avenue South Frontage Road into the MSCTC parking lot affects Transit Routes 3 and 5 that use the frontage road on their daily routes. Transit would either need an alternate road just west of MSCTC or they would need to redirect their route to 24th Avenue South. An east/west road between 24th and 28th Avenue South to the east of 20th Street would provide opportunities for a good transit route to new neighborhoods and commercial businesses between 20th Street and 34th Street. The other alternative to maintain access with the 28th Avenue South Frontage Road and 20th Street allows transit routes 3 and 5 to keep their route as it is currently run. Transit is currently looking at providing a bus shelter for MSCTC. An alternative to relocate the school's main access to 24th Avenue South would affect the decision about where to locate the shelter.

The Transit drivers are not in favor of bus pullouts since they tend to make it difficult for the bus to get back into traffic. Transit is currently running routes and designating bus stops at locations where pedestrians have a walk or trail from which to access the stop. Their main recommendation is to provide direct sidewalk access from neighborhoods to the main roadways so that it is easier for pedestrians to get to designated transit stops. A copy of the record of meeting is presented in Appendix I.

F. Disruption/Displacement Impacts

Seven alternatives have been identified that would require the relocation of a business or residence. The interchange alternative at TH 75 with I-94, Option A, includes placing a loop ramp in the southeast quadrant. If this loop is designed with a radius to meet Mn/DOT's design standards, the eastbound on ramp will extend south in a manner that requires the removal of the building in which O'Leary's Pub is located (808 30th Avenue South). A second alternative, Option B, was created for the TH 75 interchange with I-94 that includes a smaller radii of the loop ramp to remove the building impact to O'Leary's Pub.

Several interchange alternatives have been created to make 20th Street and I-94 a full access interchange. Option A has an impact to the building at Minnesota State Community and Technical College (MSCTC) in the northwest quadrant, several apartment buildings and Trinity Lutheran Church in the southwest quadrant, and Ken's Sanitation Recycling Plant and ConAgra Fertilizer Plant in the northeast quadrant. Option B would impact the parking lot of (MSCTC) in the northwest quadrant and Ken's Sanitation Recycling Plant in the northeast quadrant. Option C would impact Ken's Sanitation Recycling Plant and ConAgra Fertilizer Plant in the northeast quadrant. Option D wouldn't impact any buildings surrounding the proposed inter-change. Option E would impact Ken's Sanitation Recycling Plant and ConAgra Fertilizer Plant.

The TH 75 frontage road Alternative A includes dead ending the frontage road to a cul de sac along the west side of TH 75 that would affect the residence located at 2315 8th Street South. The TH 75 frontage road Alternative A to realign the frontage road on the east side of TH 75, placing its access onto 24th Avenue South further to the east, affects the apartment building at 804 24th Avenue South. Both of these alternatives have been developed to improve intersection operations at TH 75 and 24th Avenue South. An Alternative B has been developed for the TH 75 frontage roads both to the east and west of TH 75 that removes the impacts to both properties.

If any of the above mentioned alternatives are chosen, additional analysis will need to be done during the environmental assessment phase of the projects.

VI. ALTERNATIVE EVALUATION

Matrices were developed to aid the study committee in determining the preferred recommendations for the study corridors. The matrices include all corridor and interchange alternatives/options. The alternatives/options were then reviewed by the study review committee members based on the following factors:

- Results of future traffic modeling and traffic operations analysis
- Availability or need for additional right of way
- Environmental impacts
- Utility Impacts
- Preliminary Cost Estimates
- Input from the focus group and public input meetings
- Comments from federal, state, and local governing agencies

The matrix for each alternative/option is shown in Tables 16 thru 25.

TABLE 16
TH 75 Corridor Alternative Options – 20th to 24th Avenue South

Design and Impacts	20th to 24th Avenue South	
	Alternative A	Alternative B
Intersections Operate at an Acceptable Level of Service (LOS)	Yes	Yes
Meets Mn/DOT Minimum Design Standards	Yes	Yes
Lane, Median & Shoulder Width	12', 6', 6'	11', 4', 2'
Lineal Feet of Boulevard Impacted	47 Feet	30 Feet
Number of Mature Trees Impacted	49 Trees	10 Trees
Estimated Conceptual Cost (Construction Only)	$3.70 M	$4.03 M
Total Right of Way Acquisition Required	None	None

TABLE 17
TH 75 Frontage Road Alternatives – 20th to 24th Avenue South

Design and Impacts	20th to 24th Avenue South	
	Alternative A	Alternative B
Parcel Impacts	2 (1 Residence, 1 Apartment)	None
Estimated Conceptual Cost (Construction Only)	Included in 20th to 24th Corridor Estimate	Included in 20th to 24th Corridor Estimate
Total Right of Way Acquisition Required	0.7 Acres	None

TABLE 18
TH 75 Corridor Alternative Options – 24th to 40th Avenue South

Design And Impacts	24th to 40th Avenue South
	Alternative A
Intersections Operate at an Acceptable Level of Service (LOS)	Yes
Type of Traffic Control	Signalized
Lane, Median & Shoulder Width	12', 6', 6'
Estimated Conceptual Cost (Construction Only)	$7.25 M
Total Right of Way Acquisition Required	None
Two Alternatives for the Interchange Within this Section are Presented in Table 21.	

TABLE 19
TH 75 Corridor Alternative Options – 40th to 50th Avenue South

Design and Impacts	40th to 50th Avenue South	
	Alternative A	Alternative B
Intersections Operate at an Acceptable Level of Service (Los)	Yes	Yes
Type of Traffic Control at 50th Avenue S	Signalized	Roundabout*
Proven to Greatly Reduce Serious Right Angle Types of Accidents.	No	Yes
Lane, Median & Shoulder Width	12', 6', 6'	12', 6', 6'
Impacts the County Drainage Ditch	No	Yes
Estimated Conceptual Cost (Construction Only)	$10.21 M	$11.15 M
Total Right of Way Acquisition Required	1.5 Acres	1.8 Acres
*Double Lane Roundabout at TH 75 and 50th Avenue South.		

TABLE 20
TH 75 Corridor Alternative Options – 50th to 60th Avenue South

Design And Impacts	50th to 60th Avenue South	
	Alternative A	Alternative B
Intersections Operates at an Acceptable Level of Service (LOS)	Yes	Yes
Type of Traffic Control at 60th Avenue S	Signalized	Roundabout*
Proven to Greatly Reduce Serious Right Angle Types of Accidents	No	Yes
Lane & Shoulder Width (No Median)	12', 6'	12', 6'
Impacts The County Drainage Ditch	No	Yes
Estimated Conceptual Cost (Construction Only)	$6.06 M	$5.62 M
Total Right of Way Acquisition Required	5.9 Acres	7.6 Acres
*Single Lane Roundabout with a Southbound to Westbound Right Turn Bypass at TH 75 and 60th Avenue South.		

TABLE 21
TH 75 and I-94 Interchange Options

Design And Impacts	Proposed Alignment	
	Option A	Option B
Intersection Operates at an Acceptable Level of Service (LOS)	Yes	Yes
Meets Mn/DOT Minimum Design Standards	Yes	No
Provides Safe Pedestrian Crossings over the Bridge	Yes	Yes
Impacts the Business in the Southeast Quadrant of the Interchange (O'Learys Pub)	Yes	No
Impacts the Existing Drainage Ditch	Yes	Yes
Estimated Conceptual Cost (Construction Only)	$9.84 M	$10.90 M
Total Right of Way Acquisition Required	4.0 Acres	2.5 Acres

TABLE 22
20th Street Corridor Alternatives 6th Avenue South to Belsley Boulevard

Design and Impacts	6th Avenue S to Belsley Blvd		
	Alternative A	**Alternative B**	**Alternative C**
Intersections Operate at an Acceptable Level of Service (LOS)	Yes	Yes	Yes
Meets Mn/DOT Minimum Design Standards	Yes	Yes	Yes
Type of Section	4-Lanes with Median/Turn Lane	5-Lanes With Common Left & No Median	4-Lane with Median/Turn Lane
Lane & Median Width	12', 4',	11', No Median	11', 4'
Lineal Feet of Boulevard Impacted	25 Feet	9 Feet	17 Feet
Number of Trees Impacted	246	28	149
Number of Access Points Changed to Partial Access	17	2	30
Number of Access Points Closed*	0	9	0
Estimated Conceptual Cost (Construction Only)	$7.60 M	$6.66 M	$6.70 M
Total Right of Way Acquisition Required	None	None	None
*Note: Closed Access Points Have an Existing Alternate Access on a Different Street.			

TABLE 23
20th Street Corridor Alternatives Belsley Boulevard to 40th Avenue South

Design and Impacts	6th Avenue S to Belsley Blvd		
	Alternative A	**Alternative B**	**Alternative C**
Intersections Operate at an Acceptable Level of Service (LOS)	Yes	Yes	Yes
Meets Mn/DOT Minimum Design Standards	Yes	Yes	Yes
Type of Section	5-Lane Undivided, No Shoulder	5-Lane Undivided, No Shoulder	4-Lane Divided, No Shoulder
Lane & Median Width	12'	11'	12', 4'
Estimated Conceptual Cost (Construction Only)	$2.57 M	$2.05 M	$ 2.57 M
Total Right of Way Acquisition Required	0.5 Acres	0.9 Acres	1.3 Acres
Total Easement	None	0.4 Acres	2.6 Acres

TABLE 24
20th Street Corridor Alternatives
40th Avenue South to 43rd Avenue South

Design and Impacts	40th Avenue S to 43rd Avenue S	
	Alternative A	Alternative B
Intersections Operate at an Acceptable Level of Service (LOS)	Yes	Yes
Meets Mn/DOT Minimum Design Standards	Yes	Yes
Type of Section	5-Lane Undivided, No Shoulder	4-Lane Divided, No Shoulder
Lane & Median Width	12’	12’, 4’
Estimated Conceptual Cost (Construction Only)	$0.76 M	$0.95 M
Total Right of Way Acquisition Required	0.3 Acres	0.3 Acres
Total Easement	0.9 Acres	1.2 Acres

TABLE 25
20th Street Corridor Alternatives
43rd Avenue South to 60th Avenue South

Design and Impacts	43rd Avenue S to 60th Avenue S
	Alternative A
Intersections Operate at an Acceptable Level of Service (LOS)	Yes
Meets Mn/DOT Minimum Design Standards	Yes
Type of Section	2-Lane Divided With Shoulder
Lane, Median & Shoulder Width	12’, 6’, 6’
Estimated Conceptual Cost (Construction Only)	$6.14 M
Total Right of Way Acquisition Required	26.1 Acres
Total Easement	6.3 Acres

TABLE 26
20th Street and I-94 Interchange Options

Design and Impacts	Proposed Alignment				
	Option A	**Option B**	**Option C**	**Option D**	**Option E**
Intersection Operates at an Acceptable Level of Service (LOS)	Yes	Yes	Yes	Yes	Yes
Meets Mn/DOT Minimum Design Standards	Yes	No	Yes	Yes	No
Becomes a Full Access Interchange	Yes	Yes	Yes	Yes	Yes
Provides Safe Pedestrian Crossings Over the Bridge	Yes	Yes	Yes	Yes	Yes
Impacts Minnesota State Community & Technical College (MSCTC) Building	Yes	No	No	No	No
Impacts Buildings in the Southwest Quadrant of the Interchange	Yes	No	No	No	No
Impacts Businesses in the Northeast Quadrant of the Interchange	1	1	2	No	2
Creates New Railroad Crossings	No	No	1	1	No
Major Impacts to Electrical Transmission Line	Yes	No	No	No	No
Impacts the Drainage Retention Pond and Lift Station in the Southeast Quadrant	No	No	Yes	Yes	No
Estimated Conceptual Cost (Construction Only)	$11.38 M	$17.46 M	$15.81 M	$7.05 M	$15.66 M
Total Right of Way Acquisition Required	19.5 Acres	9.1 Acres	11.3 Acres	18.6 Acres	11.0 Acres

VII. SUMMARY OF RECOMMENDATIONS

The study review committee's preferred recommendations are presented in Tables 27 and 28.

TABLE 27
SRC Preferred TH 75 Corridor and Interchange Recommendations

TH 75 Preferred Alternatives		
Roadway Section	**Preferred Alternative**	**Alternative Description**
20th to 24th Avenue S	Alternative B	6-Lane Divided with Turn Lanes, Narrower Lane Widths and Median Reduce Tree & Boulevard Impacts
Frontage Road from 20th to 24th Avenue S	Alternative B	Lessens Impacts to Adjacent Properties
24th to 40th Avenue S	Alternative A	6-Lane Divided with Turn Lanes
TH 75 & I-94 Interchange	Option B	Smaller Loop Radii in the SE Quadrant Eliminates the Impact to a Building
40th to 50th Avenue S	Alternative B	4-Lane Divided with Turn Lanes and a Roundabout at 50th Avenue
50th to 60th Avenue S	Alternative B	2-Lane Divided with Turn Lanes and a Roundabout at 60th Avenue

TABLE 28
SRC Preferred 20th Street Corridor and Interchange Recommendations

20th Street Preferred Alternatives		
Roadway Section	**Preferred Alternative**	**Alternative Description**
6th Avenue to Belsley Blvd	Alternative C	4-Lane Divided with Turn Lanes, Continuous Median Creates Limited Access at Many Streets
20th Street & I-94 Interchange	Option E	WB Off Ramp is a Button Hook Connection to the Frontage Road. Impacts 2 Businesses in the NW Quad.
Belsley Blvd to 40th Avenue S	Alternative C	4-Lane Divided with Turn Lanes
40th to 43rd Avenue S	Alternative B	4-Lane Divided with Turn Lanes
43rd to 60th Avenue S	Alternative A	2-Lane Divided with Turn Lanes

All recommended corridor improvements include the construction of pedestrian facilities and access closures or modifications as shown in Appendices E and F. Along with the recommended corridor and interchange improvements, the Study Review Committee is recommending that right of way be obtained as early as possible to accommodate full build roadway needs as previously mentioned in the body of this report.

VIII. IMPLEMENTATION PLAN

Preliminary, planning-level cost estimates for the preferred recommended alternatives for the TH 75 corridor, TH 75/I-94 interchange, 20th Street corridor and 20th Street/I-94 interchange have been completed and are shown in Table 29. The detailed cost estimate spreadsheets can be found in Appendix E.

TABLE 29
Preliminary Planning-Level Cost Estimates

TH 75 Recommended Alternatives	
Roadway Section	**Cost Per Section**
20th to 24th Avenue South	$3,699,000
24th to 40th Avenue South	$7,246,000
40th to 50th Avenue South	$11,146,000
50th to 60th Avenue South	$5,623,000
Subtotal of Roadway Costs	**$27,714,000**
TH 75 & I-94 Interchange	$10,271,000
Total Estimated Corridor Cost	**$37,985,000**
20th Street Recommended Alternatives	
Roadway Section	**Cost Per Section**
6th Avenue South to Belsley Blvd	$6,700,000
Belsley Blvd to 40th Avenue South	$2,572,000
40th to 43rd Avenue South	$951,000
43rd to 60th Avenue South	$6,144,000
Subtotal of Roadway Costs	**$16,367,000**
20th Street & I-94 Interchange	$14,423,000
Total Estimated Corridor Cost	**$30,790,000**
***Note: Cost Estimates Based on 2007 Construction Dollars.	

A. Funding Priorities

The City of Moorhead, Metro COG, and Mn/DOT District 4 were asked to prioritize the order in which they would like to see improvements completed for the study corridors and interchanges with I-94. It was determined that each corridor should be prioritized separately since TH 75 is a state roadway and 20th Street is a city roadway. The results of this exercise indicate that for TH 75, the committee members would like to see interchange improvements completed first including roadway improvements between 24th Avenue South and 40th Avenue South; followed by roadway improvements being completed from north to south from 20th to 24th Avenue South, 40th Avenue South to 50th Avenue South and then 50th Avenue South to 60th Avenue South. One recommendation is that the segments of improvements may need to be broken out into smaller segments depending on available funding. The exception to this order of improvements on TH 75 is that Mn/DOT is planning to install a roundabout at TH 75 and 60th Avenue South under a safety improvement project.

The order of recommended improvements for 20th Street is very similar to that of TH 75. The committee is recommending improvements begin with the 20th Street and I-94 interchange including the roadway between 24th Avenue south and Belsley Boulevard; followed by corridor improvements from Belsley Boulevard to 40th Avenue South, followed by 40th Avenue South to 43rd Avenue South, 43rd Avenue South to 60th Avenue South and finally 6th Avenue South to 24th Avenue South. It may be possible to phase some of the improvements between 6th Avenue and 40th Avenue South sooner. Once again shorter segments of roadway may need to be considered dependent upon available funding.

Appendix A – SRC Agenda & Meeting Minutes

AGENDA

TH 75/20TH Street South Corridor Studies
First Study Review Committee Meeting
Tuesday July 18, 2006
9:00 AM to 11:00 AM
FM COG Conference Room, Case Plaza Building
One North Second Street Fargo, ND

I. Introductions
- **Steering Committee Roster**

II. Project Schedule – (Handout)

III. Project Issues – (Handouts)
- **Safety**
- **Access**
- **Capacity**
- **Interchange Geometrics**
- **Pedestrian Trail System**
- **Aesthetics**
- **New Development**
- **Environmental Justice**

IV. Traffic Count Data

V. Traffic Forecast
- **2030 Existing COG MPT**
- **Full Buildouts Moorhead Growth Plan**

VI. Public Involvement
- **Focus Group Meetings – Key Stake Holders to Include**
- **Public Meetings – Meeting Locations and Dates**

VI. Next Meeting

SRF No. 0055728

RECORD OF MEETING

TH 75 & 20th Street Corridor Studies

First Study Review Committee Meeting

July 18, 2006 – 9:00 a.m.

Case Plaza Conference Room

Members in Attendance:	Representing:
Clair Hanson	City of Moorhead
Bob Zimmerman	City of Moorhead
Tom Trowbridge	City of Moorhead
David Overbo	Clay County
Brian Gibson	FM COG
Bob Bright	FM COG
Justin Kristan	FM COG
Jody Martinson	Mn/DOT
Rick Lane	SRF Consulting Group, Inc.
Peggy Harter	SRF Consulting Group, Inc.
Cindy Gray	SRF Consulting Group, Inc.

Introductions

Rick Lane opened the meeting with a brief overview of the project background and asked everyone at the meeting to introduce themselves and who they were representing. The Committee received a handout listing all of the members of the Study Review Committee (SRC) for the project. The Committee added Bob Bright with FM COG and Spencer Arndt with BNSF to the SRC roster.

Project Schedule

Rick Lane reviewed the project schedule that was handed out at the beginning of the meeting. The project schedule is the same as it was in the proposal except the project is starting two months later. Mr. Lane stated that the project would still be completed in December of 2007, which is the same completion date as shown in the proposal.

Project Issues

The SRC received two handouts showing the two study corridors and potential project issues. The Design Committee discussed the following project issues:

- Safety
  - The intersection of 60th Avenue South and TH 75 is a high accident location. Mn/DOT is currently developing a project to improve safety at this intersection. The project includes striping and signing changes and should be implemented this year.
  - SRF will collect accident data at all key intersections in the project.
  - Pedestrian/bike safety issues need to be addressed with the new regional park and elementary school.
- Access
  - There are many driveways and access points along the corridors that will be looked at as part of this project.
  - Spacing and access control will be recommended as part of this study in newly developing areas and access improvements/consolidation/removals will be considered in developed areas.
- Capacity
  - A.M. and P.M. peak hour traffic counts have been completed at all of the major intersections along both project corridors. The peak hour counts will be used for the existing Synchro model.
  - The Synchro model will be used to identify key locations for capacity improvements and to compare future impacts of different alternatives of north/south and east/west routes.
  - Jody Martinson will send traffic count data for I-94 and TH 75 ramp intersections.
  - COG 2005 counts will be used for capacity. Brian Gibson will get the counts to SRF as soon as he receives them.
  - SRF completed or already had recent tube counts at all of the ramp intersections at 34th Street, 20th Street, TH 75 and the west ramps of University Drive. This information will be used to complete the Corsim analysis.
- Interchange Geometrics
  - The study will look at potential changes to interchange geometrics at both TH 75 and 20th Street and their effects on traffic operations now and in the future.

  - The study will look at a full interchange for 20th Street and analyze all of the impacts and cost associated with it. This will include consideration of access to the travel information/rest area just east of 20th Street.

  - The study will check to see if the addition of loops at the TH 75 interchange will provide for improved future traffic operations.

- Pedestrian Trail System

  - Grade-separated pedestrian crossings will not be considered at the TH 75 interstate ramps. Previous studies have been done to consider pedestrian grade-separated crossings with the interstate ramps and Mn/DOT has rejected the concept. Jody Martinson will send information about the studies.

  - The City of Moorhead has a preliminary layout for a bike path to link the new Trollwood Performing Arts School (to open in 2009) with 100-Acre Park as part of a future 50th Avenue South parkway facility. Tom Trowbridge will send this data to SRF.

  - Bob Zimmerman noted that at 24th Avenue South, pedestrians are having a hard time crossing 20th Street to get to and from the bike path along the east side of 20th Street.

  - Cindy Gray recalls an issue in the FM COG ped/bike plan that relates to the need for improved access to the trail along the east side of 20th Street. She will look into this to review the problems, because they weren't described in detail in the bike/pedestrian plan.

  - SRF will use the parkway plan, FM COG pedestrian/bike plan and consider impacts to school and parks when developing the pedestrian trail system recommendations.

- Aesthetics

  - The City of Moorhead has developed aesthetic standards for the TH 75 corridor that incorporate gateway design elements. These standards will be incorporated into the future roadway recommendations.

  - The aesthetic standards for TH 75 should not be applied to the 20th Street corridor.

- New Development

  - Moorhead is currently developing plans for a parkway along 50th Avenue South from the new Trollwood Performing Arts School to Highway 52. The plans should be completed in approximately one month and will be provided to SRF. The parkway will be included in Moorhead's updated Growth Area Plan (GAP) along with an additional 80 acres of development.

  - Unsure if the new 50th Avenue parkway will be classified as an arterial or collector road. 40th Avenue South is a future south side arterial roadway.

  - The City of Moorhead is currently working on some improvements along 20th Street at the 24th and 28th Avenue intersections. Tom Trowbridge will get these plans to SRF. Since this work is currently being done it will be included in the base (existing) synchro model.

  - The City of Moorhead will get their plans for development south of 40th Avenue to SRF.

  - Tom Trowbridge will send preliminary plats for Stonemill Estates, Prairie Meadows, Village Green 6th Addition and Mallard Creek 2nd Addition (replatted residential to commercial).

- Environmental Justice

  - No significant impacts to environmental justice areas are foreseen along either corridor, however, additional review will be completed.

Traffic Forecast

The proposal stated that traffic forecasting would be done using the existing 2030 COG MTP model and the Full Build-out Moorhead Growth Plan. The 2030 existing model no longer represents actual 2030 numbers. The City has grown much faster than anticipated. Rick Lane asked the SRC if they would like to see the 2030 model updated or if an interim model using the existing Moorhead Growth Area Plan (GAP) should be used instead to better represent future growth scenarios. It was also discussed that a model scenario had been developed for the Moorhead Growth Area Plan and A.U.A.R., which reflected a higher level of development than the 2030 model, but did not represent full build-out all the way to 60th Avenue South. The SRC was concerned that Mn/DOT may not accept data that wasn't based from the official COG MTP 2030 model. The Committee decided that Brian Gibson would do a comparison of the existing traffic model, the Growth Area Plan model, and the 2030 COG MTP traffic model to see if the 2030 model fairly represents current conditions. Metro COG has the ability to show the percentage of full build-out for each TAZ as used in each analysis (i.e., 2030 model, Growth Area Plan model and AUAR analysis, etc.). Bob Zimmerman stated that he would like to see the results of an analysis like that before deciding how to handle the traffic projections. The SRC will use the results of this comparison to determine which model to use for the future traffic forecast.

Public Involvement

- Focus Group Meetings

  - Two Focus Group Meetings will be held throughout the project. The first meeting will be to obtain input from key stakeholders in the project area and the second meeting will be held to show the same group different alternatives developed.

  - The first Focus Group Meeting will be scheduled for mid-September.

  - The SRC decided to invite the following people to the Focus Group Meetings: Mike Ginnaty or Mark Waisanen – Mn/DOT; Robert Olson – Land Owner; Bruce Messelt – City Manager; Spencer Arndt – BNSF; Developers – Scott Kerry, John Hoff, Jason Eid, Kevin Kristenson; Moorhead Parks Department – Vicki Cheppulis; Trollwood Performing Arts School – Executive Director; Moorhead School District Representative; Northwest Technical College Representative; Tim Magnuson – Clay County Planner; Vijay Sethi – Clay County Administrator; and Arvid Leiseth – Moorhead Township.

  - Potential locations for the Focus Group Meetings could be the new elementary school or the technical college.

- Public Meetings

  - Three public meetings are scheduled during the study. The first meeting is scheduled in September to receive input from the public.

Next Meeting

The next SRC meeting is scheduled for October.

Action Items

- SRF will begin work on the existing synchro model.

- Brian Gibson will compare the existing traffic model with the Growth Area Plan model and the 2030 COG MTP traffic model. The results of this comparison will be distributed to the SRC to determine which model to use for traffic forecasting.

- Tom Trowbridge will send all City plans and preliminary plats within the project location to SRF.

- Jody Martinson will send any information that she can find regarding past studies done on pedestrian grade-separated crossings with the interstate ramps and their results.

- Jody Martinson will send SRF any recent traffic counts completed for the TH 75/I-94 ramps and I-94 in the project area.

- Jody Martinson will give SRF direction on whom to include from Mn/DOT for the Focus Group member (Mike Ginnaty or Mark Waisanen).

If there are any additions or corrections to these minutes, please contact Peggy Harter of SRF at (701) 237-0010.

RL/PH

AGENDA

TH 75/20TH Street South Corridor Studies
Second Study Review Committee Meeting
Tuesday October 31, 2006
9:00 AM to 12:00 Noon
FM COG Conference Room, Case Plaza Building
One North Second Street Fargo, ND

I. Introductions

II. Review Focus Group and Public Information Meeting Minutes (Attachment 1)

III. Traffic Analysis (Meeting Handout)
- **Growth Scenarios**
- **Existing Model Volumes and LOS**
- **Interim Model Volumes and LOS**
- **Full Build Model Volumes**
- **Existing Crash Analysis**

IV. Issues and Alternatives Discussion (Attachment 2)
- **8th Street Corridor**
- **20th Street Corridor**
- **Pedestrian/Bicycle Facilities**
- **Systemwide Alternatives**

V. Next Meeting
- **Project Schedule**

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

SRF No. 0055728

RECORD OF MEETING

TH 75 & 20th Street Corridor Studies

Second Study Review Committee Meeting

October 31, 2006 – 9:00 a.m.

Case Plaza Conference Room

Members in Attendance:	Representing:
Clair Hanson	City of Moorhead
Bob Zimmerman	City of Moorhead
Tom Trowbridge	City of Moorhead
Deb Martzahn	City of Moorhead
David Overbo	Clay County
Brian Gibson	FM COG
Justin Kristan	FM COG
Jody Martinson	Mn/DOT
Rick Lane	SRF Consulting Group, Inc.
Peggy Harter	SRF Consulting Group, Inc.
Cindy Gray	SRF Consulting Group, Inc.

Introductions

Rick Lane opened the meeting and asked everyone to introduce themselves and who they were representing.

Focus Group and Public Input Meeting

Rick Lane discussed the Focus Group and Public Input Meetings that were held on September 28, 2006. The Focus Group and Public Input Meeting Summaries were sent to the Study Review Committee (SRC) prior to the meeting. No questions or comments were made regarding the meeting summaries. Rick Lane added that due to a poor turn out at the Focus Group meeting, a packet of information, including the handout from the meeting along with the meeting summary, was sent to all of those invited to the meeting.

Traffic Analysis

Rick Lane discussed the traffic model growth scenarios that are being used for the traffic modeling portion of the project. The existing and platted scenario is anything that was developed and platted as of July 2006. The interim development scenario includes the area from Moorhead's growth area plan as well as some additional development in the industrial park and some preliminary platted land south of 46th Avenue South and east of 8th Street. The build-out development scenario reflects full build south to 60th Avenue South from the river to SE Main Avenue. The interim development growth data was analyzed on the FM COG 2010 roadway network. The build-out development growth data was analyzed on a build-out network that includes a 20th Street extension to 60th Avenue South and east/west connections of the major corridors between 8th Street and 20th Street. A handout was provided to the committee showing existing and projected volumes for the three growth scenario networks.

Jody Martinson questioned what year would be appropriate to associate with the interim growth scenario. The City of Moorhead felt that interim growth development would be reached between the years 2010 and 2020.

A traffic analysis was completed using existing traffic volumes and turning movements on the existing system network. The peak hour turning movements, current intersections geometrics and current intersection Level of Service (LOS) results were shown in handouts provided to the SRC. Rick Lane noted that some of the key intersections along the 8th Street corridor are already operating at a poor LOS. Rick added that SRF is currently in the process of completing a traffic analysis of the interim development scenario volumes on the existing roadway network. This analysis will show how the key intersections will operate if no changes are made to the existing roadway network when growth reaches interim development.

Rick Lane also referred the committee to their handouts of the crash analysis that was completed for the 8th Street and 20th Street key intersections and corridors. He pointed out locations with high crash rates. Crash diagrams were provided for the locations with high crash rates so that the committee could further analyze potential problems within the existing roadway network. It was noted that there are a high percentage of rear end crashes on 8th Street between 20th Avenue South and 30th Avenue South due to capacity problems and congestion related to I-94 access. It was also discussed that the number of accidents at the 30th Avenue South intersection has been reduced since the completion of signal and geometric improvements.

Issues and Alternatives

The following issues and alternatives were discussed at the meeting. Discussion and decisions made about the alternatives have been *italicized.*

1. Issue: 8th Street S (TH 75) Existing and Future Congestion

Alternatives:

1a. Increase 8th Street Capacity from north of 20th Avenue to 60th Avenue

The SRC agreed that capacity would need to be increased along the 8th Street Corridor. Capacity analysis will determine recommended improvements.

1b. Southbound double on-ramps to westbound I-94

This could be a problem due to the location of County Ditch 30. The ditch should be considered when reviewing the geometrics for this option.

1c. NB loop on-ramp for westbound I-94

- Will the additional lane fit under the existing 8th Street Bridge?
- Impacts to surrounding commercial area in the northeast quadrant of the interchange.
- Impacts the pedestrian movements along east side of 8th Street.

The committee felt that the analysis of 1b and 1c would need to be completed as a single packaged alternative so the two southbound to westbound lanes of traffic on the on-ramp would not compete with the northbound to westbound left turning movement on the same ramp.

1d. Eastbound I-94 loop off-ramp

- Will the additional lane fit under the existing 8th Street Bridge?
- Impacts to area in the southeast quadrant of the interchange.
- Impacts the pedestrian movements along the east side of 8th Street.

This option would remove the need for left turn time at the signal for the eastbound off ramp and free additional signal time for the northbound and southbound thru movements at the 8th Street and I-94 south ramp intersection. The SRC agreed that SRF should proceed with analysis of this alternative.

Rick Lane requested as-built drawings from Jody Martinson for the 8th Street and 20th Street Interchanges, 20th Street pedestrian bridge, and the railroad bridge just east of 20th Street.

1e. Additional signalization between 30th and 40th Avenue – either at Belsly Boulevard or 37th Avenue South. Also consider signalization at 46th Avenue South.

The SRC would prefer to see the signal at Belsly Boulevard and have limited unsignalized access at 32nd Avenue and 37th Avenue South.

1f. Half-mile access control south of 40th Avenue South. Signalize full access intersections at half mile spacing. Limit to 46th Avenue S and a half-mile between 50th and 60th Avenues.

The SRC agreed with the half mile access control in this area. Bob Zimmerman questioned what MNDOT's current access control is for this area. Jody Martinson said she would check into this and consider this area of TH 75 as urbanizing.

1g. 50th Avenue South – future signalized intersection or consider a possible round about at this intersection in conjunction with the pending parkway design of the 50th Avenue Corridor.

The SRC did not feel that this intersection was a favorable location for a round about due to the projected traffic volumes and the desire to retain a 35 to 45 mph speed limit on the corridor.

1h. Develop a future north/south access controlled route west of 8th Street between 50th and 60th Avenue South for an alternate route to the future Trollwood Performing Arts School.

The SRC did not feel that this was within the scope of this project. This would be done through a platting process with the City of Moorhead. However, further analysis will be done to evaluate the 50th Avenue South/8th Street intersection in light of Trollwood events and program participation.

1i. 60th Avenue South – Traffic Control – future signalization. Consider interim intersection modifications to address crash data.

MNDOT is currently working on an improved intersection at this location.

Tom Trowbridge questioned if future volumes would allow for preserving the ROW for a grade-separated interchange at 60th Avenue South and TH 75. The consensus was that the forecasted volumes would not support an interchange.

The group had further discussion about the potential for future commercial development between 50th and 60th Avenue South along the corridor. The committee proposed that any potential commercial development should consider backage roads to access the businesses and commit to the ½ mile intersection spacing.

2. Issue: 20th Street S - Traffic Operations, Full Interstate Access, Future Capacity and Future Extension to 60th Avenue South

Alternatives:

2a. Capacity improvements north of I-94 – Consider a five-lane section and improved intersection geometrics at 12th Avenue, 20th Avenue and 24th Avenue South.

This could eliminate parking in areas with limited right of way. The SRC was not favorable to limiting on street parking. They felt it would cause additional parking on the side streets.

2b. Signalization at 24th Avenue South for improved access and pedestrian crossings.

SRC agreed that 24th Avenue should be signalized.

2c. Reconfigure access to MSCTC to connect to 24th Avenue South.

Bob Zimmerman added that MSCTC is already considering changing their access from 28th Avenue to 24th Avenue. Also the access directly onto 20th Street could be modified to a limited access instead of completely eliminating it.

2d. Relocate the portion of 28th Avenue South that is east of 20th Street to the 24th Avenue South intersection or vacate 28th Avenue and develop 24th Avenue between 26th Street and 20th Street.

The SRC supported the analysis of a realignment of 28th Avenue South east of 20th Street, and thought that realignment to the north to align with a future ramp alternative and/or realignment farther north to align with 24th Avenue may be viable options. Bob Zimmerman stated that extending 24th Avenue directly to the east through the Busch Property is not likely to be a viable alternative and that further analysis should not be conducted.

2e. Full access folded diamond interchange

- Includes relocation of 28th Avenue Frontage road to the west side of MSCTC to intersect 24th Avenue South.

SRC questioned if the geometrics for a folded diamond interchange would work. Rick Lane stated that the analysis of the geometrics is part of the project and that SRF will determine if the folded diamond will fit and the potential impacts it would have.

Bob would also like to see the layout and impacts of a westbound off ramp. The ramp could exit onto a parallel road such as 24th Avenue and then connect with 20th Street.

Tom Trowbridge added that this option may include the signalization of the north ramps.

The SRC agrees to remove the idea of relocating the 28th Avenue Frontage road to the west side of MSCTC and intersecting with 24th Avenue South. Instead allow the 28th Avenue Frontage road to continue to the existing MSCTC access along the south side of the school and abandon the rest of the road that continues east to intersect with 20th Street as needed for the interchange geometrics.

2f. Consider future capacity improvements and signalization at 30th Avenue South.

SRC was in favor of this option with no additional comments.

2g. Extend 20th Street as a four-lane section between 34th Avenue and 46th Avenue with northbound left turn lanes at local streets between 34th Avenue and 46th Avenue S.

- Possible access restrictions at 41st Avenue South (i.e. right in/right out)
- Two optional cross sections 70' of ROW or 80' of ROW. There is currently 70 feet of ROW in this area. Consider obtaining an additional 10-feet of ROW from the west side of 20th Street.
- Consider relocation of pedestrian bike trail to the east side of the tracks from 30th Avenue to 50th Avenue South

SRC was favorable toward moving the bike path to the east side of the railroad tracks. SRC was favorable toward limited access at 41st Avenue South.

SRC would like to see an additional 10 of right of way available for this corridor. The City of Moorhead will need to check with developer to see if this is possible. Tom and Clair stated that the 70-foot ROW is further complicated by a 30-foot easement for a Moorhead Public Service 115,000 Volt transmission line that overlaps with the 70-foot ROW. They suggested that SRF contact Dave Kaley at Moorhead Public Service for information regarding this utility. (See attached Record of Telephone Conversation.)

2h. Consider relocation of 20th Street 660' to the west to allow for 60th Avenue to intersect with 20th Street and to allow for a railroad underpass

Tom Trowbridge informed the SRC that there are platted developments along the west side of the 20th Street corridor down to 46th Avenue South. The transition of the road would work better with the proposed plat if it occurs south of 46th Avenue.

2i. Consider a round about at 50th Avenue South as a traffic control measure and as an enhancement to the pending parkway design of 50th Avenue S.

SRC determined that due to lower volumes and speed limits, this intersection would be a better location to consider a round about.

3. Issue: Pedestrian and Bicycle Facilities – Access and Safety

Alternatives:

3a. Continue with recommendations in FM-COG pedestrian/bike plan.

SRC agreed with this recommendation.

3b. Consider extending the proposed 24th Avenue S bikeway connection from 14th Street to 20th Street.
SRC agreed with this recommendation. Brian Gibson questioned if this bike trail should be a class 2 or class 3 trail. A striped class 2 trail would require removing side street parking. The committee thought that a class 1 trail should be considered. The class 1 trail could be a continuation from a possible 14th Street overpass, go east along 28th Avenue and cross behind the west side of MSCTC and connect to 20th Street.

3c. Verify status of 14th Street pedestrian grade separation with I-94. May coincide with vehicle grade separation.

The committee discussed this in conjunction with alternative 4a. The consensus was that the committee would like to add the pedestrian grade separation at 14th Street with I-94 back into the bike/pedestrian plan, especially in light of the movie theater development proposed south of I-94, and the possible impacts to the existing pedestrian/bike facility at 8th Street/I-94 associated with proposed loop ramps.

3d. Consider moving 20th Street trail to the east side of the BNSF Breck RR Line from south of 30th Avenue to 50th Avenue South.

SRC in favor of examining this alternative.

3e. Continue 20th Street trail from 50th Avenue South to 60th Avenue South along the re-aligned 20th Street. May also continue the bike trail adjacent to the east side of the BNSF Breck RR Line.

SRC suggested continuing the bike trail in both locations, along the east side of the tracks and along the realigned 20th Street.

3f. Analyze the feasibility of a pedestrian underpass of 20th Street S and the BNSF Breck Line at 100-Acre Park. Need to select most feasible location for analysis.

The City of Moorhead has already determined that analysis of the pedestrian underpass should focus on the north side of the 40th Avenue South and 20th Street intersection rather than farther north in the Johnson Farm Addition.

3g. Pedestrian grade separation of 8th Street at 40th Avenue South.

This is already a proposed project.

3h. 60th Avenue Class 1 Bike/Ped trail from the Red River to east of 20th Street.

SRC in favor of this alternative. The portion between the Red River and 8th Street is already included in Metro COG's Bicycle/Pedestrian Plan.

4. Issue: Systemwide Continuity – Barriers, Congestion & Delay

Alternatives:

4a. 14th Street grade separation over I-94 (for vehicular movement as well as pedestrian and bicycles.)

SRC was not favorable toward analysis of a vehicular overpass of I-94 at 14th Street. The City of Moorhead informed the committee that a theater is being proposed at this location, west of the 14th Street alignment and directly south of I-94. The SRC was favorable of revisiting the idea of a pedestrian overpass at this location. The City of Moorhead would need to regain right of way on the south side of the interstate for the pedestrian overpass. The committee felt that the proposed theater would be favorable toward the pedestrian overpass and may consider changing their preliminary site plans to accommodate it. The City of Moorhead will contact the theater to discuss.

4b. Collector/distributor along I-94 from 8th Street thru 20th Street to serve the 8th and 20th Street interchanges and possible connection to a 14th Street overpass

The SRC was favorable toward the analysis of a collector/distributor system between 8th Street and 20th Street that would include a connection to 14th Street, as a trade off to six lanes on I-94. This would remove local traffic from the interstate system. SRF will determine if the geometrics for a C/D system are feasible at this location.

4c. 6-lanes on I-94 from 34th Street to the Red River

This will be reviewed during the corsim analysis of the interstate system.

4d. Consider other river crossings between I-94 and 60th Avenue South

Brian Gibson stated that he didn't feel having additional river crossings would take traffic off the interstate system unless the interstate becomes less attractive. He thought placing a toll on the ramps would make the interstate less attractive and other river crossings more attractive.

The SRC was overall not in favor of restudying river crossings that were studied and turned down in the past, and felt that it definitely isn't in the scope of this project. However, they felt it would be important to recommend securing the 70th Avenue/76th Avenue corridor for a future river crossing between Fargo and Moorhead.

4e. RR underpass of BNSF Breck RR Line at 60th Avenue South

SRC was in favor of studying this alternative to determine an appropriate location and ROW preservation needs.

4f. Relocate the segment of the BNSF Breck Line, which runs from north of I-94 to south of 60th Avenue to the Ottertail Valley RR Line.

- Possible use of 70th Avenue/76th Avenue river crossing corridor for RR connection to Ottertail Valley RR Line.

SRC was not favorable towards spending time on an analysis of this alternative. They felt a study of this issue would result in the same issues that arose when the City was considering moving the Ottertail RR Line to the Breck RR Line.

Project Schedule

The project is currently on or a little ahead of the schedule. The next SRC meeting is scheduled for January of 2007. The meeting may be pushed back into February of 2007, depending on the amount of time required analyze the alternatives. A significant period of time was allowed for the analysis of alternatives so if we push the next meeting back to February it will not affect the overall schedule.

Action Items

- SRF will complete the interim traffic operations analysis on the existing network.
- SRF will develop the alternatives discussed and complete traffic operations analyses on the many alternatives with interim volumes/turning movements.
- Jody Martinson will provide as-built drawing information for the two interchanges.
- Jody Martinson will check on MNDOT's access control for TH 75.
- City of Moorhead will initiate discussion with the CEC Theater developer to try to regain right of way for a 14th Street pedestrian overpass over I-94.
- City of Moorhead will look into obtaining an additional 10-feet of right of way along the west side of the 20th Street corridor south of 34th Avenue South.

If there are any additions or corrections to these minutes, please contact Peggy Harter of SRF at (701) 237-0010.

RL/PH

AGENDA

TH 75/20TH Street South Corridor Studies
Third Study Review Committee Meeting
Tuesday March 27, 2007
9:30 AM to 11:30 AM
FM COG Conference Room, Case Plaza Building
One North Second Street Fargo, ND

I. **Introductions**

II. **Review Second SRC Meeting Minutes (Attachment 1)**

III. **Traffic Analysis**
- **Updated AADT**
- **Interim Traffic Volumes on Existing Network**
- **Interim Traffic Volumes on Proposed Geometrics**
- **Impacts of Interchange Alternatives**
  - **TH 75 & I-94**
    - **Alternative 1**
  - **20th Street & I-94**
    - **Alternative 1**
    - **Alternative 2**
    - **Alternative 3**
- **Collector/Distributor System**
- **Round-A-Bout Analysis**

IV. **Next Steps**
- **Updated Project Schedule**
- **Second Focus Group and Public Meetings**

SRF No. 0065728

RECORD OF MEETING

TH 75 & 20th Street Corridor Studies

Third Study Review Committee Meeting

March 27, 2007 – 9:30 a.m.

Case Plaza Conference Room

Members in Attendance:	**Representing:**
Clair Hanson	City of Moorhead
Bob Zimmerman	City of Moorhead
Tom Trowbridge	City of Moorhead
Brian Gibson	FM COG
Justin Kristan	FM COG
Jody Martinson	Mn/DOT
Mark Waisanen	Mn/DOT
Tom Swenson	Mn/DOT
Rick Lane	SRF Consulting Group, Inc.
Avo Toghramadjian	SRF Consulting Group, Inc.
Peggy Harter	SRF Consulting Group, Inc.
Cindy Gray	SRF Consulting Group, Inc.

Introductions

Rick Lane opened the meeting and asked everyone to introduce themselves and who they were representing. He then asked the committee if anyone had any comments or changes to the minutes from the previous SRC meeting. No comments or changes were made.

Traffic Analysis

Rick Lane reviewed the updated AADT Volume graphic for the existing, interim and growth scenarios that had previously been developed. He first showed the results of the analysis of interim traffic volumes operating on a network with existing geometrics on TH 75 and north of the I-94 interchange on 20th Street; and revised geometrics south of and including the interchange at 20th Street. The results of this analysis indicated that most key intersections within the corridors would be operating at a failing or unacceptable level of service if no changes are made. The results of this analysis aided in the development of recommended geometrics along both corridors. Mr. Lane then reviewed the results of the analysis of interim traffic volumes on a network with recommended geometrics. The recommended geometrics included improvements to both interchanges and additional capacity for both corridors. This analysis

resulted in the key intersections operating at an acceptable level of service. Rick Lane noted that some of the approach levels of service are shown as a LOS D. However, the delay for these movements was very close to the C/D delay boundary and had an overall intersection LOS C or better; therefore another full lane at these approaches wasn't justified.

Interchange Improvement Alternatives

Avo Toghramadjian discussed the concept level interchange improvement alternatives and the impacts associated with each alternative.

1. TH 75/I-94 Interchange

Alternative 1 included the following improvements and impacts:

- New loops in the northeast and southeast quadrants. The northeast loop would remove the heavy northbound to westbound left turn movement at the north on-ramp. The southeast loop would remove the heavy eastbound to northbound left turn movement at the south off-ramp.
- Dual southbound to westbound free flow on-ramp to accommodate this heavy movement. Heavy conflict northbound left is now handled by the northeast loop.
- Bridge would have to be widened to accommodate heavy through movements and loop ramp termini.
- Requires retaining wall in the northeast quadrant to maintain existing frontage road.
- Requires relocation or enclosure of existing county drain.
- Loop in the southeast may require removal of at least a portion of an existing commercial building and associated property for right of way.

Tom Trowbridge noted that a plat will soon be approved in the southeast quadrant of the interchange. Tom also questioned the design of the pedestrian pathway, which would cross TH 75 at both the south and north ramps. After discussion, the group consensus was to show the pedestrian path staying on the west side of the roadway with one underpass going under the eastbound off ramp.

2. 20th Street/I-94

Concept 1 included the following improvements and impacts:

- Folded diamond interchange on the west side of 20th Street with loops that meet MNDOT design standards.
- Major impacts to MSCTC, the Triumph Lutheran Church buildings, and adjacent apartment buildings.
- The 20th Street Bridge would need to be widened to provide additional N-S capacity.
- Would require removal of commercial business in the northeast quadrant.
- Significant impacts to existing electrical transmission lines and sub-station in the southeast quadrant.
- Railroad Bridge would remain as it is and no additional crossing would be added to the railroad.

Concept 2 includes the following improvements and impacts:

- Folded diamond interchange on the west side of 20th Street with loops that have radii smaller than MNDOT's design standards with the addition of acceleration/deceleration lanes. MNDOT would need to give pre-approval to this design concept before showing it as an alternative.
- Impacts MSCTC parking lot, but does not impact MSCTC buildings, Triumph Lutheran Church, or apartment buildings.
- Total reconstruction of the 20th Street Bridge and Railroad Bridge would be required to fit loops under the bridges.
- Would impact transmission line (relocations) but not the sub-station.

Concept 3 includes the following improvements and impacts:

- Full diamond interchange with no loops, but a button hook loop in the northeast quadrant.
- Widen 20th Street Bridge to increase capacity.
- Creates a railroad crossing with the eastbound on ramp that could be controlled by the signal with additional storage capacity on 20th Street.
- Westbound exit ramp (button hook) would intersect the existing frontage road that would connect to 20th Street. Relocation of the frontage road would impact the recycling and fertilizer businesses in the northeast quadrant of the interchange. The existing crossing of the railroad would be relocated. The committee would like to see this same alternative with the westbound exit ramp connecting to 24th Avenue South via the frontage road relocation.
- Creates a weave issue with the existing rest area entrance ramp, so the rest area traffic would exit the interstate at 20th Street, cross 20th Street and enter the rest area from the proposed eastbound on-ramp.
- Impacts MNDOT's storage pond in the southeast interchange quadrant.
- Approximately 8 to 10 trains per day on the railroad line that would be crossed.
- Lowest cost alternative

The SRC would like to keep all three alternatives in the study to show that all options were studied. The committee asked that Alternative 3 have an additional alternative with the eastbound exit ramp connection at 24th Avenue South. SRF will make any necessary changes to the alternatives and get them to MNDOT for comments. The SRC would like to get feedback from MNDOT on all of the alternatives before showing them to the public.

3. Collector/Distributor System Analysis

- Collector/Distributor (C/D) system would connect at TH 75, 14th Street and 20th Street
- Analysis of the C/D system indicates that it would not relieve much traffic off of the interchanges at TH 75 and 20th Street as originally anticipated.
- The C/D system would have a major impact to right of way, drainage ditches and would be very high cost.

- SRF does not recommend that the study pursue further analysis of the C/D system. The SRC agreed with the recommendation.
- Bob Zimmerman questioned if a C/D system could be looked at between 20th Street, SE Main and 34th Street. Rick Lane responded that it is out of the scope of this study. Brian Gibson felt that it could be included in the future interstate operations study.

4. Roundabout Analysis

A planning level roundabout analysis was completed at five intersections along TH 75. The intersections were TH 75 with 24th Avenue South, I-94 North Ramps, I-94 South Ramps, 30th Avenue South and 60th Avenue South. Rick Lane reviewed a technical memorandum that discusses the procedure for the roundabout analysis. The analysis indicated the following:

- The analyses were completed by converting interim turning movements into roundabout movements.
- A double-lane roundabout with right turn bypasses (RTB) does not work at the intersections of TH 75 with I-94 North Ramps, I-94 South Ramps or 30th Avenue South.
- A double-lane roundabout with right turn bypasses does work at the intersection of TH 75 with 24th Avenue South. However, the northbound flow just barely meets the capacity. SRF does not recommend a roundabout at this location since it barely meets capacity constraints and it would be in the middle of several signalized intersections. Roundabouts work well with random traffic flows in a series with other roundabouts. The intersection of TH 75 & 24th Avenue South have signals both to the north and south which would send traffic in large queues that would not work well in a roundabout.
- A single-lane roundabout works at the intersection of TH 75 and 60th Avenue South. Since roundabouts also serve as traffic calming measures that help increase safety at high crash locations, this intersection would be a good location for a roundabout. SRF is recommending that a roundabout with RTB for southbound, be considered as one of the alternatives at 60th Ave. S.
- The intersection of TH 75 & 50th Avenue South was not part of the roundabout analysis; however, its capacity is less than the 60th Avenue South intersection and should work with a single-lane roundabout. The intersection is similar in nature to the 60th Avenue South intersection and has had a recent crash involving a fatality. Roundabouts also work well together in a series; therefore SRF is also recommending a roundabout at this location in conjunction with a roundabout at 60th Avenue South, be one of the alternatives.
- Both roundabouts at 50th Avenue and 60th Avenue South should be laid out as double-lane roundabouts to secure enough right of way in the event that the future volumes would need a double-lane facility.

Project Schedule

The project is still on schedule to be completed in November of 2007. The next Focus Group and Public Meeting may be pushed back until May or June in order to have corridor graphics that include the geometric recommendations and MNDOT comments on the interchange alternatives. The next SRC meeting will be scheduled shortly after the Focus Group and Public Meeting.

Action Items

- SRF will complete changes to the interchange alternatives as discussed during the SRC meeting and submit to MNDOT for comments.
- SRF will develop corridor graphics that will include all geometric recommendations, including roundabouts at 50th and 60th Ave S.
- SRF will continue writing the draft study report.
- MNDOT will review the interchange alternatives and get comments back to SRF as soon as possible so that the Focus Group and Public Input Meetings can be scheduled.
- SRF will schedule the Focus Group and Public Input Meetings as soon as a date can be set.

If there are any additions or corrections to these minutes, please contact Peggy Harter of SRF at (701) 237-0010.

RL/PH

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

REVISED AGENDA

TH 75/20TH Street South Corridor Studies
Fourth Study Review Committee Meeting
Thursday August 23, 2007
9:00 AM to Noon
FM COG Conference Room, Case Plaza Building
One North Second Street Fargo, ND

I. **Introductions**

II. **Review Third SRC, 2nd Focus Group, and 2nd Public Input Meeting Minutes**

III. **Revised/New Alternatives**
- **Revised Evaluation Matrices**

IV. **Draft Report**
- **Discuss Comments**
- **Selection of Preferred Alternatives**

V. **Next Steps**
- **Corsim Analysis**
- **Update Draft Report with comments and preferred alternatives.**
- **Implementation/Financial Plan**
- **Prepare Executive Summary**
- **3rd Public Input Meeting**
- **City Commission and Council Meetings**

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SRF No. 0065728

RECORD OF MEETING

TH 75 & 20th Street Corridor Studies

Fourth Study Review Committee Meeting

August 23, 2007 – 9:00 a.m.

Case Plaza Conference Room

Members in Attendance:	**Representing:**
Bob Zimmerman	City of Moorhead
Tom Trowbridge	City of Moorhead
Brian Gibson	FM COG
Justin Kristan	FM COG
Bob Bright	FM COG
Mark Waisanen	Mn/DOT
Rick Lane	SRF Consulting Group, Inc.
Peggy Harter	SRF Consulting Group, Inc.
Cindy Gray	SRF Consulting Group, Inc.

Introductions

Rick Lane opened the meeting and asked everyone to introduce themselves and who they were representing. He then asked the committee if anyone had any comments or changes to the minutes from the previous SRC meeting. No comments or changes were made. He then noted that minutes from the second focus group and public input meeting were handed out to them as part of the meeting packet. He asked the committee to review them and send comments to Peggy Harter.

Preferred Alternative Selection

Rick Lane referred the committee to the typical sections and alternative matrices included in their handout. He went through the different sections along both study corridors describing the alternatives and their impacts. The committee either chose a preferred alternative or added an alternative that would most likely be considered the preferred alternative. Discussion about the alternatives is as follows:

- Frontage road alternatives between 20th and 24th Avenue South should not affect any residence. Choose Alternative B with right out only onto 24th Avenue South for west frontage road and east frontage road turning into 23rd Avenue South and reconfiguring

apartment driveways. Tom Trowbridge suggested that a driveway could be extended off the frontage road to serve the existing apartment building to the south and connect parking lots to the building to the east to eliminate the apartment driveway onto 24th Avenue South closest to Highway 75.

- Matrix Table 16 should be changed to clarify the frontage road alternatives and to add a line showing "total takings".

- SRC was in favor of Alternative B for the TH 75 roadway section between 20th and 24th Avenue South. This limited the impacts to boulevard and existing trees and met minimum MNDOT design standards.

- SRC chose Alternative A for the TH 75 roadway section between 24th and 40th Avenue South. The group decided to leave in the 6-foot shoulder and stripe it with an 8-inch white stripe and sign it as an on road bike trail. The group decided that it would not be a good idea to hatch the entire shoulder due to maintenance issues. This would go along both sides of TH 75 from 60th Avenue South to 24th Avenue South. At 24th Avenue South a connection for pedestrians/bicycles should be made to the frontage road.

- TH 75 corridor from 40th to 50th Avenue South – Alternative B (roundabout alternative) was chosen as the preferred alternative. Should recommend preserving enough right-of-way (ROW) at the intersection of 50th Avenue South and TH 75 for a double-lane roundabout.

- TH 75 corridor from 50th Avenue South to 60th Avenue South – Alternative B (roundabout alternative) was chosen as the preferred alternative. Recommend a single lane roundabout with a southbound to westbound right turn bypass. However, we recommend preserving enough ROW for a potential future 2-lane roundabout. Also additional strip of ROW should be preserved from just north of 50th Avenue South down to 60th Avenue South along the east side of TH 75 to accommodate full build needs.

- TH 75 and I-94 Interchange options were discussed. Committee chose Alternative B to reduce the impact to the building in the southeast quadrant. The City of Moorhead had concerns that even though MnDOT pre approved the bike/ped underpass of the southwest interchange ramp that they won't approve it during final design since it brings pedestrians into the interchange area. The committee recommended changing the alignment of the pedestrian underpass so that is closer to TH 75 alignment.

- Bob Zimmerman thought that the report should include the sufficiency ratings of the TH 75 and 20th Street bridges over the interstate. Mark Waisanen will request this information and pass it along to SRF to include in the report.

- 20th Street from 6th Avenue South to Belsley Boulevard should add a 3rd Alternative C that includes an 11-foot, 4-lane section with a median and turn lanes. Alternative C would limit access to right/in and right/out only at the intersections of 6th Avenue, 14th Avenue, 18th Avenue, 21st Avenue, 22nd Avenue, and 23rd Avenue. This would leave full access at all other major intersecting streets. Tom Trowbridge asked SRF to check state aid design standards for minimum width of left turn lanes. The committee also decided that residential and business access points onto 20th Street within this section of roadway should be

eliminated if they have a different functional access point. Alternative C is the preferred alternative.

- 20th Street from Belsley Boulevard to 43rd Avenue South should add two additional alternatives. Tom Trowbridge stated that the additional 10' of ROW along the west side of the corridor will be acquired from Belsley to 40th Avenue. The 10' of ROW can not be acquired between 40th Avenue and 43rd Avenue South because development has already started and it would not be possible to reconfigure the adjacent plats like it is north of 20th Ave. The section from 40th to 43rd Avenue South will need its own cross section. The two additional alternatives to add are Alternatives B and C. Alternative B should include 11-foot wide lanes and additional 10' ROW to the east. The 10' of ROW should include 4-feet purchased from the railroad and 6-foot easement from the railroad. The easement would include boulevard plantings and a fence. Alternative C shall include 12-foot wide lanes with a 16-foot wide median and acquisition of approximately 16 to 20 feet of ROW or easement from the railroad on the east side of the roadway. This option would also include plantings and a fence. Alternative C is the preferred alternative.

- South of 43rd Avenue South the committee is recommending a 120-foot wide ROW section. SRF will add a full build cross section south of 43rd Avenue to justify the future ROW recommendation. Alternative A (the only alternative for this section) was chosen as the preferred alternative. It is recommended that the alignment shift to the west south of 50th Avenue South, however no preferred alignment has been selected. The bike trail along the east side of 20th Street should connect into the bike trail along 50th Avenue South which then connects to the bike trail along the east side of the railroad tracks.

- 20th Street and I-94 Interchange Alternatives – The committee selected Option E as the preferred alternative and Option B as the second choice. Brian Gibson asked if there is a section in the report that covers the purpose and need of this interchange. This will be added to the report reflecting work that was covered under the scope of this project. Moorhead stated SRF should talk to the Tech school again because they may want to keep access to 28th Ave, which may further justify Alternative E.

Draft Report

Some report comments were submitted to Peggy Harter at the meeting. Any additional report comments should be sent to Peggy as soon as possible. The committee discussed sections of the report that still need to be completed. Additional work to be completed is as follows:

- Rick Lane explained that the Corsim Analysis of the interstate system could not be completed until preferred alternatives were chosen for the two interchanges.

- The implementation plan has not been completed. SRF will send a list of work to be completed to MnDOT, City of Moorhead, and FM COG and have them prioritize the projects.

- The third public input meeting will include wall displays and the draft report showing the committee's preferred alternatives will be presented.

- SRF will work to complete an executive summary. Bob Zimmerman would like to see a flip book with the committee's preferred alternatives and about ten pages of text summarizing

parts of the main report that correlates with the graphics. This will be used for the Planning and City Commission meetings.

Project Schedule

The project is still on schedule to be completed in November of 2007.

Action Items

- SRF will complete changes to the draft report as discussed during the SRC meeting.
- Tom Trowbridge will send Peggy Harter ROW and plat electronic files for the northwest corner of 50th Avenue South and TH 75.
- Mark Waisanen will send Peggy Harter the information for the structural rating of the TH 75 and 20th Street bridges over I-94.
- Rick Lane will send out a priority list to MnDOT, City of Moorhead and FM COG for the project implementation plan.
- SRF will begin the Corsim Analysis of the interstate system within the project area.
- SRF will schedule the final public input meeting for the beginning or middle of October.
- SRF will put together an executive summary after the final public input meeting.

If there are any additions or corrections to these minutes, please contact Peggy Harter of SRF at (701) 237-0010.

PH

RECORD OF MEETING
TH 75 & 20th Street Corridor Studies

Monday, May 14, 2007; 11:00 - 1:45 p.m.
Video Conference Meeting
Mn/DOT District 4 with Central Office

Members in Attendance:	**Representing:**
Bob Zimmerman	City of Moorhead
Lee Berget	Mn/DOT – District 4
Jody Martinson	Mn/DOT – District 4
Mark Waisanen	Mn/DOT – District 4
Tom Swenson	Mn/DOT – District 4
Jim Halver	Mn/DOT – District 4
Jim Rosenow	Mn/DOT – Geometrics Office
Brad Anderson	Mn/DOT – Geometrics Office
Rick Lane	SRF Consulting Group, Inc.
Avo Toghramadjian	SRF Consulting Group, Inc.
Rick Brown	SRF Consulting Group, Inc.

Minutes provided by SRF Consulting Group, Inc.

INTRODUCTIONS

Jody Martinson opened up the video conference meeting, and asked everyone in attendance, both at Detroit lakes and St. Paul, to introduce themselves. She explained that SRF is working with the FM COG, City of Moorhead and Mn/DOT to develop a combined corridor study for TH 75 and 20th Street in Moorhead. Rick Lane gave a brief project background and explained that the purpose of the meeting is to present the conceptual geometric layouts developed to date at each interchange and provide Mn/DOT an opportunity to provide comments before these layouts are shown at a scheduled Public Information Meeting on May 31, 2007.

TH 75 and I-94:

Avo explained that only one alternative, that meets all current Mn/DOT design standards, was developed at this location. The proposed interchange would provide two additional loops, one in the northeast quadrant and the other in the southeast quadrant, for the purpose of eliminating the left turn conflicts at both ramp junctions. Avo also stated that the existing bridges on TH 75 over I-94 were approximately five years old; therefore, making use of the existing bridges in the proposed conditions was of highest priority.

In responding to Jim Rosenow's question on the specific issues that were being addressed by the design, Rick Lane discussed the existing and future traffic projections and explained that based on SRF's traffic analysis, most key intersections within the corridors would be operating at a failing or unacceptable level of service if no changes are made to the existing conditions. He further explained that the southbound right turn lane on TH 75 to westbound I-94 is a problematic movement specifically because it conflicts with the westbound entrance ramp off of northbound TH 75. Historically, the unusual yield condition at this location has contributed to numerous rear end crashes.

