Minnesota United MLS Stadium and Surrounding Mixed-Use Urban Village Alternative Urban Areawide Review (AUAR)

FINAL AUAR APPENDICES

Prepared for the

City of Saint Paul, MN

By

Stantec

SRF Consulting Group, Inc.
Wrightson, Johnson, Haddon & Williams
Braslau & Associates
Phase One Archeology

July 18, 2016

List of Appendices

Appendix A

Figures

Figure 5-1 USGS Location Map

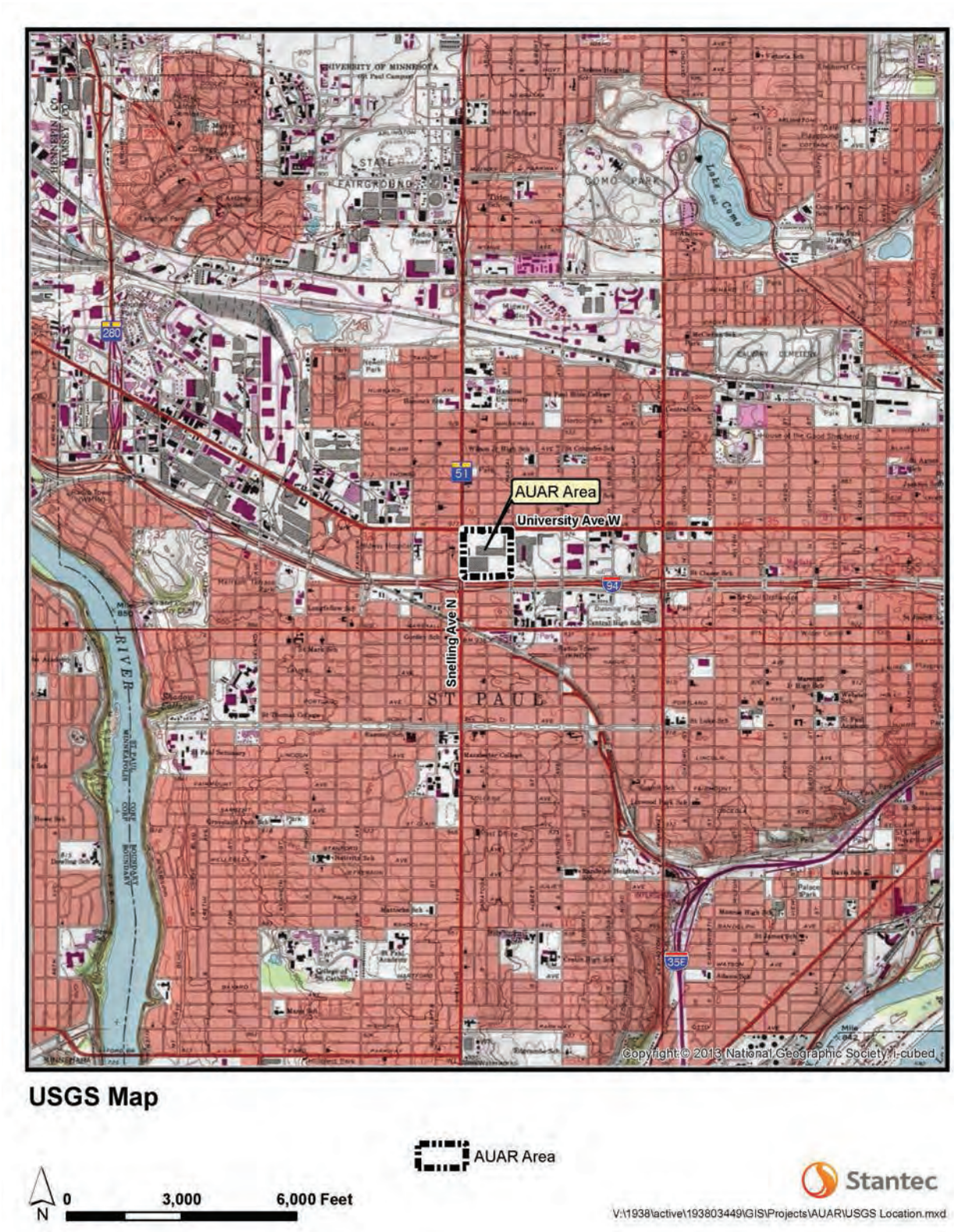


Figure 5-2 AUAR Area Boundary

Figure 6-1 Scenario 1 Site Plan and Program

		PROPOSED LAND USES			PARKING	
Block #	Building Type	Retail (SF)	Resid. (SF)	Office/Instit.(SF)	Spaces	Type
1	Mixed-Use Comm. - 2 story	23,800	-	23,800		
2	Mixed-Use Res. - 3 story	42,783	85,567	-	120	Structure
	Mixed-Use Comm. - 3 story	36,716		73,433		
3	Office/ Inst - 3 story	-	-	142,000		
	Office/ Inst - 10 story	-	-	305,925		
4	Mixed-Use Comm. - 2 story	15,250	-	15,250		
	Mixed-Use Comm. - 3 story	24,790	-	49,560	213	Structure
	Mixed-Use Res. - 3 story	10,195	20,385	-		
5	Mixed-Use Comm. - 2 story	8,380	-	8,380		
	Mixed-Use Comm. - 2 story	20,530	-	20,530		
	Mixed-Use Comm. - 4 story	30,690	-	92,070	320	Structure
	Mixed-Use Res. - 4 story	29,900	92,860	-		
	Mixed-Use Res. - 4 story	15,950	47,850	-		
6	Office/ Inst - 2 story	-	-	29,000	530	Surface
	Office/ Inst - 3 story	-	-	63,645	420	Structure
	Office/ Inst - 3 story	-	-	98,100	395	Surface
7	Mixed-Use Comm. - 3 story	31,900	-	63,800	850	Structure
	Mixed-Use Comm. - 3 story	23,030	-	46,060		
	Mixed-Use Comm. - 3 story	34,580	-	69,160		
	Mixed-Use Comm. - 1 story	6,800	-	-		
8	Office/ Inst - 3 story	-	-	99,570	440	Structure
	Totals	355,294	246,662	1,200,283	3,288	
	Grand Total	1,802,239		Parking Ratio	1.82	
	FAR	1.20				