Jim Rosenow stated that theoretically, the capacity of a typical loop is about 900 vph and he was concerned that the projected traffic volumes exceeded that threshold on the SE loop, thus the potential of traffic backing up on I-94.

Jim questioned the potential right of way impacts in the southeast quadrant, and whether they could be minimized with the use of tighter radii on the loops. The current design shows minimum radius of 190'. Jim stated that tighter radii could work in some instances when combined with adequate acceleration and deceleration lanes. He suggested looking at 170' radii for the loops. Bob Zimmerman stated that if eliminating the impacts to the property in the SE quadrant was not possible, the City would consider the possibility of some acquisition.

Avo described the pedestrian path within the corridor. The design maintains the pedestrian path on the west side of TH 75, with one underpass under the eastbound off ramp then back on top of the bridge over I-94. The intent was to reduce the need for pedestrians to cross TH 75. Jim strongly suggested that in addition to the path along the west side on the bridge, that a sidewalk is provided along the east side on the bridge. Additionally, it was agreed that FHWA would be consulted on whether pedestrian underpasses beneath the ramp was allowable.

20th Street and I-94:

Rick Lane explained that 20th Street is a major north-south corridor in Moorhead. There are major existing destinations along this route; additionally, the City is building a new regional soccer complex at 20th Street and 40th Avenue and approximately 1000 housing units are being developed along 20th Street, south of I-94. He added that the lack of a full access interchange at 20th Street and I-94 continues to create capacity issues at the adjacent (TH 75) interchange.

Lee Berget stressed the current lack of funding for any interchange expansion and emphasized that the information when presented, should be referenced as a study.

Jim Rosenow explained that Mn/DOT and FHWA would question upgrading 20th Street and I-94 to a full access interchange. He asked if other local options are being considered, mainly frontage roads between the interchanges. He added that development of the local system will need to be demonstrated as part of the planning for possible interchange improvements.

Bob Zimmerman stated that bridges over the Red River would be an important component of any east-west system improvements and such bridges are unlikely to occur anytime soon.

Rick Lane explained the importance of this study to document the various barriers to any east-west system; not only the Red River but also the presence of rail roads and large industrial parcels that can not be crossed.

Jim Rosenow suggested considering pure grade separations over I-94 without access to I-94 in an effort to reduce those trips out of the interchanges.

The following four Options were presented:

Option A

Avo described that Option A provided a folded diamond interchange on the west side of 20th Street with loops that meet Mn/DOT design standards. The west side of 20th Street was chosen mainly for the purpose of not adding new at grade crossings with the BNSF railroad that runs parallel along the east side of 20th Street. Although this option did not impact the railroad and pedestrian bridges east of 20th Street, it had very high direct right of way impacts to properties in both the northwest and southwest quadrants.

Jim Rosenow suggested using button hooks if there are good connections to the frontage road system.

Option B:

Avo described that Option B provided a modified folded diamond interchange on the west side of 20th Street with loops with tighter radii and longer acceleration and deceleration lanes on I-94 to complement the lower loop speeds. This option would require Mn/DOT's review and approval.

This option does not add new at-grade crossings with the railroad, reduces the right of way impacts described in Option A; however, it requires the reconstruction of the 20th Street, railroad and pedestrian bridges.

Jim Rosenow commented that the existing main line depression of I-94 under 20th Street would help the acceleration and deceleration lanes and create the ideal conditions for tighter radii on the loops. He felt that 150' radii on the loops would be justified.

Jim Rosenow noted the weave between eastbound I-94 and the existing exit ramp to Mn/DOT's rest area east of 20th Street. He suggested careful analysis when looking at this movement.

Option C:

Avo explained that Option C would provide a full diamond interchange with no loops, but a button hook loop in the northeast quadrant. This option would add a new at-grade crossing with the rail road, specifically with the on ramp to eastbound I-94. The two existing ramps west of 20th Street would remain as well as the railroad and pedestrian bridges. This Option creates a weave issue with the existing rest area entrance ramp, so the rest area traffic would exit the interstate at 20th Street, cross 20th Street and enter the rest area from the proposed eastbound on-ramp.

Avo also explained that the exit ramp from westbound I-94 would be accomplished by a button hook that would intersect the existing frontage road that would connect to 20th Street. Relocation of

the frontage road would impact the two businesses in the northeast quadrant of the interchange. The existing crossing of the railroad would be relocated.

Jim Rosenow commented that the access to the rest area, described above, was a disadvantage to this option. He wasn't sure how FHWA or Mn/DOT's rest area group would react to this configuration.

Lee Berget suggested using a braided ramp design by grade separating the on ramp to eastbound I-94 with the off ramp to the rest area.

Tom Swenson suggested developing a new option interchange by combining the loop ramp in the southwest quadrant from Option B with the button hook design in the northeast quadrant from Option C. Jim Rosenow thought that this new option would be a good fit giving the constrains.

Option D:

Avo explained that Option D was identical to Option C south of I-94 and that the only difference was that the frontage road in the northeast quadrant connected with 20th Street at 24th Avenue.

Bob Zimmerman explained that 24th Avenue, west of 20th Street was a main route that carries more traffic than the frontage road east side of 20th Street.

Jim Rosenow commented that the button hook connection introduces a lack of continuity on the frontage road, north of I-94. He also felt that the connection at 24th Avenue presents a long way to travel to get off of I-94 to 20th Street.

General Comments:

Rick Lane stated that a public information meeting is scheduled for the end of May, and asked if there was any information discussed at this meeting that can not be shown.

Lee Berget and Tom Swenson expressed their disapproval of the access to the rest area as shown in Options C and D. Rick Lane responded that the braided ramp design, discussed above, will be developed and shown instead.

Finally, Jim Rosenow noted that his group can only comment on the geometrics alternatives but he was not in a position to guarantee that Mn/DOT or FHWA would support the idea of updating the 20th Street interchange to a full access interchange.

Appendix B – Focus Group Agenda & Meeting Minutes

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

AGENDA

TH 75/20TH Street South Corridor Studies
First Focus Group Meeting
Thursday September 28, 2006
3:00 PM to 4:00 PM
Triumph Lutheran Brethran Church
2901 20th Street South, Moorhead, MN

I. Introductions

II. Study Purpose/Issues Map & Project Schedule

III. Existing Conditions

IV. Purpose of Focus Group Meeting

V. Focus Group Discussion, Input & Insight

VI. Other

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SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

September 20, 2006

Memorandum

To: TH 75 & 20th Street Corridor Study Focus Group Members

From: Peggy Harter, Engineer
SRF Consulting Group, Inc

Re: TH 75 & 20th Street Corridor Studies

The Fargo-Moorhead Metropolitan Council of Governments (Metro COG) has retained SRF Consulting Group, Inc. (SRF) to complete a transportation study of the TH 75 & 20th Street Corridors.

The purpose of this study is due to the unprecedented southerly growth in Moorhead particularly in the area between TH 75 and 20th Street South. As a result of this growth and the recent and projected travel demands on both TH 75 and 20th Street South, Metro COG has created a study to better define the short-term and long term transportation needs along TH 75 from 20th Avenue South to 60th Avenue South and along 20th Street South from SE Main Avenue to 60th Avenue South. The corridor study effort shall include a thorough analysis of the following elements:

- Capacity
- Right-of-Way
- Safety
- Traffic Control
- Access Consolidation
- Complimentary East-West Connections
- Bicycle and Pedestrian Needs
- ADA Compliance
- Gateway Aesthetics

One Carlson Parkway North, Suite 150
Minneapolis, Minnesota 55447-4443
Tel: 763-475-0010 • Fax: 763-475-2429

srfconsulting.com

Case Plaza, One North Second Street
Fargo, North Dakota 58102-4807
Tel: 701-237-0010 • Fax: 701-237-0017

The preliminary design work will examine a wide range of possibilities and alternatives for roadway improvements, roadway extensions, interchange geometrics, utility relocation requirements, corridor relocation considerations and access control. This level of analysis must permit various impacts to be considered for each alternative and must allow for the development of preliminary corridor cost estimates.

The public participation process of the study will include input from two groups, the Study Review Committee and a Focus Group, in addition to the customary public meetings. The Study Review Committee will meet regularly and actively direct the study process. This group consists of key city, county, and Mn/DOT representatives.

The Focus Group will consist of key stakeholders including a landowner, MNDOT District Engineer, the Moorhead City Manager, BNSF representative, Developers, Trollwood Performing Arts School representative, Moorhead School District Superintendent, Minnesota State Community and Technical College representative, the Clay County Administrator, the Clay County Planning Director and a Moorhead Township representative. The Focus Group will meet twice and will provide direct input regarding issues/needs and, later on, alternatives evaluation.

You have been identified by the Study Review Committee as an important stakeholder in this study, and we invite you to participate in the focus group meeting process. The first focus group meeting will be held on September 28, 2006 from 3:00 to 4:00 pm at Triumph Lutheran Brethran Church (2901 20th Street South, Moorhead, MN). Enter the church at the main doors and follow the signs to the meeting room. Discussion will pertain to project issues within the study area, traffic and accident data along both corridors specifically at key intersections, and comments/ideas for transportation system alternatives. The second Focus Group meeting will be held later in the study process, approximately in March 2007 to solicit stakeholder comments on transportation system alternatives.

For your information, also enclosed with this letter, is a notice of the open house public meeting that will be held the evening of September 28, 2006. In addition to the focus group meeting, you are welcome to attend this meeting if you desire.

Thank you in advance for your participation. Please contact Brian Gibson at Metro COG (701-232-3242, Ext 33, gibson@fmmetrocog.org), or Rick Lane, PE, SRF Consulting Group, Inc. in Fargo (701-237-0010, Ext 4#, rlane@srfconsulting.com) with any questions that you have.

Attachment

"X" IF PRESENT	NAME	TITLE	ORGANIZATION	ADDRESS	PHONE #	E-MAIL
	Mark Waisanen	Area Operations Manager	District IV MNDOT	1000 Highway 10 West, Detroit Lakes, MN 56501	218-847-1541	Mark.Waisanen@dot.state.mn.us
	Jody Martinson		District IV MNDOT	1000 Highway 10 West, Detroit Lakes, MN 56501		
	E. Robert Olson	Land Owner		294 44th Avenue South, Moorhead, MN 56560	218-236-8871	
	Bruce Messelt	City Manager	City of Moorhead	500 Center Avenue, Moorhead, MN 56560	218-299-5505	bruce.messelt@ci.moorhead.mn.us
	Lynn Leibfried	Manager of Public Projects	BNSF	80 44th Avenue NE, Minneapolis MN 55421	763-782-3492	Lynn.Leibfried@bnsf.com
	Scott Carry	Developer	R.S. Carey Land Co.	1606 Main Avenue, Suite 101, Moorhead, MN 56560	218-233-3630	
	John Hough	Developer	JV Hough Company	1100 32nd Avenue South, Suite A, Moorhead, MN 56560	701-284-0143	
	Dale Joel	Developer	Capital Growth	101 East 5th Street, Suite 1901, St. Paul, MN 55101	651-222-3366, #15	dj@capitalgrowthre.com
	Jason Eid	Developer	Eid-Co Development	1701 32nd Avenue South, Fargo, ND 58103	701-237-0510	
	Kevin Christianson	President	Pace-Lodging Corporation	4265 45th Street South, Suite 200, Fargo, ND 58104	701-281-9500	kchristianson@paces-lodging.com
	Kathy Anderson	Director of Administration	Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	
	Vicki Chepulis	Executive Director	Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	chepulv@fargo.k12.nd.us
	Larry Nybladh	Superintendent	Moorhead School District	2410 14th Street South, Moorhead, MN 56560	218-284-3335	lnybladh@moorhead.k12.mn.us
	Matt Sheppard	Facilities Director	Minnesota State Community and Technical College	1900 28th Avenue South, Moorhead, MN 56560	218-299-6506	
	Jerome Migler	Campus Provost	Minnesota State Community and Technical College	1900 28th Avenue South, Moorhead, MN 56560	218-299-6506	
	Roleand E. Barden	President	Minnesota State University Moorhead	Office of the President, 203 Owens Hall, 1104 Seventh Avenue South, Moorhead, MN 56563	218-477-2243	
	Pamela Jolicoeur	President	Concordia Colleage	President's Office, Moorhead, MN 56562	218-299-3000	
	Tim Magnusson	Planning Director	Clay County	807 11th Street North, Moorhead, MN 56560	218-299-7330	Tim.Magnusson@co.clay.mn.us
	Vijay Sethi	County Administrator	Clay County	807 11th Street North, Moorhead, MN 56560	218-299-5002	Vijay.Sethi@co.clay.mn.us
	Kevin Martins		Moorhead Township	4532 40th Avenue South, Moorhead, MN 56560		
	Justin Kristan	Assistant Planner	FM Metro COG	One North Second Street, Fargo, ND 58102	701-232-3242, x36	jkristan@fmmetrocog.org
	Brian Gibson	Transportation Planner	FM Metro COG	One North Second Street, Fargo, ND 58102	701-232-3242, x33	gibson@fmmetrocog.org
	Lori Van Beek	Transit Manager	City of Moorhead	500 Center Avenue, Moorhead, MN 56560	701-476-6782	lvanbeek@matbus.com

SRF No. 0055728

RECORD OF MEETING

TH 75 & 20th Street Corridor Studies

First Focus Group Meeting

September 28, 2006 – 3:00 p.m.

Triumph Lutheran Brethren Church

Members in Attendance:	Representing:
Bruce Messelt	City of Moorhead – City Manager
E. Robert Olson	Land Owner, Moorhead Township
Kathy Anderson	Trollwood Performing Arts School
Matt Sheppard	Minnesota State Community & Technical College
Brian Gibson	FM COG
Justin Kristan	FM COG
Jody Martinson	Mn/DOT
Rick Lane	SRF Consulting Group, Inc.
Peggy Harter	SRF Consulting Group, Inc.
Cindy Gray	SRF Consulting Group, Inc.

Introductions

Rick Lane opened the meeting with a brief overview of the project background and asked everyone at the meeting to introduce themselves and who they were representing. The Committee received a handout listing all of the members of the Focus Group. Rick Lane explained that the Focus Group is part of the public process for the corridor study and that this first meeting is to explain the needs for the study and existing conditions. A second Focus Group meeting will be held next spring to review corridor alternatives and get feedback from Focus Group representatives.

Study Purpose, Issues Map & Project Schedule

The Focus Group received a handout of the study purpose, two issues maps and the project schedule. Rick Lane discussed the following items:

- Project study area includes TH 75 (8th Street) from 20th Avenue South to 60th Avenue South and 20th Street from Main Avenue to 60th Avenue South.

- Main purpose of the study is to analyze the impact of unprecedented growth in south Moorhead, on the two corridors and to recommend alternatives to improve traffic flow.

- The study is currently on track with the project schedule that was handed out in the meeting packet. The next Focus Group meeting is currently scheduled for mid March. At this meeting alternatives and their effects will be shown to the Focus Group for their input.

- The issues maps that were handed out point out specific corridor issue areas including key intersections and roadway segments that are projected to have a poor Level of Service (LOS) in the future due to increased traffic. Other key issues include pedestrian trail systems, key intersections within the corridors, high crash intersections and potential alternatives that will be investigated during the study.

Gateway Aesthetics

Cindy Gray referred the Focus Group to a handout entitled Moorhead Gateway Overlay District. She explained that the City of Moorhead has set some additional zoning regulations along gateways to the City that are aimed at improving aesthetics. These new regulations will apply to TH 75 (8th Street) from 24th Avenue South to the southern boundary of the City as it continues to grow to the south. Cindy reviewed the following items as part of the gateway regulations:

- Additional setbacks for buildings and impervious surfaces

- Site requirements for landscaping, storage and display, lighting and signs

- Building design and construction requirements

Cindy stated that one of the considerations of this project will be to consider how the public realm, or right-of-way, can be enhanced to add what the city has already started with the overlay district, possibly working toward a public/private partnership in this way. She asked meeting participants to consider this and provide feedback.

Growth Scenarios

Cindy Gray referred the Focus Group to a handout entitled Growth Scenarios. Cindy discussed the three growth scenarios that will be analyzed during this study and the areas that each scenario included. The three scenarios are as follows:

- 2006 Existing and Platted Development – Includes existing development, approved platted development and preliminary platted development.

- Interim Development Scenario – Includes existing and platted development as well as areas that have been planned in the City of Moorhead's Growth Area Plan. A specific year will not be associated with this scenario. This scenario will be used to analyze future traffic projections and Level of Service (LOS) associated with the two corridors' key intersections. Results from this analysis will aid in the development of alternatives for improving the two corridors.

- Build-Out Development Scenario – Includes existing and platted development as well as full development from the Red River to CSAH 52 to the southerly boundary of the study area (60th Avenue South). A specific year will not be associated with this scenario. This scenario will not be used to create transportation improvement alternatives, however it will be used to look at preserving right-of-way for future transportation needs as the City continues to develop further to the south.

- Bruce Messelt added a few platted developments that are not shown in the shaded areas of the existing conditions scenario. SRF will update the existing conditions scenario to include the additional plats.

Existing Conditions

Rick Lane discussed existing conditions within the project area. Five handouts were provided to the Focus Group that included existing traffic volumes, existing key intersection geometrics and peak hour turning movement volumes, existing intersection and approach LOS, TH 75 (8th Street) crash analysis, and 20th Street crash analysis.

Focus Group Discussion

Following the presentation of the existing conditions, Rick asked the members to comment on any of the information that was presented and add any additional input, potential problems or items of concern. The following items were discussed:

- Bruce Messelt added that in 2009 there is a project scheduled to add a pedestrian underpass at 40th Avenue South and 8th Street.

- The group discussed that 8th Street and 60th Avenue South is currently the highest intersection crash location in MNDOT District IV. MNDOT currently has a separate project to work on improving the safety of this intersection.

- The group discussed extending 20th Street further to the south and to add some east/west reliever links. Bob Olson thought that the Fertilizer Plant located along 20th Street had plans to move further south as the City continued to grow to the south. (Bob provided contact information for the plan; Dave Dufault, 701-775-5866).

- Bob Olson asked if there had been any corridor preserved for drainage within the new development. Bruce Messelt replied that there hasn't been any preserved south of 50th Avenue South which would be outside of the City's utility extension area. However there have been east/west corridors preserved for drainage north of 50th Avenue South within the new development.

- Trollwood Performing Arts School will be moving to Moorhead within the project area in approximately three years. Kathy Anderson will get projected enrollment numbers and information in regards to the age of students to SRF for the traffic analysis. Kathy stated that Trollwood currently has approximately 500 students and approximately 1500 audience members at a large event.

- Bruce Messelt stated that MSU plans to start promoting 20th Street as the entrance to their college instead of 8th Street. He questioned how this would affect the traffic modeling process? Brian Gibson stated that MSU has a special trip generator built into the traffic model that attracts trips to the campus parking lots. If the parking lots were moved closer to 20th Street it would move that traffic from 8th Street to 20th Street. Bruce Messelt stated that the overall plan was to move the parking lots and provide direct access from 20th Street.

- The group discussed how limited river crossing between Fargo and Moorhead increase traffic volumes along the 8th Street and I-94 corridors.

- Bruce Messelt asked if improving or adding east/west routes between 20th Street and 8th Street would help to move traffic from 8th Street to 20th Street. Rick Lane replied that a percentage of traffic would switch their route to access I-94 to and from the west, however many may continue to use 8th Street out of habit, because it is closer or just because they don't want to drive east to go west on the interstate.

- Bob Olson asked if the preliminary design for any improvements would take into consideration that I-94 in the study area may some day become a 6-lane facility. Rick Lane responded that this will be taken into consideration and we will determine if the current 8th Street bridge structure is constructed to allow for a 6-lane I-94. A special traffic analysis called a Corsim Analysis will be done on the interstate to see how future growth and any suggested alternatives along the two corridors would affect interstate traffic operations.

- Bruce Messelt asked if there is currently room to add loops at the 8th Street and I-94 interchange. Rick Lane responded that this will be analyzed but has not been done yet.

- Matt Shepperd asked if the study will look at improvements to 20th Street north of the interstate that may affect the technical school. The school currently gets complaints about southbound traffic on 20th Street backing up into the turn lane past 28th Avenue South which is the main entrance to the school. The school also gets complaints about needing a traffic light at both of the I-94 ramp intersections and not having full access to the east at the interchange.

- Matt Shepperd also stated that MSCTC currently has approximately 2500 students and is projected to have approximately 3000 students in about five years, with 5000 students in the long range.

- Bruce Messelt pointed out that the 150-acre industrial park to be located east of SE Main Avenue (CSAH 52) and south of I-94 isn't shown on the interim or full build growth scenarios and these facilities may attract more trips for jobs to the east. RDO is currently operating at this location.

Action Items

- SRF will add current platted areas that were missed and the 150-acre industrial park to the appropriate growth scenarios.

- Trollwood Performing Arts School will get enrollment projections and projected event attendance to SRF.

- SRF will work with FMCOG to continue the development of the interim and full-build growth scenarios and traffic models.

- SRF will work with the Study Review Committee to develop alternatives to improve the study corridors.

- SRF will notify the Focus Group prior to the next Focus Group meeting to discuss potential alternatives. The next Focus Group meeting is tentatively schedule for mid March of 2007.

If there are any additions or corrections to these minutes, please contact Peggy Harter of SRF at (701) 237-0010, 5#.

RL/PH

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

May 8, 2007

Memorandum

To: TH 75 & 20th Street Corridor Study Focus Group Members

From: Peggy Harter, Engineer
SRF Consulting Group, Inc

Re: TH 75 & 20th Street Corridor Studies

The Fargo-Moorhead Council of Governments (FM-COG) along with their consultants, SRF Consulting Group, Inc., would like to invite you to the second focus group meeting for the TH 75 & 20th Street Corridor Study. The meeting will be held on Thursday May 31, 2007 from 2:00 to 4:00 pm at Minnesota State Community and Technical College (1900 28th Avenue South, Moorhead, MN). Enter the school at the front entrance by the flag pole and follow the signs to the auditorium. Visitor parking is available at the front entrance of the building.

Discussion will pertain to transportation system alternatives that have been developed based on future traffic projections and the impacts of the proposed alternatives. As a key stakeholder in this project, your input is important for the final recommendations of the corridor study. It is possible that your property may be impacted by one or more of the proposed alternatives.

Enclosed with this letter is a notice of the open house public meeting that will be held the evening of May 31, 2007. In addition to the focus group meeting, you are welcome to attend this meeting if you desire.

Thank you in advance for your participation. Please contact Brian Gibson at Metro COG (701-232-3242, Ext 33, gibson@fmmetrocog.org), or Rick Lane, PE, SRF Consulting Group, Inc. in Fargo (701-237-0010, rlane@srfconsulting.com) with any questions that you have.

Attachment

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	Bruce Messelt	City Manager	City of Moorhead	500 Center Avenue, Moorhead, MN 56560	218-299-5505	bruce.messelt@ci.moorhead.mn.us
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	Kathy Anderson	Director of Administration	Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	
	Vicki Chepulis	Executive Director	Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	chepulv@fargo.k12.nd.us
	John Marks		Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	
	Larry Nybladh	Superintendent	Moorhead School District	2410 14th Street South, Moorhead, MN 56560	218-284-3335	lnybladh@moorhead.k12.mn.us
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	Jerome Migler	Campus Provost	Minnesota State Community and Technical College	1900 28th Avenue South, Moorhead, MN 56560	218-299-6506	
	Roleand E. Barden	President	Minnesota State University Moorhead	Office of the President, 203 Owens Hall, 1104 Seventh Avenue South, Moorhead, MN 56563	218-477-2243	
	Jeff Goebel	Physical Plant Manager	Minnesota State University Moorhead	1104 7th Avenue S, Moorhead, MN 56563	218-477--2069	goebelj@mnstate.edu
	Pamela Jolicoeur	President	Concordia Colleage	President's Office, Moorhead, MN 56562	218-299-3000	
	Tim Magnusson	Planning Director	Clay County	807 11th Street North, Moorhead, MN 56560	218-299-7330	Tim.Magnusson@co.clay.mn.us
	Vijay Sethi	County Administrator	Clay County	807 11th Street North, Moorhead, MN 56560	218-299-5002	Vijay.Sethi@co.clay.mn.us
	Nathan Gannon		Clay County	807 11th Street North, Moorhead, MN 56560		
	Kevin Martin		Moorhead Township	4532 40th Avenue South, Moorhead, MN 56560		
	Justin Kristan	Assistant Planner	FM Metro COG	One North Second Street, Fargo, ND 58102	701-232-3242, x36	jkristan@fmmetrocog.org
	Brian Gibson	Transportation Planner	FM Metro COG	One North Second Street, Fargo, ND 58102	701-232-3242, x33	gibson@fmmetrocog.org
	Lori Van Beek	Transit Manager	City of Moorhead	500 Center Avenue, Moorhead, MN 56560	701-476-6782	lvanbeek@matbus.com
	Kathy Hovey		Triumpth Lutheran Brethren Church	2901 20th St S, Moorhead, MN 56560		
	Brian Kramer		O'Leary's Pub	808 30th Ave S, Moorhead, MN 56560		
			WKKD Properties	2901 S. Frontage Road, Moorhead, MN 56560		
	Brian Funk		Lauren Properties	417 Dale Ave S, Moohead, MN 56560		
	Esther Haas			2315 S. 8th Street, Moorhead, MN 56560		
	Julie Gillette		Ken's Sanitation & Recycling, Inc.	PO Box 2127, Fargo, ND 58107		
	Troy Schrader		Conagra Fertilizer	2012 28th Ave S, Moorhead, MN 56560		

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

SRF No. 0055728

RECORD OF MEETING

TH 75 & 20th Street Corridor Studies

Second Focus Group Meeting

May 31, 2007 – 2:00 p.m.

Minnesota State Community and Technical College, Moorhead

Members in Attendance:	Representing:
Bruce Messelt	City of Moorhead – City Manager
E. Robert Olson	Land Owner, Moorhead Township
John Marks	Trollwood Performing Arts School
Nathan Gannon	Clay County
Tim Magnusson	Clay County
Vijay Sethi	Clay County
Kevin Martin	Moorhead Township
Jerry Migler	Minnesota State Community & Technical College
Jeff Goebel	Minnesota State University Moorhead
Brian Gibson	FM COG
Jody Martinson	Mn/DOT
Rick Lane	SRF Consulting Group, Inc.
Avo Toghramadjian	SRF Consulting Group, Inc.
Peggy Harter	SRF Consulting Group, Inc.
Cindy Gray	SRF Consulting Group, Inc.

Introductions

Rick Lane opened the meeting with a brief overview on the project background and graphics that were presented at the first Focus Group meeting. The Committee received a handout to follow along with the graphics that were presented at the meeting. The handout (attached) included the following graphics:

- Study Purpose
- Project Schedule
- Growth Scenarios
- Annual Average Daily Traffic Volumes
- Interim Intersection and Approach Level of Service – Existing/Revised Geometry

- Interim Intersection and Approach Level of Service – Recommended Geometry
- Future Capacity Recommendations
- 8th Street Typical Sections
- 20th Street Typical Sections
- Pedestrian/Bicycle Recommendations
- TH 75 Interchange Option (1)
- 20th Street Interchange Option (5)

Interchange Alternatives and Impacts

Upon review of the analysis data and the interchange alternatives, the focus group was open for discussion of all of the alternatives. The following is a summary of the focus group discussion:

- Is it possible to modify the loop in the SE quadrant to the interchange at I-94 and TH 75 so that the business (O'Leary's Pub) would not be impacted?
  In order to get the loop and ramp into that quadrant it would have to impact that business. We can prepare a preliminary design for a loop that doesn't meet existing design standards to see if that would lessen impacts. MnDOT and FHWA would determine if such a design is acceptable.
- Why do the intersections at the I-94/TH 75 interchange intersect at a right angle? Why aren't they free right turns?
  The intersections come in at a right angle to make it easier and safer for pedestrians to cross at the intersections. If the pedestrian walk is removed from the east side, free rights would be added back into the design.
- Upon the presentation of the five interchange alternatives at I-94 with 20th Street South, it was noted that MNDOT had not endorsed any of the proposed alternatives.
- Vijay Sethi - With this many proposed interchange alternatives at I-94 and 20th Street, how is a preferred alternative chosen?
  A matrix will be set up showing all of the alternatives with impacts, preliminary cost estimates, advantages and disadvantages and the study review committee will rank the alternatives, based on all pertinent criteria.
- Vijay Sethi - Do all of the interchange alternatives at 20th Street add an additional grade crossing with the railroad?
  Alternatives A and B are folded diamonds on the west side of 20th Street. Therefore, there is no crossing of the railroad to use the interchange. The 28th Avenue connection would remain which does cross the railroad. Alternatives C and D would require one additional railroad crossing and require Interstate traffic to cross the railroad. Alternative E would utilize the existing 28th Avenue railroad crossing but only the eastbound off ramp would have to cross the railroad (via 28th Avenue South).
- Jeff Goebel - Will I-94 need to be widened?
  Capacities indicate it will need to be a 6-lane, however, as part of this study we will be completing a Corsim analysis on I-94 for the interim year volumes to determine the number of lanes that will be needed. I-94 is currently set up so that if needed, additional lanes will be added to the inside (median side) of I-94.

- Jeff Goebel - Volumes on 20th Street just north of 12th Avenue seem low compared to counts that MSUM has completed. The graphic shows 12,000 vpd and we tend to get approximately 28,000 vpd.
  Unsure why the volumes are so different. We used MNDOT and Metro COG count volumes. However, we are showing this as a 5-lane section and it will handle volumes of 20,000 vpd.
- John Marks - Trollwood Performing Arts, noted that it's important to them that good pedestrian/bike access and transit service be available to Trollwood from all directions. The prevalence of young drivers should be taken into consideration.

Corridor Alternatives and Impacts

Rick Lane walked through the TH 75 and 20th Street South corridor layouts by referring to the 100-scale roll drawings of the layouts that were hung in the meeting room. The associated impacts and discussion about the corridor recommendations was as follows:

20th Street Corridor

- Impacts to the boulevard and trees along 20th Street, north of 24th Avenue South
- Raised median along 20th Street creates several limited access driveways allowing right-in/right-out only turning movements.
- New roadway section along 20th Street removes the on street parking lane along the west side of 20th Street.
- The road section between 34th Avenue South and 43rd Avenue South removes the raised median due to a limited 70' right-of-way section. We are recommending 10' of additional right of way be acquired.
- At 34th Avenue South we lose the designated 30' trail easement between 20th Street and the railroad tracks so we recommend moving the easement and the trail to the east of the railroad, south of 30th Avenue South.
- South of 43rd Avenue South we recommend acquiring a minimum of 100 feet of right of way.
- Re-align 20th Street South so that it intersects with 60th Avenue South, approximately ¼ mile west of the BNSF railroad. This will allow for a future underpass of the BNSF railroad at 60th Avenue South.
- Tim Magnusson noted that the existing business at 20th Street and 50th Avenue South uses the railroad to haul so it would be best to realign 20th Street in a location that would not interfere with the business or its operations.
- Rick Lane noted that 50th Avenue South is currently being designed under a separate project as an east/west parkway. He noted that we may be recommending a roundabout at the intersection of 20th Street and 50th Avenue South.

TH 75 (8th Street) Corridor

- The boulevard and trees will be impacted along 8th Street between 20th and 24th Avenue South. At minimum one row of trees would need to be removed.
- The apartment building just north of 24th Avenue and east of the frontage road would need to be removed to realign the frontage road due to the widening of 8th Street.
- The intersection of 34th Ave. and the frontage road on the west side of Hwy 75 needs to be eliminated due to its close proximity to Hwy 75. We recommend terminating the south end of the frontage road with a cul-de-sac. The residence just north of 24th Avenue and west of the frontage road would be affected due to the cul-de-sac being added to the frontage road.
- The commercial property just south of 24th Avenue South and west of 8th Street would lose two access points including the slip ramp off of 8th Street and the first access onto 24th Avenue South.
- South of the interstate we are recommending ½ mile spacing for traffic control and ¼ mile spacing for partial access (3/4 access control).
- 32nd and 37th Avenue South along 8th Street are shown as limited access intersections that allow left-in, right-in and right-out movements only (3/4 access control).
- The pedestrian underpass of 8th Street at 40th Avenue South is already being completed under a separate project.
- The drawings at the meeting showed the 4-lane section on 8th Street changing to a 2-lane section between 46th and 50th Avenue South. Rick Lane noted that we may want to move this transition to south of 50th Avenue due to the proposed new location of Trollwood Performing Arts School along 50th Avenue just west of 8th Street.
- We have shown the options of either signalizing the intersections of 8th Street with 50th and 60th Avenue South or placing a roundabout at both intersections. Whichever alternative is chosen, the two intersections will either both be signalized or both be roundabouts. Roundabouts would require additional right of way at both intersections.
- The group questioned how the drainage ditches would be handled south of both 50th and 60th Avenues if the roundabout alternative was selected. Rick Lane replied that the box culverts could both be relocated further south or they could be lengthened. Relocating the drain would require additional right of way.
- Vijay Sethi asked if the traffic analysis accounted for the Trollwood Performing Arts School. Cindy Gray replied that there was not a special generator in the traffic model for the school due to a lack of information. However, the peaks for the school would more than likely happen during a performance which would usually not be at the same time as am or pm peak hour traffic. We will need to do a bit more analysis when we get more information from Trollwood. If performance peaks would be greater than the peak hours we will have to see if our recommended geometrics would be able to handle the project volumes. It was noted that there are other points of access, such as the north/south/roadway that connects to 60th Ave. east of Hwy 75, which will help to disperse traffic.
- Vijay Sethi asked if we can do something now to address safety issues at 60th Avenue South. Jody Martinson replied that MNDOT is looking into a roundabout at 60th Avenue. They are waiting the final recommendation of this study and if right of way will be needed it would still be a couple of years out. The intersection currently did not meet

signal justification, based on traffic volumes. Clay County is currently working on a project to make minor safety improvements.

Next Steps

Rick Lane noted that this would be the final focus group meeting and there would be one more public input meeting to review the draft report. He added that all focus group members would get an invitation to the final public input meeting. The next steps for the project would be to compile comments from the public input process and present them to the SRC, have the SRC choose preferred alternatives and compile a draft report to present at the final public meeting.

If there are any additions or corrections to these minutes, please contact Peggy Harter of SRF at (701) 237-0010. I have included the meeting handout to the focus group members who were unable to attend the meeting. If you would like to review the interchange or corridor alternatives, please see them on the Metro COG website at www.metrocog.org. I have also included a comment form. Please return your comments to the address on the back of the comment form by June 25, 2007.

Attachment

PH

Appendix C – Public Input Meeting Summaries & Attachments

SRF No. 0055728

Summary of Public Information Meeting

Thursday, September 28, 2006 from 5:00 p.m. to 7:00 p.m.

TH 75 (8th Street) & 20th Street Corridor Studies

Introduction

A Public Information Meeting (PIM) for the referenced project was held on September 28, 2006 from 5:00 p.m. to 7:00 p.m. in the Living and Learning Center Atrium at Triumph Lutheran Brethren Church in Moorhead, Minnesota.

Notice of the Public Information Meeting

Notice of the Public Information Meeting was advertised in the Fargo Forum on Wednesday September 13, 2006 and on Saturday September 23, 2006. A copy of the newspaper ad is attached to this summary.

A press release was also sent out the week of the public meeting to inform the local media of the upcoming public meeting. Television and newspaper articles covered discussion about the project and the upcoming public meeting.

Attendees

The following agencies had representatives at the meeting:

- Minnesota Department of Transportation
- City of Moorhead
- Fargo Moorhead Metropolitan Council of Governments
- SRF Consulting Group, Inc.

An attendance record sheet was prominently displayed on a table at the entrance to the community room and all persons entering were asked to sign in for the record. The attendance record sheet is attached to this summary.

Summary of Meeting

The meeting was held from 5:00 p.m. to 7:00 p.m., September 28, 2006. The meeting consisted of an informal open house with a formal presentation give at 5:30 p.m. Attendees viewed informational exhibits and engaged in one-on-one discussions with the project staff, then participated in a question and answer discussion as a group following the formal presentation.

Attendees received comment forms upon entering the community room. Meeting attendees were highly encouraged to submit written comments either directly after the meeting in the comment box, by mail, or by e-mail. The comment forms were addressed on the backside to the Fargo SRF office. A copy of the comment form is attached to this summary.

Informational displays presented at the meeting included the following:

- Study Purpose (1)
- Project Schedule (1)
- Issues Maps (2)
- Moorhead Gateway Overlay District (1)
- Growth Scenarios (1)
- Existing AADT Traffic Volumes (1)
- Existing Geometrics and Peak Hour Volumes (1)
- Existing Intersection and Approach Level of Service (1)
- 8th Street Crash Analysis (1)
- 20th Street Crash Analysis (1)
- Roll Drawing of the project area showing existing and platted development (1)

Rick Lane of SRF Consulting Group, Inc, welcomed everyone to the meeting. Mr. Lane and Cindy Gray did the formal presentation for the meeting by giving a brief overview of each of the informational boards as listed above.

Verbal Questions and Comments

A summary of the verbal questions and comments, along with responses given by the presenters, is given below.

<u>Will expanding I-94 to 6 lanes be looked at as part of this study?</u>

Yes. MNDOT is involved in this study and as part of the traffic analysis we will look at how future growth will affect interstate operations and determine if there is a need to consider expanding I-94 through Moorhead to 6-lanes.

There are already issues with pedestrians crossing the corridors and it will only become more difficult as traffic volumes increase and more lanes are added.

Pedestrian safety is part of the analysis for this study.

Where did the data come from for the different growth scenarios?

Household and job data is assigned to each traffic analysis zone (TAZ) and is based on acreage. A certain percent of households/jobs are assigned to each TAZ depending on how the area is zoned. The full-build scenario is not currently zoned so it was assumed that it would be similarly zoned to the area in the current Moorhead Growth Area Plan. A technical memo discussing the basis of the growth scenarios was circulated to the Study Review Committee and a copy of this memo can be e-mailed to anyone interested upon request.

We have been told that there will be a pedestrian underpass with the railroad next to 20th Street. Is this in the process. We feel there is urgency for this underpass due to the youth soccer fields.

A pedestrian underpass will be looked at and analyzed as part of this project. An underpass takes quite a bit of time to complete. In the meantime we want to make sure that an at-grade pedestrian crossing with the railroad is as safe as possible until an underpass can be built.

40th Avenue South may be a good location for a pedestrian underpass with the railroad due to the elementary school, new park and YMCA.

That is a good comment. We will keep that in mind as we conduct the analysis.

The City of Moorhead has told us that there will be a pedestrian underpass with the railroad in the future. We just want to make sure that this is done.

It will be considered during the planning process.

Are there any state regulations on how long a train can block a street or road?
I think it is somewhere around 10 minutes but I am not exactly sure, you may want to contact your local police department.

Written Comments

Written comments were accepted up until October 13, 2006; 15 days after the meeting was held. A total of 6 written comments were received. The comments are attached to this summary.

Attachments

PUBLIC MEETING NOTICE

To discuss the short-term and long-term transportation needs along the TH 75 and 20th Street Corridors in Moorhead, MN

WHEN?

Thursday September 28, 2006
From 5:00 PM to 7:00 PM
Formal Presentation at 5:30 PM

WHERE?

Triumph Lutheran Brethran Church
Living and Learning Center Atrium
(Enter at the main entrance and follow the Public Meeting Signs)
2901 20th Street South,
Moorhead, MN

WHY?

Metro COG has created a study for the TH 75 and 20th Street Corridors due to the unprecedented southerly growth in Moorhead. The purpose of this meeting is to discuss and solicit public input for the short-term and long-term transportation needs along TH 75 from 20th Avenue South to 60th Avenue South and along 20th Street from SE Main Avenue to 60th Avenue South. Representatives from Metro COG, City of Moorhead, and SRF Consulting Inc. will be on hand to answer your questions and discuss your concerns. Please plan to attend.

CONDUCTED BY

Fargo-Moorhead Metropolitan Council of Governments, the City of Moorhead and SRF Consulting Group Inc.

Written comments can be sent to:
Richard G. Lane, SRF Consulting Group, Inc., One North Second Street, Suite 226, Fargo, ND 58102
e-mail: rlane@srfconsulting.com; fax: 701-237-0017

Special Needs: People with special needs who plan to attend the meeting and need special arrangements should contact Peggy Harter, SRF Consulting Group, Inc at 701-237-0010 Ext. 5#, by September 22, 2006.

10042797 22-SRF Consulting wed 9-13 3x4 1op (ap 9-1 10:31) blawrence

TH 75 & 20th Street Corridor Studies Public Meeting

September 28, 2006

Sign-in Sheet

Name	Address	E-mail
Nathan Gannon	Clay County Hwy dept	nathan.gannon@co.clay.
Curt Cavalier	2209 33rd Ave South Moorhead	Cavalier4@Comoorhead.Co
Walter M. McDuffie	2408 S 16th St Mhd	
Carol Lindquist	1011 35th Ave. S Mhd	
Lonnie Dana	2846 Village Green Dr W Mhd.	
Christy Gray	SRF One N. 2nd St. Fgo	cgray@srfconsulting
Richard Smith	Trueger 2007 - 19½ St So Mhd.	
Tom Swanson	MnDOT 1000 Hwy 10 West Detroit Lakes Minn	Thomas.Swanson@dot.state.
Rose Funk	1815 18 St S - Mhd	rfunkie@yahoo.com
Jody Martinson	MnDOT 1000 Hwy 10 West Detroit Lakes	jody.martinson@dot.state
Scott Bretsen	2527 33rd Ave So	Scbretsen@Ltm.i.com
Rhonda Benson	4288 58th St S Fargo ND 58104	
Frankie Savage	2307 19 St Mhd MN 56560	
Carrie Lick	2929 20th St S Mhd MN 56560	
DAVE WOODARD	2929 20TH ST S MHD MN 56560	
MaryLou Kley	4068 40th Ave S Mhd 56560	mlkley@yahoo.com
Tom Kley	4068 40th Ave S. Mhd. 56560	klay@cord.edu
Jeff Trieboldt	12235 32nd St SE Valley City ND 58072	jtriebold@nodaknet.
Thorvald Dahle	3134 CHELSEA AVE. S. MOORHEAD, MN	
Peggy Harter	One N. Second Street	pharter@srfconsulting.com
JEAN HALVERSON	2910 17TH St So.	
Barge Mary Jean Kordiak	1062 7th Ave S.	
Duane Isabell	5112 Hwy 75 South. Moorhead	misi33@aol.com

TH 75 & 20th Street Corridor Studies Public Meeting

September 28, 2006

Sign-in Sheet

Name	Address	E-mail
Julie Wilson	2427 33rd Av S. Mhd	jawilson@cableone.net

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Public Input Meeting on September 28, 2006

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by October 13, 2006 in order to give us time to review your concerns.

Name: _____

Address: _____

_____

Email: _____

Phone: _____

Comments: _____

Peggy Harter - comments - South Moorhead

From: "Carol Lindquist" <carmarlin@msn.com>
To: "pharter" <pharter@srfconsulting.com>
Date: 10/12/2006 7:33 PM
Subject: comments - South Moorhead

I life at 1011 35th Ave S, so I usually come up to Belsly Blvd and then on to 8th St north bound. For work I head north to 12 Ave and then E on 12th.

I have 2 school buses that stop at the corner of 10th Street and Belsly which on some days if one comes right after the other so you can't get out between them and you sit for a long time. I timed it one day, I sat there for 4 minutes , the drivers wait for kids that stay warm/dry in the apartment building on the north side of Belsly, the buses are east bound, so they have to run across the street which I didn't think they were suppose too and then some are waited for as they very, very slowly drag themselves to the bus from the other apartment building or homes. It makes it a challenge for people to see if they can beat the buses. You would think that there would be somewhere else to pick up other then right across the intersection.

The intersection of Belsly and 8th before long will be a deadly corner, the traffic is picking up steadily there and so is the traffic on 8th street so before long getting onto 8th a specially in the morning will be come dangerous. In the winter when it gets icy and of course the streets are not usually sanded or salted that far south in Moorhead the blvd. has a slope to it and a person can actually slide out into traffic. The only thing that will stop you is when you hit 8th because 8th is usually salted. If there is traffic coming it can be to late. Last winter it was solid ice at the intersection on belsly.

Last December and through the mid to end of January the traffic lights on 8th street from 30th Ave south to 20th Ave S didn't hold long enough green to get more then a very, very few cars through and then it would turn red again. So 8th street backed up something terrible. I tried every direction to go to work but had no success. Around the end of January things seemed to improve, I don't know what is going to happen this winter. I work at MSUM the drive to work took 20 to 30 minutes minimum. I wasn't the only one with this problem at work coming on 8th street. I have seen the same thing happen other mornings but not for any real long period of time - weeks. The light will turn green and then one or two cars and then it is red again and they have to cycle through before you get green again.

South bound on 8th street from 20th Ave. to 30th can be interesting and very backed up. Traffic bound for W I-94 gets backed up because the north bound traffic on 8th that wants I-94 W holds the south bound from getting on to I-94. Also if you are wanting to go just south bound and not get on I-94 if you take the left south bound lane it is dangerous to change lanes because you can't tell what traffic is going to go on I-94 or if it is going to take the right south bound lane. The left south bound lane backs up because there are 2 left turn lanes for 30th Ave. and I go to Belsly. It would be better to take the right lane and change to left after 30th ave. but dangerous doing the lane change. This winter will be a challenge because traffic here south bound after I-94 seems to have about double from last year.

On 12 Ave S. a person north bound on 8th St. can not make a right hand turn off 8th street on to 12 ave. and many of the cars in the right hand lane are E bound at that point. Needless to say that traffic does back up there also. Can any thing be done about that corner as well?

Carol Lindquist

From: "Carol Lindquist" <carmarlin@msn.com>
To: <pharter@srfconsulting.com>
Date: 10/13/2006 10:06 am
Subject: corrections to last nights e-mail

I e-mailed you yesterday evening and one thing I mentioned was that Belsly blvd had a slope to 8th street. Something you pay little attention to in the summer. Yesterday I avoided that intersection because of the ice, thinking it was still sloped. When driving this morning I realized the slope was not there. They put in a little bit of bituminous this summer or late spring which aparently corrected it. The slope is not there now. The only thing that would cause that now would be ice build up.

Just wanted to correct myself on that matter.

Thank you

Carol Lindquist

From: "Jody Martinson" <Jody.Martinson@dot.state.mn.us>
To: <rlane@srfconsulting.com>
Date: 10/6/2006 11:00:14 am
Subject: Th 75/20th Street Study

I updated Lee, Mark and Mike on the public info meeting. They just had a couple comments.

Lee asked me to make sure you were considering roundabouts at locations on TH 75 (24th or 60th Ave. and othes).

On the AADT handout, Mike asked what the counts were on TH 75 between 24th Ave and the ramps for I-94.

Thanks for your effort, I thought you did a very nice job, hopefully those developers will attend the next one. I'm guessing once you have a few alternatives on the table, they will decide it is time to get involved.

Have a great weekend.

Jody

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Public Input Meeting on September 28, 2006

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by October 13, 2006 in order to give us time to review your concerns.

Name: Vivian Wensel

Address: 2319 - 19½ St. S.
Mhd., Mn. 56560

Email:

Phone: 236-6960

Comments: The bike, hike etc. route between 20th St. S. + the rr tracks is a real plus; however, it is extremely difficult to get across 20th St. to get to the path. The pedestrian signs seem to mean nothing to motorists.

So, in working on plans for traffic problems/solutions, please do not forget the need for pedestrian access and safety.

Thank you.

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Public Input Meeting on September 28, 2006

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by October 13, 2006 in order to give us time to review your concerns.

Name: Frankie Savage

Address: 2307 5th St
Mhd MN 56560

Email:

Phone: 218 236 7985

Comments: Remember to plan for PEDESTRIANS

Rick Lane - TH 75 & 20th Street Corridor Studies

From: "Jason Eid" <jasoneid@eid-co.com>
To: <rlane@srfconsulting.com>
Date: 9/11/2006 8:54 AM
Subject: TH 75 & 20th Street Corridor Studies

Rick,

I suggest you look into Michigan Turns to be used along these corridors. The turns allow for flowing traffic without the need for signal lights and makes pedestrian crossings safer.

Just a thought,

Jason Eid

Home
Introduction
Michigan's Trunklines
Michigan's Route Markers
Master List 1918-Present
Historical Overview
History of Mich. Roads
Maps • Photos
Related Links

Highway Listings
1-9 120-139
10-19 140-159
20-29 160-179
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40-49 200-229
50-59 230-249
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90-99 94
100-119 Bus. 96-496

County Highways
A-2—C-81
D-19—H-15
H-16—H-63

Other Highways
Unsigned St. Trunklines
Great Lakes Circle Tours
Forest Highways
Heritage Routes
Polar-Equator Trail

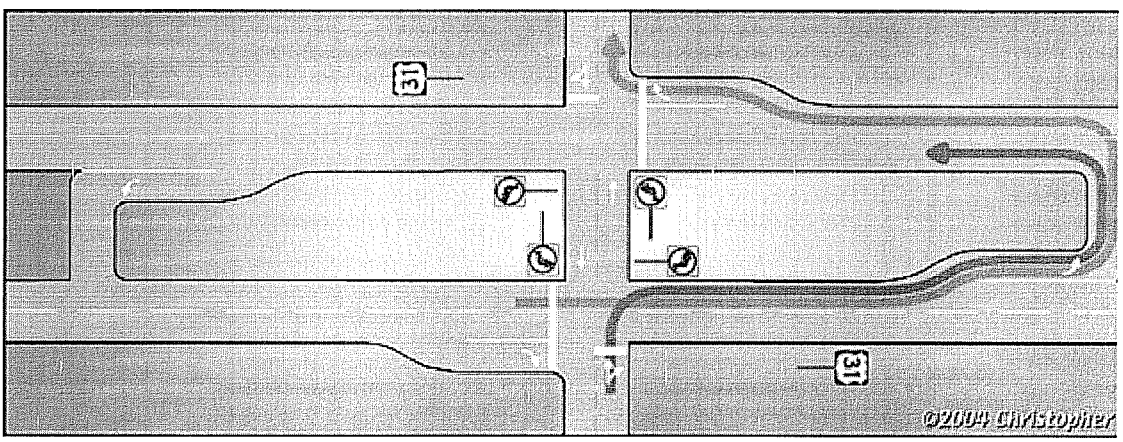
In Depth: News & Articles
Memorial Highways
M-35 & Henry Ford
National Highway System
Historic Auto Trails
Zilwaukee Bridge
Michigan Left
US-31 in Berrien County
US-31 in Ottawa County
more...

The Michigan Left

Introduction | How it Works | History | Photos & Plans | Other Thoughts

Often maligned, often misunderstood, the Michigan Left Turn is an operation which causes much consternation among out-of-state drivers and nary a second thought from locals. Developed in Mich 1960 (see History), these turning set-ups exist across the entire state, from Niles to Escanaba and f Detroit to Marquette. (Yes, the Upper Peninsula has Michigan Lefts!)

The Michigan Left was developed to avoid the interlocking left-turn movements along divided highw this way, the only turning movements allowed at such an intersection are right-hand turns. Traffic li can be placed at busier Michigan Left intersections if warranted. For the most heavily-used "crossov specialized traffic signals may be placed to ensure traffic does not back up on the highway waiting t left.



Key

Red Line - divided highway traffic turning left onto crossroad.
Green Line - crossroad traffic turning left onto divided highway.

How it Works

Red Line traffic on the divided highway cannot turn left directly at the crossroad intersection. To accomplish the left turn, the divided highway traffic moved to the left lane, continues past the cross and turns left into a "median crossover," usually placed about 660 feet beyond the intersection. Wh traffic clears sufficiently, the left turn onto the opposite direction of the divided highway is complete driver then moves to the right lane and turns right onto the crossroad, thus completing the traffic movement.

Green Line traffic on the crossroad wishing to turn left onto the divided highway first turns right or highway, moves to the left lane and turns left into the "median crossover" approximately 660 feet f intersection. When traffic clears sufficiently, the left turn onto the opposite direction of the divided h is completed.

History of the Michigan Left Turn

The following is excerpted from the publication "The State of Michigan Trunk Line Story," Third Editi

About this Site

What's New?
Site Map & Search
Sources & Credits
Corrections & Feedback
Other Sites

Stanley D. Lingerman, P.E. Fellow Member, August 15, 1996. From the second chapter titled "U.S. a Super Highways," Mr. Lingerman relates just how the Michigan Left came to be:

> *The Super Highway, which was originally designed for use in the Detroit area as part of the United States Highway Program of the late 1920s, proved with time to have some operational problems that developed from the traffic growth following World War II.*
>
> *In 1960, in order to avoid the interlocking of left-turn movements, a number of major intersections along Telegraph Road [US-24] in Wayne County were designed as Super Highway with directional crossovers. The purpose of the directional crossovers was to remove the left turns from the major intersections. The crossovers were placed in the median island about 350 feet from the cross street. Joseph Hobrla, the Department's Signal Engineer, was dissatisfied with the traffic flow characteristics of these intersections on Telegraph Road. He and Joseph Marlow, the District Traffic Engineer [for the State Highway Department], decided to experiment with the westbound Eight Mile Road[M-102] left turn at Livernois Avenue in Detroit. A directional left-turn crossover was constructed in the median of Eight Mile Road at a point 660 feet west of Livernois. A traffic signal was placed on eastbound Eight Mile Road at Livernois to handle the right-turn movement. The operation has proved to be so successful that 700 directional crossovers have been constructed on the trunk line system throughout the state.*

The Michigan Left Turn treatment continues to be implemented around the state whenever deemed necessary to improve the flow of traffic. In the early 1990s, for example, M-44/East Beltline Ave in Grand Rapids area, from I-96 northerly to Plainfield Ave, was completely re-constructed as a divide highway, with Michigan Left crossovers. Also in West Michigan, US-31 from Holland to Grand Haven slowly being upgraded to include Michigan Lefts at the busier intersections.

Although Michigan has been using the Michigan Left treatment for over four decades now, other sta have been slow to experiment with this type of traffic control. While some examples of the Michigan setup do exist around the country, they tend to be rare.

Photos & Plans

- **Color Infrared Aerial Orthophoto of a Michigan Left Configuration** along US-41/M-28 McClellan Ave in Marquette, in the central Upper Peninsula.
- **Photo of an Overly Diagrammatic Michigan Left sign** along McClellan Ave at US-41/M-2 Marquette.
- **Photo of a Unique Michigan Left/Route Marker Trailblazer** taken by Barry Camp, from Kent County.
- **Plans for a Michigan Left Configuration near Grand Rapids** where a Michigan Left will b situated on a narrow right-of-way.

Other Thoughts

- **Experiment in Reckless Abandon: Michigan Left** - a weblog by "Cordelia" who moved to Michigan from California and, while she loves the "greeness" of the state, cannot understand Michigan Left: "'They' - whoever *they* are - have decided in their little pointy heads that they just allow anyone to make a left turn when they want to. ... You are often forced to go down next stoplight and make a u-turn and come back. Obviously that is so much more efficient a better for traffic than just allowing people to make a left whenever the fancy strikes them." Actually... it is!
- **On the other hand...** Joe Varani, a student at Syracuse University in New York, wishes ther more Michigan Lefts! On his "Favorites" page, he laments about Syracuse's Erie Blvd: "It's a road, and at every major intersection, it seems we have to sit at the light for about four min Each direction gets its own green light, and most times, there's a separate time for left-turns occur. You know what would really improve the traffic flow on Erie?" (Yep, you guessed!) *Unforunately, Joe's site is now offline!*
- **The North Central Section of the Institute of Transportation Engineers (NCITE)** Geo

Committee noted, in meeting minutes from August 2005, that "Although committee member incidents of strong public opposition to the access closures associated with Michigan Left Tur Lanes, Howard presented data from several states indicating fairly significant decreases in cr

- **"Turning Right to Go Left" or "Go Through the Light, Then Left, Then Right"** - anothe (short) weblog entry from "Swirlspice" summing up the Michigan Left as "a love-it-or-hate-it traffic engineering."
- **You know you're from Michigan when....** These jokes have been going around the Interr years, but take a look at No. 18 on this list...

Rick Lane - Re: meeting about 20th ST S in Moorhead

From: Rick Lane
To: rnjkrause@juno.com
Date: 9/25/2006 7:58 AM
Subject: Re: meeting about 20th ST S in Moorhead

Jennifer,

Thanks you for sending me your comments relative to 20th Street, we will be sure to include your comments as part of the meeting. The City is working on the construction of a underpass at 20th Street and Main Ave. to eliminate the delays that occur at that intersection. The start of construction is still a couple of years away but the City is in the final steps of completing the Environmental Assessment for the project and has been working to secure federal funds for the construction. Since the 20th Street underpass project is underway we will not be included it as part of this project but it will be considered as a given. Full access at the 20th Street Interchange is a project that will be analyzed as part of the 20th Street analysis. The City has requested that review the possibility of providing full access at 20th Street and I-94.

Thanks again for your comments,

Richard G. Lane P.E.
Senior Associate

SRF Consulting Group, Inc.
Case Plaza, Suite 226
One Second St. No.
Fargo, ND 58102

Phone: 701-237-0010
Fax: 701-237-0017
Cell: 701-238-3951
rlane@srfconsulting.com

>>> <rnjkrause@juno.com> 9/23/2006 8:58 pm >>>
Mr. Lane,
I saw the Public Meeting Notice in the Forum about transportation issues along 20th ST S in Moorhead. I just thought I'd send you a couple of my comments since I can't be there.

1. I live on 19 1/2 ST - just 1 block from 20th and therefore also just 1 block from the railroad tracks that run along 20th. The trains are extremely noisy. I think there should be plans to extend the Whistle Free Zone project to include 20th ST S also. There would be many neighborhoods along this route, old and new, that would really appreciate this. It would increase the quality of the neighborhood since it wouldn't be so noisy.

2. The intersection of 20th St and Main Ave. is a real problem. Trains are again the issue. There are a couple of sets of track through this intersection at odd angles. The trains are very long and often very slow. I've waited as long as 15 minutes (though it's often more around 10 min.)

If there could somehow be an over or underpass, traffic would be much smoother. Because of where we live, we use this route almost every day - sometimes many times a day.

3. We often wish there was an east bound freeway enterence off of 20th street to get onto I 94 going east.
There is an enterence to go toward Fargo and an exit from Fargo, so we wonder why not an eastbound enterence?

Thanks for taking this input.

Sincerely,
Jennifer K.
South Moorhead resident

SRF No. 0065728

Summary of Public Information Meeting
Thursday, May 31, 2007 from 5:00 p.m. to 7:00 p.m.
TH 75 (8th Street) & 20th Street Corridor Studies

Introduction

A Public Information Meeting (PIM) for the referenced project was held on May 31, 2007 from 5:00 p.m. to 7:00 p.m. in the Auditorium at Minnesota State Community and Technical College in Moorhead, Minnesota.

Notice of the Public Information Meeting

Notice of the Public Information Meeting was advertised in the Fargo Forum on Saturday May 19, 2007 and on Saturday May 26, 2007. A copy of the newspaper ad is attached to this summary.

A press release was also sent out the week of the public meeting to inform the local media of the upcoming public meeting. Television and newspaper articles covered discussion about the project and the upcoming public meeting.

Attendees

The following agencies had representatives at the meeting:

- Minnesota Department of Transportation
- City of Moorhead
- Fargo Moorhead Metropolitan Council of Governments
- Clay County
- SRF Consulting Group, Inc.

An attendance record sheet was prominently displayed on a table at the entrance to the community room and all persons entering were asked to sign in for the record. The attendance record sheet is attached to this summary.

Summary of Meeting

The meeting was held from 5:00 p.m. to 7:00 p.m., May 31, 2007. The meeting consisted of an informal open house with a formal presentation give at 5:30 p.m. Attendees viewed informational exhibits and engaged in one-on-one discussions with the project staff, then participated in a question and answer discussion as a group following the formal presentation.

Attendees received comment forms upon entering the Auditorium. Meeting attendees were highly encouraged to submit written comments either directly after the meeting in the comment box, by mail, or by e-mail. The comment forms were addressed on the backside to the Fargo SRF office. A copy of the comment form is attached to this summary.

Informational displays presented at the meeting included the following:

- Study Purpose (1)
- Growth Scenarios (1)
- AADT Traffic Volumes (Existing, Interim Year and Full Build) (1)
- Interim Intersection and Approach Level of Service for Existing/Revised Geometry (1)
- Interim Intersection and Approach Level of Service for Recommended Geometry (1)
- Future Capacity Recommendations (1)
- 8th Street Typical Sections (1)
- 20th Street Typical Sections (1)
- Pedestrian/Bicycle Recommendations (1)
- TH 75/I-94 Interchange Alternative (1)
- 20th Street/I-94 Interchange Alternatives (5)
- 100 Scale Roll Drawing of the TH 75 Corridor Proposed Layout (2)
- 100 Scale Roll Drawing of the 20th Street Corridor Proposed Layout (2)

Rick Lane of SRF Consulting Group, Inc, welcomed everyone to the meeting. Mr. Lane and Avo Toghramadjian did the formal presentation for the meeting by giving a brief overview of each of the informational displays as listed above.

Verbal Questions and Comments

A summary of the verbal questions and comments, along with responses given by the presenters, is given below.

<u>If the 20th Street Interchange button hook loop lines up with 24th Avenue South, it will greatly increase volumes on 24th Avenue South.</u>

I am concerned about the number of trucks on 20th Street. Is it a truck route and would this project change that?

20th Street is a designated truck route and it would remain a truck route.

It would be nice to see the frontage road east of 20th Street line up with the alignment of the road further to the east.

This can be looked at, however it would require more of the road to run through the Busch Property and they require a buffer of air space around their plant. We are unsure if we will be able to obtain an easement for the roadway.

What happens to the frontage road west of 20th Street by the Tech School?

We are looking at dead ending the frontage road into MSCTC Parking Lot

Instead of dead ending the frontage road, could we look at re routing it to the north along the east side of the Tech School to line up with the button hook exit on the other side of the road?

That is something we will look at.

Please discuss the roundabout options in more detail.

Please stay after the meeting to watch the video about roundabouts. We are proposing the roundabouts at high crash intersections since roundabouts have a tendency to calm traffic and reduce or eliminate serious right angle crashes.

Would the roundabouts be built while there is an open highway or would they wait until the City builds out to those intersections.
The roundabouts can be designed for rural or urban. A rural roundabout includes curves that help to lower speeds before entering the roundabout.

When will the interstate go to 6-lanes?
If a 3rd lane is added in each direction it will be added to the inside of the interstate. There is no current project or time frame associated with this work.