SCENARIO 1: Comprehensive Plan Buildout

Saint Paul, Minnesota

Stantec

Figure 6-2 Scenario 2 Site Plan

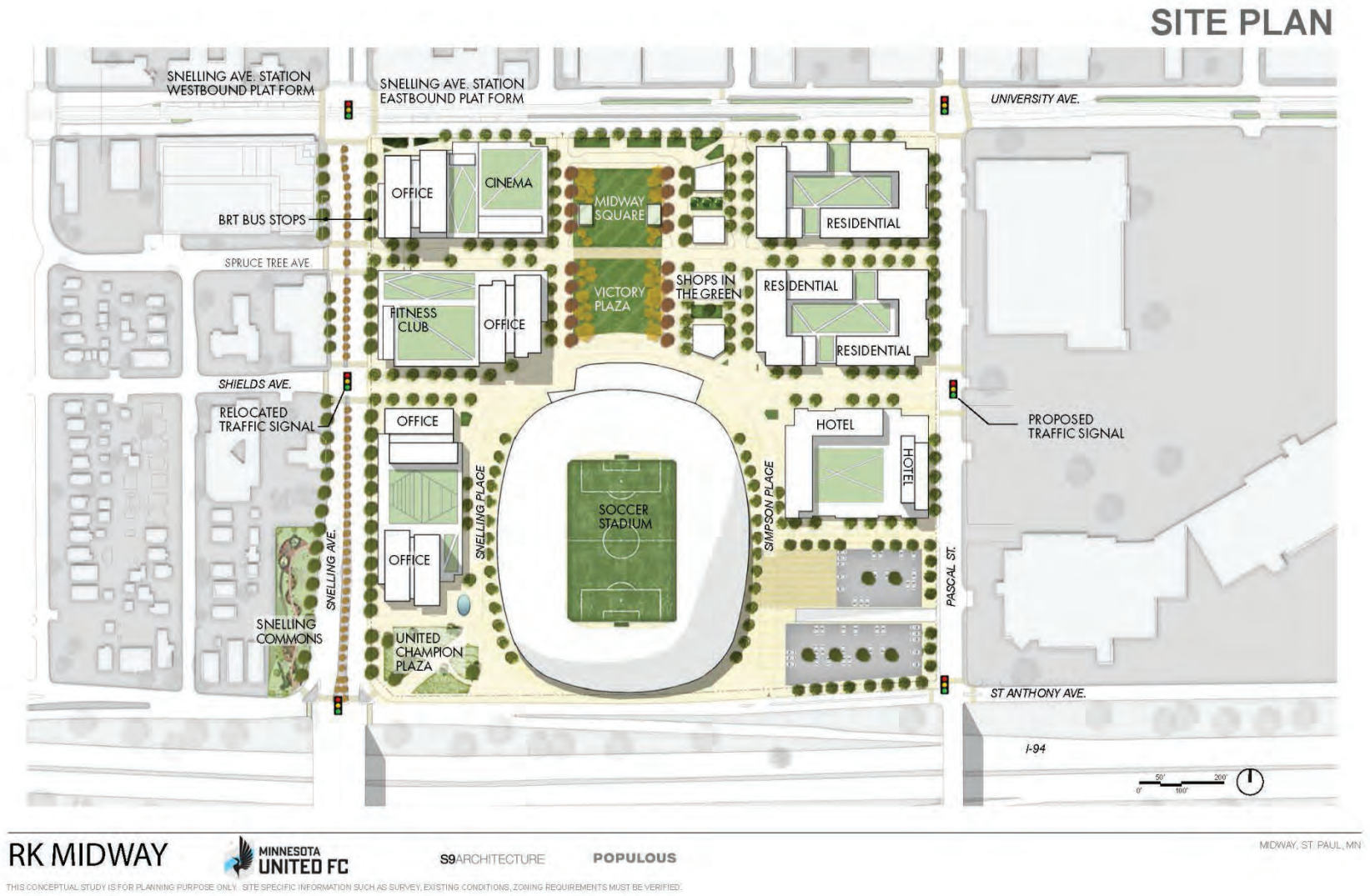


Figure 6-3 Scenario 2 Program

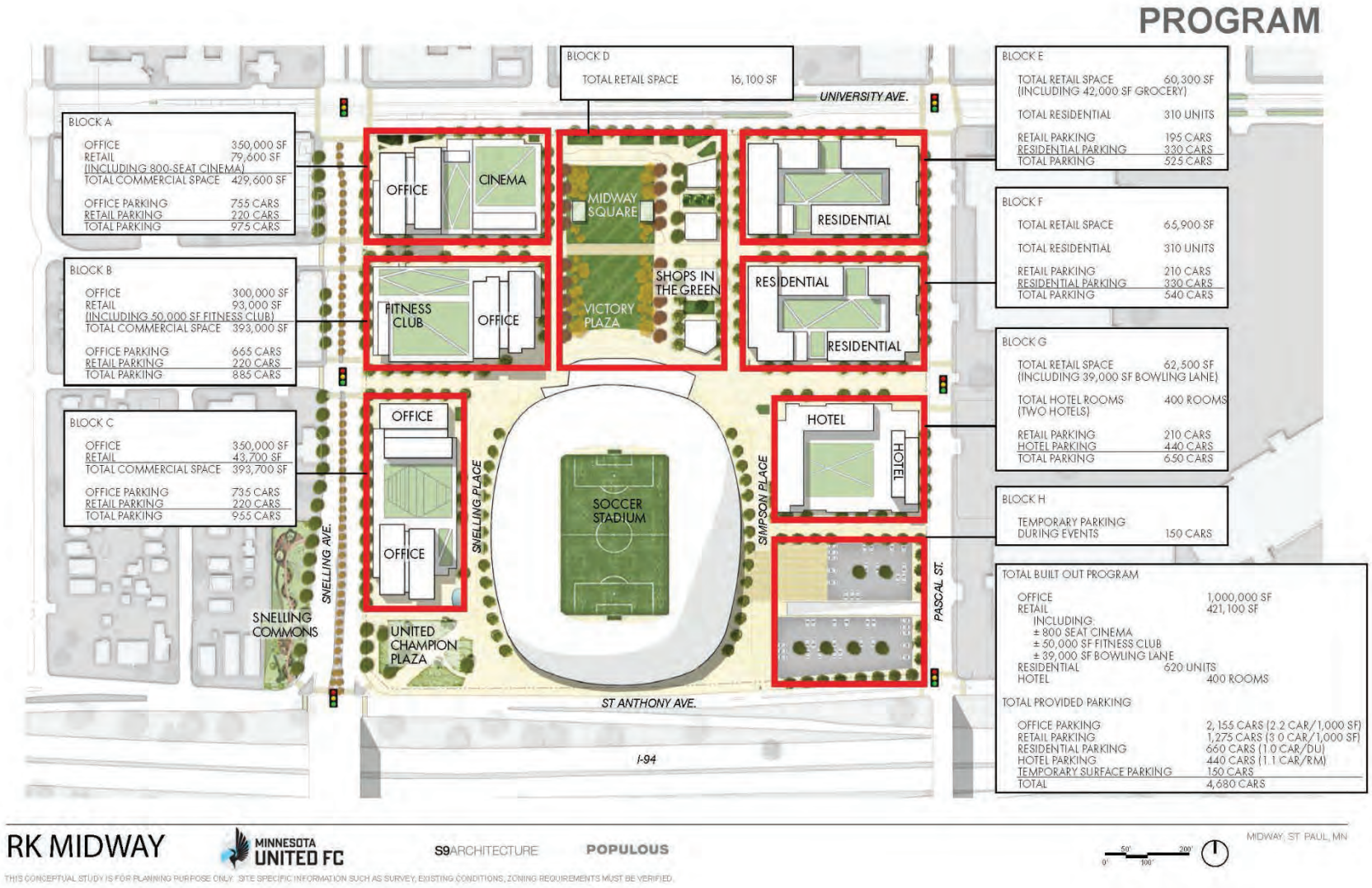


Figure 6-4 Scenario 2 Program with Building Heights

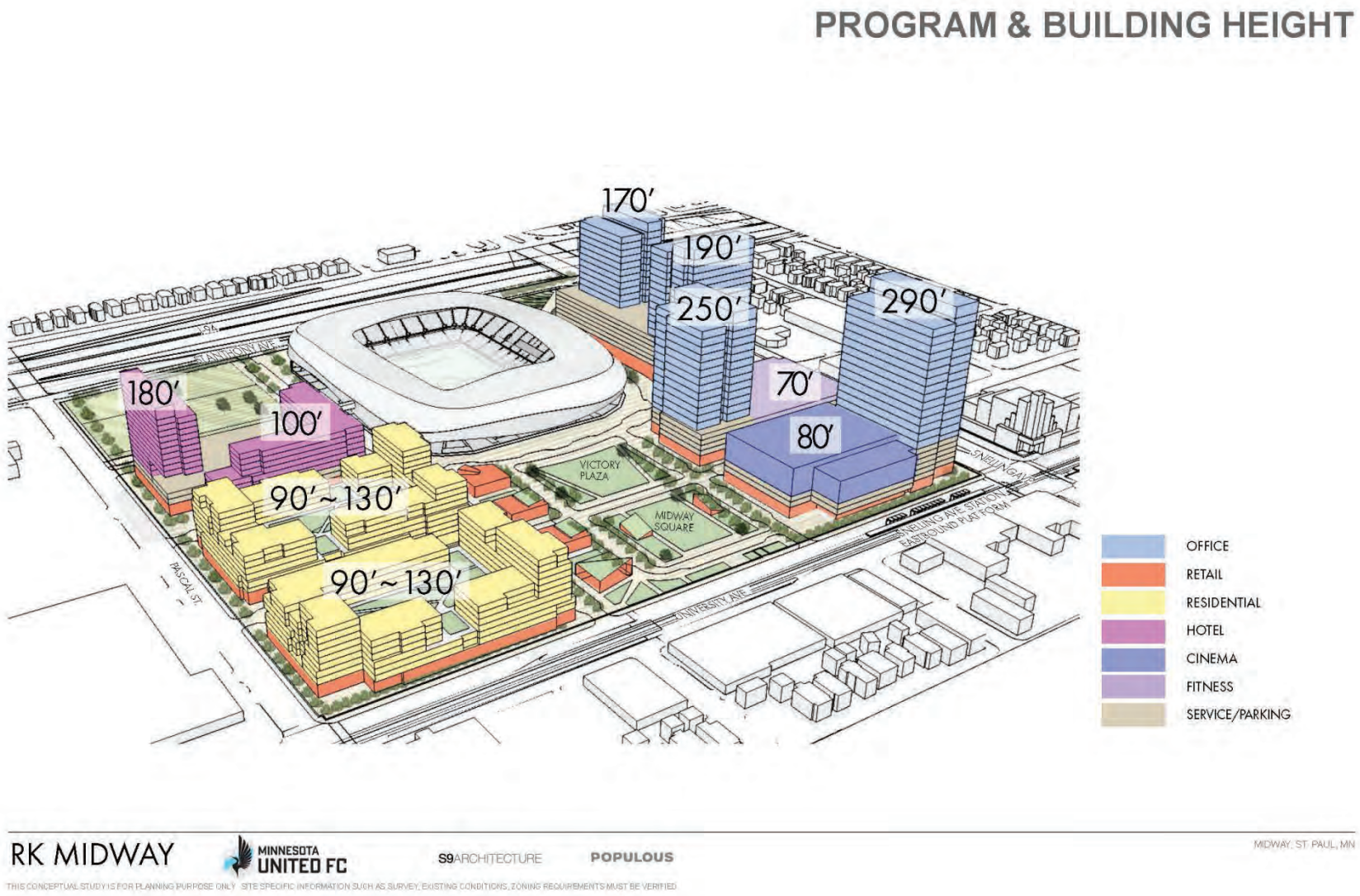


Figure 7-1 Existing Land Cover

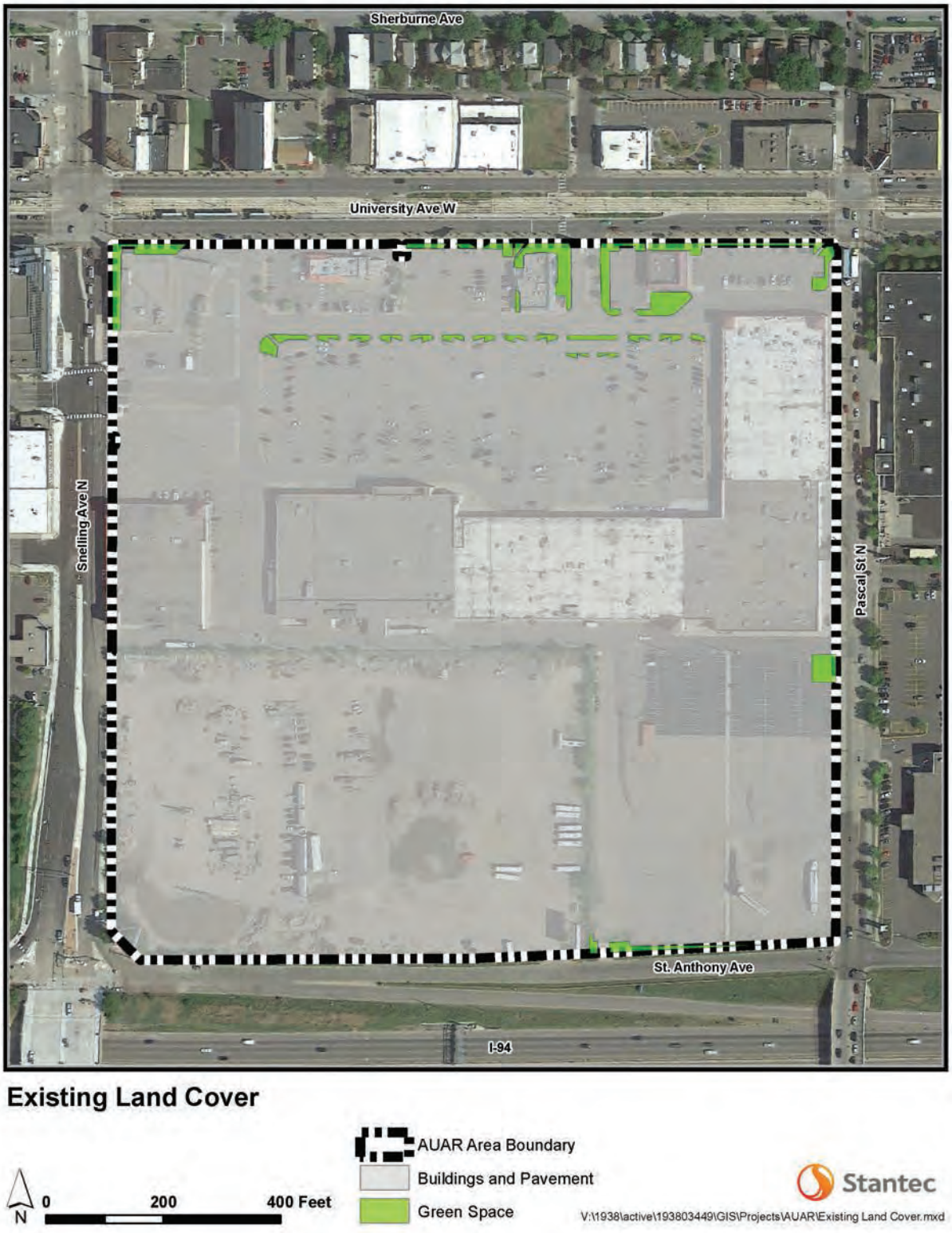


Figure 7-2 Scenario 1 Post-Construction Land Cover

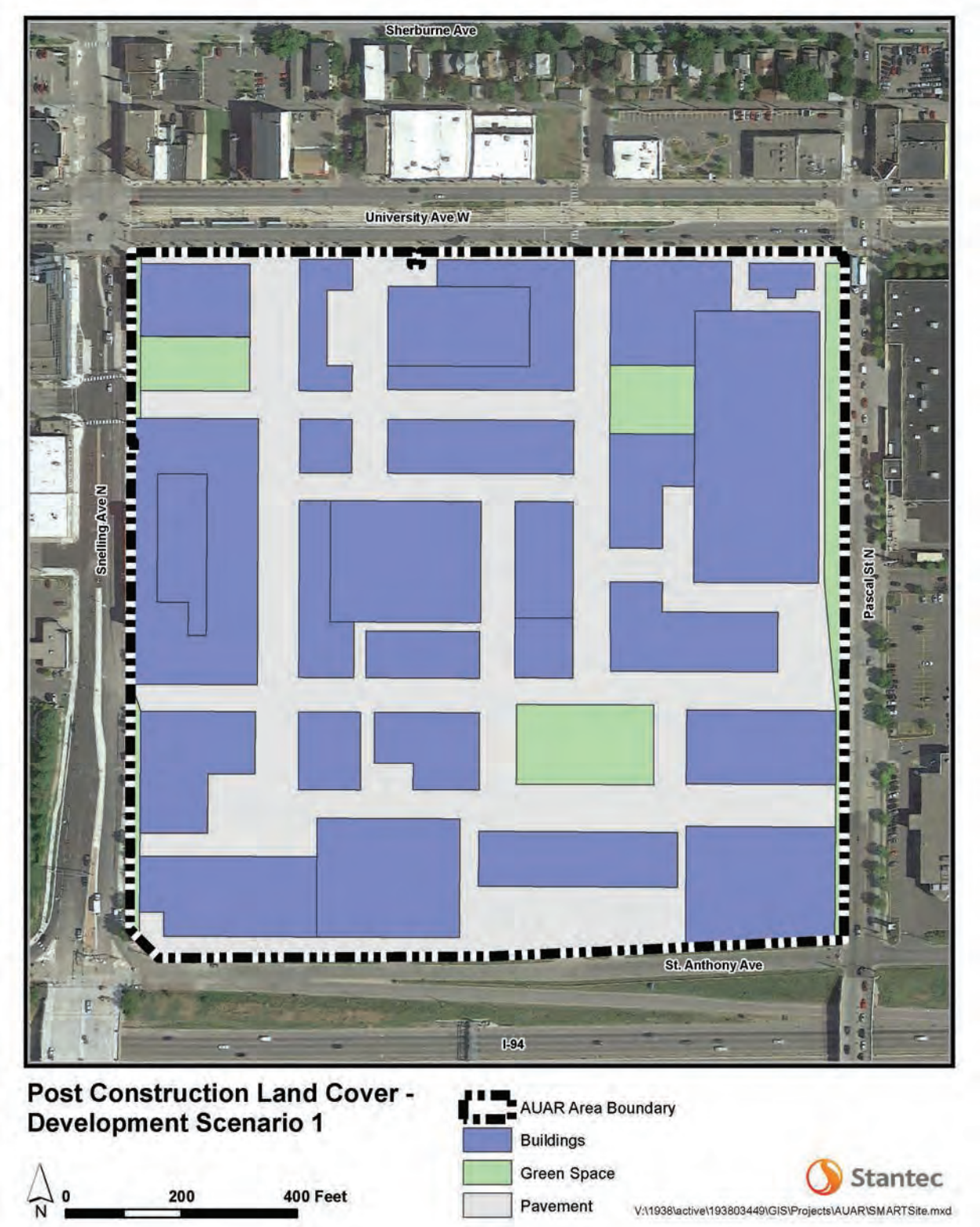


Figure 7-3 Scenario 2 Post-Construction Land Cover

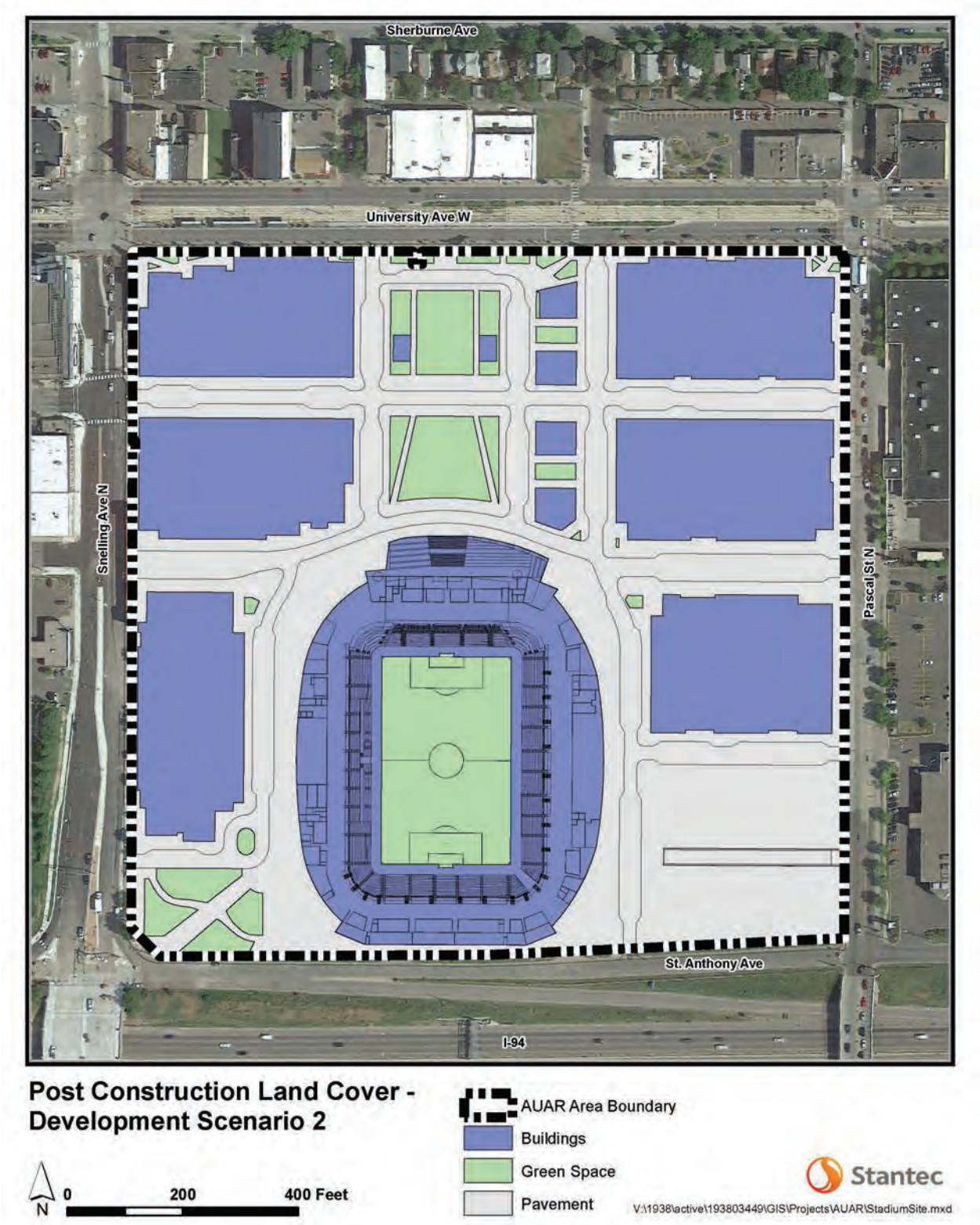


Figure 9-1 Existing Land Use

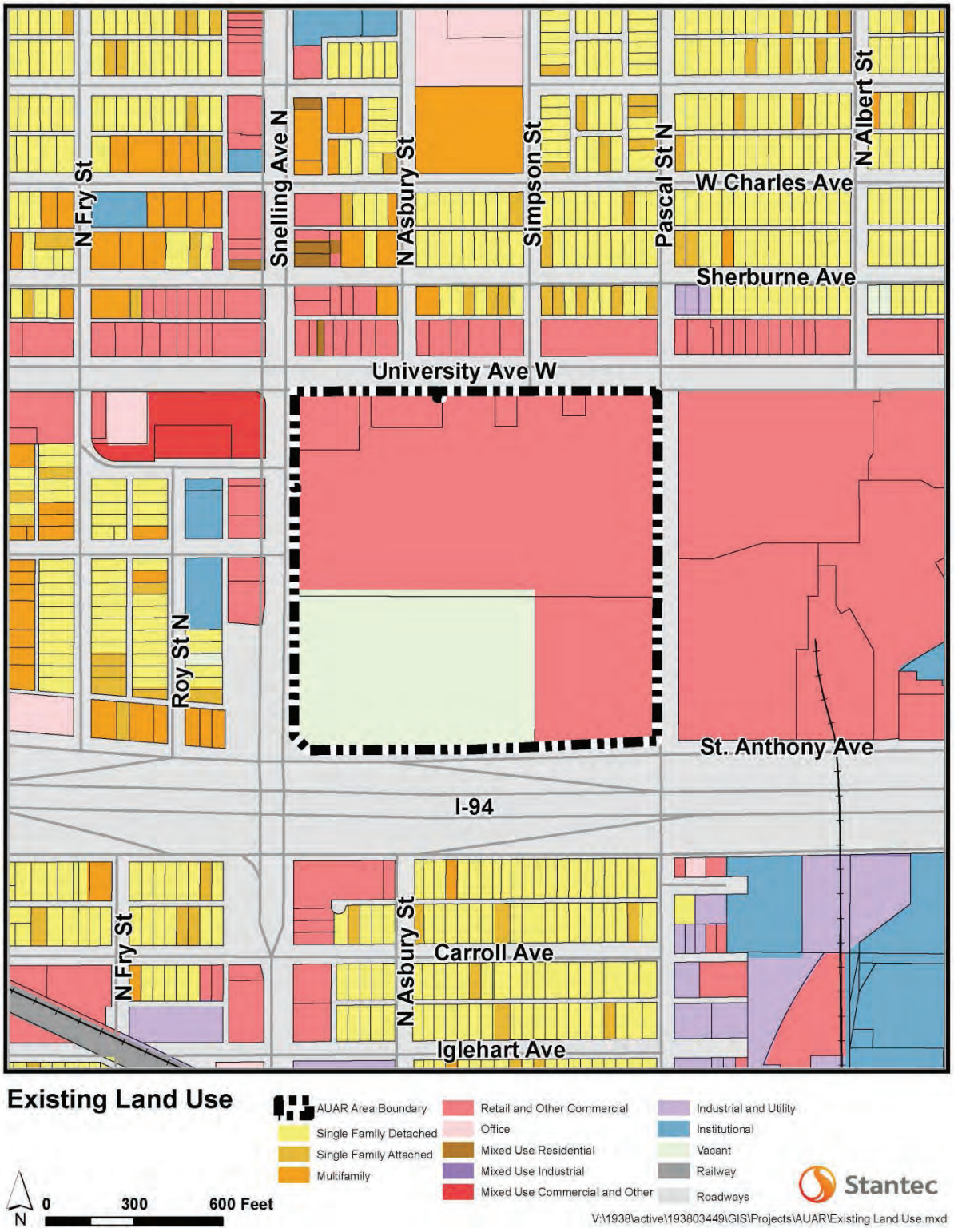


Figure 9-2 Future Land Use

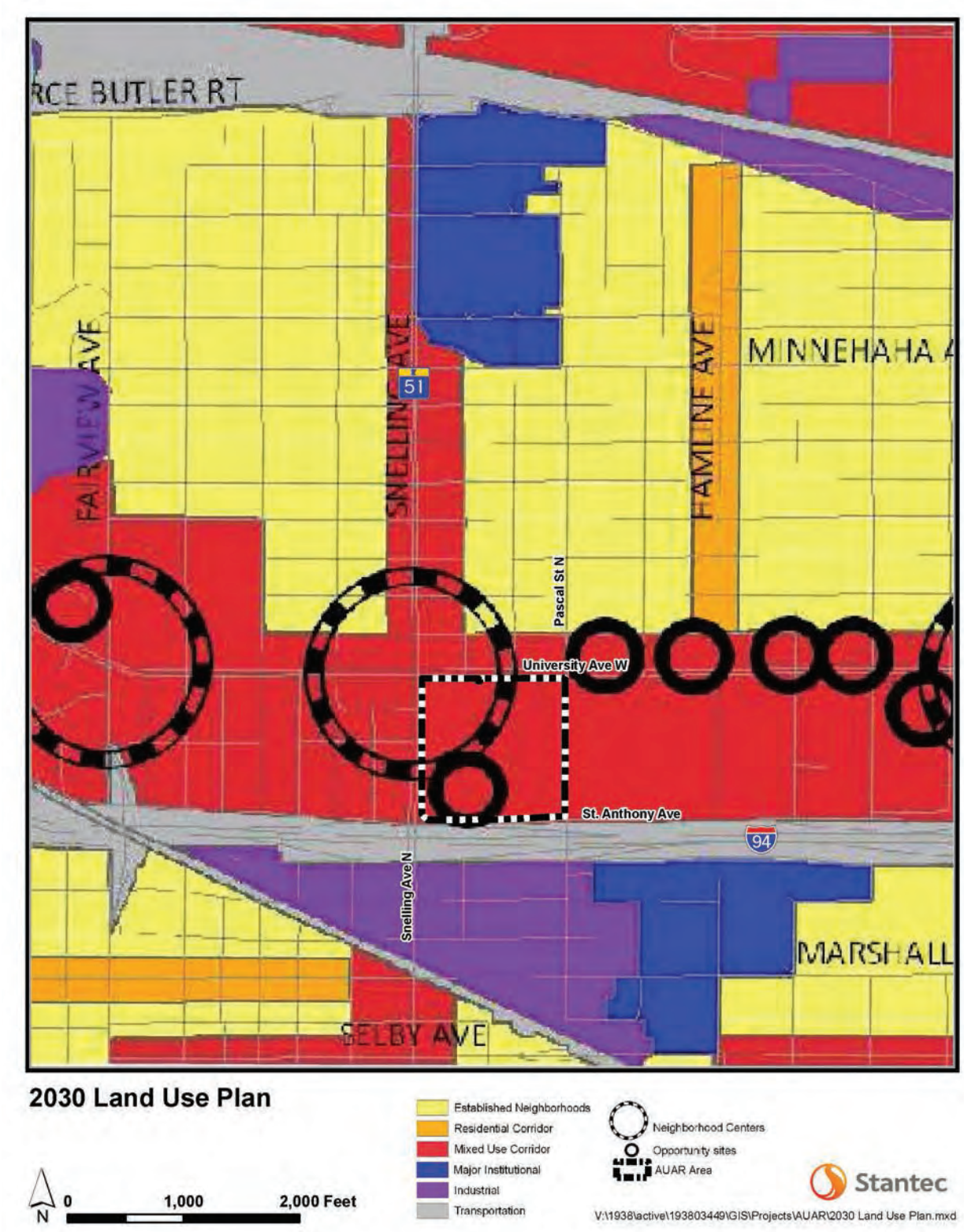


Figure 9-3 Existing Zoning

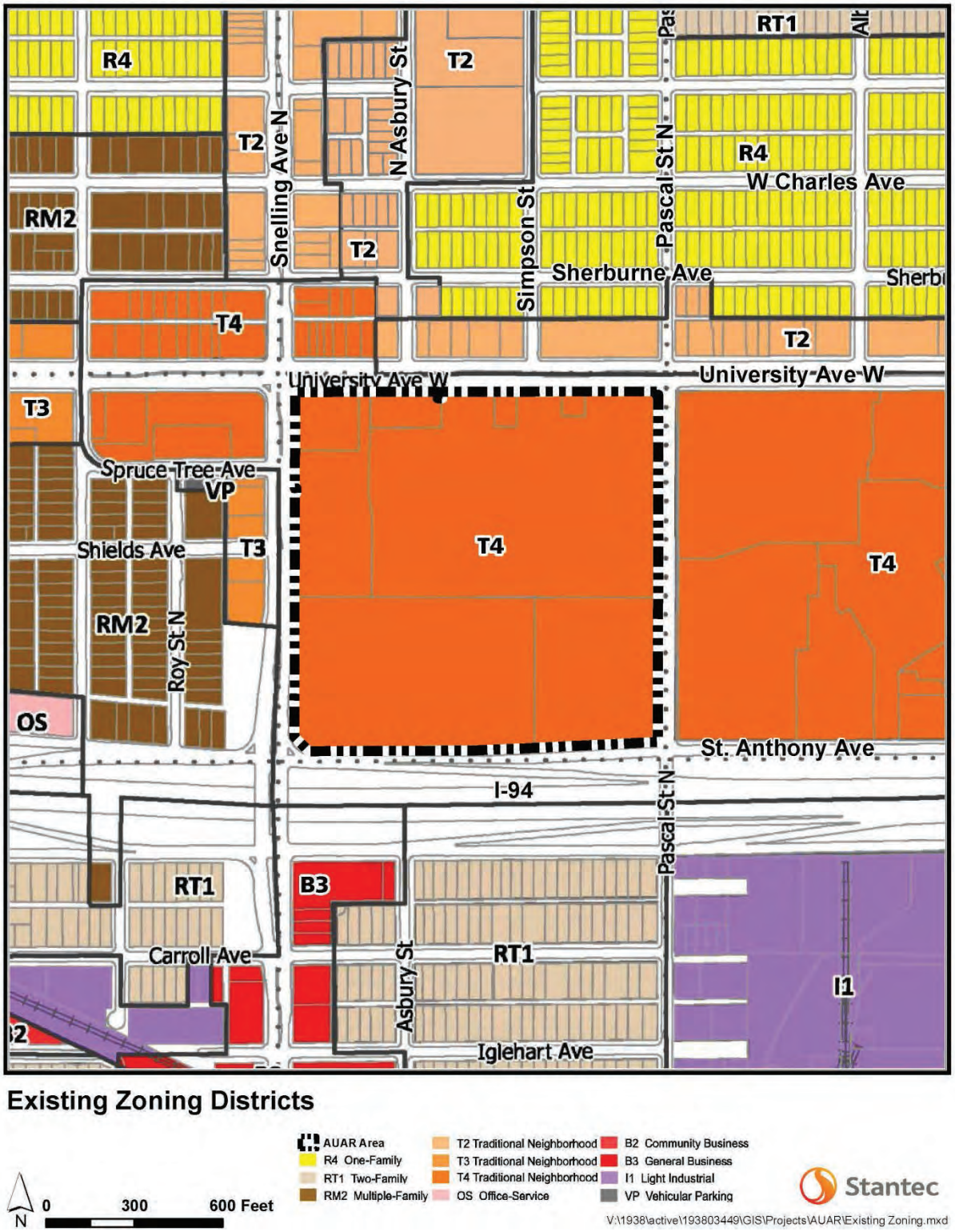


Figure 10-1 Soils and Topography

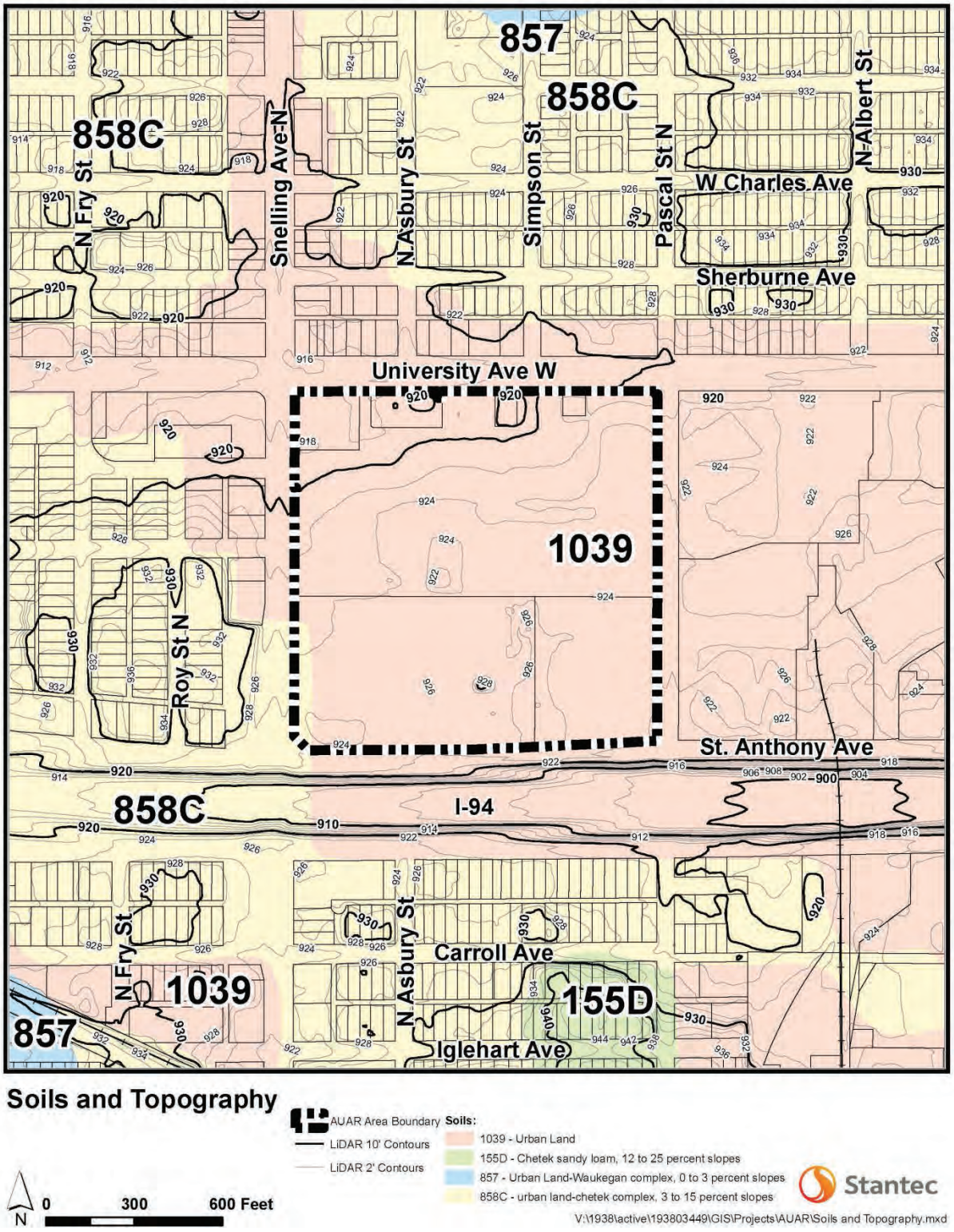


Figure 11-1 Wells within the AUAR Area

Figure 15-1 Scenario 2 Stadium Lighting Direction

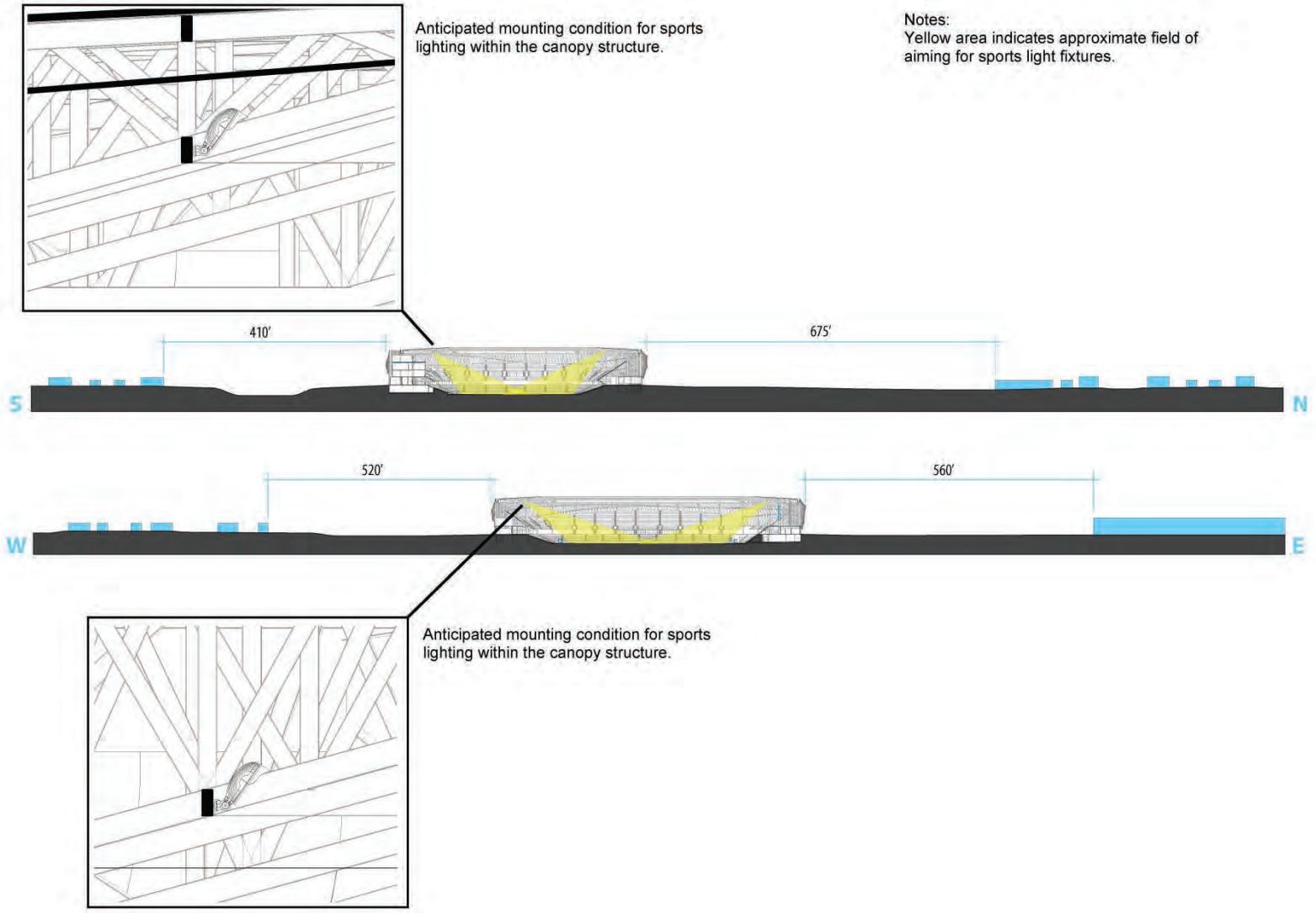


Figure 17-1 Stadium Noise

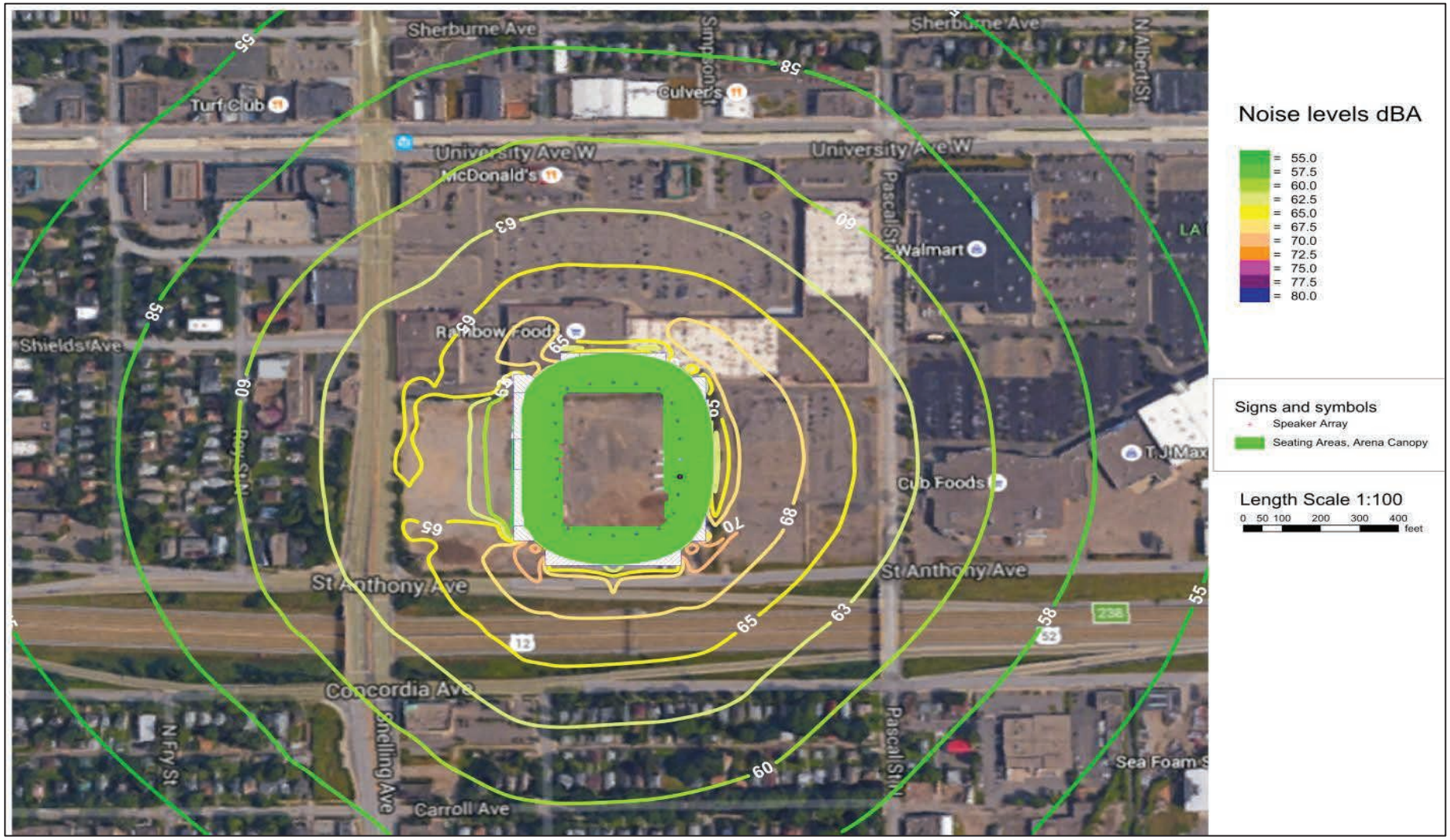


Figure 17-2 Stadium Sound System Noise Contours

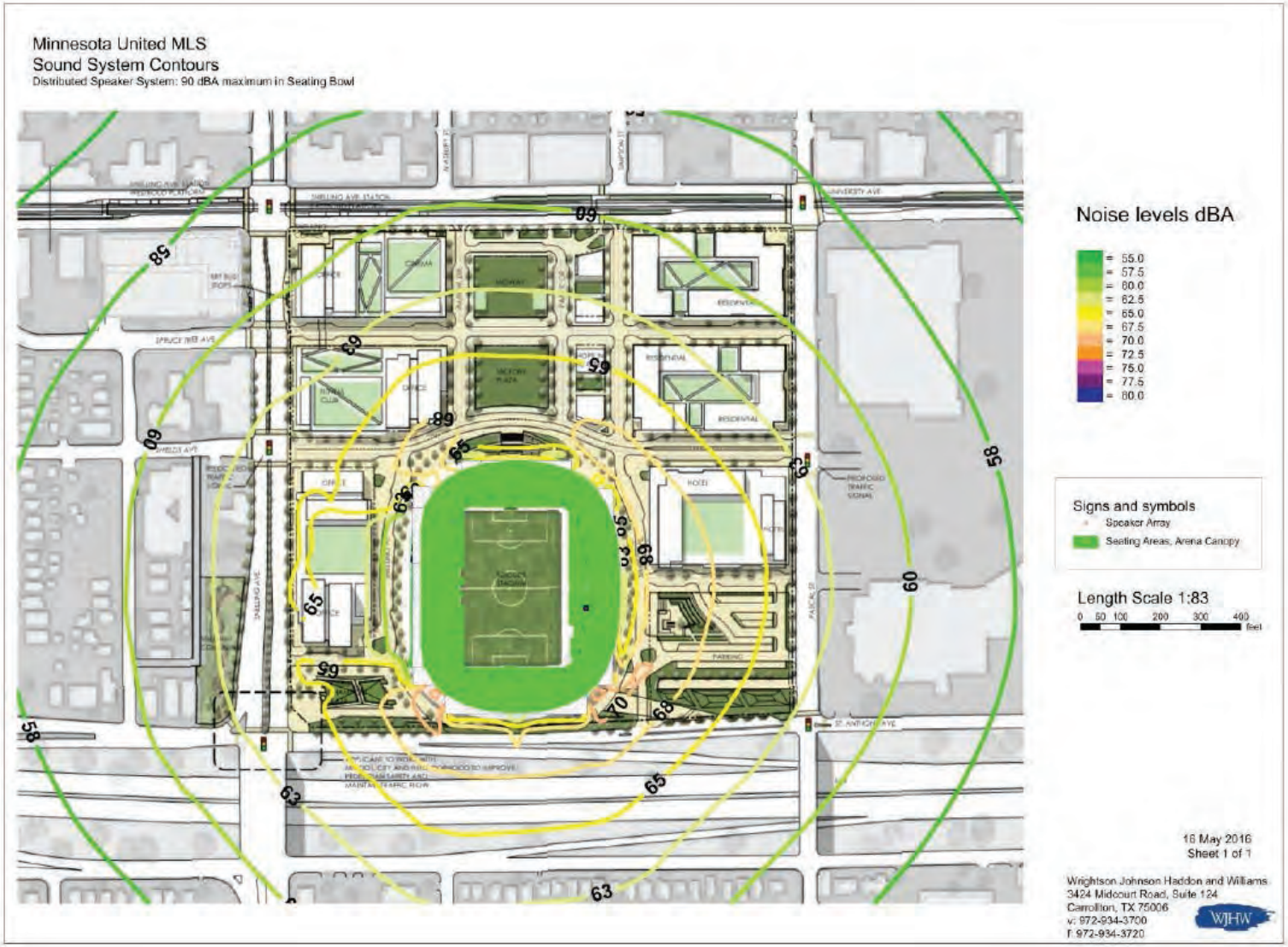


Figure 17-3 Traffic Noise

RK Midway Master Plan - Traffic Noise Analysis
Snelling Midway Stadium Environmental Review
City of St. Paul

0169154
April 2016

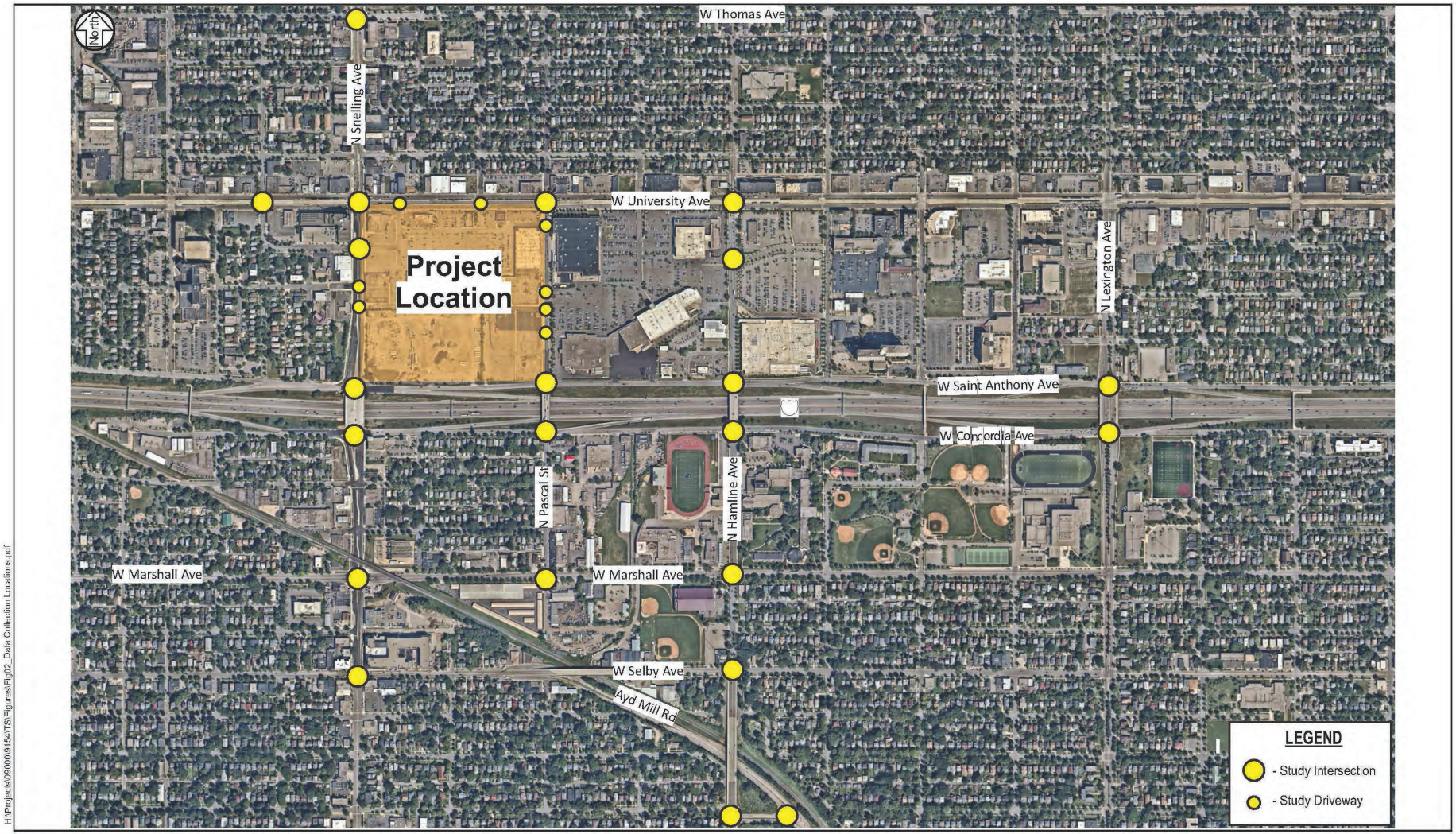
SRF Consulting Group, Inc.

Project Location

Snelling Midway Stadium AUAR
City of St. Paul

0169154
April 2016

Figure 18-1

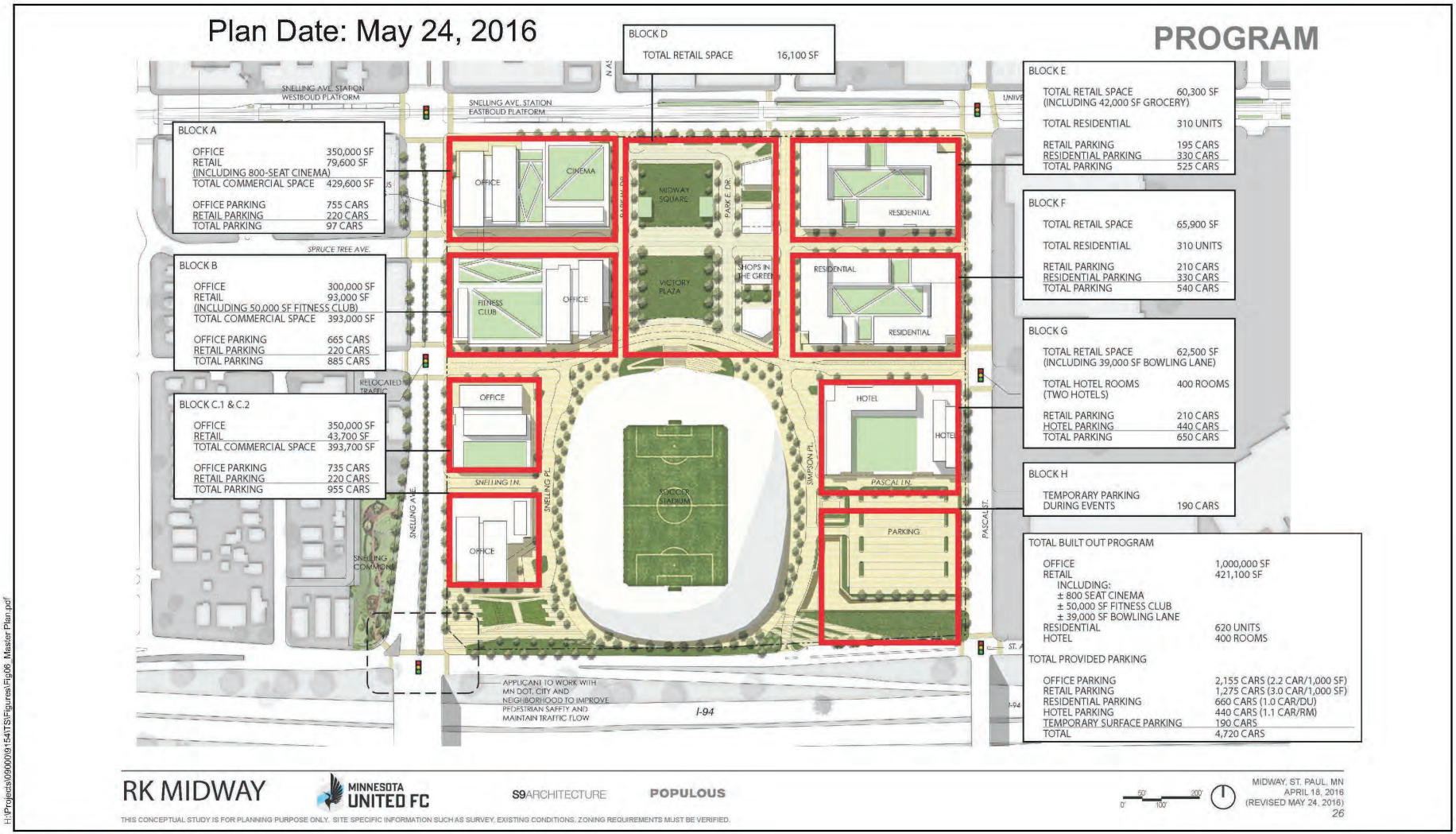


SRF Consulting Group, Inc.

0169154
April 2016

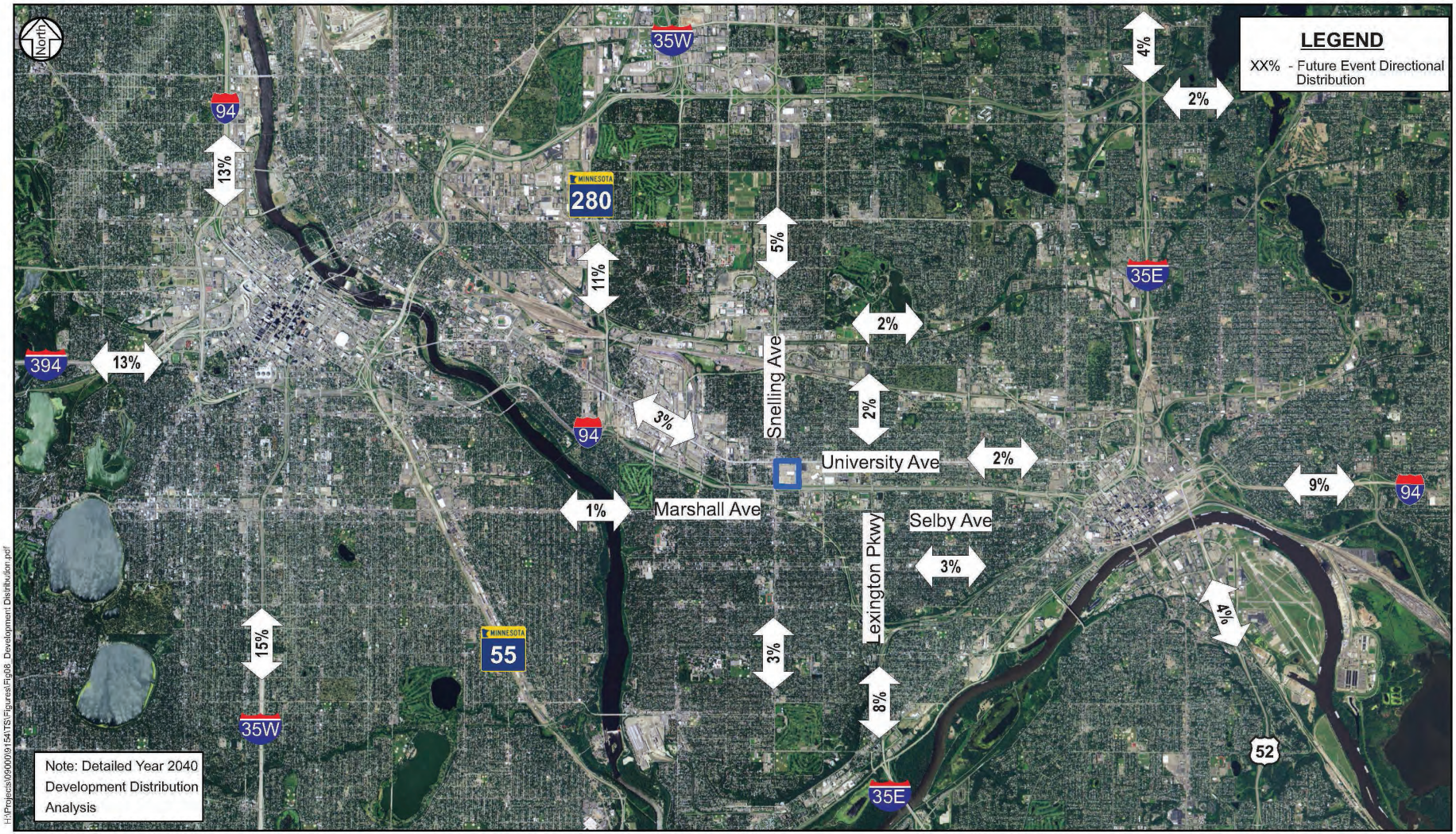
Data Collection Locations
Snelling Midway Stadium AUAR
City of St. Paul

Figure 18-2



RK Midway Master Plan
Snelling Midway Stadium AUAR
City of St. Paul
0169154
April 2016

Figure 18-3

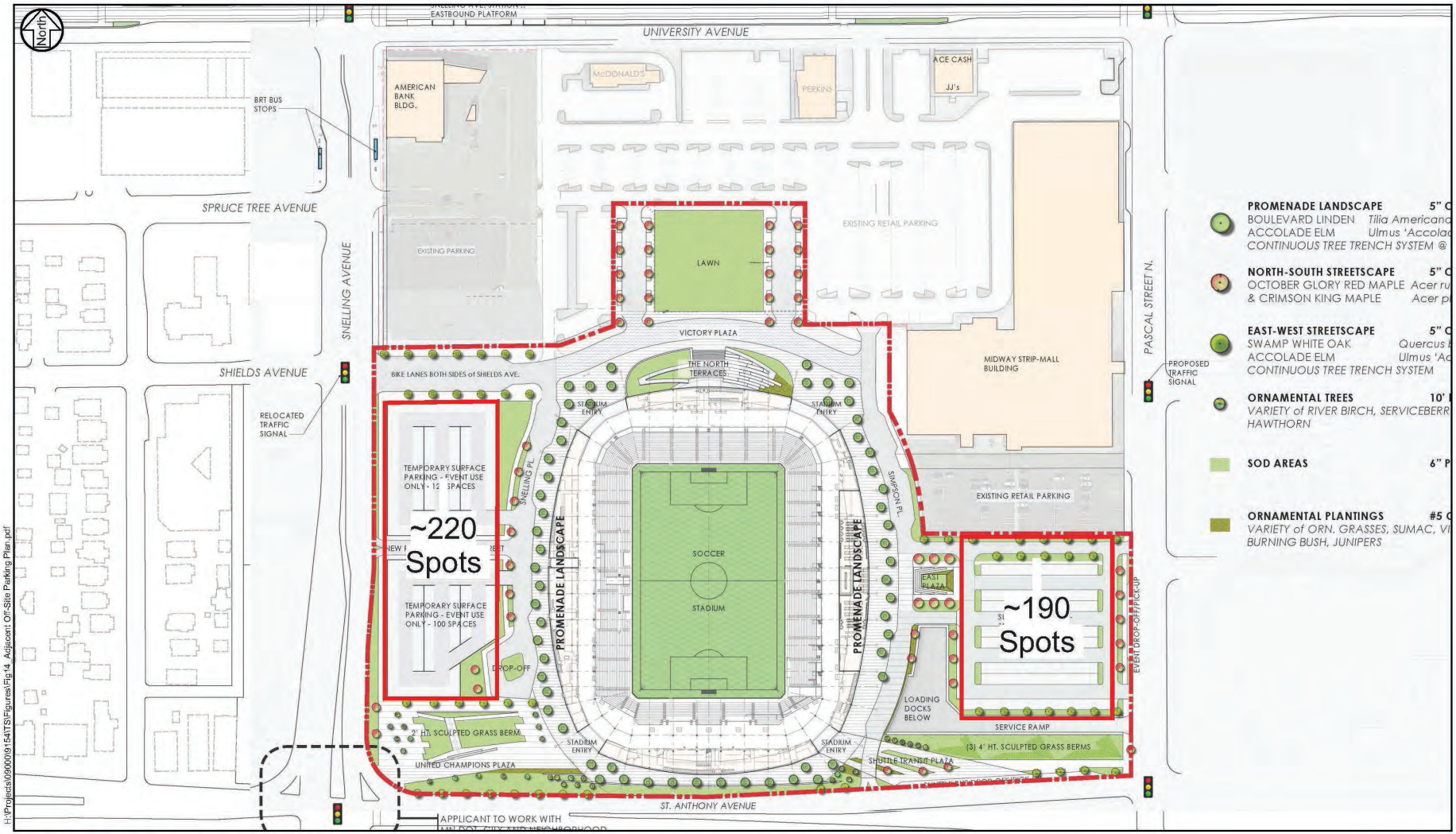


SRF Consulting Group, Inc.

0169154
April 2016

Development Distribution
Snelling Midway Stadium AUAR
City of St. Paul

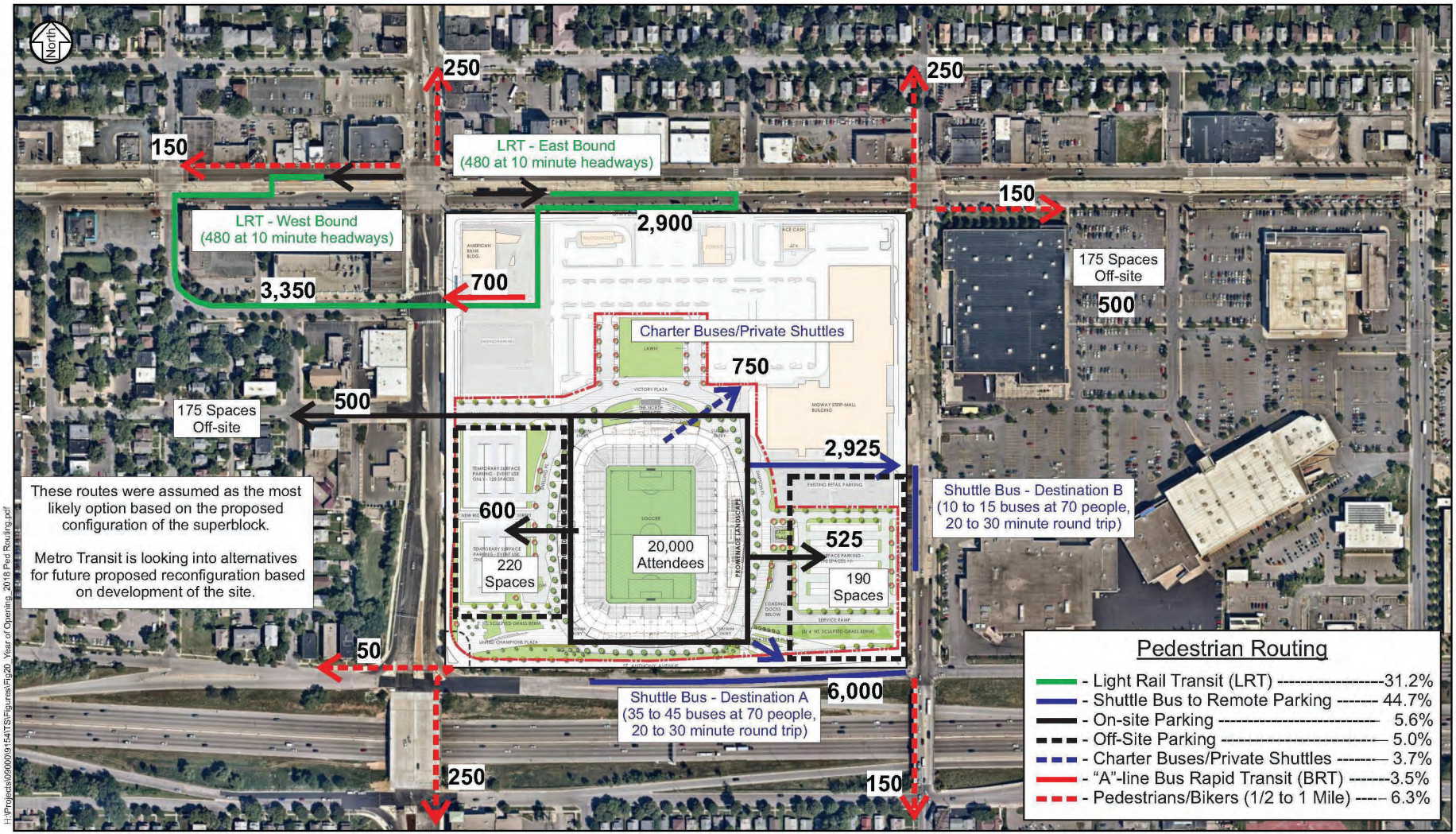
Figure 18-4



SRF Consulting Group, Inc.
0169154
April 2016

Year of Opening On-Site Parking
Snelling Midway Stadium AUAR
City of St. Paul

Figure 18-5

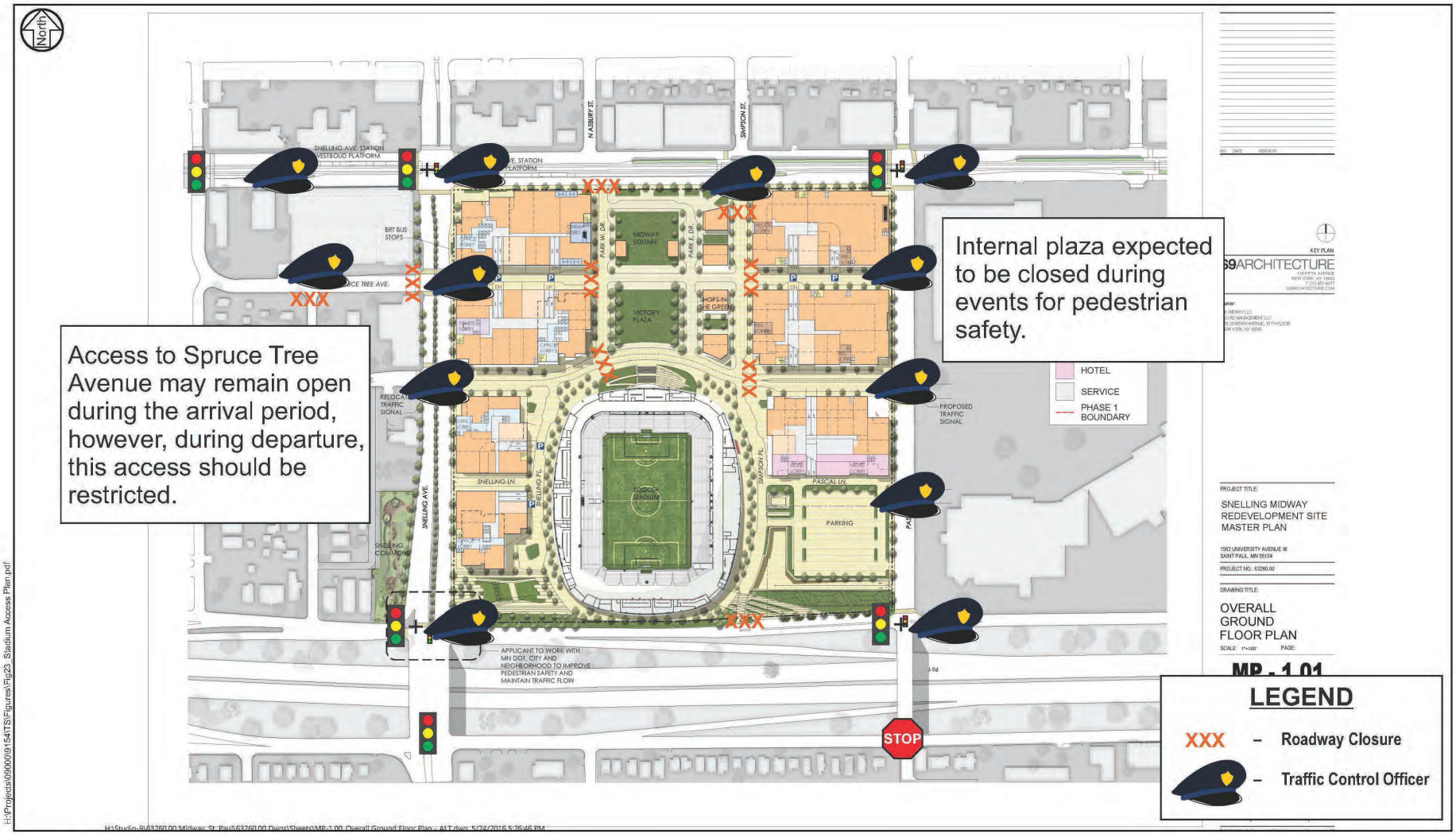


H:\Projects\09000\0915411TS\Figures\Fig20_Year of Opening_2018 Ped Routing.pdf

SRF Consulting Group, Inc.
0169154
April 2016

Year of Opening 2018 Event - Potential Pedestrian Routing of Capacity Event (Mode Selection - Potential Plan)
Snelling Midway Stadium AUAR
City of St. Paul

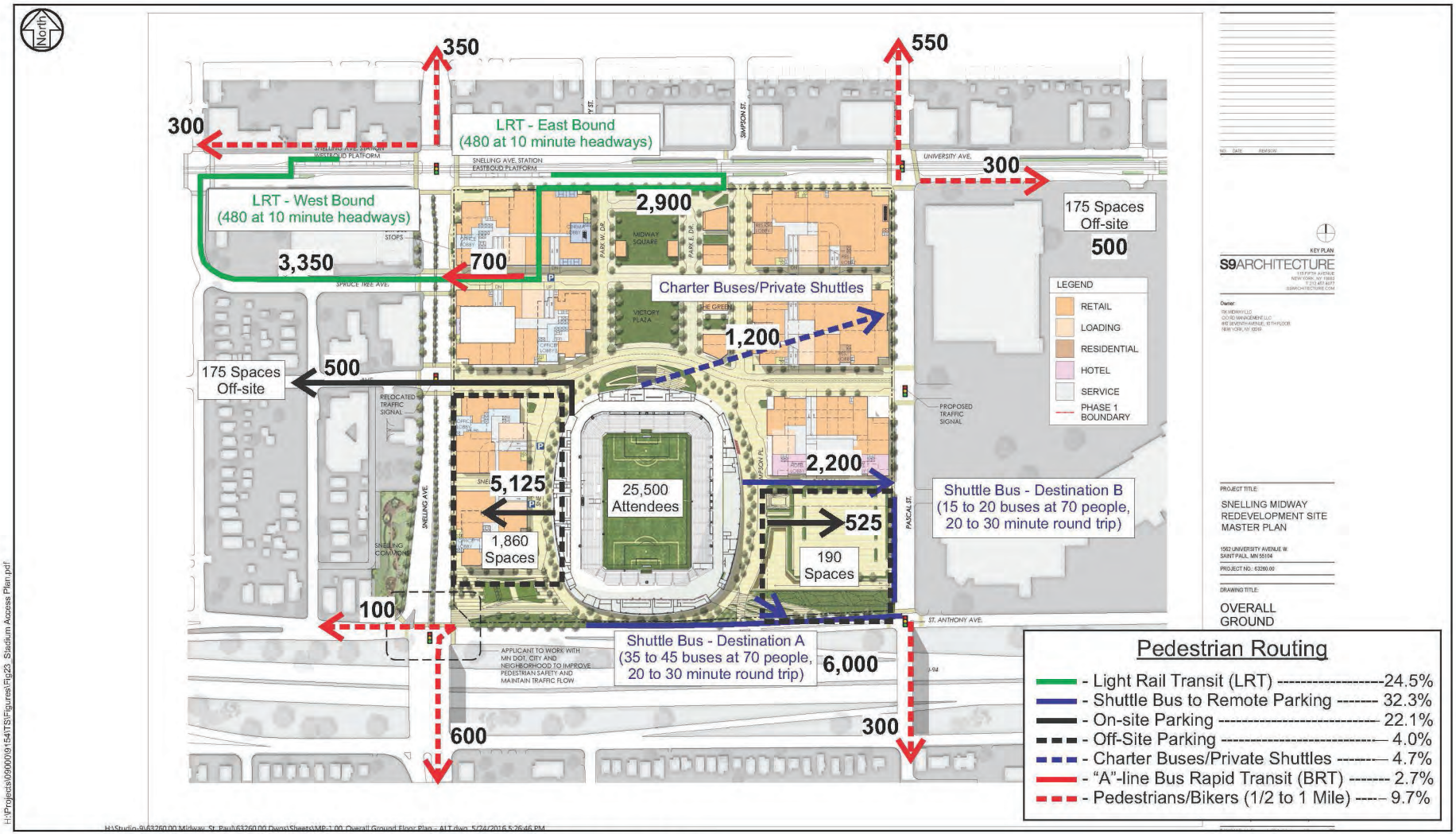
Figure 18-6



SRF Consulting Group, Inc.
0169154
April 2016

Year 2035 Event Traffic Control
Snelling Midway Stadium AUAR
City of St. Paul

Figure 18-7



H:\Projects\09000\09154\TS\Figures\Fig23_Stadium Access Plan.pdf

SRF Consulting Group, Inc.
0169154
April 2016

Year 2035 Event - Pedestrian Routing Capacity Event (Mode Selection - Potential Plan)
Snelling Midway Stadium AUAR
City of St. Paul

Figure 18-8

Appendix B

Cultural Resources Analysis

Cultural Resource Analysis, Alternative Urban Areawide Review (AUAR) for the Proposed Minnesota United Midway Project, City of St. Paul, Ramsey County, Minnesota. MNSHPO # 2016-1711

Prepared for Stantec Consulting Services, Inc.

15 May, 2016

John G. Hodgson
Principal Investigator
Phase One Archaeological Services Inc.
5618 Hempstead Road
Madison, Wisconsin, 53711

Abstract

The following report describes the results of a cultural resources field and literature research study conducted to partially fulfill the requirements of an AUAR study for the proposed multi-use development of a 34.5-acre parcel located north of I-94 in the Township of Rose, in the City of Saint Paul, Ramsey County, Minnesota.

The proposed project will involve the demolition of the Midway Center Shopping Mall and several other structures for the proposed construction of an 18,000 seat stadium with expansion and standing room capacity to accommodate a maximum of 25,500 visitors in the AUAR area. The remainder of the site will be redeveloped in a phased manner to accommodate a mixed-use development including retail and service commercial, hospitality, residential, office, potentially institutional uses and public and private open space.

Based on the results of the investigation, the current project design will not have direct adverse effects on any currently listed NRHP listed properties located within the 34.5-acre direct APE.

While no structures are listed or currently identified as eligible for the NRHP are located within the 34.5-acre parcel, the principle investigator recommends that the MNSHPO be contacted and consulted regarding the potential eligibility of the former Midwest National Bank Building (RA-SPC-2991) for the NRHP. Despite changes to the original building exterior and interior design, this structure retains element of its original integrity that are characteristic of the modernist architectural style. RA-SPC-2991 warrants further evaluation to determine if the building is eligible for inclusion in the NRHP.

Depending on the final design plan, the principal investigator recommends consultation with SHPO regarding further study of the potential for adverse effect on structures that will require further evaluation to determine the potential that they are eligible for inclusion in the NRHP: The Central Baptist Church (RA-SPC-3224), the Bethlehem Lutheran Church (RA-SPC-3225), and the former Aston Building (RA-SPC-3910).

In addition to these three structures, one building (RA-SPC-3912), the former Quality Park Investment Building (now Midway Books) has been determined as eligible for the NRHP and nomination is in process through MNSHPO. MNSHPO should also be consulted regarding the potential for adverse effect on the structure once the construction design for the development of the project area is finalized.

Table of Contents

Figures

Introduction:

The following report describes the results of a cultural resources field and literature research study conducted to partially fulfill the requirements of an AUAR study for the proposed multi-use development of a 34.5-acre parcel located north of I-94 in the Township of Rose, in the City of Saint Paul, Ramsey County, Minnesota (Figures One and Two).

The study was initiated by Stantec Consulting in April 2016 following requirements for AUAR evaluations as outlined in Minnesota Administrative Rules 4410.3610. The study was conducted in order to determine if the proposed Minnesota United MLS Stadium and Mixed Use Urban Village project would potentially cause significant environmental impacts to occur to cultural resources located within the Area of Potential Effect (APE).

The investigation was conducted from April 25 through May 22, 2016 by a team of two individuals, John G. Hodgson (Principal Investigator [P.I.]) and Miriam L. Hernandez (Asst. to P.I.).

All aspects of the reported investigation were conducted in accordance with methodological guidelines of the *State Historical Preservation Office Manual for Archaeological Projects in Minnesota* (Anfinson 2001), the *Guidelines for History/Architecture Projects in Minnesota* (SHPO 2009), and the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (National Park Service [NPS]1983).

The investigation methods outlined in the above publications are endorsed by the Minnesota State Historical Preservation Office (MNSHPO) and provide the standard for conducting legislative compliance-related archaeological/cultural resource research in Minnesota.

During the investigation, databases, historical documents and other resources maintained at the Minnesota History Center and other locations were consulted for available information on previously identified cultural resources located in the APE. Cultural resources investigated during the study included archaeological sites and historical/architectural (e.g. standing structures) resources reported to be located within the immediate areas of planned construction and within a one-mile radius of the 34.5-acre parcel.

Prior to the field visit to the project location, representatives of the Minnesota State Historical Society (MSHS), the MNSHPO were consulted regarding study methods and techniques to be used during the investigation.

Database literature research was conducted at the Minnesota History Center (MHC) by Mr. Thomas Cinadr in St. Paul on March 17, 2016.

A detailed review of MNSHPO topographic maps and site/structure files was conducted in the MNSHPO office and the MHC Archives by the P. I. during several visits in May of 2016. In addition to resources at the MSHS Minnesota History Center, additional documents and sources of information were examined on-line and at the Ramsey County Historical Society in St. Paul by the P.I.

Location of Project Area:

The proposed project area is located in the City of St. Paul, Rose Township, Ramsey County, Minnesota. The project area is situated in the NW ¼ of the SW ¼ of Section 34, Township 29 North, Range 23 West (Figures One and Two).

Natural Environment and Soils

At the time of the cultural resources investigation in Spring 2016, the majority of the project area consisted of an open air shopping mall and several free-standing commercial buildings surrounded by paved parking areas. The southern project area consisted of a vacant partially paved lot covered in pavement and compacted non-naturally deposited soils with crushed gravel (Figure Five).

The general project area is located within the Mississippi River Basin. While the project area is now drained with municipal storm water systems, before urbanization, it was drained by small intermittent streams/creeks that eventually flowed into the Mississippi River (Minnesota Department of Natural Resources 2012).

The project area is located in the ecological zone of the St. Croix Outwash Plain & Stagnation Plains (MNDNR System) and Oak Savanna regions of southeastern Minnesota. At the time of Euro-American settlement and the general area consisted primarily of uplands with low rolling hills formally used as pasture and agriculture which now have been replaced by wooded residential/commercial lots and structures.

Natural soils reported for the general area are predominately loams, silt loams, and sandy loams with intermittent small areas of sands. The modern classification for the area by the NRCS is "Urban Land" (1039) (NRCS/USDA 1980). Geomorphological borings made in 2015 indicated that the area of the project also had been filled in to depths of 2-20 feet with non-natural soils and fill materials (information from Stantec representatives).

Project Description

The planned future use for the property will involve multi-use development including the construction of various facilities and commercial office buildings. At the time of writing this report, the final design plan for development was not completed but several tentative designs provide an indication of plans for construction (Figures Six-Eight).

The AUAR analyses two different development scenarios, Scenario one features a mix of residential, commercial and parking areas. Buildings will range from two to ten stories tall.

Scenario two also features mixed residential, retail and office space. The new structures will range from 70 to 290 feet tall. The scenario also features the Minnesota United MLS stadium. The proposed stadium would seat 20,000 and be located in the southern portion of the AUAR area.

Both development scenarios currently propose full redevelopment of the site and demolition of all existing structures located within the 34.5-acre parcel. Development of both scenarios would occur in phases.

Cultural Resources AUAR Investigation

The goal of the archaeological and architectural/historical cultural resources AUAR investigation was to determine whether the project area contains cultural resources that are listed in, or are potentially eligible for listing on the National Register of Historic Places (NRHP) or are significant enough for further investigation in order to determine the potential for eligibility under MN guidelines for documentation of historical resources (SHPO 2009).

The survey for the cultural resources (archaeological, architectural, and historical) investigation identified all known archaeological sites, above-ground buildings, structures, historical features/objects, landscapes, and NRHP districts within the defined direct APE (34.5-acre parcel).

The purpose of the investigation was to determine whether the proposed project area and visual APE contains any cultural resources that are listed in the NRHP or that had been identified as being eligible, or as being potentially eligible for listing on the NRHP.

After cultural resources located within the APE had been identified, a field visit was made to the proposed project area and NRHP criteria were applied to standing structures located within the direct APE (National Park Service 1983):

A. That are associated with events that have made a significant contribution in our past; or.
B. That are associated with the lives of persons significant in our past; or.
C. That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded or may be likely to yield information important to prehistory or history.

When the project design plans are finalized, the cultural resources identified in the AUAR to be in the indirect APE can be assessed using the above criteria as well.

Research Design and Methodology

The total area investigated consisted of the AUAR main area which was the 34.5-acre parcel. This area is the “Direct APE” assessed for direct potential for adverse effect such as demolition and physical modification by proposed project plans. In addition to Direct APE, the surrounding area was considered for potential visual or “indirect” effect. The “Indirect APE” was based on

the visual and potential for aesthetic effect for the proposed construction activities on cultural resources surrounding the 34.5-acre parcel planned for development.

Based on the findings of earlier culture resources investigations for the area such as the Central Corridor/Green Line Light Rail Project (LRT) (RCRRA 2006 and 2008) and work for the A-Line Bus route (Nelson et. Al. 2015), as well as documentation obtained from primary and secondary resources, information from previous investigations combined with the field visits to the project area in May, 2016 in most cases provided sufficient information to make decisions about which properties located within the indirect APE remained potentially eligible for listing in the NRHP.

A review of the results of earlier investigations also identified those properties that had been subjected to changes that made them no longer eligible for the NRHP due to lack of significance and/or integrity or had been razed since they had been reported to MNSHPO and require no further investigation.

Literature Investigations:

During the investigation cultural resources databases, modern and historical documents and various files at the MNSHPO, MNHS Archives and the Ramsey County Historical Society were examined to identify archaeological sites, standing structures, and other historic/cultural resources located within the boundaries of the proposed project area.

Sources examined during the investigation included 19th and 20th century plat maps for Ramsey County (Andreas 1874; Hopkins 1916. 1928) and Sanborn Fire Insurance Maps (Sanborn 1926), land use records (Ramsey County Historical Society files), descriptive histories (Castle 1912; Diers and Issacs 2007; Foote 1881) and newspaper/journal clippings etc. available at the Ramsey County Historical Society, the Minnesota Streetcar Museum and on-line.

The project area was a recreational park in the 1870s that was located to the west of a horse race track (Andreas 1874). By 1907, the area had begun to be used by streetcar companies which led to development of the entire parcel as a maintenance facility and yard for the Minneapolis Street Railway Company and the Saint Paul City Railway Company (Figures Fifty-Eight and Fifty-Nine). The streetcar facilities were replaced by the construction of new facilities in the 1940s and 1950s for gasoline powered motorized transit buses leading to the construction of bus barns that were located behind the shopping center in Areas B and C shown in Figure Five. The bus barns and supporting smaller structures on the site that were razed in 2001.

Minnesota Archaeological Inventory Database

No archaeological sites have been previously reported to be located within the immediate area of the proposed project boundaries. One archaeological site; 21-RA-0015 (Merriam Park), an Euro-American structural ruin, is reported for the adjacent section 33, Twp. 29 North and Range 23 West (Figure Sixty). The archaeological site is located outside of the proposed project area and will not be physically disturbed or subjected to other adverse effect by the planned construction activities.

Minnesota Architecture-History Inventory Database

A large number of standing structures and other locations of historical interest are reported and documented by the MNSHPO in their History/Architecture Inventory database to be located within a one-mile radius of the proposed project area (Figures Sixty-One-Seventy-One). The majority of these structures will not be impacted physically or visually by the proposed project activities and many of the buildings are not eligible for evaluation for, or inclusion in the NRHP.

Structures that were reported to be located outside of the direct APE and were selected for further consideration in the AUAR study are highlighted in yellow in Figures Sixty-One through Seventy-One. After field evaluation, the majority of these structures also were determined to either not be eligible (majority documented as not eligible for NRHP in MNSHPO files) or to be situated in areas where the potential for indirect adverse effect does not exist from the proposed project construction plans. Structures highlighted in purple are located in the direct APE and buildings highlighted in green had been razed prior to the reported study.

Project Field visits to the Investigation Area:

Direct APE

Following historical and literature research, a series of field visits were made to the proposed project area in May of 2016.

Archaeology

The entire project area is paved or covered with crushed gravel or fill deposits. While structures were present since the early 20th century and there may be intact subsurface archaeological deposits, at the time of the field investigation, it was not possible to conduct shovel testing.

Architecture/Historical Resources

Visual inspection of the project area revealed that 5 standing structures are present in the direct APE that are considered for demolition as part of the planned project.

Three of the structures located in "Area A" (See Figure Five for numerical designation of structures in project area); Structure 3-McDonalds (Figures Thirty-Eight-Forty), Structure 4-Perkins (Figures Fifteen-Sixteen and Forty-One-Forty-Two), and Structure 6-Multi-vender commercial building (Figures Forty-Three-Thirty-Four) at the project location are recent/modern commercial buildings constructed in the early 1990s and do not meet criteria for inclusion in, or further evaluation to determine eligibility for inclusion in the NHRP and no further investigations were deemed as being required prior to demolition.

Structure 2 (RA-SPC-2993) is recorded in the MNSHPO inventory of Architectural/Historical Resources and while not recorded in the inventory, the Midway Center Shopping Mall (Constructed 1954-1958) both meet the minimum age requirement for listing in the NRHP but due to changes to the exterior and interior facades and treatments of the buildings (concrete

block and faux “stucco” facades constructed since 1991) neither currently represent properties meeting conditions for inclusion in or further evaluation to determine eligibility for inclusion in the NRHP under NPS guidelines for evaluation of historic properties (NPS 1983).

The former Midwest National Bank Building (RA-SPC-2991), constructed circa 1960, is an example of modernist architecture that is located in the northwest corner of the project area at the intersection of Snelling and University Avenue (Figures Twenty-Six-Thirty-Seven). The original building has been modified with sash windows being replaced in the front facade (University Avenue) with glass and aluminum curtain walls at some time before 2005. Despite modification and remodeling, the building may be eligible for the NRHP and it is recommended that the MNSHPO be consulted regarding evaluation of the building for eligibility in the NRHP.

Indirect APE

One short-coming for the information presented in this report and one that limits fulfilling the goals of the AUAR is that the final design plans for construction and development of the Midway property were not prepared at the time of writing. For a number of cultural resources located within the potential indirect APE surrounding the 34.5-acre parcel, an assessment of the potential for adverse effect could not be made at the time of writing this report.

Depending on the final design plan, several standing structures within the immediate area of the proposed project area are of potential concern if the 5-10 story residential buildings are constructed as presented in Figures Seven and Nine. The structures recommended for further evaluation for a potential adverse effect and eligibility for the NRHP are outlined in the following section of the report.

Study Results and Recommendations:

Based on the results of the investigation, the current project design will not have direct adverse effects on any currently listed NRHP listed properties located within the 34.5-acre parcel of the main project area. The project area does not contain any currently identified archaeological sites or materials.

The principle investigator recommends that the MNSHPO be contacted and consulted for the potential eligibility of the former Midwest National Bank Building (RA-SPC-2991), despite changes to the original building design and facades etc. this structure displays integrity characteristic of the modernist architectural style and warrants further evaluation to determine if the building is eligible for inclusion in the NRHP.

If not found to be eligible, it is recommended that the building be documented and recorded with professional quality photographs of the exterior and interior of the building etc. prior to demolition.

Depending on the final design plan with special concern to planned structure height, the principal investigator recommends consultation with SHPO regarding further study of the potential for adverse effect on structures that will require further evaluation to determine the potential that

they are eligible for inclusion in the NRHP. Of special interest are the Central Baptist Church (RA-SPC-3224), the Bethlehem Lutheran Church (RA-SPC-3225), the former Aston Building (RA-SPC-3910).

In addition to these three structures, one building (RA-SPC-3912) located on University Avenue and Snelling Avenue, the former Quality Park Investment Building (now Midway Books) has been determined as eligible for the NRHP and nomination is in process through MNSHPO. MNSHPO should also be consulted regarding the potential for adverse effect on this structure.

It is important to note that any modifications to the project design may require additional investigations and a modified survey report. If changes are made to plans, personnel at the MNSHPO should be consulted to ensure that compliance standards have been met prior to any construction at the proposed site location.

In the event any archaeological materials are encountered during the project, it is recommended that all construction activities be brought to a halt and the P.I. or the MNSHPO/OSA should be consulted prior to continuing work.

Pursuant to Federal and Minnesota State laws (Statute 307.08), should grave markers or human skeletal remains be encountered during construction, all activities in the find area are required to cease immediately and the MOSA must be contacted at 612-725-2411 for further instructions.

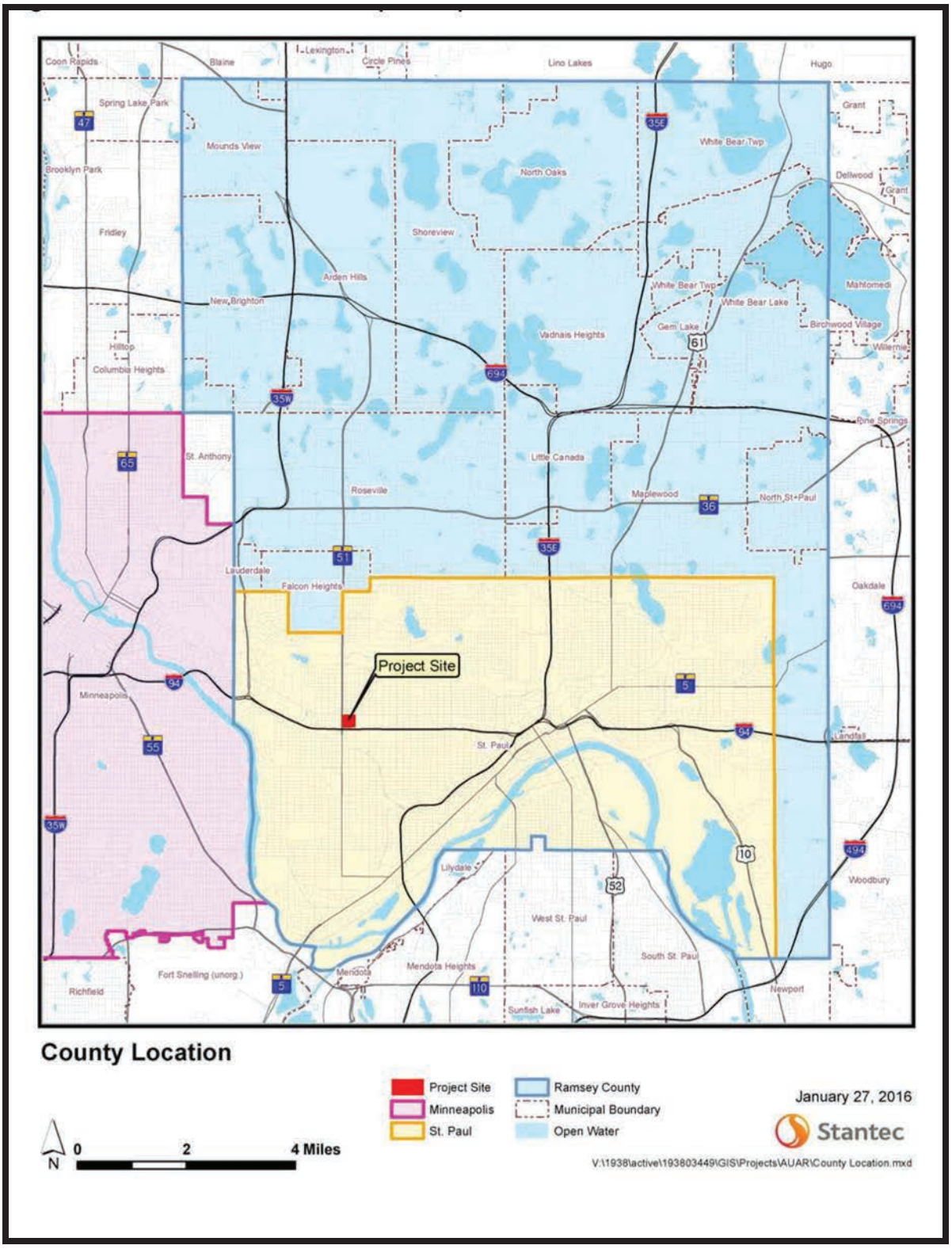


Figure One: Project location plotted in Ramsey County (Courtesy of Stantec).

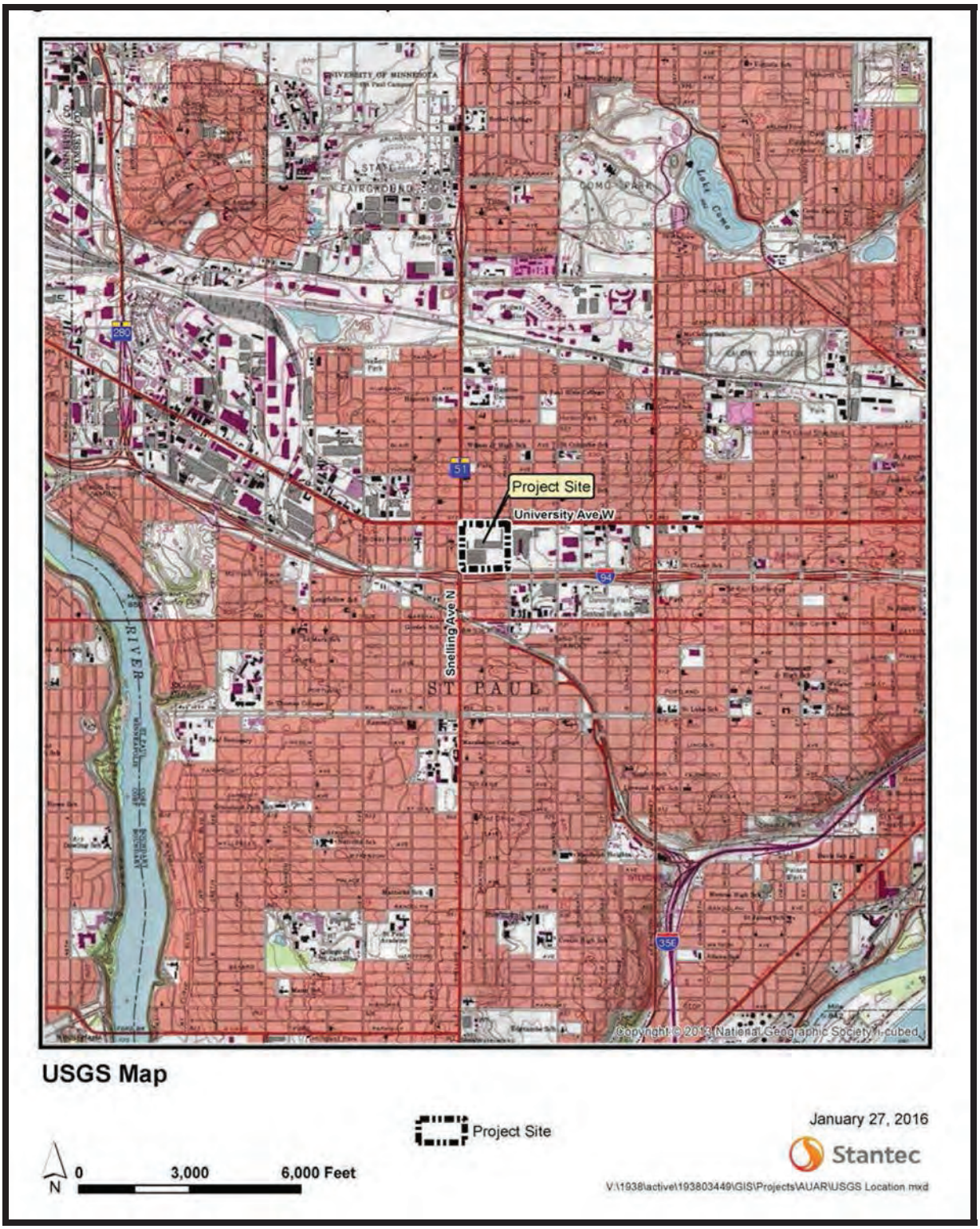


Figure Two: Project location outlined in yellow and plotted 1:24,000 scale topographic map section (USGS 1993).

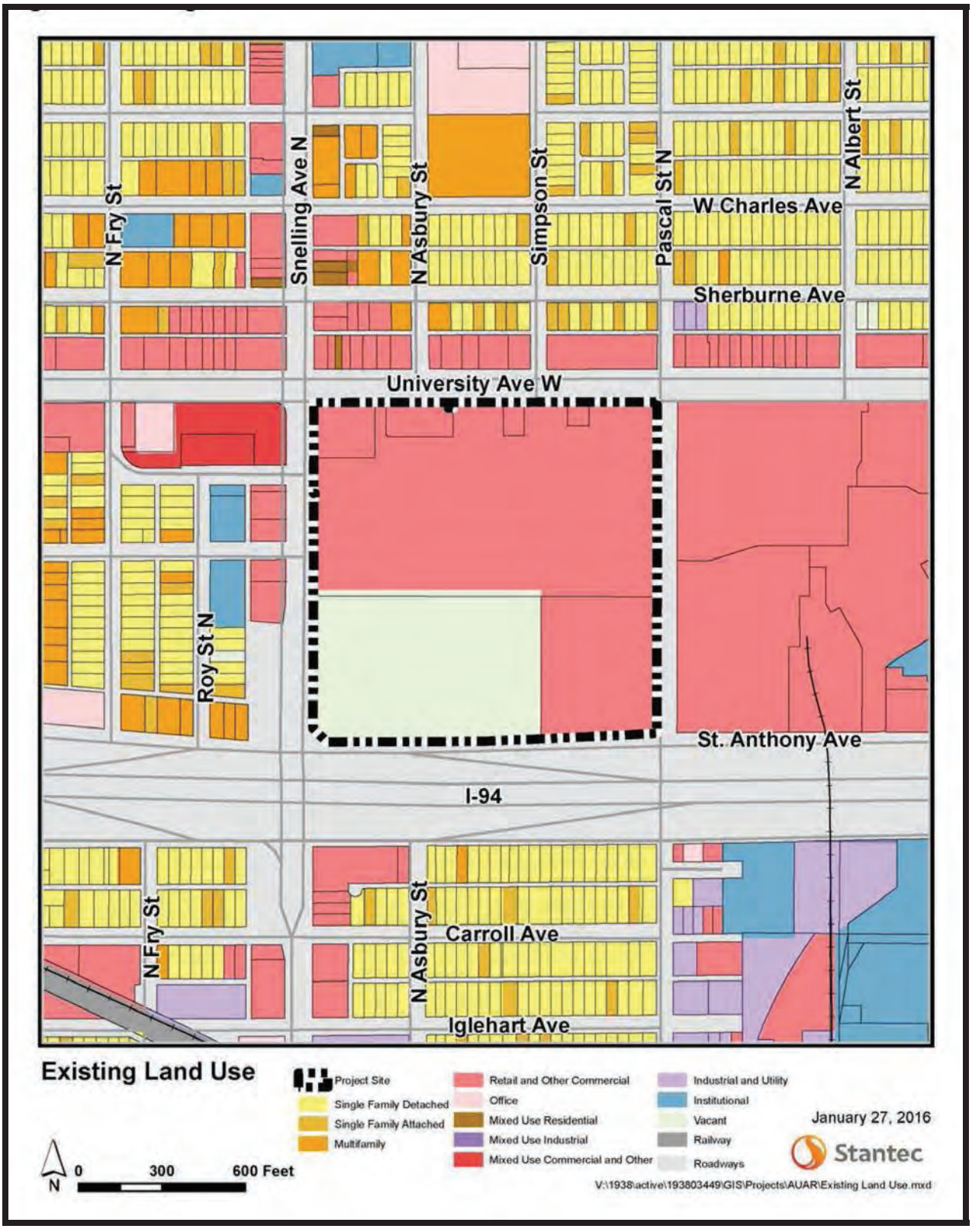


Figure Three: Project location indicating current land use and ground cover plotted on orthographic imagery (Image courtesy of Stantec).

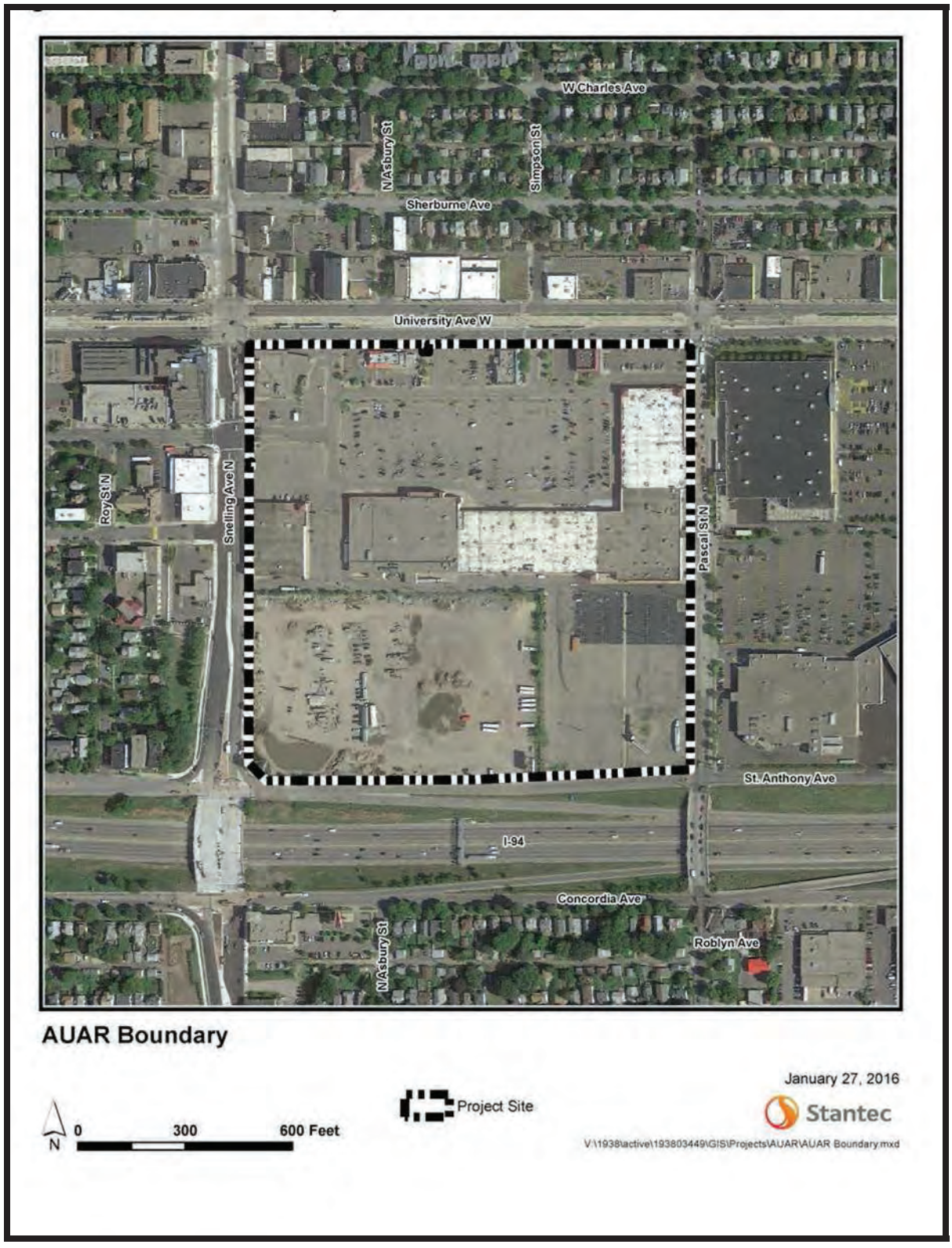


Figure Four: Project location outlined in black and white rectangle plotted on orthographic imagery (Image courtesy of Stantec).

Figure Five: Satellite image from the NRCS soil data website showing the project area with structures and reference points labeled for reference in this report (NRCS).

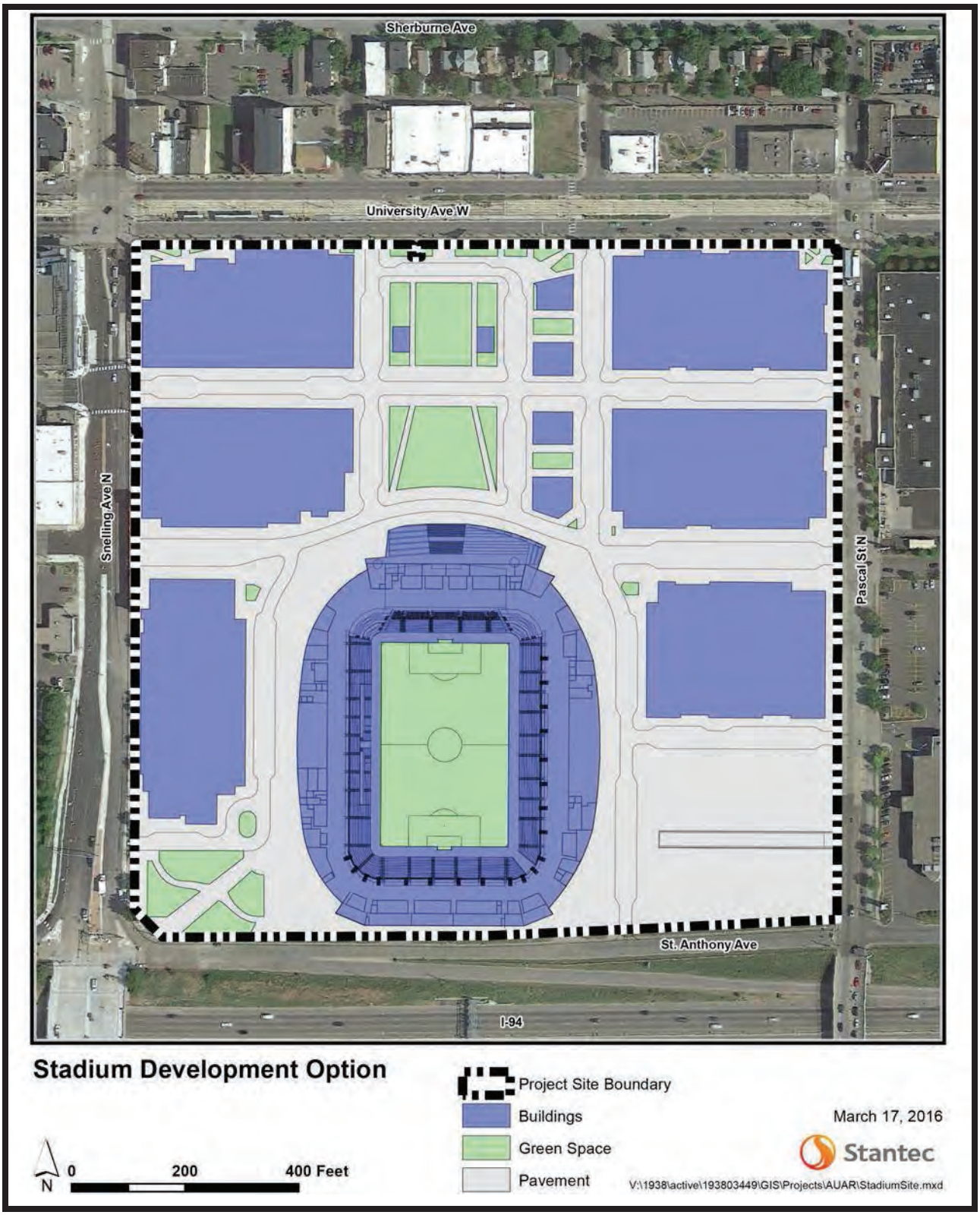


Figure Six: Tentative plans for development within the investigated area (Image courtesy of Stantec).