Can we get a copy of the interchange alternatives and corridor layouts?
We will place these files on Metro COG's website at metrocog.org
We are unsure if the corridor layouts will be too large for the site but we will try and get all of the information that was not part of the handout on the website.

Written Comments

Written comments were accepted up until June 15, 2007; 15 days after the meeting was held.
A total of four written comments were received. The comments are attached to this summary.

Attachments

Attachments

Public Meeting Notice

TH 75 (8th Street) & 20th Street Corridor Studies
In Moorhead, MN

WHEN? Thursday May 31, 2007 From 5:00 PM to 7:00 PM (Formal Presentation at 5:30 PM)

WHERE? Minnesota State Community and Technical College 1900 28th Avenue South, Moorhead, MN
Enter the school at the front entrance next to the flag poles and follow the signs to the auditorium. Visitor parking is available at the front entrance.

WHY? Metro COG has created a study for the TH 75 and 20th Street Corridors due to the unprecedented southerly growth in Moorhead. The purpose of this meeting is to discuss and solicit public input for preliminary conceptual alternatives and their associated impacts. The alternatives include the TH 75 corridor from 20th Avenue South to 60th Avenue South, the 20th Street corridor from SE Main Avenue to 60th Avenue South, and the interchanges of TH 75 with I-94 and 20th Street with I-94. Representatives from Metro COG, City of Moorhead, MNDOT and SRF Consulting Group, Inc. will be on hand to answer your questions and discuss your concerns. Please plan to attend.

CONDUCTED BY Fargo-Moorhead Metropolitan Council of Governments, the City of Moorhead and SRF Consulting Group Inc.

Written comments will be accepted until June 15, 2007; and can be sent to:
Richard G. Lane
SRF Consulting Group, Inc.
One North Second Street, Suite 226
Fargo, ND 58102
e-mail: rlane@srfconsulting.com; fax: 701-237-0017

Special Needs: People with special needs who plan to attend the meeting and need special arrangements should contact Denise Kasowski, SRF Consulting Group, Inc at 701-237-0010, by May 29, 2007.

Sat 5-19-07

TH 75 & 20th Street Corridor Studies Second Public Meeting

May 31, 2007

Sign-in Sheet

Name	Address	E-mail
Les Bakke	4010 So 3 St	bakke@mnstate.edu
Dorgee/Hazel Weber	2301 So 14th St	
Leon Elofson		
Bill Woods	3513 Fairway Dr Mhd	
Nancy Otto	1913- 10th Ave N. Mhd	
Mark Voxland		
Jim Aadland	214 18th St. S.	
Julian Elofson	410 5 ?? St. MHD	
Marylou Kley	4068 40th Ave S Mhd	
Gary & Mary Jean Kerdens	1706 27 Ave S Mhd	
Richard & Donna Campbell	822 - Rennwald Blvd Moorhead	
Tom & Cyd A Anderson	1926 21 Ave S. Moorhead	
Deb Martinson	City of MHD.	
[illegible]	Concordia College	
Christopher Kulish	1219 12th St S	CKULISH@HOTMAIL.COM
Roger Buecher	441 Cedar LN.	
Dave Anderson	1921 23rd Ave S Moorhead	Lindave@cableone.net
[illegible]	2323 16th Av So Mhd	tncoil@aol.com
Brian Funk	802, 816 + 820 24th Ave S MHD	
Julie Smith	1406 24th Ave S MHD	jaismith@mail.com
Brian Gibson	FM COG	
Justin Kristan	FM COG	

TH 75 & 20th Street Corridor Studies Second Public Meeting

May 31, 2007

Sign-in Sheet

Name	Address	E-mail
Peggy Harter	One N 2nd St Fargo ND	pharter@sfconsulting.com
Barbara Sipson	2503 Rivershore Dr - MHD	sipson@earthlink.net
Roger Sipson	" " "	" "

TH 75 & 20th Street Corridor Studies Second Public Meeting

May 31, 2007

Sign-in Sheet

Name	Address	E-mail
Mark Hintermeyer	1202 26th Ave S	
Fred Wirtz	2316 S 6th ST. MOO	
JOHN EIDE	1203 24TH Ave S MOORH.D	
Jim Oswald	2901 20th St So Mhd	jim@Triumphlbc.org
John Mirries	2732 26th St Cir S Mhd	jwirries@mooreengineeringinc.com
Tom Kley	4068 40th Ave. So.	
RoseBakke	4010 3 St. S.	rosebakke@hotmail.com
Don Brummond	CONCORDIA COLLEGE	dbrummon@cord.edu

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Second Public Input Meeting on May 31, 2007

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by June 15, 2007 in order to give us time to review your concerns.

Name: _____

Address: _____

_____

Email: _____

Phone: _____

Comments: _____

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Second Public Input Meeting on May 31, 2007

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by June 15, 2007 in order to give us time to review your concerns.

Name: JOHN WIRRIES

Address: 2732 26TH ST CIR S
MHD, MN 56560

Email: jwirries@mooreengineeringinc.com

Phone:

Comments: Good presentation.
Would be nice to show alternatives in handout to show to neighbors or on a website.

Several Alternatives were presented. I am concerned with an entrance to I-94 crossing the Railroad tracks as this could cause issues with access or traffic backups on side streets ~~or even ramps that may be opposite in location~~ or adjacent off ramps.

I am also concerned with lining up an off ramp with 24th Ave.

Further, recommend not causing 28th Ave to dead end in the college parking lot. This will encourage people to use the parking lot as a thru street. Or dead end Souther west.

Could you also put round about video on Metro Cog website?

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Second Public Input Meeting on May 31, 2007

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by June 15, 2007 in order to give us time to review your concerns.

Name: _____

Address: _____

_____

Email: _____

Phone: _____

Comments: _____

Do not like the raised medians for snow & ice purposes. It fills in too fast on a snow route if the wind can't just blow. Make it flat & keep it with yellow lines. I 94 & 8th Street Interchange TH 75 - Option A - Do the two lanes going on to the interstate from 8th Street going west & add a lane to 24th going west to SunMart. Lengthen the left turn lane onto 24th going east. Do the next Option C first because we need to train people on alternative pathway back & forth from that area. We need a pedestrian & bicycle path to the industrial section and to Menards with Big fluffy trees to hide Busch. It will also create a look of space & ear

while also being practical for the 1st worker to go to work by foot to Menards. If they work industrial, they also need winter transit. Transit to Menards will be important. Also, we need more treatment & half-way house area designated (by the jobs) in the industrial area so they can easily access work in that part of town without cost for transportation.

Fold Here

SRF Consulting Group Inc.
Case Plaza
One North Second Street, Suite 226
Fargo, ND 58102

We also need access to a community center for non-alcoholic concerts, bands, events for kids after school so they can be creative & productive instead of getting into trouble. They are bored. The adults that don't drink don't have a place to go either to enjoy good entertainment etc.

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Second Public Input Meeting on May 31, 2007

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by June 15, 2007 in order to give us time to review your concerns.

Name: John H. Eide

Address: 1203 - 24th Ave. So.
Moorhead, MN 56560
218/233-7819

Email:

Phone:

Comments: PROPOSED CHANGES AT I94 & 8TH ST. SO. APPEAR TO HELP TRAFFIC THERE.

MY CONCERN IS THE SUGGESTION TO END SERVICE ROAD (28TH AVE) AT TECH SCHOOL PARKING LOT AND NOT HAVE EXIT OR ACCESS TO 20TH ST AT THAT POINT. TO ME THIS WOULD NECESSITATE STUDENT CARS, RESIDENTIAL + COMMERCIAL TRAFFIC TO GO AT LEAST TO 14ST (COMING OR GOING) BEFORE THEY COULD PROCEED NORTH. THIS WOULD MAKE IT EASIER TO TRAVEL ON 8TH ST + E+W ON 24TH AVE. THIS WOULD FURTHER CONTRIBUTE TO CONGESTION ON 8TH ST & 24TH AVE. IF THE HOLIDAY MALL SHOULD EVER DEVELOP THIS WOULD ADD TO THE PROBLEM.

DO NOT AGREE W/OPTION D? - BRINGING I94 TRAFFIC OVER BEFORE THE R.R. TRACKS AND ALIGNING W/24TH AVE. NEED A TRAFFIC SIGNAL AT THAT INTERSECTION NOW.

DO NOT THINK ALLOWING THE TECH SCHOOL AN APPROACH OFF 24TH AVE WOULD BE A WISE MOVE.

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Second Public Input Meeting on May 31, 2007

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by June 25, 2007 in order to give us time to review your concerns.

Name: Bruce Messerit, Mhd City Manager

Address: 500 Center Ave, Suite 300 P.O. Box 779

Moorhead, MN 56561-0779

Email: bruce.messerit@cityofmoorhead.com

Phone: 218-299-5305

Comments:

Concern over GSI for I-94 EB on-ramp at 20th and I-94 EB offramp at Rest Area.

- will increase costs significantly
- Unnecessary, can re-route Rest Area Traffic up off-ramp and thru signal To on-ramp/ access road.
- Disagree vs GSI.

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

SRF No. 006 5728

Summary of Public Information Meeting

Tuesday, January 15, 2008 from 5:00 p.m. to 7:00 p.m.

TH 75 (8th Street) & 20th Street Corridor Studies

Introduction

A Public Information Meeting (PIM) for the referenced project was held on January 15, 2008 from 5:00 p.m. to 7:00 p.m. in the Auditorium at Minnesota State Community and Technical College in Moorhead, Minnesota.

Notice of the Public Information Meeting

Notice of the Public Information Meeting was advertised in the Fargo Forum on Friday December 28, 2007; and Saturday January 12, 2008. A copy of the newspaper ad is attached to this summary.

A total of 33 direct mail public meeting notices were sent out to members of the Focus Group and people/properties that may be directly affected by the proposed corridor and/or interchange alternatives. A copy of the public meeting notice and the mailing list are attached to this summary.

A press release was also sent out the week of the public meeting to inform the local media of the upcoming public meeting. Newspaper articles covered discussion about the project and the upcoming public meeting.

Attendees

The following agencies had representatives at the meeting:

- Minnesota Department of Transportation
- City of Moorhead
- Fargo Moorhead Metropolitan Council of Governments
- Clay County
- SRF Consulting Group, Inc.

An attendance record sheet was prominently displayed on a table at the entrance to the community room and all persons entering were asked to sign in for the record. The attendance record sheet is attached to this summary.

Summary of Meeting

The meeting was held from 5:00 p.m. to 7:00 p.m., January 15, 2008. The meeting consisted of an informal open house with a formal presentation given at 5:30 p.m. Attendees viewed informational exhibits and engaged in one-on-one discussions with the project staff, then participated in a question and answer discussion as a group following the formal presentation.

Attendees received comment forms and preliminary cost estimate handouts upon entering the Auditorium. Meeting attendees were highly encouraged to submit written comments either directly after the meeting in the comment box, by mail, or by e-mail. The comment forms were addressed on the backside to the Fargo SRF office. A copy of the comment form and cost estimate handout is attached to this summary.

Informational displays presented at the meeting included the following:

- Growth Scenarios (1)
- AADT Traffic Volumes (Existing, Interim Year and Full Build) (1)
- Interim Intersection and Approach Level of Service for Existing/Revised Geometry (1)
- Interim Intersection and Approach Level of Service for Recommended Geometry (1)
- Preferred Alternatives Preliminary Cost Estimates (1)
- Pedestrian/Bicycle Recommendations (1)
- TH 75 Streetscape Existing and Proposed Typical Sections (4)
- 20th Street Streetscape Existing and Proposed Typical Sections (5)
- TH 75/I-94 Preferred Interchange Option B (1)
- 20th Street/I-94 Preferred Interchange Option E (1)
- 100 Scale Roll Drawing of the TH 75 Corridor Proposed Layout (1)
- 100 Scale Roll Drawing of the 20th Street Corridor Proposed Layout (1)
- December 2007 TH 75 and 20th Street Draft Corridor Study Reports (2)

Rick Lane of SRF Consulting Group, Inc, welcomed everyone to the meeting. Mr. Lane did the formal presentation for the meeting by giving a brief overview of each of the informational displays as listed above.

Verbal Questions and Comments

A summary of the verbal questions and comments, along with responses given by the presenters, is given below.

Rick Lane noted that there was an error on the preliminary cost estimate graphic and handout that the second set of estimates should say 20th Street and I-94 Interchange instead of TH 75 & I-94 Interchange.

Meeting attendees requested copies of the preferred corridor and interchange alternatives

SRF will work with Metro COG to place the preferred alternatives on the Metro COG website at www.fmmetrocog.org.

I am concerned about the number of trucks on 20th Street. Is it a truck route and would this project change that?

20th Street is a designated truck route and it would remain a truck route.

Two representatives of ConAgra Foods had concerns about the preferred 20th Street & I-94 Interchange Option E, which would require relocation of the business. They had concerns regarding how they would serve their customers during relocation and indicated that their equipment would be very expensive to move.

The presenters encouraged the gentleman to submit written comments and told them that just because this is the preferred alternative of the study, it is a very early planning process and environmental documents would need to be completed prior to final design and construction. Right of way impacts will be discussed further during the development of the environmental document. It was also noted that, even though the relocation would be costly it is not unusual to relocate businesses for this size of a project. The relative cost has to be weighted against the project's overall benefit.

Representatives for Trinity Lutheran Church had one comment in regards to them wanting to add on to the north side of their building for a new kitchen which would impact the current preferred 20th Street and I-94 interchange alternative.

Tom Trowbridge told the church representatives that the City of Moorhead would like to work with them to find an alternative part of their building to add on to so that in the future the addition would not be affected by the interchange ramps.

Representatives of Trinity Lutheran Church also asked if one of their access points onto 20th Street could remain full access. They were comfortable that the access point close to the south interchange ramp would need to be limited or closed, but their other access further south would be important to them to remain full access.

Rick Lane indicated that a side by side left turn lane could be installed at this location to make it work. Both Tom Trowbridge and Rick Lane thought that the City of Moorhead could work with

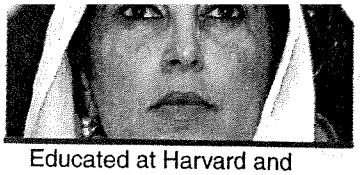
the Church to try and keep one of their access points onto 20th Street a full access. Tom Trowbridge indicated that maybe it could be a shared access with the bank to the south of the church.

Written Comments

Written comments were accepted up until January 31, 2008; 16 days after the meeting was held. A total of nine written comments were received. The comments are attached to this summary.

Attachments

ATTACHMENTS



Educated at Harvard and Oxford universities, Bhutto served twice as Pakistan's prime minister between 1988 and 1996.

Her father was Zulfikar Ali Bhutto, scion of a wealthy landowning family in southern Pakistan and founder of the populist Pakistan People's Party. The elder Bhutto was president and then prime minister of Pakistan before his ouster in a 1977 military coup. Two years later, he was executed by the government of Gen. Zia-ul Haq after being convicted of engineering the murder of a political opponent.

Bhutto had returned to Pakistan from an eight-year exile on Oct. 18. On the same day, she narrowly escaped injury when her homecoming parade in Karachi was targeted in a suicide attack that killed more than 140 people.

Islamic militants linked to al-Qaida and the Taliban hated Bhutto for her close ties to the Americans and support for the war on terrorism. A local Taliban leader reportedly threatened to greet Bhutto's return to the country with suicide bombings.

Pakistan's

What you need to know a

By Eric Carvin
Associated Press Writer

It's a country that plays a central role in fighting the war on terror even as the world's most feared terrorism network calls it home. A place that's embroiled in internal conflict over notions of democracy, modernity and the role of Islam in society.

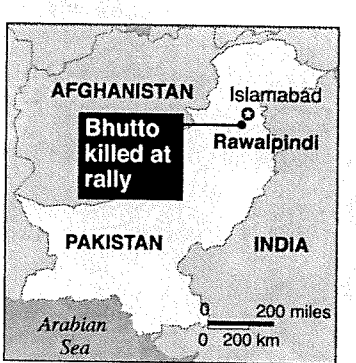
The Pakistan is a nation with a complex history and an uneasy relationship with the world community – and, often, with its own people.

Islam

Nearly all of Pakistan's 160 million people are Muslims. And a bitter conflict swirls around exactly what role Islam will play in how the nation is ruled.

Pakistan has generally been ruled by secular leaders, including Pervez Musharraf. But the Islamic religious right shot to prominence after Musharraf's rise to power in a 1999 military coup – and was further boosted by a wave of anti-American sentiment after the invasion of Afghanistan in 2001.

Islamic parties gained new influence after winning dozens of seats in parliamentary elections in 2002.



Source: ESRI AP

MATTERS: Bhu

From Page A1

Why her death matters politically in the U.S.

Pakistan is considered a vital U.S. ally in the fight against al-Qaida and other Islamic extremists, including the Taliba Osama bin Laden and his inner circle are believed to be hiding i lawless northwest Pakistan alon

WSI: Carlson says to end finger-pointing

From Page A6

listing the issues to be addressed by the interim Industry, Business and Labor Committee, which has 11 Republicans and six Democrats.

A test of the bipartisan spirit of the initiative will be whether Republicans give "full respect" to ideas from both parties, Boucher said. Carlson said it's time to get beyond "finger-pointing" and focus on addressing the problems.

Berg and Carlson said the review of workers' comp will include input from workers and employers, the governor, attorney general and state auditor, among others.

The interim panel also will review reports by consultants reviewing management and claims decisions. A separate legislative oversight committee reviews injured workers' claims.

Readers can reach Forum reporter Patrick Springer at (701) 241-5522

Public Meeting Notice

To present the draft corridor study and the preferred alternative along the TH 75 and 20th Street Corridors In Moorhead, MN

WHEN?
Tuesday January 15, 2008
From 5:00 PM to 7:00 PM
Formal Presentation at 5:30 PM

WHERE?
Minnesota State Community & Technical College in the Main Auditorium
(Enter by the flag pole and follow the Public Meeting Signs)
1900 28th Avenue South Moorhead, MN

WHY?
The purpose of this meeting is to discuss and solicit public input on the draft corridor study report and the preferred alternative for the short-term and long-term transportation needs along TH 75 from 20th Avenue South to 60th Avenue South and along 20th Street from SE Main Avenue to 60th Avenue South. Representatives from Metro COG, City of Moorhead, MnDOT and SRF Consulting Inc. will be on hand to answer your questions and discuss your concerns. Please plan to attend.

CONDUCTED BY
Fargo-Moorhead Metropolitan Council of Governments, the City of Moorhead and SRF Consulting Group Inc.

Written comments can be sent to:
Peggy Harter
SRF Consulting Group, Inc.
One North Second Street, Suite 226
Fargo, ND 58102
e-mail: pharter@srfconsulting.com;
fax: 701-237-0017

Special Needs: People with special needs who plan to attend the meeting and need special arrangements should contact Peggy Harter, SRF Consulting Group, Inc at 701-237-0010, by January 10, 2008.
0001377831

Public Meeting Notice

TH 75 (8th Street) & 20th Street Corridor Studies
In Moorhead, MN

WHEN?

Tuesday January 15, 2008
From
5:00 PM to 7:00 PM
(Formal Presentation at 5:30 PM)

WHERE?

Minnesota State Community and Technical College
1900 28th Avenue South, Moorhead, MN
Enter the school at the front entrance next to the flag poles and follow the signs to the auditorium. Visitor parking is available at the front entrance.

WHY?

Metro COG has created a study for the TH 75 and 20th Street Corridors due to the unprecedented southerly growth in Moorhead. The purpose of this meeting is to present and solicit public input on the draft study report and preferred alternative. The study includes the TH 75 corridor from 20th Avenue South to 60th Avenue South, the 20th Street corridor from SE Main Avenue to 60th Avenue South, and the interchanges of TH 75 with I-94 and 20th Street with I-94. Representatives from Metro COG, City of Moorhead, MNDOT and SRF Consulting Inc. will be on hand to answer your questions and discuss your concerns. Please plan to attend.

CONDUCTED BY

Fargo-Moorhead Metropolitan Council of Governments, the City of Moorhead and SRF Consulting Group Inc.

Written comments will be accepted until January 31, 2008; and can be sent to:
Peggy Harter
SRF Consulting Group, Inc.
One North Second Street, Suite 226
Fargo, ND 58102
e-mail: pharter@srfconsulting.com; fax: 701-237-0017

Special Needs: People with special needs who plan to attend the meeting and need special arrangements should contact Peggy Harter, SRF Consulting Group, Inc at 701-237-0010, by January 10, 2008.

"X" IF PRESENT	NAME	TITLE	ORGANIZATION	ADDRESS	PHONE #	E-MAIL
	Mark Waisanen	Area Operations Manager	District IV MNDOT	1000 Highway 10 West, Detroit Lakes, MN 56501	218-847-1541	Mark.Waisanen@dot.state.mn.us
	Jody Martinson		District IV MNDOT	1000 Highway 10 West, Detroit Lakes, MN 56501		
	E. Robert Olson	Land Owner		294 44th Avenue South, Moorhead, MN 56560	218-236-8871	
		City Manager	City of Moorhead	500 Center Avenue, Moorhead, MN 56560	218-299-5505	
	Lynn Leibfried	Manager of Public Projects	BNSF	80 44th Avenue NE, Minneapolis MN 55421	763-782-3492	Lynn.Leibfried@bnsf.com
	Scott Carry	Developer	R.S. Carey Land Co.	1606 Main Avenue, Suite 101, Moorhead, MN 56560	218-233-3630	
	John Hough	Developer	JV Hough Company	56560	701-284-0143	
	Dale Joel	Developer	Capital Growth	101 East 5th Street, Suite 1901, St. Paul, MN 55101	651-222-3366, #15	dj@capitalgrowthre.com
	Jason Eid	Developer	Eid-Co Development	1701 32nd Avenue South, Fargo, ND 58103	701-237-0510	
	Kevin Christianson	President	Pace-Lodging Corporation	4265 45th Street South, Suite 200, Fargo, ND 58104	701-281-9500	kchristianson@paces-lodging.com
	Kathy Anderson	Director of Administration	Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	
	Vicki Chepulis	Executive Director	Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	chepulv@fargo.k12.nd.us
	John Marks		Trollwood Performing Arts School	1420 8th Street North, Fargo, ND 58102	701-241-4799	
	Larry Nybladh	Superintendent	Moorhead School District	2410 14th Street South, Moorhead, MN 56560	218-284-3335	lnybladh@moorhead.k12.mn.us
	Matt Sheppard	Facilities Director	Minnesota State Community and Technical College	1900 28th Avenue South, Moorhead, MN 56560	218-299-6506	
	Jerome Migler	Campus Provost	Minnesota State Community and Technical College	1900 28th Avenue South, Moorhead, MN 56560	218-299-6506	
	Roleand E. Barden	President	Minnesota State University Moorhead	Office of the President, 203 Owens Hall, 1104 Seventh Avenue South, Moorhead, MN 56563	218-477-2243	
	Jeff Goebel	Physical Plant Manager	Minnesota State University Moorhead	1104 7th Avenue S, Moorhead, MN 56563	218-477--2069	goebelj@mnstate.edu
	Pamela Jolicoeur	President	Concordia Colleage	President's Office, Moorhead, MN 56562	218-299-3000	
	Tim Magnusson	Planning Director	Clay County	807 11th Street North, Moorhead, MN 56560	218-299-7330	Tim.Magnusson@co.clay.mn.us
	Vijay Sethi	County Administrator	Clay County	807 11th Street North, Moorhead, MN 56560	218-299-5002	Vijay.Sethi@co.clay.mn.us
	Nathan Gannon		Clay County	807 11th Street North, Moorhead, MN 56560		
	Kevin Martin		Moorhead Township	4532 40th Avenue South, Moorhead, MN 56560		
	Justin Kristan	Assistant Planner	FM Metro COG	One North Second Street, Fargo, ND 58102	701-232-3242, x36	jkristan@fmmetrocog.org
	Brian Gibson	Transportation Planner	FM Metro COG	One North Second Street, Fargo, ND 58102	701-232-3242, x33	gibson@fmmetrocog.org
	Lori Van Beek	Transit Manager	City of Moorhead	500 Center Avenue, Moorhead, MN 56560	701-476-6782	lvanbeek@matbus.com
	Kathy Hovey		Triumpth Lutheran Brethren Church	2901 20th St S, Moorhead, MN 56560		
	Brian Kramer		O'Leary's Pub	808 30th Ave S, Moorhead, MN 56560		
			WKKD Properties	2901 S. Frontage Road, Moorhead, MN 56560		
	Brian Funk		Lauren Properties	417 Dale Ave S, Moohead, MN 56560		
	Esther Haas			2315 S. 8th Street, Moorhead, MN 56560		
	Julie Gillette		Ken's Sanitation & Recycling, Inc.	PO Box 2127, Fargo, ND 58107		
	Troy Schrader		Conagra Fertilizer	2012 28th Ave S, Moorhead, MN 56560		

TH 75 & 20th Street Corridor Studies Third Public Meeting

January 15, 2008

Sign-in Sheet

Name	Address	E-mail
Tim Magnusson	807 N 11th St. MHD MN 56560	tim.magnusson@co.clay.mn.us
Gregg Harter	One N 2nd St Fargo ND 58102	pharter@sffconsulting.com
Justin Fiesel	ConAgra Fertilizer [illegible] Ave S Moorhead 56[illegible]	Justin.Fiesel@conagrafoods.com
Randy Sanders	same	Randy.Sanders@conagrafoods.com
Steve Gehrtz	3606 Westmoor Blvd, MHD.	sgehrtz@gomoorhead.com
Jon Evert	6429 170th Ave So. Moorhead	jon@redriverbasincommission.org
Jeff Goebel	MSUM 1104 Seventh Ave. S. MHD 56563	goebelj@mnstate.edu
Wayne Mongey	Jiffy Lube	DakotaLube@qwest.Net
Jerry Migler	MSCTC 1900 28th Ave S, Moorhead, MN 56560	jerome.migler@minnesota.edu
Jody Martinson	MnDOT	jody.martinson@dot.state.mn.us
Brian Funk	OWNER 804+816+820 24th Ave S. MHD	
Julie Nelson	2239 4th Ave S Moorhead	janelson_mn@yahoo.com
Benny Polacek	THE FORUM	bpolacek@forumcomm.com
Tom Trowbridge	City of Moorhead	
David Overbo	Clay Co. highway	
Daniel Kirk	Minn State University Moorhead	kirk@mnstate.edu
Frankie Savage	2307 S 19 St Mhd	
Tom Kley	4068 40th Ave So	kley@cord.edu

TH 75 & 20th Street Corridor Studies Third Public Meeting

January 15, 2008

Sign-in Sheet

Name	Address	E-mail
Mark Vinkemeyer	1207 26th Ave S	
[illegible]	[illegible]	
[illegible]	FM METRO COG	
Justin Kristan	FM METRO COG	
Kevin Martin	4532 40th Ave S Mhd	kmartin forms@q.com
Bob Zimmerman	City of Moorhead	
TIM SANDEN	4008 2½ ST S. MOORHEAD	tsanden@kwh.com
Mary Lou Kiley	4068 40th Ave S Moorhead	
[illegible]	[illegible]	
Tom Swenson	MnDOT 1000 Hwy 10 West Detroit Lakes	Thomas.swenson@dot.state.mn.us

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Third Public Input Meeting on January 15, 2008

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by January 31, 2008 in order to give us time to review your concerns.

Name: _____

Address: _____

_____

Email: _____

Phone: _____

Comments: _____

Peggy Harter - General Concerns about streets in Moorhead projects Rick Lane

From: Jay Sandt
To:
Date: 1/16/2008 9:05 PM
Subject: General Concerns about streets in Moorhead projects Rick Lane
CC:

Dear Consulting Group:

In Regard to: "20th Street South would be expanded to four lanes from Interstate 94 to 40th Street South. The three-way intersection with 60th Avenue South would get turning lanes."

-- Because Moorhead is expanding fast why would only a four-lane road be a suggestion? So that in five years it can be redone as a 6-lane road? That is a waste of taxpayer's money in my opinion.
My belief is to do it right the first time and be done with it for 15 - 20 years.

-- The stoplights would not be so bad if the timing of them were checked regularly. I notice this on a lot of intersections where people sit waiting to go while the other traffic has no cars during the green light because of the lack of traffic in that direction. I believe they make lights that can now sense when the majority of the traffic is through the intersection and it changes the flow of traffic in the other direction.

--Other concerns that were not in the article but Moorhead should seriously look at:

1. Why clean and paint the road right before winter? The plows don't plow the roads well enough to see the new paint anyway. This should be done in the springtime after the winter clean up when the lines are actually seen.

2. In developments that have houses where the properties joins two roads on the front and backside of the house (commonly called a double frontage road). This should not be done with a sidewalk on EACH street. It is a common practice and an expensive one to put sidewalks on every street in a development. There is no need and the city does not do the labor for both sidewalks to maintain them because the homeowner does. If the city, developers, consulting groups want to have two sidewalks for home owners then they should take care of the major ones and the home owners should only take care of the ones in front of their house and not on the backside of their home.

I would be happy to discuss these issues in person if needed. If not I would hope that they get passed onto the city of Moorhead. Thanks
Jay

Peggy Harter - A Few Notes

From: "Justin Kristan"
To:
Date: 2/4/2008 3:03 PM
Subject: A Few Notes

Hi Peggy:

Sorry this is late.

- Note from Lisa Vatnsdal of City of Moorhead.
  Concern about controlled pedestrian crossing at 24th Avenue (Sunmart , Brookdale, Viking Bank)

- Metro Area Transit uncomfortable with creating bus stops on portions of 20th Street yet it is a major feeder to MSUM. Possibility of traffic calming? (Wade Kline mentioned this).

Justin Kristan
Regional Bicycle and Pedestrian Coordinator
Fargo-Moorhead Metropolitan Council of Governments
Case Plaza
One North Second Street
Suite 232
Fargo, ND 58102-4807
701-232-3242 x.36

COMMENT FORM

TH 75 (8th Street) & 20th Street South Corridor Studies
Third Public Input Meeting on January 15, 2008

You may use this form to register your issues, concerns and ideas about the study. Just fill it out, fold it over and mail it using the address provided on back. You may also e-mail your comments to pharter@srfconsulting.com. We would like to receive comments by January 31, 2008 in order to give us time to review your concerns.

Name: Frankie Savage

Address: 2307 19th St S
Moorhead MN 56560

Email:

Phone: 218-234-7985

Comments:

Thanks for keeping pedestrians in mind. Please make sure the traffic light allows enough time to actually safely cross.

Engineers appear to be the only folks that love round abouts. My Garmin Nuvi (GPS) does not recognize the round about that I use regularly in the Seattle area. Fortunately, I was the only one around when I first encountered the problem. How will beet trucks and semi's handle this? How about poor visibility days? I am amazed at the number of people that cuss these out every time they approach one – for years!

The extra large round abouts that handle lots of vehicles at once seem to work only slightly better than traffic lights or stop signs. As I recall, some even have more than one lane.

Round abouts tend to be annoying and confusing. I would not recommend using them in this corridor.

Peggy Harter - RE: Metro College Coordination Working Group Meeting

From: "Brian Gibson"
To: "'Lisa Vatnsdal'" , "'Tom Trowbridge'"
Date: 1/22/2008 10:56 AM
Subject: RE: Metro College Coordination Working Group Meeting
CC: "'Wade Kline'" , "'Scott Hutchins'" , "'Justin Kristan'" , "'Peggy Harter'"

Thank you Lisa. I will make sure we continue to note this as a need in our planning processes.

Brian Gibson
Transportation Planner
Fargo-Moorhead Metropolitan Council of Governments
One North Second Street #232
Fargo, North Dakota 58102
(701) 232-3242, ext. 33

From: Lisa Vatnsdal [mailto:lisa.vatnsdal@ci.moorhead.mn.us]
Sent: Tuesday, January 22, 2008 10:29 AM
To: gibson@fmmetrocog.org; Tom Trowbridge
Cc: Wade Kline; Scott Hutchins
Subject: Metro College Coordination Working Group Meeting

Brian and Tom,
I had another appointment immediately following Friday's meeting, so I didn't get a chance to follow up with you afterwards, but wanted to mention one thing that came up during the Neighborhood Planning Study that relates to the 8th Street Corridor area. One area the consultants initially reviewed was connectivity and pedestrian safety within the study area. It was noted that there is no sidewalk on the south side of 24th Avenue immediately west of 8th Street/Hwy 75. There is a bus bench there near the stoplight. There is no alternative controlled pedestrian crossing for people using Sunmart/Brookdale/Viking Bank. If there are other improvements being installed in the area, this may be an issue to be addressed at the same time.

Lisa

Lisa J. Vatnsdal
Neighborhood Services Manager
City of Moorhead
111 12th Street North
Moorhead MN 56561-0779
phone (218) 299-5372
fax (218) 299-5072

www.cityofmoorhead.com

Peggy Harter - hwy75 & 20th street

From: "Tseten"
To:
Date: 1/16/2008 8:43 AM
Subject: hwy75 & 20th street

I think the Moorhead street improvements will definitely be a good thing. Since we need a east bound exit to 94 and also expanding 20th street would help traffic and promote city growth positively.

And please hurry with the improvements. I'd like to see the changes soon rather than later..

Thanks

Peggy Harter - Hwy. 75 South

From: Merle Selvaag
To:
Date: 1/16/2008 9:32 AM
Subject: Hwy. 75 South

We definitely need some improvements on Hwy.75 between 24th Ave. and 40th Ave. South. Morning traffic is HORRIBLE. Those of us NOT needing to get onto I-94 West are at a disadvantage, as the commuters with that intention hog the left lane for a good mile or so, leaving only the right lane for all other traffic. Turning right from 30th Ave.S. onto Hwy. 75 between 7:40 --8:00 am is virtually impossible, as a good share of other right-turners are waiting to get into the long line of cars in the left lane (intending to get onto highway going west), holding up those of us who want to get into the RIGHT lane.
Thanks.

From: Jason Halverson <jeherling@yahoo.com>
To: <pharter@srfconsulting.com>
Date: 1/16/2008 9:46 AM
Subject: highway 75/20th street study comments

I have a couple comments/concerns about what i read about the plans for these moorhead streets. the biggest problem i see is the roundabouts. I hope you drop that idea, those will cause many more accidents and delays than they will help. I have driven through them and it is pure confusion and chaos! they are awful enough with quiet two lane streets, but you want to put them on an extremely busy 4 lane road!! It is obvious to me that before too long hwy 75 will need to be widened to 4 lanes all the way to 60th ave, and there is way too much traffic for roundabouts. I dont know why its so hard for MNDOT to put up signals, they work much better. they say they're worried about t-bone crashes and delays, sure you may have less severe crashes with roundabouts but you will have many more of them, plus i'd rather be delayed a minute or two than create a dangerous intersection with roundabouts. The other concern i have is the report only mentions widening
hwy 75 south of I-94. Trust me, i drive that road every day and it needs it just as badly if not more north of the interstate. most mornings and afternoons it is backed up solid between I-94 and 24th ave S. I feel it should be widened at least as far as 20th ave. And finally about the 20th street plans, i hope they are planning to add more signals south of 12th ave. if you are coming off of 20th, or 24th aves south and trying to turn left (north) onto 20th st it is almost impossible with how busy it is all day. plus the intersection of 20th street and 30th ave south is in extreme need of improvement!! that 4-way stop needs to go and put signals up there asap. I work in south moorhead and drive to dilworth so i know first hand all the problems and all the traffic down there. I hope you fix it and fix it right. Thank you

---

From: "Jerome Migler" <Jerome.Migler@minnesota.edu>
To: <pharter@srfconsulting.com>
Date: 1/16/2008 9:43 AM
Subject: Comment on 20th St. Corridor Study

CC: "Matt Sheppard" <Matt.Sheppard@minnesota.edu>, "Tom Koehnlein" <Tom.Koeh...
First, thank you for taking the time to present the latest information on the corridor studies.

Our comment concerns the re-routing of 28th Ave as it connects to 20th St. The proposal shows 28th Ave. being re-routed through our existing SE parking lot here on the MSCTC (Minnesota State Community and Technical College) campus. Your exisiting map does not show a major campus facility expansion which was completed in 2006/7. This addition would essentially be right next to the proposed re-routing of 28th Ave. I believe we need a greater buffer between the roadway and the building than what is shown.

As you proceed with future planning as it relates to 28th Ave. and MSCTC, please feel free to contact us as we are certainly willing to look at all possibilities.

Jerry Migler

Jerry Migler, PhD
Provost
Minnesota State Community and Technical College
1900 28th Ave. South
Moorhead, MN 56560
218-299-6506

Peggy Harter - FW: [*SPAM*] Roundabouts

From: "Bob Zimmerman"
To: "Peggy Harter"
Date: 1/16/2008 10:10 AM
Subject: FW: [*SPAM*] Roundabouts

Peggy,

A public comment (from Texas!).

Bob

From: Becky Jahnke
Sent: Wednesday, January 16, 2008 8:52 AM
To: Michael Redlinger; Bob Zimmerman
Subject: FW: [*SPAM*] Roundabouts

From: Choochlee@aol.com [mailto:Choochlee@aol.com]
Sent: Wednesday, January 16, 2008 8:28 AM
To: Becky Jahnke
Subject: [*SPAM*] Roundabouts

I read on the Forum website that Moorhead is considering placing roundabuts on US75 south of Moorhead. I recommend that you contact the city of Dallas, Texas before proceeding. Several years ago Dallas place 4 rundabuts in the city, one at each corner. The one in northwest Dallas had for years the most traffic accidents of any intersection in town, in fact twice as many as the intersection with the 2nd most. The city eventually replaced all the roudabouts because of safety concerns. Just a suggestion.

Eugene K. Lee
7227 Bluefield
Dallas, Texas 75248

Appendix D – Planning Commission & City Council Meeting Documents

CITY OF MOORHEAD
PLANNING COMMISSION/BOARD OF ADJUSTMENT
MEETING MINUTES
TUESDAY, MAY 6, 2008 - 5:00 P.M.
FIRST FLOOR COUNCIL CHAMBERS - CITY HALL

I. ROLL CALL

Members Present: (7) McCarthy, Schulz, Rowell, Stabenow, Dahle, Ingersoll, Gramer.

Members Absent: None.

Others Present:	See attached attendance record.
Debra Martzahn	Planning and Zoning Administrator
Mary Schmitt	Neighborhood Services Office Specialist

II. AGENDA AMENDMENTS

There were no agenda amendments.

III. APPROVAL OF APRIL 1, 2008 REGULAR MEETING MINUTES

McCarthy moved, seconded by Schulz, to approve the April 1, 2008 meeting minutes with correction to action taken on Item 2, which should include all of 34th Street. Motion carried by unanimous voice vote.

IV. CITIZENS TO BE HEARD

No citizens requested to be heard.

V. PUBLIC HEARING – BOARD OF ADJUSTMENTS - None

VI. PUBLIC HEARING – PLANNING COMMISSION

1. **Request of Arista Development on behalf of Adams Development to vacate a 10-foot utility easement centered on the shared lot line between Lots 10 and 11 of Block 2 of Prairie Skies Addition, extending from 40th Avenue South to the 41st Avenue cul-de-sac.**

Action Taken: Rowell moved, seconded by Schulz, to open the public hearing. Motion carried by unanimous voice vote.

Martzahn explained that Adams Development is considering shifting lot lines in the cul-de-sac and would like the easement vacated to provide more flexibility. After notification from staff, there were no concerns from utilities serving Moorhead or indication that the easement was needed. Staff recommended approval.

Action Taken: Rowell moved, seconded by Stabenow, to close the public hearing. Motion carried by unanimous voice vote.

Action Taken: Stabenow moved to approve, seconded by Schulz. Motion carried by unanimous voice vote.

2. **Request of the Housing and Redevelopment Authority of Clay County for a Conditional Use Permit for Multi-family Residential Use with Services in the CC: Community Commercial District at 1817 1st Avenue North.**

Action Taken: Stabenow moved, seconded by Rowell, to open the public hearing. Motion carried by unanimous voice vote.

Martzahn described the request to construction a 24-unit apartment building with services for previously homeless persons staying at the Churches United shelter who are ready for their own homes. She recommended approval with specified conditions, including that adequate sewer and water service could be provided, environmental problems are remedied, and green space and landscaping are approved by the City Planner.

Dara Lee, Clay County HRA thanked the commission for their consideration of the proposed project, adding that is it a great opportunity for Church's United for the Homeless and the residents of the complex to share services.

Action Taken: Schulz moved, seconded by Ingersoll, to close the public hearing. Motion carried by unanimous voice vote.

Action Taken: McCarthy moved to approve with the stated conditions, seconded by Gramer. Motion carried by unanimous voice vote.

3. **Request of Kathie Kvalvog on behalf of Bryan Hildreth for amendments relating to 0.79 acres at 1915 Main Avenue SE, including a change in the 2004 Comprehensive Plan from Community Commercial to Medium Density Residential and a rezoning from CC: Community Commercial to RMD-1: Residential Medium Density.**

Action Taken: Stabenow moved, seconded by Rowell, to open the public hearing. Motion carried by unanimous voice vote.

Martzahn briefed the commission on the applicant's intentions to remove the existing building, Morningside Motel, and construct an 11-unit apartment complex on the property. She explained that the Main Avenue street project will cause the street elevation to drop and a concrete wall to be constructed along the property's north boundary, shielding it from the traffic on Main Ave. The changes will enclose the neighborhood, make it more secure and quieter for housing, and less desirable for commercial use. Martzahn described the proposed rezoning, within two blocks of MSUM, as an excellent opportunity to increase student housing

opportunities. She said the request does not include the Tastee Freeze or the other properties that are zoned Community Commercial. Martzahn recommended rezoning 1915 Main Ave SE from CC to RMD1.

Kathie Kvalvog, representing Morningside Motel, briefed the commission on the plans for the 11-unit complex. She said she would like to start construction as soon as possible after approval of rezoning.

Julian Elofson, co-owner of Tastee Freeze, said he does not see the rezoning of his property as being conducive at this point. He first would like to know how the Main Ave project would affect the property. Ingersoll questioned the timeline for the Main Ave project. Bob Zimmerman, City Engineer, responded that the city currently is pursuing federal funding for the project. He added that there is a section of the old Greenwood Mobile Home Park purchased by the city that will need to be relocated.

Fern Elofson, co-owner of Tastee Freeze, approached the Commission regarding the fact that she was not informed of the rezoning request. She requested more information and time to review it before it goes to City Council. Rowell explained the Commission's recommendation would go to the Council on May 19, 2008 and encouraged her to learn as much as possible about the proposal before the Council meeting and to attend the meeting.

Action Taken: Ingersoll moved, seconded by Gramer, to close the public hearing. Motion carried by unanimous voice vote.

Action Taken: Gramer moved to recommend approval of both the Comprehensive Plan amendment and the rezoning, seconded by Schulz. Motion carried by unanimous voice vote.

VII. OTHER BUSINESS

1. Request of Brad Olson for re-use of building at 118 9th Street North as a shoe store and Olson Custom Tarps and Repairs

Martzahn reported that the current zoning is residential, but up until January the building had been occupied by commercial use. She told Commissioners that the city council may allow a non-conforming use to be replace by another non-conforming use that is equally or more compatible with the surrounding neighborhood.

Martzahn noted that the city's boulevard has been paved over and may be restored at some point in the future to green space, at which time the property owner would be assessed all or a portion of the cost. Staff recommended approval with specified conditions.

Brad Olson, Olson Custom Tarps and Repairs, 1721 5 St S, agreed with the conditions, saying he would have no issues with green space as long as there will be access for deliveries. Upon questioning by the commissioners, he stated he could accept the proposed conditions.

Action Taken: McCarthy moved to approve with staff recommendations, seconded by Gramer. Motion carried by unanimous voice vote.

2. 20th Street and TH 75 study - SRF's Presentation of Executive Summary

Rick Lane, SFR Consulting Group, introduced MNDOT District 4 engineers Jody Martinson and Mark Waisanen, along with Brian Gibson, Metro COG and Peggy Harter of SFR Consulting. Lane presented the Executive Summary of the 20th Street and TH 75 study. Commissioners had questions about light signals, roundabouts, speed restrictions, and cost comparisons. Martzahn asked the Commissioners to make a recommendation to the City Council.

Action Taken: Gramer moved to recommend that the city council receive and accept the study, seconded by Rowell. McCarthy objected to "accepting" the study. Rowell moved to reconsider the motion, seconded by McCarthy. Discussion on the terminology used in the motion regarding receive and accept ensued. Bob Zimmerman told the commissioners he would ask the city council to "approve" the study. Rowell moved to amend the motion to delete the word "accept" and have the motion read "move recommend to that the city council receive", seconded by Schulz. Amended motion carried by unanimous voice vote.

VIII. REPORTS/INFORMATION

- Civic University presentation was not given due to latest of the meeting.

- Update on Studies

a. Transit-Oriented Development – Stephanie Caron (intern)

Stephanie Caron, Sr, NDSU, presented a brief synopsis of a study she prepared on Transit-Oriented Development. She also presented a brochure she worked on for Metro Area Transit to help increase student ridership. The brochure consists of an apartment guide listing rental units within a 20-minute bus ride to any of the campuses. Commissioners asked for copies of the brochures, which will be provided to incoming students beginning with the fall 2008 orientations.

b. Active Living – No report.

IX. ADJOURNMENT

Please Print!

ATTENDANCE RECORD

Meeting: PC **Date:** 5/6/08

Location: Council Chambers **Time:** 5:00

NAME	ADDRESS OR AFFILIATION
[illegible]	[illegible]
Peggy Hartel	SRF Consulting Group Inc.
Richard A. Lane	SRF Consulting Group Inc.
MARK WAISANEN	MN/DOT
Jody Martinson	MN/DOT
JEFF SCHAUHAUN	ARISTA DEVELOPMENT
Dan Swerson	MORNINGSIDE
[illegible]	Maggie Amerlund
[illegible] THOMPSEN	EAPC ARCHITECTS
Dan Mosier	Beyond Shelter, Inc.
Dara A. Lee	City Cnty HRA
Rhet Fiskness	EAPC Architects
[illegible]	City Cnty HRA Bd
Brad Olson	Olson Custom Taps
BRIAN GIBSON	METRO COG
Bob Zimmerman	Engineering

Presentation Minutes

MINUTES OF THE MEETING OF THE CITY COUNCIL OF THE CITY OF MOORHEAD, MINNESOTA MAY 12, 2008

Pursuant to due call and notice thereof, an adjourned meeting of the City Council of the City of Moorhead, Clay County, Minnesota, was duly held in the Council Chambers, City Hall, the 12th day of May, 2008, at 5:30 p.m.

The following members were present for roll call: Mayor Voxland, Council Members Wray Williams, Rowell, Hunt, Winterfeldt, Hintermeyer; and the following were absent: Council Members Otto, Bohmer, and Lemke. (NOTE for the record: Council Member Bohmer joined the meeting at 5:32 p.m. and Council Member Otto at 5:33 p.m.)

In an effort to provide additional time for arrival, Mayor Voxland commenced by recessing the adjourned meeting and opening the committee of the whole meeting.

Committee of the Whole Meeting

1. Cultural Diversity Resources

Yoke Sim Gunaratne, Executive Director, Cultural Diversity Resources (CDR), was present to provide the Mayor and Council with an update regarding CDR and its programs. She provided a brief explanation of the organization's history and mission.

Council Member Bohmer joined the meeting at 5:32 p.m. and Council Member Otto joined the meeting at 5:33 p.m.

Ms. Gunaratne reviewed the various programs and services provided, emphasizing services are offered to more than just the minority population. CDR offers diversity training, seeking diversity education in the Moorhead Public Schools, and partners with the Heritage Hjemkomst Interpretive Center to promote diversity. She also highlighted CDR sponsored events and referenced the materials distributed to the Mayor and Council.

At 5:55 p.m., Mayor Voxland announced the committee of the whole meeting will be paused to return to the scheduled adjourned meeting.

Adjourned Council Meeting

Council Member Rowell moved, seconded by Council Member Hunt, to amend the agenda by adding consideration of the special event permit for the Moorhead Police Federation, which motion passed by unanimous vote.

Mayor Voxland removed from the table the matter regarding the 2001 15th Avenue North property.

Michael Redlinger, City Manager reported Council Member Lemke was not able to attend tonight's meeting; however, requested that his position be shared regarding this subject. Council Member Lemke supports the recommendation as set forth in resolution #2008-503 and is not asking that it be tabled again, but would be willing to consider it next week should that be the desire of the Council.

Council Member Winterfeldt felt they should afford Council Member Lemke the same consideration as offered last week for a member absent. Council Member Rowell indicated if said member is supportive of this recommendation, and in an effort to move it forward at this time, he would vote in the affirmative in recognition of Council Member Lemke's stated position.

Discussion took place regarding the recommended proposal per Resolution #2008-503. Mayor Voxland expressed concern that the proposal only uses one-half of the property. He asked if the City would have any assurances that "they would see something better/more than what is currently proposed". City Manager Redlinger replied staff would work with the developer to better utilize the property. However, it was noted the City could not force them to fully develop the site.

Concerns were also expressed regarding the request for proposal process and the fact this particular process was not completely adhered to.

Council Member Otto inquired as to whether or not the resolution could be amended to require the developers to better utilize the property. City Manager Redlinger replied it would be appropriate that staff be encouraged to work with the developer concerning better land utilization.

Council Member Otto moved, seconded by Council Member Winterfeldt, to amend the motion to suggest/encourage staff to work with the proposer (Starlite Properties) for better utilization of the land at 2001 15th Avenue North, which motion to amend resolution #2008-503 passed with the following voting aye: Council Members Otto, Bohmer, Rowell, Hunt, Winterfeldt, Hintermeyer; and the following voting no: Council Member Wray Williams.

Resolution **#2008-503**, as amended, reads as follows:

> WHEREAS, the City of Moorhead as owner of approximately 2.5 acres of undeveloped property located at 2001 15th Avenue North solicited proposals for the sale and development of the site pursuant to a Request for Proposals (RFP); and
>
> WHEREAS, the City Council of the City of Moorhead received two responses to its RFP, a response from Starlite Properties and a response from Mr. Pete Marinucci; and
>
> WHEREAS, upon a complete and thorough review of said proposals and discussions with both development groups.
>
> NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Moorhead that the City Council does herein select the proposal of Starlite Properties as its preferred proposal and directs the Mayor and City Manager to enter into and execute for and on behalf of the City of Moorhead with Starlite Properties a Developers Agreement providing for the sale and development of the above referenced property to Starlite Properties for the amount of $100,000 cash at closing and other such requirements as may be necessary to proceed with the project.
>
> BE IT FURTHER RESOLVED by the City Council of the City of Moorhead that the City Council does hereby authorize City staff to work with Starlite Properties to encourage optimum development utilization of the property located at 2001 15th Avenue North.

Which resolution was declared duly adopted with the following voting aye: Council Members Otto Wray Williams, Rowell, Hunt, Winterfeldt, Hintermeyer; and the following voting no: Council Member Bohmer.

Second consideration of Ordinance No. 2008-5 (as tabled on May 5, 2008) was conducted at this time:

ORDINANCE NO. 2008-5

AN ORDINANCE AMENDING THE OFFICIAL ZONING MAP IN ACCORDANCE WITH CHAPTER 3-1 OF TITLE 10 OF THE MOORHEAD CITY CODE REZONING 2001 15TH AVENUE NORTH FROM CC, COMMUNITY COMMERCIAL TO LI, LIGHT INDUSTRIAL

Which ordinance passed second consideration with the following voting aye: Council Members Otto Wray Williams, Rowell, Hunt, Winterfeldt, Hintermeyer; and the following voting no: Council Member Bohmer.

Resolution **#2008-504**, as tabled on May 5, 2008, was considered at this time and reads as follows:

WHEREAS, the City Council of the City of Moorhead did pass Ordinance No. 2008-5, An Ordinance Amending the Official Zoning Map in Accordance with Chapter 3-1 of Title 10 of the Moorhead City Code Rezoning 2001 15th Avenue North from CC, Community Commercial to LI, Light Industrial; and

WHEREAS, a title and summary for publication of the above Ordinance was submitted to the City Council for its review in accordance with Section 3.08 of the Moorhead City Charter; and

WHEREAS, the City Council has reviewed the title and summary for said Ordinance for approval and has determined that the title and summary informs the public of the intent and effect of the Ordinance.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Moorhead hereby approves the title and summary of Ordinance No. 2008-5, An Ordinance Amending the Official Zoning Map in Accordance with Chapter 3-1 of Title 10 of the Moorhead City Code Rezoning 2001 15th Avenue North from CC, Community Commercial to LI, Light Industrial. A copy of said title and summary was before the City Council and is now of record and on file in the office of the City Clerk.

BE IT FURTHER RESOLVED by the City Council of the City of Moorhead that the City Clerk is authorized and directed to publish said title and summary in accordance with Section 3.08 of the Moorhead City Charter.

Which resolution was declared duly adopted with the following voting aye: Council Members Otto Wray Williams, Rowell, Hunt, Winterfeldt, Hintermeyer; and the following voting no: Council Member Bohmer.

Council Member Hunt moved, seconded by Council Member Winterfeldt, to approve the following special event permit:

SPECIAL EVENT PERMIT (Possession & Consumption of Alcoholic Beverages)
David Ebinger, Moorhead Police Federation, 915 9th Ave N., Moorhead,
Reception / Police Memorial Event in Viking Park on 5/14/08..... ***N/C***

Which motion passed by unanimous vote.

The adjourned Council meeting concluded at 6:17 p.m., at which time the Mayor and Council continued the committee of the whole meeting

Council Member Rowell was excused from the meeting at 6:17 p.m.

Committee of the Whole Meeting Continued

2. TH 75 / 20th Street Corridor Study Presentation

Bob Zimmerman, City Engineer, introduced the representatives in attendance to present the TH 75 / 20th Street South Corridor Study. He reminded the Council these are not construction documents, but merely a study. Introduced were: Rick Lane & Peggy Hunter, SRF Consulting Group Inc.; and Lee Berget, District Engineer, & Jody Martinson, District Planner, Minnesota Department of Transportation.

Rick Lane, SRF Consulting Group, provided a brief summary of the background for the corridor study. He noted the City of Moorhead is experiencing unprecedented southerly growth, which in recent years have placed additional stress on 8th Street (T.H. 75) and 20th Street South. As a result of this increased demand on the infrastructure, the Fargo-Moorhead Metropolitan Council of Governments (Metro COG) created a study to better define the short-term and long-term transportation needs along both corridors. He noted the purpose of the TH 75 and 20th Street South Corridor Studies is to identify the future improvement needs along TH 75 from 20th Avenue to 60th Avenue South and along 20th Street from SE Main Avenue to 60th Avenue South.

He reported with respect to the portion of TH 75, it is a 4-lane divided roadway with turn lanes from 20th Avenue South to approximately 40th Avenue South and is posted at 40 miles per hour (mph). South of 40th Avenue, TH 75 is a rural highway with speeds posted at 55 mph. The 20th Street South corridor is an urban roadway that begins at SE Main Avenue and currently ends at 34th Avenue South, speeds posted on this roadway are at 30 mph. As development continues, the 20th Street corridor will need to be extended to 60th Avenue South.

Mr. Lane related the following corridor study objectives:

- Involving affected agencies, stakeholders and the public throughout the study process;
- Analyzing existing conditions;
- Developing a range of alternatives that include a combination of safety, geometric, access management, capacity and aesthetic improvements;
- Competing a detailed analysis of the TH 75 / I-94 and 20th Street / I-94 interchanges;
- Analyzing traffic operations of I-94 and the future 34th Street interchange;
- Creating a matrix for all of the proposed alternatives that evaluates the physical, social, environmental and technical aspects of the proposed alternatives.
- Identifying a preliminary financial plan and implementation strategies.

Mr. Lane briefly summarized public involvement, which included the utilization of various methods, such as: Study Review Committee, focus group meetings, and open house meetings. Mr. Lane then reviewed the entire document, page by page (a copy of which is on the City of Moorhead website www.cityofmoorhead.com).

Following the presentation of the report, City Engineer Zimmerman requested the Mayor and Council consider a resolution on May 19th to receive this document, which will serve as an official planning document.

3. City Manager Reports

City Manager Redlinger provided a brief report on the following:

- Legislative Update – It is not anticipated there will be large swings one way or another with respect to LGA. Staff will continue to monitor LGA.
- The City of Fargo is not interested in merging the Human Rights Commission. Staff will review and attempt to reconstruct the Moorhead Human Rights Commission history.
- The Council notebook proposal will be discussed during the May 19th meeting. It was suggested staff review this to determine City savings.

The meeting adjourned at 7:36 p.m.

APPROVED:

_____
MARK VOXLAND, Mayor

ATTEST:

_____
KAYE BUCHHOLZ, City Clerk

REQUEST FOR COUNCIL ACTION

AGENDA SECTION: Engineering - Wastewater Treatment		ORIGINATING DEPT. Engineering	MEETING DATE: 5/19/2008
ITEM NO. 17.A.	ITEM DESCRIPTION: *Resolution to Receive Study		PREPARED BY: Zimmerman

DRAFT RESOLUTION

WHEREAS, the Fargo-Moorhead Metropolitan Council of Governments, the Minnesota Department of Transportation, Clay County, and the City of Moorhead have completed a study of short- and long-term transportation improvements necessary to serve projected traffic volumes along the 20th St and TH 75 corridors, and

WHEREAS, the study will serve as guide for planning, designing, and constructing future improvements along these corridors as necessitated by continued to growth on the southern edge of the City.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Moorhead that the City Council does hereby receive the TH 75/20th Street Corridor Study.

PASSED by the City Council of the City of Moorhead this 19th day of May 2008.

OTTO
BOHMER
WRAY WILLIAMS
ROWELL
HUNT
WINTERFELDT
HINTERMEYER
LEMKE
MAYOR

RESOLUTION

WHEREAS, the Fargo-Moorhead Metropolitan Council of Governments, the Minnesota Department of Transportation, Clay County, and the City of Moorhead have completed a study of short- and long-term transportation improvements necessary to serve projected traffic volumes along the 20th St and TH 75 corridors, and

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NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Moorhead that the City Council does hereby receive the TH 75/20th Street Corridor Study.

PASSED by the City Council of the City of Moorhead this 19th day of May 2008.

APPROVED BY:

/s/ Mark Voxland
MARK VOXLAND, Mayor

ATTEST:

/s/ Becky L. Jahnke
BECKY L. JAHNKE, Deputy City Clerk

(SEAL)

STATE OF MINNESOTA }
COUNTY OF CLAY } SS
CITY OF MOORHEAD }

I do hereby certify that the foregoing document is a true and correct copy of said document presented to and adopted by the City Council of the City of Moorhead, Minnesota at a duly authorized meeting thereof held on the 19 day of May, 2008. I further certify that this document has not been rescinded or modified and is still in force and effect.

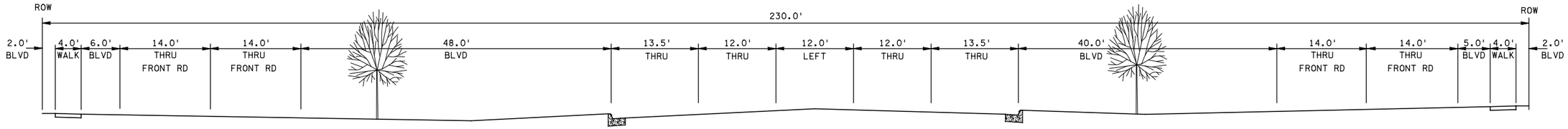
Dated this 21 day of June, 2008.