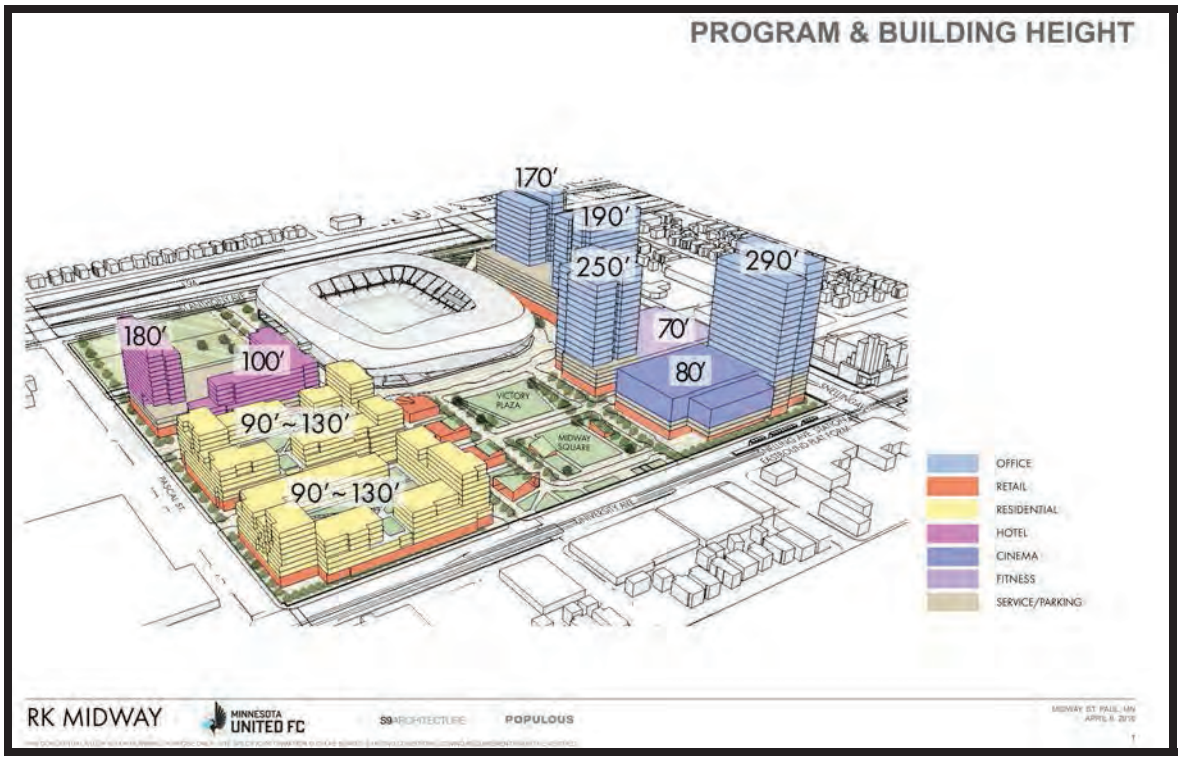


Figure Seven: Tentative plans for property development. View to southwest. (Image courtesy of Stantec).

.

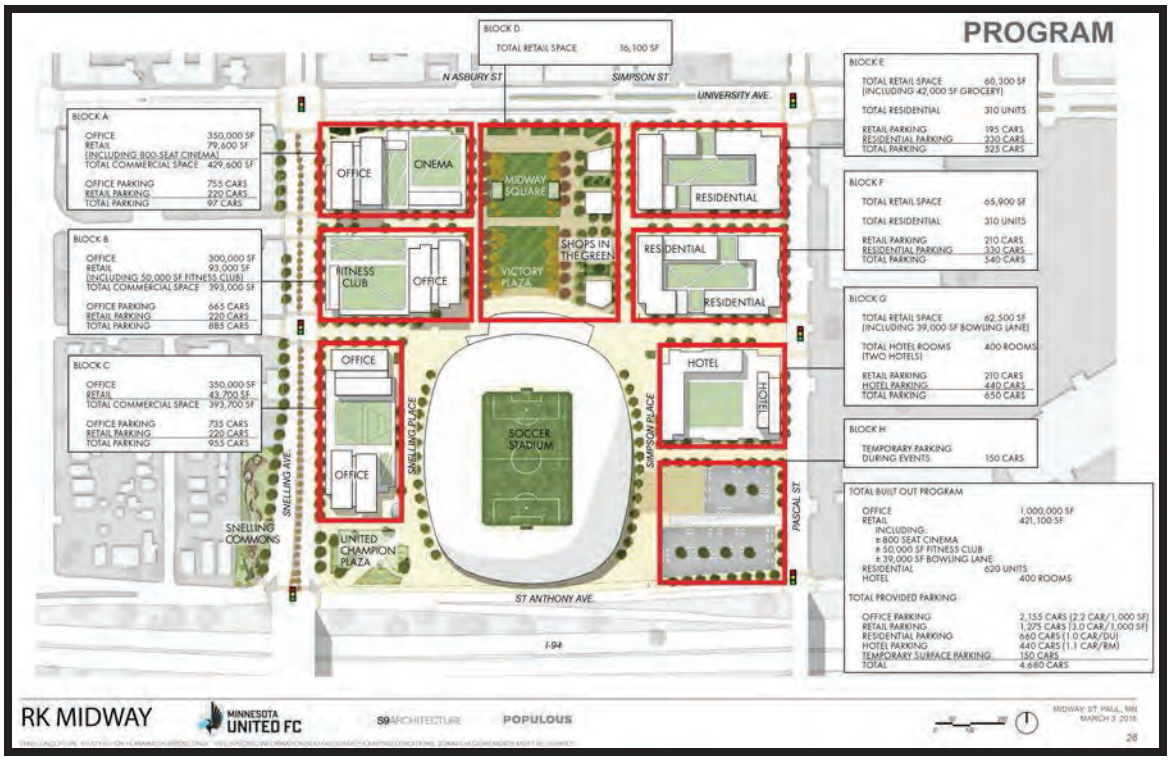


Figure Eight: Detailed tentative plans for development of the investigated area (Image courtesy of Stantec).

Figure Nine: Conceptual image with view to the southwest of the project area after development (Image courtesy of Stantec).

Figure Ten: View to west from 1600 University Avenue (Spruce Tree Centre) of project area and the Midway Center Shopping Mall in 1991 (Library of Congress Image-Public Domain).

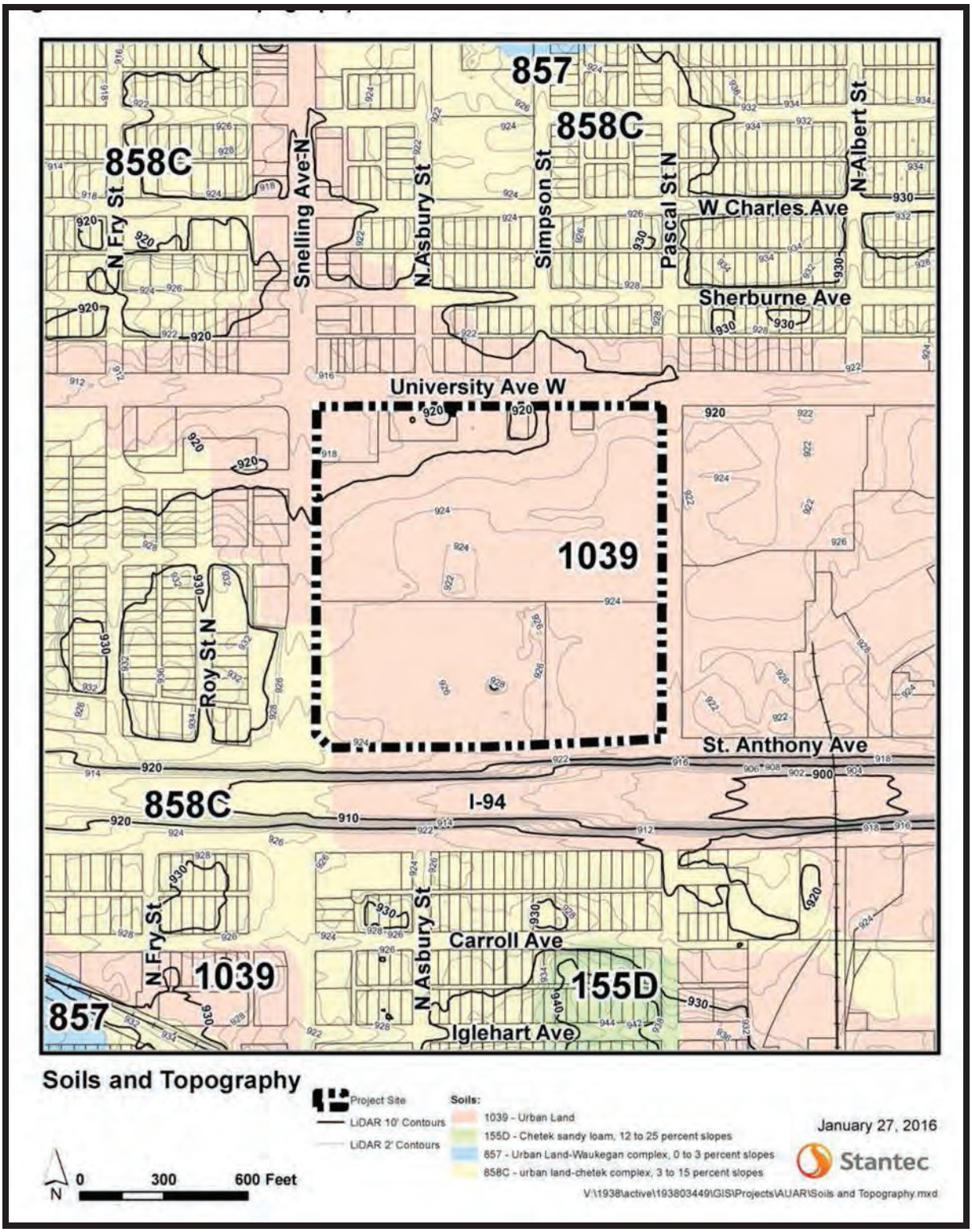


Figure Eleven: Soil information for the proposed Project location (Image courtesy of Stantec).

Figure Twelve: Front (northern) elevation of the Midway Center Shopping Mall (Structure 5 in Figure Five) showing post 1991 façade, paved parking areas and signage. View to south.

Figure Thirteen: Front (northern) elevation of the Midway Center Shopping Mall (structure 5 in Figure Five) showing post-1991 facade and signage. View to southeast.

Figure Fourteen: Main parking area of the Midway Center Shopping Mall (structure 5 in Figure Five) View to southeast.

Figure Fifteen: Main parking area of the Midway Center Shopping Mall (structure 5 in Figure Five) to right and southern portion of Structure 4. View to east.

Figure Sixteen: Front elevation (west) of Structure 4 (Figure Five) View to east.

Figure Seventeen: Main parking area of Structure 4 View to northeast towards University Avenue.

Figure Eighteen: Main parking area of Structure 4 View to north towards University Avenue.

Figure Nineteen: Main parking area of Structure 4 View to northwest towards University Avenue.

Figure Twenty: Overflow parking area of the Midway Center Shopping Mall and southern area of Structure 3.

Figure Twenty-One: Overflow parking area of the Midway Center Shopping Mall and eastern area of Structure 3..

Figure Twenty-Two: Main parking area of the Midway Center Shopping Mall (Structure 5). View to southwest.

Figure Twenty-Three: Main parking area of the Midway Center Shopping Mall (Structure 5 in Figure Five) View to southeast.

Figure Twenty-Four: Front (northern) elevation of Structure 2. View to south/southwest.

Figure Twenty-Five: Overflow parking area of the Midway Center Shopping Mall and western area of Area C in Figure Five. View to northwest of Spruce Tree Centre.

Figure Twenty-Six: Front (North) elevation of the former Midwest National Bank Building (Structure 1) . View to southeast from the intersection of Snelling and University Avenues.

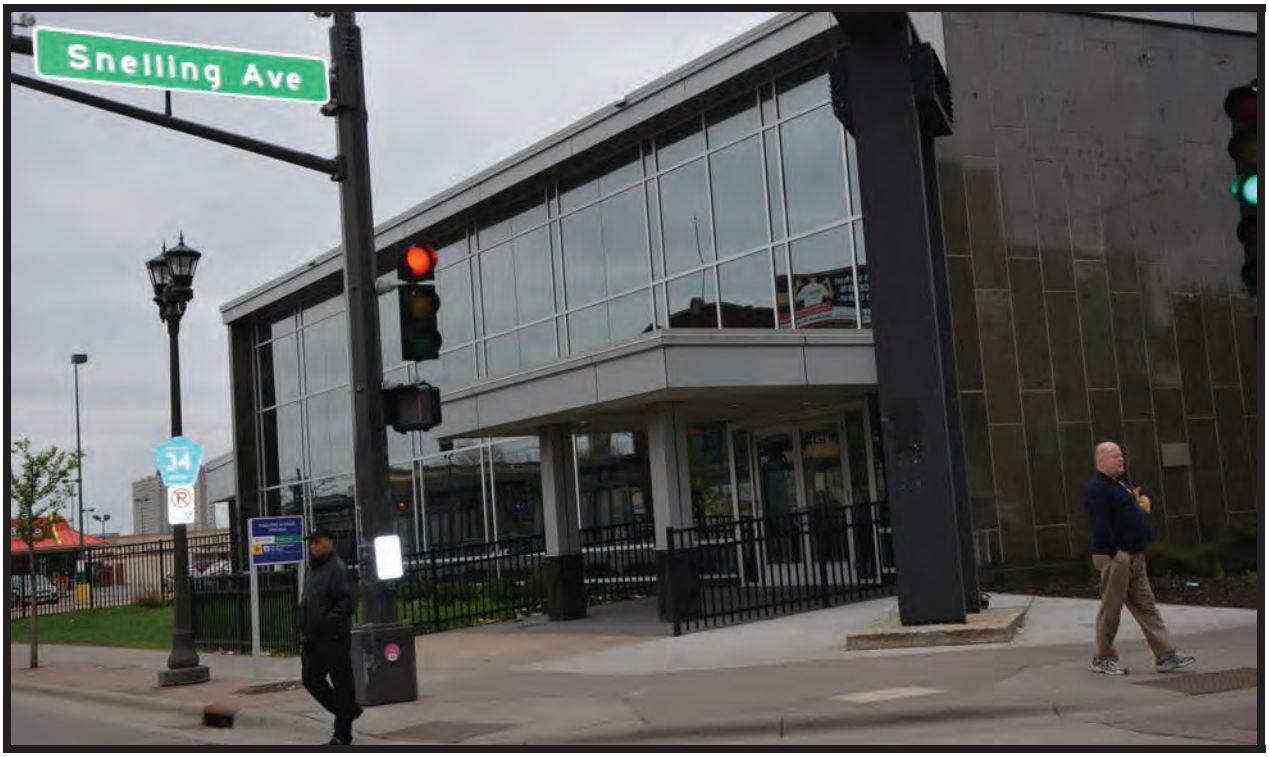


Figure Twenty-Seven: Front (North) elevation of the former Midwest National Bank Building (Structure 1) . View to southeast from the intersection of Snelling and University Avenues.

Figure Twenty-Eight: Detail of front (North) elevation of the former Midwest National Bank Building (Structure 1). View to west/southwest towards the intersection of Snelling and University Avenues.

Figure Twenty-Nine: Front (North) elevation of the former Midwest National Bank Building (Structure 1) . View to south with the intersection of Snelling and University Avenues to the right.

Figure Thirty: Rear (south) elevation of the former Midwest National Bank Building (Structure 1). View to northwest toward the intersection of Snelling and University Avenues.

Figure Thirty-One: Detail of rear (south) elevation of the former Midwest National Bank Building (Structure 1). View to north toward the intersection of Snelling and University Avenues.

Figure Thirty-Two: Eastern elevation of the former Midwest National Bank Building (Structure 1). View to west showing drive-through lanes and parking area.

Figure Thirty-Three: Eastern elevation of the former Midwest National Bank Building (Structure 1). View to west/northwest showing drive-through lanes and parking area.

Figure Thirty-Four: Eastern and northern elevation of the former Midwest National Bank Building (Structure 1). View to southwest from University Avenue.

Figure Thirty-Five: Western elevation of the former Midwest National Bank Building (Structure 1). View to northeast from Snelling Avenue.

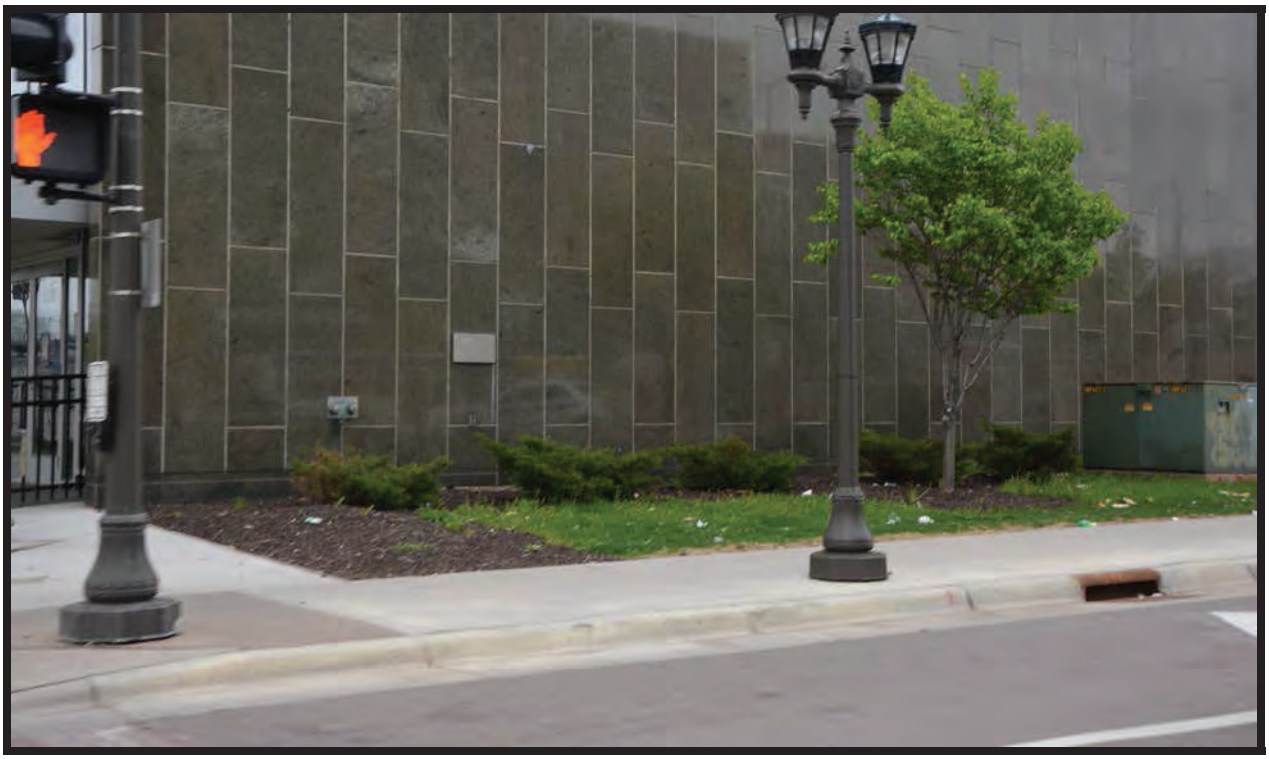


Figure Thirty-Six: Northern area of the western elevation of the former Midwest National Bank Building (Structure 1). View to southeast from Snelling Avenue.

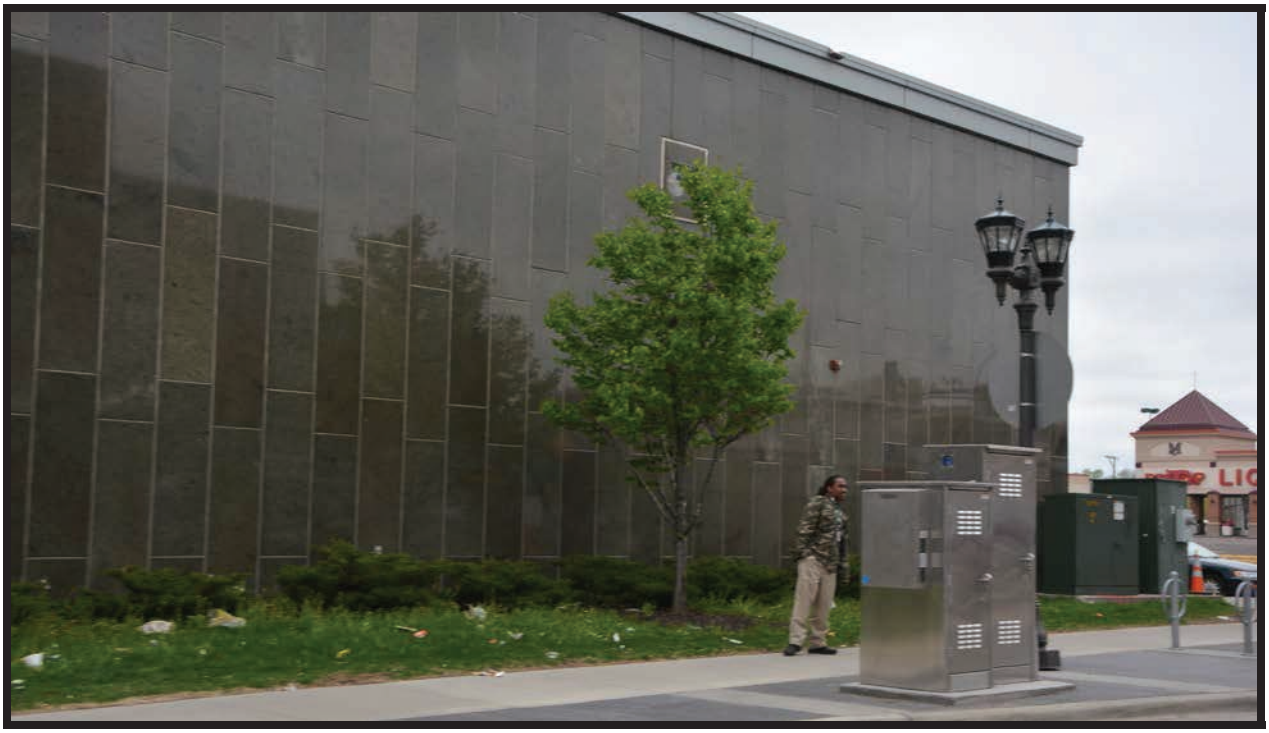


Figure Thirty-Seven: Southern areas of the western elevation of the former Midwest National Bank Building (Structure 1). View to southeast from Snelling Avenue.

Figure Thirty-Eight: Southern elevation of Structure 3. View to northeast.

Figure Thirty-Nine: Northern and western (front) elevations of Structure 3. View to southeast.

Figure Forty: Western (front) elevation of Structure 3. View to east.

Figure Forty-One: Western (front) elevation of Structure 4. View to east.

Figure Forty-Two: Eastern (rear) elevation of Structure 4. View to west.

Figure Forty-Three: Western elevation of Structure 6. View to east/southeast.

Figure Forty-Four: Eastern elevation of Structure 6. View to west/southwest.

Figure Forty-Five: Front elevation (western) of the eastern wing of Structure 5. View to east/southeast.

Figure Forty-Six: Northern elevation of the eastern wing of Structure 5. View to south.

Figure Forty-Seven: Eastern elevation of the eastern wing of Structure 5. View to north/northwest from Pascal St.

Figure Forty-Eight: Eastern terminus of AUAR area. View to north/northwest from Pascal St.

Figure Forty-Nine: Eastern elevation of the eastern wing of Structure 5. View to southwest on Pascal St.

Figure Fifty: Eastern terminus of AUAR area (eastern edge of "Area B" in Figure Five). View to north/northeast of parking area and Pascal St.

Figure Fifty-One: Southern terminus of AUAR area (southern edge of "Area B" in Figure Five). View to southwest of St. Anthony Avenue from Pascal St.

Figure Fifty-Two: Eastern terminus of AUAR area (eastern edge of "Area B" in Figure Five). View to southwest of parking area from Pascal St.

Figure Fifty-Three: Southern terminus of AUAR area (southern edge of "Area B" in Figure Five). View to west of parking area and Area A in Figure Five.

Figure Fifty-Four: North central area of Area A. View to northwest of parking area (former bus barns).

Figure Fifty-Five: North central area of Area A. View to north of former bus barn location and southern (rear) elevation of Structure 5.

Figure Fifty-Six: North central area of Area A. View to southwest of former bus barn location.

Figure Fifty-Seven: North central area of Area A. View to northeast of the southern (rear) elevation of Structure 5.

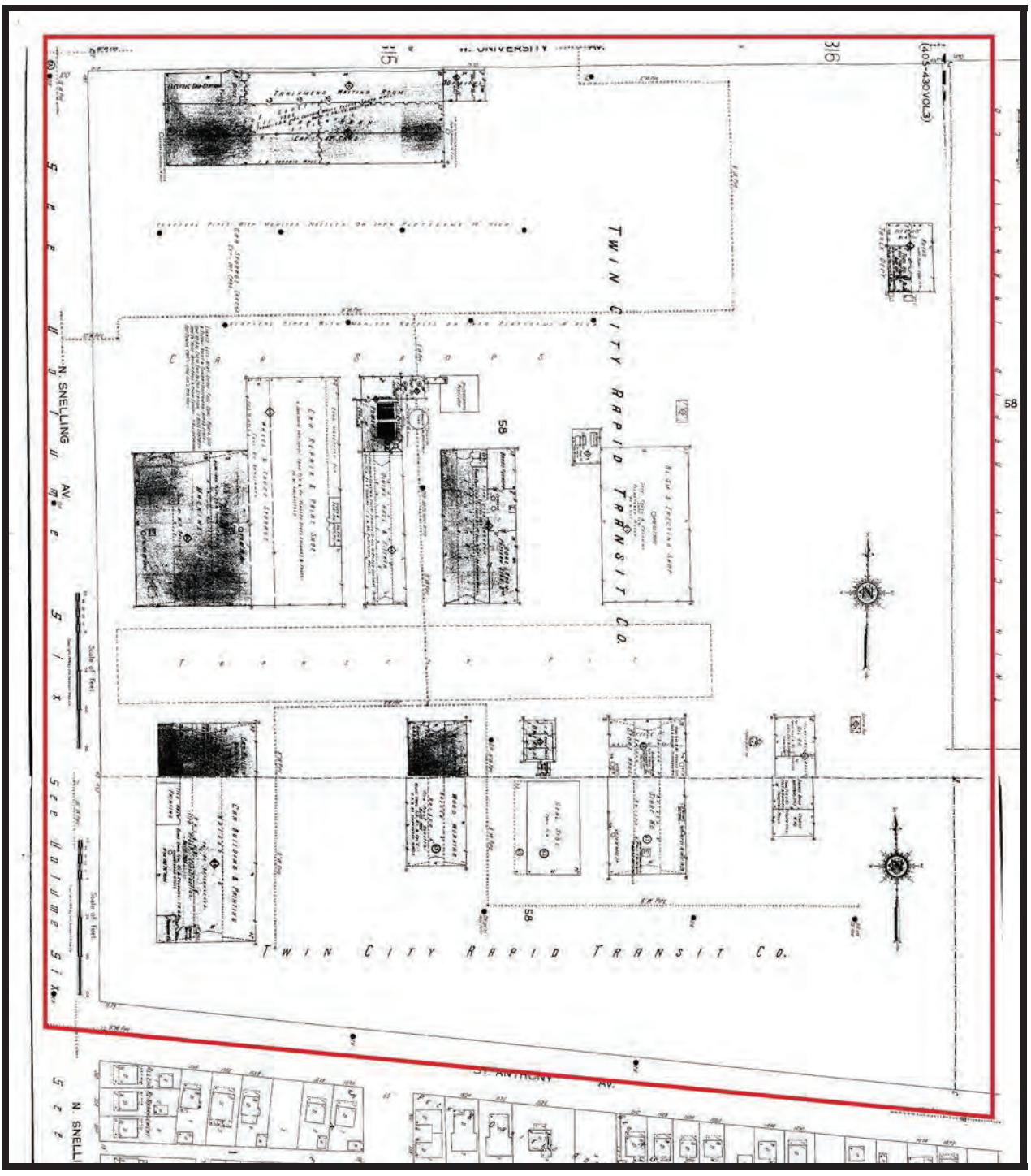


Figure Fifty-Eight: Sanborn map showing AUAR area in 1926 when the area served as the principle yard and facility for the Twin City Rapid Transit Company (Sanborn 1926).

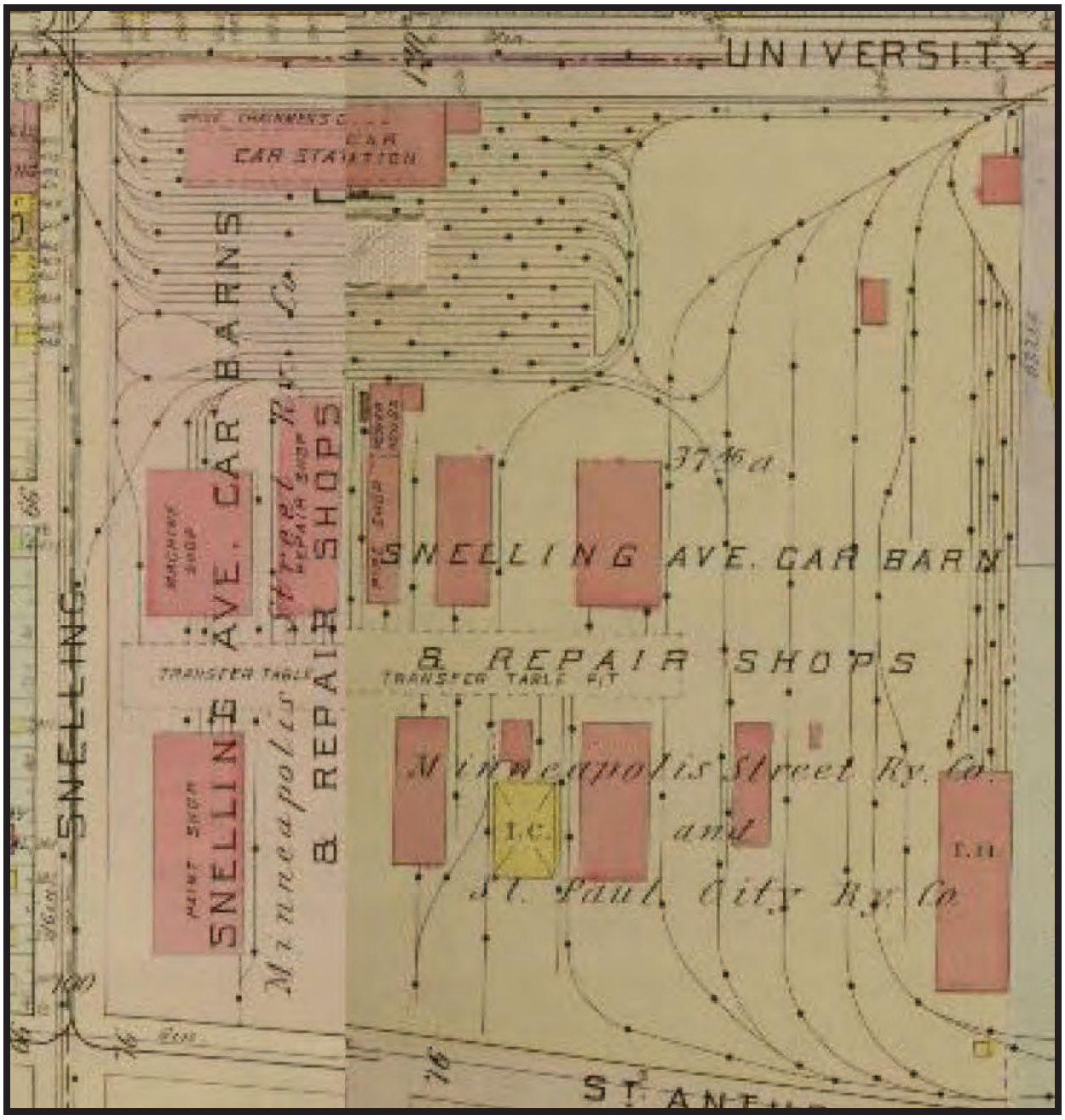


Figure Fifty-Nine: Plat book section showing AUAR area in 1916 when the area served as the principle yard and facility for the Snelling Avenue Streetcar barns and maintenance facilities of the Minneapolis Street Railway Company and the St. Paul City Railway Company (Hopkins 1916).

References Cited

Andreas, A.T.
1874 *Plan of the City of St. Paul and Vicinity.* A.T. Andreas Company, Chicago, Illinois.

Anfinson, Scott
2001 *State Historical Preservation Office Manual for Archaeological Projects in Minnesota.* Revised version. State Historic Preservation Office, St. Paul.

Castle, Henry, A.
1912 *History of St. Paul and Vicinity.* (3-volumes) Lewis Publishing Company, St. Paul, Minnesota.

Diers, John W. and Aaron Issacs
2007 *Twin Cities by Trolley: The Streetcar Era in Minneapolis and St. Paul*. University of Minnesota Press, Minneapolis, Minnesota.

Foote, Charles, M.
1881 A History of Ramsey County and the City of St. Paul. North Star Publishing, Minneapolis, Minnesota.

Hopkins, G. M.
1916 *City of Saint Paul, Minnesota.* Published by the G. M. Hopkins Company, Philadelphia, Pennsylvania.

1928 *Plat Book of the City of Saint Paul, Minn. And Suburbs.* Published by the G. M. Hopkins Company, Philadelphia, Pennsylvania.

Minnesota Geospatial Information Office (MNGEO)
Not dated http://www.mngeo.state.mn.us/glo/Index.htm Web site application for Government Land Office survey maps and field notes from 19th century surveys.

National Park Service (NPS)
1983 *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation.* Current version available online at http://www.cr.nps.gov/local-law/arch_stnds_0.htm. National Park Service, Department of the Interior, Washington, D.C.

National Resource Conservation Service (NRCS)
Not Dated http://websoilsurvey.nrcs.usda.gov/app Web site application for U.S. Soil data. Viewed on-line July 10th, 2014.

Ramsey County Regional Railroad Authority (RCRRA)
2006 *Central Corridor Project: Alternative Analysis and Draft Environmental Impact Statement.* Unpublished Manuscript on file at MNSHPO.

2008 *The Central Corridor Final Environmental Impact Statement (FEIS).* Unpublished Manuscript on file at MNSHPO.

Sanborn Map Company
1926 *Saint Paul, Ramsey County Fire Insurance Map.* Sanborn Map Company, Chicago, Illinois.

USDA/NRCS
1980 *Soil Survey of Washington and Ramsey Counties, Minnesota.* USGS Reston, Virginia.

United States Geological Survey (USGS)
1993 *Saint Paul West, MN* [map] 1:24,000. 7.5 Minute Series (Topographic), USGS Reston, Virginia.

Archaeological Site Locations

Site Number	Site Name	Twp.	Range	Sec.	Quarter Sections	Acres	Phase	Site Description	Tradition	Context	Reports	NR	CEF	DOE
County: Ramsey														
21RA0015	Merriam Park	29	23	33	N-NW-SW	2.5	0, 8	AS, SR		Ur-1				

Thursday, March 17, 2016 *Page 1 of 1*

Figure Sixty: Results of the literature search conducted for previously reported archaeological sites located within a one-mile search radius of the AUAR (MNSHPO).

History/Architecture Inventory

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Hennepin											
CITY/TOWNSHIP: Minneapolis											
commercial building (Jungle Theater)	2945-2951 Lyndale Ave. S	29	23	34	SW-SW	Minneapolis South	HE-2004-9H		Y		HE-MPC-5116
commercial building (Jungle Theater)		29	23	34	SW-SW	Minneapolis South	HE-2004-8H		Y		HE-MPC-5116
commercial building (Jungle Theater)		29	23	34	SW-SW	Minneapolis South	HE-2006-10H		Y		HE-MPC-5116
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
Woodrow Wilson Senior High	631 Albert St. N	29	23	34	NENW	Saint Paul West	RA-81-2H				RA-SPC-0044
house	424 Beacon Ave. N	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-0315
James R. McCoy House	450 Beacon Ave. N	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-0316
St. Columba School	1330 Blair Ave. W	29	23	34	NWNE	Saint Paul West	RA-81-2H				RA-SPC-0353
Thomas Nicholsen House	1447 Blair Ave. W	29	23	34	NENW	Saint Paul West	RA-81-2H				RA-SPC-0354
Alexander W. McCrea House	1661-63 Blair Ave. W	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-0355
Lena Howard House	1672 Blair Ave. W	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-0356
house	1754 Blair Ave. W	29	23	33	NWNE	Saint Paul West	RA-81-2H				RA-SPC-0357
house	1780 Blair Ave. W	29	23	33	NWNE	Saint Paul West	RA-81-2H				RA-SPC-0358
house	1829 Carroll Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-0480
J.J. McDonald House	1857 Carroll Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-0481
house	1875 Carroll Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-0482
Alvah B. Bell House	1888 Carroll Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-0483
house	1902 Carroll Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-0484

Figure Sixty-One: Page one for results of a literature search for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
Mark & Mary Fay House	1921 Carroll Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-0485
George J. Pilkington House	1940-1942 Carroll Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-0486
house	1984 Carroll Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-0487
house	1996 Carroll Ave.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-0488
Annie Martin House	2018 Carroll Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-0489
house	2052 Carroll Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-0490
J.C. Fleischer House	1119 Charles Ave. W	29	23	34	SENE	Saint Paul West	RA-81-2H				RA-SPC-0585
Northern Pacific Beneficial Association Hospital	1515 Charles Ave. W	29	23	34	SWNW	Saint Paul West	RA-81-2H				RA-SPC-0586
house	1230 Concordia Ave. W	29	23	34	SWSE	Saint Paul West	RA-81-2H				RA-SPC-0792
house	1492 Concordia Ave. W	29	23	34	SWSW	Saint Paul West	RA-81-2H				RA-SPC-0793
house	382 & 394 Dewey St. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1070
William & Mattie Hillman House	396 Dewey St. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1071
Reverand Leander Lane House	403 Dewey St. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1072
house	428 Dewey St. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1073
house	432 Dewey St. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1074
house	436 Dewey St. n	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1075
John W. Shugard House	442 Dewey St. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1076
house	399 Dewey St. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1081
house	1217 Edmund Ave. W	29	23	34	SWNE	Saint Paul West	RA-81-2H				RA-SPC-1155
Claus & Minnie Schuldt House	1259 Edmund Ave. W	29	23	34	SWNE	Saint Paul West	RA-81-2H				RA-SPC-1156
house	1401 Edmund Ave. W	29	23	34	SENW	Saint Paul West	RA-81-2H				RA-SPC-1157
commercial building	451 Fairview Ave. N	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1250
house	612 Fairview Ave. N	29	23	33	NENW	Saint Paul West	RA-81-2H				RA-SPC-1251

Figure Sixty-Two: Page two for results of the literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
J.W. Wallace House	634 Fairview Ave. N	29	23	33	NENW	Saint Paul West	RA-81-2H				RA-SPC-1252
house	680 Fairview Ave. N	29	23	33	NENW	Saint Paul West	RA-81-2H				RA-SPC-1253
M.B. Watson House	1842 Feronia Ave. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1276
house	1896 Feronia Ave. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1277
Henry W. Carter House	1910-1912 Feronia Ave. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1278
house	1917 Feronia Ave. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1279
house	1920 Feronia Ave. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1280
hotel	1921-1923 Feronia St. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1281
house	1928 Feronia Ave. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-1282
Crosby Block	1956 Feronia Ave. W	29	23	33	NWSW	Saint Paul West	RA-81-2H				RA-SPC-1283
house	665 Fry St. N	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-1416
St. Paul Water Department Store House	289 Hamline Ave. N	29	23	34	SESW	Saint Paul West	RA-81-2H				RA-SPC-1690
First Swedish Methodist Episcopal Church	540 Hamline Ave. N	29	23	34	SENW	Saint Paul West	RA-81-2H				RA-SPC-1691
house	435 Herschel St.	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-1745
The Herschel	467-469 Herschel St. N	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-1746
house	1467 Iglehart Ave. W	29	23	34	SWSW	Saint Paul West	RA-81-2H				RA-SPC-1888
apartment	1752 Iglehart Ave. W	29	23	33	SWSE	Saint Paul West	RA-81-2H				RA-SPC-1889
Osmer C.Sheldon House	1797 Iglehart Ave. W	29	23	33	SWSE	Saint Paul West	RA-81-2H				RA-SPC-1890
house	1842 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1891
house	1844 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1892
Olivet Congregational Church	1850 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1893
house	1873 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1894
Triune Masonic Lodge	1898 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H	Y			RA-SPC-1895

Figure Sixty-Three: Page three for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
house	1905 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1896
house	1911 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1897
Edward Drew House	1914 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1898
Collett House	1919 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1899
house	1923 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1900
James H. Helson	1924 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1901
Frank L. Austin House	1935 Iglehart Ave. W	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-1902
Oscar P. Shepardson House	1954 Iglehart Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-1903
house	1972 Iglehart Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-1904
First Presbyterian Church	1982 Iglehart Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-1905
Martin Ludolph House	2002 Iglehart Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-1906
house	2024 Iglehart Ave. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-1907
commercial building (Lloyd's	720 Snelling Ave N	29	23	34	NW-NW	St. Paul West					RA-SPC-2987
commercial building (Fusion Salon/Aikido of Minnesota)	712 Snelling Ave. N	29	23	34	NW-NW	St. Paul West					RA-SPC-2988
Auto Repair Shop (Valvoline)	699 Snelling Ave N	29	23	33	NE-NE	St. Paul West					RA-SPC-2989
Midway National Bank (American Bank)	1578 University Ave W	29	23	34	NW-SW	St. Paul West					RA-SPC-2990
commercial building	455-457 Snelling Ave N	29	23	33	NE-SE	St. Paul West					RA-SPC-2991
St. Paul Industrial Post Office Substation (Furniture Barn)	451-453 Snelling Ave N	29	23	33	NE-SE	St. Paul West					RA-SPC-2992
Midway Shopping Center West Building (Big Top Liquor/Vacant)	1560 University Ave W	29	23	34	NW-SW	St. Paul West					RA-SPC-2993
railroad bridge	railroad bridge over Prior Ave.	29	23	33			RA-81-2H				RA-SPC-3017
residence	286 Prior Ave. N.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-3018
Olivett Congregational Church	330 Prior Ave. N.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-3019

Thursday, March 17, 2016 Page 4 of 11

Figure Sixty-Four: Page four for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: **Ramsey**											
CITY/TOWNSHIP: **St. Paul**											
commercial building	348 Prior Ave. N.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-3020
commercial building	366 Prior Ave. N.	29	23	33	NWSW	Saint Paul West	RA-81-2H				RA-SPC-3021
Union Park Police Substation	478 Prior Ave. N.	29	23	33	NWSW	Saint Paul West	RA-81-2H				RA-SPC-3022
double residence	1834-1836 Roblyn Ave. W.	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-3202
residence	1854 Roblyn Ave. W.	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-3203
residence	1868 Roblyn Ave. W.	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-3204
DeLaskie Danforth House	1908 Roblyn Ave. W.	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-3205
Charles H. Baldwin House	1912 Roblyn Ave. W.	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-3206
residence	1926 Roblyn Ave. W.	29	23	33	SESW	Saint Paul West	RA-81-2H				RA-SPC-3207
residence	1936-1938 Roblyn Ave. W.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-3208
Central Baptist Church	420 Roy St. N.	29	23	33	NESE	Saint Paul West	RA-81-2H				RA-SPC-3224
Bethlehem Lutheran Church	436 Roy St. N.	29	23	33	NESE	Saint Paul West	RA-81-2H				RA-SPC-3225
residence	1153 Sherburne Ave. W.	29	23	34	SENE	Saint Paul West	RA-81-2H				RA-SPC-3343
residence	1157 Sherburne Ave. W.	29	23	34	SENE	Saint Paul West	RA-81-2H				RA-SPC-3344
duplex	1453-1455 Sherburne Ave. W.	29	23	34	SWNW	Saint Paul West	RA-81-2H				RA-SPC-3345
residence	1645 Sherburne Ave. W.	29	23	33	SENE	Saint Paul West	RA-81-2H				RA-SPC-3346
Christensen House	1673 Sherburne Ave. W.	29	23	33	SENE	Saint Paul West	RA-81-2H				RA-SPC-3347
commercial building	304 Snelling Ave. N.	29	23	33	SESE	Saint Paul West	RA-81-2H				RA-SPC-3420
commercial building	308 Snelling Ave. N.	29	23	33	SESE	Saint Paul West	RA-81-2H				RA-SPC-3421
Minneapolis & St. Paul Railway Snelling Ave. Paint Shop	400 Snelling Ave. N.	29	23	33	NESE	Saint Paul West	RA-81-2H				RA-SPC-3422
commercial building	512 Snelling Ave. N.	29	23	33	SENE	Saint Paul West	RA-81-2H				RA-SPC-3423
Kimball Hotel	545 Snelling Ave. N.	29	23	33	SENE	Saint Paul West	RA-81-2H		Y		RA-SPC-3424
McCarthy House	633 Snelling Ave. N.	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-3425

Thursday, March 17, 2016 Page 5 of 11

Figure Sixty-Five: Page five for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
service station	666 Snelling Ave. N.	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-3426
commercial building	689 Snelling Ave. N.	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-3427
William & Ada Chamberlin House	1827-1829 St. Anthony Ave. W.	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-3460
residence	1893 St. Anthony Ave. W.	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-3461
residence	1917 St. Anthony Ave. W.	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-3462
residence	1933 St. Anthony Ave. W.	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-3463
Concordia College administration building	ca. 275 Syndicate St. N.	29	23	34	SWSE	Saint Paul West	RA-81-2H				RA-SPC-3811
Concordia College Gymnasium	1265 Carroll Ave. W.	29	23	34	SWSE	Saint Paul West	RA-81-2H				RA-SPC-3812
Concordia College East Dormitory	269 Syndicate St. N.	29	23	34	SWSE	Saint Paul West	RA-81-2H				RA-SPC-3813
duplex	1254 Thomas Ave. W.	29	23	34	NWNE	Saint Paul West	RA-81-2H				RA-SPC-3836
residence	1263 Thomas Ave. W.	29	23	34	NWNE	Saint Paul West	RA-81-2H				RA-SPC-3837
butcher shop	1336 Thomas Ave. W.	29	23	34	NENW	Saint Paul West	RA-81-2H				RA-SPC-3838
Hamline Grocery Company	1340-1342 1/2 Thomas Ave. W.	29	23	34	NENW	Saint Paul West	RA-81-2H				RA-SPC-3839
residence	1402 Thomas Ave. W.	29	23	34	NENW	Saint Paul West	RA-81-2H				RA-SPC-3840
residence	1431 Thomas Ave. W.	29	23	34	NENW	Saint Paul West	RA-81-2H				RA-SPC-3841
commercial building	1584 Thomas Ave. W. (547-549 Snelling Ave. N.)	29	23	33	SENE	Saint Paul West	RA-81-2H				RA-SPC-3842
Prom Ballroom (razed)	1192 University Ave. W.	29	23	34	NESE	Saint Paul West	RA-81-2H				RA-SPC-3901
Central Supply Company	1210 University Ave. W.	29	23	34	NESE	Saint Paul West	RA-81-2H				RA-SPC-3902
St. Paul Casket Company	1222 University Ave. W.	29	23	34	SE-NE-SE	Saint Paul West	XX-2003-3H		Y		RA-SPC-3903
St. Paul Casket Company		29	23	34	SE-NE-SE	Saint Paul West	RA-81-2H		Y		RA-SPC-3903
Midway Chevrolet	1389-1399 University Ave. W.	29	23	34	SENW	Saint Paul West	RA-81-2H				RA-SPC-3904
Montgomery Ward & Co. (razed)	1401 University Ave. W.	29	23	34	NESW	Saint Paul West	RA-81-2H				RA-SPC-3905
Tip Top Tavern	1415 University Ave. W.	29	23	34	SENW	Saint Paul West	XX-2008-4H				RA-SPC-3906

Figure Sixty-Six: Page six for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
Tip Top Tavern	1415 University Ave. W.	29	23	34	SENW	Saint Paul West	RA-81-2H				RA-SPC-3906
Tip Top Tavern		29	23	34	SENW	Saint Paul West	RA-2008-3H				RA-SPC-3906
Mowrey Building	1435 University Ave. W.	29	23	34	SENW	Saint Paul West	RA-81-2H				RA-SPC-3907
commercial building	1437-1439 University Ave. W.	29	23	34	SENW	Saint Paul West	RA-81-2H				RA-SPC-3908
Westerlin Campbell Company	1457-1459 University Ave. W.	29	23	34	SWNW	Saint Paul West	RA-81-2H				RA-SPC-3909
department store	1547-1551 University Ave. W.	29	23	34	SWNW	Saint Paul West	RA-81-2H				RA-SPC-3910
commercial building	1569 University Ave. W.	29	23	34	SWNW	Saint Paul West	RA-81-2H				RA-SPC-3911
Quality Park Investment Company	1577-1579 University Ave. W.	29	23	33	SENE	Saint Paul West	RA-81-2H		Y		RA-SPC-3912
Quality Park Investment Company		29	23	33	SENE	Saint Paul West	XX-2008-4H		Y		RA-SPC-3912
Quality Park Investment Company		29	23	33	SENE	Saint Paul West	RA-2008-3H		Y		RA-SPC-3912
commercial building	1580-1602 University Ave. W.	29	23	33	NESE	Saint Paul West	RA-81-2H				RA-SPC-3913
Midwest Federal (1600)	1581 University Ave. W.	29	23	33	SESE	Saint Paul West	RA-81-2H				RA-SPC-3914
commercial building	1601 University Ave. W.	29	23	33	SENE	Saint Paul West	RA-81-2H				RA-SPC-3915
commercial building	1625-1631 University Ave. W.	29	23	33	SENE	Saint Paul West	RA-81-2H				RA-SPC-3916
store	1639 University Ave. W.	29	23	33	SENE	Saint Paul West	RA-81-2H				RA-SPC-3917
Midway Hospital	1700 University Ave. W.	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-3918
commercial building	1720-1724 University Ave. W.	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-3919
commercial building	1728 University Ave. W.	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-3920
residence	1744 University Ave. W.	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-3921
Brown, Blodgett and Sperry Co.	1745 University Ave. W.	29	23	33	SWNE	Saint Paul West	RA-81-2H				RA-SPC-3922
Griggs, Cooper and Company Sanitary Food Manufacturing Building	1821 University Ave. W.	29	23	33	SE-NW	Saint Paul West	RA-81-2H		Y		RA-SPC-3923
Griggs, Cooper and Company Sanitary Food Manufacturing Building		29	23	33	SE-NW	Saint Paul West	XX-2003-3H		Y		RA-SPC-3923
Northwest Sanitary Supply	1845 University Ave. W.	29	23	33	SENW	Saint Paul West	RA-81-2H				RA-SPC-3924

Figure Sixty-Seven: Page seven for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
commercial building	1865 University Ave. W.	29	23	33	SENW	Saint Paul West	RA-81-2H				RA-SPC-3925
double residence	1879 University Ave. W.	29	23	33	SENW	Saint Paul West	RA-81-2H				RA-SPC-3926
Iris Park Place/Krank Building	1885 University Ave. W.	29	23	33	SENW	Saint Paul West	RA-81-2H	Y			RA-SPC-3927
Minnesota Transfer Railway	2021 University Ave. W.	29	23	33	SWNW	Saint Paul West	RA-81-2H				RA-SPC-3928
residence	1339 Van Buren Ave. W.	29	23	34	NENW	Saint Paul West	RA-81-2H				RA-SPC-3958
residence	1518 Van Buren Ave. W.	29	23	34	NWNW	Saint Paul West	RA-81-2H				RA-SPC-3959
residence	1595 Van Buren Ave. W.	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-3960
John J. Dewey House	1684 Van Buren Ave. W.	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-3961
Ellen Gillette House	1730 Van Buren Ave. W.	29	23	33	NWNE	Saint Paul West	RA-81-2H				RA-SPC-3962
residence	1777 Van Buren Ave. W.	29	23	33	NWNE	Saint Paul West	RA-81-2H				RA-SPC-3963
house	1170 Lafond Ave. W	29	23	34	NENE	Saint Paul West	RA-81-2H				RA-SPC-4106
Peter Olesen House	1300-1302 Lafond Ave. W	29	23	34	NWNE	Saint Paul West	RA-81-2H				RA-SPC-4110
Church of St. Columba	1305 Lafond Ave. W	29	23	34	NW-NE	Saint Paul West	RA-81-2H		Y		RA-SPC-4111
Hamline Playground Building	1564 Lafond Ave. W	29	23	34	NWNW	Saint Paul West	RA-81-2H		Y		RA-SPC-4112
Swedish Lutheran Church	1697 Lafond Ave. W	29	23	33	NWNE	Saint Paul West	RA-81-2H				RA-SPC-4113
Nels Peterson House	1772 Lafond Ave. W	29	23	33	NWNE	Saint Paul West	RA-81-2H				RA-SPC-4114
Central High School	275 Lexington Pkwy. N	29	23	34	SESE	Saint Paul West	RA-81-2H				RA-SPC-4252
shops	462-476 Lexington Pwky. N	29	23	34	NESE	Saint Paul West	RA-81-2H				RA-SPC-4253
Martin M. McNulty House	516 Lexington Pkwy. N	29	23	34	SENE	Saint Paul West	RA-81-2H				RA-SPC-4254
Martin M. McNulty House		29	23	34	SENE	Saint Paul West	XX-2003-3H				RA-SPC-4254
house	523 Lexington Pkwy. N	29	23	34	SENE	Saint Paul West	RA-81-2H				RA-SPC-4255
George H. Carsley House	451 Lynnhurst Ave. E	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-4342
Frank Holstrom House	444 Lynnhurst Ave. W	29	23	33	NESW	Saint Paul West	RA-81-2H				RA-SPC-4343
house	1130 Marshall Ave. W	29	23	34	SESE	Saint Paul West	RA-81-2H				RA-SPC-4468

Figure Sixty-Eight: Page eight for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
Calvary Lutheran Church for the Deaf	1162 Marshall Ave. W	29	23	34	SESE	Saint Paul West	RA-81-2H				RA-SPC-4469
house	1190 Marshall Ave. W	29	23	34	SESE	Saint Paul West	RA-81-2H				RA-SPC-4470
Robert C. Lippen House	1260 Marshall Ave. W	29	23	34	SWSE	Saint Paul West	RA-81-2H				RA-SPC-4471
O'Connor's Filling Station	1344 Marshall Ave. W	29	23	34	SESW	Saint Paul West	RA-81-2H				RA-SPC-4472
Tracy Oil Co.	1345 Marshall Ave. W	29	23	34	SESW	Saint Paul West	RA-81-2H				RA-SPC-4473
Highway Safety Appliance Company	1381 Marshall Ave. W	29	23	34	SESW	Saint Paul West	RA-81-2H				RA-SPC-4474
Midway Lime and Cement Company	1400-1410 Marshall Ave. W	29	23	34	SESW	Saint Paul West	RA-81-2H				RA-SPC-4475
house	1656 Marshall Ave. W	29	23	33	SESE	Saint Paul West	RA-81-2H				RA-SPC-4477
house	1657 Marshall Ave. W	29	23	33	SESE	Saint Paul West	RA-81-2H				RA-SPC-4478
Frank E. Aldrich House	1703 Marshall Ave. W	29	23	33	SWSE	Saint Paul West	RA-81-2H				RA-SPC-4479
Benjamin J. Joslin House	1711 Marshall Ave. W	29	23	33	SWSE	Saint Paul West	RA-81-2H				RA-SPC-4480
Emil Slawik House	1730 Marshall Ave. W	29	23	33	SWSE	Saint Paul West	RA-81-2H				RA-SPC-4481
Malvern H. Manuel House	1731 Marshall Ave. W	29	23	33	SWSE	Saint Paul West	RA-81-2H				RA-SPC-4482
R. Atchison House	1735 Marshall Ave. W	29	23	33	SWSE	Saint Paul West	RA-81-2H				RA-SPC-4483
Elam D. Parker House	2016 Merriam Ln. W	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-4561
house	1630 Minnehaha Ave. W	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-4630
double house	1636-1638 Minnehaha Ave. W	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-4631
house	1645 Minnehaha Ave. W	29	23	33	NENE	Saint Paul West	RA-81-2H				RA-SPC-4632
Samuel Boyer House	315 Moore St. N	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-4680
Longfellow School	318 Moore St. N	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-4681
apartment	374 Wheeler St. N.	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-5057
Currier House	403 Wheeler St. N.	29	23	33	NWSE	Saint Paul West	RA-81-2H				RA-SPC-5058
Griggs-Cooper Company	541 Wheeler St. N.	29	23	33	SWNE	Saint Paul West	RA-81-2H				RA-SPC-5059
Annette Farwell House	309 Wilder St. N.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-5075

Figure Sixty-Nine: Page nine for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
residence	371 Wilder St. N.	29	23	33	NWSW	Saint Paul West	RA-81-2H				RA-SPC-5076
residence	319 Wilder St. N.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-5077
residence	339 Wilder St. N.	29	23	33	SWSW	Saint Paul West	RA-81-2H				RA-SPC-5078
apartment	400 Pierce St. N	29	23	33	NESE	Saint Paul West	RA-81-2H				RA-SPC-5560
Iris Park Place	1885 University Ave. W	29	23	33							RA-SPC-5903
62839	I 94 Service Rd	29	23	33	NW-SE	St. Paul West					RA-SPC-5951
62847	I 94	29	23	33	SW-SE	St. Paul West					RA-SPC-5952
Luckie, Jefferson, House	1191 Sherburne Ave.	29	23	34	SE-SW-NE	St. Paul West					RA-SPC-6001
Whitaker Buick	1221-1225 University Ave.	29	23	34							RA-SPC-6101
Porky's Drive-In Restaurant (moved)	1884 University Ave.	29	23	33	NW-SE-NW	St. Paul West	XX-2003-3H				RA-SPC-6102
apartments	517-519 Asbury St.	29	23	34	SW-SW-NW	St. Paul West	XX-2003-3H				RA-SPC-6106
apartments	1635 Sherburne Ave.	29	23	33							RA-SPC-6107
Church of St. Columba School	1327 Lafond Ave. W	29	23	34	NW-NE	Saint Paul West	RA-81-2H		Y		RA-SPC-6204
Minnesota Transfer Railway Company Mainline		29	23	33					Y		RA-SPC-6309
Minnesota Transfer Railway Co. Railroad Company Railroad Bridge	over University Ave.	29	23	33	SW-NW	St. Paul West	XX-2003-3H		Y		RA-SPC-6310
Minneapolis-St. Paul Interurban Streetcar Line (St. Paul Segment)		29	23	33							RA-SPC-7001
Minneapolis-St. Paul Interurban Streetcar Line (St. Paul Segment)		29	23	34							RA-SPC-7001
Bridge No. 92258	carries Soo Line RR tracks over Prior Ave	29	23	33		Saint Paul West					RA-SPC-7111
Bridge 62845	Prior Ave. 1.1 mi SE of Jct. TH 280	29	23	33	NW-SW	St. Paul West					RA-SPC-8068
Bridge 9377	Snelling Ave. at Jct. TH 94 & 51	29	23	34	SW-SW	St. Paul West					RA-SPC-8078
Bridge 9379	Pascal St. .3 mi E of Jct. TH 51	29	23	34	SW-SW	St. Paul West					RA-SPC-8079
Bridge 9381	Hamline Ave. .5 mi E of Jct TH 51	29	23	34	SW-SE	St. Paul West					RA-SPC-8080

Figure Seventy: Page ten for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY: Ramsey											
CITY/TOWNSHIP: St. Paul											
Bridge 9457	Cleveland Ave. .8 mi SE of Jct. TH 280	29	23	33	NE-SE	St. Paul West					RA-SPC-8085
Bridge No. 62846	.4 mile west of Jct. T.H. 51	29	23	33	NW-SE	Saint Paul West			Y		RA-SPC-8212
Bridge 62849	Pedestrian at Aldine - I 94 .2 miles W of Jct. TH 51	29	23	33	SW-SE	St. Paul West					RA-SPC-8213

Figure Seventy-One: Page eleven for results of a literature search conducted for previously reported History/Architectural Inventory cultural resources located within a one-mile search radius of the AUAR (MNSHPO).

Appendix C

Air Quality Analysis

SRF Consulting Group, Inc. | Engineers Planners Designers

Draft Memorandum

SRF No. 0169154

To: Josh Williams, Senior Planner
City of St. Paul

From: Paul Morris, PE, Senior Associate
Krista Anderson, Engineer

Date: May 24, 2016

Subject: Snelling Midway Air Quality Analysis Technical Memorandum

Introduction

This memorandum documents the traffic-related air quality evaluation completed for the proposed Snelling Midway AUAR area. This assessment was completed to evaluate the impacts of additional traffic generated by the proposed development on regional air quality levels and to identify whether this project would cause or contribute to a new localized exceedance of carbon monoxide (CO) ambient air quality standards. The analysis also evaluated the mobile source air toxic (MSAT) impacts of the project and potential air quality impacts during construction of the project. The scope and methods of these analyses were developed in collaboration with the City of Saint Paul, Minnesota Pollution Control Agency (MPCA), and the Minnesota Department of Transportation (MnDOT).

Motorized vehicles affect air quality by emitting airborne pollutants. Changes in traffic volumes, travel patterns, and roadway locations affect air quality by changing the number of vehicles and the congestion levels in a given area. The air quality impacts for this project were analyzed by addressing criteria pollutants, a group of six common air pollutants regulated by the U.S. Environmental Protection Agency (EPA). In addition to the criteria air pollutants, the EPA also regulates air toxics. These include seven compounds with significant contributions from mobile sources. A qualitative evaluation of Mobile Source Air Toxics (MSATs) has been performed for this project.

Criteria Pollutants

The air quality impacts from this project are analyzed by addressing criteria pollutants, as a group of common air pollutants regulated by the EPA on the basis of criteria (information on health and/or environmental effects of pollution). The criteria pollutants identified by the EPA are ozone, particulate matter, carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. Potential impacts resulting from these pollutants are assessed by comparing projected concentrations to the National Ambient Air Quality Standards (NAAQS).

Air quality is evaluated based on impacts to humans in the impacted environment. Humans experience air quality impacts by breathing unsafe concentrations of airborne pollutants. Exposure to air pollutants emitted from motor vehicles can occur in homes, businesses, and recreation facilities located adjacent to affected roadway segments or on pedestrian and bicycle facilities along project area roadways.

Ozone

Ground-level ozone is a primary constituent of smog and is a pollution problem throughout many areas of the United States. Exposures to ozone can make people more susceptible to respiratory infection, result in lung inflammation, and aggravate preexisting respiratory diseases such as asthma. Ozone is not emitted directly from vehicles but is formed as volatile organic compounds (VOCs) and nitrogen oxides (NO_x) react in the presence of sunlight. Transportation sources emit NO_x and VOCs and can therefore affect ozone concentrations. However, due to the phenomenon of atmospheric formation of ozone from chemical precursors, concentrations are not expected to be elevated near a particular roadway.

The State of Minnesota is currently classified by the EPA as an "ozone attainment area," which means that Minnesota has been identified as a geographic area that meets the national health-based standards for ozone levels. Because of these factors, a quantitative ozone analysis was not conducted for this project.

Particulate Matter

Particulate matter (PM) is the term for particles and liquid droplets suspended in the air. Particles come in a wide variety of sizes and have been historically assessed based on size, typically measured by the diameter of the particle in micrometers. $PM_{2.5}$, or fine particulate matter, refers to particles that are 2.5 micrometers or less in diameter. PM_{10} refers to particulate matter that is 10 micrometers or less in diameter.

Motor vehicles (i.e., cars, trucks, and buses) emit direct PM from their tailpipes, as well as from normal brake and tire wear. Vehicle dust from paved and unpaved roads may be re-entrained, or re-suspended, in the atmosphere. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur dioxide, nitrogen oxides, and VOCs. $PM_{2.5}$ can penetrate the human respiratory system's natural defenses and damage the respiratory tract when inhaled. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including:

- Premature death in people with heart or lung disease
- Nonfatal heart attacks
- Irregular heartbeat
- Aggravated asthma
- Decreased lung function
- Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing
  Source: http://www.epa.gov/air/particlepollution/health.html

On December 14, 2012, the EPA issued a final rule revising the annual health NAAQS for fine particles ($PM_{2.5}$). The EPA revised the annual $PM_{2.5}$ standard by lowering the level to 12.0 micrograms per cubic meter ($\mu g/m^3$), from the previous annual standard of 15.0 $\mu g/m^3$. The EPA has retained the 24-hour $PM_{2.5}$ standard at a level of 35 $\mu g/m^3$ (http://www.epa.gov/pm/actions.html). The agency also retained the existing standards for coarse particle pollution (PM_{10}). The NAAQS 24-hour standard for PM_{10} is 150 $\mu g/m^3$, which is not to be exceeded more than once per year on average over three years.

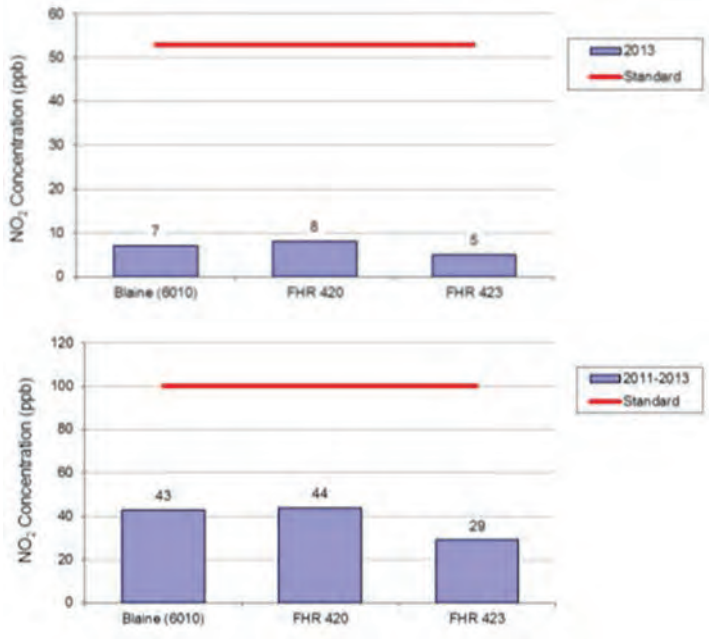
The Clean Air Act conformity requirements include the assessment of localized air quality impacts of transportation projects that are located within PM nonattainment and maintenance areas and deemed to be projects of air quality concern. This project is located in an unclassifiable/attainment area for PM, meaning that the project area has been identified as a geographic area that meets the national health-based standards for PM levels. Therefore, the project is exempt from detailed analysis and no quantitative evaluation of PM impacts was conducted for this project.

Nitrogen Dioxide (Nitrogen Oxides)

Nitrogen Dioxide (NO_2) is one compound in a group of highly reactive gases called Nitrogen oxides, or NO_x, which contain nitrogen and oxygen in varying amounts. Nitrogen oxides form when fuel is burned in a combustion process, primarily including motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels.

Minnesota currently meets federal nitrogen dioxide standards, as shown in related figures from the *2015 Annual Air Monitoring Network Plan* (September 2014), which are shown in Figure 1. This document shows that for three monitoring sites in the Twin Cities Metropolitan Area, annual one-hour concentrations are substantially below the NAAQS limits of 53 parts per billion (ppb) and 100 ppb, respectively. Additionally, comparing these diagrams with similar diagrams from previous years, shows a steadily decreasing trend, which is in conformance with EPA's Tier 2 regulatory announcement.

Figure 1: Annual Average and 1-Hour NO_2 Concentrations Compared to the NAAQS



The EPA's Tier 2 regulatory standards announced in December 1999 "will significantly reduce emissions of nitrogen oxides from vehicles by about 74 percent by 2030" (EPA420-F-99-051, http://www.epa.gov/tier2/documents/f99051.pdf).

Within the project area, it is unlikely that NO_2 standards will be approached or exceeded based on the relatively low ambient concentrations of NO_2 in Minnesota and on the long-term trend toward reductions of NO_x emissions. Thus, a specific analysis of NO_2 was not conducted for this project.

Sulfur Dioxide

Sulfur dioxide (SO_2) and other sulfur oxide gases (SO_x) are formed when fuel containing sulfur, such as coal, oil, and diesel fuel, is burned. Sulfur dioxide is a heavy, pungent, colorless gas. Elevated levels can impair breathing, lead to other respiratory symptoms, and (at very high levels) aggravate heart disease. People with asthma are at most risk when SO_2 levels increase. Once emitted into the atmosphere, SO_2 can be further oxidized to sulfuric acid, which is a component of acid rain.

MPCAs *2015 Annual Air Monitoring Network Plan for Minnesota* (September 2014) shows that eight sites were monitored for SO_2 in the Twin Cities Metropolitan Area during the period of 2011 to 2013. The NAAQS limit for SO_2 is met if the three-year average of the annual 99th percentile daily maximum one-hour SO_2 is less than 75 ppb. The maximum of the monitoring sites was found to be 14 ppb, which is well below the 75 ppb threshold.

MPCA also states that about 70 percent of SO_2 released into the air comes from electric power generation (*Air Quality in Minnesota: 2013 Report to the Legislature*, January 2013). Therefore, a much smaller proportion is attributable to on-road mobile sources. The MPCA has concluded that long-term trends in both ambient air concentrations and total SO_2 emissions in Minnesota indicate steady improvement.

Emissions of sulfur oxides from transportation sources are a small component of overall emissions and continue to decline due to the desulphurization of fuels. Additionally, the project area is classified by the EPA as a sulfur dioxide attainment area, which means that the project area has been identified as a geographic area that meets the national health-based standards for sulfur dioxide levels. Therefore, a quantitative analysis for sulfur dioxide was not conducted for this project.

Lead

Due to the phase out of leaded gasoline, lead is no longer a pollutant associated with vehicular emissions, and no analysis is warranted.

Carbon Monoxide

Carbon Monoxide (CO) is a traffic-related pollutant that has been a concern in the Twin Cities Metropolitan area. In 1999, the EPA redesignated all of Hennepin, Ramsey, Anoka, and portions of Carver, Scott, Dakota, Washington, and Wright counties as a maintenance area for CO. This means the area was previously classified as a nonattainment area, but was found to be in attainment. Due to successful compliance as a maintenance area since 1999, the Twin Cities region was designated a limited maintenance area in 2010, further reducing the evaluation required for CO. Maintenance areas are required to undertake actions to demonstrate continuing compliance with CO standards. Since the AUAR area is located in Ramsey County, evaluation of CO for assessment of air quality impacts is required for approval in environmental documents.

Regional Conformity

The 1990 Clean Air Act Amendments (CAAA) require that the State Implementation Plans (SIPs) must demonstrate how states with nonattainment and maintenance areas will meet federal air quality standards. The EPA issued final rules on transportation conformity (40 CFR 93, Subpart A), which describe the methods required to demonstrate SIP compliance for transportation projects. It requires that regionally significant transportation projects must be a part of a conforming Long Range Transportation Policy Plan (LRTPP) and four-year Transportation Improvement Program (TIP). The proposed project is not a regionally significant transportation improvement and therefore conformity requirements do not apply. In concordance, no regional emissions modeling was completed as part of the evaluation of the current project.

Intersection CO Analysis

CO is also subject to detailed intersection-level evaluation to assess whether any localized impacts from increased traffic congestion may be expected to occur. Vehicles queued at congested intersections emit CO, which may contribute to elevated CO concentrations near the roadways where pedestrians may be present. The analysis completed for the AUAR area included three scenarios representing different conditions expected to occur. The scenarios include:

- 2018 Stadium Build Scenario – this condition reflects traffic patterns and volumes that would be expected to occur prior to an evening event at the proposed stadium. Increased traffic congestion would be expected as a result of additional event traffic along with normal p.m. peak period traffic. This scenario assumes year 2018 volumes and vehicle emission rates.

- 2035 Comprehensive Plan Full Buildout Scenario – this condition reflects traffic patterns and volumes that would be expected to occur once all of the proposed development in the AUAR area has been completed, including residential and commercial land uses. Increased traffic would be expected from the additional land uses proposed. This scenario assumes year 2035 traffic volumes, but uses year 2022 vehicle emission rates to represent a worst-case scenario should market conditions allow development to occur faster than anticipated.

- Construction Scenario – this condition reflects increased traffic congestion along roadways adjacent to the AUAR area that may occur due to temporary lane closures resulting from construction equipment. This scenario assumes existing traffic volumes and vehicle emission rates.

Air quality modeling was performed using current versions of EPA CO emission (MOVES2014) and dispersion modeling (CAL3QHC) software. All methods and procedures used in the air quality analyses are generally accepted by the EPA and MPCA as approved for industry-standard analytical methods. The modeling assumptions used in this analysis include the following:

Table 1: Modeling Assumptions

Category	Assumption
Speed Class	Arterial, posted speed limits
Traffic Mix	MOVES data for Ramsey County
Traffic Age Distribution	MPCA Data
Wind Speed	1 meter/second
Temperature	Meteorology information at county level
Wind Direction	36 directions at 10 degree increments
Surface Roughness	180 centimeters
Atmospheric Stability Class	D
8-Hour Persistence Factor	0.7
Fuel Program	Conventional Gasoline East
Fuel Reid Vapor Pressure	9.0 pounds/square inch
Oxygenated Fuels	Ethanol with 2.7 percent oxygen content

The CO emissions factors were produced by the MOVES2014 emission model at varying speeds for year 2018 and year 2022 conditions (see Appendix A).

Background CO concentrations are needed for air quality analysis purposes to represent conditions without the influence of nearby vehicles. The background concentrations are added to intersection-scale modeled results to yield predicted CO levels.

Background CO concentrations for the analysis documented in this study were obtained from MPCA for the monitoring station at Site 861 (near the intersection of University Avenue and Lexington Avenue) in Saint Paul. The maximum one-hour and eight-hour concentrations for the worst-case (winter) condition are shown in Table 2. Background concentrations were also adjusted for future year 2018 and year 2022 conditions to account for regional growth. The annual background growth rate was assumed to be 0.5 percent per year. To represent worst-case conditions, no background reduction was used to account for future emissions-control improvements. This likely overestimates the ambient background CO concentrations.

Table 2: Background Carbon Monoxide Concentrations

Site #861, Saint Paul, Minnesota	1-Hour	8-Hour
2013 Background CO Concentration (ppm)	2.4	1.1
Background Growth Factor – 2013 to 2018	1.28	1.28
Adjusted Background CO Concentration – 2018 (ppm)	3.1	1.4
Background Growth Factor – 2013 to 2022	1.41	1.41
Adjusted Background CO Concentration – 2022 (ppm)	3.4	1.55

The following intersections, and surrounding areas, were included in the evaluation of air quality impacts for carbon monoxide:

- Snelling Avenue & Concordia Avenue
- Snelling Avenue & St. Anthony Avenue
- Snelling Avenue & University Avenue
- Lexington Avenue & University Avenue

Analysis is required at the Snelling Avenue & University Avenue and Lexington Avenue & University Avenue intersections since these are included in the list of ten intersections in the Twin Cities as identified by MnDOT (http://dotapp7.dot.state.mn.us/edms/download?docId=644986). The Snelling Avenue & Concordia Avenue and Snelling Avenue & St. Anthony Avenue intersections were modeled due to their proximity to the project area and potential for traffic congestion.

Carbon monoxide concentrations near the intersections were estimated using forecast traffic volumes, proposed intersection geometrics, optimized signal timing, emission levels from MOVES2014, and dispersion modeling using the EPA model CAL3QHC. Schematics and peak-hour turning movements for each intersection model are provided in Appendix B.

The intersection CO modeling results are shown in Table 3 through Table 5. These results are the worst-case results from the CAL3QHC dispersion model. The results show the location of the highest expected concentration, the value of the highest one-hour and eight-hour concentrations, and the wind angle that produced these concentrations. The CO results provided represent background CO concentrations plus modeled intersection CO concentrations. The worst case was identified at the intersection of Snelling Avenue and Concordia Avenue, under the Year 2018 construction scenario.

Table 3: Year 2018 Stadium Build Scenario Carbon Monoxide Modeling Results (Shown in Parts per Million (ppm))

Highest CO Receptor Location	1-Hour Average Concentration	8-Hour Average Concentration	Wind Direction
I-94 Interchange Area			
NE Quadrant of Snelling Avenue and Concordia Avenue	5.2	2.5	200°
Snelling Avenue & University Avenue Station Area			
NE Quadrant of Intersection	5.0	2.4	180°
Stadium Site			
Shields Avenue East of Snelling Avenue	4.8	2.2	190°
Lexington Avenue & University Avenue Station Area			
NE Quadrant of Intersection	5.1	2.5	350°

Table 4: Year 2035 Comprehensive Plan Full Buildout Scenario Carbon Monoxide Modeling Results (Shown in Parts per Million (ppm))

Highest CO Receptor Location	1-Hour Average Concentration	8-Hour Average Concentration	Wind Direction
I-94 Interchange Area			
NE Quadrant of Snelling Avenue and Concordia Avenue	5.2	2.5	200°
Snelling Avenue & University Avenue Station Area			
SE Quadrant of Intersection	5.2	2.5	190°
Stadium Site			
Several Receptors Along Pedestrian Plaza	4.8	2.2	190°
Lexington Avenue & University Avenue Station Area			
University Avenue Median (West of Lexington Avenue)	5.1	2.5	170°

Table 5: Year 2018 Construction Scenario Carbon Monoxide Modeling Results (Shown in Parts per Million (ppm))

Highest CO Receptor Location	1-Hour Average Concentration	8-Hour Average Concentration	Wind Direction
I-94 Interchange Area			
NE Quadrant of Snelling Avenue and Concordia Avenue	5.3	2.6	200°
Snelling Avenue & University Avenue Station Area			
SE Quadrant of Intersection	5.1	2.5	190°
Stadium Site			
Shields Avenue East of Snelling Avenue	4.8	2.2	220°
Lexington Avenue & University Avenue Station Area			
University Avenue Median (West of Lexington Avenue)	5.1	2.5	170°

The highest predicted concentrations are expected to occur in the I-94 interchange area at the Snelling Avenue & Concordia Avenue intersection, with the one-hour and eight-hour concentrations of 5.3 and 2.6 ppm, respectively. Based on these results, concentrations of CO in the project area would be substantially below the federal one-hour standard of 35 ppm, the Minnesota one-hour standard of 30 ppm, and the federal eight-hour standard of 9 ppm. These CO modeling results show that the Snelling Midway project is not expected to cause CO concentrations exceeding state or federal standards.