City Clerk

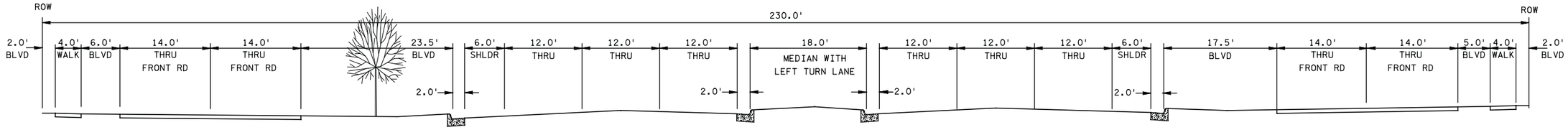
#2008-550-E
(Consent Agenda)

Appendix E – Typical Sections, Cost Estimates & Recommended Alternative Corridor Layouts

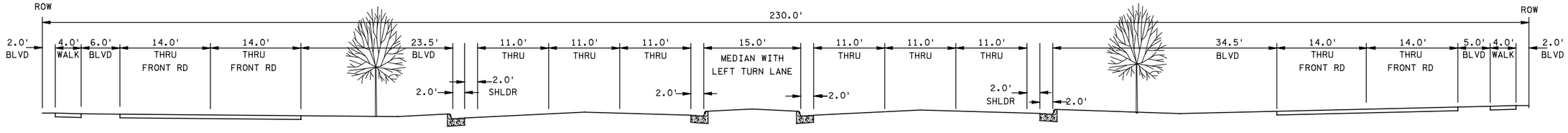
TH 75 Typical Sections



TH 75
Between 20th and 24th Avenue South
EXISTING TYPICAL SECTION



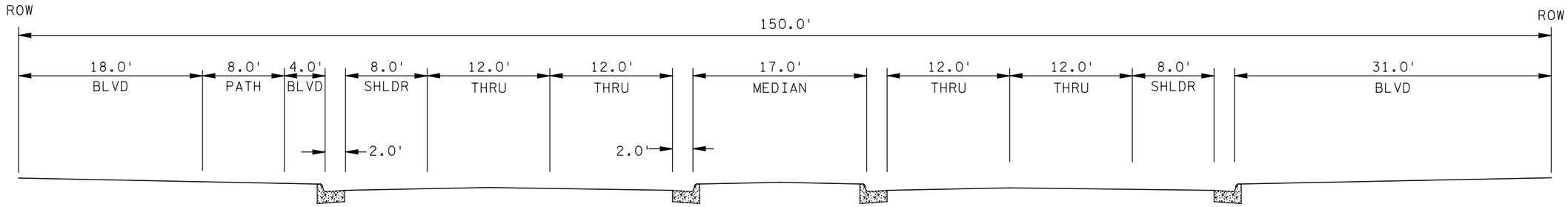
TH 75
Between 20th and 24th Avenue South
ALTERNATIVE A



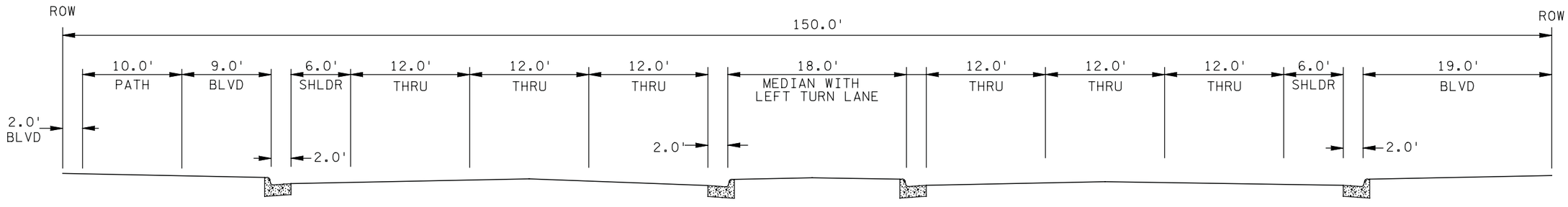
TH 75
Between 20th and 24th Avenue South
ALTERNATIVE B

TYPICAL SECTION 1

Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd



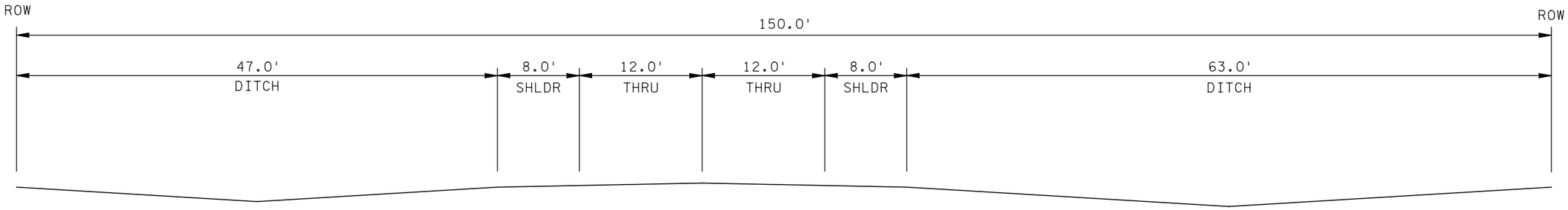
TH 75
Between 24th and 40th Avenue South
EXISTING TYPICAL SECTION



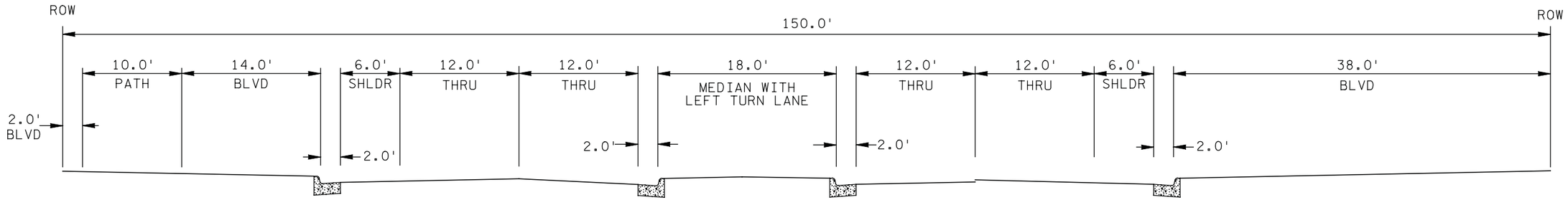
TH 75
Between 24th and 40th Avenue South
ALTERNATIVE A

TYPICAL SECTION 2

Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd



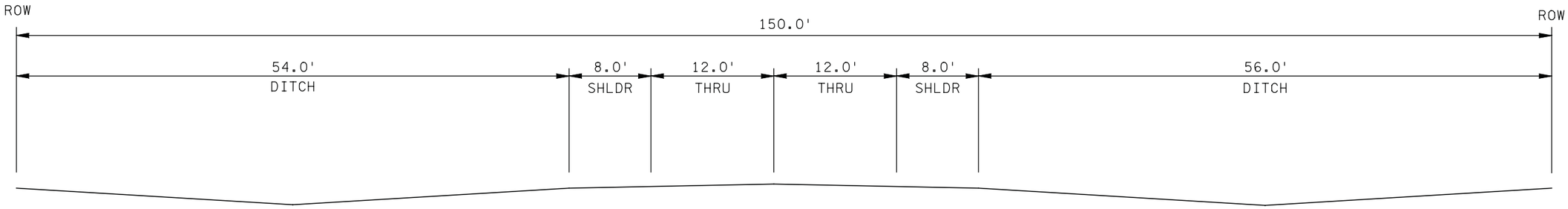
TH 75
Between 40th and 50th Avenue South
EXISTING TYPICAL SECTION



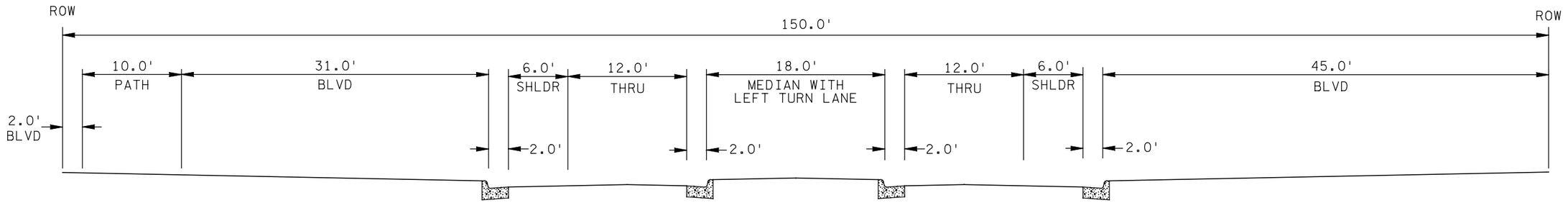
TH 75
Between 40th and 50th Avenue South
ALTERNATIVE A & B

TYPICAL SECTION 3

Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd



TH 75
Between 50th and 60th Avenue South
EXISTING TYPICAL SECTION



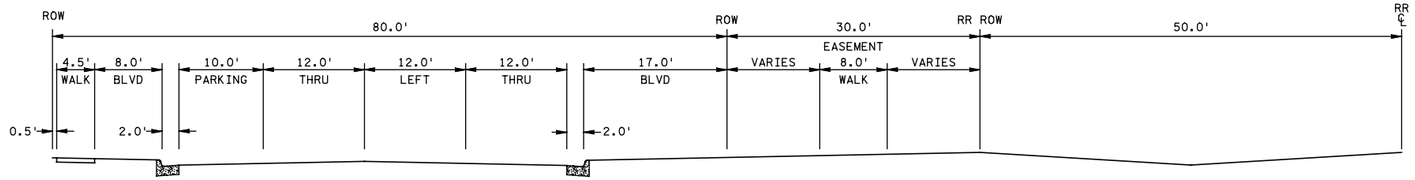
TH 75
Between 50th and 60th Avenue South
ALTERNATIVE A & B

TYPICAL SECTION 4

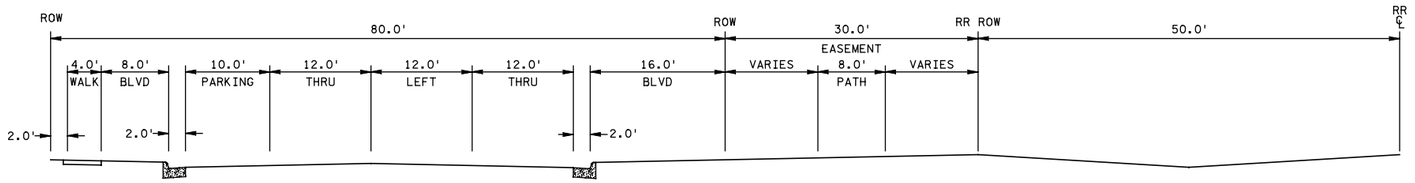
Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd

20th Street Typical Sections

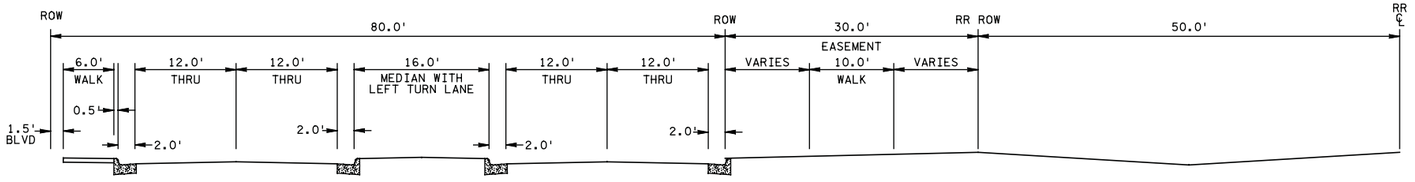
20TH STREET
Between 6th Avenue South and 1-94
EXISTING TYPICAL SECTION



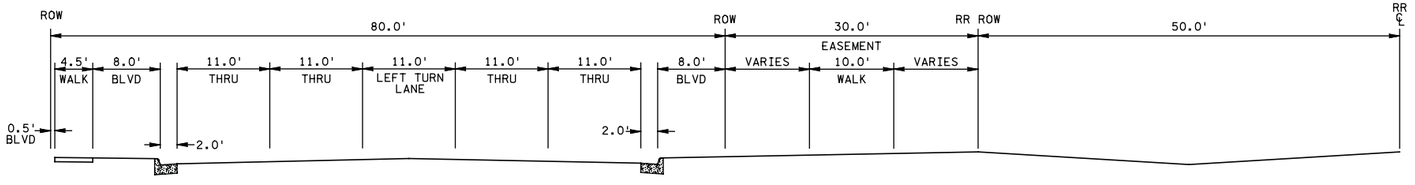
20TH STREET
Between I-94 and Belsley Boulevard
EXISTING TYPICAL SECTION



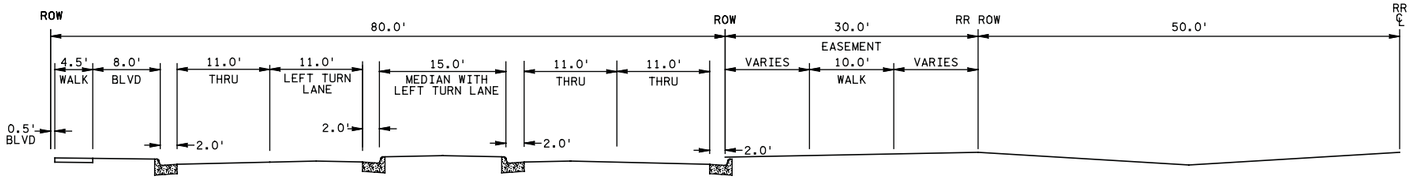
20TH STREET
Between 6th Avenue South and Belsley Boulevard
ALTERNATIVE A



20TH STREET
Between 6th Avenue South and Belsley Boulevard
ALTERNATIVE B



20TH STREET
Between 6th Avenue South and Belsley Boulevard
ALTERNATIVE C



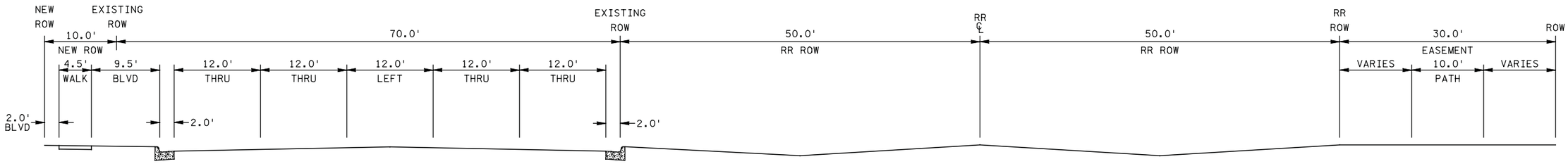
TYPICAL SECTION 5

Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd

20th Street Typical Sections

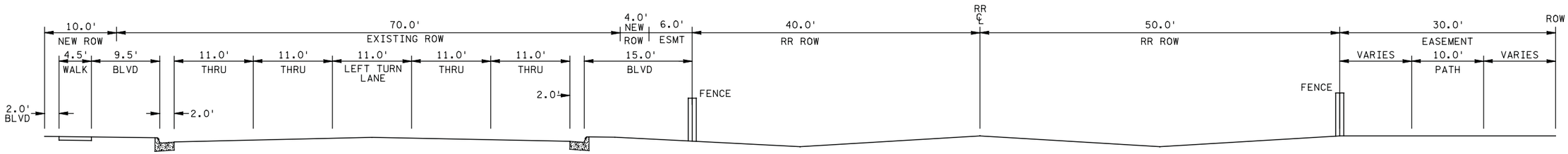
20TH STREET

Between Belsley Boulevard and 40th Avenue South
NO TYPICAL SECTION EXISTS



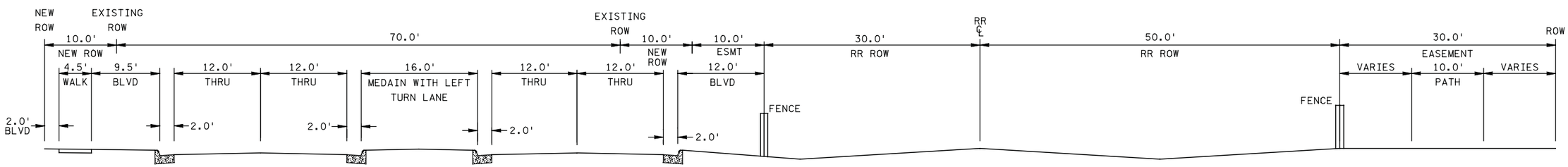
20TH STREET

Between Belsley Boulevard and 40th Avenue South
ALTERNATIVE A



20TH STREET

Between Belsley Boulevard and 40th Avenue South
ALTERNATIVE B



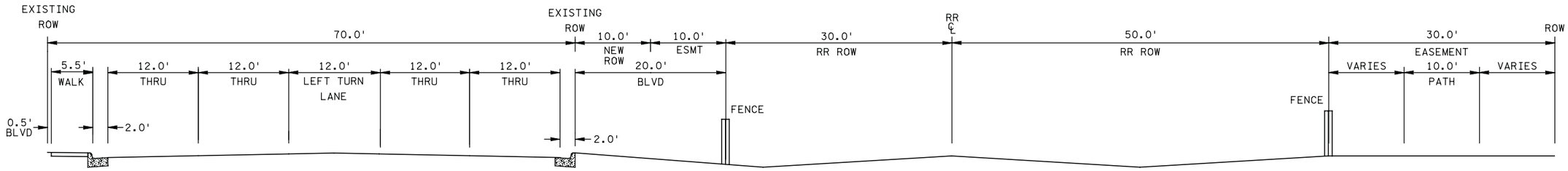
20TH STREET

Between Belsley Boulevard and 40th Avenue South
ALTERNATIVE C

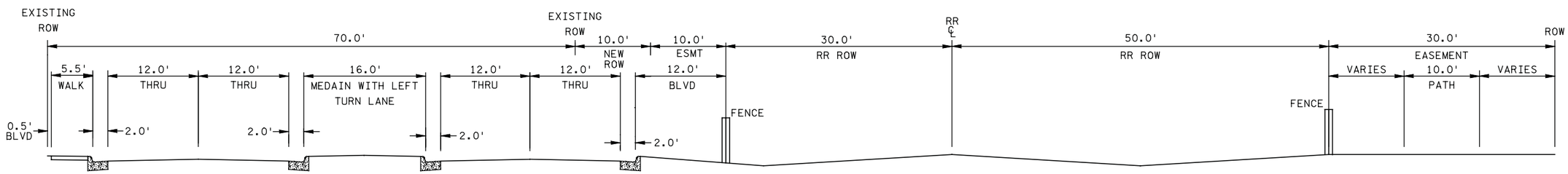
TYPICAL SECTION 6

Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd

20TH STREET
Between 40th Avenue South 43rd Avenue South
NO TYPICAL SECTION EXISTS



20TH STREET
Between 40th Avenue South 43rd Avenue South
ALTERNATIVE A

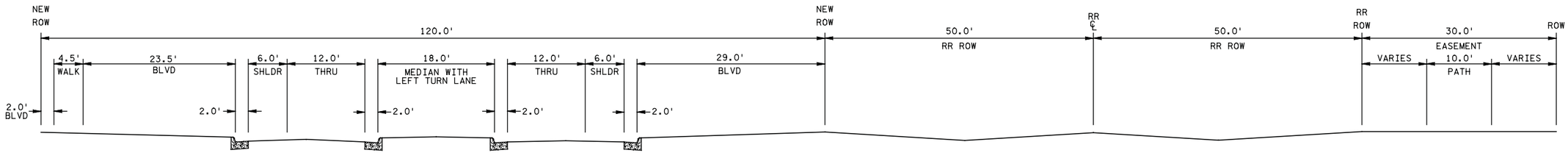


20TH STREET
Between 40th Avenue South 43rd Avenue South
ALTERNATIVE B

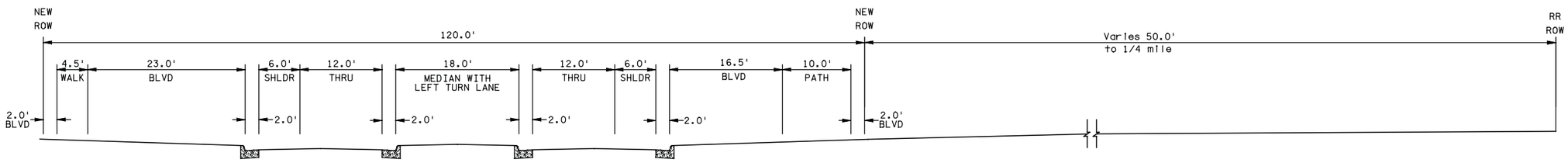
TYPICAL SECTION 7

Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd

20TH STREET
Between 43rd Avenue South 60th Avenue South
NO TYPICAL SECTION EXISTS



20TH STREET
Between 43rd Avenue South 60th Avenue South
ALTERNATIVE A



20TH STREET
Between 43rd Avenue South 60th Avenue South
ALTERNATIVE A – ALIGNMENT SHIFT

TYPICAL SECTION 8

Support/5728 TH75-20th Street Corridor Study/Report/Appendices/5728-TypicalsHOR 11x17_010808.qxd

TH 75/20TH ST CORRIDOR - RECOMMENDED ALTERNATIVE
Concept Cost Estimate (2007 dollars)
Prepared By: SRF Consulting Group, Inc., December 2007

	ITEM DESCRIPTION		UNIT	UNIT PRICE	T.H. 75 20TH AVE S TO 24TH AVE S - PREFERRED ALTERNATIVE A EST. QUANTITY	T.H. 75 20TH AVE S TO 24TH AVE S - PREFERRED ALTERNATIVE A EST. AMOUNT	T.H. 75 24TH AVE S TO 40TH AVE S - PREFERRED ALTERNATIVE A EST. QUANTITY	T.H. 75 24TH AVE S TO 40TH AVE S - PREFERRED ALTERNATIVE A EST. AMOUNT	TH 75 40TH AVE S TO 50TH AVE S - PREFERRED ALTERNATIVE B EST. QUANTITY	TH 75 40TH AVE S TO 50TH AVE S - PREFERRED ALTERNATIVE B EST. AMOUNT	TH 75 50TH AVE S TO 60TH AVE S - PREFERRED ALTERNATIVE B EST. QUANTITY	TH 75 50TH AVE S TO 60TH AVE S - PREFERRED ALTERNATIVE B EST. AMOUNT	20TH ST 6TH AVE S TO BELSLEY BLVD - PREFERRED ALTERNATIVE C EST. QUANTITY	20TH ST 6TH AVE S TO BELSLEY BLVD - PREFERRED ALTERNATIVE C EST. AMOUNT	20TH ST. BELSLEY BLVD TO 43RD AVE S - PREFERRED ALTERNATIVE C EST. QUANTITY	20TH ST. BELSLEY BLVD TO 43RD AVE S - PREFERRED ALTERNATIVE C EST. AMOUNT	20TH ST. 43RD AVE S TO 60TH AVE S - PREFERRED ALTERNATIVE A EST. QUANTITY	20TH ST. 43RD AVE S TO 60TH AVE S - PREFERRED ALTERNATIVE A EST. AMOUNT	Total Costs
PAVING AND GRADING COSTS																			
1	Excavation - subgrade		cu. yd.	$3.25	28,259	$91,843	63,258	$205,589	68,575	$222,869	33,841	$109,983	62,517	$203,181	35,818	$116,407	69,681	$226,463	
2	Concrete Pavement	(1)	sq. yd.	$35.00	25,314	$885,983	54,468	$1,906,391	72,610	$2,541,350	35,832	$1,254,120	49,841	$1,744,446	29,264	$1,024,237	34,156	$1,195,457	
3	Aggregate Base CL 5 (CV)		cu.yd.	$17.00	10,239	$174,064	22,760	$386,928	24,798	$421,566	12,385	$210,545	22,741	$386,602	12,981	$220,683	25,394	$431,692	
4	Select Granular Base (CV)		cu. yd.	$7.50	10,503	$78,772	23,193	$173,949	25,394	$190,455	12,824	$96,180	23,415	$175,613	13,320	$99,903	26,193	$196,450	
5	Geotextile Fabric - Type R1		sq. yd.	$3.50	31,509	$110,280	69,580	$243,529	76,181	$266,634	38,473	$134,656	70,245	$245,858	39,961	$139,865	78,580	$275,030	
6	Bituminous Trail	(3)	sq. yd.	$13.00			4,158	$54,058	6,425	$83,525	6,067	$78,871	7,630	$99,187	5,959	$77,467	16,511	$214,646	
7	Concrete Walk	(4)	sq. yd.	$27.00	762	$20,561							2,924	$78,935	2,116	$57,135	4,737	$127,902	
8	7" Concrete Driveway Pavement		sq. yd.	$43.00	877	$37,694	468	$20,141					799	$34,374	45	$1,931			
9	Concrete Median	(5)	sq. yd.	$45.00	1,925	$86,646	4,634	$208,539	12,163	$547,335	3,228	$145,260	8,962	$403,276	4,821	$216,956	16,789	$755,502	
10	Concrete Curb and Gutter		lin. ft.	$10.50	11,173	$117,318	20,432	$214,534	30,477	$320,009	14,636	$153,678	31,506	$330,817	17,070	$179,236	40,325	$423,413	
11	Pavement Edge Drains		lin. ft.	$10.50	11,173	$117,318	20,432	$214,534	30,477	$320,009	14,636	$153,678	31,506	$330,817	17,070	$179,236	40,325	$423,413	
	SUBTOTAL PAVING AND GRADING COSTS:					**$1,720,477**		**$3,628,192**		**$4,913,750**		**$2,336,971**		**$4,033,104**		**$2,313,055**		**$4,269,966**	**$23,215,516**
MISC. UNIT or PERCENTAGE OF PAVING AND GRADING COSTS																			
1	Removals - Pavement		sq. yd.	$3.25	22,055	$71,679	52,393	$170,277	26,340	$85,605	29,559	$96,067	50,386	$163,755	2,915	$9,474			
2	Removals - Buildings		each	$52,500	2	$105,000													
3	Drainage - urban (30% of Paving and Grading		30%			$516,000		$1,088,000		$1,474,000		$701,000							
4	Turf Establishment & Erosion Control		5%			$86,000		$181,000		$246,000		$117,000		$202,000		$116,000		$213,000	
5	Landscaping		2%			$34,000		$73,000		$98,000		$47,000		$81,000		$46,000		$85,000	
	SUBTOTAL MISC. PERCENTAGE COSTS:					**$812,679**		**$1,512,277**		**$1,903,605**		**$961,067**		**$446,755**		**$171,474**		**$298,000**	**$6,105,856**
SIGNAL AND LIGHTING COSTS																			
1	Signals (permanent)		each	$190,000	2	$380,000	2	$380,000					3	$570,000	1	$190,000			
2	Signals (revised)		each	$90,000			2	$180,000					1	$90,000					
3	Traffic Signals, RR Crossing		l.s.	$160,000															
4	Lighting (permanent)		mile	$210,000	0.4	$84,000	0.8	$168,000	1.0	$210,000	1.1	$231,000	1.3	$273,000	0.8	$168,000	1.8	$378,000	
	SUBTOTAL LIGHTING COSTS:					**$464,000**		**$728,000**		**$210,000**		**$231,000**		**$933,000**		**$358,000**		**$378,000**	**$3,302,000**
SIGNING COSTS																			
1	Signing & Striping		mile	$27,000	0.4	$10,800	0.8	$21,600	1.0	$27,000	1.1	$29,700	1.3	$35,100	0.8	$21,600	1.8	$48,600	
	SUBTOTAL SIGNING & STRIPING COSTS:					**$10,800**		**$21,600**		**$27,000**		**$29,700**		**$35,100**		**$21,600**		**$48,600**	**$194,400**
	SUBTOTAL CONSTRUCTION COSTS:					**$3,007,956**		**$5,890,069**		**$7,054,355**		**$3,558,738**		**$5,447,959**		**$2,864,129**		**$4,994,566**	**$32,817,772**
MISCELLANEOUS COSTS																			
1	Mobilization		5%			$150,000		$295,000		$353,000		$178,000		$272,000		$143,000		$250,000	
2	Contingencies & Minor Items (15%)		15%			$451,000		$884,000		$3,527,000		$1,779,000		$817,000		$430,000		$749,000	
3	Traffic Control		3%			$90,000		$177,000		$212,000		$107,000		$163,000		$86,000		$150,000	
	SUBTOTAL MISCELLANEOUS COSTS:					**$691,000**		**$1,356,000**		**$4,092,000**		**$2,064,000**		**$1,252,000**		**$659,000**		**$1,149,000**	**$11,263,000**
ESTIMATED TOTAL CONSTRUCTION COSTS:						**$3,698,956**		**$7,246,069**		**$11,146,355**		**$5,622,738**		**$6,699,959**		**$3,523,129**		**$6,143,566**	**$44,080,772**

NOTE (1) Assumed 10" concrete pavement thickness.
(2) Assumed bituminous pavement thickness of 7" and 8" aggregate base class 5. (6)
(3) Assumed bituminous pavement thickness of 3" and 4" aggregate base class 5. (6)
(4) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(5) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(6) Assumed $60/ton bituminous and aggregate base class 5 cost.

TH 75/20TH ST CORRIDOR - ALTERNATIVE A
Concept Cost Estimate (2007 dollars)
Prepared By: SRF Consulting Group, Inc., August 2007

	ITEM DESCRIPTION		UNIT	UNIT PRICE	T.H. 75 20TH AVE S TO 24TH AVE S - ALTERNATIVE A		T.H. 75 24TH AVE S TO 40TH AVE S - ALTERNATIVE A		TH 75 40TH AVE S TO 50TH AVE S - ALTERNATIVE A		TH 75 50TH AVE S TO 60TH AVE S - ALTERNATIVE A		20TH ST 6TH AVE S TO BELSLEY BLVD - ALTERNATIVE A		20TH ST. BELSLEY BLVD TO 43RD AVE S - ALTERNATIVE A		20TH ST. 43RD AVE S TO 60TH AVE S - ALTERNATIVE A		Total Costs
					EST. QUANTITY	EST. AMOUNT	EST. QUANTITY	EST. AMOUNT	EST. QUANTITY	EST. AMOUNT	EST. QUANTITY	EST. AMOUNT	EST. QUANTITY	EST. AMOUNT	EST. QUANTITY	EST. AMOUNT	EST. QUANTITY	EST. AMOUNT	
PAVING AND GRADING COSTS																			
1	Excavation - subgrade		cu. yd.	$3.25	28,259	$91,843	63,258	$205,589	62,148	$201,981	37,830	$122,948	65,791	$213,821	37,435	$121,664	69,681	$226,463	
2	Concrete Pavement	(1)	sq. yd.	$35.00	25,314	$885,983	54,468	$1,906,391	65,804	$2,303,140	40,056	$1,401,960	69,662	$2,438,170	39,638	$1,387,330	34,156	$1,195,457	
3	Aggregate Base CL 5 (CV)		cu.yd.	$17.00	10,239	$174,064	22,760	$386,928	22,470	$381,990	13,840	$235,280	23,921	$406,657	13,631	$231,727	25,394	$431,692	
4	Select Granular Base (CV)		cu. yd.	$7.50	10,503	$78,772	23,193	$173,949	23,019	$172,643	14,328	$107,460	24,622	$184,665	14,050	$105,375	26,193	$196,450	
5	Geotextile Fabric - Type R1		sq. yd.	$3.50	31,509	$110,280	69,580	$243,529	69,058	$241,703	42,984	$150,444	73,867	$258,535	42,149	$147,522	78,580	$275,030	
6	Bituminous Trail	(3)	sq. yd.	$13.00			4,158	$54,058	6,425	$83,525	6,067	$78,871	7,681	$99,853	5,090	$66,170	16,511	$214,646	
7	Concrete Walk	(4)	sq. yd.	$27.00	762	$20,561							3,659	$98,793	2,029	$54,783	4,737	$127,902	
8	7" Concrete Driveway Pavement		sq. yd.	$43.00	877	$37,694	468	$20,141					683	$29,369	45	$1,935			
9	Concrete Median	(5)	sq. yd.	$45.00	1,925	$86,646	4,634	$208,539	9,254	$416,430	76	$3,420	7,068	$318,060	175	$7,875	16,789	$755,502	
10	Concrete Curb and Gutter		lin. ft.	$10.50	11,173	$117,318	20,432	$214,534	25,854	$271,467	14,409	$151,295	31,840	$334,320	9,123	$95,792	40,325	$423,413	
11	Pavement Edge Drains		lin. ft.	$10.50	11,173	$117,318	20,432	$214,534	25,854	$271,467	14,409	$151,295	31,840	$334,320	9,123	$95,792	40,325	$423,413	
	SUBTOTAL PAVING AND GRADING COSTS:					**$1,720,477**		**$3,628,192**		**$4,344,346**		**$2,402,972**		**$4,716,562**		**$2,315,963**		**$4,269,966**	**$23,398,477**
MISC. UNIT or PERCENTAGE OF PAVING AND GRADING COSTS																			
1	Removals - Pavement		sq. yd.	$3.25	22,055	$71,679	52,393	$170,277	26,340	$85,605	29,559	$96,067	50,386	$163,755	2,915	$9,474			
2	Removals - Buildings		each	$52,500	2	$105,000													
3	Drainage - urban (30% of Paving and Grading		30%			$516,000		$1,088,000		$1,303,000		$721,000							
4	Turf Establishment & Erosion Control		5%			$86,000		$181,000		$217,000		$120,000		$236,000		$116,000		$213,000	
5	Landscaping		2%			$34,000		$73,000		$87,000		$48,000		$94,000		$46,000		$85,000	
	SUBTOTAL MISC. PERCENTAGE COSTS:					**$812,679**		**$1,512,277**		**$1,692,605**		**$985,067**		**$493,755**		**$171,474**		**$298,000**	**$5,965,856**
SIGNAL AND LIGHTING COSTS																			
1	Signals (permanent)		each	$190,000	2	$380,000	2	$380,000	1	$190,000	1	$190,000	3	$570,000	1	$190,000			
2	Signals (revised)		each	$90,000			2	$180,000					1	$90,000					
3	Traffic Signals, RR Crossing		l.s.	$160,000															
4	Lighting (permanent)		mile	$210,000	0.4	$84,000	0.8	$168,000	1.0	$210,000	1.1	$231,000	1.3	$273,000	0.8	$168,000	1.8	$378,000	
	SUBTOTAL LIGHTING COSTS:					**$464,000**		**$728,000**		**$400,000**		**$421,000**		**$933,000**		**$358,000**		**$378,000**	**$3,682,000**
SIGNING COSTS																			
1	Signing & Striping		mile	$27,000	0.4	$10,800	0.8	$21,600	1.0	$27,000	1.1	$29,700	1.3	$35,100	0.8	$21,600	1.8	$48,600	
	SUBTOTAL SIGNING & STRIPING COSTS:					**$10,800**		**$21,600**		**$27,000**		**$29,700**		**$35,100**		**$21,600**		**$48,600**	**$194,400**
	SUBTOTAL CONSTRUCTION COSTS:					**$3,007,956**		**$5,890,069**		**$6,463,951**		**$3,838,738**		**$6,178,417**		**$2,867,037**		**$4,994,566**	**$33,240,733**
MISCELLANEOUS COSTS																			
1	Mobilization		5%			$150,000		$295,000		$323,000		$192,000		$309,000		$143,000		$250,000	
2	Contingencies & Minor Items (15%)		15%			$451,000		$884,000		$3,232,000		$1,919,000		$927,000		$430,000		$749,000	
3	Traffic Control		3%			$90,000		$177,000		$194,000		$115,000		$185,000		$86,000		$150,000	
	SUBTOTAL MISCELLANEOUS COSTS:					**$691,000**		**$1,356,000**		**$3,749,000**		**$2,226,000**		**$1,421,000**		**$659,000**		**$1,149,000**	**$11,251,000**
ESTIMATED TOTAL CONSTRUCTION COSTS:						**$3,698,956**		**$7,246,069**		**$10,212,951**		**$6,064,738**		**$7,599,417**		**$3,526,037**		**$6,143,566**	**$44,491,733**

NOTE (1) Assumed 10" concrete pavement thickness.
(2) Assumed bituminous pavement thickness of 7" and 8" aggregate base class 5. (6)
(3) Assumed bituminous pavement thickness of 3" and 4" aggregate base class 5. (6)
(4) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(5) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(6) Assumed $60/ton bituminous and aggregate base class 5 cost.

TH 75/20TH ST CORRIDOR - ALTERNATIVE B
Concept Cost Estimate (2007 dollars)
Prepared By: SRF Consulting Group, Inc., August 2007

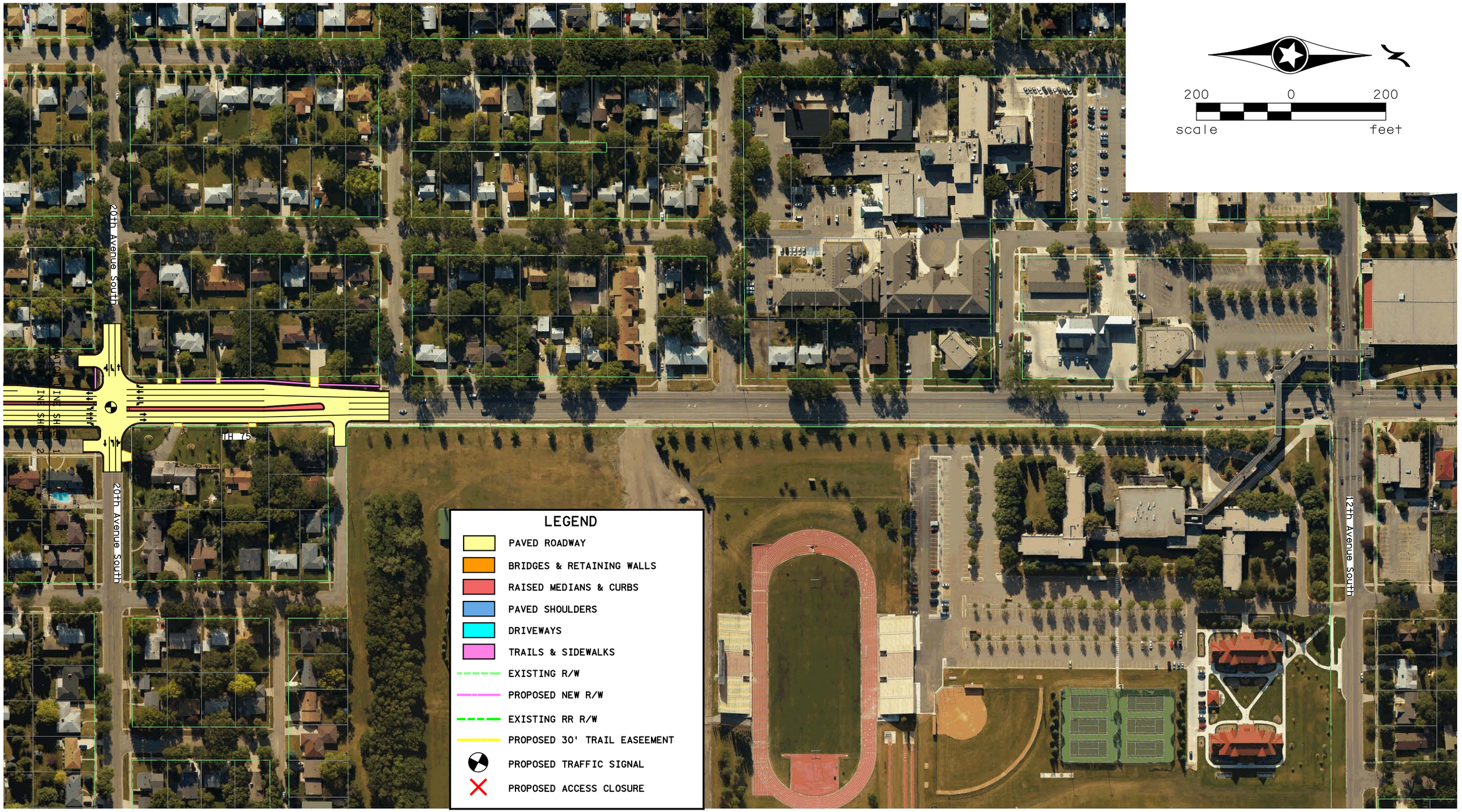
	ITEM DESCRIPTION		UNIT	UNIT PRICE	T.H. 75 20TH AVE S TO 24TH AVE S - ALTERNATIVE B EST. QUANTITY	T.H. 75 20TH AVE S TO 24TH AVE S - ALTERNATIVE B EST. AMOUNT	T.H. 75 24TH AVE S TO 40TH AVE S - NO ALTERNATIVE B EST. QUANTITY	T.H. 75 24TH AVE S TO 40TH AVE S - NO ALTERNATIVE B EST. AMOUNT	TH 75 40TH AVE S TO 50TH AVE S - ALTERNATIVE B EST. QUANTITY	TH 75 40TH AVE S TO 50TH AVE S - ALTERNATIVE B EST. AMOUNT	TH 75 50TH AVE S TO 60TH AVE S - ALTERNATIVE B EST. QUANTITY	TH 75 50TH AVE S TO 60TH AVE S - ALTERNATIVE B EST. AMOUNT	20TH ST 6TH AVE S TO BELSLEY BLVD - ALTERNATIVE B EST. QUANTITY	20TH ST 6TH AVE S TO BELSLEY BLVD - ALTERNATIVE B EST. AMOUNT	20TH ST. BELSLEY BLVD TO 43RD AVE S - ALTERNATIVE B EST. QUANTITY	20TH ST. BELSLEY BLVD TO 43RD AVE S - ALTERNATIVE B EST. AMOUNT	20TH ST. 43RD AVE S TO 60TH AVE S - NO ALTERNATIVE B EST. QUANTITY	20TH ST. 43RD AVE S TO 60TH AVE S - NO ALTERNATIVE B EST. AMOUNT	Total Costs
PAVING AND GRADING COSTS																			
1	Excavation - subgrade		cu. yd.	$3.25	29,486	$95,830			68,575	$222,869	33,841	$109,983	62,682	$203,717	27,242	$88,537			
2	Concrete Pavement	(1)	sq. yd.	$35.00	31,224	$1,092,840			72,610	$2,541,350	35,832	$1,254,120	66,369	$2,322,915	28,844	$1,009,540			
3	Aggregate Base CL 5 (CV)		cu.yd.	$17.00	10,586	$179,962			24,798	$421,566	12,385	$210,545	21,994	$373,898	9,941	$168,997			
4	Select Granular Base (CV)		cu. yd.	$7.50	10,887	$81,653			25,394	$190,455	12,824	$96,180	22,141	$166,058	10,267	$77,003			
5	Geotextile Fabric - Type R1		sq. yd.	$3.50	32,661	$114,314			76,181	$266,634	38,473	$134,656	66,424	$232,484	30,800	$107,800			
6	Bituminous Trail	(3)	sq. yd.	$13.00					6,425	$83,525	6,067	$78,871	7,681	$99,853	5,090	$66,170			
7	Concrete Walk	(4)	sq. yd.	$27.00	355	$9,585							3,659	$98,793	2,029	$54,783			
8	7" Concrete Driveway Pavement		sq. yd.	$43.00	399	$17,157							683	$29,369	45	$1,935			
9	Concrete Median	(5)	sq. yd.	$45.00	1,807	$81,315			12,163	$547,335	3,228	$145,260	411	$18,495	175	$7,875			
10	Concrete Curb and Gutter		lin. ft.	$10.50	11,560	$121,380			30,477	$320,009	14,636	$153,678	21,777	$228,659	9,123	$95,792			
11	Pavement Edge Drains		lin. ft.	$10.50	11,560	$121,380			30,477	$320,009	14,636	$153,678	21,777	$228,659	9,123	$95,792			
	SUBTOTAL PAVING AND GRADING COSTS:					**$1,915,415**				**$4,913,750**		**$2,336,971**		**$4,002,898**		**$1,774,222**			**$14,943,256**
MISC. UNIT or PERCENTAGE OF PAVING AND GRADING COSTS																			
1	Removals - Pavement		sq. yd.	$3.25	22,055	$71,679			26,340	$85,605	29,559	$96,067	50,386	$163,755	2,915	$9,474			
2	Removals - Buildings		each	$52,500	2	$105,000													
3	Drainage - urban (30% of Paving and Grading		30%			$575,000				$1,474,000		$701,000							
4	Turf Establishment & Erosion Control		5%			$96,000				$246,000		$117,000		$200,000		$89,000			
5	Landscaping		2%			$38,000				$98,000		$47,000		$80,000		$35,000			
	SUBTOTAL MISC. PERCENTAGE COSTS:					**$885,679**				**$1,903,605**		**$961,067**		**$443,755**		**$133,474**			**$4,327,579**
SIGNAL AND LIGHTING COSTS																			
1	Signals (permanent)		each	$190,000	2	$380,000							3	$570,000	1	$190,000			
2	Signals (revised)		each	$90,000									1	$90,000					
3	Traffic Signals, RR Crossing		l.s.	$160,000															
4	Lighting (permanent)		mile	$210,000	0.4	$84,000			1.0	$210,000	1.1	$231,000	1.3	$273,000	0.8	$168,000			
	SUBTOTAL LIGHTING COSTS:					**$464,000**				**$210,000**		**$231,000**		**$933,000**		**$358,000**			**$2,196,000**
SIGNING COSTS																			
1	Signing & Striping		mile	$27,000	0.4	$10,800			1.0	$27,000	1.1	$29,700	1.3	$35,100	0.8	$21,600			
	SUBTOTAL SIGNING & STRIPING COSTS:					**$10,800**				**$27,000**		**$29,700**		**$35,100**		**$21,600**			**$124,200**
	SUBTOTAL CONSTRUCTION COSTS:					**$3,275,893**				**$7,054,355**		**$3,558,738**		**$5,414,753**		**$2,287,296**			**$21,591,034**
MISCELLANEOUS COSTS																			
1	Mobilization		5%			$164,000				$353,000		$178,000		$271,000		$114,000			
2	Contingencies & Minor Items (15%)		15%			$491,000				$3,527,000		$1,779,000		$812,000		$343,000			
3	Traffic Control		3%			$98,000				$212,000		$107,000		$162,000		$69,000			
	SUBTOTAL MISCELLANEOUS COSTS:					**$753,000**				**$4,092,000**		**$2,064,000**		**$1,245,000**		**$526,000**			**$8,680,000**
ESTIMATED TOTAL CONSTRUCTION COSTS:						**$4,028,893**				**$11,146,355**		**$5,622,738**		**$6,659,753**		**$2,813,296**			**$30,271,034**

NOTE (1) Assumed 10" concrete pavement thickness.
(2) Assumed bituminous pavement thickness of 7" and 8" aggregate base class 5. (6)
(3) Assumed bituminous pavement thickness of 3" and 4" aggregate base class 5. (6)
(4) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(5) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(6) Assumed $60/ton bituminous and aggregate base class 5 cost.

TH 75/20TH ST CORRIDOR - ALTERNATIVE C
Concept Cost Estimate (2007 dollars)
Prepared By: SRF Consulting Group, Inc., August 2007

	ITEM DESCRIPTION		UNIT	UNIT PRICE	T.H. 75 20TH AVE S TO 24TH AVE S - NO ALTERNATIVE C EST. QUANTITY	T.H. 75 20TH AVE S TO 24TH AVE S - NO ALTERNATIVE C EST. AMOUNT	T.H. 75 24TH AVE S TO 40TH AVE S - NO ALTERNATIVE C EST. QUANTITY	T.H. 75 24TH AVE S TO 40TH AVE S - NO ALTERNATIVE C EST. AMOUNT	TH 75 40TH AVE S TO 50TH AVE S - NO ALTERNATIVE C EST. QUANTITY	TH 75 40TH AVE S TO 50TH AVE S - NO ALTERNATIVE C EST. AMOUNT	TH 75 50TH AVE S TO 60TH AVE S - NO ALTERNATIVE C EST. QUANTITY	TH 75 50TH AVE S TO 60TH AVE S - NO ALTERNATIVE C EST. AMOUNT	20TH ST 6TH AVE S TO BELSLEY BLVD - ALTERNATIVE C EST. QUANTITY	20TH ST 6TH AVE S TO BELSLEY BLVD - ALTERNATIVE C EST. AMOUNT	20TH ST. BELSLEY BLVD TO 43RD AVE S - ALTERNATIVE C EST. QUANTITY	20TH ST. BELSLEY BLVD TO 43RD AVE S - ALTERNATIVE C EST. AMOUNT	20TH ST. 43RD AVE S TO 60TH AVE S - NO ALTERNATIVE C EST. QUANTITY	20TH ST. 43RD AVE S TO 60TH AVE S - NO ALTERNATIVE C EST. AMOUNT	Total Costs
PAVING AND GRADING COSTS																			
1	Excavation - subgrade		cu. yd.	$3.25									62,517	$203,181	35,818	$116,407			
2	Concrete Pavement	(1)	sq. yd.	$35.00									49,841	$1,744,446	29,264	$1,024,237			
3	Aggregate Base CL 5 (CV)		cu.yd.	$17.00									22,741	$386,602	12,981	$220,683			
4	Select Granular Base (CV)		cu. yd.	$7.50									23,415	$175,613	13,320	$99,903			
5	Geotextile Fabric - Type R1		sq. yd.	$3.50									70,245	$245,858	39,961	$139,865			
6	Bituminous Trail	(3)	sq. yd.	$13.00									7,630	$99,187	5,959	$77,467			
7	Concrete Walk	(4)	sq. yd.	$27.00									2,924	$78,935	2,116	$57,135			
8	7" Concrete Driveway Pavement		sq. yd.	$43.00									799	$34,374	45	$1,931			
9	Concrete Median	(5)	sq. yd.	$45.00									8,962	$403,276	4,821	$216,956			
10	Concrete Curb and Gutter		lin. ft.	$10.50									31,506	$330,817	17,070	$179,236			
11	Pavement Edge Drains		lin. ft.	$10.50									31,506	$330,817	17,070	$179,236			
	SUBTOTAL PAVING AND GRADING COSTS:													**$4,033,104**		**$2,313,055**			**$6,346,160**
MISC. UNIT or PERCENTAGE OF PAVING AND GRADING COSTS																			
1	Removals - Pavement		sq. yd.	$3.25									50,386	$163,755	2,915	$9,474			
2	Removals - Buildings		each	$52,500															
3	Drainage - urban (30% of Paving and Grading		30%																
4	Turf Establishment & Erosion Control		5%											$202,000		$116,000			
5	Landscaping		2%											$81,000		$46,000			
	SUBTOTAL MISC. PERCENTAGE COSTS:													**$446,755**		**$171,474**			**$618,228**
SIGNAL AND LIGHTING COSTS																			
1	Signals (permanent)		each	$190,000									3	$570,000	1	$190,000			
2	Signals (revised)		each	$90,000									1	$90,000					
3	Traffic Signals, RR Crossing		l.s.	$160,000															
4	Lighting (permanent)		mile	$210,000									1.3	$273,000	0.8	$168,000			
	SUBTOTAL LIGHTING COSTS:													**$933,000**		**$358,000**			**$1,291,000**
SIGNING COSTS																			
1	Signing & Striping		mile	$27,000									1.3	$35,100	0.8	$21,600			
	SUBTOTAL SIGNING & STRIPING COSTS:													**$35,100**		**$21,600**			**$56,700**
	SUBTOTAL CONSTRUCTION COSTS:													**$5,447,959**		**$2,864,129**			**$8,312,088**
MISCELLANEOUS COSTS																			
1	Mobilization		5%											$272,000		$143,000			
2	Contingencies & Minor Items (15%)		15%											$817,000		$430,000			
3	Traffic Control		3%											$163,000		$86,000			
	SUBTOTAL MISCELLANEOUS COSTS:													**$1,252,000**		**$659,000**			**$1,911,000**
ESTIMATED TOTAL CONSTRUCTION COSTS:														**$6,699,959**		**$3,523,129**			**$10,223,088**

NOTE (1) Assumed 10" concrete pavement thickness.
(2) Assumed bituminous pavement thickness of 7" and 8" aggregate base class 5. (6)
(3) Assumed bituminous pavement thickness of 3" and 4" aggregate base class 5. (6)
(4) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(5) Assumed 4" concrete pavement thickness and 4" aggregate base class 5.
(6) Assumed $60/ton bituminous and aggregate base class 5 cost.



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SRF Consulting Group, Inc.

TH 75 CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 1

5728
4/30/2008

200 0 200

scale feet

24th Avenue South

Match Into Interchange Alternative Layouts

Boulevard/Tree Impacts

Frontage Road

TH 75

MATCH LINE SHEET 1

MATCH LINE SHEET 2

MATCH LINE SHEET 3

Interstate 94

Frontage Road

Boulevard/Tree Impacts

24th Avenue South

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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SRF Consulting Group, Inc.

TH 75 CORRIDOR LAYOUT - ALTERNATIVE

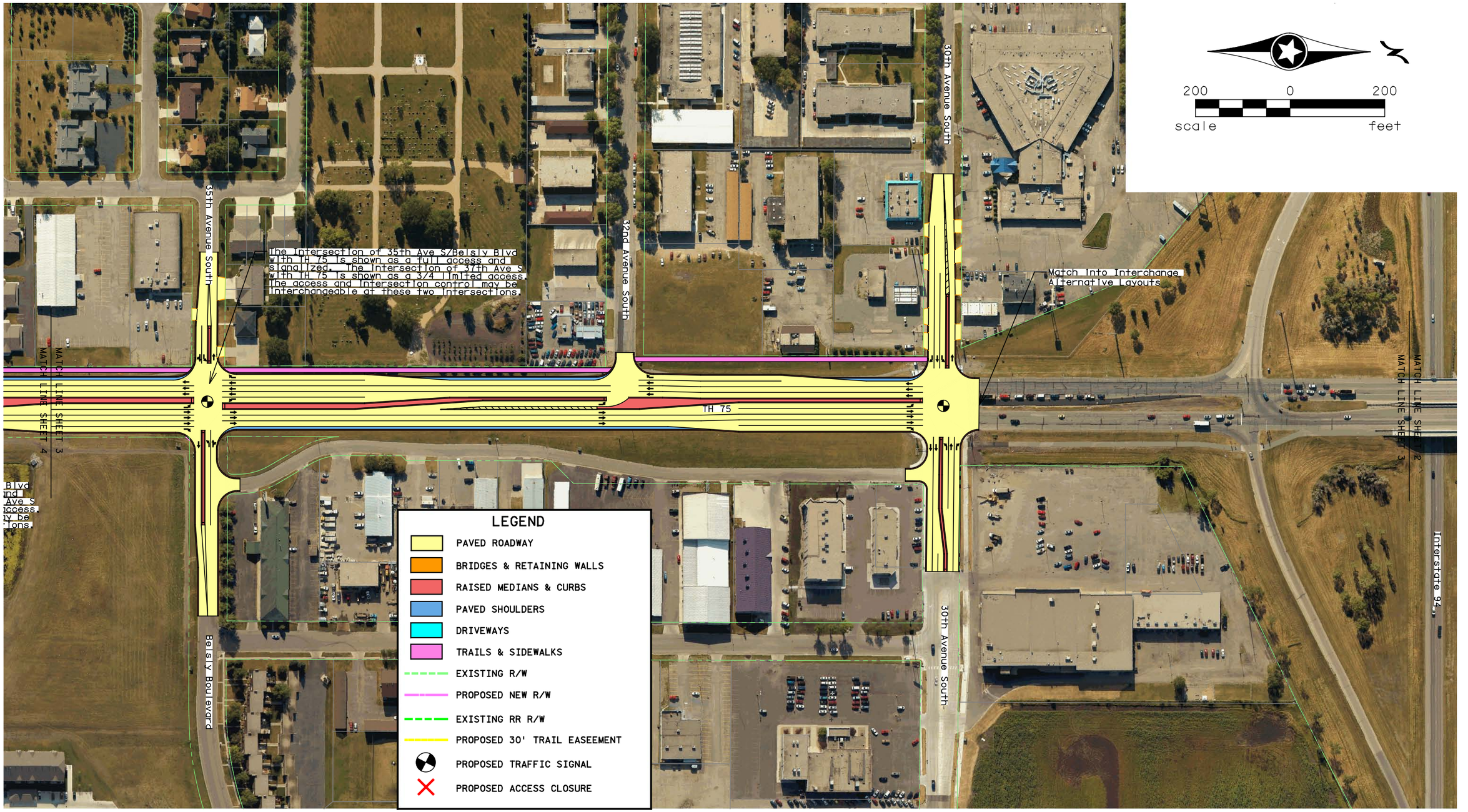
TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 2

5728

4/30/2008



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SRF Consulting Group, Inc.

TH 75 CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 3

5728
4/30/2008

200 0 200

scale feet

40th Avenue South

37th Avenue South

TH 75

Pedestrian Underpass of 8th Street Being Completed Under a Different Project

The intersection of 35th Ave S/Belsly Blvd with TH 75 is shown as a full access and signalized. The intersection of 37th Ave S with TH 75 is shown as a 3/4 limited access. The access and intersection control may be interchangeable at these two intersections.

MATCH LINE SHEET 5

MATCH LINE SHEET 4

MATCH LINE SHEET 3

MATCH LINE SHEET 4

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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SRF Consulting Group, Inc.

TH 75 CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 4

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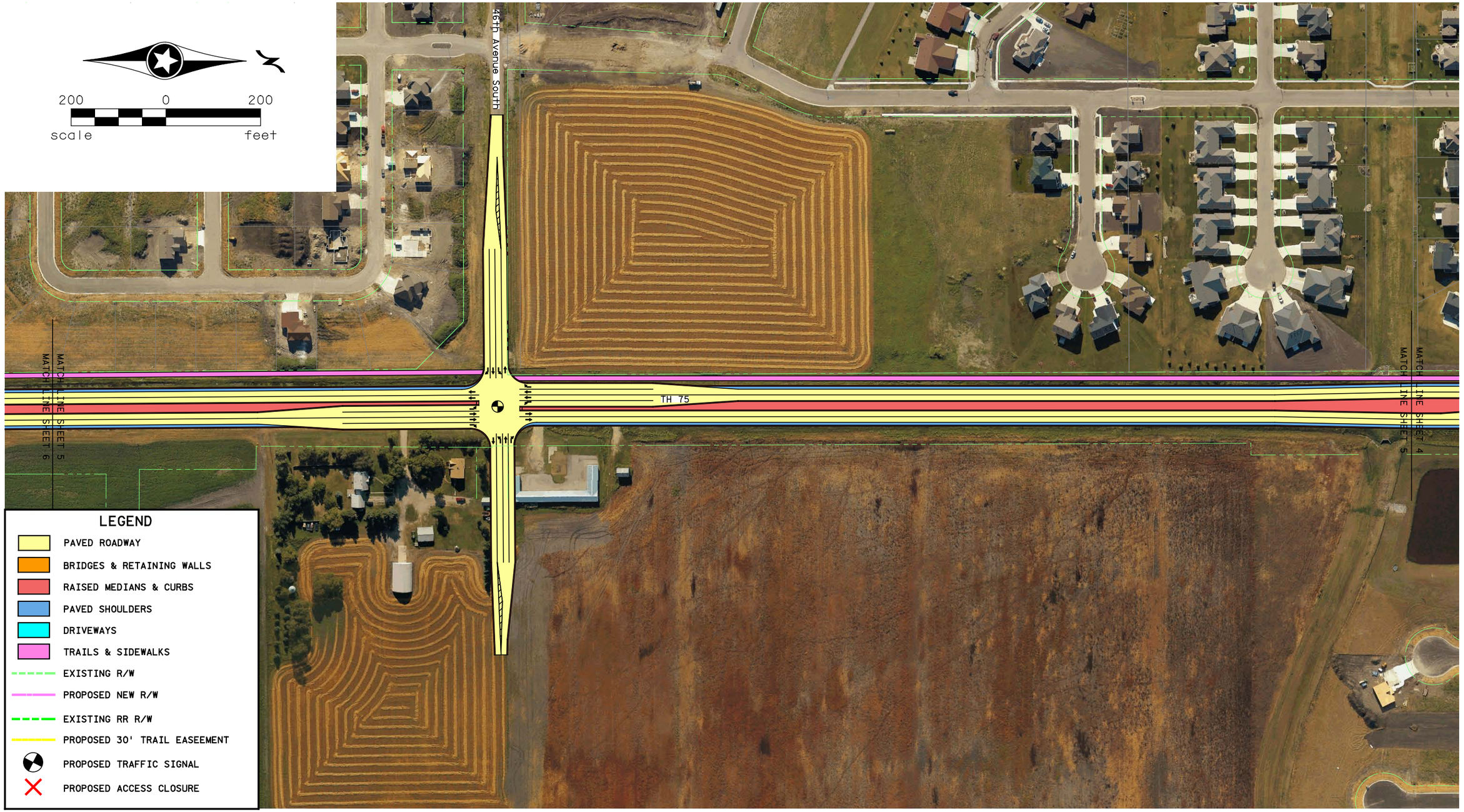

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SRF Consulting Group, Inc.

TH 75 CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 5

5728
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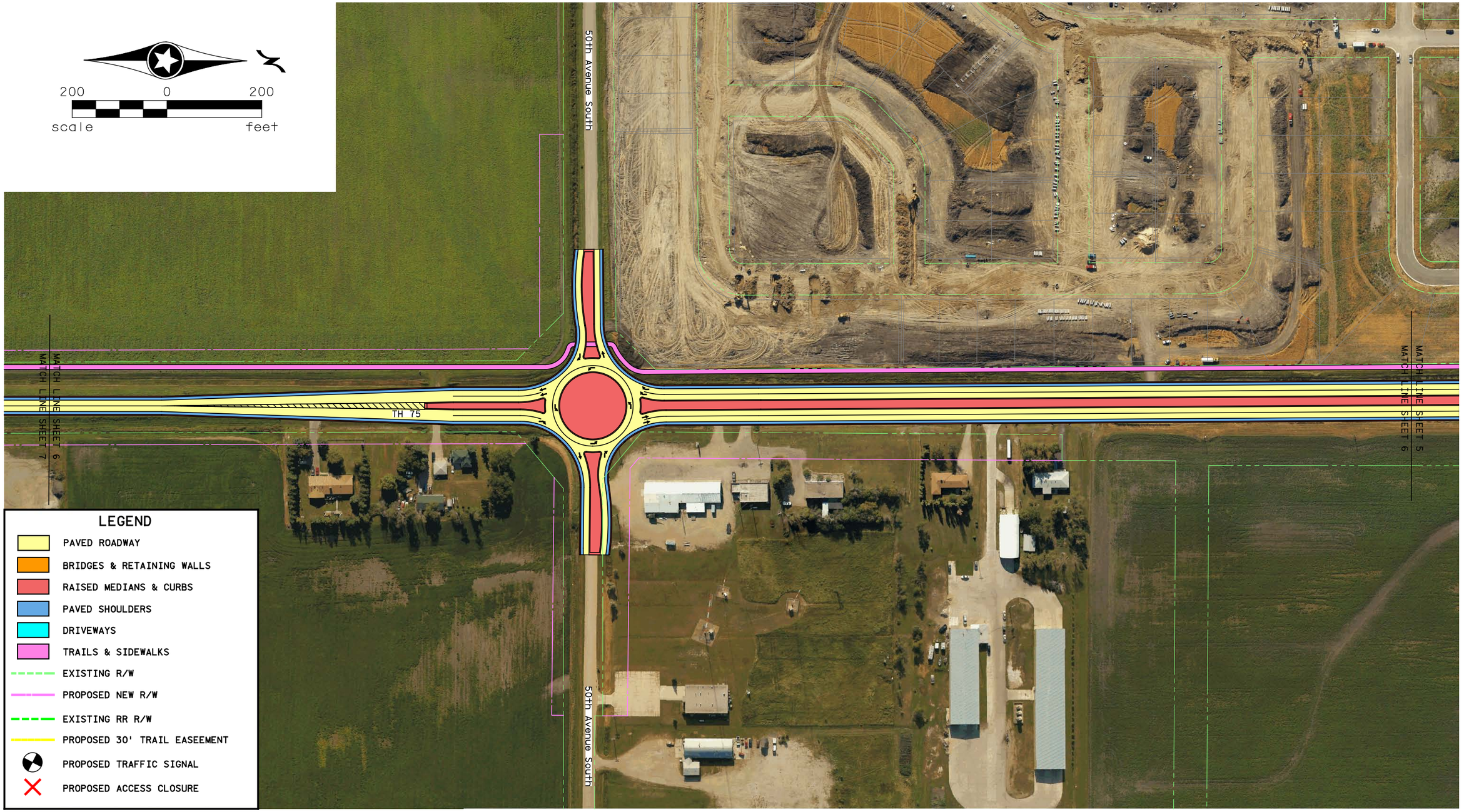

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TH 75 CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 6

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200 0 200

scale feet

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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TH 75 CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 7

200 0 200

scale feet

60th Avenue South

TH 75

MATCH LINE SHEET 7

MATCH LINE SHEET 8

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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SRF Consulting Group, Inc.

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TH 75 CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 8

200 0 200

scale feet

MATCH LINE SHEET 9
MATCH LINE SHEET 10

NORTHERN RAILROAD

SE Main Avenue

21st Street South

SE Main Avenue

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 9

200 0 200

scale feet

12th Avenue South

20th Street S

Tie Into the 20th/21st Street Underpass Project

Existing Active RR Gates & Lights

12th Avenue South

BURLINGTON NORTHERN RAILRO

MATCH LINE SHEET 10

MATCH LINE SHEET 11

MATCH LINE SHEET 9

MATCH LINE SHEET 10

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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SRF Consulting Group, Inc.