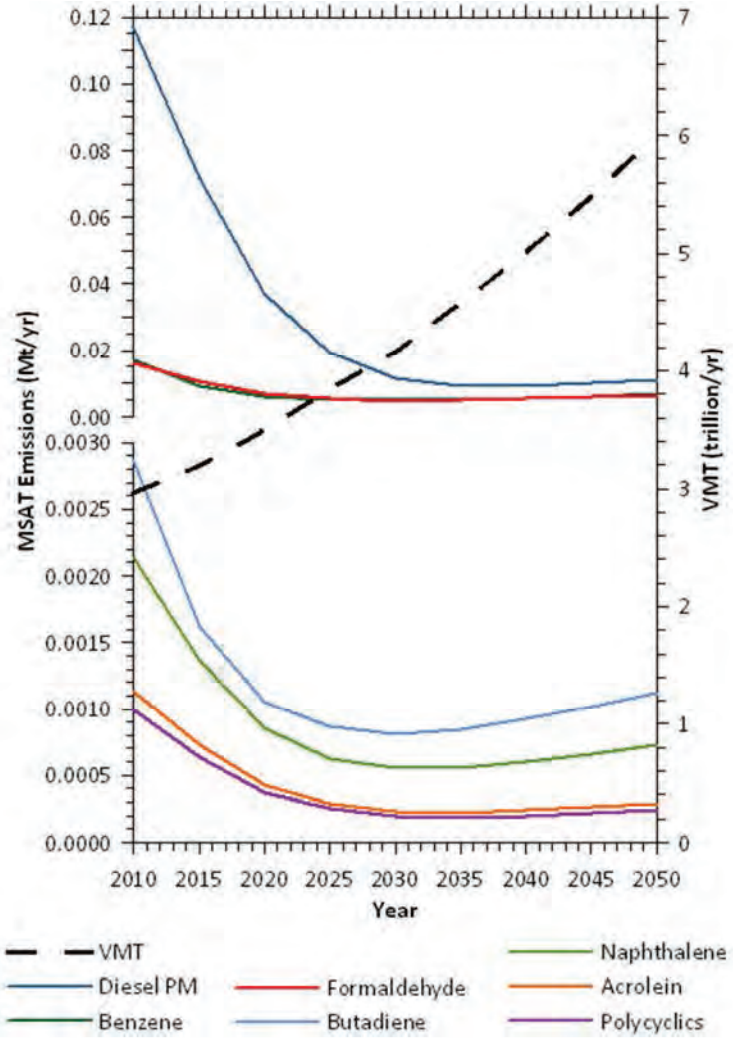
Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the CAAA of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/iris/).

In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (http://www.epa.gov/ttn/atw/nata1999/). These are Acrolein, Benzene, 1,3-Butidiene, Diesel Particulate Matter plus diesel exhaust organic gases (Diesel PM), Formaldehyde, Naphthalene, and Polycyclic Organic Matter (POM). The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines.

Based on an FHWA analysis using EPA's MOVES2010b model, as shown in Figure 2, even if vehicle-miles travelled (VMT) increases by 102 percent, as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth), that MSAT emissions in the project area are likely to be lower in the future in nearly all cases. On a regional basis, EPA's vehicle and fuel regulations will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Figure 2: National MSAT Emission Trends 2010-2050 for Vehicles Operating On Roadways Using EPA's MOVES2010b Model



Notes:

(1) Trends for specific locations may be different, depending on locally derived information on vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

Source: EPA MOVES2010b model runs conducted during May - June 2012 by FHWA. http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/nmsatetrends.cfm

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of development actions. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with transportation projects. However, available technical tools do not enable us to predict the project-specific health impacts of MSAT emissions. The FHWA will continue to monitor the developing research in this field.

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts – with each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevent a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also a lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required to 1) provide an ample margin of safety to protect public health, or, 2) prevent an adverse environmental effect.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between scenarios is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Qualitative MSAT Analysis

For each scenario in this AUAR, the amount of MSATs emitted would be proportional to the amount of VMT, assuming that other variables (such as travel not associated with the proposed development) are the same for each alternative. The VMT estimated for the comprehensive plan full buildout scenario is higher than that for the No Build condition, because of the additional activity associated with the proposed development. This increase in VMT associated with the Comprehensive Plan Full Buildout scenario would lead to higher MSAT emissions in the vicinity of the AUAR area. The higher emissions could be offset somewhat by a decrease in regional traffic due to increased use of transit. The extent to which these emissions decreases will offset VMT-related emissions increases is not known.

Regardless of which scenario is chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the EPA-projected reductions are so significant (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future as well.

The additional activity contemplated as part of the project scenarios could have the effect of increasing emissions in the vicinity of nearby homes and businesses; therefore, under the Comprehensive Plan Full Buildout scenario there may be localized areas where ambient concentrations of MSATs would be higher than under the No Build conditions. However, as discussed above, the magnitude and the duration of these potential differences cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific health impacts. Even though there may be differences among the scenarios, on a region-wide basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time that in almost all cases the MSAT levels in the future will be significantly lower than today.

In sum, the Stadium Build and Comprehensive Plan Full Buildout scenarios are expected to be associated with higher levels of MSAT emissions in the study area, relative to the No Build condition, along with some benefit from mode shifts to transit. There also could be slightly higher differences in MSAT levels in a few localized areas where activity occurs closer to homes, and businesses. Under all scenarios, MSAT levels are likely to decrease over time due to nationally mandated cleaner vehicles and fuels.

Avoidance, Minimization, and/or Mitigation Measures

The analysis presented in this document demonstrates there will be no anticipated exceedances of air pollutant concentrations resulting from the proposed project; therefore, no mitigation measures are necessary. The State of Minnesota does not require permits for traffic-related emissions for projects of this type.

This analysis also demonstrates that no exceedances are anticipated under the construction phase. However, a series of Best Management Practices (BMPs) would be implemented during construction to control dust. This may include the following preventive and mitigative measures:

- Minimization of land disturbance during site preparation
- Use of watering trucks to minimize dust
- Covering of trucks while hauling soil/debris off-site or transferring materials
- Stabilization of dirt piles if they are not removed immediately
- Use of dust suppressants on unpaved areas
- Minimization of unnecessary vehicle and machinery idling
- Revegetation of any disturbed land post-construction

APPENDIX A

CO Emissions Factors

Table A-1: Carbon Monoxide Emissions Factors from MOVES2014

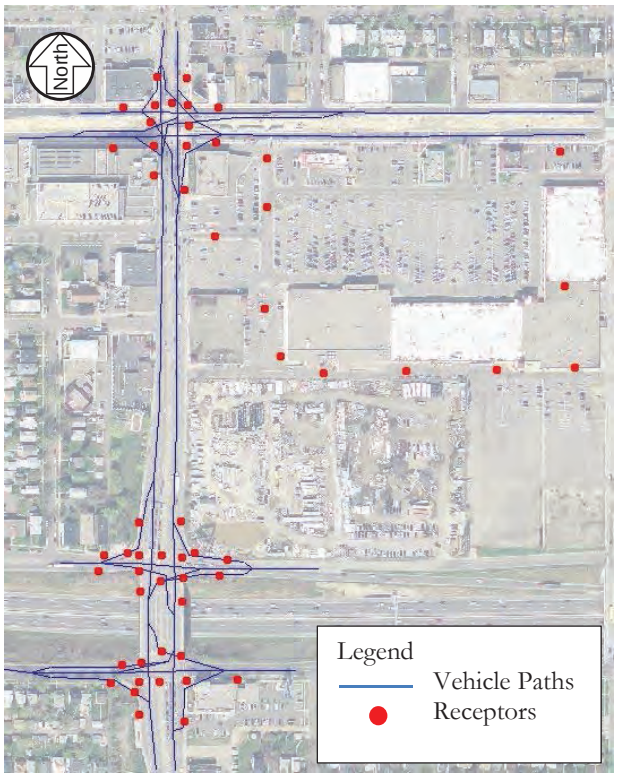
Speed	Emissions (g/veh-mi)	
	Year 2018	Year 2022
Idle*	10.8	5.0
2	15.7	11.8
5	10.1	7.8
10	7.3	5.7
15	6.4	5.1
20	5.7	4.5
25	4.8	3.7
30	4.5	3.6
35	4.2	3.3
40	3.8	3.1
45	3.6	2.9
50	3.5	2.8
55	3.6	2.9
60	3.7	3.0
65	3.9	3.2
70	4.5	3.7
75	5.9	4.9

* unit: g/veh-hour

APPENDIX B

CAL3QHC Schematics and Traffic Inputs

CAL3QHC Schematic for I-94 Interchange and Snelling Avenue & University Avenue Station Areas



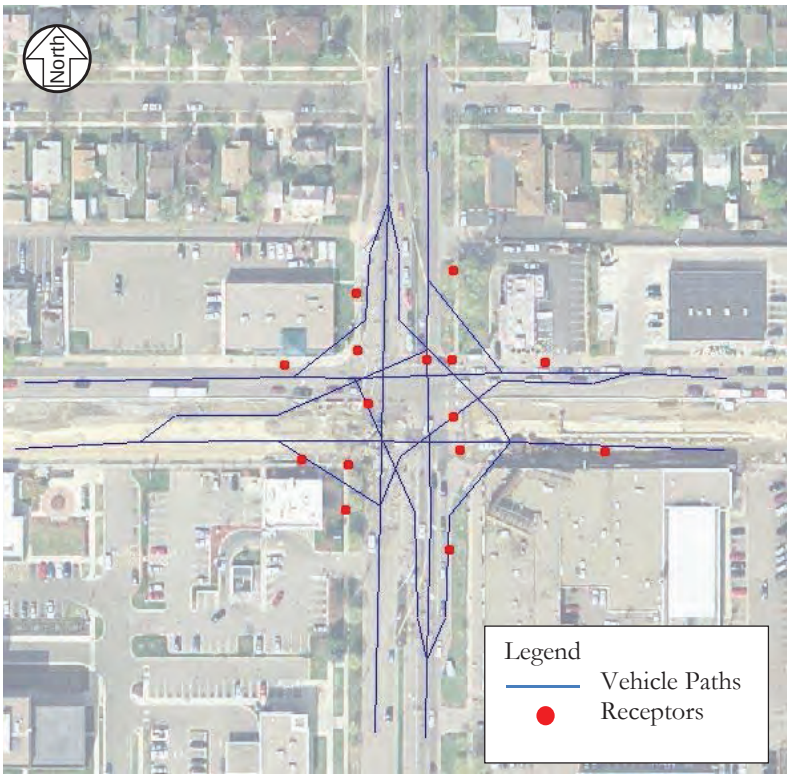
Year 2018 Stadium Build Scenario Peak Hour Turning Movements

Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	EBR
Snelling Avenue & Concordia Avenue	-	940	258	316	776	-	661	759	722	-	-	-
Snelling Avenue & St. Anthony Avenue	482	1,119	-	-	843	265	-	-	-	248	356	358
Snelling Avenue & University Avenue	94	564	76	182	747	31	86	276	118	146	191	101

Year 2035 Comprehensive Plan Full Buildout Scenario Peak Hour Turning Movements

Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	EBR
Snelling Avenue & Concordia Avenue	-	1,208	212	678	1,210	-	476	478	770	-	-	-
Snelling Avenue & St. Anthony Avenue	510	1,174	-	-	1,600	620	-	-	-	288	392	419
Snelling Avenue & University Avenue	205	1,066	121	243	910	107	111	446	136	118	391	83

CAL3QHC Schematic for Lexington Avenue & Snelling Avenue Station Area



Year 2018 Stadium Build Scenario Peak Hour Turning Movements

Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	EBR
Lexington Avenue & University Avenue	85	660	85	35	655	80	115	410	160	115	270	40

Year 2035 Comprehensive Plan Full Buildout Scenario Peak Hour Turning Movements

Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	EBR
Lexington Avenue & University Avenue	135	1,050	95	60	995	105	255	825	160	170	415	35

Appendix D

Stadium Noise Analysis

WJHW

WRIGHTSON | JOHNSON | HADDON | WILLIAMS

Designers and Planners for Sound, Video, Multi-Media
Telecommunications, Broadcast, Theatre & Acoustics

Dallas • San Antonio • Denver

May 16, 2016

Michael Donovan, AIA
Associate Principal
POPULOUS
4800 Main Street | Suite 300
Kansas City, Missouri 64112

Subject: Minnesota United MLS Stadium
Preliminary Community Noise Review

Dear Mike:

This report is provided to present an assessment of potential community noise impact of the new Minnesota United MLS Stadium. The evaluation is based upon the current concept design for the new stadium featuring a distributed loudspeaker configuration with loudspeakers located on the stadium roof canopy. This loudspeaker system was modeled to be representative in performance and loudness capability when compared with other new MLS stadiums with similar sound system configurations. In addition to noise mitigation offered by the sound system design and architectural configuration of the stadium, operational noise mitigation measures may also be recommended, pending review of the project with the City of St. Paul, and Minnesota United.

This review is limited to sound from the stadium sound system and crowd noise. Roadway traffic noise is reviewed elsewhere, and it is premature to review sound levels from any stadium mechanical systems as they have not yet been designed. It is understood, however, that noise from stadium mechanical systems as well as construction activity will be required to be compliant with the applicable regulations.

PROJECT SITE DESCRIPTION

The new stadium is located at the south end of a parcel bounded by I-94 to the south, Snelling Avenue to the west, Pascal Street to the east and University Avenue to the north. The site and surrounding areas are relatively flat, with no large changes in elevation, hills, etc. that can be expected to block sound propagation from the proposed stadium site to the nearest residential areas.

There are long established residential and commercial properties to the west and north of the site. An existing retail development is to the east, with additional residential neighborhoods to the south of the site, across I-94.

The primary use of the stadium is for MLS soccer games, although other sporting events can be expected, along with limited amplified music as a pre-game activity (not concerts) for sports events.

Existing ambient noise levels for the properties in the environs of the site are primarily due to traffic operations on I-94 and the surrounding surface streets, which are busy during the daytime due to the existing commercial developments.

To the north, the nearest homes to the new stadium are approximately 850 ft. from the stadium. To the west, the nearest homes across Snelling Avenue are about 575 ft. (to backyards). To

the south, the homes across I-94 are about 380 ft. away. To the east, there is continuous commercial development from Pascal Street to Lexington Parkway; the residential neighborhoods to the northeast, across University Avenue, are much closer than are those due east of the site. The project site graphic is presented as Figure 1 below.

Figure 1. Project Site Location – Minnesota United MLS Stadium – St. Paul, MN

To the best of our knowledge, there is no significant development planned for the existing land uses surrounding the project site that could change the overall character of the adjacent areas

or alter noise propagation from the proposed stadium to the adjacent residential neighborhoods. As described, there is the potential for additional development on the stadium site to the north of the stadium perimeter.

As is described below, Interstate traffic, surface street traffic, and normal urban/suburban business and residential activity dominate the existing ambient noise environment during the daytime and evening hours when soccer games at the project stadium would typically occur.

CRITERIA FOR EVALUATION OF NOISE IMPACT

There are three common categories for determining community noise impact and response:

- **Audibility** – Many noises are audible in all built-up environments. The most common of these are expected, and do not give rise to substantial complaint activity. When unusual noises, or noises which do not meet the approval of residents, are audible, then annoyance is often registered. Depending upon the duration, loudness, and nature of the noise, community dissatisfaction may be registered. Clearly, noise that is not audible is not annoying. However, lowering noise levels to inaudibility can be difficult, as evidenced by modern, urban life. Despite this, some sounds are more intrusive than others, and are considered annoying by some residents even when the sound level of the offending noise is at or lower than other common sounds (such as traffic), and is well within the regulatory limits.
- **Change from Existing Conditions** – Many communities and states along with some Federal agencies define a noise impact in terms of the change in noise levels caused by an event or proposed new development. However, this does not apply under the City of St. Paul and State of Minnesota noise regulations. Therefore, this criterion is not relevant when determining noise impact.
- **Objective Noise Regulations** – Most communities, such the City of St. Paul (and the State of Minnesota), have noise ordinances and regulations which outline numerically quantified noise level limits. The objective standards generally determine what sound levels are Permissible by law, however these objective standards do not ensure inaudibility, but rather define what is considered "reasonable" for a particular land use or zoning at a particular time of day by that agency.

Noise Regulations

The applicable noise criteria for the project are established by the State of Minnesota Pollution Control Agency and the City of St. Paul Noise Ordinance (Code of Ordinances, Chapter 293). The objective noise level limits are based on the land use of affected properties and the time of day. The level exceeded 50% of the time (L_{50}) and the level exceeded 10% of the time (L_{10}) are the noise level descriptors used in the regulations. The L_{50} value is the sound level exceeded more than 30 minutes of any given hour, and the L_{10} value is the sound level exceeded more than 6 minutes of any given hour.

The State of Minnesota noise level limits include both L_{10} and L_{50} descriptors. All levels are A-weighted (dBA), which is appropriate for community noise. The applicable State standards are presented in Table 2 below.

Table 1. State of Minnesota Noise Level Limits

Noise Area Classification	Daytime (7 am-10 pm)		Nighttime (10 pm-7 am)	
	L_{10} (dBA)	L_{50} (dBA)	L_{10} (dBA)	L_{50} (dBA)
1 (residential)	65	60	55	50
2 (commercial)	70	65	70	65
3 (industrial)	80	75	80	75

The City of St. Paul noise level limits are based on the L_{10} descriptor. All levels are A-weighted (dBA), which is appropriate for community noise. The applicable City standards are presented in Table 2 below.

Table 2. City of St. Paul Noise Level Limits

Noise Receptor	Land Use Classification	Time of Day	Sound Level Limit (Hourly L_{10} dBA)
Class I	I-1, I-2 and I-3 (Industrial districts)	At all times (24 hr.)	80 dBA
Class II	R-1 through R-4, RT-1, RT-2 (single family, duplex and townhome residential) RM-1 through RM-3, P-1 and PD (low density and high rise multifamily)	7:00 am to 10:00 pm (daytime)	65 dBA
		10:00 pm to 7:00 am (nighttime)	55 dBA
Class III	B-1 through B-5, B-2C and OS-1 (business districts)	At all times (24 hr.)	70 dBA

The business (Class III) and residential (Class II) standards are the most relevant standards for the new MLS stadium project, as these are the closest land uses to the stadium site. Note that for residential noise receptors, the allowable limits is 10 dB less for nighttime hours compared to daytime hours due to lower nighttime ambient noise levels and the need for relative quiet (e.g., sleep).

The Minnesota Pollution Control Agency noise rules list both L50 and L10 noise level limits. The L10 values are identical to the City ordinance, the L50 values are 5 dBA lower than the L10 values in each category above.

Construction Noise Level Limits

The City noise level limits relative to construction activity is an Hourly L_{10} of 85 dBA at a distance of 50 ft. from the construction noise source. The sound level limits listed in the table above are applicable to operation of the project facility once constructed.

EXISTING AMBIENT NOISE ENVIRONMENT

As noted above, the ambient noise levels should be considered when both assessing compliance with objective standards and in any estimate of audibility. When ambient noise levels from a sound source are not substantially higher than the background (ambient) noise, it

can be difficult to determine the noise level of the subject source alone, as both the ambient and the noise that is to be measured contribute to the overall measured level. Calculation can remove the influence of background noise within 5 dB of the noise to be measured, provided the background noise levels are constant. However, to be confident that ambient noise will not contaminate a given measurement, it should be at least 10 dB or more below the noise source(s) being measured.

Ambient noise is also a very important factor in determining audibility of a sound. Sounds that are heard in very quiet conditions are likely to be judged as louder and easier to hear than the same sound at the same intensity in a noisier environment. Higher ambient noise levels tend to "mask" the perceptibility of other sounds.

Ambient noise levels were measured by David Braslau Associates on May 10, 2016. The following is a summary of the data included in the attached report. The three locations selected were in the existing residential neighborhoods closest to the stadium site. It can be assumed that the values for the commercial district to the east of the site will be at least a high as the location symmetrically to the west, with an expectation of higher levels due to increased traffic.

Figure 2 – Ambient Noise Level Measurement Locations (yellow dots)

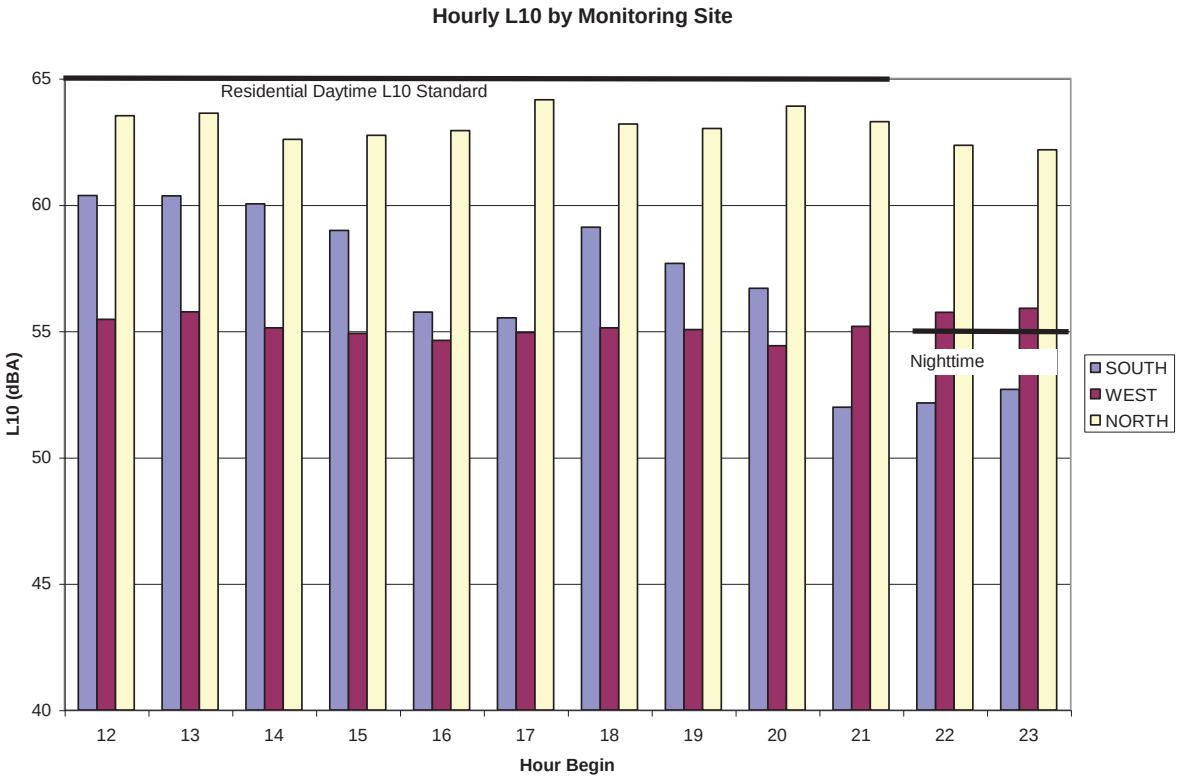


Figure 3. Hourly abmbient noise L10 values starting at 12 noon and extending until midnight

As can be seen, the L10 sound levels in all locations prior to 8 pm exceed the post 10 pm sound level limits and in all three locations are dominated by roadway noise. In all cases, the sound levels are below the pre 10 pm sound level limit. These levels are typical mixed use, urban/close suburban environments.

The measured ambient levels indicate that sound from stadium sporting events can be expected to be audible at homes and properties nearest the site, even if well within the City noise level limits. The factors that impact the degree of audibility are noted below.

ISSUES THAT AFFECT MEASURED AND PERCEIVED COMMUNITY NOISE LEVELS

In addition to the source sound levels and any reduction of sound offered by the stadium structure, the built environment, terrain, and weather conditions can affect measured sound levels and audibility. As regards to weather conditions, at locations within 1,000 ft. of an outdoor noise source, measured sound levels are primarily a function of the unimpeded sound levels associated with the source (e.g., stadium loudspeakers and crowd noise), distance from the source to the measurement location, and the presence of any barriers that can attenuate or otherwise alter sound propagation between the source and receiver. These factors are well understood and relatively easy to model and predict with good accuracy. The residential properties closest to the site are within 1,000 ft., and sound propagation between the stadium and these properties would not be significantly affected by the atmospheric conditions listed below; these conditions are mentioned, however, as they can significantly affect sound propagation at more distant receivers, occasionally producing complaints.

The following atmospheric conditions can affect stadium sound propagation and noise levels at distant receiver locations. These factors are well understood, but can be difficult to predict on a day-to-day or event basis.

- *Wind*

  Wind can have a large impact on sound level propagation (5-10 dB), and therefore perceptibility of amplified sound a great distance (i.e., over 1000 feet) from the site. At locations near the source of the sound, wind has a much smaller effect. The residential neighborhoods in the vicinity of the stadium site are close enough that significant changes in stadium sound levels in these neighborhoods due to wind are not expected.

- *Temperature Inversion*

  Normally, the temperature of air decreases with altitude/elevation. This is one reason why air is cooler in the mountains than at sea level. Under conditions where the air temperature near the ground is lower than that of the air above, a temperature inversion is said to exist. This condition is not unusual, and is often due to rapidly cooling landmass (as in the desert) or infiltration of cooler sea air on-shore in coastal areas. During a temperature inversion condition, effective sound propagation over large distances could be achieved, increasing stadium-related sound levels at more distant noise-sensitive receivers. Again, the proximity of the adjacent residential neighborhoods indicates that temperature inversion conditions would not significantly affect stadium sound levels.

TYPICAL MLS STADIUM PUBLIC ADDRESS AND CROWD NOISE LEVELS

To verify sound levels typical of an MLS game, reference sound level measurements were conducted at a purpose-built, MLS stadium (Sporting KC) with a similar (though not identical) sound system and architectural design. Sound level measurements were made both inside the stadium, within the spectator seating, and outside the stadium at a distances similar to the closest residential property locations near the proposed Minnesota United stadium site in St. Paul. The intent of measurements was to gain an understanding of how the sound system would be used in regards to level, program, and frequency of use during the game, as well as understanding how sound is attenuated in level from inside the stadium to outside. This data was used to inform the modeling of the anticipated sound levels associated with the proposed stadium in St. Paul. Additionally, the reference sound level measurements were used to evaluate crowd-related noise (i.e., cheering and drumming) and how it propagates outward from the stadium.

Noise level measurements were completed using a Norsonic Type 140 sound level meter (Class 1, precision system). The sound level meter was calibrated in the field immediately before the measurement session using a Norsonic Type 1251 Sound Calibrator. The measurement system was laboratory certified to be in proper working condition on December 31, 2015.

Atmospheric conditions during the reference noise level measurement session were typical of the MLS season – sunny, warm (65-70 deg. F), moderate humidity, and calm winds. The weather conditions were conducive to quality results.

Sound levels from the stadium sound system were nearly continuous prior to the game and during halftime. However, sound system use was very limited during game play, and only occurred in response to the most relevant action on the field (i.e., a goal, significant penalty), and was not used for every play as is common for other sports, such as American football. The frequency of use of the sound system is important, as the City noise regulations are percentile based, as noted above.

Crowd noise included cheering throughout the stadium and drumming from the supporters' section. Crowd noise was the primary stadium noise source during the game, and was also a contributing source of noise for the 30 minutes prior to the start of the game. Measured, noise levels are summarized in the table below.

Measured, existing MLS stadium noise levels are summarized in Table 3 below.

Table 3. Comparison Measurements at MLS Stadium (Sporting KC)

L_{10} (dBA)	L_{50} (dBA)	Specific Measurement Notes
Exterior		
70.4	66.9	Only pre-game PA, music, and crowd. PA=67 dBA, music=67-73 dBA, crowd-61-65 dBA, stadium fireworks=80 dBA (short duration)
71.5	66.3	Combination of pre-game and start of game. PA=67 dBA, music=67-73 dBA, and crowd=61-65 dBA.
66.2	62.5	Game play only (no PA or music).
Interior		
85.9	82.1	Upper seating area near concourse. PA=85-87 dBA, music=83-85 dBA.
91.7	87.2	Lower seating area near field. PA=87-90 dBA, music=82-86 dBA, crowd=95-105 dBA (short bursts)

General Notes:

- All exterior noise level measurements were completed at a distance of approximately 393 feet from the building façade. The measurement site was on the short side of the stadium adjacent to the primary fan section that included drums.
- All measurements were 10 minutes in duration. Therefore, the L_{10} measurement is the noise exceeded for 1 minute, and the L_{50} measurement is the noise exceeded for 5 minutes.
- Measurement results are expected to represent worst-case MLS game noise exposure associated with the proposed stadium.

PREDICTED NOISE FROM NEW STADIUM

House Sound/Public Address System

This is the permanently installed sound system for the seating bowl spectator seating that provides announcements, audio associated with the large video displays, and prerecorded audio programming. The calculations of community sound levels from this system are based on the following assumptions:

- The new stadium loudspeaker configuration is a distributed type system with multiple loudspeakers mounted on the roof canopy.
- The elevation of the primary speakers for the new stadium is not more than 90 ft. relative to the field.
- Public Address system sound levels at the new stadium will be no greater than 90 dBA as measured in the fixed seating areas.
- While the architectural configuration of the Sporting KC stadium is different than that proposed for St. Paul, and those differences have been accounted for in the computer model for St. Paul, the propagation (reduction in level) of sound over distance, from the stadium will be similar to that measured.

The primary speakers, with the longest speaker-to-listener distance, face nearly straight down to cover the bottom two thirds of the lower seating bowl. Additional canopy-mounted speakers cover the remainder of the lower bowl and the upper level seating. These ratios change as the seating bowl section varies around the circumference of the stadium.

The speaker configuration would not direct sound outside the stadium. In addition, the canopy roof, stadium seating and concessions buildings would act as barriers to sound escaping the seating bowl. The proposed fabric façade is minimal to provide minimal sound reduction, so was not included in the sound modeling to yield conservative values.

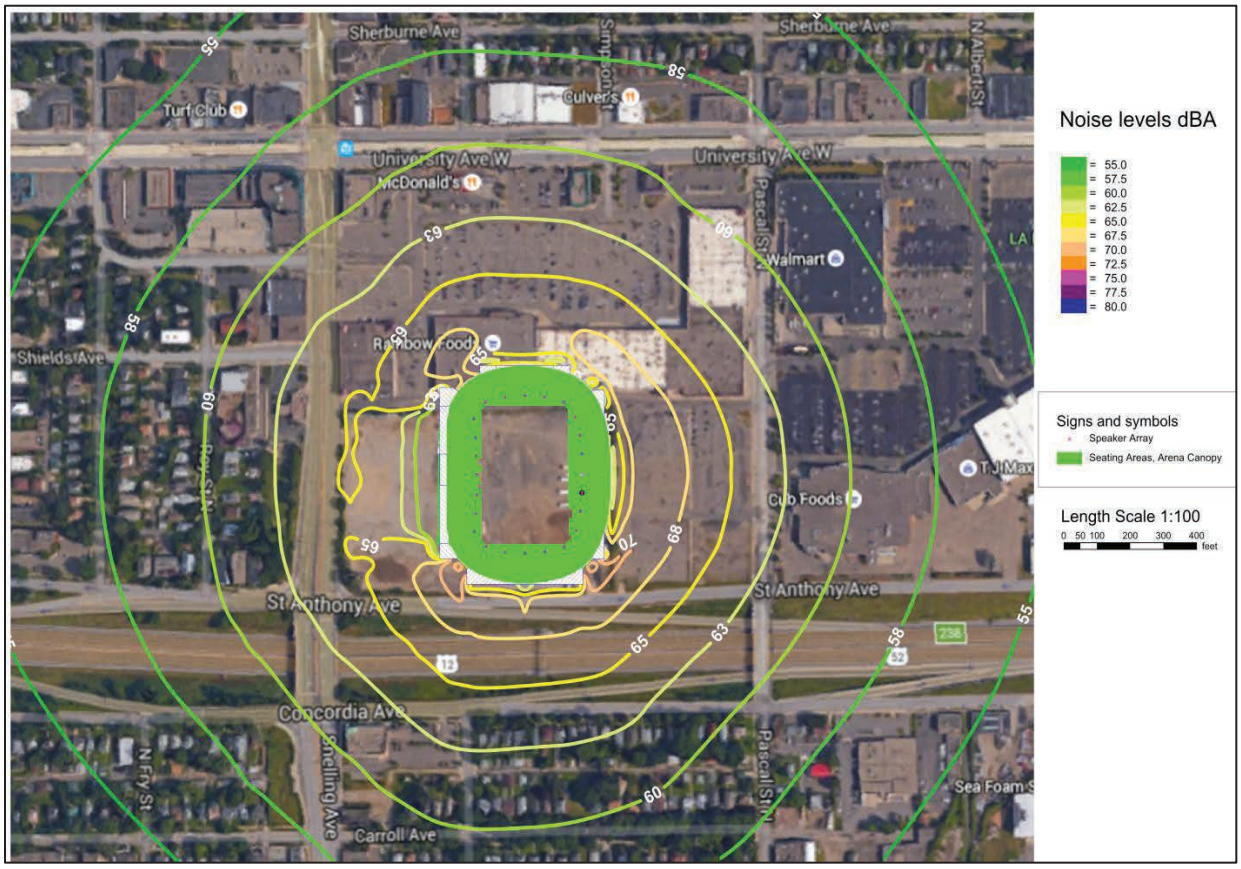


Figure 2. Noise Contours of Distributed Speaker System

Based on the current architectural design, proposed loudspeaker configuration and assumed sound levels in the bowl, sound levels at the nearest residential property are estimated to be a continuous 64 dBA, assuming a direct line of sight from the sensitive receptor to the stadium. Locations that are blocked by other structures, or are more distant from the stadium would experience lower sound levels.

Based on the reference sound level measurements presented in Table 3 above, we anticipate a maximum of 45 minutes of PA system noise during pre-game activities and 30 minutes at halftime, and 15 minutes of crowd noise with little contribution from the PA system, during gameplay. For these noise sources and at these durations, we anticipate an L_{10} and L_{50} of approximately 64 dBA at the closest existing residential uses. This level is in excess of the post 10:00 pm residential City of St. Paul sound level limit. For this reason, scheduled sporting events are recommended to end prior to 10:00 pm or operate with reduced source sound levels during nighttime hours.

The sound system source levels will also have to be carefully controlled during daytime hours to ensure that the applicable noise level limits are met.

Crowd Noise Sound Levels

Crowd noise is significantly different in character than the public address system; it consists of a collection of many, lower power level sources in comparison to the relatively few, higher-powered sound sources of the distributed loudspeaker system. For this reason, crowd-produced sound levels are typically lower than the house sound system outside the stadium. In addition, peak crowd noise levels are of shorter duration than the announcements and other program played through the public address system when also considering the pregame and halftime program. It is unlikely that maximum crowd noise would occur for as much as 6 minutes total in any given hour during an event (i.e., 10% of the hour).

During the measurements performed at the Sporting KC facility, described in Table 3 above, crowd noise levels were measured to be approximately 4 dBA less than the PA system noise outside the stadium. When comparing this data to the proposed St. Paul stadium, and accounting for the increased distance to the nearest residences on the south side of the stadium, we anticipate an L_{10} from crowd noise alone to be approximately 62 dBA. For this reason, crowd noise should not exceed the City noise level limits for daytime events.

Other Amplified Sound Sources

As can be seen in the site plan above (Figure 1), there is a plaza area to the north of the stadium proper. This type of plaza area can be expected to host small, pre-event functions that may feature musical performances or broadcaster pre-game shows, as well as a house public address system for making announcement to patrons in the area. In each case, these amplified sound sources have the potential to exceed the City noise level limits to the west and north of the site. As a practical matter, the sound levels for these sources are considerably lower than for the main stadium spectator seating sound system. This does not mean, however that these sound sources can be ignored. For reasons of compliance, any permanent speakers should be limited in scope or distributed throughout the plaza to minimize community sound levels. Portable sound systems and stages should be set up to direct sound away from residential areas, as well as being limited in loudness to ensure compliance.

Concert Sound Levels

Currently, there are no plans to host concerts at the stadium. Should there be a desire to promote outdoor, amplified music concerts at the venue in the future, further evaluation of sound levels may be needed.

Future Site Development

As noted above, there is the potential for development in addition to the stadium on the project site. Currently there is no approved plan or other projects, however a concept site plan has been provided that provides some insight to what might possibly be constructed.

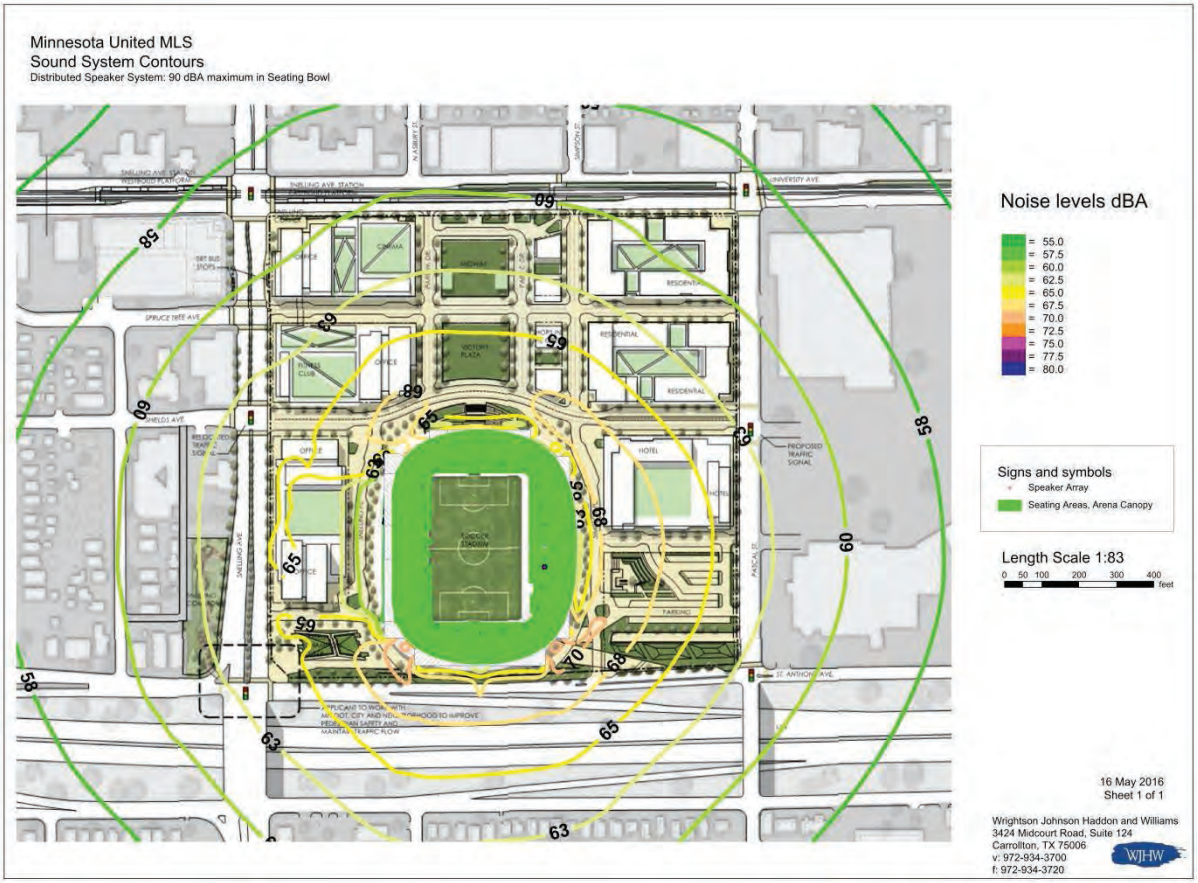


Figure 4 - Noise Contours of Distributed Speaker System with Concept Development Plan

As can be seen from the noise contour overlay on the concept development plan, there is a change for permanent and temporary (hotel) residential use. The distance of these potential developments indicates that, during soccer games, the City noise regulations will be exceeded. Construction of Class II receptor uses within the 65 dBA contour will require mitigation through decreased stadium sound levels or other means, including possible sound level variance.