20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 10

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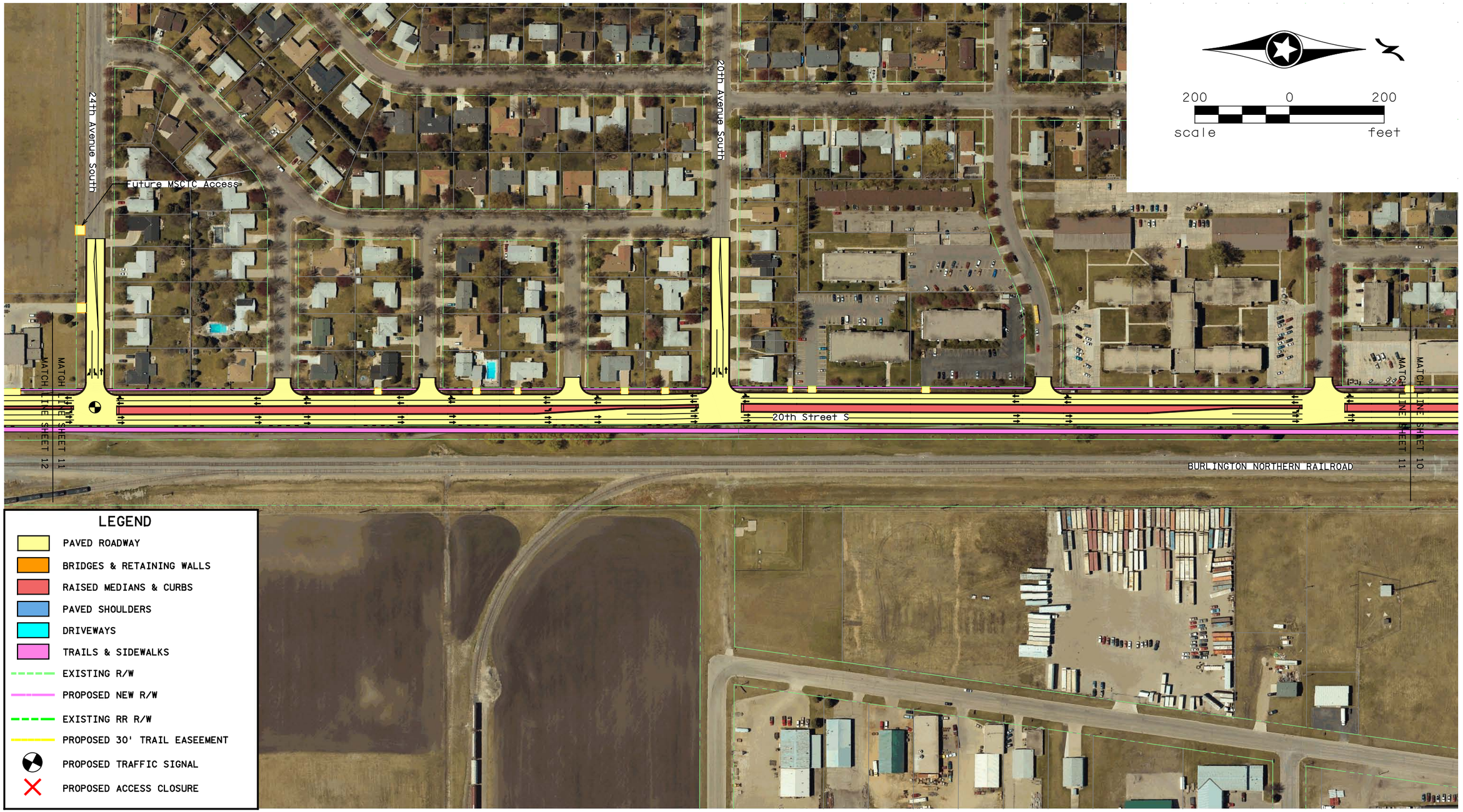

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SRF Consulting Group, Inc.

20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 11

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4/30/2008

200 0 200

scale feet

30th Avenue South

Interstate 94

24th Avenue South

Match Into Interchange Alternative Layouts

Match Into Interchange Alternative Layouts

20th Street S

BURLINGTON NORTHERN RAILROAD

MATCH LINE SHEET 13

MATCH LINE SHEET 12

MATCH LINE SHEET 11

MATCH LINE SHEET 12

Existing Active RR Gates & Lights

Existing Active RR Gates & Lights

30th Avenue South

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 12

200 0 200

scale feet

34th Avenue South

Belsly Boulevard

20th Street S

BURLINGTON NORTHERN RAILROAD

MATCH LINE SHEET 13
MATCH LINE SHEET 14

MATCH LINE SHEET 12
MATCH LINE SHEET 13

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 13

200 0 200

scale feet

43rd Avenue South

40th Avenue South

20th Street S

Pedestrian Underpass of 20th Street & BNSF RR

Existing Active RR Gates & Lights

MATCH LINE SHEET 13

MATCH LINE SHEET 14

MATCH LINE SHEET 14

MATCH LINE SHEET 15

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 14

200 0 200

scale feet

undabout

MATCH LINE SHEET 15
MATCH LINE SHEET 16

Future (45th or 46th) Avenue South

20th Street S

BURLINGTON NORTHERN RAILROAD

MATCH LINE SHEET 14
MATCH LINE SHEET 15

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

Sheet 15

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20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo Moorhead Council of Goverments

200 0 200

scale feet

20th Street S

I210

60th Avenue South

Future vehicle underpass of the BNSF Breck RR at 60th Avenue South

Future 55th Avenue South

MATCH LINE SHEET 16

MATCH LINE SHEET 17

LEGEND

- PAVED ROADWAY
- BRIDGES & RETAINING WALLS
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS
- DRIVEWAYS
- TRAILS & SIDEWALKS
- EXISTING R/W
- PROPOSED NEW R/W
- EXISTING RR R/W
- PROPOSED 30' TRAIL EASEEMENT
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ACCESS CLOSURE

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SRF Consulting Group, Inc.

20TH STREET SOUTH CORRIDOR LAYOUT - ALTERNATIVE

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo Moorhead Council of Goverments

Sheet 17

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4/30/2008

Appendix F – Interchange Cost Estimates & Alternatives Layouts

TH 75/20TH ST CORRIDOR
Concept Cost Estimate (2007 dollars)
Prepared By: SRF Consulting Group, Inc., June 2007

	ITEM DESCRIPTION		UNIT	UNIT PRICE	T.H. 75 INTERCHANGE OPTION A EST. QUANTITY	T.H. 75 INTERCHANGE OPTION A EST. AMOUNT	T.H. 75 INTERCHANGE OPTION B EST. QUANTITY	T.H. 75 INTERCHANGE OPTION B EST. AMOUNT	20TH ST. INTERCHANGE OPTION A EST. QUANTITY	20TH ST. INTERCHANGE OPTION A EST. AMOUNT	20TH ST. INTERCHANGE OPTION B EST. QUANTITY	20TH ST. INTERCHANGE OPTION B EST. AMOUNT	20TH ST. INTERCHANGE OPTION C EST. QUANTITY	20TH ST. INTERCHANGE OPTION C EST. AMOUNT	20TH ST. INTERCHANGE OPTION D EST. QUANTITY	20TH ST. INTERCHANGE OPTION D EST. AMOUNT	20TH ST. INTERCHANGE OPTION E EST. QUANTITY	20TH ST. INTERCHANGE OPTION E EST. AMOUNT
PAVING AND GRADING COSTS																		
1	Excavation - subgrade		cu. yd.	$3.25	34,960	$113,620	34,960	$113,620	32,160	$104,520	29,390	$95,518	32,930	$107,023	32,660	$106,145	29,000	$94,250
2	Granular Subgrade (CV)		cu. yd.	$7.50	34,960	$262,200	34,960	$262,200	32,160	$241,200	29,390	$220,425	32,930	$246,975	32,660	$244,950	29,000	$217,500
3	Mainline Pavement	(1)	sq. yd.	$47.00	25,470	$1,197,090	25,470	$1,197,090	21,980	$1,033,060	23,250	$1,092,750	18,000	$846,000	18,350	$862,450	20,870	$980,890
4	Mainline Shoulder Pavement	(2)	sq. yd.	$10.50	6,140	$64,470	6,140	$64,470	6,820	$71,610	5,890	$61,845	5,770	$60,585	4,160	$43,680	5,070	$53,235
5	Ramp Pavement	(1)	sq. yd.	$53.00	13,890	$736,170	13,890	$736,170	11,020	$584,060	7,950	$421,350	10,730	$568,690	7,730	$409,690	6,010	$318,530
6	Ramp Shoulder Pavement	(2)	sq. yd.	$10.50	6,940	$72,870	6,940	$72,870	4,850	$50,925	3,460	$36,330	6,110	$64,155	3,750	$39,375	2,760	$28,980
7	Local & Frontage Road Pavement	(3)	sq. yd.	$32.00					2,540	$81,280	2,540	$81,280	6,440	$206,080	11,270	$360,640	6,440	$206,080
8	Local & Frontage Road Shoulder Pavement	(2)	sq. yd.	$10.50					1,030	$10,815	990	$10,395	2,340	$24,570	3,730	$39,165	2,340	$24,570
9	Bituminous Trail	(4)	sq. yd.	$13.00	1,840	$23,920	1,840	$23,920										
10	Concrete Walk	(6)	sq. yd.	$27.00	4,780	$129,060	4,780	$129,060	4,060	$109,620	2,930	$79,110	2,020	$54,540	2,620	$70,740	2,020	$54,540
11	Concrete Curb and Gutter		lin. ft.	$10.50	8,890	$93,345	8,890	$93,345	17,430	$183,015	12,670	$133,035	11,290	$118,545	12,770	$134,085	12,370	$129,885
12	At Grade RR Crossing Surface		l.s.	$100000.00					1	$100,000	1	$100,000	2	$200,000	2	$200,000	1	$100,000
13	Pavement Edge Drains		lin. ft.	$10.50	26,100	$274,050	26,100	$274,050	26,300	$276,150	22,500	$236,250	26,500	$278,250	29,000	$304,500	20,500	$215,250
	SUBTOTAL PAVING AND GRADING COSTS:					**$2,966,795**		**$2,966,795**		**$2,846,255**		**$2,568,288**		**$2,775,413**		**$2,815,420**		**$2,423,710**
MISC. UNIT or PERCENTAGE OF PAVING AND GRADING COSTS																		
1	Removals - Pavement		sq. yd.	$3.25	43,300	$140,725	43,300	$140,725	47,700	$155,025	42,600	$138,450	32,400	$105,300	33,500	$108,875	26,100	$84,825
2	Removals - Buildings		each	$52,500	1	$52,500			21	$1,102,500	3	$157,500	2	$105,000			2	$105,000
3	Pump Station		l.s.	$750,000									1	$750,000				
4	Drainage - urban (??% range 10-30%)		30%			$890,000		$890,000		$854,000		$770,000						
5	Drainage - rural		mile	$105,000	2.70	$283,500	2.70	$283,500	2.90	$304,500	2.40	$252,000	2.80	$294,000	3.00	$315,000	2.10	$220,500
6	County Ditch Relocation		l.s.	$210,000	1.00	$210,000	1.00	$210,000										
7	Turf Establishment & Erosion Control		5%			$148,000		$148,000		$142,000		$128,000		$139,000		$141,000		$121,000
8	Landscaping		2%			$59,000		$59,000		$57,000		$51,000		$56,000		$56,000		$48,000
	SUBTOTAL MISC. PERCENTAGE COSTS:					**$1,783,725**		**$1,731,225**		**$2,615,025**		**$1,496,950**		**$1,449,300**		**$620,875**		**$579,325**
BRIDGE COSTS																		
1	Bridge - T.H. 75 (widening)		sq. ft.	$125	950	$118,750	950	$118,750										
2	Bridge - 20th St.		sq. ft.	$125					3,500	$437,500	17,000	$2,125,000	3,500	$437,500	3,500	$437,500	17,000	$2,125,000
3	Bridge - Pedestrian		sq. ft.	$180	600	$108,000	600	$108,000			3,000	$540,000					3,000	$540,000
4	Bridge - Railroad		lin. ft.	$12,000							250	$3,000,000					250	$3,000,000
5	Bridge - Ramp		sq. ft.	$125									5,000	$625,000				
6	Bridge - Temporary Railroad		lin. ft.	$6,000							250	$1,500,000					250	$1,500,000
	SUBTOTAL BRIDGE COSTS:					**$226,750**		**$226,750**		**$437,500**		**$7,165,000**		**$1,062,500**		**$437,500**		**$7,165,000**
RETAINING WALLS & OTHER MINOR STRUCTURAL COSTS																		
1	Box Culvert -		lin. ft.	$530														
2	CIP Ret. Walls 10' high (50' pile foundation)		lin. ft.	$1,160	100	$116,000	350	$406,000					650	$754,000				
3	CIP Ret. Walls 15' high (50' pile foundation)		lin. ft.	$1,580	250	$395,000	450	$711,000					800	$1,264,000				
4	CIP Ret. Walls 20' high (50' pile foundation)		lin. ft.	$2,310	200	$462,000	300	$693,000					500	$1,155,000				
5	CIP Ret. Walls 25' high (50' pile foundation)		lin. ft.	$3,260									150	$489,000				
6	CIP Ret. Walls 30' high (50' pile foundation)		lin. ft.	$4,000									150	$600,000				
7	Temporary Steel Sheet Pile		sq. ft.	$20	8,750	$175,000	8,750	$175,000					36,750	$735,000				
	SUBTOTAL RETAINING WALLS & OTHER MINOR STRUCTURAL COSTS:					**$1,148,000**		**$1,985,000**						**$4,997,000**				
SIGNAL AND LIGHTING COSTS																		
1	Signals (permanent)		each	$190,000	2	$380,000	2	$380,000	2	$380,000	2	$380,000	1	$190,000	1	$190,000	1	$190,000
2	Traffic Signals, RR Crossing		l.s.	$160,000					1	$160,000	1	$160,000	2	$320,000	2	$320,000	1	$160,000
3	Lighting (permanent)		mile	$210,000	3.1	$651,000	3.1	$651,000	3.3	$693,000	2.8	$588,000	3.2	$672,000	3.4	$714,000	2.5	$525,000
	SUBTOTAL LIGHTING COSTS:					**$1,031,000**		**$1,031,000**		**$1,233,000**		**$1,128,000**		**$1,182,000**		**$1,224,000**		**$875,000**
SIGNING COSTS																		
1	Signing & Striping		mile	$27,000	3.1	$83,700	3.1	$83,700	3.3	$89,100	2.8	$75,600	3.2	$86,400	3.4	$91,800	2.5	$67,500
	SUBTOTAL SIGNING & STRIPING COSTS:					**$83,700**		**$83,700**		**$89,100**		**$75,600**		**$86,400**		**$91,800**		**$67,500**
	SUBTOTAL CONSTRUCTION COSTS:					**$7,239,970**		**$8,024,470**		**$7,220,880**		**$12,433,838**		**$11,552,613**		**$5,189,595**		**$11,110,535**
MISCELLANEOUS COSTS																		
1	Mobilization		5%			$362,000		$401,000		$361,000		$622,000		$578,000		$259,000		$556,000
2	Contingencies & Minor Items (15%)		15%			$1,086,000		$1,204,000		$3,610,000		$1,865,000		$1,733,000		$778,000		$1,667,000
3	New Railroad Tracks (Shoofly)		mile	$1,000,000					0.2	$200,000	0.2	$200,000					0.2	$200,000
4	Temporary Pavement & Drainage		5%			$362,000		$401,000		$361,000		$622,000		$578,000		$259,000		$556,000
5	Traffic Control		3%			$217,000		$241,000		$217,000		$373,000		$347,000		$156,000		$333,000
	SUBTOTAL MISCELLANEOUS COSTS:					**$2,027,000**		**$2,247,000**		**$4,749,000**		**$3,682,000**		**$3,236,000**		**$1,452,000**		**$3,312,000**
	ESTIMATED TOTAL CONSTRUCTION COSTS:					**$9,266,970**		**$10,271,470**		**$11,969,880**		**$16,115,838**		**$14,788,613**		**$6,641,595**		**$14,422,535**

NOTE (1) Assumed 10" concrete pavement thickness and 5" aggregate base class 5 platform.
(2) Assumed bituminous pavement thickness of 2" and 8" aggregate base class. (5)
(3) Assumed bituminous pavement thickness of 8" and 8" aggregate base class 5. (5)
(4) Assumed bituminous pavemetn thickness of 3" and 4" aggregate base class 5. (5)
(5) Assumed $60/ton bituminous and aggregate base class 5 cost.
(6) Includes 3" concrete median pavement.

T.H. 75 INTERCHANGE OPTION A

PRELIMINARY

SUBJECT TO CHANGE

11/28/2007

SRF CONSULTING GROUP, INC.

LEGEND

- PROPOSED ROADWAY
- PROPOSED RAISED MEDIANS
- PROPOSED BRIDGES
- PROPOSED SHOULDERS
- PROPOSED WALK
- PROPOSED RIGHT-OF-WAY
- TRAFFIC SIGNAL

24TH AVE. S
RIVERSHORE DR. S
BROOKDALE RD. S
HOLIDAY DR.
RETAINING WALL
T.H. 75
I-94
25TH AVE. S
26TH AVE. S
27TH AVE. S
28TH AVE. S
13TH ST. S
14TH ST. S
15TH ST. S
16TH ST. S
BROOK AVE.
DALE AVE. S
VALLEY AVE.
4TH ST. S
5TH ST. S
30TH AVE. S
190° R

5TH ST. S

30TH AVE. S

I-94

RIVERSHORE DR. S

BROOKDALE RD. S

24TH AVE. S

T.H. 75

T.H. 75

RETAINING WALL

285' R

170' R

285' R

190' R

HOLIDAY DR.

RETAINING WALL

I-94

11TH ST. S

28TH AVE. S

27TH AVE. S

26TH AVE. S

25TH AVE. S

24TH AVE. S

13TH ST. S

30TH AVE. S

LEGEND

- PROPOSED ROADWAY
- PROPOSED RAISED MEDIANS
- PROPOSED BRIDGES
- PROPOSED SHOULDERS
- PROPOSED WALK
- PROPOSED RIGHT-OF-WAY
- TRAFFIC SIGNAL

PRELIMINARY

SUBJECT TO CHANGE

4/14/2008

SRI CONSULTING GROUP, INC.

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4/14/2008
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T.H. 75 INTERCHANGE OPTION B

175 0 175
scale feet

20TH ST. INTERCHANGE OPTION A

PRELIMINARY
SUBJECT TO CHANGE
7/9/2007
SRF CONSULTING GROUP, INC.

LEGEND
- PROPOSED ROADWAY
- PROPOSED RAISED MEDIANS
- PROPOSED BRIDGES
- PROPOSED SHOULDERS
- PROPOSED RIGHT-OF-WAY
- TRAFFIC SIGNAL
- ACCESS CLOSURE

24TH AVE. S
25TH AVE. S
26TH AVE. S
27TH AVE. S
28TH AVE. S
29TH AVENUE S
30TH AVE. S
13TH ST. S
14TH ST. S
15TH ST. S
16TH ST. S
17TH ST. S
18TH ST. S
20TH ST. S
22ND ST. S
NW TECHNICAL COLLEGE
B.N.S.F. RAILROAD
I-94
350
355
360
365
370
375
380
385
390
395
180' R
HEATHERWOOD CIR. S
HEATHERWOOD CIR.
HANOVER
VILLAGE GREEN BLVD.
CHANTING CROSS
TRAVEL INFORMATION CENTER

20TH ST. INTERCHANGE OPTION B

PRELIMINARY
SUBJECT TO CHANGE
7/9/2007
SRF CONSULTING GROUP, INC.

LEGEND
- PROPOSED ROADWAY
- PROPOSED RAISED MEDIANS
- PROPOSED BRIDGES
- PROPOSED SHOULDERS
- PROPOSED RIGHT-OF-WAY
- TRAFFIC SIGNAL
- ACCESS CLOSURE

24TH AVE. S
13TH ST. S
18TH ST. S
20TH ST. S
NW TECHNICAL COLLEGE
B.N.S.F. RAILROAD
27TH AVE. S
14TH ST. S
16TH ST. S
17TH ST. S
18TH ST. S
28TH AVE. S
160' R
I-94
I-94
150' R
29TH AVENUE S
15TH ST. S
16TH ST. S
17TH ST. S
20TH ST. S
22ND ST, HEATHERWOOD CIR. S
22ND ST. S
HEATHERWOOD CIR.
HANOVER
TRAVEL INFORMATION CENTER
30TH AVE. S
VILLAGE GREEN BLVD.
18TH ST. S
CHANING CROSS

20TH ST. INTERCHANGE OPTION C

PRELIMINARY
SUBJECT TO CHANGE
7/9/2007
SRI CONSULTING GROUP, INC.

LEGEND
- PROPOSED ROADWAY
- PROPOSED BRIDGES
- PROPOSED SHOULDERS
- PROPOSED RIGHT-OF-WAY
- TRAFFIC SIGNAL
- ACCESS CLOSURE

24TH AVE. S
20TH ST. S
B.N.S.F. RAILROAD
28TH AVE. S
I-94
RETAINING WALL
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RETAINING WALL
RETAINING WALL
28TH STREET S.
TRAVEL INFORMATION CENTER
20TH ST. S
22ND ST, HEATHERWOOD CIR. S
22ND ST. S
HEATHERWOOD CIR.
HANOVER
26TH ST. S CIR.
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20TH ST. INTERCHANGE OPTION D

PRELIMINARY
SUBJECT TO CHANGE
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SRF CONSULTING GROUP, INC.

LEGEND
- PROPOSED ROADWAY
- PROPOSED BRIDGES
- PROPOSED SHOULDERS
- PROPOSED RIGHT-OF-WAY
- TRAFFIC SIGNAL
- ACCESS CLOSURE

24TH AVE. S
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NW TECHNICAL COLLEGE
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HANOVER
26TH ST. S CIR.
WEST LOOP
17TH St. S
18TH St. S
30TH AVE. S
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16TH ST. S
29TH AVENUE S
17TH ST. S
I-94
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17TH ST. S
18TH ST. S
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19 1/2 ST. S
34TH AVE. S
BELSLY BLVD.
18TH ST. S
30TH AVE. S
150' R
NW TECHNICIAL COLLEGE
24TH AVE. S
23RD AVE. S
22ND AVE. S
21ST AVE. S
20TH AVE. S
20TH ST. S
20TH ST. S
B.N.S.F. RAILROAD
VILLAGE GREEN BLVD.
CHARING CROSS
HANOVER
22ND ST. S
22ND ST, HEATHERWOOD CIR. S
CHARING CROSS ST.
CHELSEA
HEATHERWOOD CIR.
I-94
28TH AVE. S
20TH AVE. S
TRAVEL INFORMATION CENTER
26TH ST. S CIR.
29TH AVE. S

20TH ST. INTERCHANGE OPTION E

PRELIMINARY
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LEGEND
- PROPOSED ROADWAY
- PROPOSED RAISED MEDIANS
- PROPOSED BRIDGES
- PROPOSED SHOULDERS
- PROPOSED RIGHT-OF-WAY
- TRAFFIC SIGNAL
- ACCESS CLOSURE

Appendix G – Traffic & Roundabout & Corsim Analysis

SRF No. 0065728

FINAL MEMORANDUM

TO: Rick Lane, P.E. Principal

FROM: Craig Vaughn, P.E., Associate
Matthew Pacyna, Engineer

DATE: June 14, 2007

SUBJECT: TRUNK HIGHWAY 75 & 20TH STREET CORRIDOR TRAFFIC STUDY

INTRODUCTION

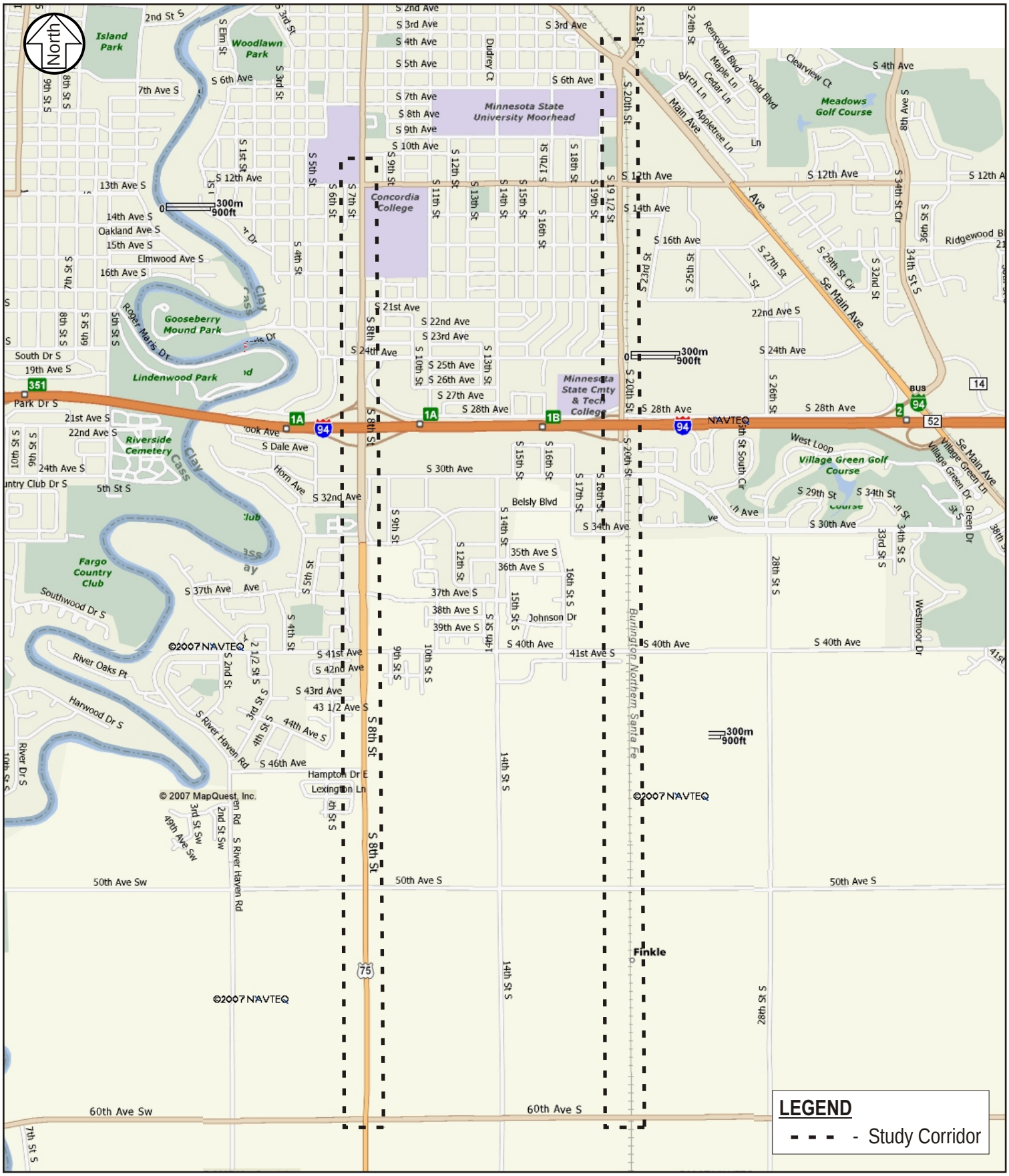
As requested, we have completed an operations analysis for the Trunk Highway 75 (TH 75) and 20th Street corridors in Moorhead, MN (see Figure 1: Study Corridors). This operations analysis was conducted to provide input for geometric design decisions required for future corridor planning. The purpose of the analysis is to determine the appropriate geometrics and traffic control layouts needed at key intersections along the TH 75 and 20th Street corridors, as well as the capacity needs of the roadway segments. This study includes an operations analysis during the a.m. and p.m. peak hours for existing, interim year no build, and interim year build conditions. In addition, a planning-level analysis of the interim year 2030 average daily traffic volumes (ADTs) was conducted as a comparison check to the capacity recommendations developed as part of the intersection operations analysis.

The existing growth that has occurred within the study area has outpaced the projections that were used to develop the 2030 growth scenario in the 2004 Metropolitan Transportation Plan. As a result, it was important for the traffic projections used in this study to reflect a higher level of growth. This higher level of growth has been called the interim year growth scenario. There is no exact year assigned to the interim year scenario. It is based on job and household projections that were derived from the Moorhead GAP/AUAR. To see the exact socioeconomic data used to develop the interim year scenario, refer to the Technical Memo to the Study Review Committee from Cindy Gray with SRF Consulting Group, Inc. dated September 5, 2006.

PROJECT STUDY AREA

Trunk Highway 75

The TH 75 corridor is defined from 20th Avenue South to 60th Avenue South, including the following key intersections:



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June 2007

STUDY CORRIDORS

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo-Moorhead Council of Governments

Figure 1

- TH 75/20th Avenue South
- TH 75/24th Avenue South
- TH 75/I-94 North Ramp
- TH 75/I-94 South Ramp
- TH 75/30th Avenue South
- TH 75/40th Avenue South
- TH 75/50th Avenue South
- TH 75/60th Avenue South

Each of these intersections exists today along this corridor, and is included in the existing analysis section that follows

20th Street

The 20th Street corridor is defined from 12th Avenue South to SE Main Avenue, including the following key intersections:

- 20th Street/12th Avenue South
- 20th Street/20th Avenue South
- 20th Street/24th Avenue South
- 20th Street/I-94 North Ramp
- 20th Street/I-94 South Ramp
- 20th Street/30th Avenue South
- 20th Street/40th Avenue South (Interim)
- 20th Street/50th Avenue South (Interim)
- 20th Street/60th Avenue South (Interim)

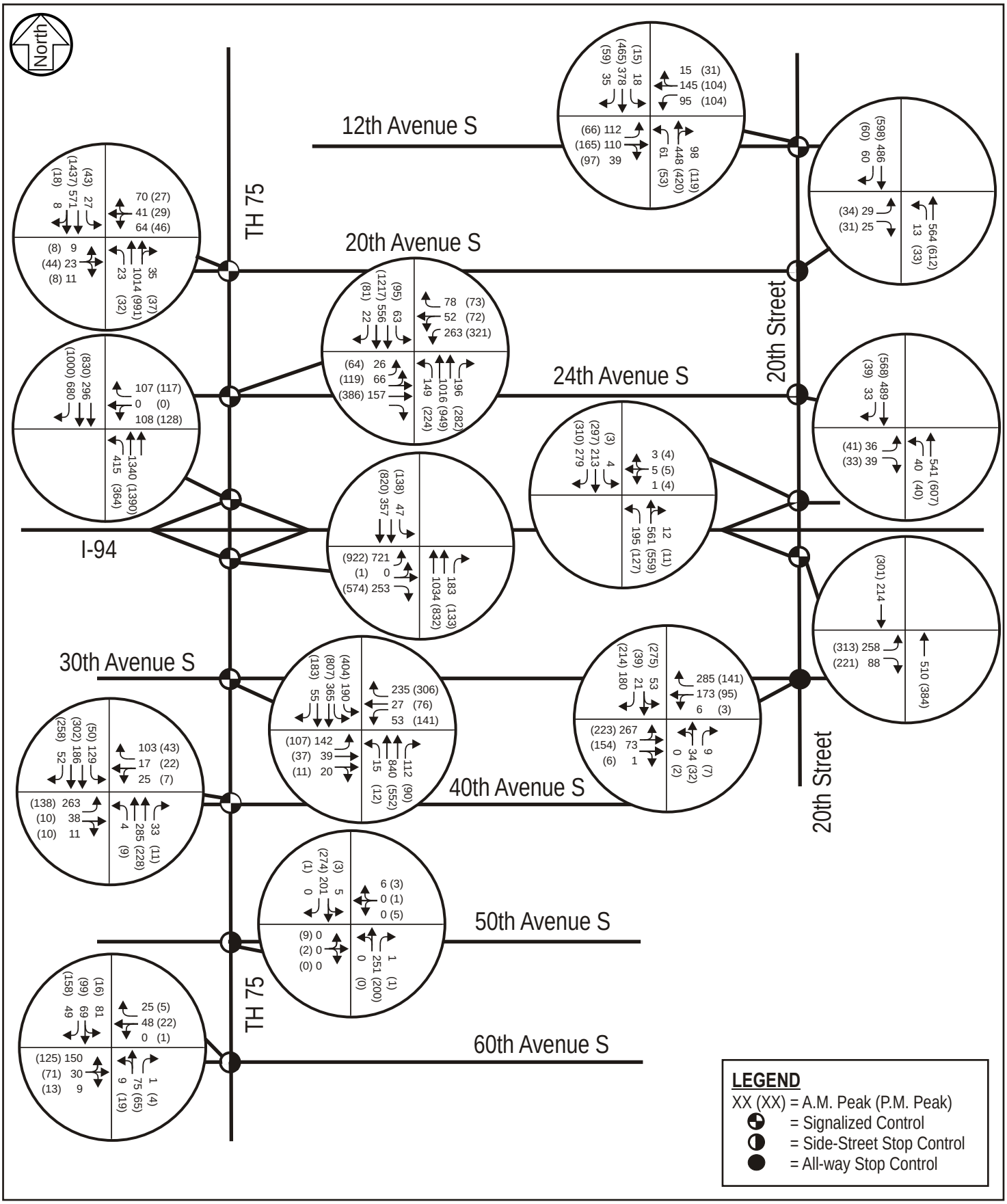
It should be noted that the intersections of 20th Street/40th Avenue South/50th Avenue South/60th Avenue South do not exist today. They are assumed constructed under interim year conditions.

EXISTING CONDITIONS

Turning movement counts were colleted during the a.m. and p.m. peak hours at all key intersections by LJR in May 2006. Figure 2 shows the existing peak hour traffic volumes, geometry, and traffic controls.

To determine how the existing roadway network currently operates, an operations analysis was conducted for the a.m. and p.m. peak hours. Signalized intersections were analyzed using the Synchro/SimTraffic software, while unsignalized intersections were analyzed using the highway capacity manual (HCM). Capacity analysis results identify a Level of Service (LOS) that indicates how well an intersection is operating. Intersections are given a ranking from LOS A through LOS F. The LOS results are based on average delay per vehicle. LOS A indicates the best traffic operation and LOS F indicates an intersection where demand exceeds capacity. LOS A through C are generally considered acceptable by drivers. LOS D indicates that an intersection is approaching its capacity and that vehicles experience delays and congestion. Unsignalized intersections identify the overall intersection level of service followed by the worst approach.

Results of the analysis shown in Table 1 indicate that the majority of the key intersections will operate at an acceptable LOS C or better during the peak hours with existing geometry and traffic controls. The intersections of TH 75/24th Avenue South and TH 75/I-94 South Ramp currently operate at or below an unacceptable LOS D.



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EXISTING GEOMETRICS AND PEAK HOUR VOLUMES

Figure 2

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo-Moorhead Council of Governments

Table 1
Existing Peak Hour Capacity Analysis
Level of Service Results

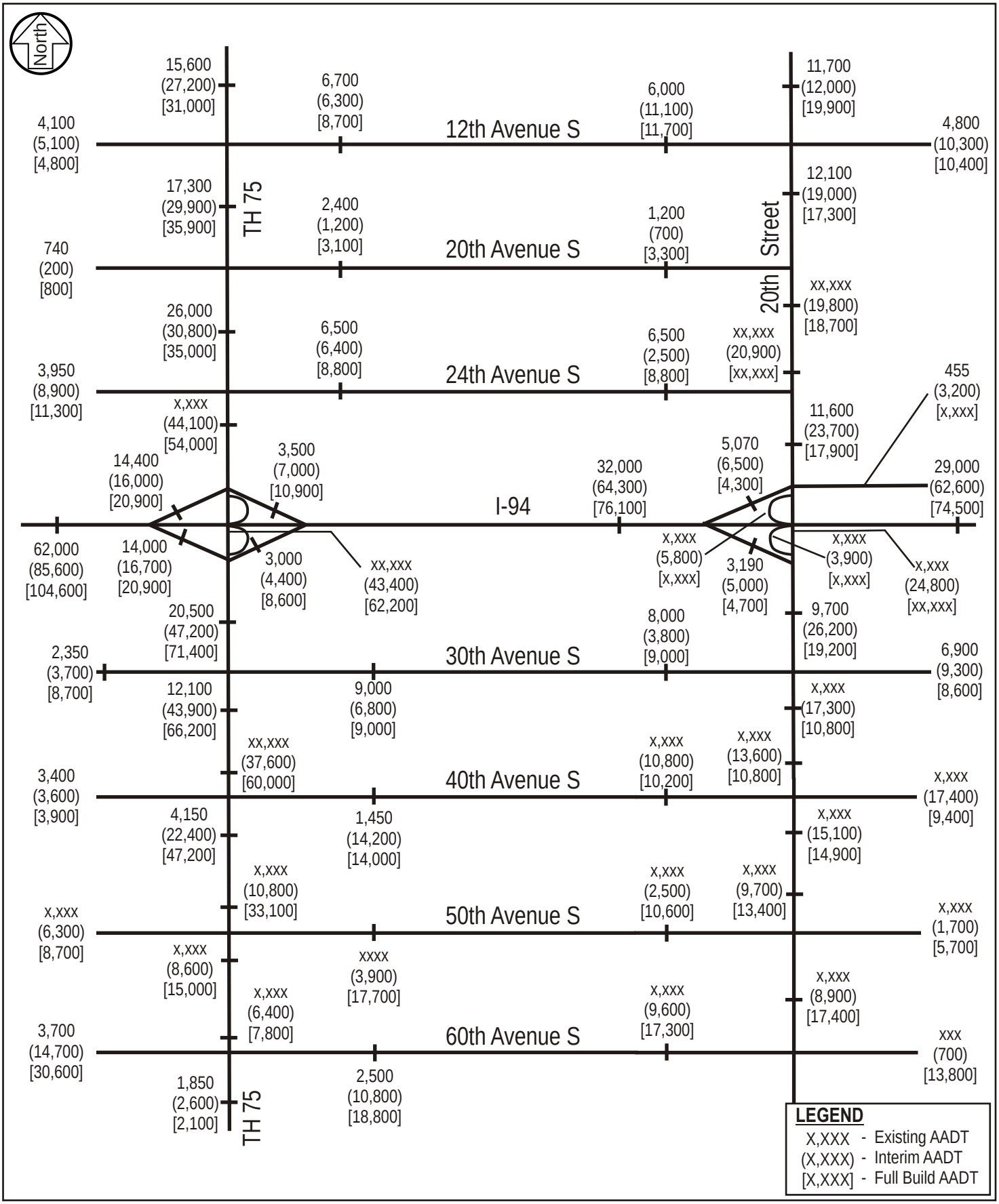
Intersection	Level of Service	
	A.M.	P.M.
TH 75/20th Avenue South	B	C
TH 75/24th Avenue South	C	E
TH 75/I-94 North Ramp	B	C
TH 75/I-94 South Ramp	C	D
TH 75/30th Avenue South	C	C
TH 75/40th Avenue South	B	B
TH 75/50th Avenue South (1)	A/A	A/A
TH 75/60th Avenue South (1)	A/B	A/B
20th Street/12th Avenue South	C	C
20th Street/20th Avenue South (1)	A/A	A/B
20th Street/24th Avenue South (1)	A/A	A/A
20th Street/I-94 North Ramp (1)	A/B	A/B
20th Street/I-94 South Ramp	B	B
20th Street/30th Avenue South (2)	A	B
20th Street/40th Avenue South (3)	N/A	N/A
20th Street/50th Avenue South (3)	N/A	N/A
20th Street/60th Avenue South (3)	N/A	N/A

(1) Indicates an intersection with side-street stop control.
(2) Indicates an intersection with all-way stop control.
(3) Indicates an intersection that does not currently exist.

TRAFFIC FORECASTS

Traffic forecasts (with updated socio-economic data and recommended network configuration) were provided by the Advanced Traffic Analysis Center (ATAC) for interim year conditions. Two scenarios were developed: first, an interim development scenario and second, a full build development scenario. The interim development scenario forecasts were used to determine the necessary intersection geometrics and traffic controls. ATAC provided link AADT volumes at key locations along the study corridors (see Figure 3: Annual Average Daily Traffic Volume).

To determine interim year build turning movement volumes at the key intersections, the projected interim link ADTs were manipulated based on existing turning movement proportions. It should be noted that based on future development assumptions, travel patterns have changed in some areas. Also, all future roadway modifications were taken into account when developing the interim year forecasts, both ADTs and turning movement volumes (i.e., major interchange improvements at I-94/TH 75 and I-94/20th Street, or additional arterial roadway connections).



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ANNUAL AVERAGE DAILY TRAFFIC VOLUMES (AADT)

Figure 3

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo-Moorhead Council of Governments

INTERIM YEAR CONDITIONS

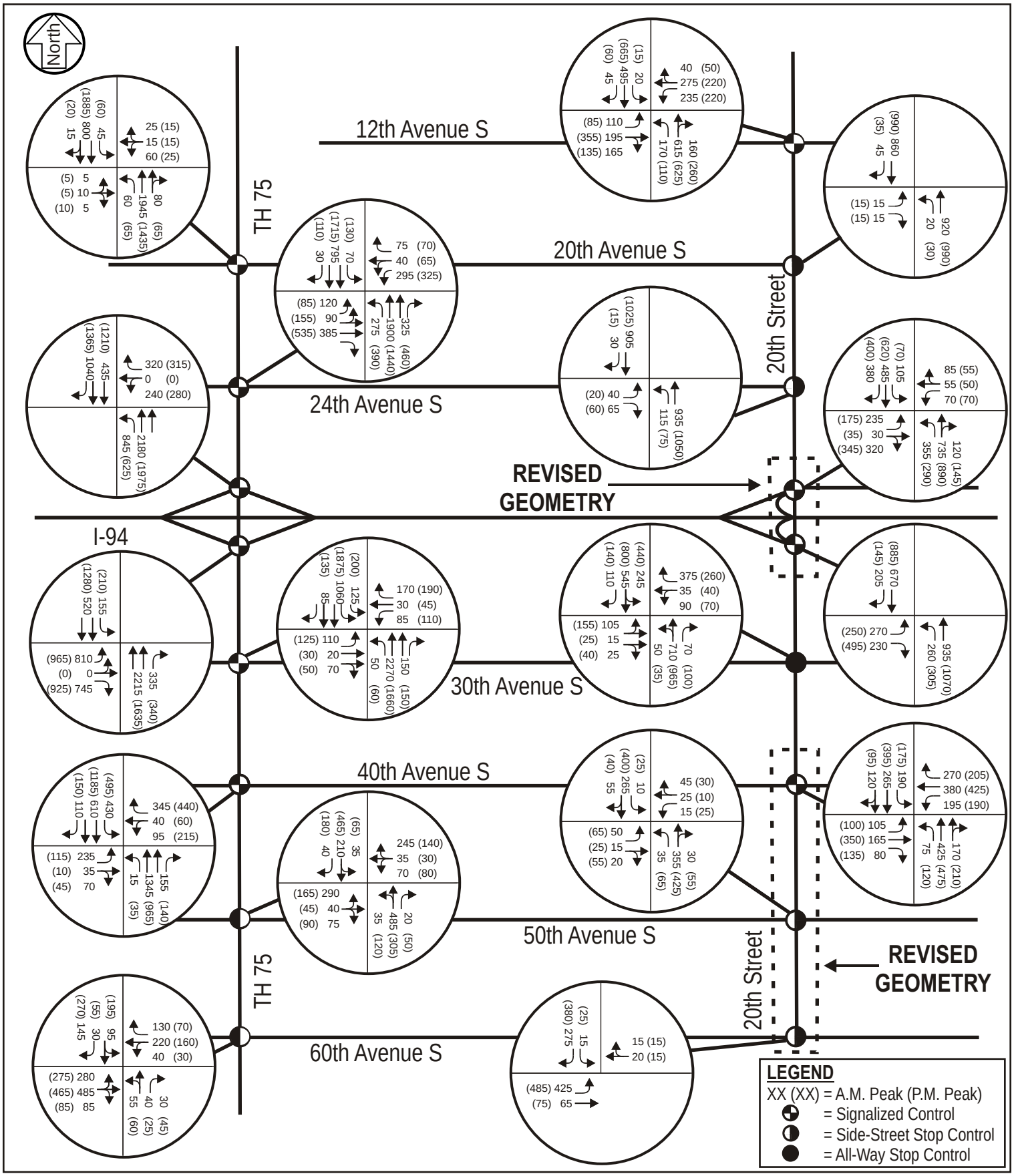
No Build Intersection Operations Analysis

To determine how the existing roadway network will accommodate the interim year traffic forecasts, an operations analysis was conducted for the a.m. and p.m. peak hours. It should be noted that the I-94/20th Street interchange was modeled with the proposed access modification to include a westbound exit and eastbound entrance. The geometry at the north and south ramps were updated to reflect the changes to the interchange, while maintaining the existing integrity of the roadway along the corridor. In addition, the intersections of 20th Street/40th Avenue South/50th Avenue South/60th Avenue South do not currently exist, and therefore were analyzed with the geometry and traffic controls necessary to operate at acceptable levels of service. Results of the analysis shown in Table 2 indicate that the majority of the key intersections will operate at an unacceptable LOS D or worse during the a.m. and p.m. peak hours under interim year no build conditions, with existing geometry and traffic controls. Figure 4 shows the interim peak hour traffic volumes with the existing and revised geometry used for this analysis.

Table 2
Interim Year Condition
Peak Hour Capacity Analysis – Existing Geometry
Level of Service Results

Intersection	Level of Service	
	A.M.	P.M.
TH 75/20th Avenue South	F	F
TH 75/24th Avenue South	F	F
TH 75/I-94 North Ramp	E	F
TH 75/I-94 South Ramp	F	F
TH 75/30th Avenue South	F	F
TH 75/40th Avenue South	E	D
TH 75/50th Avenue South [(1)]	F/F	C/F
TH 75/60th Avenue South [(1)]	F/F	F/F
20th Street/12th Avenue South	F	F
20th Street/20th Avenue South [(1)]	F/F	F/F
20th Street/24th Avenue South [(1)]	F/F	F/F
20th Street/I-94 North Ramp [(3)]	F	F
20th Street/I-94 South Ramp [(3)]	D	F
20th Street/30th Avenue South [(2)]	F	F
20th Street/40th Avenue South	C	C
20th Street/50th Avenue South [(1)] [(4)]	C/C	C/C
20th Street/60th Avenue South [(1)] [(4)]	C/C	C/D

(1) Indicates an intersection with side-street stop control.
(2) Indicates an intersection with all-way stop control.
(3) Indicates an intersection with revised geometry due to access modification.
(4) New intersection under interim year conditions.



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June 2007

INTERIM PEAK HOUR TRAFFIC VOLUMES - EXISTING/REVISED GEOMETRY

Figure 4

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo-Moorhead Council of Governments

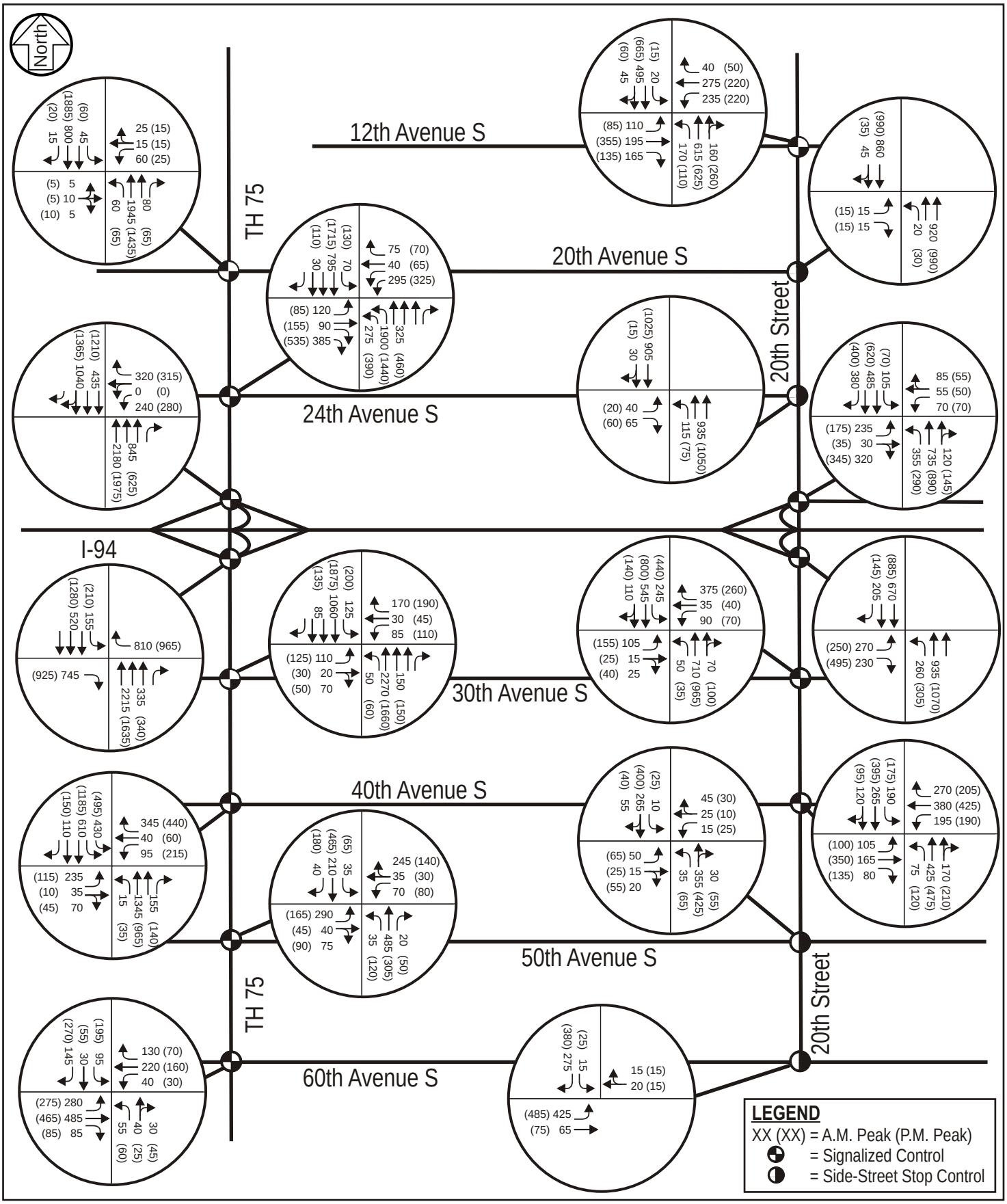
Interim Build Intersection Operations Analysis

Based on the analysis results shown in Table 2, the existing roadway network will not accommodate the interim year forecasts. In order to determine the intersection capacity needs along the two corridors an iterative improvement approach was applied. This approach determines the minimum recommended improvements necessary to achieve acceptable levels of service. Results of the analysis shown in Table 3 indicate that all key intersections are expected to operate at an acceptable LOS C or better during the a.m. and p.m. peak hours under interim year conditions, with recommended traffic controls and geometric improvements. Figure 5 displays the interim year volumes, recommended traffic controls, and geometric improvements. Figure 6 displays the associated turn-bay lengths.

Table 3
Interim Year Condition
Peak Hour Capacity Analysis – Recommended Geometry
Level of Service Results

Intersection	Level of Service	
	A.M.	P.M.
TH 75/20th Avenue South	B	B
TH 75/24th Avenue South	C	C
TH 75/I-94 North Ramp	B	C
TH 75/I-94 South Ramp	B	B
TH 75/30th Avenue South	C	C
TH 75/40th Avenue South	C	C
TH 75/50th Avenue South	B	B
TH 75/60th Avenue South	C	C
20th Street/12th Avenue South	C	C
20th Street/20th Avenue South (1)	A/B	A/B
20th Street/24th Avenue South (1)	A/C	A/C
20th Street/I-94 North Ramp	C	C
20th Street/I-94 South Ramp	B	C
20th Street/30th Avenue South	B	C
20th Street/40th Avenue South	C	C
20th Street/50th Avenue South (1)	C/C	C/C
20th Street/60th Avenue South (1)	C/C	C/D

(1) Indicates an intersection with side-street stop control.



INTERIM PEAK HOUR TRAFFIC VOLUMES - RECOMMENDED GEOMETRY

Figure 5

TH 75 & 20TH STREET CORRIDOR STUDIES

Fargo-Moorhead Council of Governments

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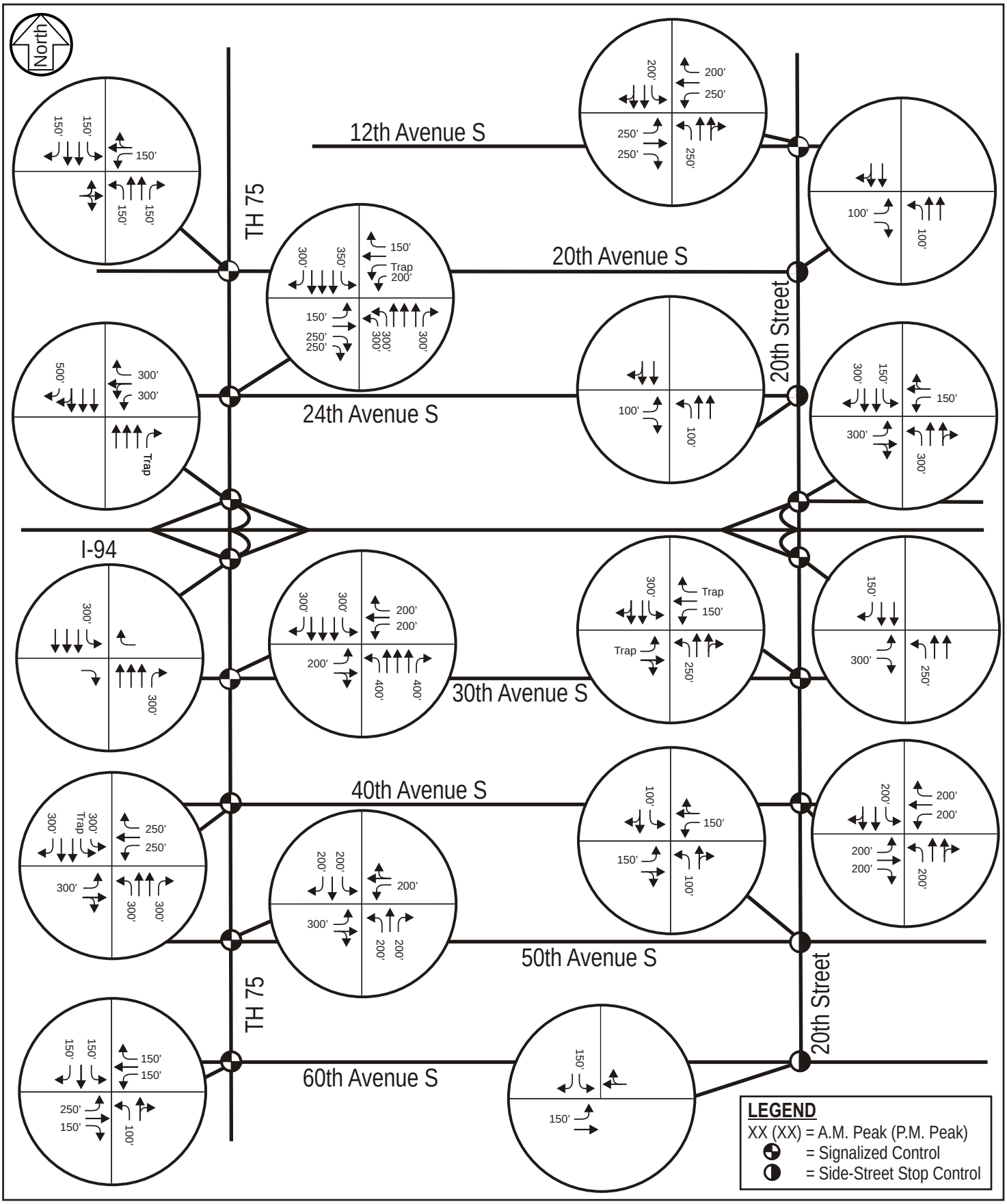
June 2007



RECOMMENDED TURN-BAY LENGTHS

TH 75 & 20TH STREET CORRIDOR STUDIES
Fargo-Moorhead Council of Governments

Figure 6

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June 2007

ROADWAY NETWORK NEEDS

The previous analysis discussed individual intersection operations and the subsequent traffic controls and geometrics needed in order for the intersections to operate at acceptable levels of service. The recommended geometrics are identified for each intersection approach, which dictate the capacity needs of the roadway segments. An alternative method for determining the capacity needs of the roadway segments involves an analysis of the ADT volumes. The capacity of a road is primarily determined by its facility type, number of lanes and design speed. Typical roadway capacities by facility type are shown in Table 4. Using these values as guidelines and the ADTs presented in Figure 3, the roadway segment capacities can be determined. However, please note that the overall operations of a roadway segment are dependant on the intersections at each end. Inadequate intersection geometrics or traffic controls can result in poor operations and congestion. In addition, the directional split of traffic during the peak hours has a significant impact on the roadway capacity needs. For example, an ADT value of 29,900 may indicate a four-lane divided roadway, but in contrast the intersection operations analysis and turning movement counts indicate the need for a six-lane divided roadway. Therefore, the intersection analysis and the peak hour directional traffic are taken into account when determining the overall roadway design.

Table 4
Typical Roadway Capacities

Roadway Design	Capacity (Average Daily Traffic – ADT)
Two-Lane Urban Highway	7,500 – 9,000
Two-Lane Rural Highway	12,000 – 15,000
Three-Lane Urban Highway	14,000 – 17,500
Four-Lane Undivided Highway	20,000 – 25,000
Four-Lane Divided Highway	28,000 – 35,000
Six-Lane Divided Highway	40,000 – 60,000

* Derived from the *Highway Capacity Manual 2000*

In applying the guidelines presented in Table 4, roadway segments with volumes approaching the capacity thresholds were recommended for the next capacity level. Based on the guidelines presented in Table 4, the forecast interim year ADT volumes shown in Figure 3, intersection analysis and peak hour direction traffic; the following typical roadway sections are recommended along the TH 75 and 20th Street corridors:

Trunk Highway 75

Extending south from 20th Avenue South to 40th Avenue South

- Six-Lane Divided Highway

* Note that the ADT values shown indicate a four-lane highway extending south from 12th Avenue South to 24th Avenue South, but other considerations dictate a six-lane divided highway.

40th Avenue South to approximately one-quarter mile south of 50th Avenue South

- Four-Lane Divided Highway

Approximately one-quarter mile south of 50th Avenue South to 60th Avenue South

- Two-Lane Highway

20th Street

Extending south from approximately one-quarter mile north of 12th Avenue South to approximately one-eighth mile south of 30th Avenue South

- Four-Lane Divided Highway

Approximately one-eighth mile south of 30th Avenue South to approximately one-quarter mile south of 40th Avenue South

- Five-Lane Highway

Approximately one-quarter mile south of 40th Avenue South to 60th Avenue South

- Two-Lane Divided Highway

CONCLUSIONS AND RECOMMENDATIONS

SRF Consulting Group has completed an operations analysis for the TH 75 and 20th Street corridors in Moorhead, MN. This operations analysis was conducted to provide input for geometric design decisions required for future corridor planning. The purpose of the analysis is to determine the appropriate geometrics and traffic controls needed at key intersection along the TH 75 and 20th Street corridors, as well as the capacity needs of the roadway segments.

- Results of the existing conditions analysis indicates that the majority of the key intersections will operate at an acceptable LOS C or better during the peak hours with existing geometry and traffic controls. The intersections of TH 75/24th Avenue South and TH 75/I-94 South Ramp currently operate at or below an unacceptable LOS D.

- Results of the interim year no build analysis indicates that the majority of the key intersections will operate at an unacceptable LOS D or worse during the a.m. and p.m. peak hours under interim year no build conditions, with existing geometry and traffic controls.

- With the recommended intersection geometrics shown in Figures 5 and 6, all key intersections along the TH 75 and 20th Street corridors will operate at an acceptable LOS C or better during the a.m. and p.m. peak hours under interim year conditions.

- In addition to the intersection operations analysis, the forecast interim year ADTs along the corridors were also reviewed to determine the following recommended roadway sections:

Trunk Highway 75

Extending south from 20th Avenue South to 40th Avenue South

- Six-Lane Divided Highway

* Note that the ADT values shown indicate a four-lane highway extending south from 12th Avenue South to 24th Avenue South, but other considerations dictate a six-lane divided highway.