OVERVIEW OF EXPECTED NOISE IMPACTS AND POTENTIAL MITIGATION MEASURES

Calculated sound levels from the stadium permanent seating bowl sound system and crowd noise, based on the typical MLS game presentation, the current sound system configuration, the current architectural design, and reference noise level measurements, are not expected to

exceed the City of St. Paul daytime noise level standard at the closest noise-sensitive uses. During nighttime hours, the sound system may exceed the applicable sound level limit, depending on how long an event extends beyond 10:00 pm and how loudly the sound system is operated. Crowd noise may also exceed the City's nighttime limits.

Large, amplified music concerts are expected to exceed both the daytime and nighttime City sound level limits at the nearest residential properties. While it is possible for concerts to be compliant with the City regulations, this would require reducing source sound levels at the assumed mix position of about 85 dBA, which is significantly lower than typical practice for large outdoor music concerts.

As the house sound system has the potential to exceed the City noise level limits, it is recommended that:

- The overall system loudness should be electronically limited so that levels in the spectator seating cannot exceed levels that are compliant with the City standards. The calculations assume a maximum of 90 dBA at the spectator seating to limit the noise level at the closest residences to 65 dBA L_{10}.
- Sporting events must be scheduled so that regulation play is completed by 10 pm.
- Plaza amplified sound sources are to be configured and operated at levels which are consistent with the City noise standards.
- Any amplified music associated with stadium events, such as small musical groups performing pre-game in the seating bowl or exterior plaza, must be limited in loudness to comply with the City noise ordinance.
- Continuous pre-game and half time stadium sound system levels will likely have to be lower than in game announcements, in order to meet the City noise regulations.
- Future development on the stadium site should be designed with the understanding of the activities occurring at and noise levels generated by the stadium.

Please call should you have any questions or need additional information.

Best Regards,
WRIGHTSON, JOHNSON, HADDON & WILLIAMS, INC.

Jack Wrightson
Principal

Cc; Bruce Miller - Populous
Tom Falgien - WJHW

MN United Stadium
Ambient Noise Measurements

David Braslau Associates, Inc.

10 May 2016

Results of ambient sound level monitoring at three locations near the proposed stadium are presented and discussed here.

Locations of the final monitoring sites are shown on page 3.

The originally identified south site was used to set up my meters, even though the neighbor was afraid it might be stolen.

The originally identified west site was relocated. (We had permission from the church to set up at the site, which I did -- but another church member saw the meter and picked it up since he thought it might be stolen!) Finally, the neighbor adjacent to the church lot let me set up in his fenced-in back yard, very close to the original site.

The originally identified north site owner never got back to me with permission to access the property. This was the only residential property with a site open the south. Luckily, I noticed the Culver's parking lot "islands" and got permission to set up there. Noise from traffic in the parking lot did not appear to a major problem, as was shown in the actual time history data.


North Site
West Site
South Site
Sherburne Ave
University Ave W
Spruce Tree Ave
Shields Ave
Pierce St
N Roy St
Fry St
N Fry St
N Albert St
Hamline Ave N
St Anthony Ave
Roblyn Ave
Carroll Ave
Snelling Ave & Carroll Ave
9.95 ACRES
10.90 ACRES
4.90 ACRES
PARCEL 3 - OWNED BY RD MANAGEMENT
PARCEL 2 - UNDER OPTION BY CITY OF SAINT PAUL HRA
Google earth
44°57'13.62" N 93°09'47.67" W elev 947 ft eye alt 4838 ft

The oblique aerial photo on Page 5 shows the location of the south meter location.

The location was in a empty lot separated from the I-94 frontage road by one row of houses. Traffic noise from I-94 dominated the area. This site provided levels that the second row of homes would experience. Levels at the first row along the frontage road would probably be about 9 dBA higher (5 dBA for closer distance and 4 dBA for lack of attenuation from the row of houses). The third row of homes would probably be about 7-8 dBA lower.

Photos of the meter follow.


N
I-94
Meter South
© 2016 Google
Google earth
1991
44°57'02.72" N 93°09'51.05" W elev 931 ft eye alt 1786 ft

South-looking-South.jpg

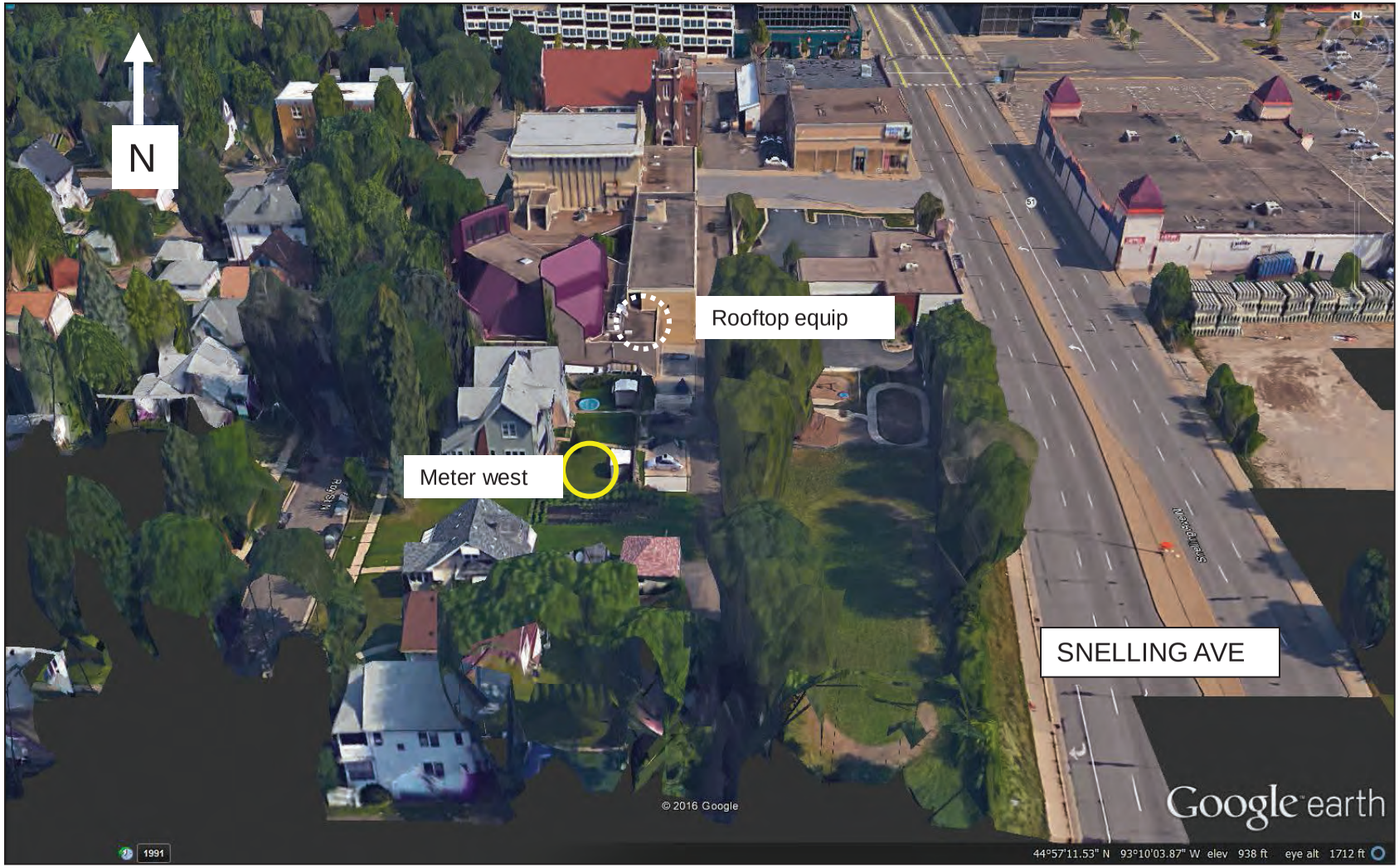
South-Looking-North.jpg

The aerial photo on Page 9 shows the location of the west meter location.

One would expect that noise level from Snelling Avenue would be higher but it is slightly depressed below the open green area, and often slow due to queuing a the I-94 ramp signals.

As will be seen from the data below, the rooftop unit at the church contributed to background level but only near the end of the monitoring period.

Photos of the meter follow. The fence was visual only and the small shed did not seem to have any effect on the traffic noise level.


N
Rooftop equip
Meter west
SNELLING AVE
© 2016 Google
Google earth
1991
44°57'11.53" N 93°10'03.87" W elev 938 ft eye alt 1712 ft

West-Looking-East.jpg

West-Looking-West.jpg

The aerial photo on Page 9 shows the location of the north meter location.

As explained above, a meter on the parking lot island provided one of the only sites open to the south, not blocked by buildings. The originally selected site was the home just north of the meter.

A photo of the meter looking towards the south (University Avenue) follows. .

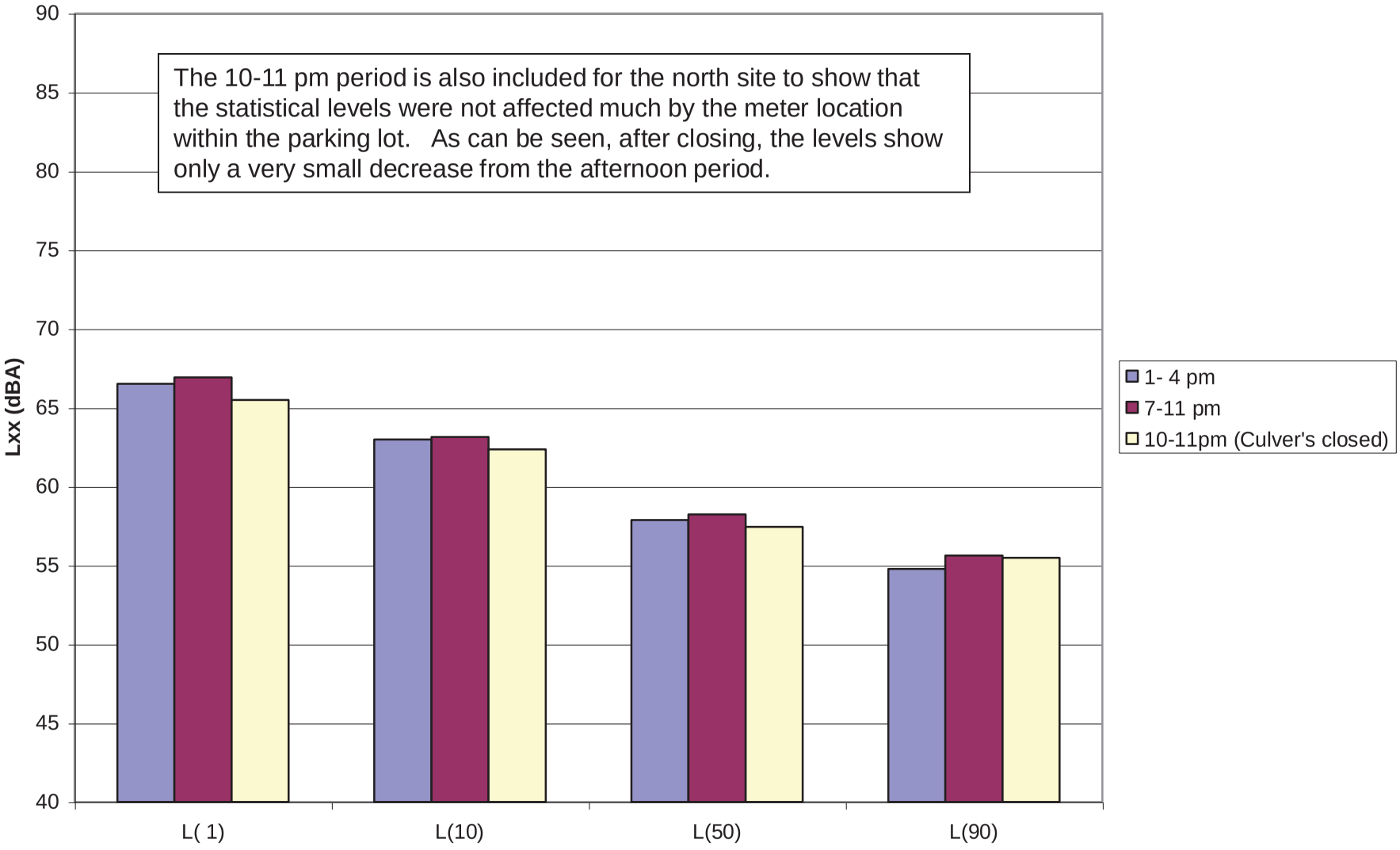

N
Culver's
Meter north
University Avenue
© 2016 Google
Google earth
1991
44°57'20.39" N 93°09'47.03" W elev 926 ft eye alt 1692 ft

North-Looking-South.jpg

Averaged statistical noise descriptors at the three monitoring sites for the event time periods you identified are presented below.

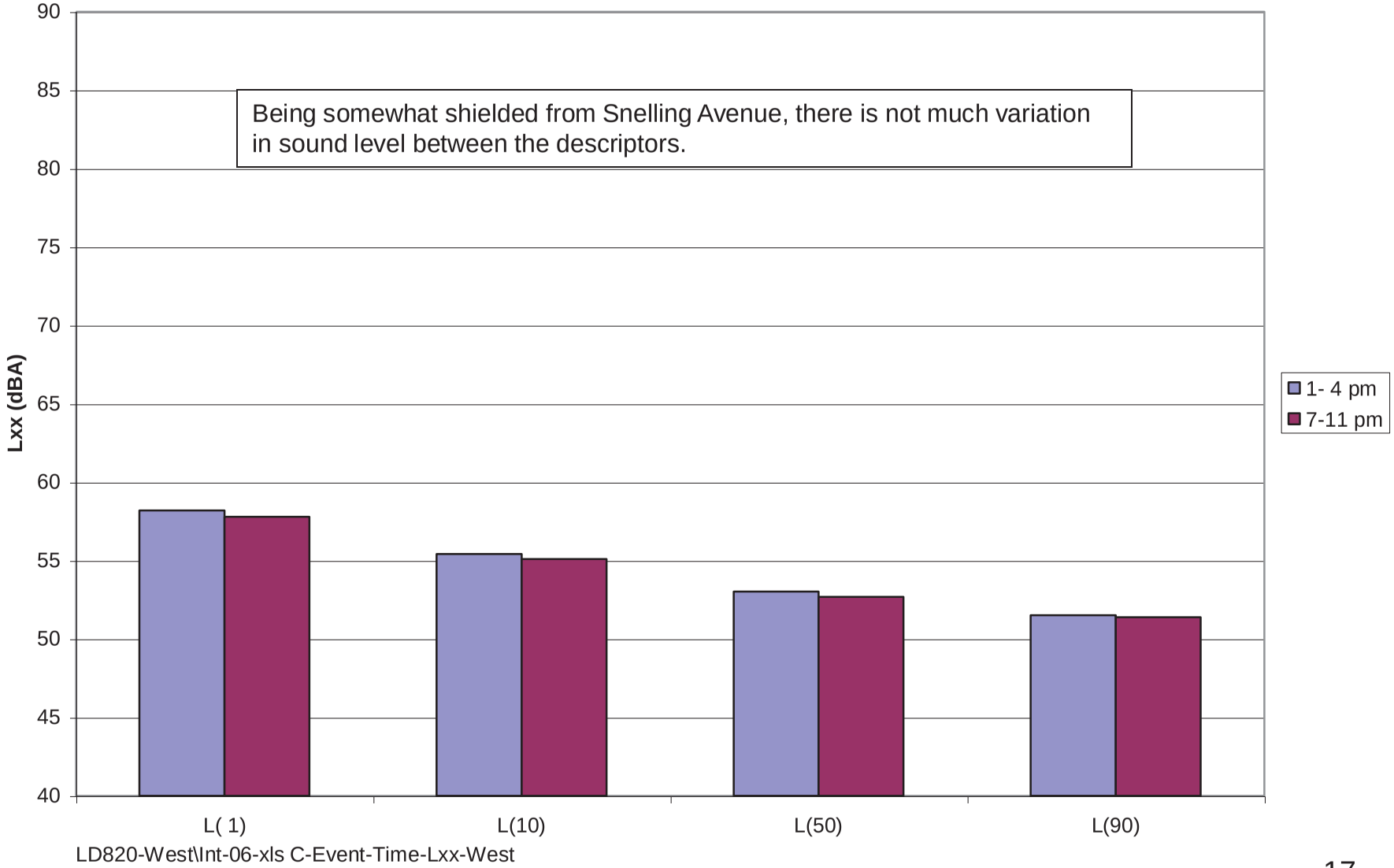
More detailed results for each of the meter sites are included after these three summary slides.

Event Time Lxx Averages - North

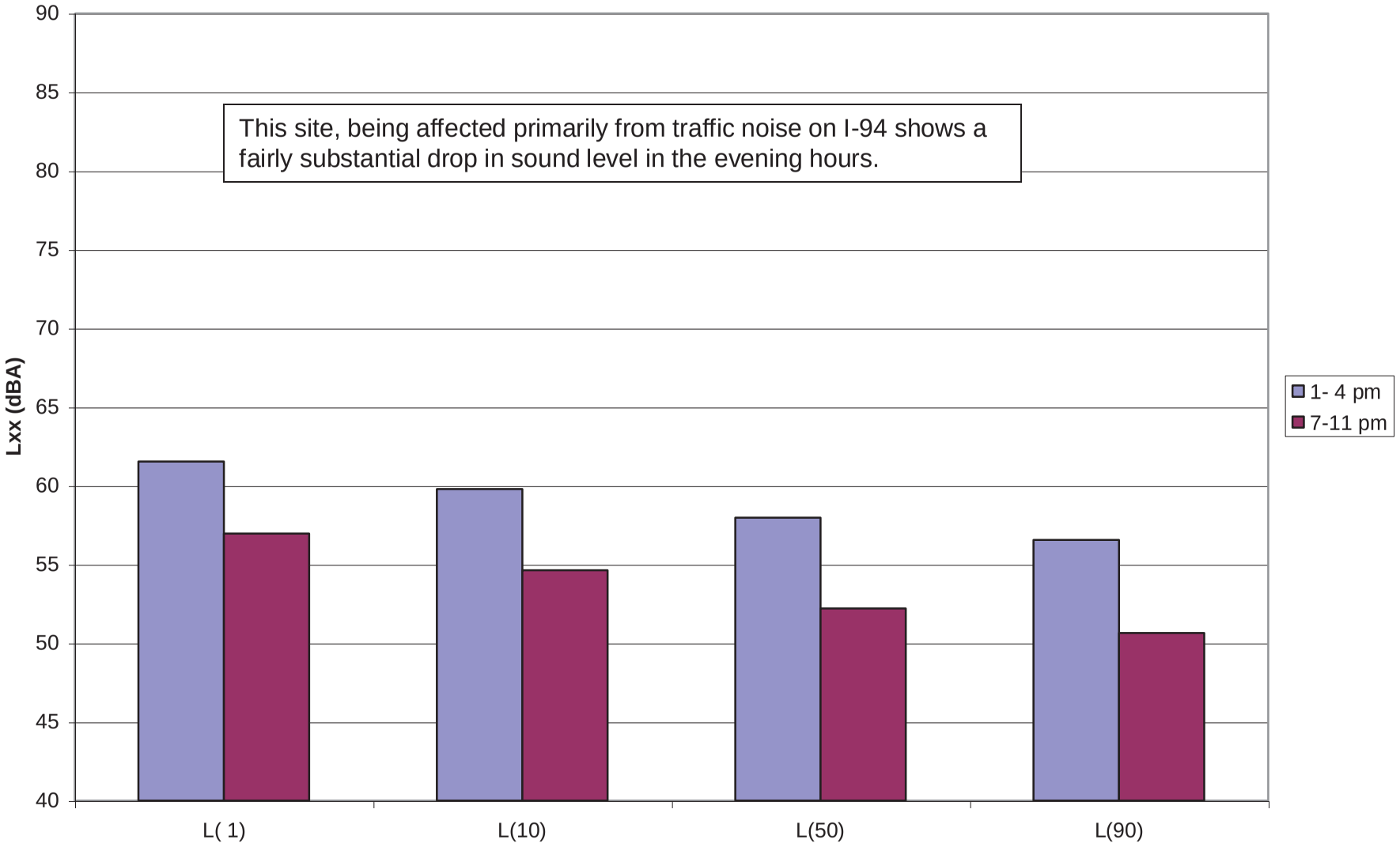


LD820-North\Int-07-xls C-Event-Time-Lxx-North

Event Time Lxx Averages - West



Event Time Lxx Averages - South

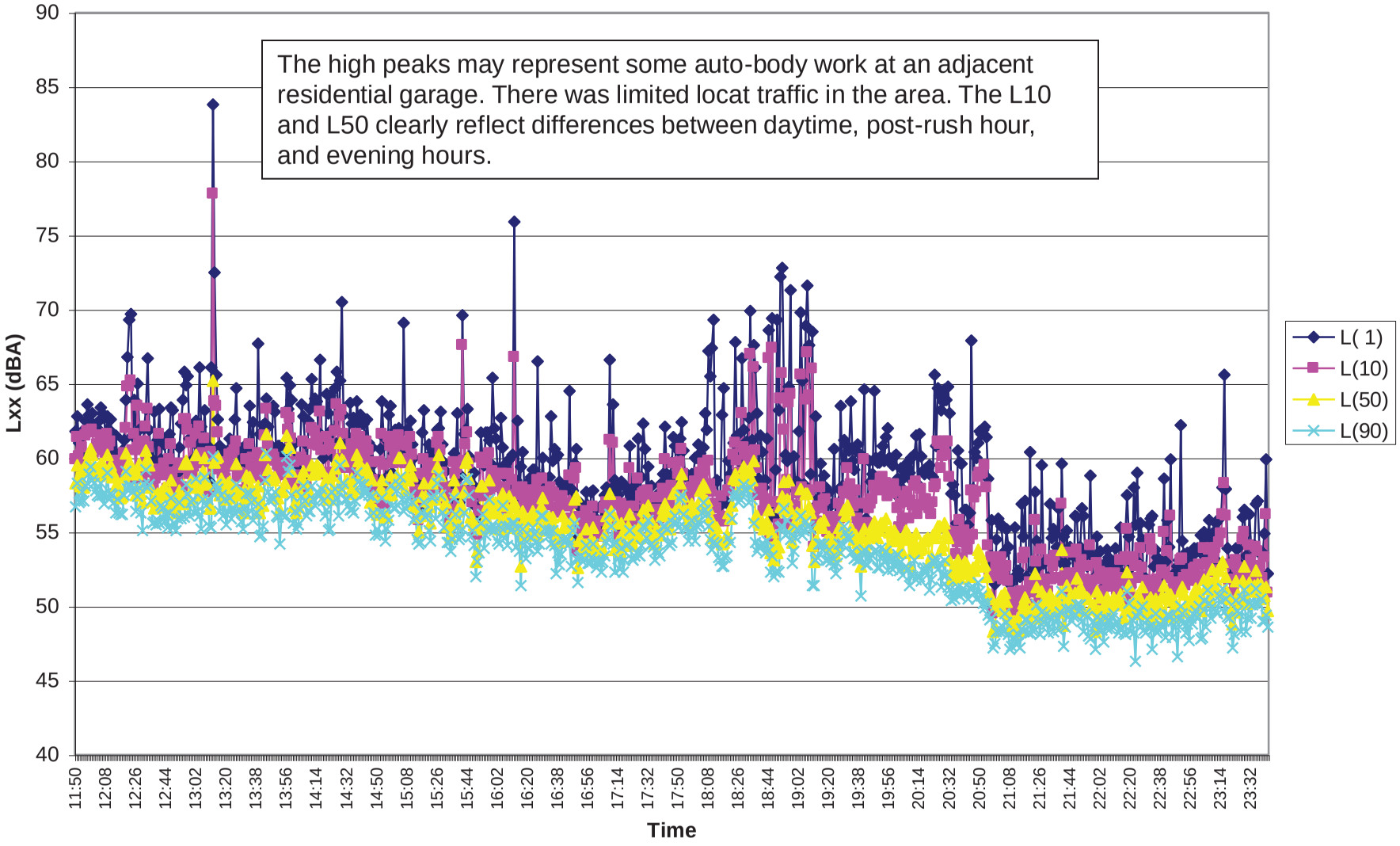


LD820-South\Int-07-xls C-Event-Time-Lxx-South

South Meter

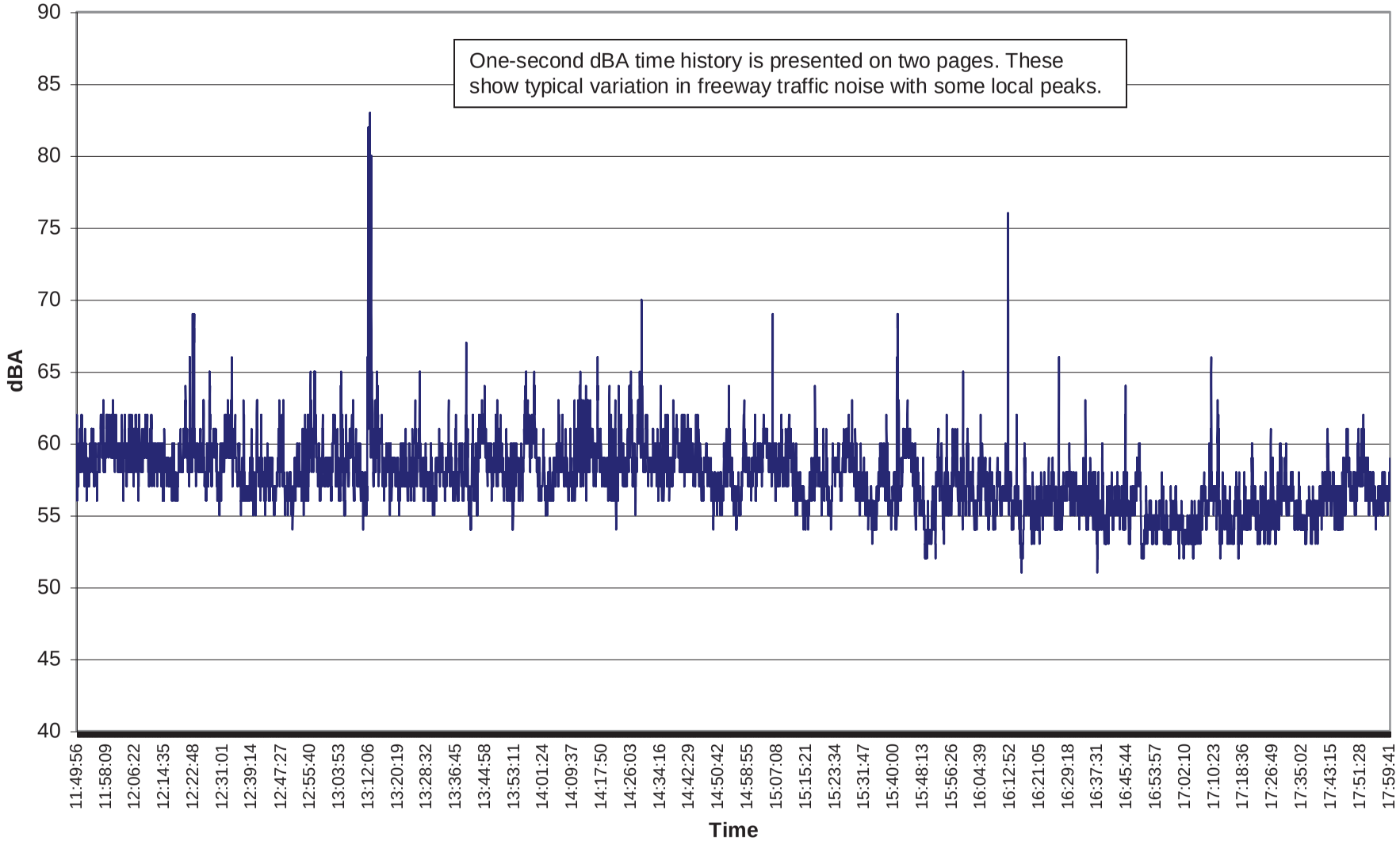
The following four charts present more detailed data from the south meter site

1-minute Intervals-South

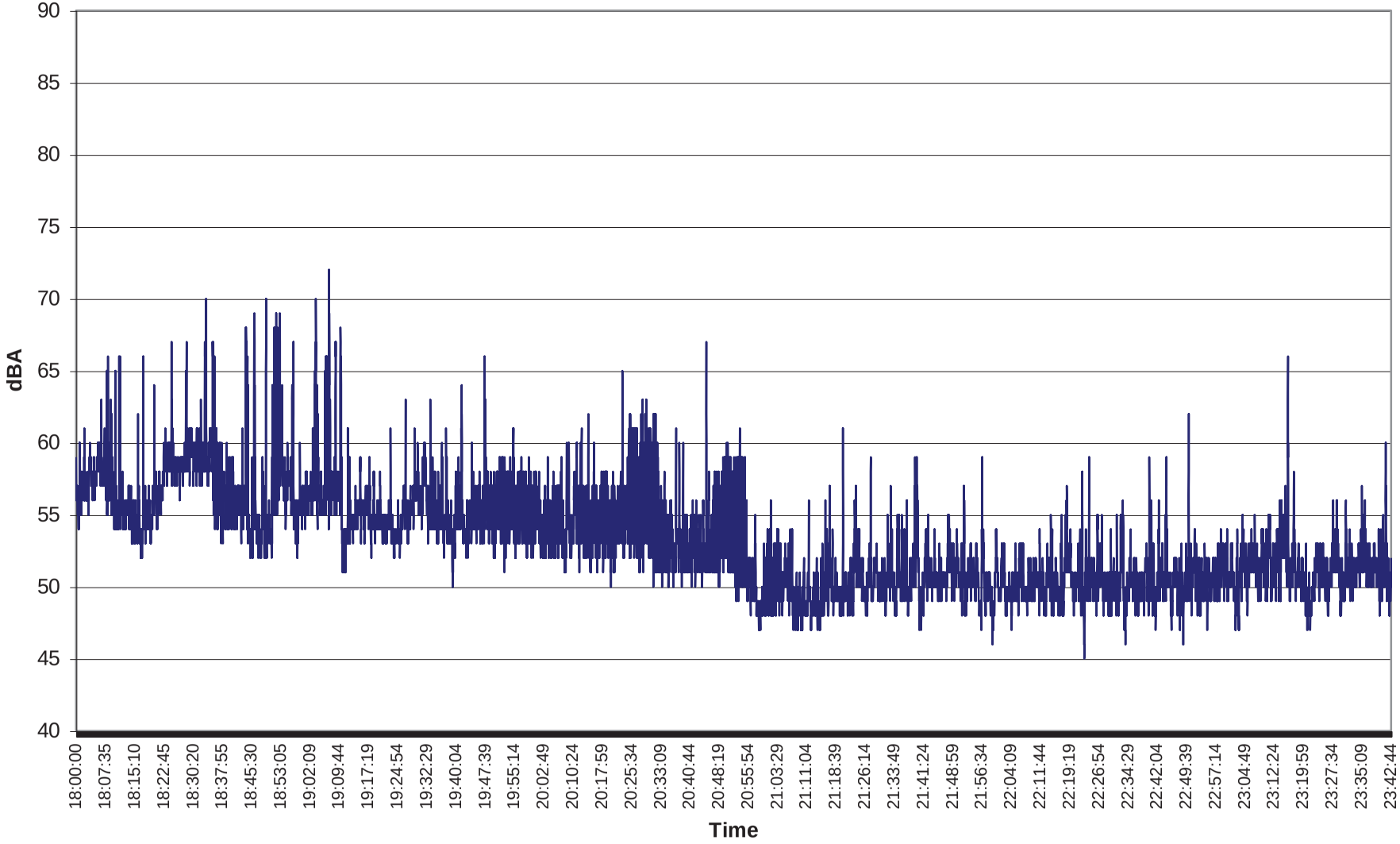


LD820-South\Int-07.xls

1-second Time-History-South (1200-1800)

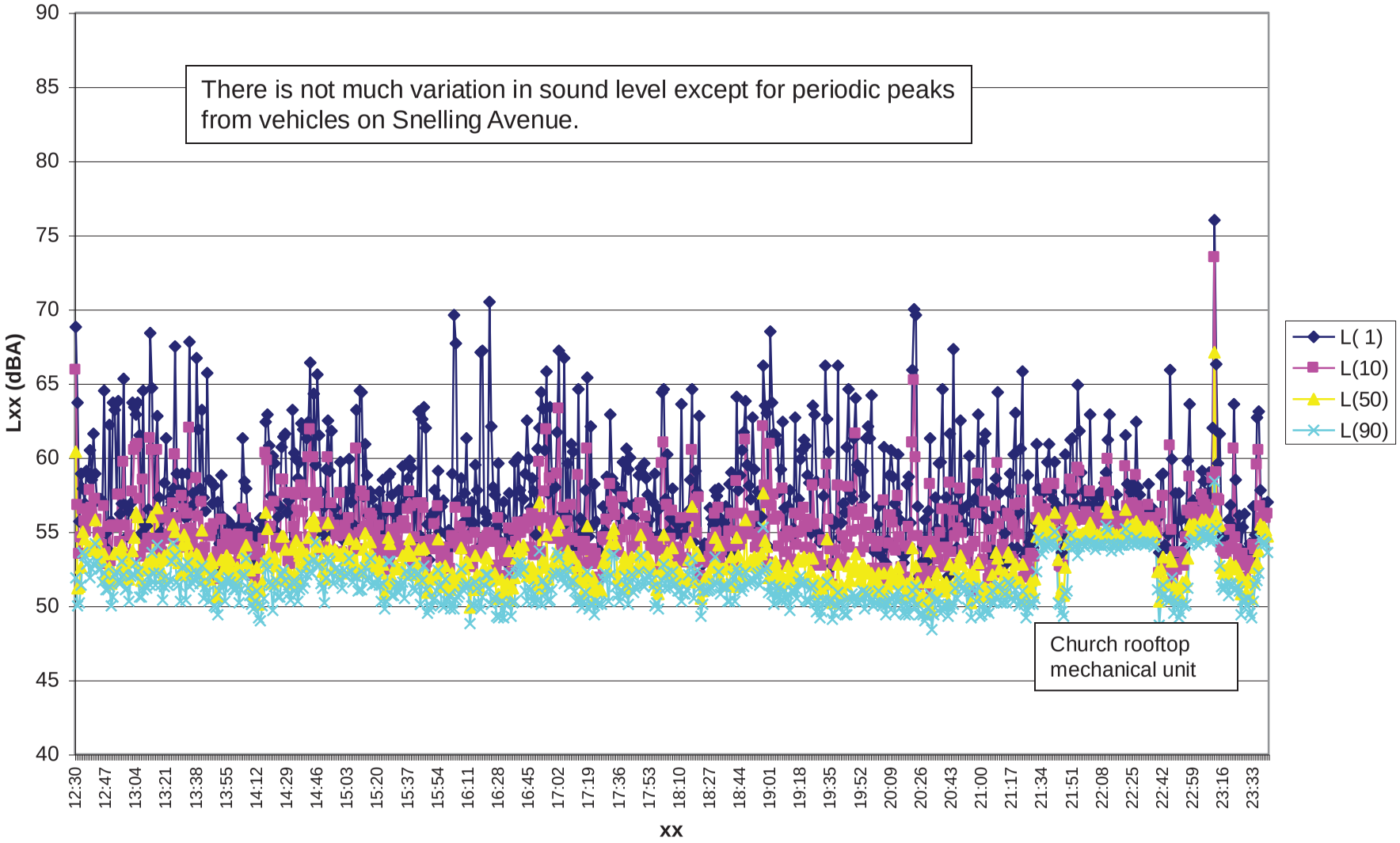


1-second Time-History-South (1800-2400)