40th Avenue South to approximately one-quarter mile south of 50th Avenue South

- Four-Lane Divided Highway

Approximately one-quarter mile south of 50th Avenue South to 60th Avenue South

- Two-Lane Highway

20th Street

Extending south from approximately one-quarter mile north of 12th Avenue South to approximately one-eighth mile south of 30th Avenue South

- Four-Lane Divided Highway

Approximately one-eighth mile south of 30th Avenue South to approximately one-quarter mile south of 40th Avenue South

- Five-Lane Highway

Approximately one-quarter mile south of 40th Avenue South to 60th Avenue South

- Two-Lane Divided Highway

SRF No. 0065728

MEMORANDUM

TO: Rick Lane, P.E. Principal

FROM: Todd Polum, P.E., PTOE, Senior Associate
Jordan Mancl, Engineer

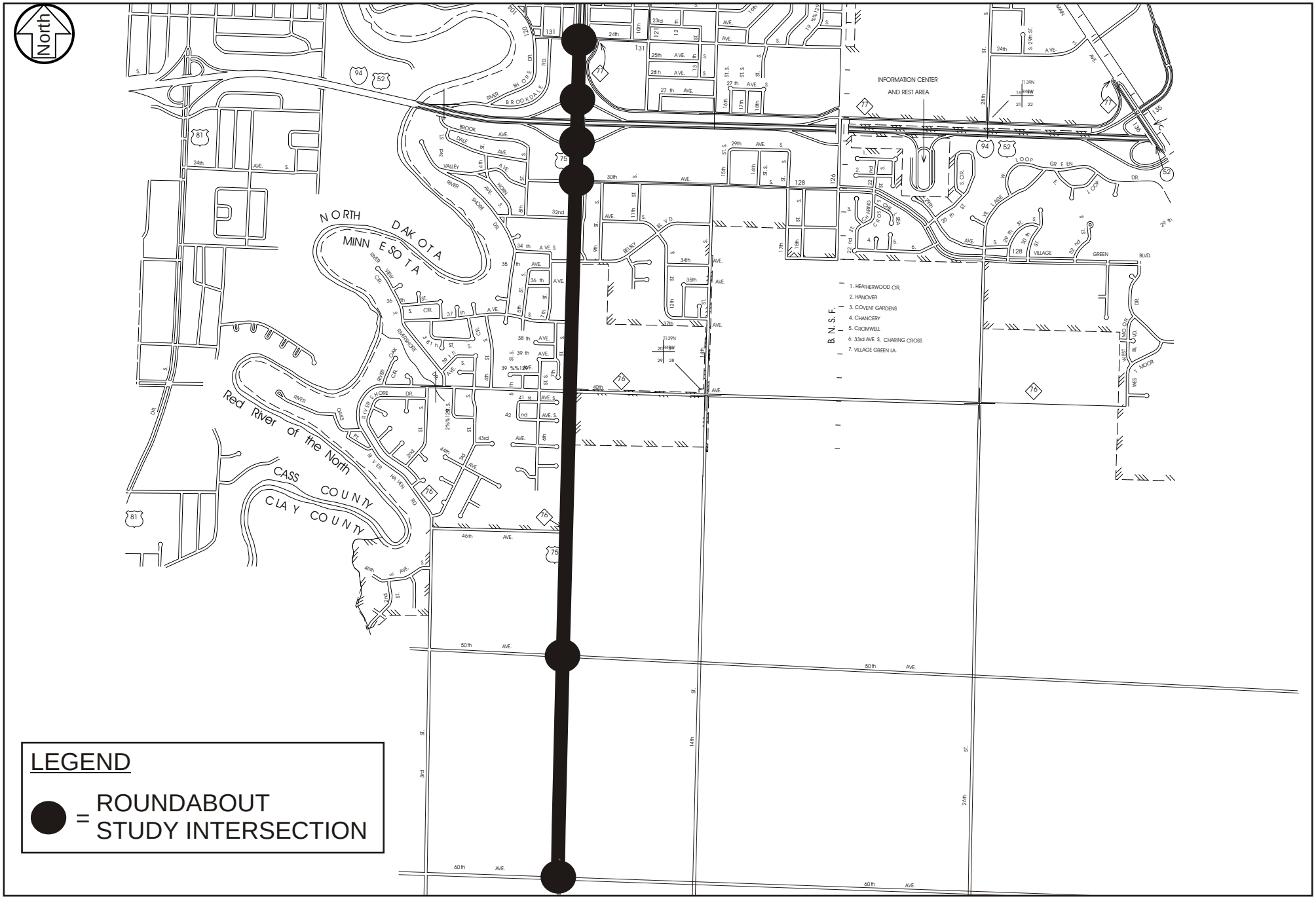
DATE: August 8, 2007

SUBJECT: 8th Street Roundabout Analysis

INTRODUCTION

The following memorandum documents analysis at several intersections along the 8th Street South (TH 75) corridor where roundabouts are being considered as intersection traffic control in the city of Moorhead, Minnesota (Figure 1). Analysis at these intersections was completed for traffic volumes in the Interim Year a.m. and p.m. peak hours. Turning movements for the following intersections were obtained from forecast being prepared as part of the 8th Street Corridor Study:

- 8th Street South and 24th Avenue South
- 8th Street South and I-94 North Ramps
- 8th Street South and I-94 South Ramps
- 8th Street South and 30th Avenue South
- 8th Street South and 50th Avenue South
- 8th Street South and 60th Avenue South



SRF CONSULTING GROUP, INC.
0065728
February 2007

STUDY AREA AND INTERSECTIONS

8TH STREET SOUTH CORRIDOR ROUNDABOUT STUDY
City of Moorhead

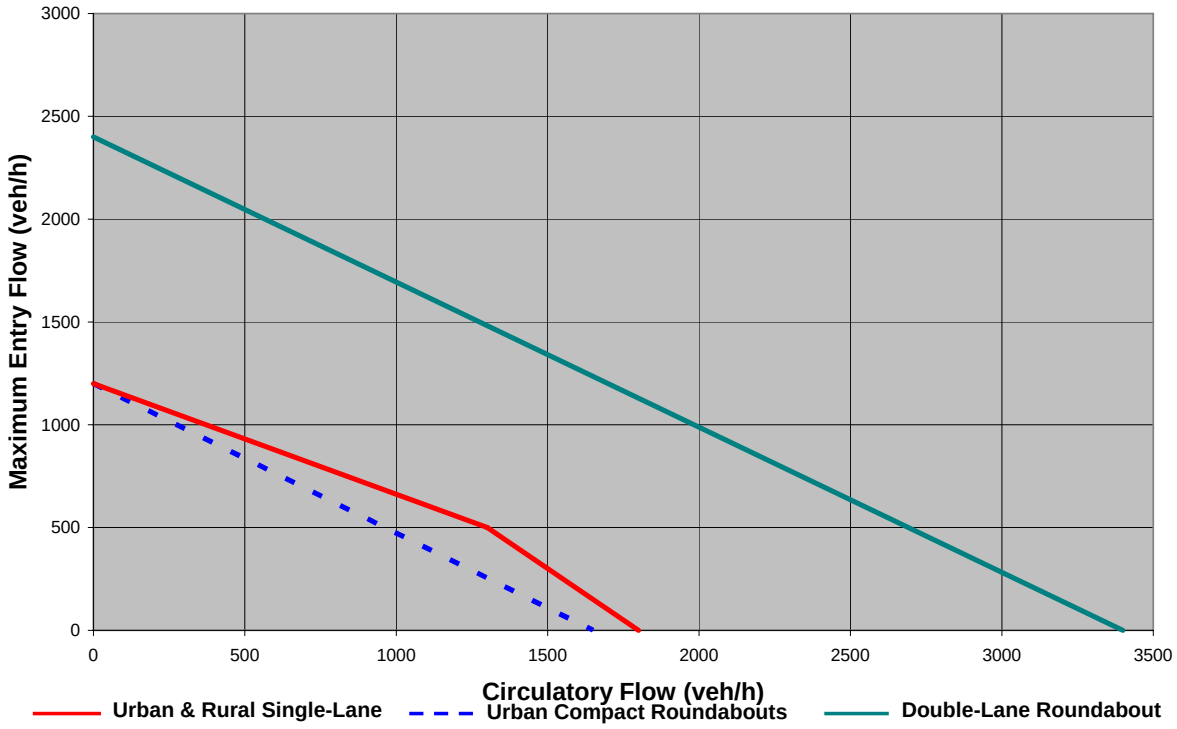
Figure 1

INTERIM YEAR ROUNDABOUT ANALYSIS

All of the study intersections are currently signalized except for the intersection of 8th Street South/60th Avenue South. 8th Street South is currently a 4-lane facility at four of the study intersections which means only a double-lane roundabout can be considered at these intersections. The only intersections that have one lane approaches are the intersections of 8th Street South/50th Avenue South and 8th Street South/60th Avenue South.

The roundabout analysis looks primarily at the traffic volume at each of the four intersection approaches. The entry volume at each approach was graphed versus the circulating volume at the same approach. These results were then compared to the volume to capacity threshold for a single or double-lane roundabout entrance to determine whether or not the study intersection will operate under capacity (Chart 1).

Chart 1
Roundabout Capacity Limits



Two separate roundabout analyses were performed at each intersection; one considered a typical roundabout where all traffic volume enters the intersection and one that considers a right-turn bypass lane. The right-turn bypass lane allows traffic making a right turn to avoid entering the circulating traffic in the roundabout. The graphs in Appendix A represent the roundabout analysis results at each intersection.

FINDINGS AND RESULTS

Table 1
Roundabout Volume to Capacity Results for Interim Traffic Volumes

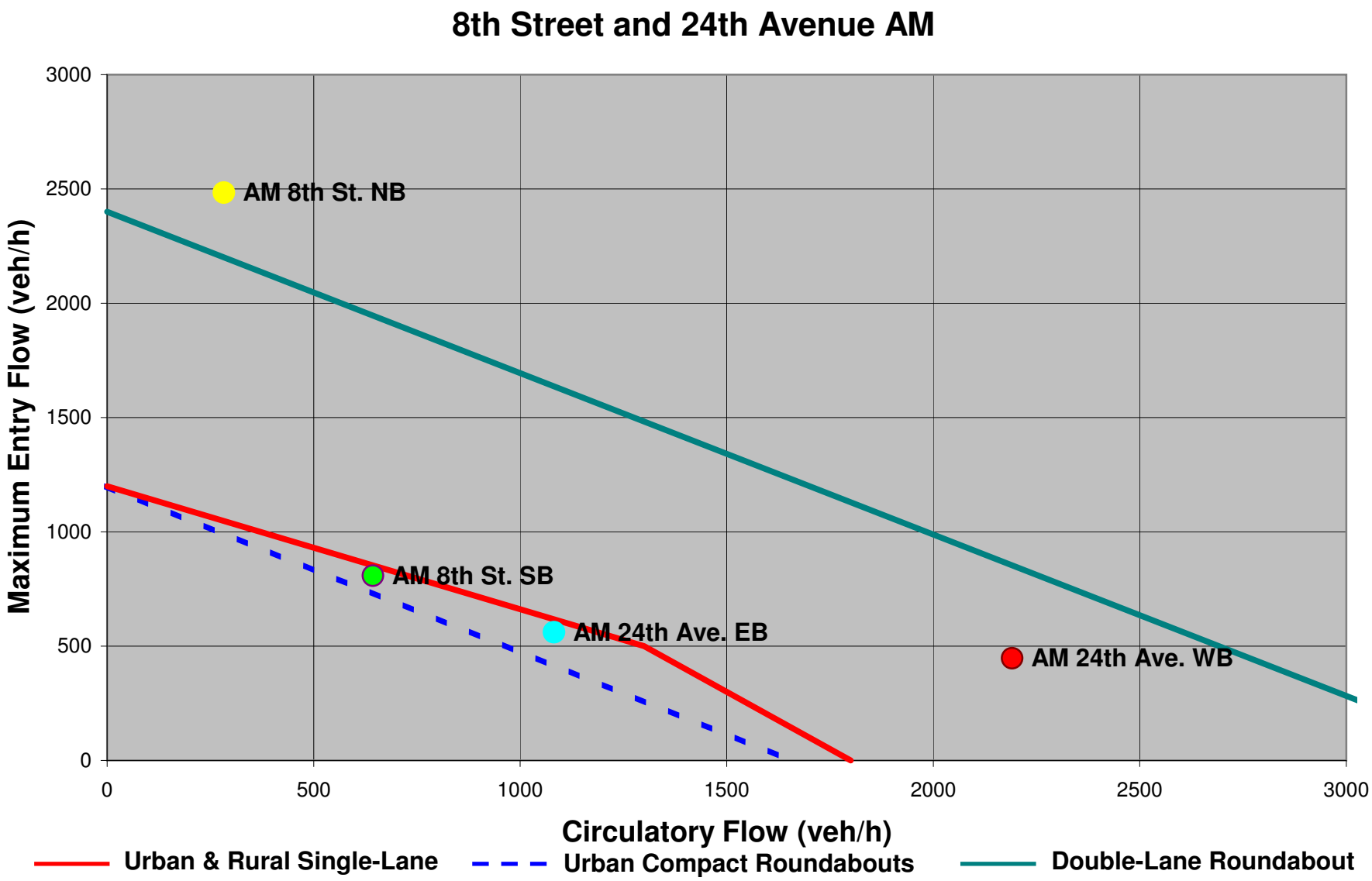
	INTERSECTION	NB APPROACH		EB APPROACH		SB APPROACH		WB APPROACH	
		Full*	RTB*	Full	RTB	Full	RTB	Full	RTB
AM	8th St./24th Ave.	**3**	2	1	1	1	1	2	2
	8th St./North Ramp	**3**	**3**	1	1	2	1	**3**	**3**
	8th St./South Ramp	**3**	**3**	2	1	1	1	2	2
	8th St./30th Ave.	**3**	**3**	1	1	2	2	**3**	2
	8th St./50th Ave.	1	1	1	1	1	1	1	1
	8th St./60th Ave.	1	1	1	1	1	1	1	1
PM	8th St./24th Ave.	2	2	2	2	**3**	2	2	2
	8th St./North Ramp	**3**	**3**	1	1	**3**	2	2	2
	8th St./South Ramp	**3**	2	**3**	2	2	2	2	2
	8th St./30th Ave.	2	2	2	2	**3**	**3**	2	2
	8th St./50th Ave.	1	1	1	1	1	1	1	1
	8th St./60th Ave.	1	1	1	1	1	1	1	1

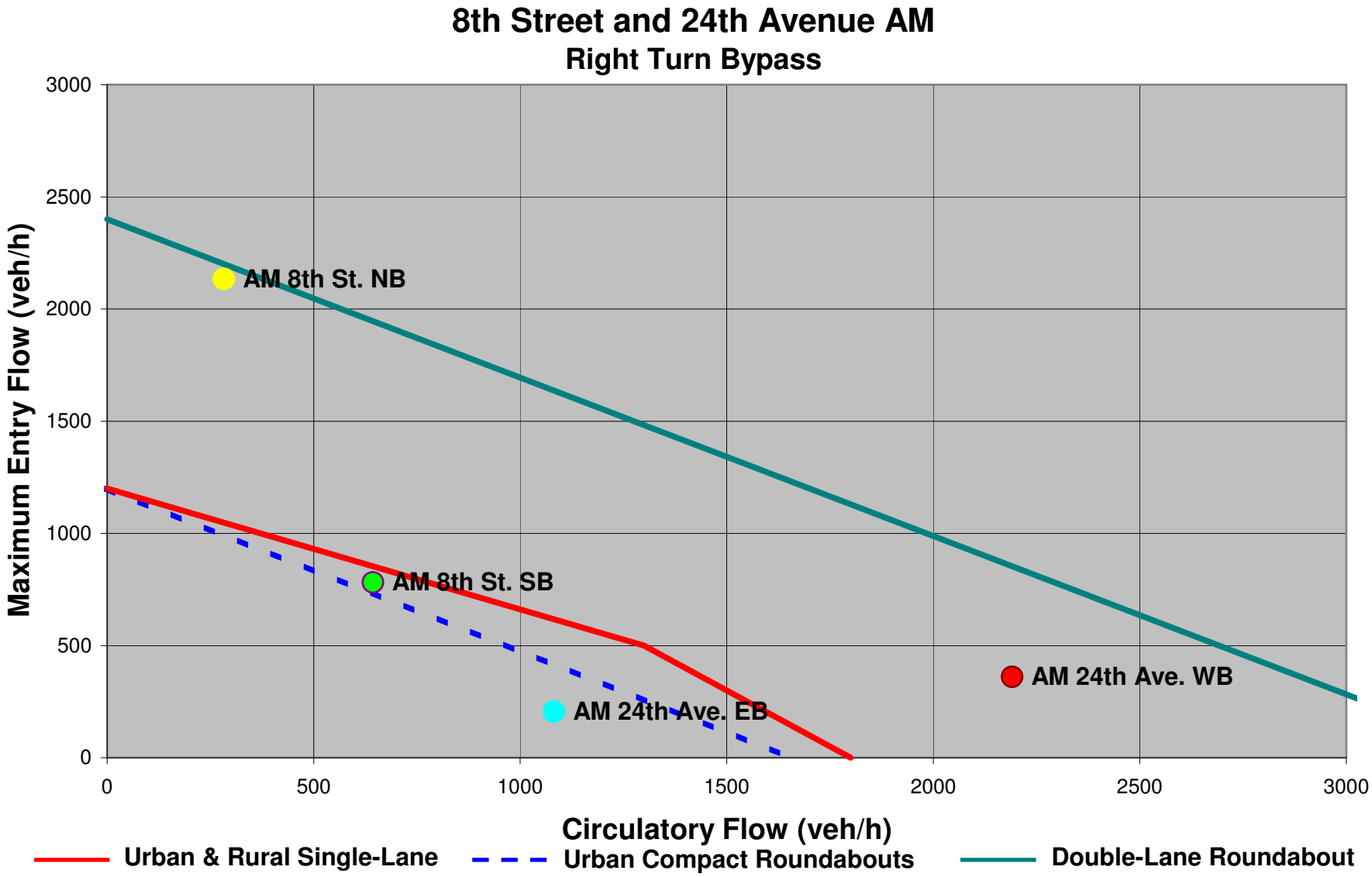
* Full represents a roundabout with full intersection traffic volume, RTB represents a roundabout with Right-Turn Bypasses

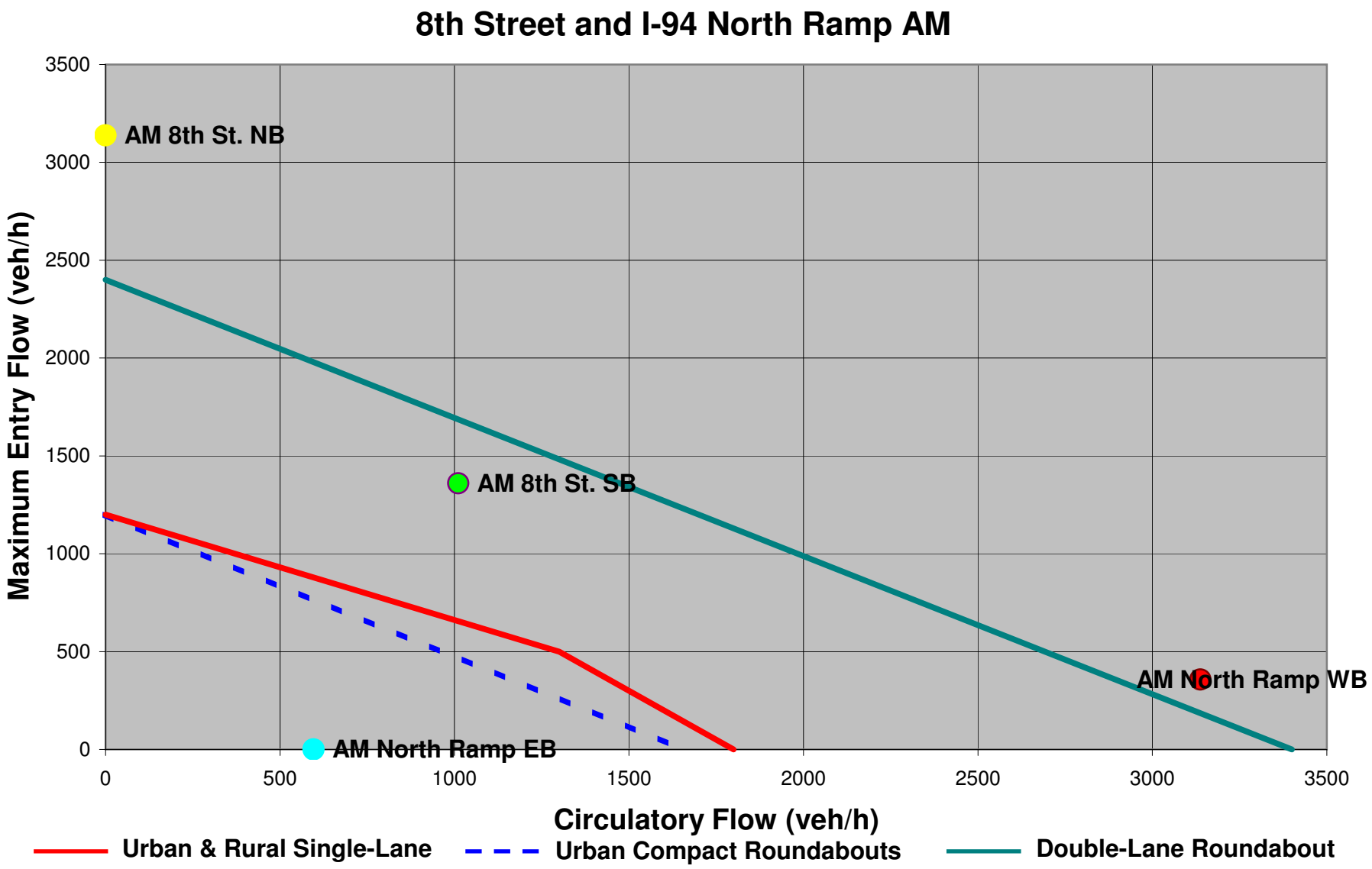
1 = Under Capacity for a Single-Lane Roundabout
2 = Under Capacity for a Double-Lane Roundabout, Over Capacity for a Single-Lane Roundabout
3 = Over Capacity for a Single-Lane and a Double-Lane Roundabout

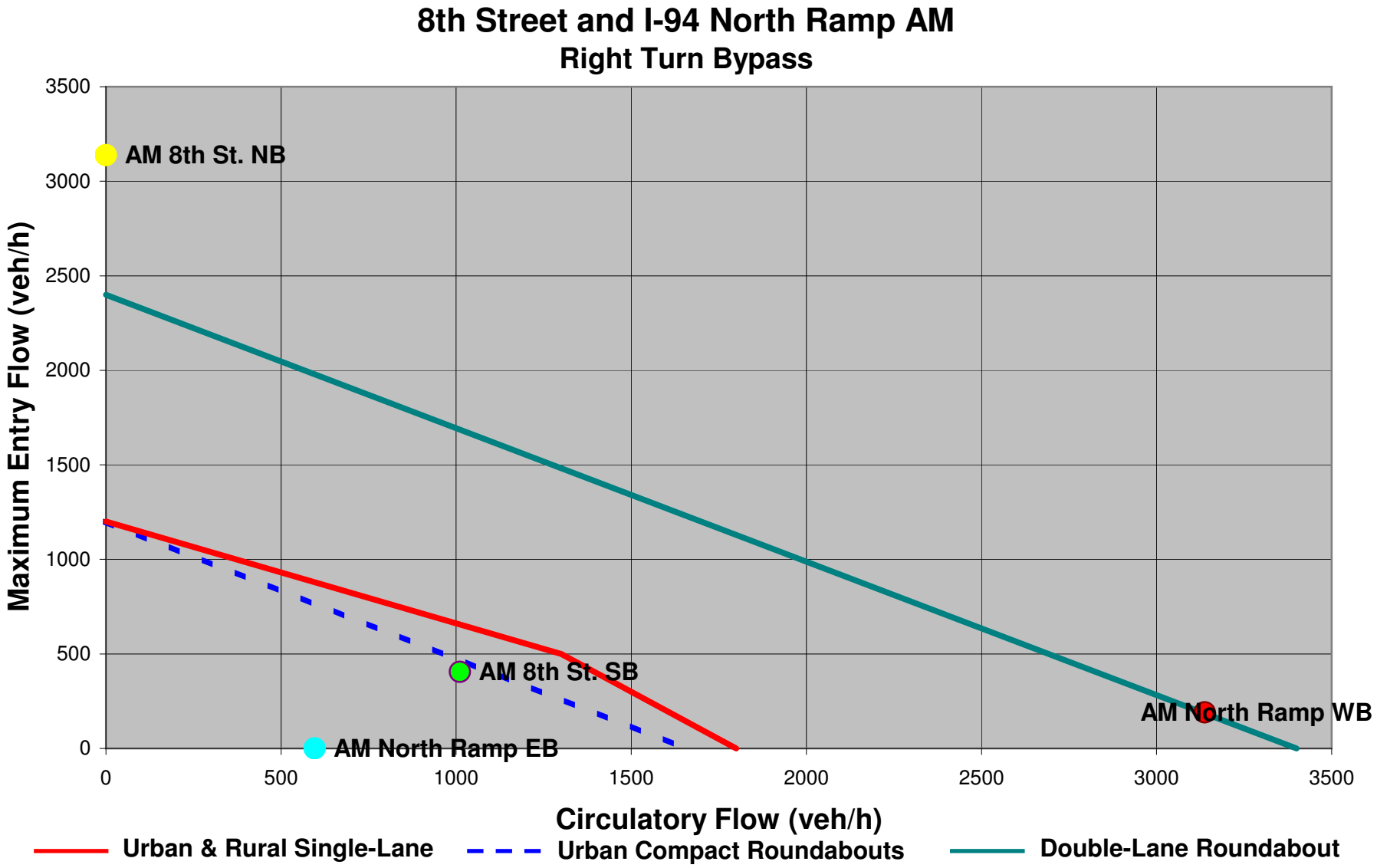
Results of the roundabout analysis at each approach are shown in Table 1. All of the key intersections except for the intersections of 8th Street/50th Avenue and 8th Street/60th Avenue will have at least one approach that will be near or over the capacity for double-lane roundabout (with and without the right-turn bypasses). The approaches for the intersections of 8th Street/50th Avenue and 8th Street/60th Avenue will operate under the capacity for a single-lane roundabout (with and without the right-turn bypasses).

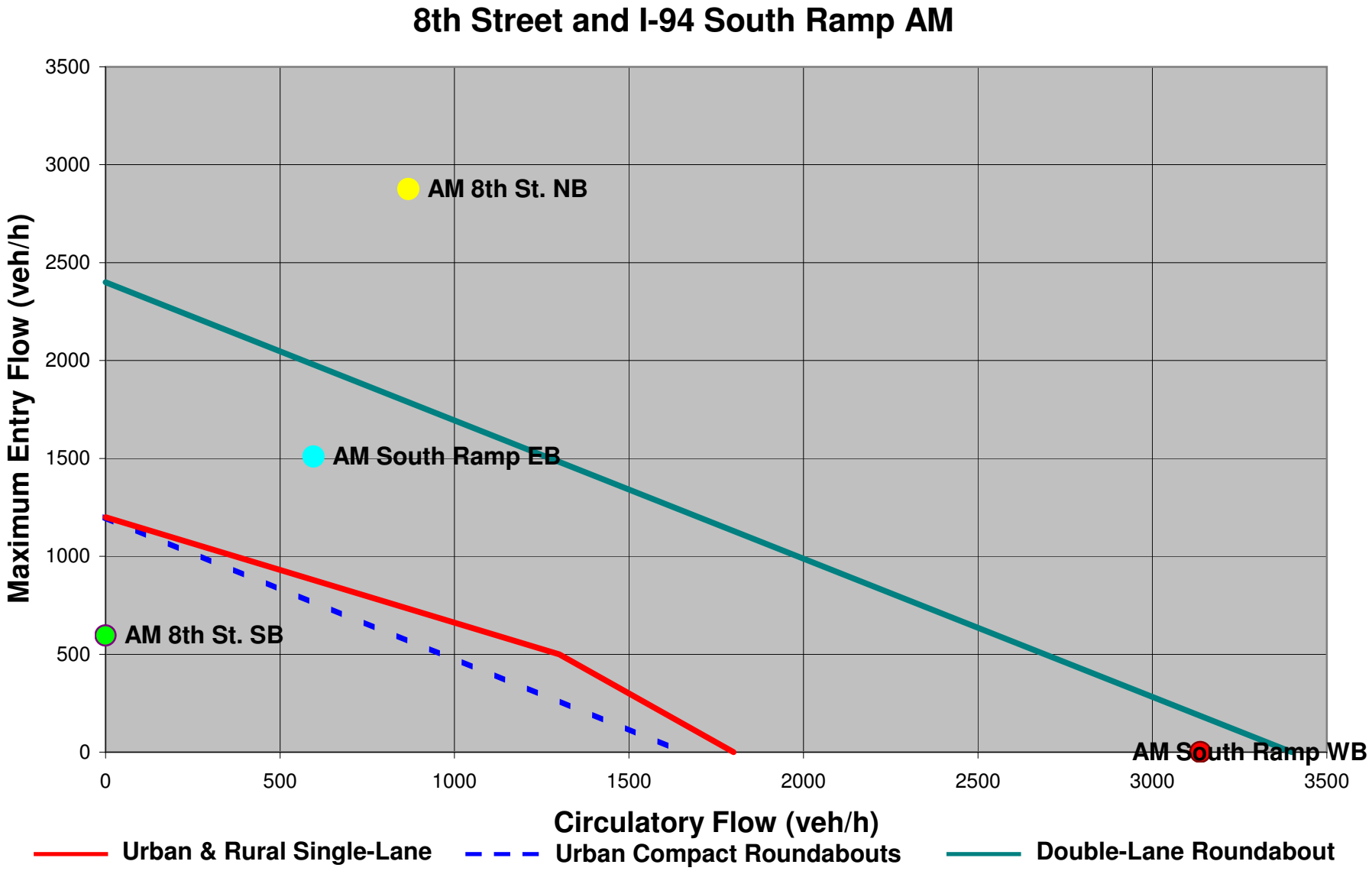
Appendix A

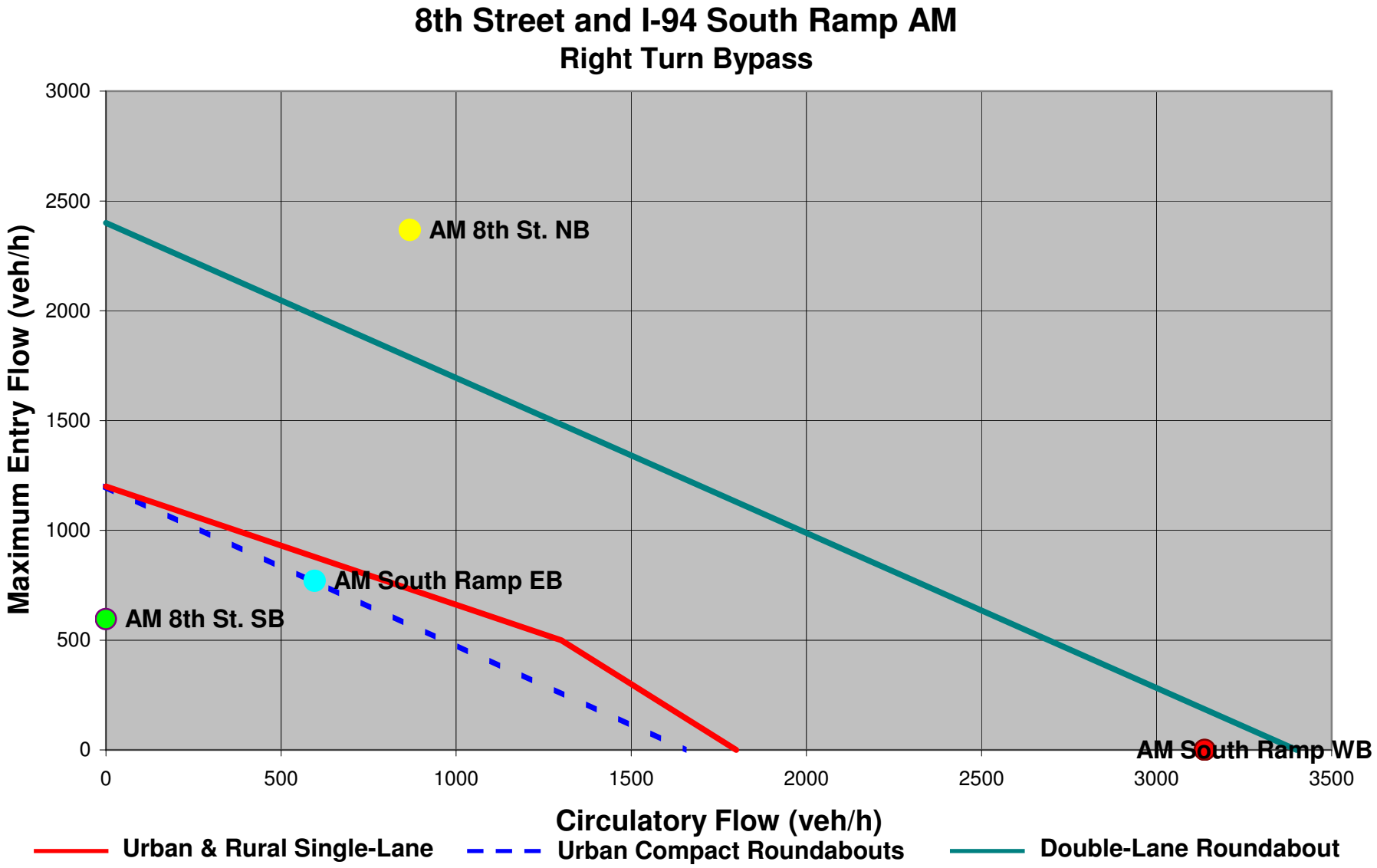

8th Street and 24th Avenue AM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
AM 8th St. NB
AM 8th St. SB
AM 24th Ave. EB
AM 24th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

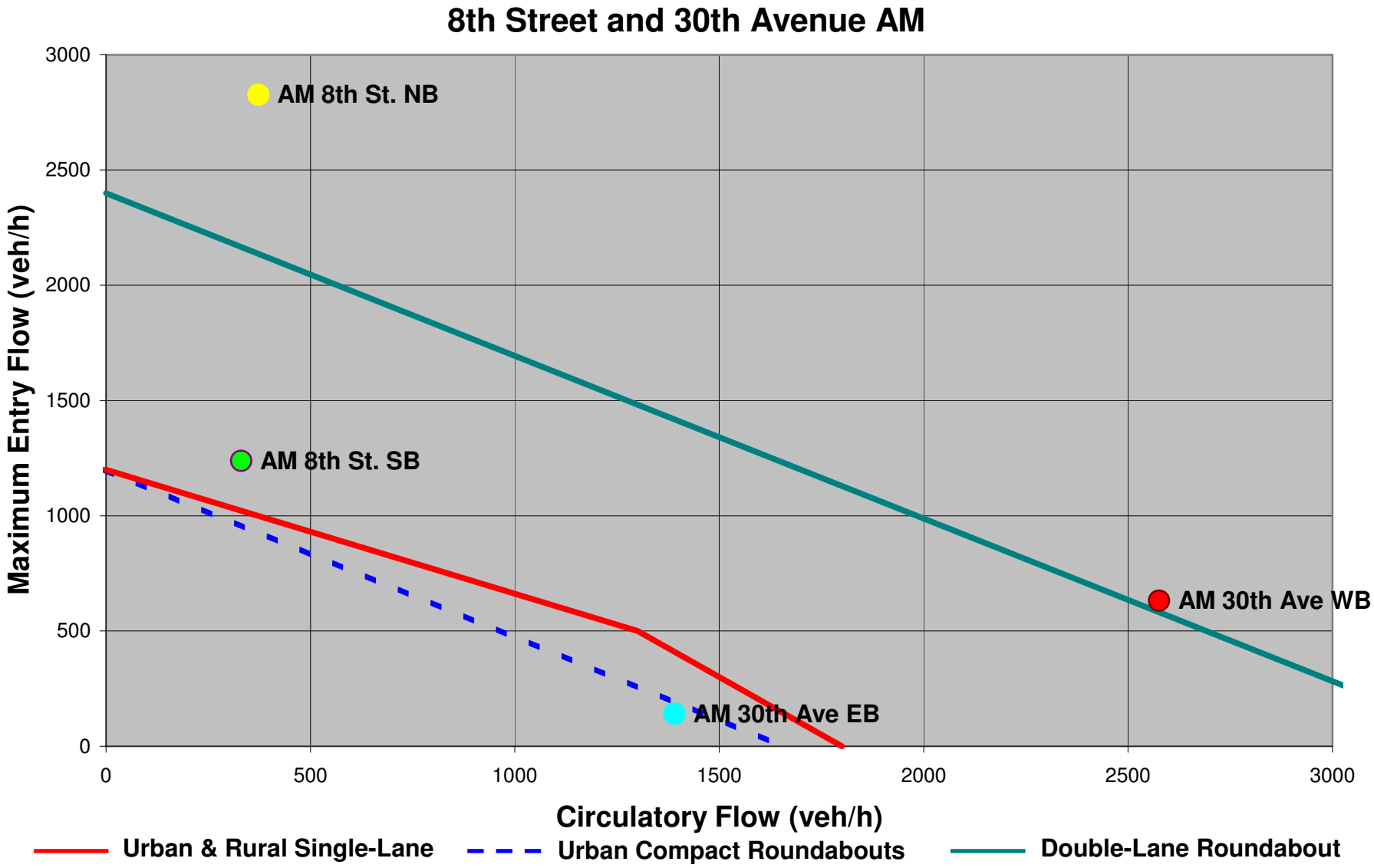

8th Street and 24th Avenue AM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
AM 8th St. NB
AM 8th St. SB
AM 24th Ave. EB
AM 24th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

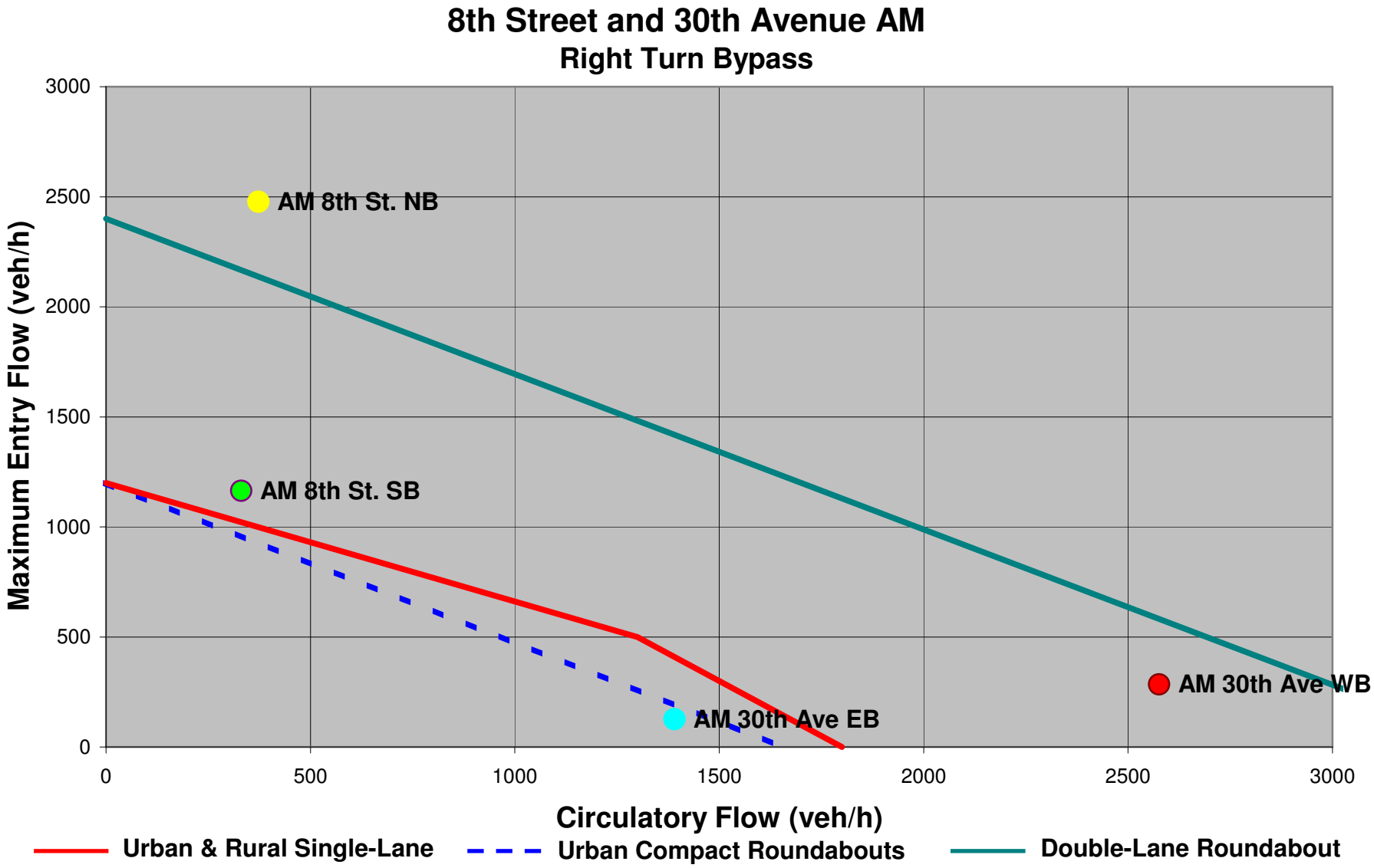

8th Street and I-94 North Ramp AM
Maximum Entry Flow (veh/h)
3500
3000
2500
2000
1500
1000
500
0
AM 8th St. NB
AM 8th St. SB
AM North Ramp WB
AM North Ramp EB
0
500
1000
1500
2000
2500
3000
3500
Circulatory Flow (veh/h)
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

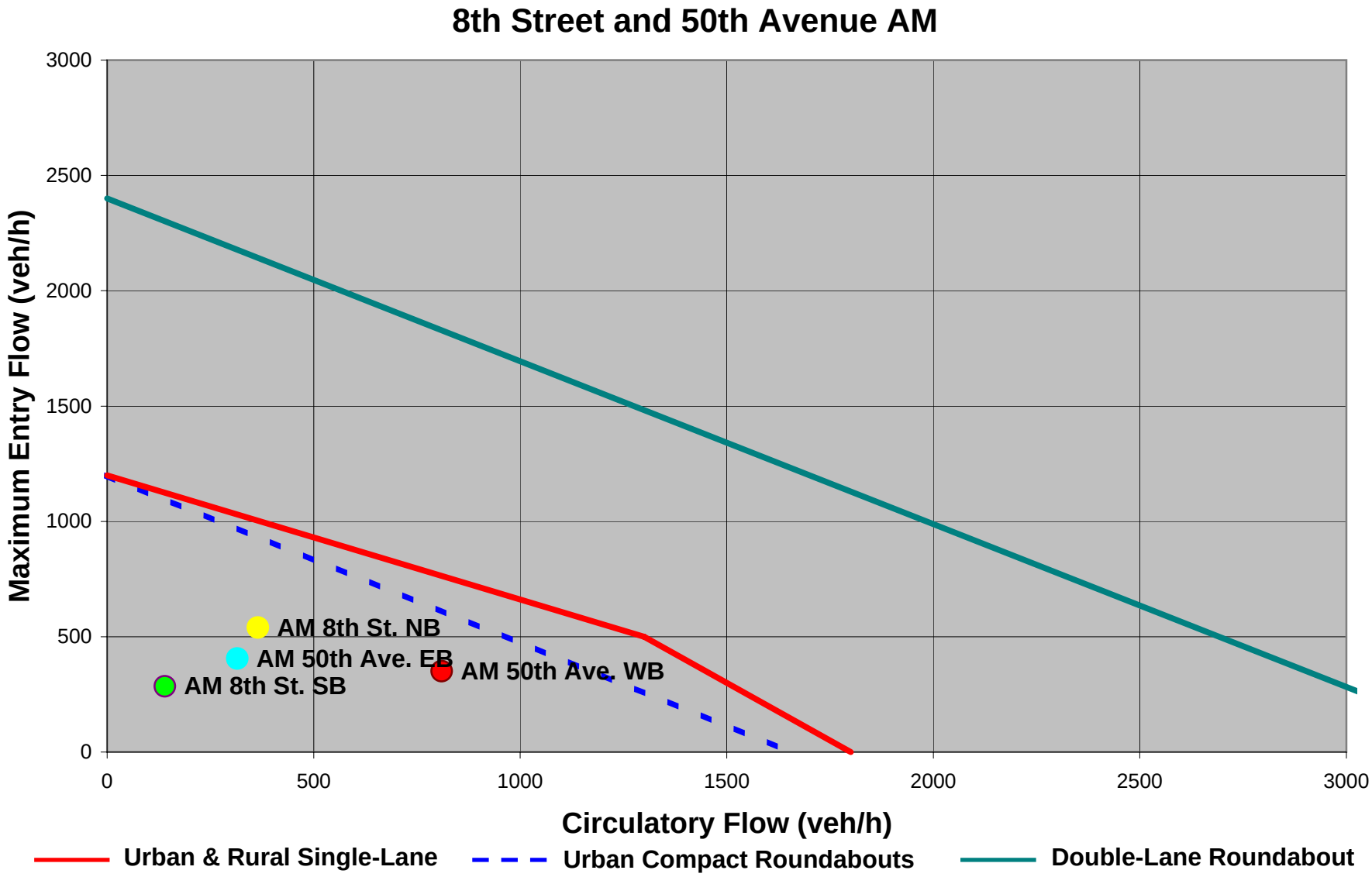

8th Street and I-94 North Ramp AM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3500
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
3500
Circulatory Flow (veh/h)
AM 8th St. NB
AM 8th St. SB
AM North Ramp EB
AM North Ramp WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

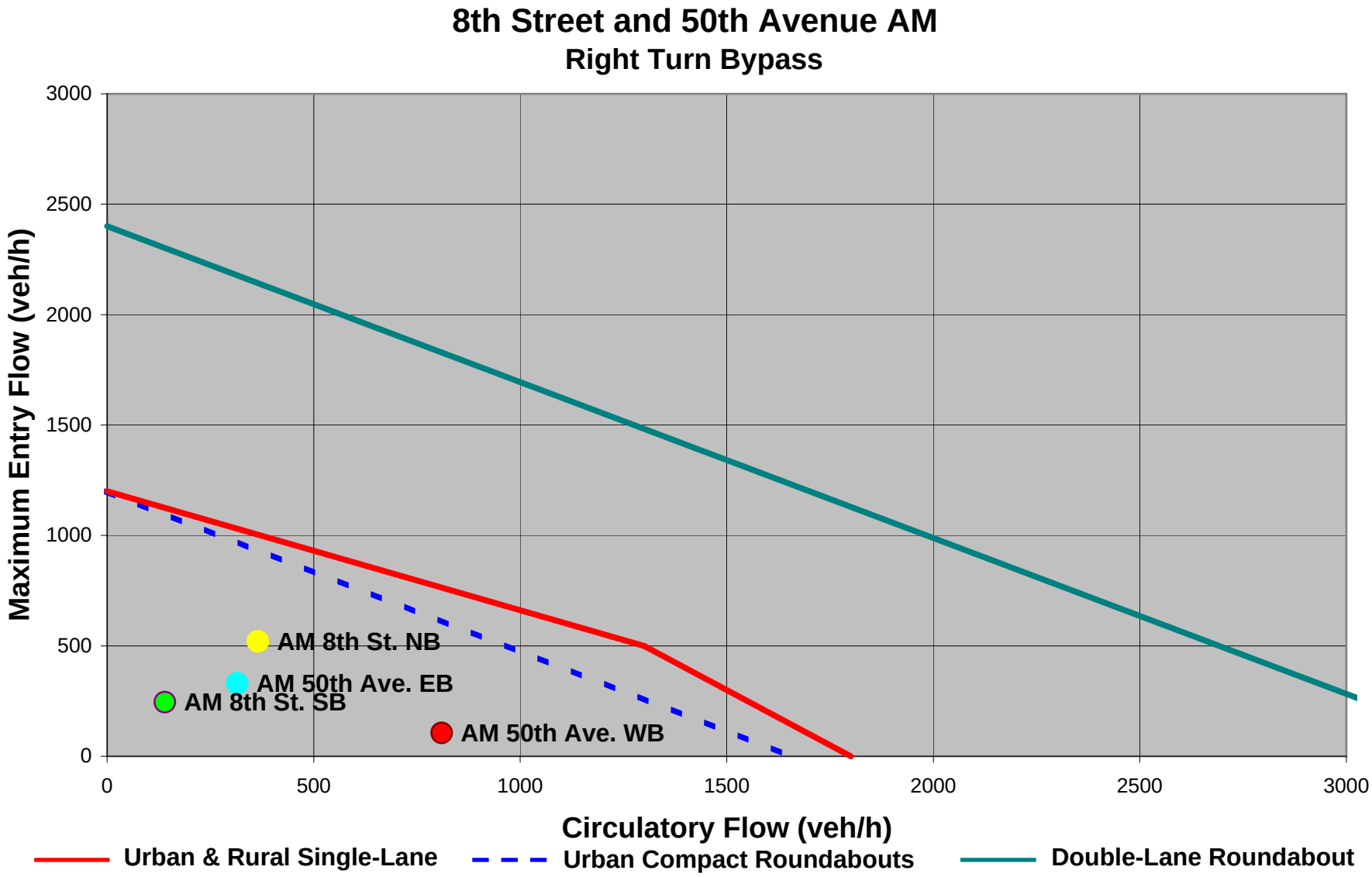

8th Street and I-94 South Ramp AM
Maximum Entry Flow (veh/h)
3500
3000
2500
2000
1500
1000
500
0
AM 8th St. NB
AM South Ramp EB
AM 8th St. SB
AM South Ramp WB
0
500
1000
1500
2000
2500
3000
3500
Circulatory Flow (veh/h)
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

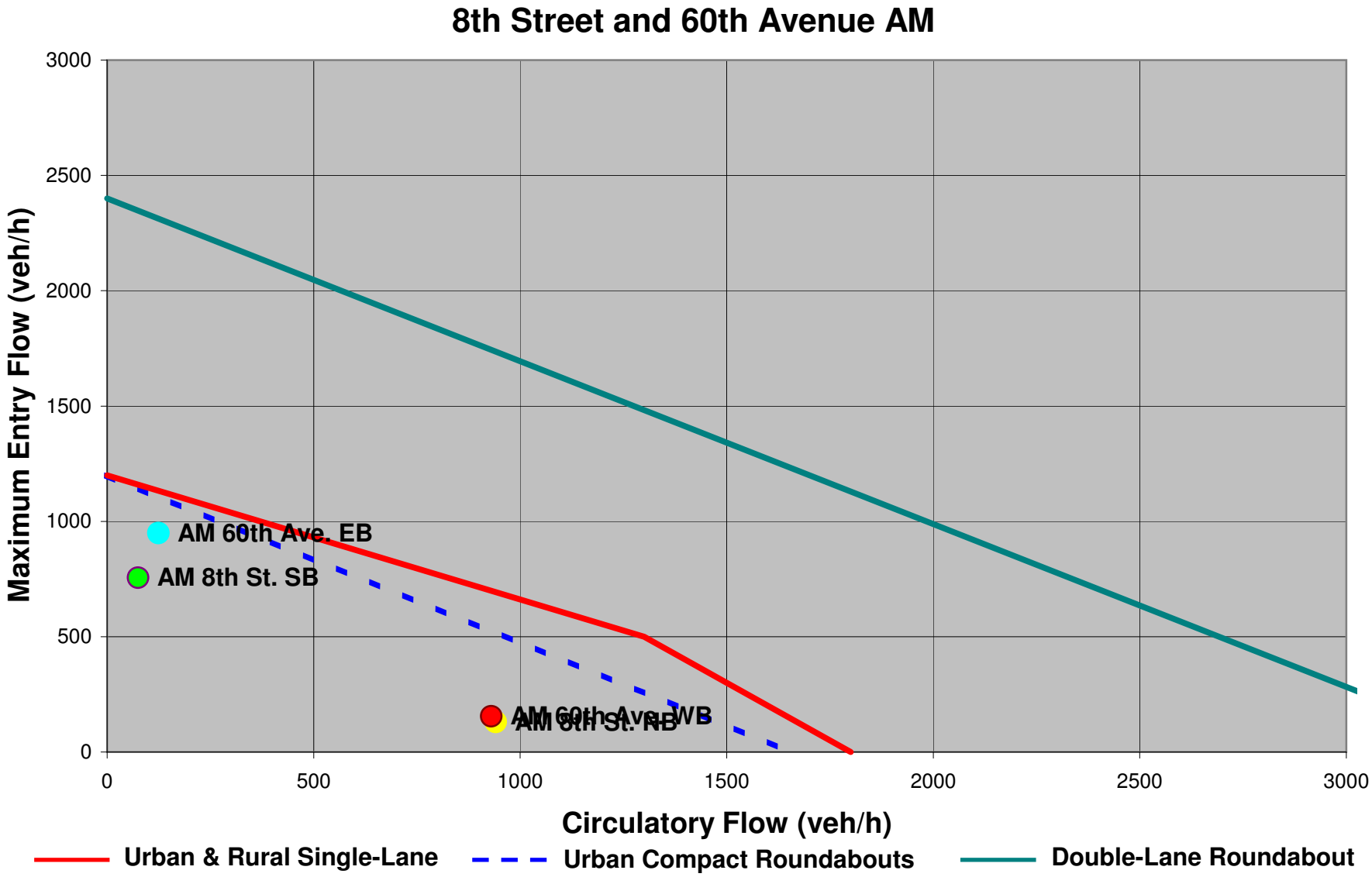

8th Street and I-94 South Ramp AM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
3500
Circulatory Flow (veh/h)
AM 8th St. NB
AM South Ramp EB
AM 8th St. SB
AM South Ramp WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

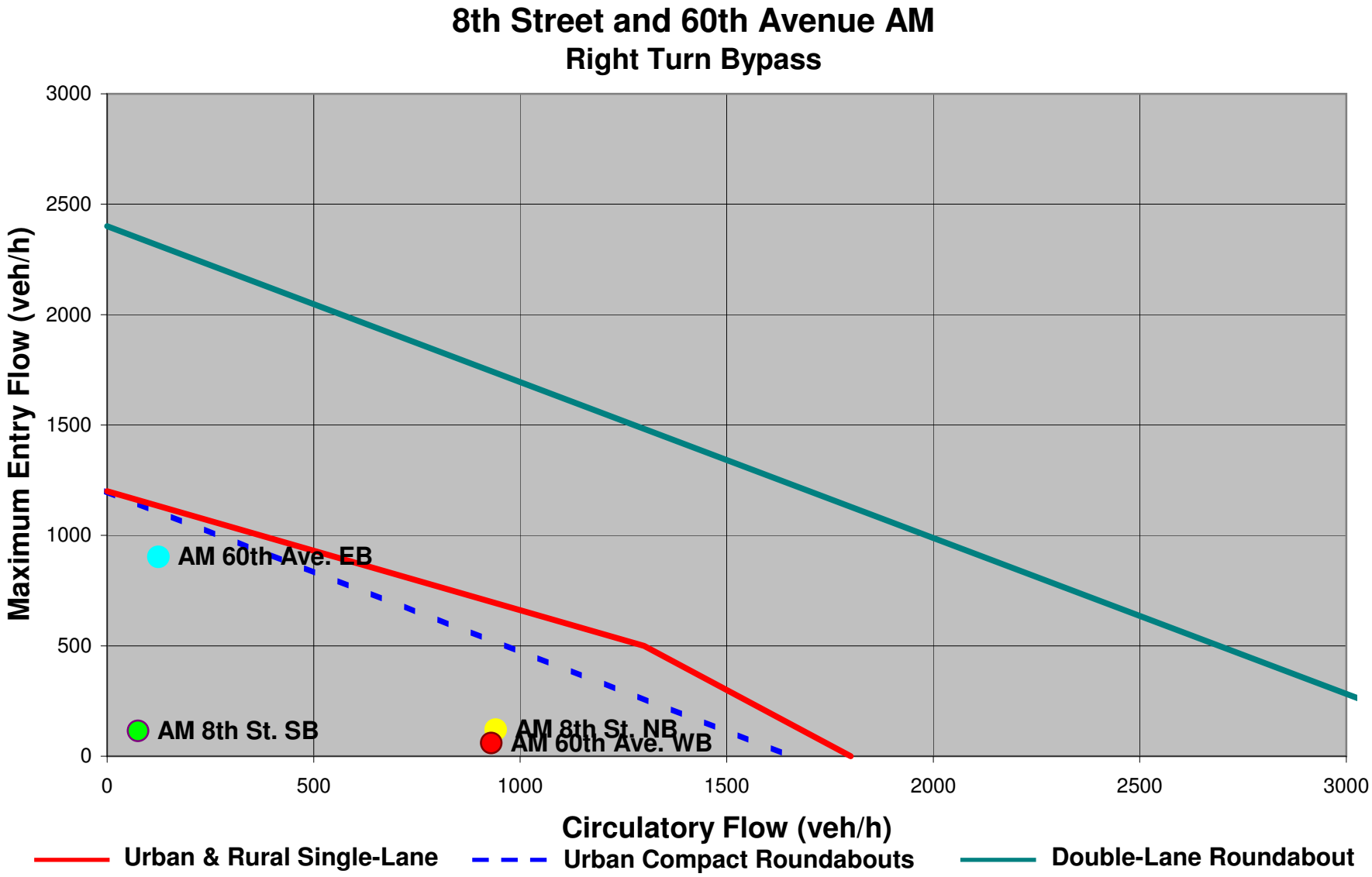

8th Street and 30th Avenue AM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
AM 8th St. NB
AM 8th St. SB
AM 30th Ave EB
AM 30th Ave WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

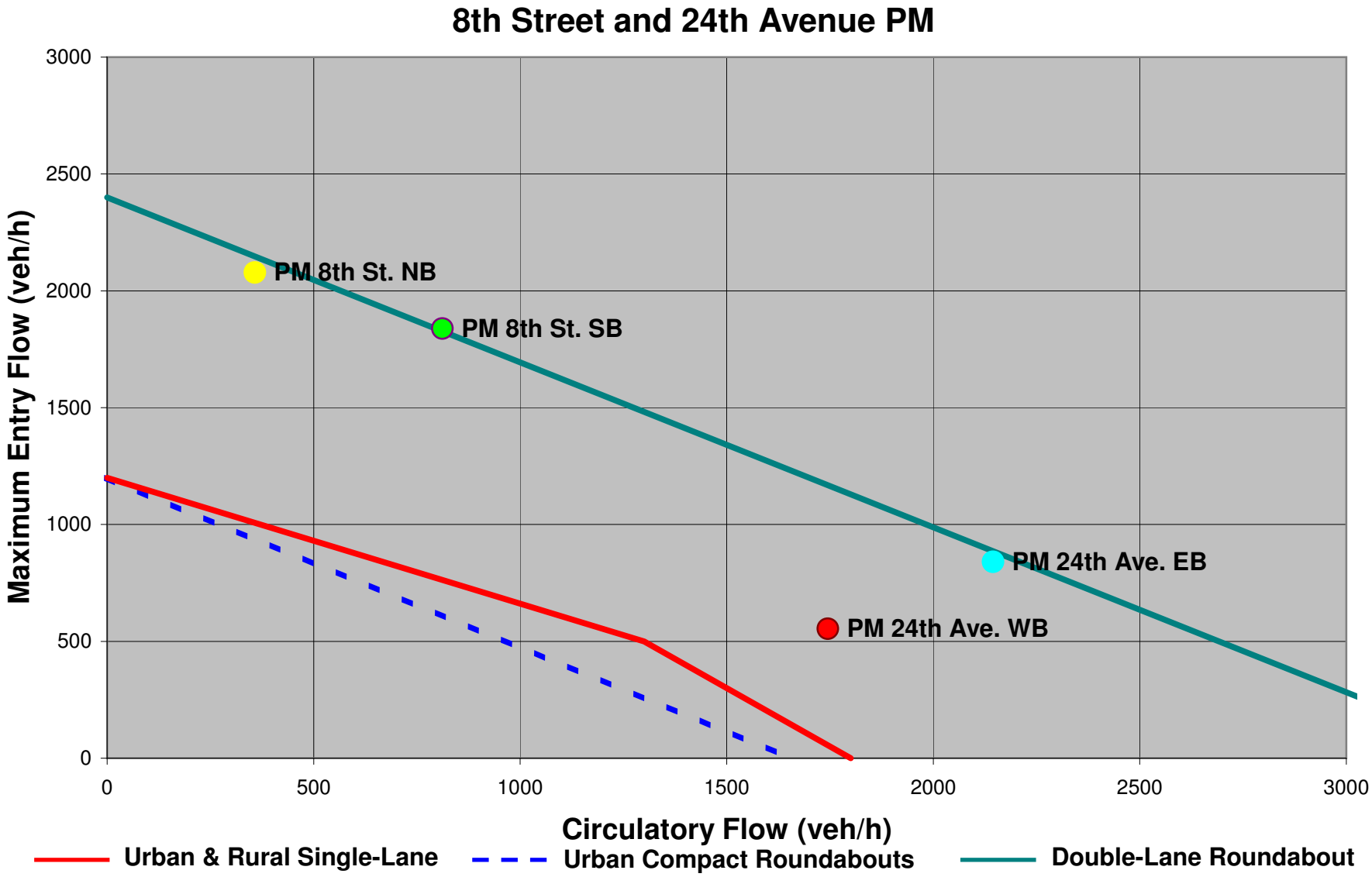

8th Street and 30th Avenue AM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
AM 8th St. NB
AM 8th St. SB
AM 30th Ave EB
AM 30th Ave WB
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

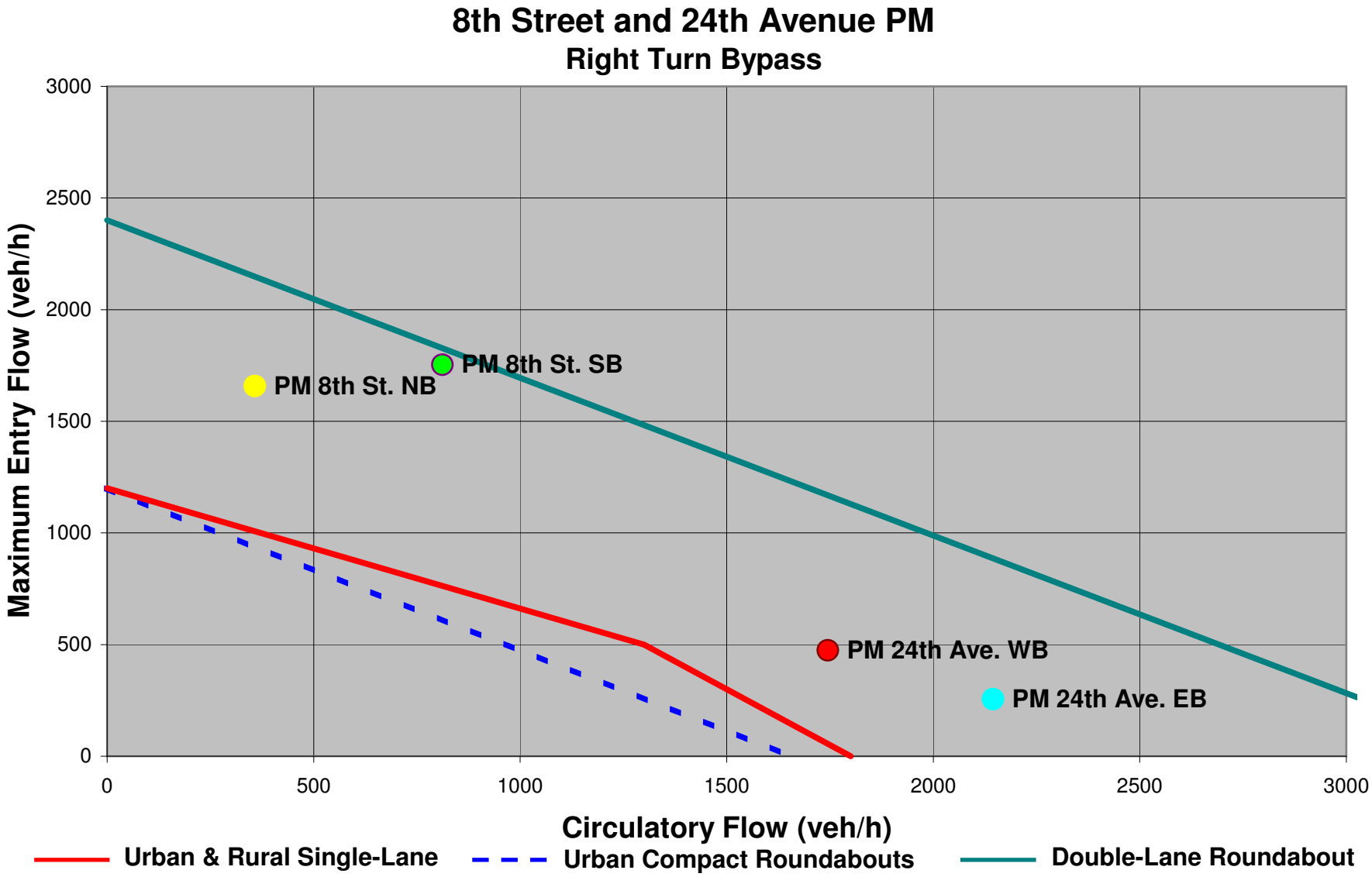

8th Street and 50th Avenue AM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
AM 8th St. NB
AM 50th Ave. EB
AM 50th Ave. WB
AM 8th St. SB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

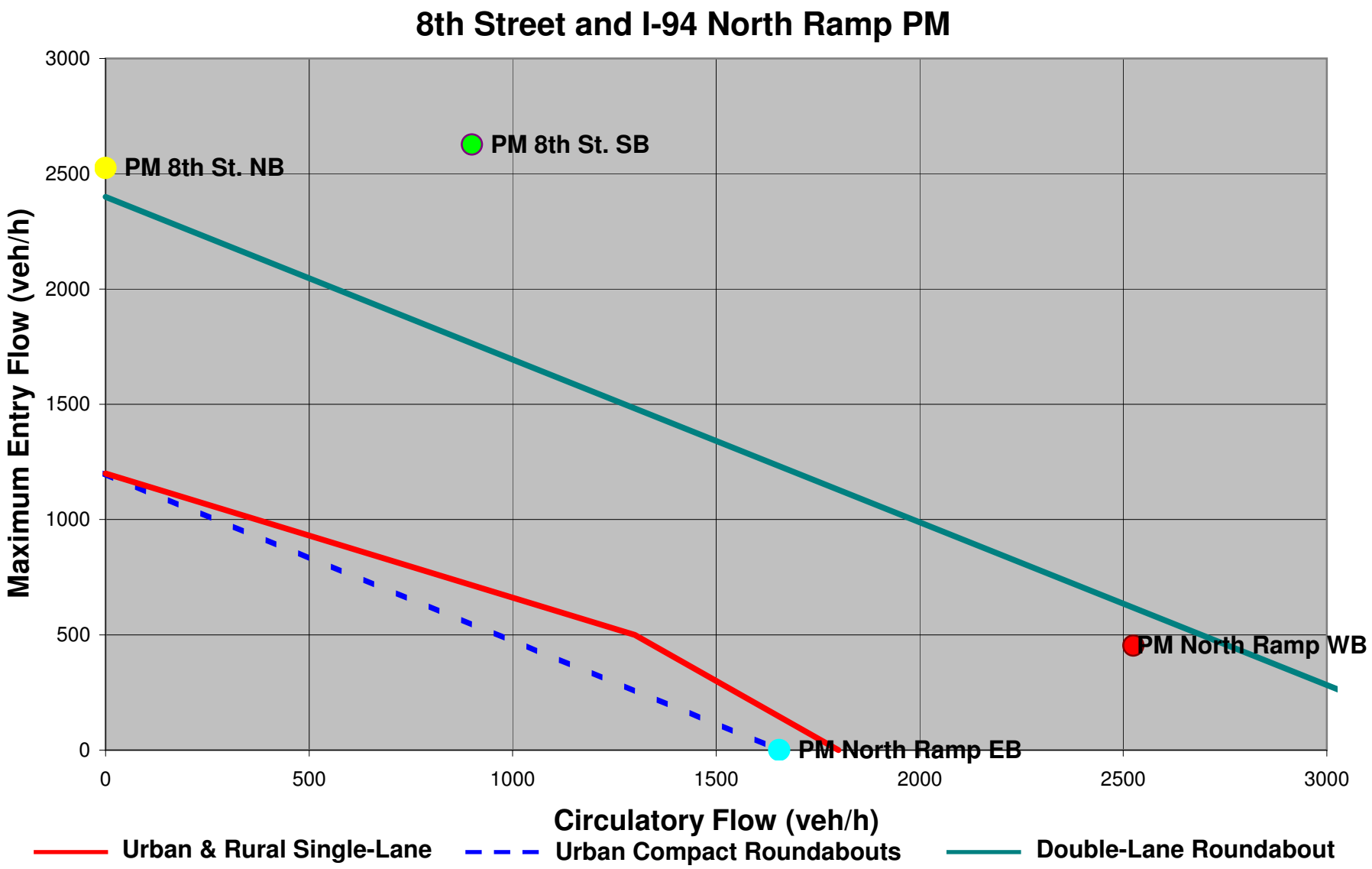

8th Street and 50th Avenue AM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
AM 8th St. NB
AM 50th Ave. EB
AM 8th St. SB
AM 50th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

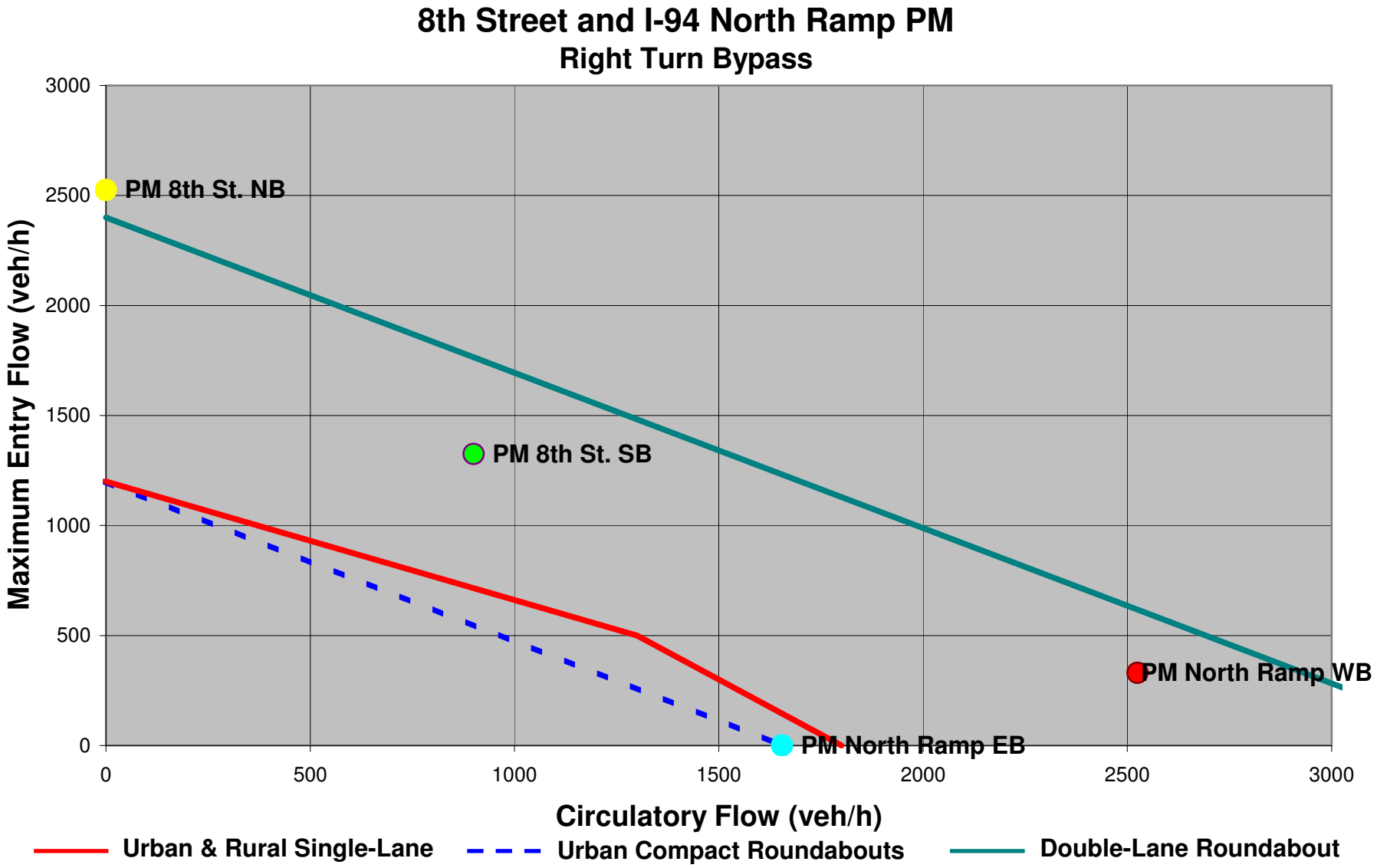

8th Street and 60th Avenue AM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
AM 60th Ave. EB
AM 8th St. SB
AM 60th Ave. WB
AM 8th St. NB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

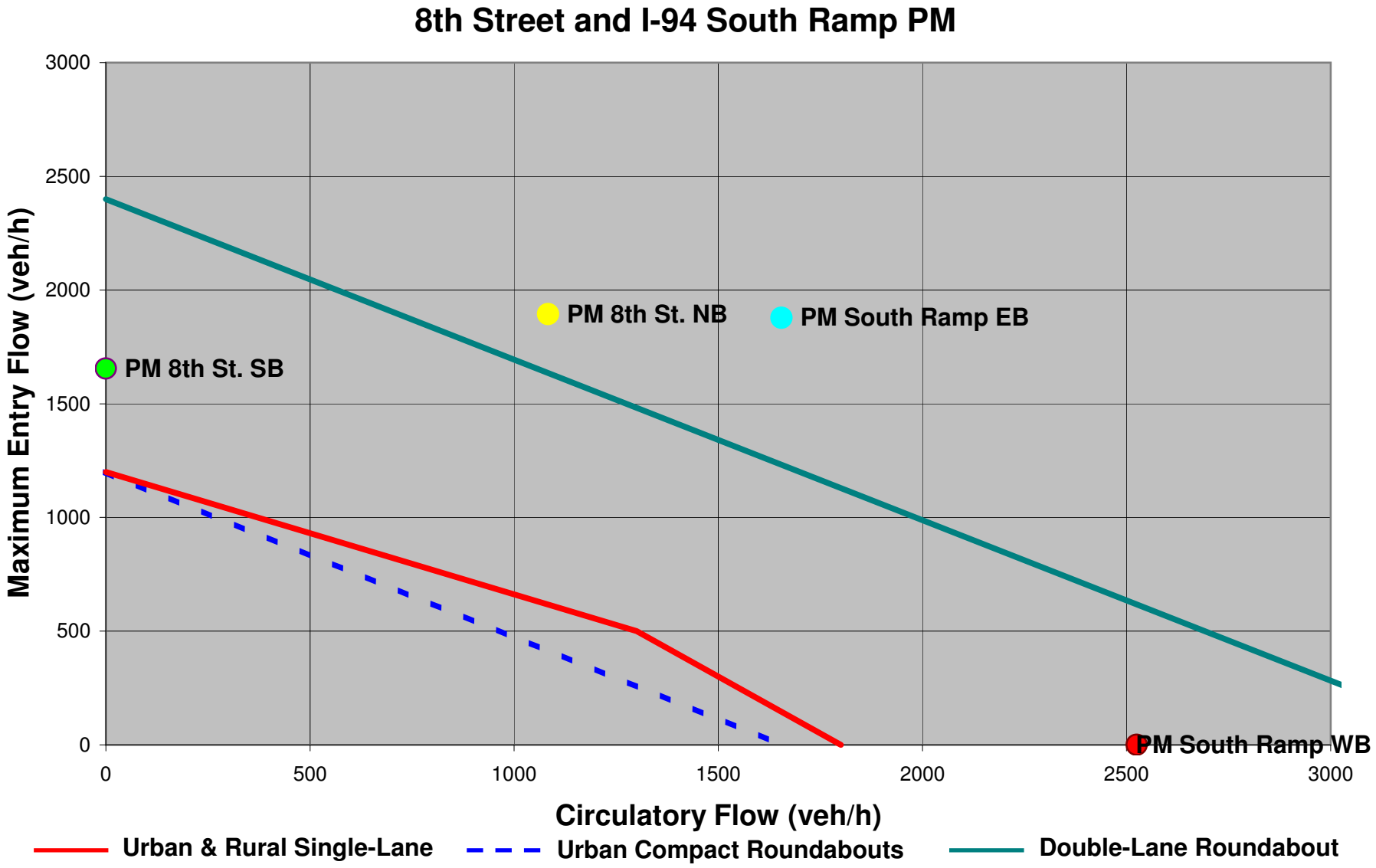

8th Street and 60th Avenue AM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
AM 60th Ave. EB
AM 8th St. SB
AM 8th St. NB
AM 60th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

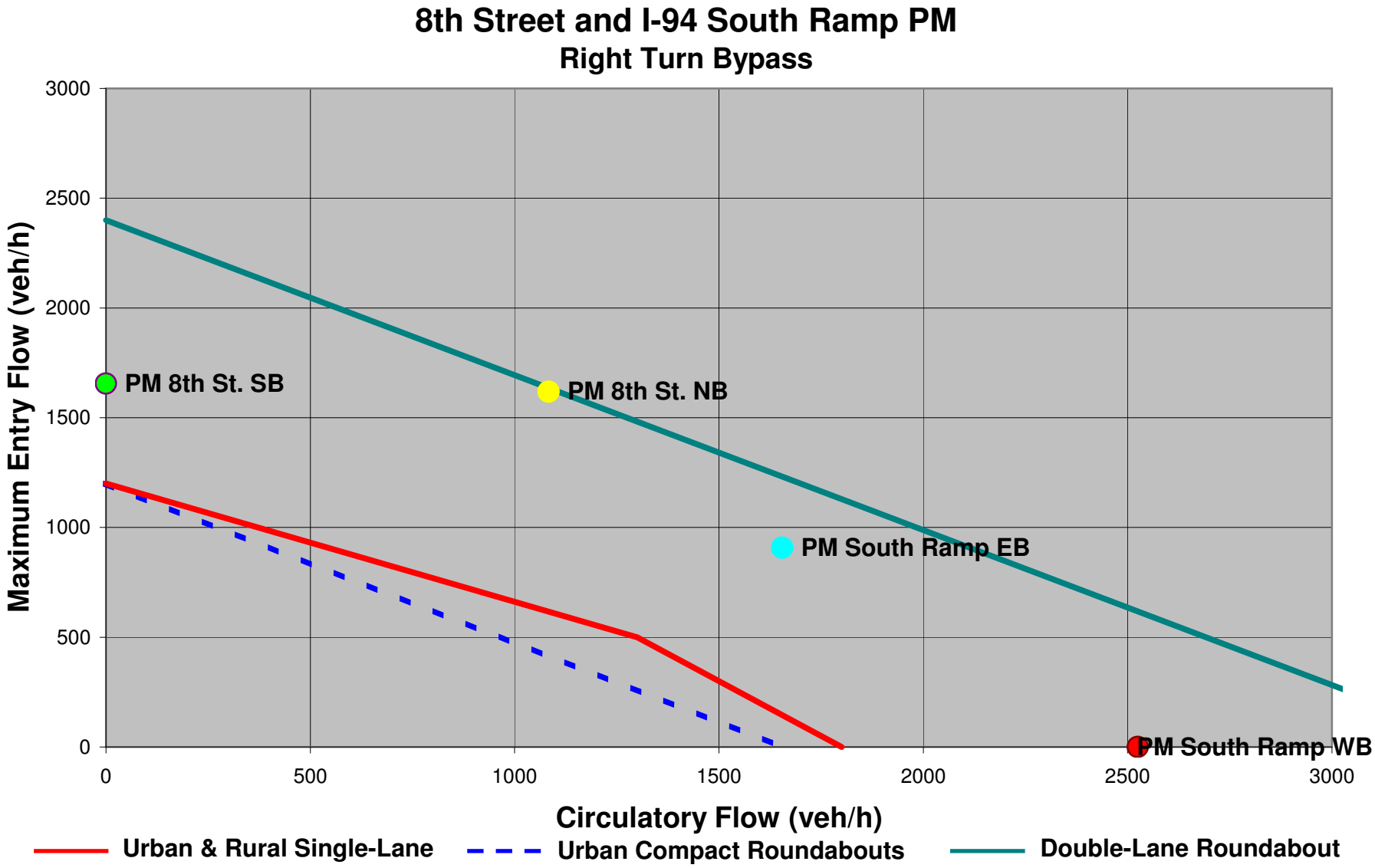

8th Street and 24th Avenue PM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. NB
PM 8th St. SB
PM 24th Ave. EB
PM 24th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

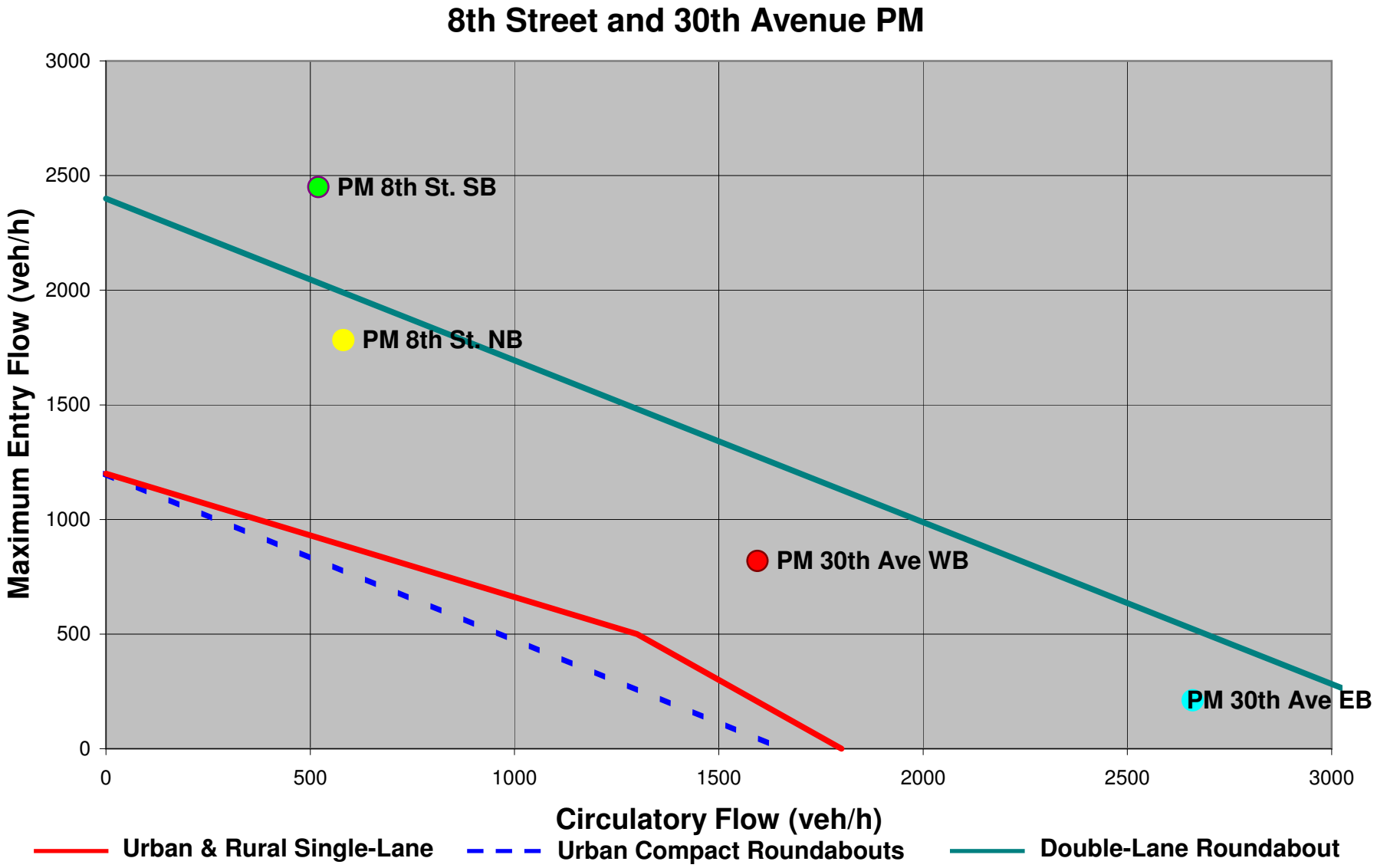

8th Street and 24th Avenue PM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. NB
PM 8th St. SB
PM 24th Ave. WB
PM 24th Ave. EB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

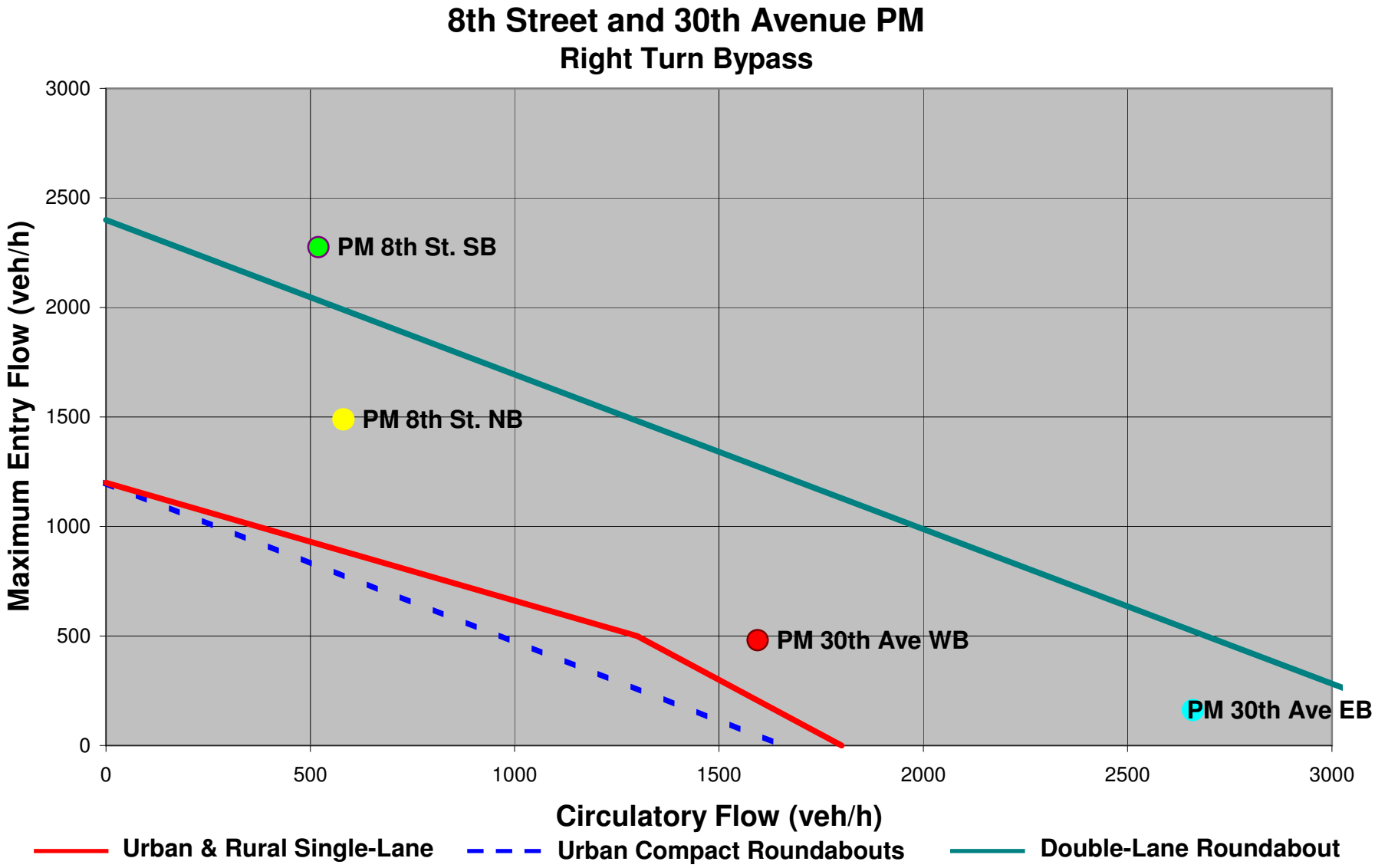

8th Street and I-94 North Ramp PM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. NB
PM 8th St. SB
PM North Ramp WB
PM North Ramp EB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

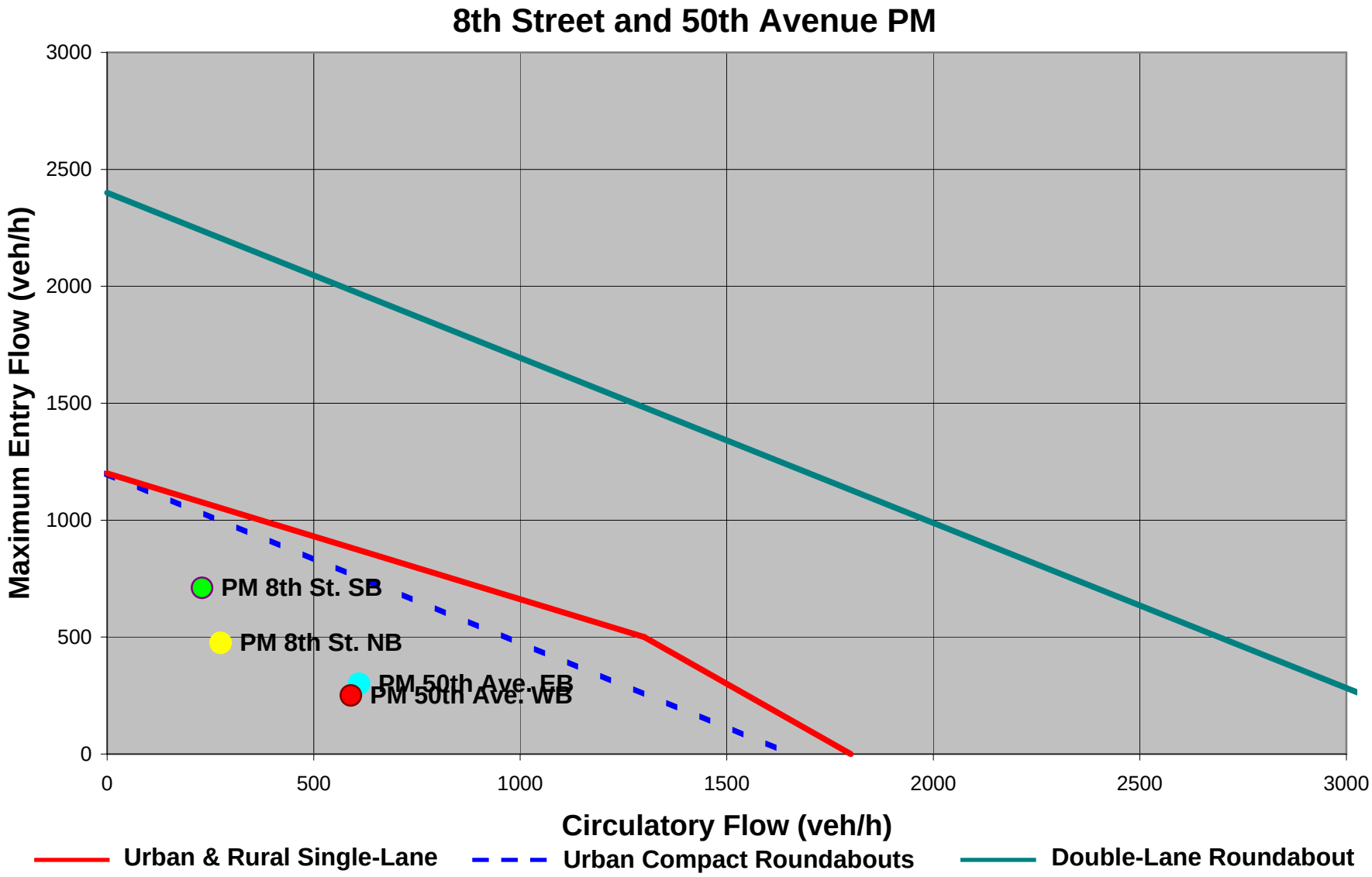

8th Street and I-94 North Ramp PM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. NB
PM 8th St. SB
PM North Ramp WB
PM North Ramp EB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

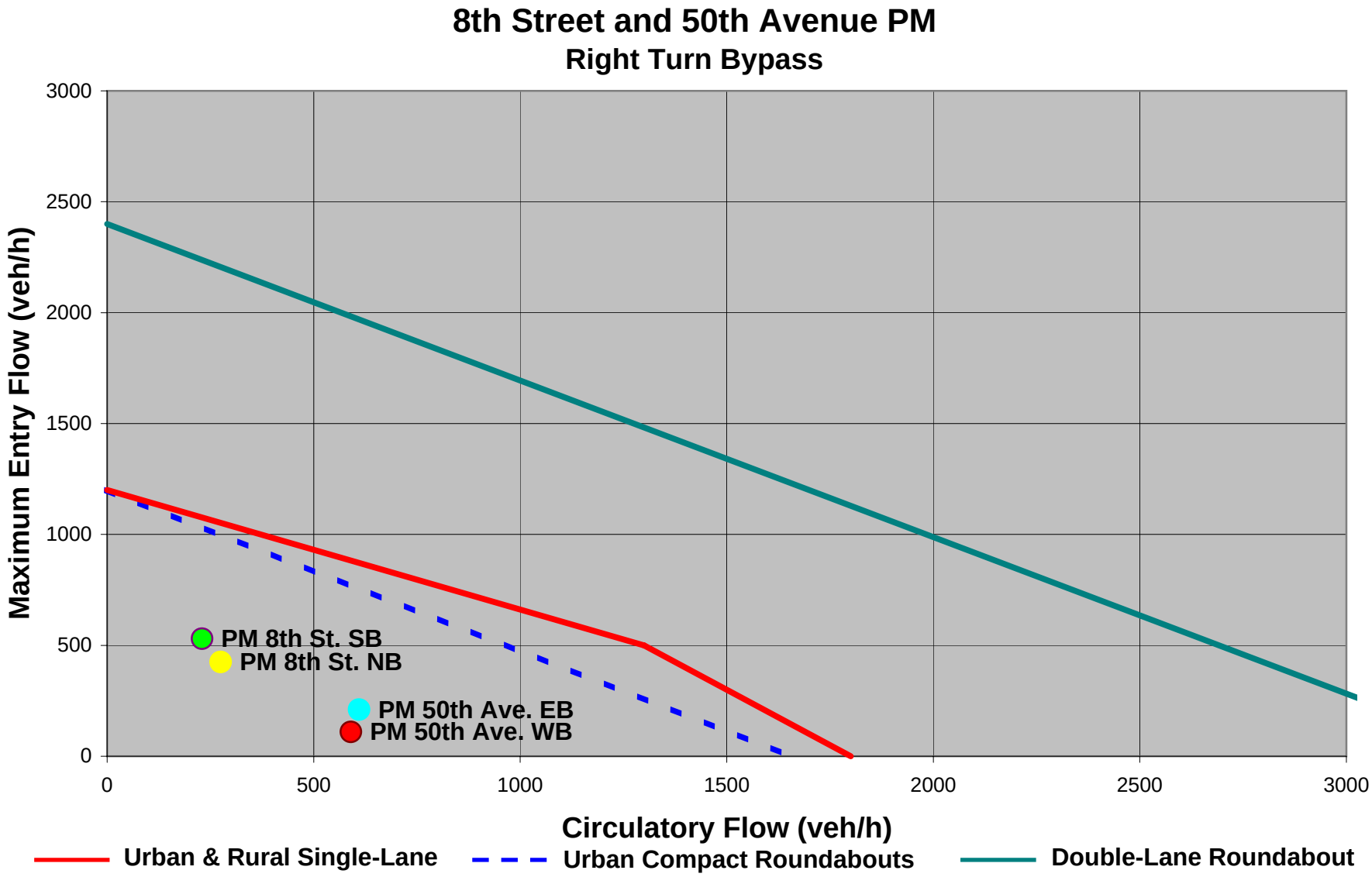

8th Street and I-94 South Ramp PM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. NB
PM South Ramp EB
PM 8th St. SB
PM South Ramp WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

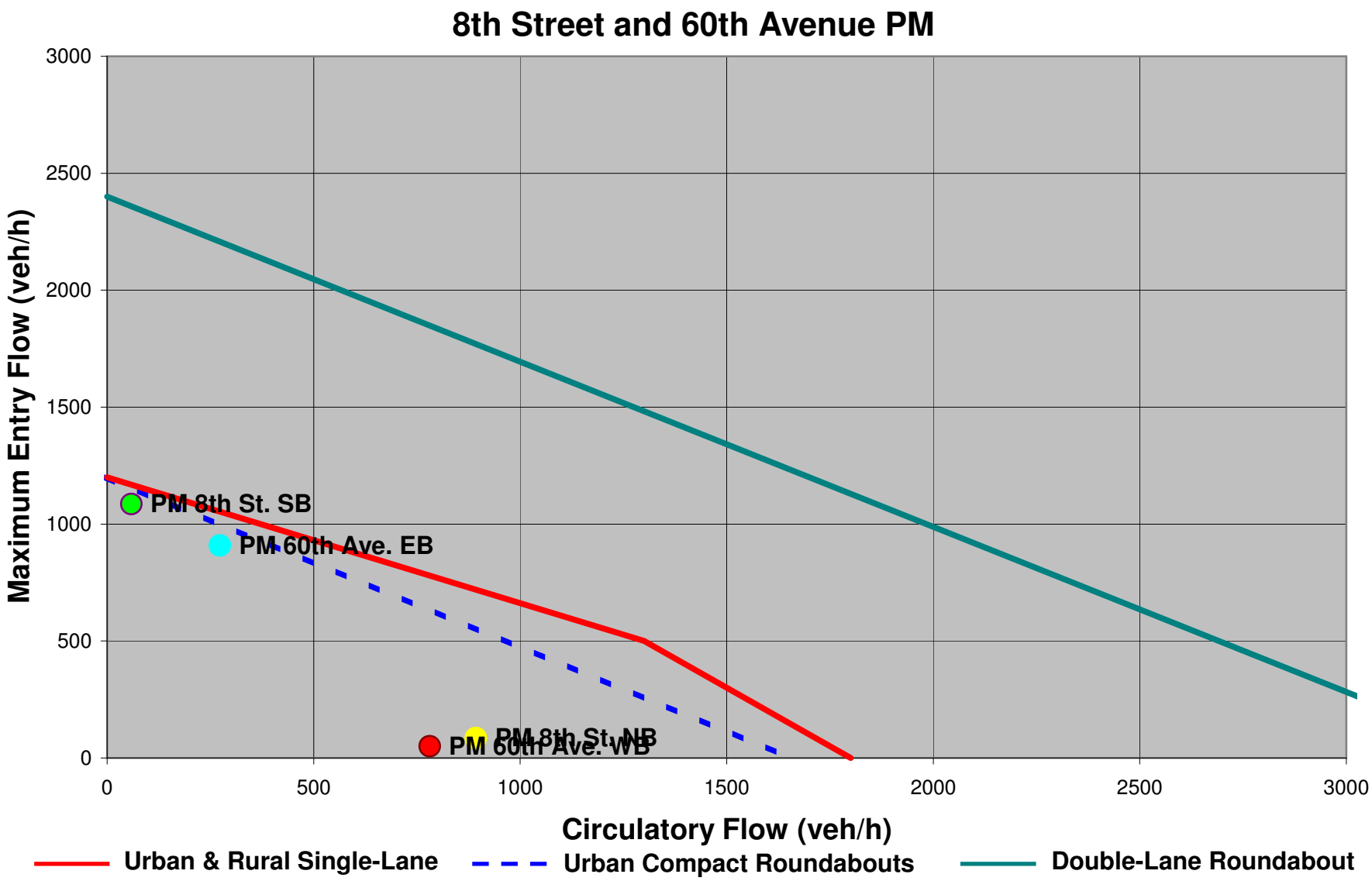

8th Street and I-94 South Ramp PM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. SB
PM 8th St. NB
PM South Ramp EB
PM South Ramp WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

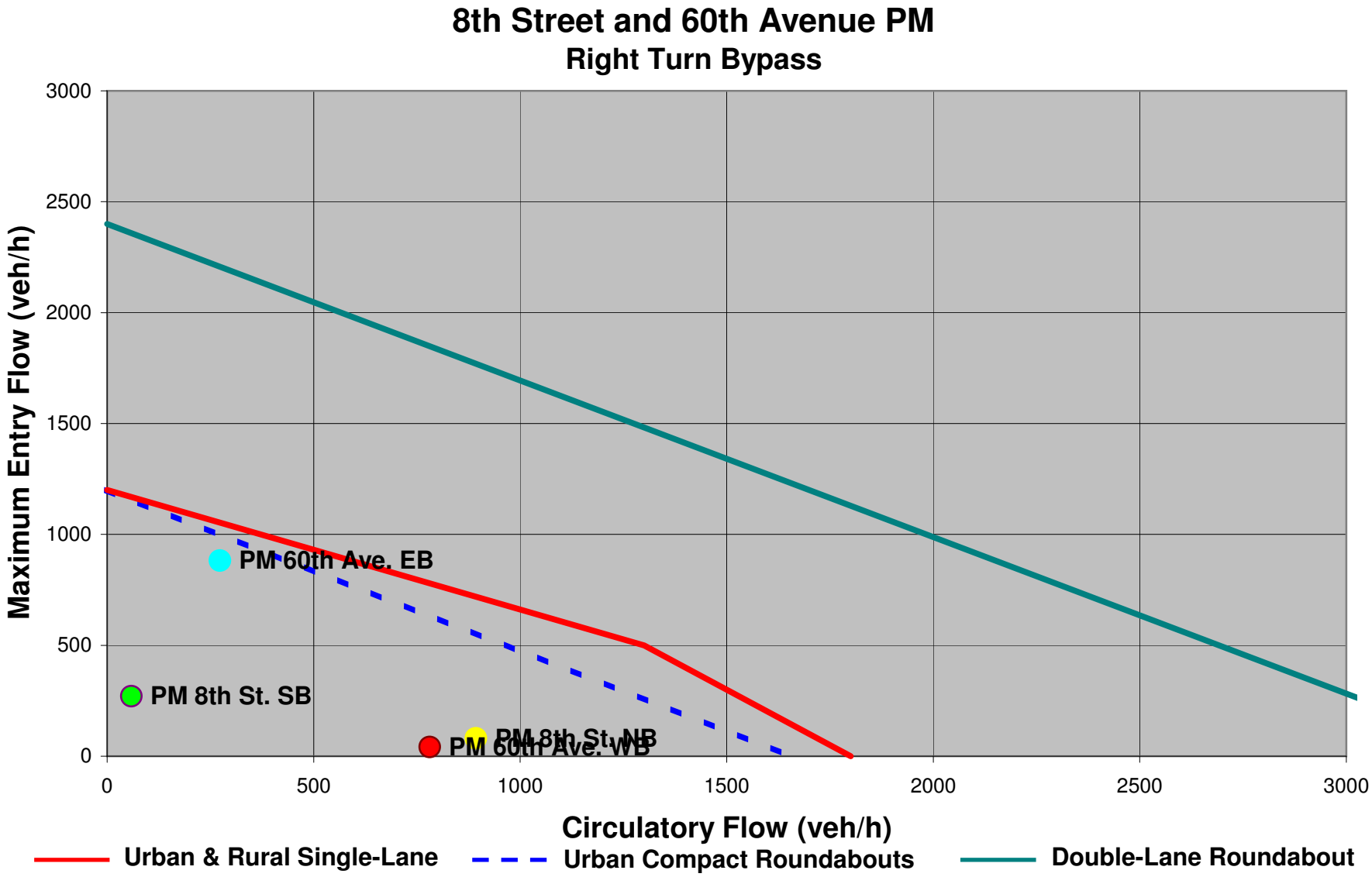

8th Street and 30th Avenue PM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. SB
PM 8th St. NB
PM 30th Ave WB
PM 30th Ave EB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout


8th Street and 30th Avenue PM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. SB
PM 8th St. NB
PM 30th Ave WB
PM 30th Ave EB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout


8th Street and 50th Avenue PM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. SB
PM 8th St. NB
PM 50th Ave. EB
PM 50th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout


8th Street and 50th Avenue PM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. SB
PM 8th St. NB
PM 50th Ave. EB
PM 50th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout


8th Street and 60th Avenue PM
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 8th St. SB
PM 60th Ave. EB
PM 8th St. NB
PM 60th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout


8th Street and 60th Avenue PM
Right Turn Bypass
Maximum Entry Flow (veh/h)
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Circulatory Flow (veh/h)
PM 60th Ave. EB
PM 8th St. SB
PM 8th St. NB
PM 60th Ave. WB
Urban & Rural Single-Lane
Urban Compact Roundabouts
Double-Lane Roundabout

SRF CONSULTING GROUP, INC.
ENGINEERS | PLANNERS | DESIGNERS

MINNEAPOLIS
FARGO
MADISON

SRF No. 0065728

MEMORANDUM

TO: Rick Lane, P.E. Principal

FROM: Todd Polum, P.E., PTOE, Senior Associate
Matthew Pacyna, Engineer

DATE: November 30, 2007

SUBJECT: TRUNK HIGHWAY 75 & 20TH STREET INTERCHANGE FREEWAY OPERATIONS

INTRODUCTION

As requested, we have completed a freeway operations analysis for the Trunk Highway 75 (TH 75) and 20th Street interchanges in Moorhead, MN. This operations analysis was conducted to provide input for geometric design decisions required for future freeway planning. The purpose of the analysis is to determine how the existing freeway network operates today and determine if the proposed roadway improvements are sufficient to accommodate future (interim) build conditions. This study includes a freeway operations analysis during the a.m. and p.m. peak hours for existing and interim year build conditions.

The recent growth that has occurred within the study area has outpaced the projections that were used to develop the 2030 growth scenario in the 2004 Metropolitan Transportation Plan. As a result, it was important for the traffic projections used in this study to reflect a higher level of growth. This higher level of growth has been called the interim year growth scenario. There is no exact year assigned to the interim year scenario. It is based on job and household projections that were derived from the Moorhead GAP/AUAR. To see the exact socioeconomic data used to develop the interim year scenario, refer to the Technical Memo to the Study Review Committee from Cindy Gray with SRF Consulting Group, Inc. dated September 5, 2006.

EXISTING CONDITIONS

Existing freeway volumes were developed using a combination of previously completed analysis (*34th Street CORSIM Analysis*) as well as turning movement counts that were colleted during the a.m. and p.m. peak hours at the key ramp intersections by LJR in May 2006. These volumes were balanced to reconcile for any differences between the two sets of data.

To determine how the existing freeway network currently operates, an operations analysis was conducted for the a.m. and p.m. peak hours. CORSIM was used to analyze the freeway operations. Interchanges that were analyzed as part of the CORSIM model include University Drive, TH 75, 20th Street, the I-94 Rest Stop, and SE Main Avenue. Capacity analysis results identify a Level of Service (LOS) that indicates how well an individual freeway segment is operating. These segments are given a ranking from LOS A through LOS F. The LOS results are based on the average density of a segment of freeway. Density is represented by the amount of passenger cars per mile per lane. LOS A indicates the best traffic operation and LOS F indicates an intersection where demand exceeds capacity. LOS A through C are generally considered acceptable by drivers.

Results of the existing a.m. and p.m. peak hour freeway operations analysis shown in Figure 1 and Figure 2 in the Appendix indicate that all segments of I-94 in both the eastbound and westbound directions will operate at an acceptable LOS B or better. There are no major queuing issues that were observed.

INTERIM BUILD TRAFFIC FORECASTS

Traffic forecasts (with updated socio-economic data and recommended network configuration) were provided by the Advanced Traffic Analysis Center (ATAC) for interim year conditions at the key ramp intersections. These forecasts were used to develop interim year build turning movement volumes at the key ramp intersections as part of the *TH 75 and 20th Street Corridor Traffic Study* completed by SRF in June, 2007. These turning movements were compared with Average Daily Traffic (ADT) volumes provided by COG, and the previously completed *34th Street CORSIM analysis* to determine the interim build freeway volumes.

INTERIM BUILD CONDITIONS

Under the interim build conditions, the interchanges at TH 75 and 20th Street are proposed to be reconstructed to accommodate the interim build volumes. The detailed concept layouts for both of the interchanges are shown in the Appendix. Volumes from the *TH 75 and 20th Street Corridor Study* were modified to reflect the changes to the roadway network based on the interchange concepts.

Results of the interim a.m. and p.m. build peak hour freeway operations analysis shown in Figure 3 and Figure 4 in the Appendix indicate that all segments are expected to operate at an acceptable LOS D or better with the exception of the eastbound direction during the p.m. peak hour. The segments that are failing are in the eastbound direction west of the eastbound off ramp for southbound TH 75. These segments are failing due to the high volume that must travel within the two eastbound lanes at the point where the auxiliary lane exits into the TH 75 exit ramp.

To improve the eastbound p.m. peak hour operations to an acceptable LOS, the auxiliary lane should be extended through the TH 75 exit ramp and exit to the loop ramp for northbound TH 75. This will prevent vehicles exiting at the loop ramp for northbound TH 75 from having to weave into the center lane west of the eastbound off ramp for southbound TH 75. With this improvement, results of the freeway operations analysis shown in Figure 5 and Figure 6 in the Appendix indicate that all segments are expected to operate at an acceptable LOS C or better.

Appendix

I-94 Westbound

SPEED (MPH)			67.9	67.8	67.5	65.9	66.6	66.7	64.8	66.5	65.7	62.6	66.8	66.9	66.5	61.5	68.1	68.0	68.4	68.3		
LOS			B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A		
DENSITY (VEH/LN/MI)			12.9	13	13.1	15.5	16.5	16.5	16.9	16.7	17.2	16.3	14.7	14.7	14.7	13.3	9	9.2	9.9	10		
DISTANCE (FEET)	MAIN		1509	1053	871	1502	1094	1076	1520	2570	1497	1551	1423	1409	1431	1505	904	1501	2000	1995		
LOCATION						University Drive Exit				8th St S Ent		8th St S Exit			20th St S Ent				SE Main Ave Ent		SE Main Ave Exit				
NODE			789	786	783	780	777	774	771	768		765	762		759	756	753	750	745		740	735	730	725		
FREEWAY GEOMETRICS																									

I-94 Eastbound

FREEWAY GEOMETRICS																							
NODE		505	508	511		514	517	520	523	526		529	532	535	538	541		544	547	550		555	560	565	570
LOCATION				University Drive Loop Ent		University Drive Ent				8th St S Exit		8th St S Ent		20th St S Exit		Rest Stop Off Ramp		Rest Stop On Ramp		SE Main Ave Exit		SE Main Ave Ent			
DISTANCE (FEET)	MAIN	1487	1064	1076	1494	1182	1173	1502	2520	1301	1323	711	1502	1425	1107	1120	1392	1503	1556	1556					
DENSITY (VEH/LN/MI)		9.1	8.9	8.2	9.2	10.4	10.5	10	7.6	8.7	9.6	7.6	7	7.5	5.1	5.1	3.4	3.2	3.7	3.7					
LOS		A	A	A	A	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A					
SPEED (MPH)		68.5	69.0	67.9	67.6	68.1	67.4	65.9	67.1	65.1	66.7	68.4	67.9	67.7	67.7	67.1	69.3	68.4	69.3	69.4					

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Existing Conditions - I-94 Mainline (AM Peak)

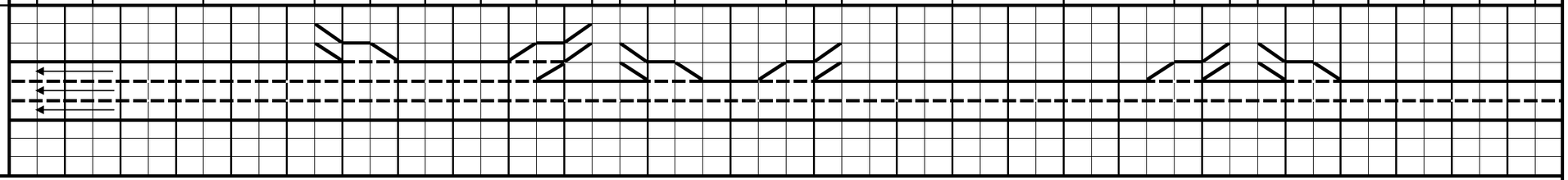
SRF # 5728

TH 75 and 20th Street CORSIM Analysis

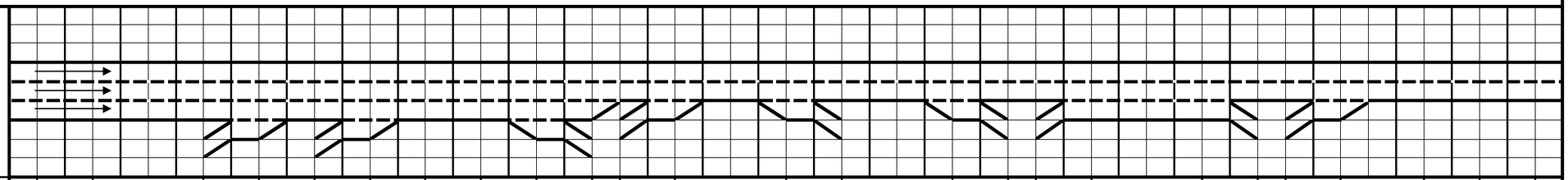
Minnesota Department of Transportation

Figure 1

I-94 Westbound

SPEED (MPH)			68.4	68.4	68.1	66.3	67.0	67.4	65.0	67.8	66.8	64.0	67.9	68.0	67.6	63.0	68.8	68.7	69.0	68.7		
LOS			B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A		
DENSITY (VEH/LN/MI)			11.4	11.5	11.5	14.1	15	14.9	15.5	12.3	13.3	12.6	10.9	10.9	10.9	9.8	6	6.3	6.7	6.8		
DISTANCE (FEET)	MAIN		1509	1053	871	1502	1094	1076	1520	2570	1497	1551	1423	1409	1431	1505	904	1501	2000	1995		
LOCATION						University Drive Exit				8th St S Ent		8th St S Exit			20th St S Ent				SE Main Ave Ent		SE Main Ave Exit				
NODE			789	786	783	780	777	774	771	768		765	762		759	756	753	750	745		740	735	730	725	
FREEWAY GEOMETRICS																								

I-94 Eastbound

FREEWAY GEOMETRICS																								
NODE			505	508	511		514	517	520	523	526		529	532	535	538	541		544	547	550		555	560	565	570	
LOCATION					University Drive Loop Ent		University Drive Ent				8th St S Exit		8th St S Ent		20th St S Exit		Rest Stop Off Ramp		Rest Stop On Ramp		SE Main Ave Exit		SE Main Ave Ent				
DISTANCE (FEET)	MAIN		1487	1064	1076		1494	1182	1173	1502	2520		1301	1323	711	1502	1425		1107	1120	1392		1503	1556	1556		
DENSITY (VEH/LN/MI)			14.4	14.2	13.6		17.2	19	19.3	18.8	16		16.7	18.2	14.8	13.8	14.7		10	16.5	8.2		7.7	9	8.9		
LOS			B	B	B		B	B	B	B	B		B	B	B	B	B		A	B	A		A	A	A		
SPEED (MPH)			68.0	68.0	65.9		63.6	65.2	64.3	61.6	62.1		61.1	63.5	65.8	65.6	65.1		64.7	38.8	67.6		66.4	67.6	67.9		

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Existing Conditions - I-94 Mainline (PM Peak)

SRF # 5728

TH 75 and 20th Street CORSIM Analysis

Minnesota Department of Transportation

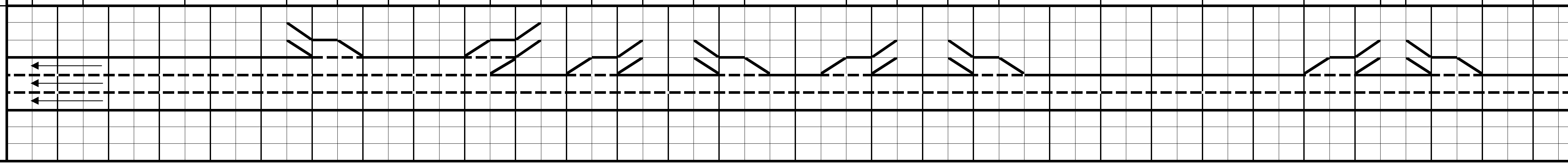
Figure 2

I-94 Westbound

SPEED (MPH)	LOS	DENSITY (VEH/LN/MI)	DISTANCE (FEET) MAIN
67.8	B	14.8	1506
67.8	B	14.7	1055
67.5	B	14.8	870
65.8	B	17.3	1510
66.3	B	19.1	1078
66.3	B	19.1	1109
63.5	B	19.9	1500
60.8	B	18.8	1467
66.6	B	14.4	1513
64.2	B	16.2	1323
58.2	B	17.3	1311
67.0	B	12.5	1079
67.2	B	12.5	1071
65.8	B	14.7	1503
66.3	B	17	1319
65.9	B	17.1	1312
58.8	B	16	1509
68.2	A	10	1773
68.2	A	9.4	1498
67.7	B	11.3	1104

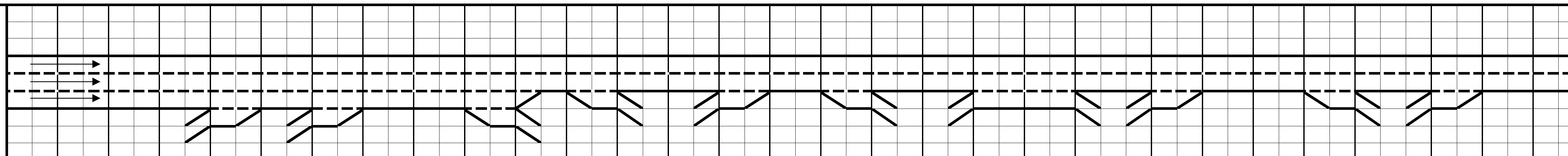
NODE	LOCATION
792	
789	
786	
783	University Drive Exit
780	
777	
774	
771	8th St Ent
768	8th St Loop Ent
765	8th St Exit
762	
759	20th St Ent
756	
753	20th St Exit
750	
745	
740	
735	34th Street Ent
730	34th Street Exit
728	
725	

FREEWAY GEOMETRICS



I-94 Eastbound

FREEWAY GEOMETRICS



NODE	LOCATION
503	
506	
509	University Drive Loop Ent
512	University Drive Ent
515	
518	
521	
524	8th St Exit
527	8th St Loop Exit
530	8th St Ent
533	
536	20th St Exit
539	20th St Ent
542	Rest Stop Off Ramp
545	Rest Stop On Ramp
550	
555	
560	34th Street Exit
565	34th Street Ent
570	
575	

DISTANCE (FEET) MAIN	DENSITY (VEH/LN/MI)	LOS	SPEED (MPH)
1491	12.7	B	68.0
1077	12.5	B	68.4
1069	11.5	B	67.1
1497	13.1	B	66.5
1173	14.8	B	67.1
1174	14.9	B	66.5
1510	15.5	B	63.8
1504	15	B	63.2
1374	10.4	B	66.7
1137	12	B	61.7
1124	11.7	B	65.4
1477	10.3	B	67.3
736	9.9	A	62.2
1425	13.8	B	66.0
1499	11.7	B	65.8
1644	14.1	B	65.9
1503	13	B	65.6
1776	7.4	A	68.6
1497	6.8	A	67.8
1881	8.1	A	68.7

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Interim Build Conditions - I-94 Mainline (AM Peak)

SRF # 5728

TH 75 and 20th Street CORSIM Analysis

Minnesota Department of Transportation

Figure 3

Interim Build Conditions - I-94 Mainline (PM Peak)

SRF # 5728

TH 75 and 20th Street CORSIM Analysis

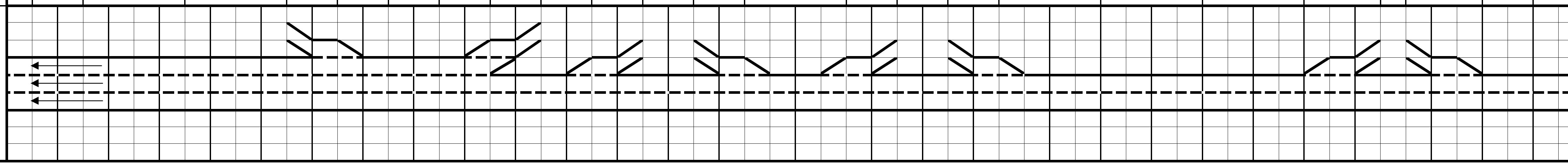
Minnesota Department of Transportation

I-94 Westbound

NODE	LOCATION
792	
789	
786	
783	University Drive Exit
780	
777	
774	
771	8th St Ent
768	8th St Loop Ent
765	8th St Exit
762	
759	20th St Ent
756	
753	20th St Exit
750	
745	
740	
735	34th Street Ent
730	34th Street Exit
728	
725	

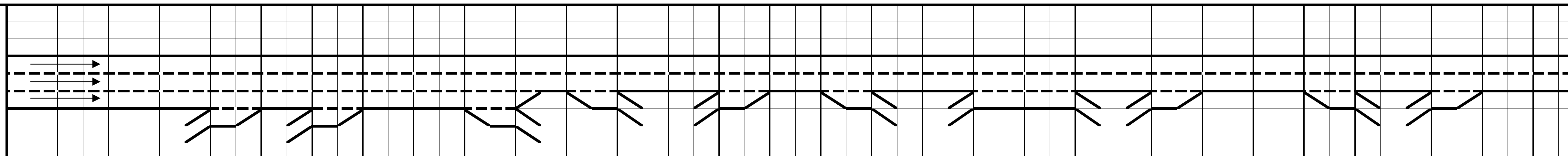
SPEED (MPH)	LOS	DENSITY (VEH/LN/MI)	DISTANCE (FEET) MAIN
67.6	B	15.4	1506
67.6	B	15.4	1055
67.3	B	15.4	870
65.5	B	18.1	1510
66.1	B	19.9	1078
66.0	B	19.9	1109
62.3	C	21.1	1500
61.9	B	17.3	1467
66.8	B	14.7	1513
64.4	B	16.7	1323
58.7	B	17.7	1311
66.7	B	13.6	1079
67.0	B	13.5	1071
65.8	B	15.5	1503
66.2	B	18	1319
65.7	B	18.1	1312
58.6	B	17	1509
68.3	A	9	1773
68.5	A	8.8	1498
68.0	B	10.5	1104

FREEWAY GEOMETRICS



I-94 Eastbound

FREEWAY GEOMETRICS



NODE	LOCATION
503	
506	
509	University Drive Loop Ent
512	University Drive Ent
515	
518	
521	
524	8th St Exit
527	8th St Loop Exit
530	8th St Ent
533	
536	20th St Exit
539	20th St Ent
542	Rest Stop Off Ramp
545	Rest Stop On Ramp
550	
555	
560	34th Street Exit
565	34th Street Ent
570	
575	

DISTANCE (FEET) MAIN	DENSITY (VEH/LN/MI)	LOS	SPEED (MPH)
1491	25.7	C	49.3
1077	44	F	27.9
1069	49.6	F	22.6
1497	65.6	F	20.7
1173	83.7	F	18.1
1174	88.5	F	17.0
1510	60.7	F	24.6
1504	34.2	D	45.4
1374	23.9	C	56.2
1137	24.2	C	52.6
1124	22.3	C	59.0
1477	20.5	C	62.1
736	17.3	B	57.8
1425	24.3	C	61.1
1499	20.9	C	59.9
1644	25	C	60.3
1503	22.9	C	60.8
1776	12.3	B	66.2
1497	12	B	65.0
1881	14	B	66.9

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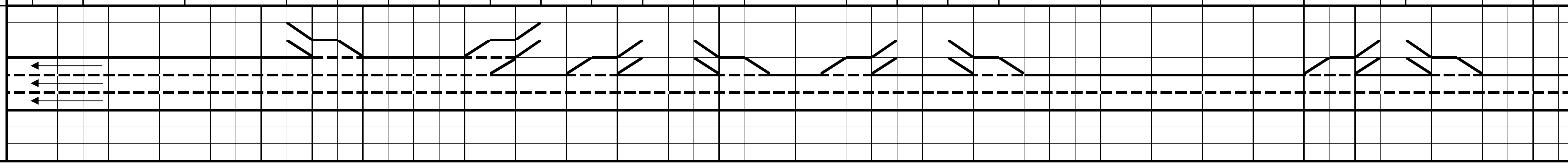
Figure 4

I-94 Westbound

SPEED (MPH)	67.7	67.7	67.4	65.8	66.3	66.3	63.5	60.7	66.8	64.6	58.7	67.1	67.2	65.8	66.1	65.9	58.9	68.2	68.3	67.6
LOS	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	B
DENSITY (VEH/LN/MI)	14.8	14.8	14.9	17.4	19.2	19.2	20	18.9	14.4	16.1	17.2	12.6	12.6	14.8	17.2	17.3	16.1	10	9.4	11.3
DISTANCE (FEET) MAIN	1506	1055	870	1510	1078	1109	1500	1467	1513	1323	1311	1079	1071	1503	1319	1312	1509	1773	1498	1104

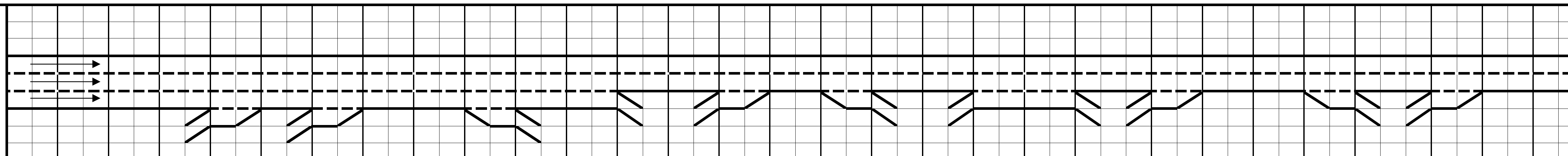
NODE	LOCATION
792	
789	
786	
783	University Drive Exit
780	
777	
774	
771	8th St Ent
768	8th St Loop Ent
765	8th St Exit
762	
759	20th St Ent
756	
753	20th St Exit
750	
745	
740	
735	34th Street Ent
730	34th Street Exit
728	
725	

FREEWAY GEOMETRICS



I-94 Eastbound

FREEWAY GEOMETRICS



NODE	LOCATION
503	
506	
509	University Drive Loop Ent
512	University Drive Ent
515	
518	
521	
524	8th St Exit
527	8th St Loop Exit
530	8th St Ent
533	
536	20th St Exit
539	20th St Ent
542	Rest Stop Off Ramp
545	Rest Stop On Ramp
550	
555	
560	34th Street Exit
565	34th Street Ent
570	
575	

DISTANCE (FEET) MAIN	1491	1077	1069	1497	1173	1174	1510	1504	1374	1137	1124	1477	736	1425	1499	1644	1503	1776	1497	1881
DENSITY (VEH/LN/MI)	12.7	12.4	11.5	13.1	14.7	14.9	13.6	11.5	10.8	12.4	12.1	10.4	10	14	11.8	14.2	13.2	7.5	6.9	8.2
LOS	B	B	B	B	B	B	B	B	B	B	B	B	A	B	B	B	B	A	A	A
SPEED (MPH)	68.2	68.5	67.1	66.5	67.1	66.7	65.6	65.7	66.8	61.5	65.2	67.6	62.4	66.0	66.0	66.1	65.7	68.6	67.7	68.6

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Interim Build Conditions - I-94 Mainline (AM Peak) - Improved

SRF # 5728

TH 75 and 20th Street CORSIM Analysis

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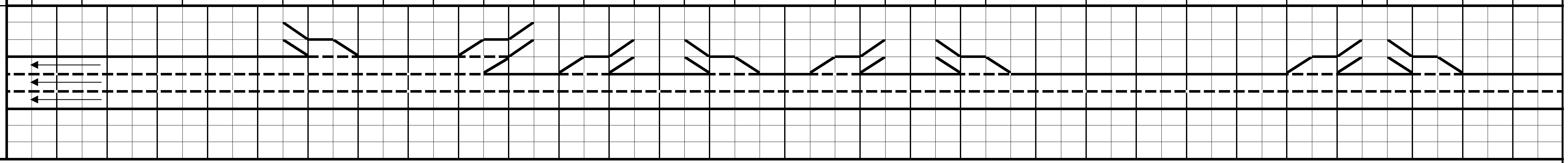
Figure 5

I-94 Westbound

SPEED (MPH)	LOS	DENSITY (VEH/LN/MI)	DISTANCE (FEET) MAIN
67.6	B	15.3	1506
67.6	B	15.4	1055
67.4	B	15.4	870
65.4	B	18.1	1510
66.0	B	20	1078
66.0	B	20	1109
62.3	C	21.1	1500
62.0	B	17.3	1467
66.6	B	14.7	1513
64.2	B	16.7	1323
58.5	B	17.7	1311
67.0	B	13.5	1079
67.2	B	13.4	1071
65.9	B	15.4	1503
66.3	B	17.9	1319
65.9	B	18	1312
58.6	B	16.9	1509
68.4	A	9	1773
68.5	A	8.8	1498
67.9	B	10.5	1104

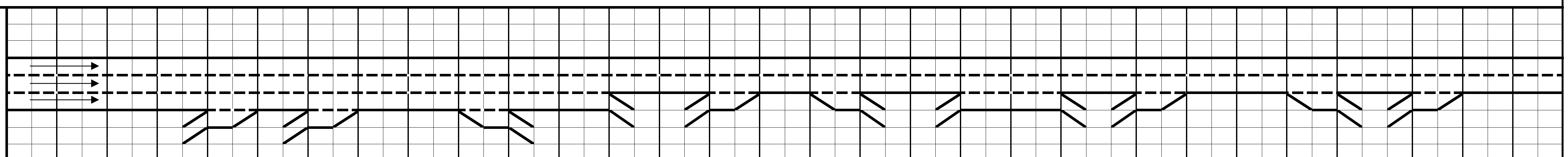
NODE	LOCATION
792	
789	
786	
783	University Drive Exit
780	
777	
774	
771	8th St Ent
768	8th St Loop Ent
765	8th St Exit
762	
759	20th St Ent
756	
753	20th St Exit
750	
745	
740	
735	34th Street Ent
730	34th Street Exit
728	
725	

FREEWAY GEOMETRICS



I-94 Eastbound

FREEWAY GEOMETRICS



NODE	LOCATION
503	
506	
509	University Drive Loop Ent
512	University Drive Ent
515	
518	
521	
524	8th St Exit
527	8th St Loop Exit
530	8th St Ent
533	
536	20th St Exit
539	20th St Ent
542	Rest Stop Off Ramp
545	Rest Stop On Ramp
550	
555	
560	34th Street Exit
565	34th Street Ent
570	
575	

DISTANCE (FEET) MAIN	DENSITY (VEH/LN/MI)	LOS	SPEED (MPH)
1491	18.8	B	67.7
1077	18.6	B	67.4
1069	18.1	B	64.2
1497	23.4	C	60.4
1173	25.6	C	62.4
1174	25.8	C	62.0
1510	23.8	C	60.6
1504	22.5	C	57.2
1374	25.1	C	58.1
1137	27.7	C	49.2
1124	24.5	C	57.7
1477	21.8	C	61.9
736	18.3	B	57.2
1425	25.7	C	60.3
1499	22.5	C	58.1
1644	26.8	C	58.7
1503	26.5	C	54.8
1776	13.5	B	64.0
1497	12.8	B	64.1
1881	14.9	B	66.2

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Interim Build Conditions - I-94 Mainline (PM Peak) - Improved

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TH 75 and 20th Street CORSIM Analysis

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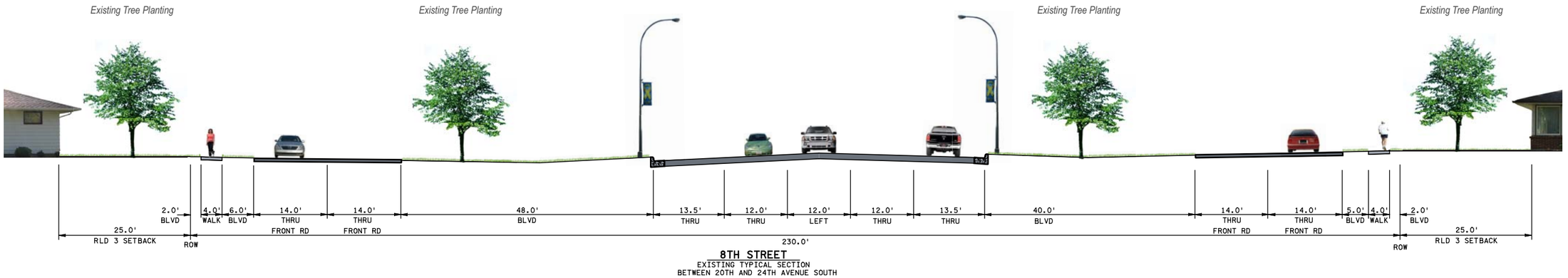
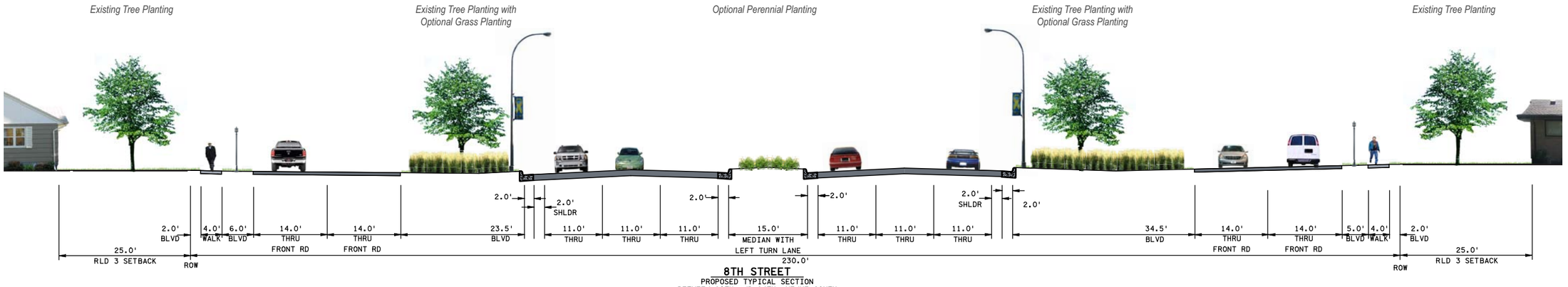
Figure 6

Appendix H – Streetscape Concepts

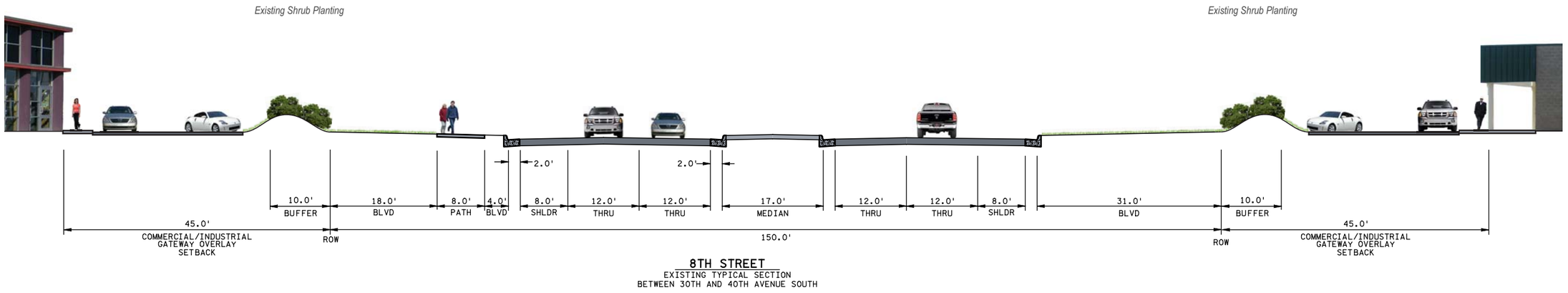


8TH STREET
EXISTING TYPICAL SECTION
BETWEEN 20TH AND 24TH AVENUE SOUTH

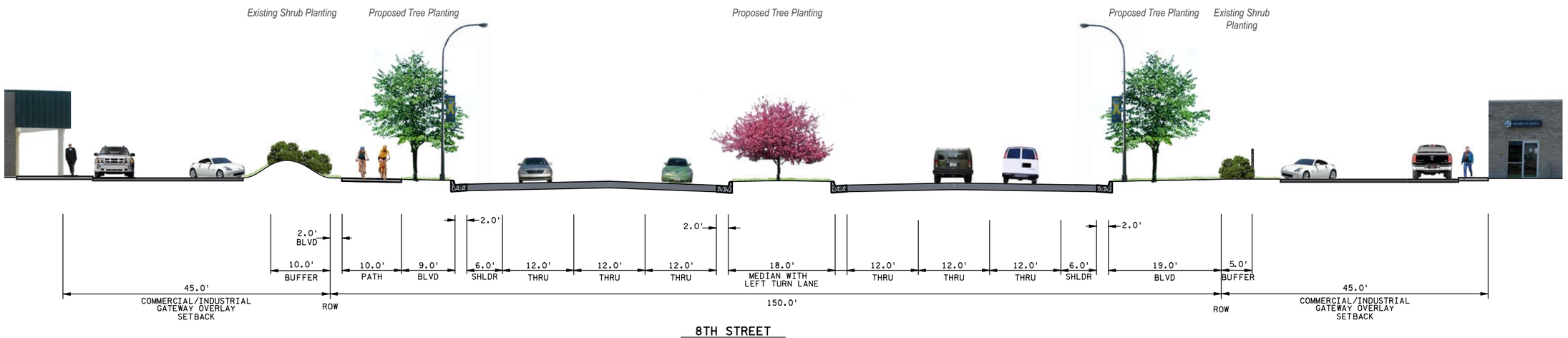


8TH STREET
PROPOSED TYPICAL SECTION
BETWEEN 20TH AND 24TH AVENUE SOUTH
ALTERNATIVE TO SAVE BOULEVARD TREES
MINIMUM DESIGN STANDARDS

Figure 1



8TH STREET
EXISTING TYPICAL SECTION
BETWEEN 30TH AND 40TH AVENUE SOUTH



8TH STREET
PROPOSED TYPICAL SECTION
BETWEEN 30TH AND 40TH AVENUE SOUTH

Figure 2

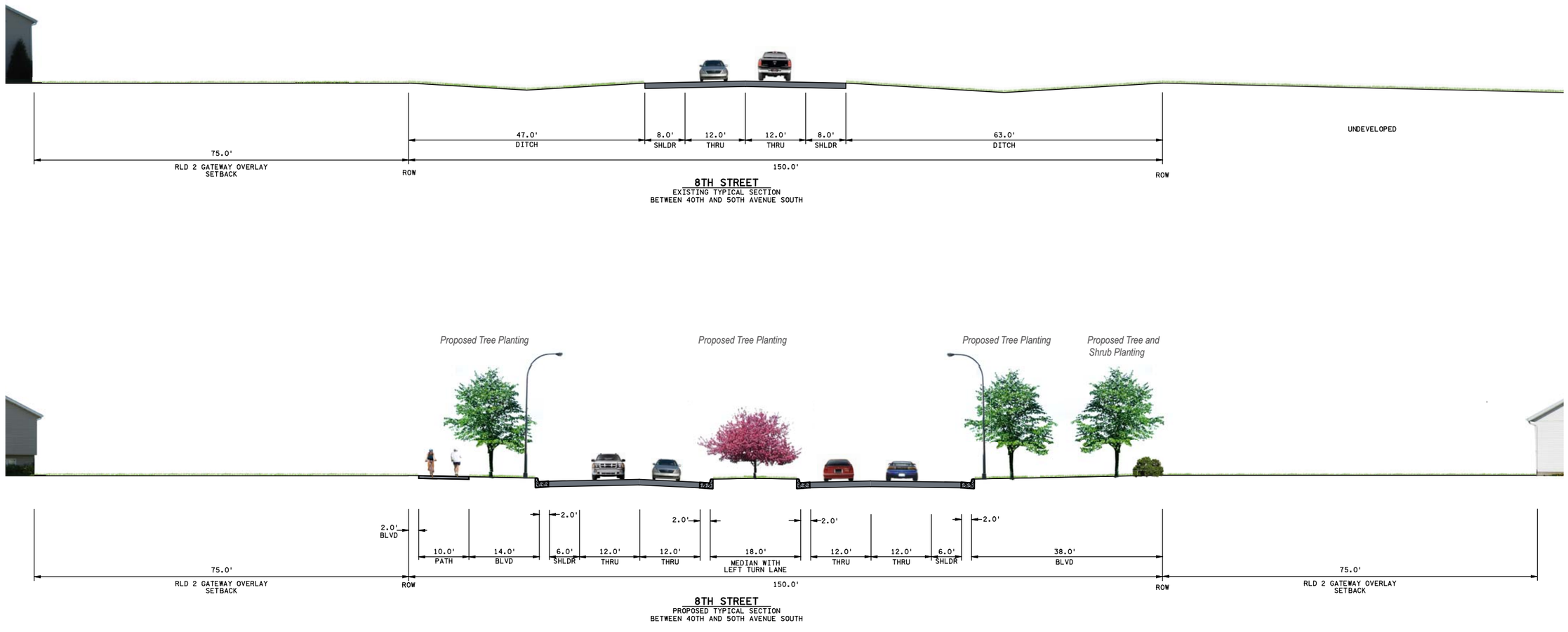

UNDEVELOPED
75.0'
RLD 2 GATEWAY OVERLAY SETBACK
ROW
47.0'
DITCH
8.0'
SHLDR
12.0'
THRU
12.0'
THRU
8.0'
SHLDR
63.0'
DITCH
150.0'
ROW
8TH STREET
EXISTING TYPICAL SECTION
BETWEEN 40TH AND 50TH AVENUE SOUTH
Proposed Tree Planting
Proposed Tree Planting
Proposed Tree Planting
Proposed Tree and Shrub Planting
75.0'
RLD 2 GATEWAY OVERLAY SETBACK
2.0' BLVD
10.0' PATH
14.0' BLVD
2.0'
6.0' SHLDR
12.0' THRU
12.0' THRU
2.0'
18.0' MEDIAN WITH LEFT TURN LANE
2.0'
12.0' THRU
12.0' THRU
2.0'
6.0' SHLDR
2.0'
38.0' BLVD
150.0'
ROW
75.0'
RLD 2 GATEWAY OVERLAY SETBACK
8TH STREET
PROPOSED TYPICAL SECTION
BETWEEN 40TH AND 50TH AVENUE SOUTH

Figure 3

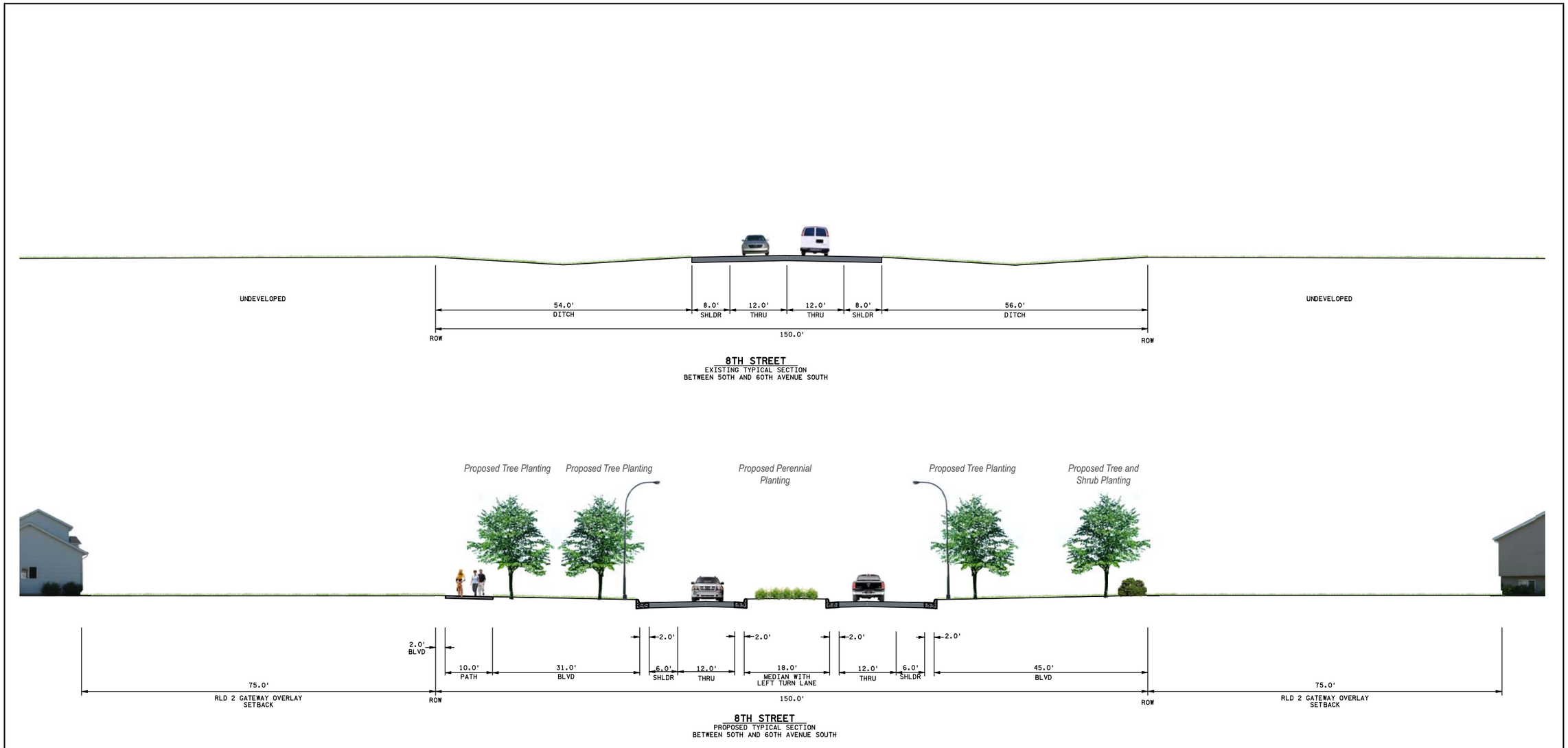
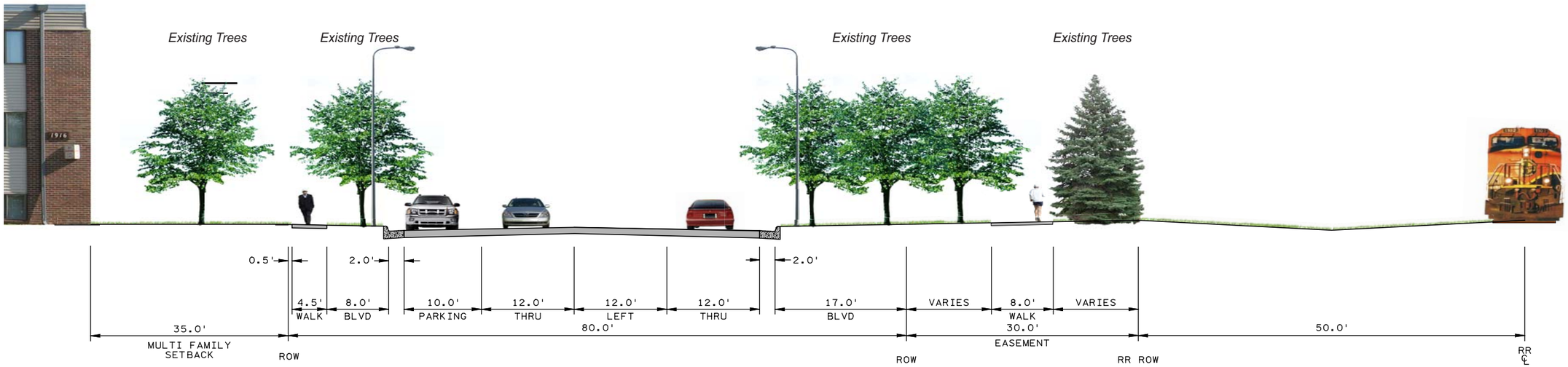
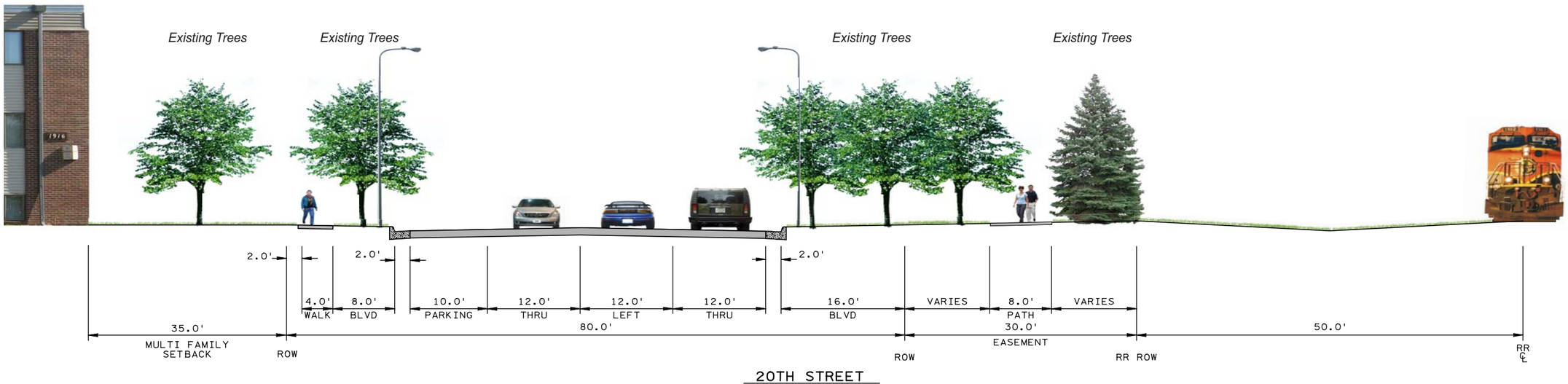

UNDEVELOPED
54.0'
DITCH
8.0'
SHLDR
12.0'
THRU
12.0'
THRU
8.0'
SHLDR
56.0'
DITCH
UNDEVELOPED
ROW
150.0'
ROW
8TH STREET
EXISTING TYPICAL SECTION
BETWEEN 50TH AND 60TH AVENUE SOUTH
Proposed Tree Planting
Proposed Tree Planting
Proposed Perennial Planting
Proposed Tree Planting
Proposed Tree and Shrub Planting
2.0'
BLVD
10.0'
PATH
31.0'
BLVD
2.0'
6.0'
SHLDR
12.0'
THRU
2.0'
18.0'
MEDIAN WITH LEFT TURN LANE
2.0'
12.0'
THRU
6.0'
SHLDR
2.0'
45.0'
BLVD
75.0'
RLD 2 GATEWAY OVERLAY SETBACK
ROW
150.0'
ROW
75.0'
RLD 2 GATEWAY OVERLAY SETBACK
8TH STREET
PROPOSED TYPICAL SECTION
BETWEEN 50TH AND 60TH AVENUE SOUTH

Figure 4

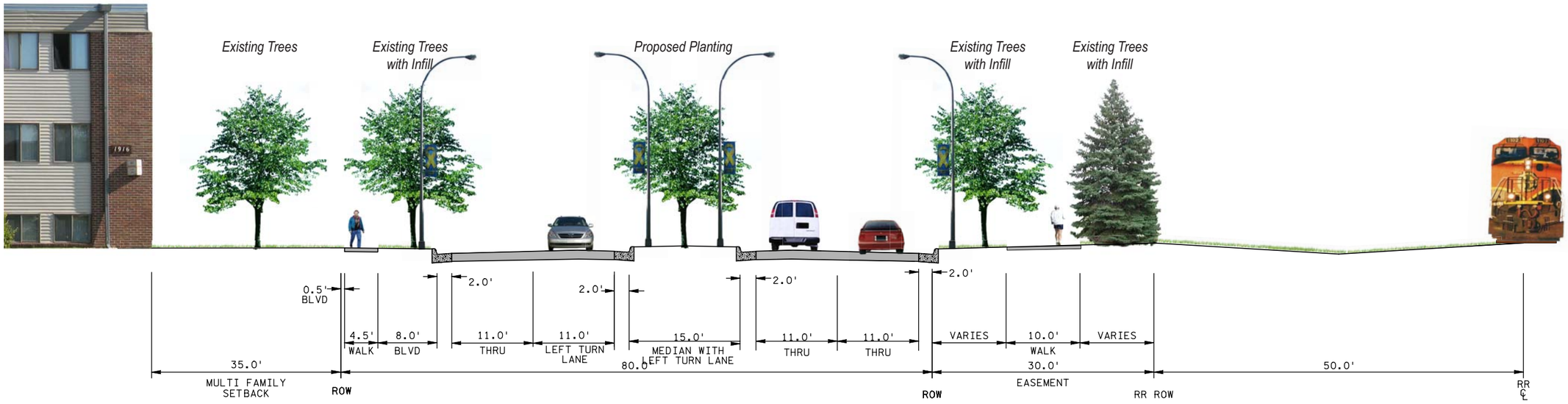


20TH STREET
EXISTING TYPICAL SECTION
BETWEEN 6TH AVENUE SOUTH AND I-94



20TH STREET
EXISTING TYPICAL SECTION
BETWEEN I-94 AND 30TH AVENUE SOUTH

Figure 5



20TH STREET
PROPOSED TYPICAL SECTION – ALTERNATIVE C
BETWEEN 6TH AVENUE SOUTH AND BELSLEY BOULEVARD

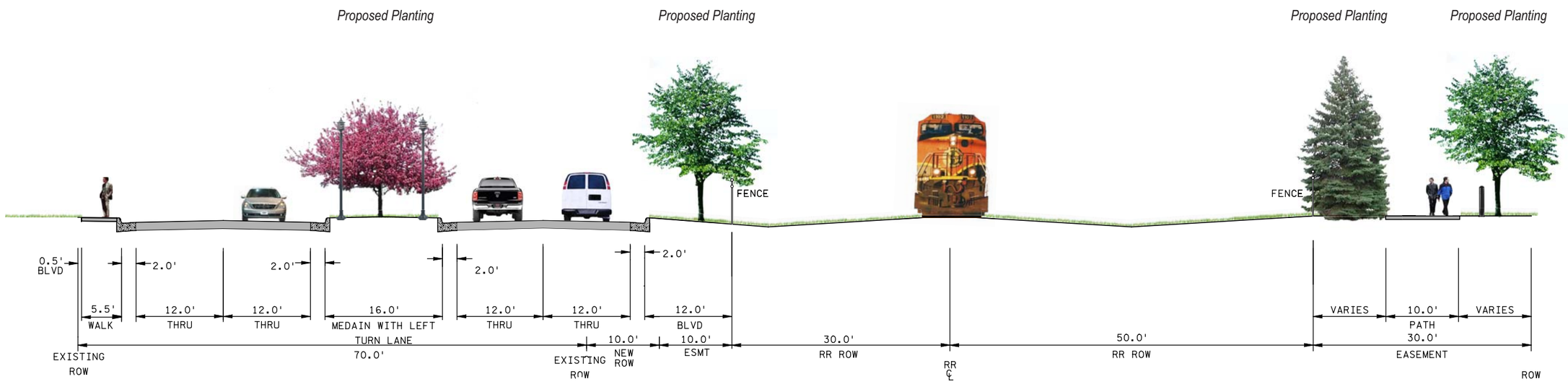
Figure 6

20TH STREET
NO TYPICAL SECTION EXISTS
BETWEEN BELSLEY BOULEVARD AND 40TH AVENUE SOUTH

20TH STREET
PROPOSED TYPICAL SECTION
BETWEEN BETWEEN BELSLEY BOULEVARD AND 40TH AVENUE SOUTH
ALTERNATIVE C

Figure 7

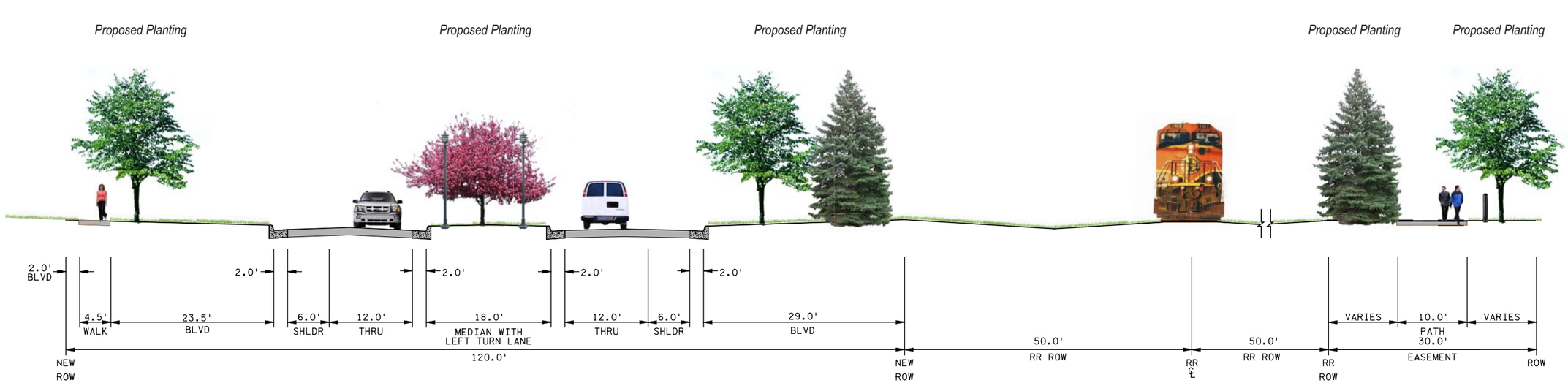
20TH STREET
NO TYPICAL SECTION EXISTS
BETWEEN BETWEEN 40TH AVENUE SOUTH AND 43RD AVENUE SOUTH



20TH STREET
PROPOSED TYPICAL SECTION
ALTERNATIVE B
BETWEEN BETWEEN 40TH AVENUE SOUTH AND 43RD AVENUE SOUTH

Figure 8

20TH STREET
NO TYPICAL SECTION EXISTS
BETWEEN 43RD AVENUE SOUTH AND 60TH AVENUE SOUTH



20TH STREET
PROPOSED TYPICAL SECTION
BETWEEN 43RD AVENUE AND 60TH AVENUE SOUTH
ALTERNATIVE A

Figure 9

Appendix I – Environmental Documentation

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

SRF No. 0065728

April 3, 2007

[NAME]
[TITLE]
[ORGANIZATION]
[ADDRESS]

SUBJECT: TH 75 / 20TH STREET SOUTH CORRIDOR STUDIES, CLAY COUNTY, MN

Dear [TI] [NAME]:

The Fargo-Moorhead Metropolitan Council of Governments (Metro COG) is currently conducting a transportation study of the TH 75 & 20th Street South corridors in Clay County Minnesota. Part of the study area is within the City of Moorhead. The purpose of this study is to better define the short-term and long-term transportation needs along TH 75 from 20th Avenue South to 60th Avenue South and along 20th Street South from SE Main Avenue to 60th Avenue South (See Attachment 1 for Study Corridors and Key Intersecting Corridors). The study area is located within Township 139N, Range 48W, Sections 9, 16, 17, 20, 21, 28, 29, 32, and 33; and Township 138 N, Range 48W, Sections 4 and 5.

Metro COG has retained SRF Consulting Group, Inc. to complete this planning study. We are initiating early coordination with several agencies to collect information that will be used in assessing possible social or environmental impacts/opportunities in our study area. Your input will be taken into consideration as part of the process of evaluating alternatives for transportation improvements. The purpose of this letter is to provide you with an opportunity to share any information, issues or concerns you have regarding the following recommended improvements:

- Additional traffic lanes and improved intersection geometrics along TH 75 and 20th Street South within the project limits.
- Extension of 20th Street South to the south to make complimentary east-west connections at 40th, 50th and 60th Avenue South.
- Geometric changes to the I-94 interchanges at TH 75 and 20th Street South. Proposed improvements to the TH 75 interchange include adding loops in the northeast and southeast quadrants of the interchange. Proposed improvements to the 20th Street South interchange consists of a variety of alternatives including but not limited to a folded diamond on the west side of 20th Street and a full diamond interchange.
- Securing new right of way for future transportation needs.
- Safety improvements at high crash rate and/or high crash severity locations.
- Access consolidation along both corridors.
- Traffic control improvements such as traffic signals, stop signs or other measures.

One Carlson Parkway North, Suite 150
Minneapolis, Minnesota 55447-4443
Tel: 763-475-0010 • Fax: 763-475-2429

srfconsulting.com

An Equal Opportunity Employer

Case Plaza, One North Second Street
Fargo, North Dakota 58102-4807
Tel: 701-237-0010 • Fax: 701-237-0017

- Bicycle and pedestrian needs along and between the TH 75 and 20th Street corridors.
- ADA Compliance
- Gateway Aesthetics

Your input early in the process will enable us to understand potential impacts or identify possible opportunities related to the proposed improvements to the greatest extent possible. Completion of your review by May 4, 2007 would be greatly appreciated. Please send your written comments to:

Rick Lane
SRF Consulting Group, Inc.
One North 2nd Street, Suite #226
Fargo, ND 58102
OR
rlane@srfconsulting.com

Please contact me at (701) 237-0010 or Brian Gibson, Metro COG Transportation Planner, at (701) 232-3242 if you have any questions or need additional information regarding this project.

Sincerely,

SRF Consulting Group, Inc.

Rick Lane
Principal

Attachments
cc: Brian Gibson, Metro COG

Title	NAME	TITLE	ORGANIZATION	ADDRESS	PHONE #	Email
Mr.	Dennis Gimmestad	Review & Compliance	Minnesota State Historic Preservation Office Minnesota History Center	345 Kellogg Boulevard Saint Paul, MN 55102	651-259-3456	dennis.gimmestad@mnhs.org
Mr.	Steve Colin	Office of Management and Budget Services	Minnesota Department of Natural Resources Environmental Review and Assistance Unit	500 Lafayette Road Saint Paul, MN 55155	651-259-5082	
Mr.	Bruce Albright	District Administrator	Buffalo-Red River Watershed District	123 Front Street, PO Box 341 Barnesville, MN 56514	218-354-7710	brrwd@bvillemn.net
Ms.	Jolynn Shopteese		Minnesota Indian Affairs Council	161 St. Anthony Ave STE 924 St. Paul, MN 55903	651-296-0132	
Ms.	Anna Marie Hill Kleinhans	Executive Director	Minnesota Indian Affairs Council	161 St. Anthony Ave STE 924 St. Paul, MN 55903	651-296-0041	
Mr.	Paul Hoff	Environmental Information & Reporting	Minnesota Pollution Control Agency	520 Lafayette Road Saint Paul, MN 55155	(651)296-7799	paul.hoff@pca.state.mn.us
Ms.	Sharon Lean	District Conservationist	USDA NRCS Clay County	1615 30th Avenue South Moorhead, MN 56560	(218)287-2255	sharon.lean@mn.usda.gov
Mr.	Jeffrey D. Stoner	Minnesota Water District Chief	Water Resources Division US Geological Survey	2280 Woodale Drive Mounds View, MN 55112	(763)783-3100	
Mr.	Tom Sorel	Division Administrator	Federal Highway Administration	Galtier Plaza 380 Jackson Street, Suite 500 Saint Paul, MN 55101	(651)291-6100	tom.sorel@fhwa.dot.gov
Ms.	Robyn Thorson	Regional Director	US Fish & Wildlife Services - Region 3 BHW Federal Building	One Federal Drive Fort Snelling, MN 55111	(612)713-5301	robynthorson@fws.gov
Mr.	Gerry Larson		Minnesota Department of Transportation Office of Environmental Services	395 John Ireland Boulevard, MS 620 Saint Paul, MN 55155	651-366-3618	
Colone	Michael Pfenning	District Engineer and Commander	US Army Corps of Engineers Sibley Square at Mears Park	190 Fifth Street East Saint Paul, MN 55101	651-290-5200	
Mr.	Jay Rendall	Natural Resource Coordinator	Minnesota Department of Natural Resources Ecological Services	500 Lafayette Road Box 25 Saint Paul, MN 55155	651-259-5131	
Ms.	Lynn Leidfried		BNSF Railway Company	80 44th Ave NE Minneapolis, MN 55421	763-782-3492	
Mr.	Dave Kaley		Moorhead Public Service Moorhead City Hall	Box 779 Moorhead, MN 56561	218-299-5400	
Mr.	Rich Baker	Resources Coordinator	Minnesota Department of Natural Resources Ecological Services	500 Lafayette Road Box 25 Saint Paul, MN 55155	651-259-5073	
Mr.	Bruce Olson	DWP Source Water Supervisor	Minnesota Department of Health	Environmental Health Division PO Box 64975 St. Paul, MN 55164	651-201-4681	

Organization	Name	Title	Address	Phone	Comment
BNSF Railway	Mark C. Bruce	General Manager	80 - 44th Ave NE Minneapolis, MN 55421	(763) 782-3467	BNSF is increasing the train speed between Moorhead and Breckenridge on April 24, 2007. This will affect all grade crossings from 30th Ave southward. Additional stop or yield signs will be placed at crossings.
Buffalo-Red River Watershed District (BRRWD)	Bruce E. Albright	Office Administrator	123 Front St S Barnsville, MN 56514	(218) 354-7710	North side of I-94 - Clay Co Ditch #30 - concrete liner and buried conduit east of 20th St. Roadwork that would affect this ditch would need BRRWD approval. South side of 50th Ave S - possible location for drainage corridor. South side of 60th Ave S - Clay Co Ditch #9 - roadwork and culvert extension would require BRRWD approval.
Department of the Army	Christopher R. Erickson	Chief, Project Management and Development Branch	190 Fifth Street East STE 401 St. Paul, MN 55101	(218) 829-8402	The study does not appear to affect any ongoing St. Paul District studies or constructed projects.
Minnesota Dept of Natural Resources	Lisa A. Joyal	Endangered Species Environmental Review Coordinator	500 Lafayette Road St. Paul, MN 55155	(651) 259-5109	The MN Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 3 known occurrences of rare species or native plat communities in the area searched. However, based on the nature and location of the proposed project I do not believe it will affect any known occurrences of rare features.

Minnesota Department of Natural Resources

Natural Heritage and Nongame Research Program, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-40__

Phone: (651) 259-5109 Fax: (651) 296-1811 E-mail: lisa.joyal@dnr.state.mn.us

May 2, 2007

Mr. Richard Lane
SRF Consulting Group, Inc.
One North Second Street, Suite 226
Fargo, ND 58102

Re: Request for Natural Heritage information for vicinity of proposed TH 75 & 20th Street Corridor Studies, T139N R48W Sections 9, 16, 17, 20, 21, 28, 29, 32, and 33, T138N R48W Sections 4 and 5, Clay County
NHNRP Contact #: ERDB 20070742

Dear Mr. Lane,

The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 3 known occurrences of rare species or native plant communities in the area searched (for details, please see the enclosed database printouts and the explanation of selected fields). However, based on the nature and location of the proposed project I do not believe it will affect any known occurrences of rare features.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for Clay County. Our information about native plant communities is, therefore, quite thorough for that county. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of the county, ecologically significant features for which we have no records may exist on the project area.

The enclosed results of the database search are provided in two formats: short record report and long record report. To control the release of locational information, which might result in the damage or destruction of a rare element, both printout formats are copyrighted.

The short record report provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an Environmental Assessment Worksheet, municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the short record report for any other purpose, please contact me to request written permission. **The long record report includes more detailed locational information, and is for your personal use only. If you wish to reprint the long record report for any purpose, please contact me to request written permission.**

Please be aware that review by the Natural Heritage and Nongame Research Program focuses only on *rare natural features*. It does not constitute review or approval by the Department of Natural Resources as a whole. If you require further information on the environmental review process for other natural resource-related issues, you may contact your Regional Environmental Assessment Ecologist, Paul Stolen, at (218) 755-4068.

An invoice in the amount of $76.18 will be mailed to you under separate cover within two weeks of

Minnesota Natural Heritage & Nongame Research Program
Short Record Report of Element Occurrences within 1 mile radius of:
TH 75 & 20th Street Corridor Studies
T139N R48W Sections 9, 16, 17, 20, 21, 28, 29, 32, & 33
T138N R48W Sections 4 & 5; Clay County

Element Name and Occurrence Number	Federal Status	MN Status	State Rank	Global Rank	Last Observed Date	EO ID #
Clay County, MN						
Acipenser fulvescens (Lake Sturgeon) #99 Location Description: T139N R48W S18, T139N R48W S17		SPC	S3	G3G4	1994-Pre	20808
Monolepis nuttalliana (Povertyweed) #2 Location Description: T139N R48W S9, T139N R48W S7, T139N R48W S5, T139N R48W S4, T139N R48W S6, T139N R48W S8		NON	SNA	G5	1942-07-02	5005
Sagittaria brevirostra (Short-beaked Arrowhead) #2 Location Description: T139N R48W S9, T139N R48W S7, T139N R48W S5, T139N R48W S4, T139N R48W S6, T139N R48W S8		NON	SNA	G5	1956-09-12	5497

Records Printed = 3

Minnesota Natural Heritage & Nongame Research Program
Long Record Report of Element Occurrences within 1 mile radius of:
TH 75 & 20th Street Corridor Studies
T139N R48W Sections 9, 16, 17, 20, 21, 28, 29, 32, & 33
T138N R48W Sections 4 & 5; Clay County

Element Name and Occ. #: Acipenser fulvescens (Lake Sturgeon) #99

EO ID #: 20808

Observed Area:
Extent Known?:
Ownership Type: Unknown
Location Description: Clay County, MN
T139N R48W S18, T139N R48W S17
Site Name: Red River, MOORHEAD 17
Survey Site #/Name:

Last Observed Date: 1994-Pre
First Observed Date: 1994-Pre
Last Survey Date: 1994-Pre

Managed Area(s):
Survey Type:
Surveyor(s):

MN Status: Special Concern
Federal Status:
State Rank: S3
Global Rank: G3G4
EO Rank: U - Unrankable

General Description: OCCURRENCE REPORTED AND MAPPED ON A 1994 CREEL CENSUS QUESTIONNAIRE WHICH WAS MAILED TO ANGLERS WHO FISHED THE RED AND RED LAKE RIVERS. THIS SIGHTING HAS BEEN ASSIGNED SERIAL NUMBER 3294 FOR FUTURE REFERENCE IN A PROPOSED FOLLOW-UP SURVEY. ONE FISH CAUGHT IN THE RED RIVER UPSTREAM OF I-94 IN MOORHEAD. NO DATE PROVIDED.
EO Data:

Element Name and Occ. #: Monolepis nuttalliana (Povertyweed) #2

EO ID #: 5005

Observed Area:
Extent Known?:
Ownership Type: Unknown
Location Description: Clay County, MN
T139N R48W S9, T139N R48W S7, T139N R48W S5, T139N R48W S4, T139N R48W S6, T139N R48W S8
Site Name:
Survey Site #/Name:
Vegetation Plot:

Last Observed Date: 1942-07-02
First Observed Date: 1942-07-02
Last Survey Date:

Managed Area(s):
Survey Type:
Surveyor(s): Stevens, O. A.

MN Status: Tracked, but no legal status
Federal Status:
State Rank: SNA
Global Rank: G5
EO Rank: Not ranked

General Description: ALONG RR TRACKS, MOORHEAD. 1 DUP AT MADISON.
EO Data:

Element Name and Occ. #: Sagittaria brevirostra (Short-beaked Arrowhead) #2

EO ID #: 5497

Observed Area:
Extent Known?:
Ownership Type: Unknown
Location Description: Clay County, MN
T139N R48W S9, T139N R48W S7, T139N R48W S5, T139N R48W S4, T139N R48W S6, T139N R48W S8
Site Name: MOORHEAD 5
Survey Site #/Name:
Vegetation Plot:

Last Observed Date: 1956-09-12
First Observed Date: 1956-09-12
Last Survey Date:

Managed Area(s):
Survey Type:
Surveyor(s): Moore, J. W.

MN Status: Tracked, but no legal status
Federal Status:
State Rank: SNA
Global Rank: G5
EO Rank: Not ranked

General Description: SWALE AT PARK AREA ALONG RED R AT MOORHEAD.
EO Data:

The Natural Heritage & Nongame Research Program recently adopted a new database system called Biotics. As a result of this change, the layout and contents of the database reports have been revised. Many of the fields included in the new reports are the same or similar to the previous report fields, however there are several new fields and some of the field definitions have been slightly modified. We recommend that you familiarize yourself with the latest field explanations.

Rare Features Database Reports: An Explanation of Fields

The Rare Features database (Biotics) is part of the Natural Heritage Information System, and is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Minnesota Department of Natural Resources (DNR).

Field Name: [Full (non-abbreviated) field name, if different]. Further explanation of field.

-E-

Element Name and Occ #: [Element Name and Occurrence Number]. The Element is the name of the rare feature. For plant and animal species records, this field holds the scientific name followed by the common name in parentheses; for all other elements (such as native plant communities, which have no scientific name) it is solely the element name. Native plant community names correspond to Minnesota's Native Plant Community Classification (Version 2.0). The Occurrence Number, in combination with the Element Name, uniquely identifies each record.

EO Data: [Element Occurrence Data]. For species elements, this field contains data collected on the biology of the Element Occurrence* (EO), including the number of individuals, vigor, habitat, soils, associated species, peculiar characteristics, etc. For native plant community elements, this field is a summary text description of the vegetation of the EO, including structure (strata) and composition (dominant/characteristic species), heterogeneity, successional stage/dynamics, any unique aspects of the community or additional noteworthy species (including animals). Note that this is a new field and it has not been filled out for many of the records that were collected prior to conversion to the new database system. Some of the information meeting the field definition may be found in the General Description field.

EO ID#: [Element Occurrence Identification Number]. Unique identifier for each Element Occurrence record.

EO Rank: [Element Occurrence Rank]. An evaluation of the quality and condition of an Element Occurrence (EO) from A (highest) to D (lowest). Represents a comparative evaluation of: 1) quality as determined by representativeness of the occurrence especially as compared to EO specifications and including maturity, size, numbers, etc. 2) condition (how much has the site and the EO itself been damaged or altered from its optimal condition and character). 3) viability (the long-term prospects for continued existence of this occurrence - used in ranking species only). EO Ranks are assigned based on recent fieldwork by knowledgeable individuals.

Extent Known?: A value that indicates whether the full extent of the Element is known (i.e., it has been determined through field survey) at that location. If null, the value has not been determined.

-F-

Federal Status: Status of species under the U.S. Endangered Species Act: LE = endangered; LT = threatened; LE,LT = listed endangered in part of its range, listed threatened in another part of its range; LT,PDL = listed threatened, proposed for delisting; C = candidate for listing. If null or "No Status" the species has no federal status.

First Observed Date: Date that the Element Occurrence was first reported at the site in format YYYY-MM-DD. A year followed by "Pre" indicates that the observed date was sometime prior to the date listed, but the exact date is unknown.

-G-

General Description: General description or word picture of the area where the Element Occurrence (EO) is located (i.e., the physical setting/context surrounding the EO), including a list of adjacent communities. When available, information on surrounding land use may be included. Note that the information tracked in this field is now more narrowly defined than it was in the old database system, and some of the information still in this field more accurately meets the definition of the new EO Data field. We are working to clean up the records so that the information in the two fields corresponds to the current field explanations described herein. Also note that the use of uppercase in sentences in this field is not significant but rather an artifact of transferring data from the old database system to the new system.

Global Rank: The global (i.e., range-wide) assessment of the relative rarity or imperilment of the species or community. Ranges from G1 (critically imperiled due to extreme rarity on a world-wide basis) to G5 (demonstrably secure, though perhaps rare in parts of its range). Global ranks are determined by NatureServe, an international network of natural heritage programs and conservation data centers.

-L-

Last Observed Date: Date that the Element Occurrence was last observed to be extant at the site in format YYYY-MM-DD.

Last Survey Date: Date of the most recent field survey for the Element Occurrence, regardless of whether it was found during the visit. If the field is blank, assume the date is the same as the Last Observed Date.

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

APR 2 3 2007

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: TH 75/20th Street South Corridor Studies, Clay County, Minnesota

Mr. Rick Lane
SRF Consulting Group, Inc.
1 North Second Street, Suite 226
Fargo, North Dakota 58102

Dear Mr. Lane:

We are responding to your April 3, 2007, letter concerning the transportation study of the TH 75 and 20th Street South corridors in Clay County, Minnesota.

The study does not appear to affect any ongoing St. Paul District studies or constructed projects.

The Corps of Engineers is responsible for granting permits for excavation or placement of fill material in wetlands or bodies of water of the United States under Section 404 – Clean Water Act. Work in areas with wetlands or projects that cross wetlands or streams/lakes may require a permit. For specific information on permit requirements in the project area, you may contact Mr. Leo Grabowski, Brainerd Regulatory Office, St. Paul District, Corps of Engineers, 10867 East Gull Lake Drive NW, Brainerd, Minnesota 56401-9051, telephone number (218) 829-8402. We have forwarded your letter with the enclosed maps to Mr. Grabowski.

Sincerely,

Christopher R. Erickson
Chief, Project Management and
Development Branch

BUFFALO - RED RIVER WATERSHED DISTRICT

BARNESVILLE, MINNESOTA 56514

123 FRONT STREET SOUTH — P.O. BOX 341 PHONE 218 354-7710

April 9, 2007

Rick Lane
SRF Consulting Group, Inc.
One North 2nd ST, Suite 226
Fargo, ND 58102

RE: Trunk Highway (T.H.) No. 75/20th ST S Corridor Studies, Clay County, MN

Dear Mr. Lane:

This letter is in response to your 4/03/07 letter regarding the above. The Buffalo-Red River Watershed District (BRRWD) would like to offer the following comments. As you know, we are the drainage authority for a number of legal ditch systems in our area. On the north side of I-94, we have Clay County Ditch No. 30. This ditch system was improved approximately 10 years. It included a concrete liner and buried conduit east of 20th ST. Any roadwork regarding your recommended improvements that would affect or alter this ditch system would need BRRWD approval. On the south side of 50th AVE S, a number of years ago, the BRRWD conducted the Moorhead Township Drainage Investigation. We've discussed a possible project in this area with both the landowners and the City of Moorhead. Our thoughts have been to try to preserve a drainage corridor in this area. While project development has not materialized at this time, we expect that in the future, some type of drainage system could be installed in this area.

On the south side of 60th AVE S, the BRRWD has jurisdiction over Clay County Ditch No. 9. Any work to widen roads, etc., that might require culvert extensions, etc., on the existing pipes would also require BRRWD approval.

If you should have questions or comments concerning the above, please feel free to contact this office. We'd be happy to participate in your study process if you need further information.

Sincerely,

BUFFALO-RED RIVER WATERSHED DISTRICT

Bruce E. Albright

Bruce E. Albright
Office Administrator

BEA/jj

5728

Mark C. Bruce
General Manager
TWIN CITIES DIVISION

BNSF Railway Company
80 - 44TH Avenue N.E.
Minneapolis, MN 55421

Telephone: 763-782-3467
Fax: 763-782-3019
Email: Mark.bruce@bnsf.com

April 9, 2007

Rick Lane, P. E.
SRF Consulting Group
One North Second Street
Fargo, ND 58102-4807

Dear Mr. Lane:

BNSF values its relationship with Moorhead, and in that spirit wanted you to be aware of a change in maximum allowable train speed we are planning for our rail line between Moorhead and Breckenridge effective at 12:01 am on April 24, 2007. The planned speed change will re-establish the maximum allowable track speed to 60 mph. Presently, the maximum train speed on this line is 40 mph.

This change will affect all grade crossings from and including 30th Avenue Southward but will in no way compromise safety.

Minnesota Department of Transportation has approved the speed increase and has recommended signage changes to several crossings along the affected rail line. You may see the addition of stop or yield signs at the crossings in your area.

Whenever we increase train speeds, we also modify the circuits for active crossing warning devices so that the motoring public is provided the same amount of advance warning of an approaching train. Additionally, faster trains will have the advantage of clearing crossings in your community more quickly, thereby reducing traffic congestion.

If you have any questions or concerns, please do not hesitate to contact Steve Forsberg, Corporate Relations at (913) 551-4479.

Respectfully,

Mark C. Bruce

Mark C. Bruce
General Manager

TH 75/ 20th Street Corridor Studies

UTILITY CONTACTS
SRF Consulting Group, Inc.

Prime Contact: AARON MURRA
Alternate Contact: SARA SCHMIDT
Agency: MN ONE CALL
Date Call was Placed: 4/4/2007

UTILITY CONTACTS							
Utility Contacts	**Date Contacted By SRF (MN One Call)**	**Date SRF Was Contacted By Utility**	**Date SRF Received Info From Utility**	**Utility Contact person Address**	**Utility Telephone Fax no.**	**Facilities in Project Area?**	**Utility Impacted By Proposed Construction**
AT&T	4/4/2007	4/25/2007	4/25/2007	Curt Tollefson, 409 1st Ave. N., Fargo, ND 58102, 701-241-5161	(903)753-3145		No
CITY OF MOORHEAD	4/4/2007	**no responce**	**no info**		(218)299-3608		**n/a**
DAKOTA CARRIER NETWORK	4/4/2007	**no responce**	**no info**		(701)298-0576		**n/a**
KANEB PIPELINE COMPANY	4/4/2007	4/20/2007	NA	316-773-9000 and ask for Barbara	(316)773-9000	CLEAR	No
MCLEOD USA	4/4/2007	4/16/2007	4/16/2007	ELM Locating, 1617 1st Ave. N., Fargo, ND 58102, 701-237-0559	(319)790-7043		
MN DEPARTMENT OF TRANSPORTATION	4/4/2007	**no responce**	**no info**		(612)725-2310		**n/a**
MOORHEAD PUBLIC SERVICE *(Water)*	4/4/2007	4/4/2007	6/26/2007	Mike Nelson, 218-329-6559 (work cell)	(218)299-5400		Yes
MOORHEAD PUBLIC SERVICE *(Power)*	4/4/2007	4/4/2007	6/26/2007	Mike Nelson, 218-329-6559 (work cell)	(218)299-5400		Yes
MOORHEAD PUBLIC SERVICE *(Fiber)*	4/4/2007	4/4/2007	6/26/2007	Mike Nelson, 218-329-6559 (work cell)	(218)299-5400		Yes
XCEL ENERGY	4/4/2007	5/17/2007	5/17/2007	Roxanne Zurn, Roxanne.A.Zurn@xcelenergy.com, 701-371-5234	(605)339-8356		Yes
US WEST	4/4/2007	4/16/2007	4/16/2007	ELM Locating, 1617 1st Ave. N., Fargo, ND 58102, 701-237-0559	(800)283-4237		Yes
(QUEST)		4/18/2007	4/18/2007	Linda Juelich, Quest Corp. 309 Commerce Dr., Woodbury, MN 55125651-730-1362			Yes
RED RIVER TELEPHONE	4/4/2007	4/11/2007	4/11/2007		(701)553-8309		No
RED RIVER VALLEY COOP	4/4/2007	4/4/2007	4/10/2007	Jim Berg	(218)456-2139		Yes
RED RIVER VALLEY COOP	4/4/2007	4/4/2007	4/10/2007	Gary Schulstad, 218-456-2139, gshulstad@minnkota.com			Yes
STATE OF MN INTERTECH	4/4/2007	**no responce**	**no info**		(320)963-2400		**n/a**
702 COMMUNICATIONS	4/4/2007	4/5/2007	4/5/2007	Ross Salverson, 218-284-5702	(218)329-3136		Yes
CABLE ONE	4/4/2007	4/4/2007	4/9/2007	Mark Lovik, 701-729-6205, mark.lovik@cableone.net	(701)280-0033		Yes
MAGELLAN MIDSTREAM PARTNERS	4/4/2007	4/5/2007	**no info**	Paul Klabunde, 701-793-8377	(918)574-7098		**n/a**
NOTE: MINNESOTA ONE CALL TICKET NUMBER: 70063025							

SRF
CONSULTING GROUP, INC.

SRF No. 5728

RECORD OF TELEPHONE CONVERSATION

Route to	Copy to	Date 11/1/06	Time 3:00 PM
Rick Lane	**Brian Gibson**	*Employee*	Cindy Gray
Peggy Harter	**Bob Zimmerman**	*Conversation with*	**Dave Kaley**
	Tom Trowbridge	*Telephone*	218-299-5400
	Clair Hanson	*Organization*	Moorhead Public Service
		Re:	20th Street S, utility easement in ROW

DETAILS OF CONVERSATION

At the 10/31/06 Study Review Committee meeting regarding the TH 75 and 20th Street project, the 70-foot ROW for 20th Street was discussed by SRF staff and City of Moorhead Engineering staff. SRF provided cross sections of a future roadway, sidewalk and boulevard configuration that could fit within a 70-foot or 80-foot ROW. Tom Trowbridge and Clair Hanson stated that they were concerned about the impact of a 30-foot Moorhead Public Service (MPS) utility easement that they believe to be located within the 70-foot ROW. They suggested SRF staff follow up with Dave Kaley at MPS.

I called Dave Kaley to verify the staff's concerns and to get further information about the easement. Dave provided the following information:

- MPS has a 115,000 volt (115 kv) transmission line in an easement adjacent to the east side of the railroad right of way in the area south of 30th Avenue. In the area relatively close to I-94, this easement is on a separate piece of land that the city owns in addition to the 20th Street ROW. However, starting with Johnson Farm Addition, the 70-foot ROW completely overlaps with the 30-foot transmission line easement. The transmission line is not centered in the easement. It is located a few feet west of the railroad ROW. It isn't entirely consistent up and down the corridor as far as its relative location to the railroad ROW. Dave said the transmission line continues for five miles south of town, which takes it through our entire study area.

- I explained our overall project to Dave, and the fact that we will also be examining the feasibility of a full-access interchange of I-94 at 20th Street. He stated that MPS has four underground feeders between Triumph Church and the eastbound off-ramp of I-94 at 20th Street. Three of the feeders continue east crossing under the RR tracks. One goes south along the bike path that goes down to 30th Avenue. The line continues south from 30th Avenue to 40th Avenue, and in that location it is approximately four feet west of the posts for the above ground transmission line.

- Dave said he can get us copies of some maps that will at least show what they have in the ground. They don't include information about exact location, but they at least show what's there. We can pick those maps up sometime around Thursday afternoon, 11/2/06.

I did not mention the 8th Street portion of our project, so if additional information is needed about that, we'll have to contact Dave about that. I didn't press the issue right now, as I'm sure that the engineers doing the preliminary concepts will want to have those conversations with Dave.

SRF
CONSULTING GROUP, INC.

RECORD OF MEETING

SRF NUMBER 5728
PROJECT NAME TH 75 & 20th Street Corridor Studies

DATE April 11, 2007 **LOCATION** SRF Consulting Group Conference Room

CLIENT Metro COG

PURPOSE OF MEETING Discuss Transit Enhancement Opportunities

ATTENDEES

Wade Kline	Metro COG
Lori Van Beek	City of Moorhead Transit Manager
Peggy Harter	SRF Consulting Group, Inc.

ROUTE/COPY TO

Wade Kline
Lori Van Beek
Brian Gibson
Rick Lane
Cindy Gray
Project File

FROM
Peggy Harter

BRIEF SUMMARY OF MEETING

A meeting was held the morning of Wednesday April 11, 2007; to discuss transit enhancement opportunities along the TH 75 and 20th Street Corridors and potential impacts to the transit routes associated with alternatives that are being reviewed for the TH 75 and 20th Street Corridor Studies. The following items were discussed:

- Wade Kline is currently working with transit to study issues and opportunities associated with Moorhead's Expansion and Alignment. He provided a map that shows the 5-year fixed transit route service boundary. The southern end of the 5-year fixed service boundary is 40th Avenue South. The map also shows demand response zones outside of the 5-year fixed service boundary.
- The alternative that ends the frontage road west of 20th Street into MSCTC parking lot affects Transit Routes 3 & 5. The routes will either need an alternative road just west of MSCTC or they will have to redirect their routes to 24th Avenue South. Lori noted that redirecting the routes will impact service to residents in the apartments along 28th Avenue South. The residents would need to walk to 24th Avenue South to get transit service.
- Discussion regarding the alternative to move MSCTC main access onto 24th Avenue South. Transit has currently been looking at providing a transit shelter for MSCTC. This may affect the location of the shelter.
- Wade added that connecting 28th Avenue South (east of 20th Street) up to 24th Avenue South at 20th Street would be a good location for a future bus route to service neighborhoods to the east of 20th Street.
- Lori stated that MAT is not in favor of bus pull outs since it is difficult for the bus to get back into traffic.
- Lori added that transit's main issue is getting pedestrians to the bus routes. Many neighborhoods are designed without direct pedestrian access to the main roads and people have to walk significantly farther than if they had a pedestrian trail through their neighborhood to main roadways. Pedestrian trails should be considered when developing future neighborhoods as the area continues to grow to the south.
- Lori will be added to the Focus Group list to represent Metro Area Transit (MAT).

ACTION NEEDED

No action required. Lori will be added to the Focus Group list and invited to the next Focus Group meeting.

RESPONSIBILITY