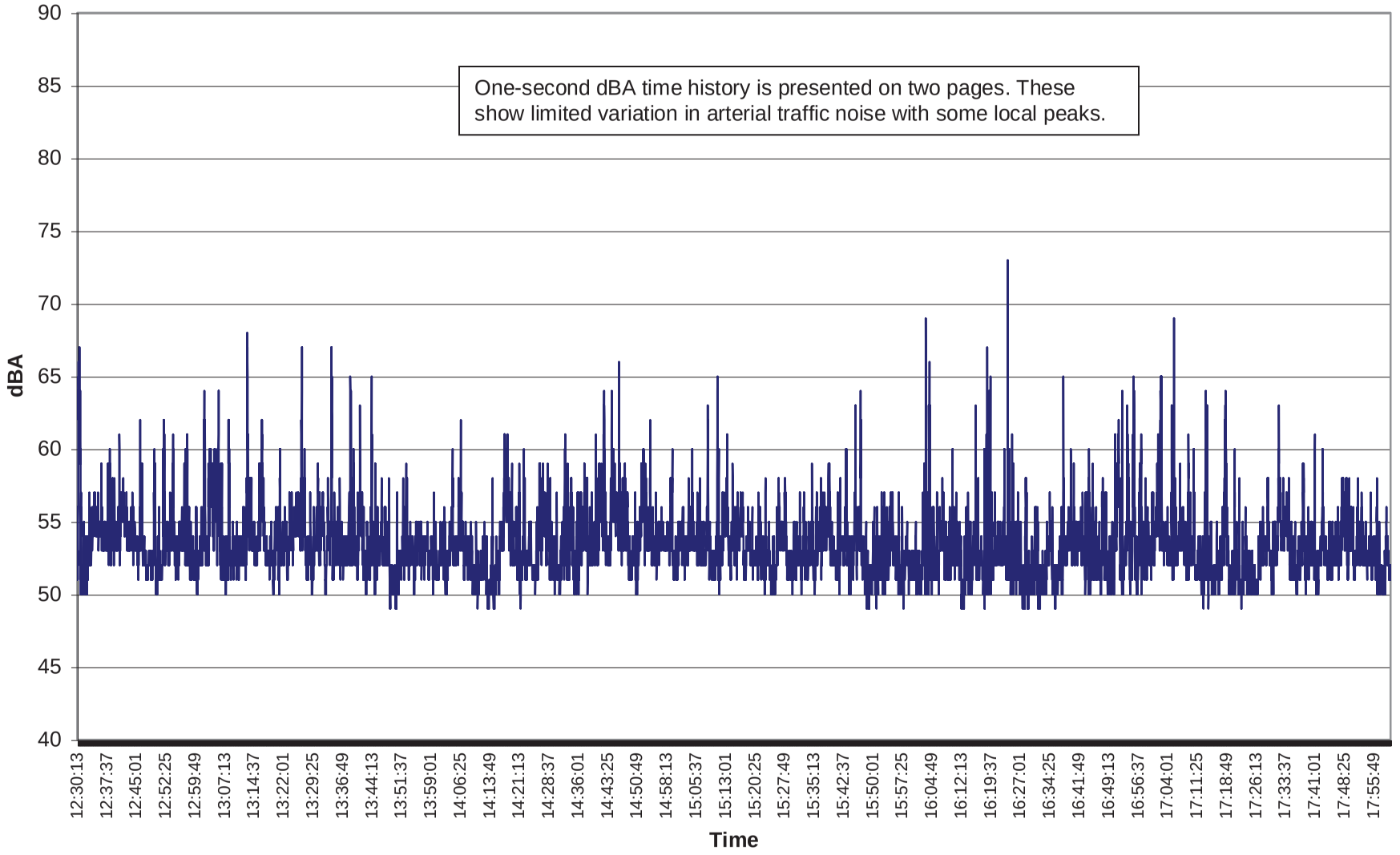
LD820-South\Time-Hist.xls

1-minute Intervals - West



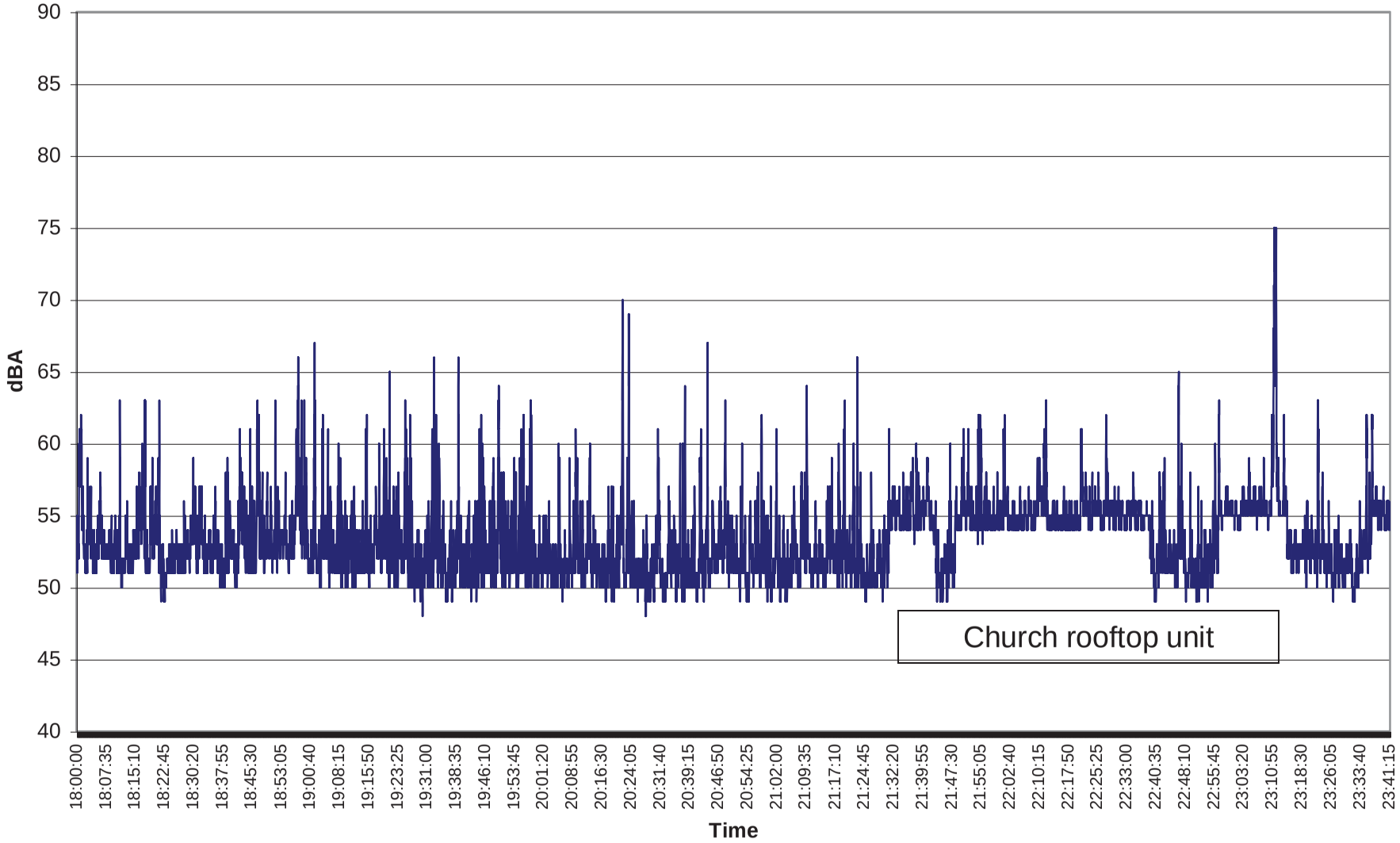
LD820-West\nt-06.xls

1-second Time History West 1230-1800



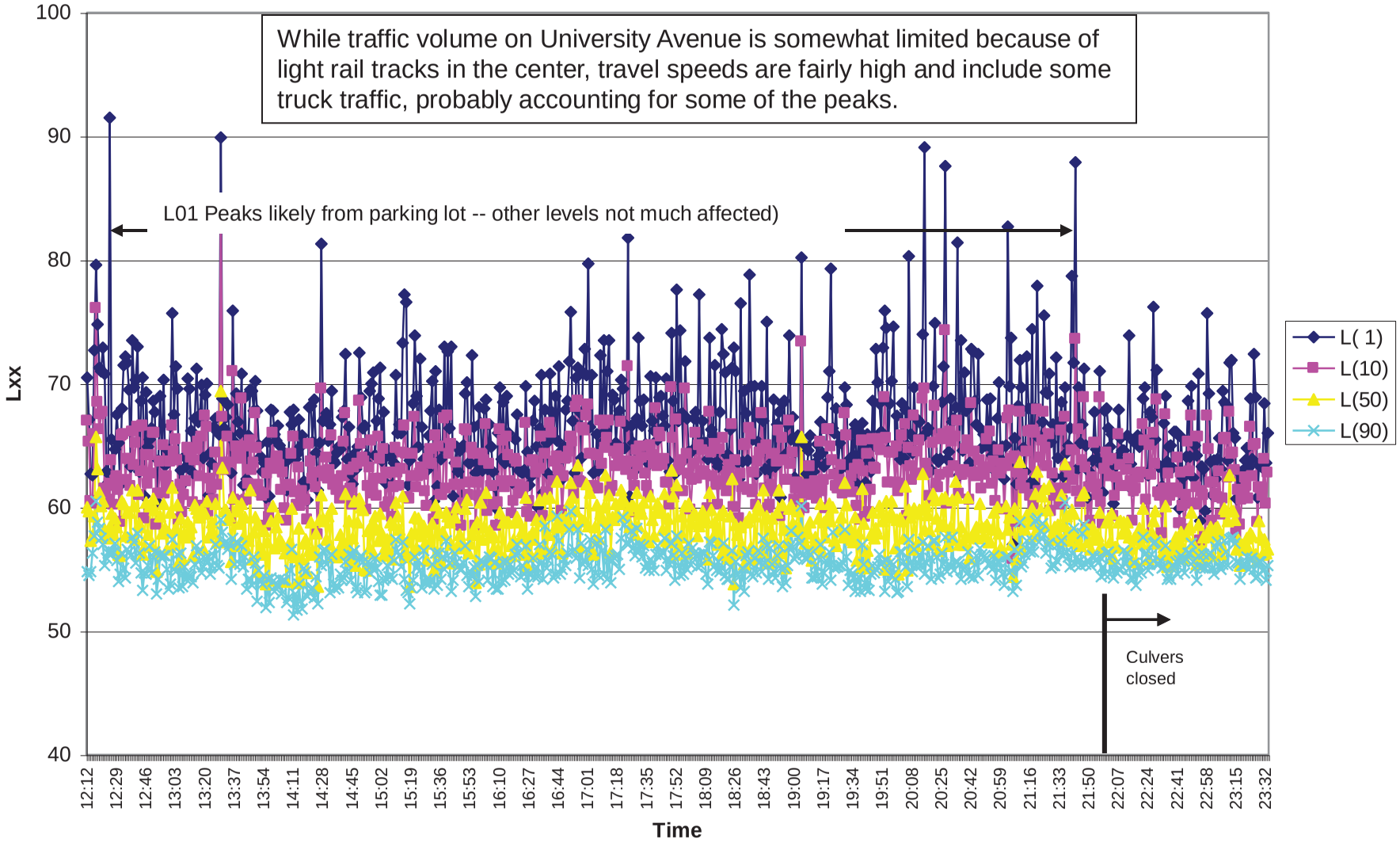
LD820-West\Time-Hist.xls

1-second Time History West-1800-2330



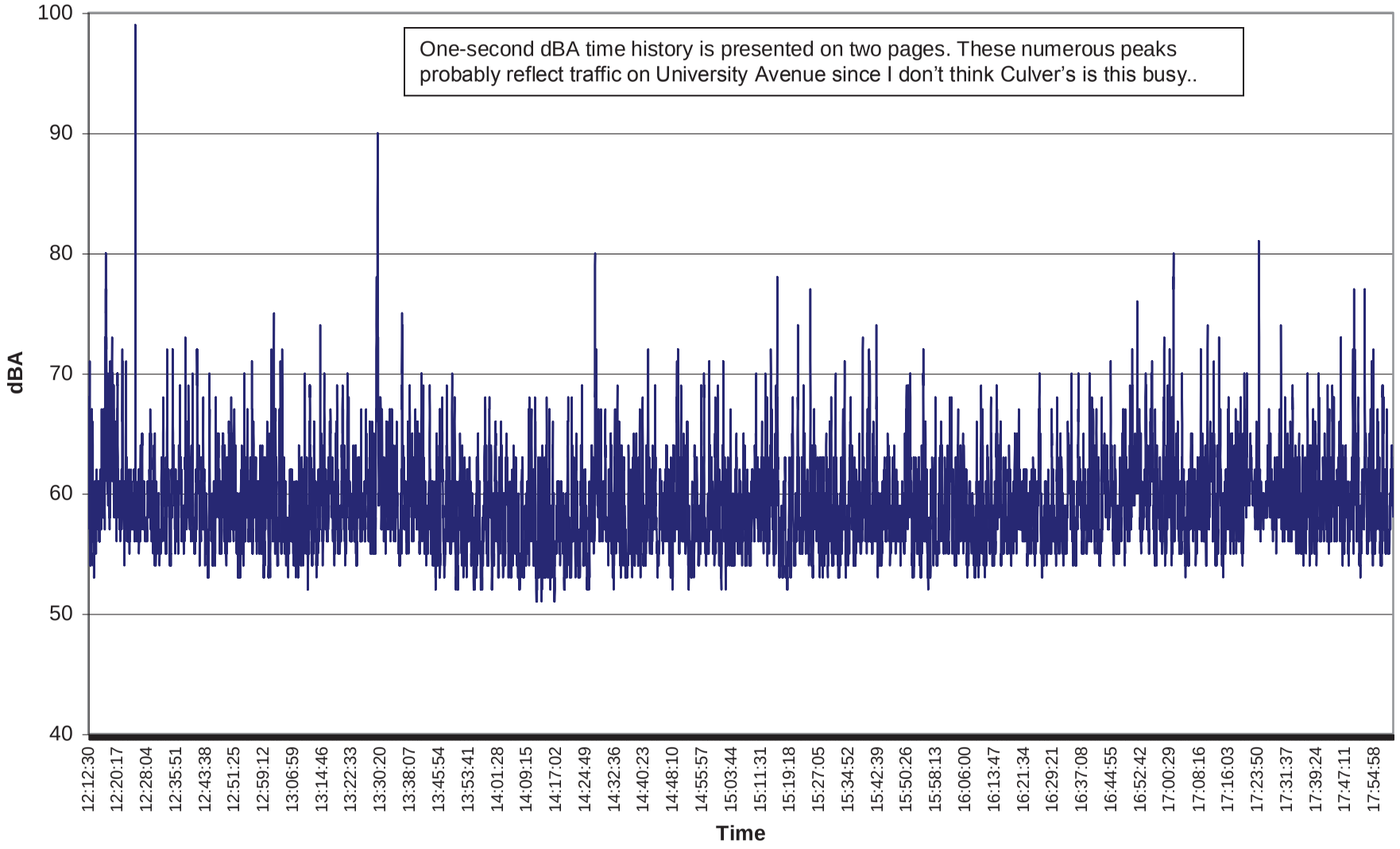
LD820-WestTime-Hist.xls

1-minute Intervals - North



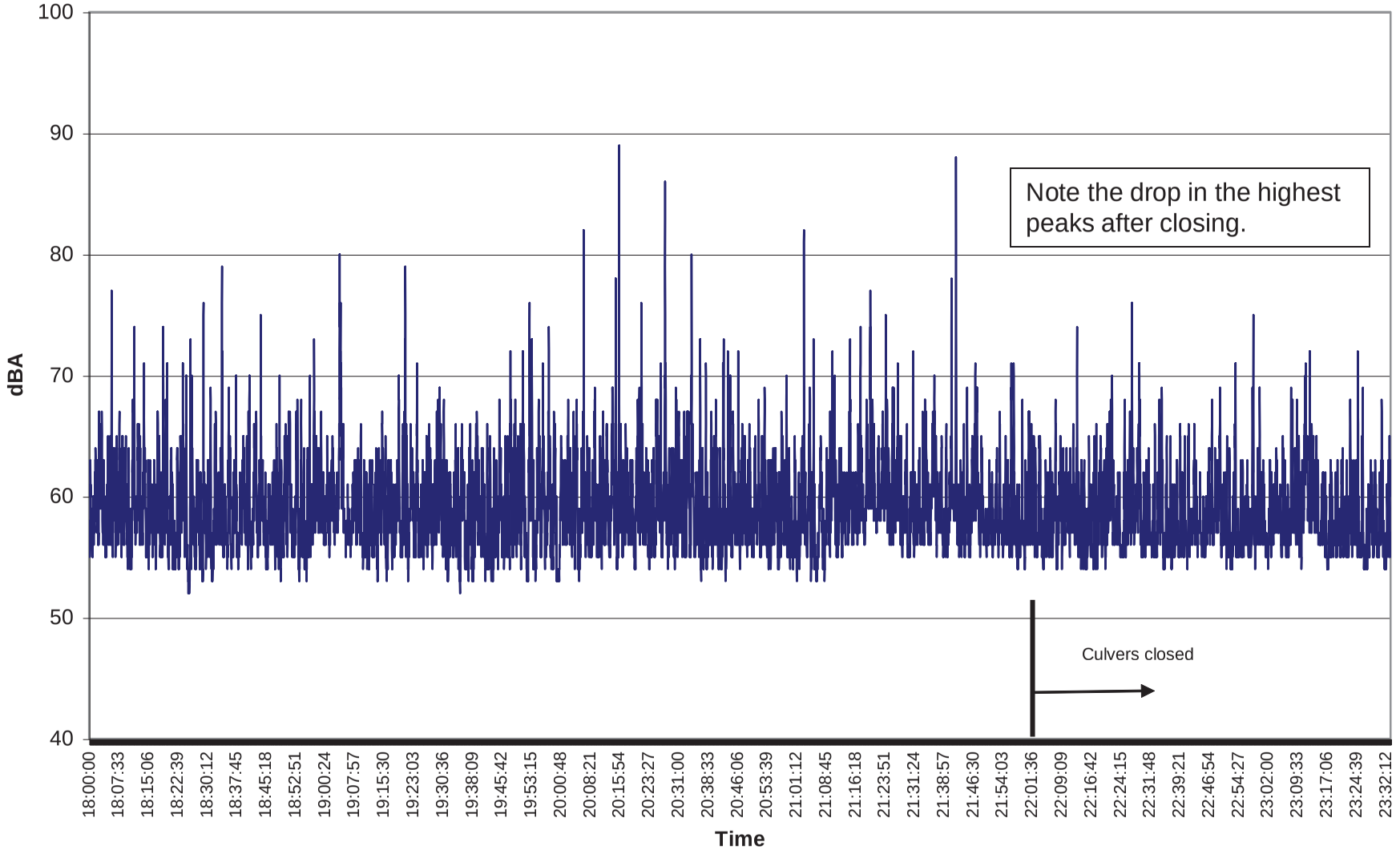
LD820-North\Int-07.xls

North Time History 1200-1800



LD820-North\Time-Hist.xls

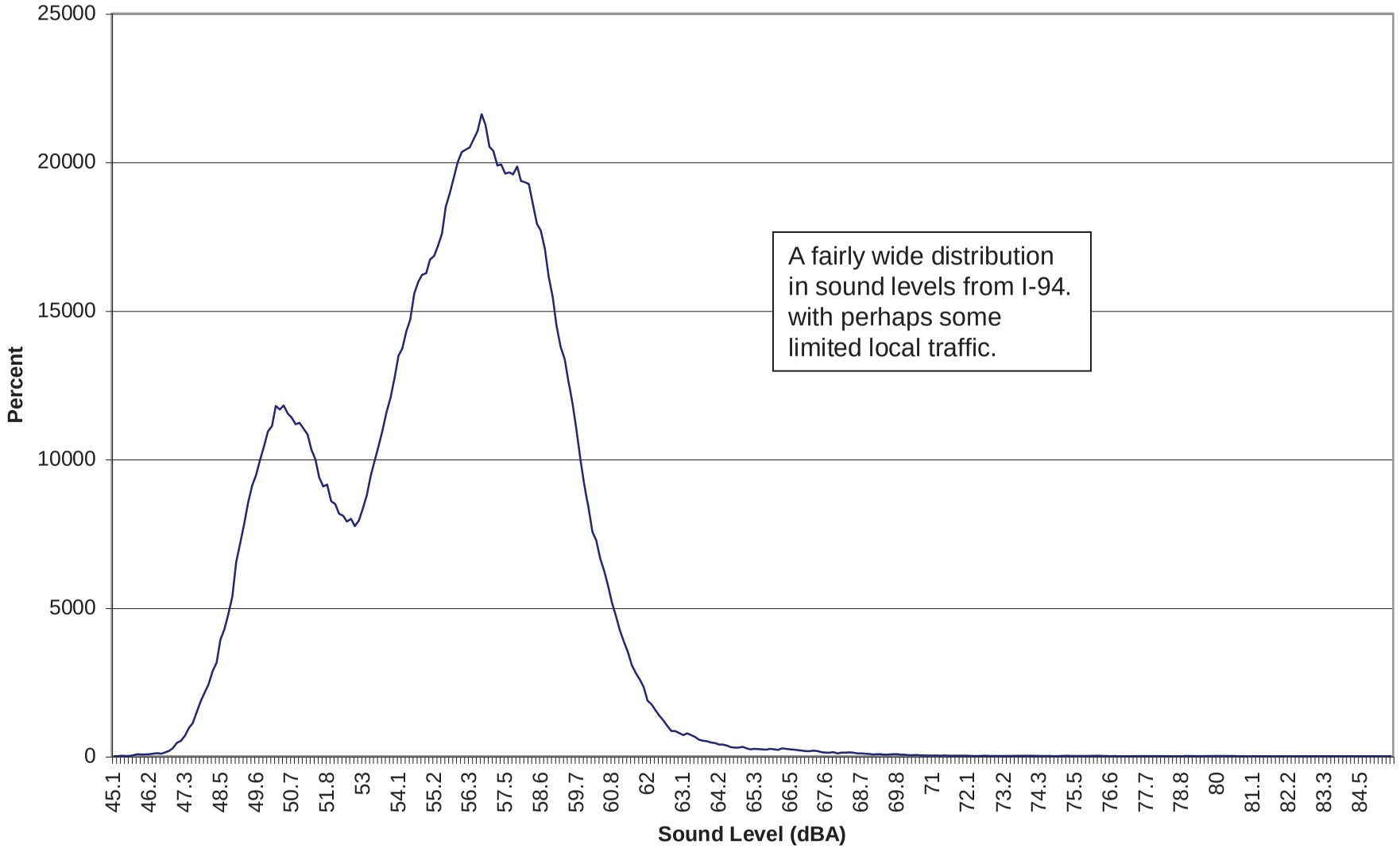
1-second Time History North - 1800-2330



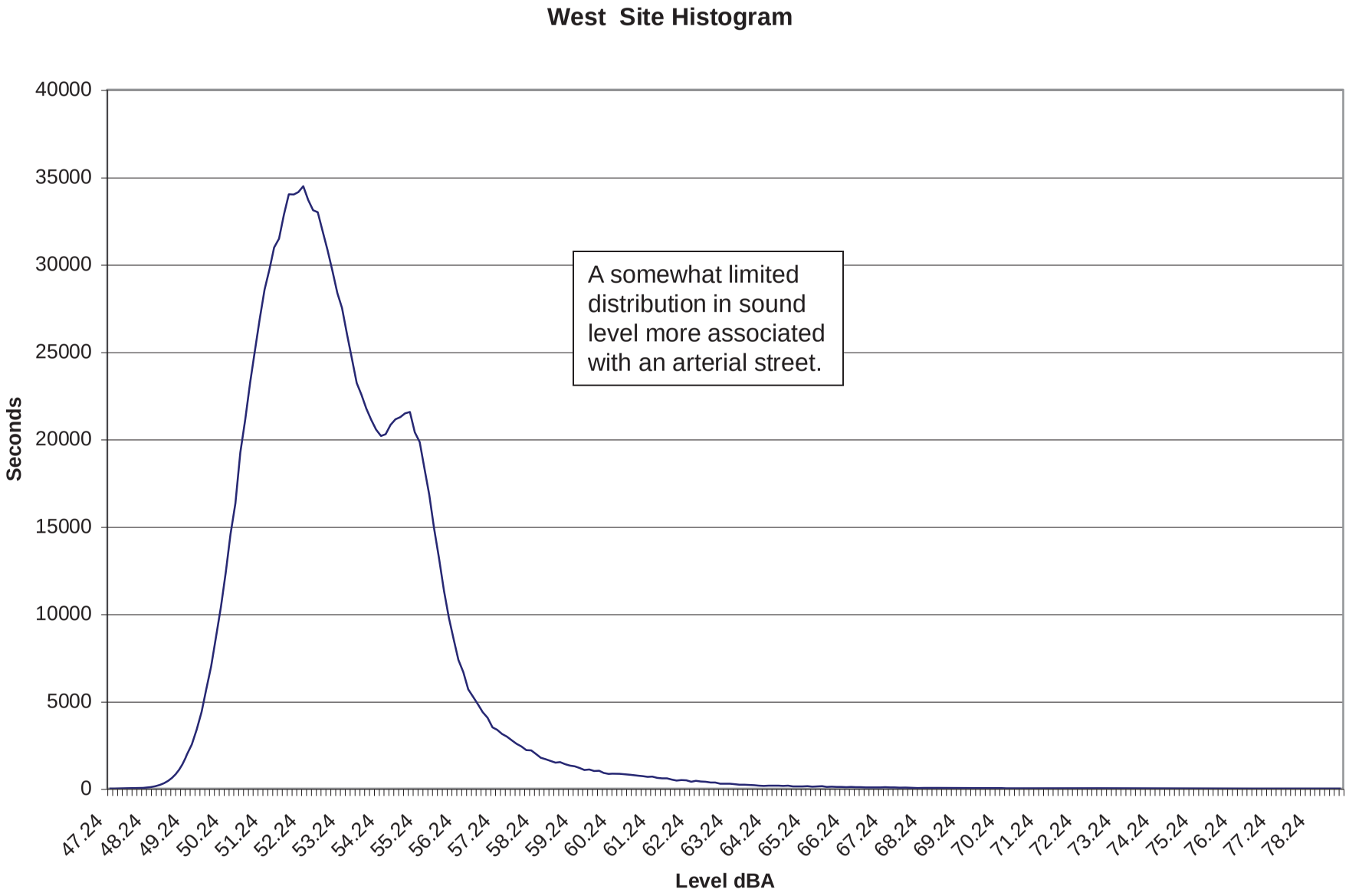
LD820-North\Time-Hist.xls

Overall dBA level histograms are presented below to give a general idea of the differences in sound level characteristics at the three sites.

South Site Histogram

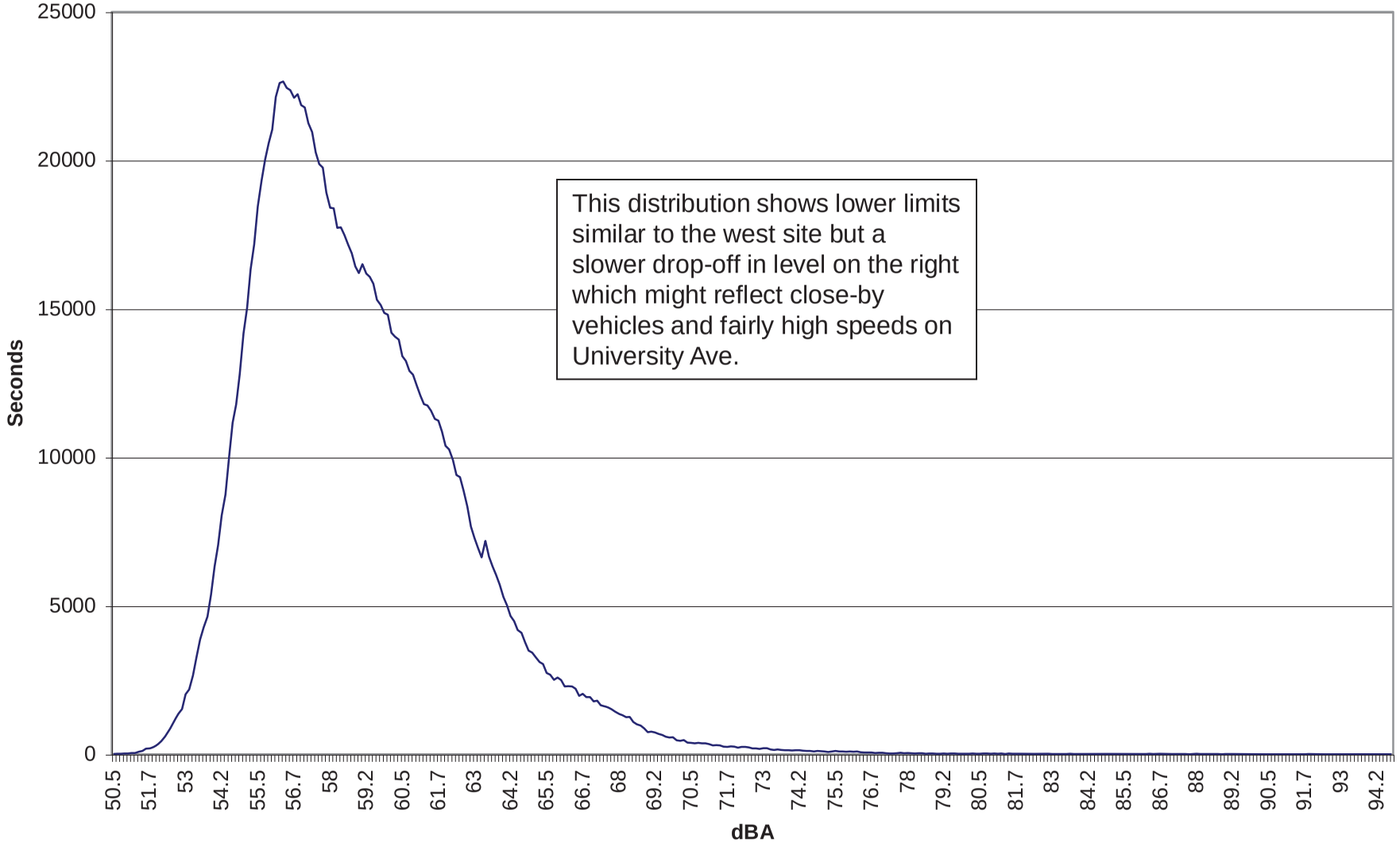


LD820-Southt\histogram.xls



LD820-West\histogram.xls

North Site Historgram



LD820-North\histogram.xls

Some summary observations

Ambient sound levels in the area are primarily associated with moving traffic on different types of roadways.

Except for the rooftop level captured at the West site, no unusual tonal or varying sound levels were observed in the area.

The spectrum associated with traffic is generally fairly broad band sound.

Spreadsheets of the data can also be provided.

Please direct questions to:

David Braslau

david@braslau

612-331-4571

Appendix E

Vehicular Noise Analysis

SRF Consulting Group, Inc. | Engineers Planners Designers

Memorandum

SRF No. 9154

To: Josh Williams, Senior Planner
City of St. Paul

From: Brett Danner, Senior Associate
Pat Corkle, PE, PTOE, Principal

Date: May 20, 2016

Subject: Snelling Midway AUAR Area Traffic Noise Analysis

Vehicular Traffic Noise Analysis

A traffic noise analysis was completed for the proposed Major League Soccer (MLS) stadium and surrounding mixed-use development located in the southeast quadrant of the University Avenue/Snelling Avenue intersection in St. Paul, MN. An Alternative Urban Areawide Review (AUAR) is being prepared for the proposed development. This traffic noise analysis was prepared to inform the noise-related section of the AUAR document (Item 17 –Noise).

The State of Minnesota's noise pollution rules are outlined in Minnesota Rules Chapter 7030. Under Minn. R. 7030.0030 (Noise Control Requirement), local governments are required to take reasonable measures to prevent the approval of land use activities that will violate the state noise standards immediately upon the establishment of the land use.[1] Minn. R. 7030.0030 states:

> *No person may violate the standards established in part 7030.0040, unless exempted by Minnesota Statutes, section 116.07, subdivision 2a. Any municipality having authority to regulate land use shall take all reasonable measures within its jurisdiction to prevent the establishment of land use activities listed in noise area classification (NAC) 1, 2, or 3 in any location where the standards established in part 7030.0040 will be violated immediately upon establishment of the land use.*

The main objective of this traffic noise analysis is to assist the City of St. Paul in fulfilling its responsibilities under Minn. R. 7030.0030. The analysis includes identifying existing and future (with and without the proposed development) traffic noise levels at the AUAR area, as well as identifying reasonable measures to minimize or mitigate noise impacts at planned land uses within the AUAR area. In addition, traffic noise levels are identified at existing land uses surrounding the AUAR area. This traffic noise analysis was completed consistent with the guidance described in the Minnesota

[1] Minnesota Pollution Control Agency. November 2015. A Guide to Noise Control In Minnesota. Acoustical Properties, Measurement, Analysis, and Regulation available at. https://www.pca.state.mn.us/air/noise-program.

Department of Transportation's (MnDOT) highway noise policy (MnDOT Noise Policy for Type I Federal-aid Projects as per 23 CFR 772, effective June 15, 2015).[2]

Introduction

General Project Description

MUSC Holdings LLC proposes to build an 18,000 seat professional soccer stadium with expansion and standing room capacity to accommodate a maximum of 25,500 visitors (plus 500 employees) in the AUAR area. The AUAR area is bounded by Snelling, University, and St. Anthony Avenues and Pascal Street in Saint Paul's Midway area (see Figure 1). The remainder of the site will be redeveloped in a phased manner to accommodate a mixed-use development including retail and service commercial, hospitality, residential, office, potentially institutional uses and public and private open space.

Background Information on Noise

Noise is defined as any unwanted sound. Sound travels in a wave motion and produces a sound pressure level. This sound pressure level is commonly measured in decibels. Decibels (dB) represent the logarithm of the ratio of a sound energy relative to a reference sound energy. For highway traffic noise, an adjustment, or weighting, of the high- and low- pitched sound is made to approximate the way that an average person hears sound. The adjusted sound levels are stated in units of "A-weighted decibels" (dBA). A sound increase of 3 dBA is barely noticeable by the human ear, a 5 dBA increase is clearly noticeable, and a 10 dBA increase is heard as twice as loud. For example, if the sound energy is doubled (i.e., the amount of traffic doubles), there is a 3 dBA increase in noise, which is just barely noticeable to most people. On the other hand, if traffic increases by a factor of ten times, the resulting sound level will increase by about 10 dBA and be heard to be twice as loud.

In Minnesota, traffic noise impacts are evaluated by measuring and/or modeling the traffic noise levels that are exceeded 10 percent and 50 percent of the time during the hours of the day and/or night that have the loudest traffic scenario. These numbers are identified as the L_{10} and L_{50} levels, respectively. The L_{10} value is the noise level that is exceeded for a total of 10 percent, or 6 minutes, of an hour. The L_{50} value is the noise level that is exceeded for a total of 50 percent, or 30 minutes, of an hour.

[2] The MnDOT Noise Policy is available online on the MnDOT Office of Environmental Stewardship website at http://www.dot.state.mn.us/environment/noise/pdf/mndot-2015-noise-policy.pdf.

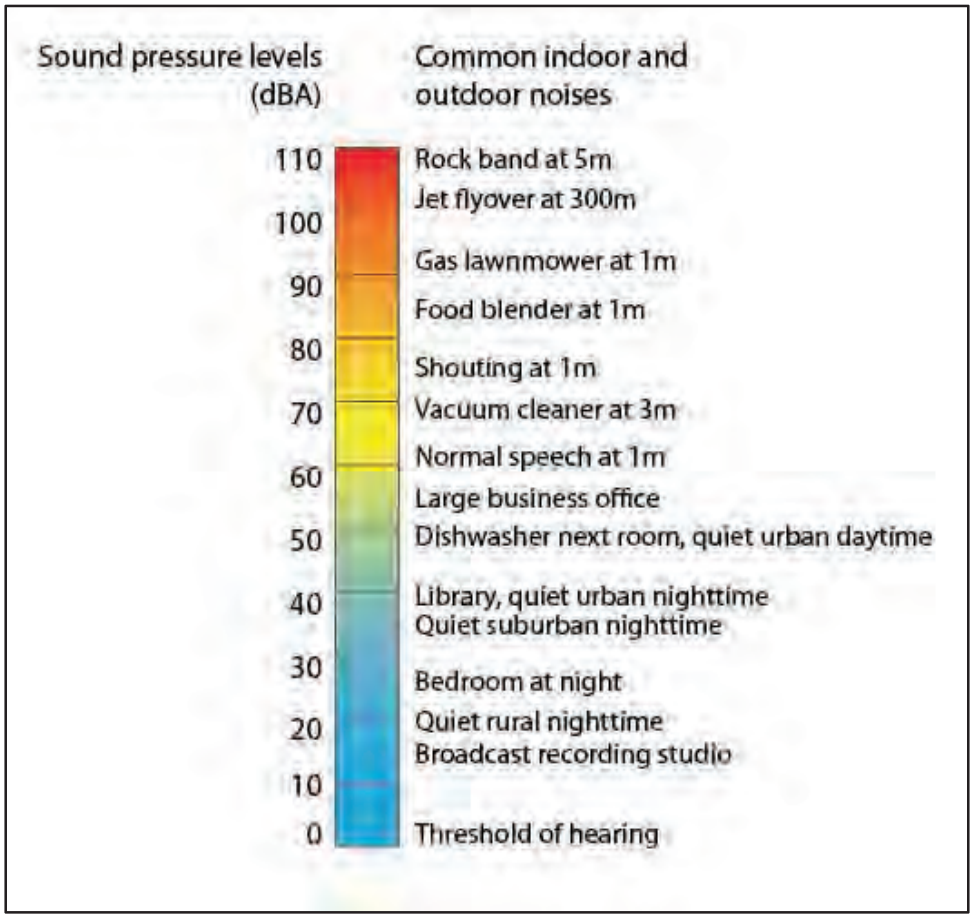
Figure 1. AUAR Area Boundary

Source: Minnesota United MLS Stadium and Surrounding Mixed-Use Urban Village. Scoping Environmental Assessment Worksheet (EAW).

Figure 5-3: AUAR Boundary Area.

Figure 2 provides a rough comparison of the noise levels of some common noise sources.

Figure 2. Decibel Levels of Common Noise Sources



Source: Minnesota Pollution Control Agency. 2016. Noise Program available at https://www.pca.state.mn.us/air/noise-program.

Along with the volume of traffic and other factors (e.g., topography of the area and vehicle speed) that contribute to the loudness of traffic noise, the distance of a receptor from a sound's source is also an important factor. Sound level decreases as distance from a source increases. A general rule regarding sound level decrease due to increasing distance from a line source (roadway) that is commonly used is: beyond approximately 50 feet from the sound source, each doubling of distance from the line source over hard ground (such as pavement or water) will reduce the sound level by 3 dBA, whereas each doubling of distance over soft ground (such as vegetated or grassy ground) results in a sound level decrease of 4.5 dBA.

Minnesota State Noise Standards

Minnesota state noise standards have been established for daytime and nighttime periods. For residential land uses (identified as Noise Area Classification 1 or NAC-1), the state standards for L_{10} are 65 dBA for daytime and 55 dBA for nighttime; the state standards for L_{50} are 60 dBA for daytime and 50 dBA for nighttime. The Minnesota Pollution Control Agency (MPCA) defines daytime as 7:00 a.m. to 10:00 p.m. and nighttime from 10:00 p.m. to 7:00 a.m. State noise standards are depicted in Table 1. Minnesota noise standards apply to the outdoor atmosphere (i.e., exterior noise levels).

Table 1. Minnesota State Noise Standards

Land Use	Code	Daytime L10 (4)	Daytime L50 (4)	Nighttime L10 (5)	Nighttime L50 (5)
Residential	NAC-1 (1)	65 dBA	60 dBA	55 dBA	50 dBA
Commercial	NAC-2 (2)	70 dBA	65 dBA	70 dBA	65 dBA
Industrial	NAC-3 (3)	80 dBA	75 dBA	80 dBA	75 dBA

(1) NAC-1 includes household units, transient lodging and hotels, educational, religious, cultural, entertainment, camping, and picnicking land uses.

(2) NAC-2 includes retail and restaurants, transportation terminals, professional offices, parks, recreational, and amusement land uses.

(3) NAC-3 includes industrial manufacturing, transportation facilities (except terminals), and utilities land uses.

(4) Daytime hours from 7:00 a.m. to 10:00 p.m.

(5) Nighttime hours from 10:00 p.m. to 7:00 a.m.

State noise standards apply to trunk highway facilities and roadways within the cities of Minneapolis and St. Paul. Exemptions to state noise standards are found in Minnesota Statutes 2000, Section 116.07 subd. (2a). There it is stated the conditions and roadway types that are exempt from the State noise standards.

Analysis Methodology

Affected Environment

The AUAR area is located in Ramsey County in the City of St. Paul. The AUAR area is an approximately 34.5-acre property. The AUAR area is bordered by Snelling Avenue to the west and Pascal Street to the east. University Avenue and the Green Line Light Rail Transit (LRT) corridor are located along the northern side of the AUAR area. The southern side of the AUAR area is bordered by St. Anthony Avenue (a one-way westbound frontage road) and I-94. Existing noise sources in the vicinity of the AUAR area include noise generated by vehicular traffic as well as by LRT traffic (LRT vehicles and horn noise).

Noise Monitoring

Noise Level Monitoring Results

Noise level monitoring is commonly performed as part of a traffic noise study to document existing noise levels and to validate the noise model for the project (see discussion of "Field Measurements and Predicted Noise Levels" below). Existing noise levels were monitored at three locations within the AUAR area. Noise monitoring locations are illustrated in the AUAR area figure in Attachment A and described below.

- Monitoring Site 1 (M-1) is located along St. Anthony Avenue and the south side of the AUAR area, northwest of the Pascal Street/St. Anthony Avenue intersection.
- Monitoring Site 2 (M-2) is located along Pascal Street and the east side of the AUAR area, approximately half-way between University Avenue and St. Anthony Avenue.
- Monitoring Site 3 (M-3) is located is along the west side of the AUAR area near the Snelling Avenue/St. Anthony Avenue intersection.

Daytime noise levels were collected in April 2016 at the three receptor locations described above. Noise levels were monitored at each location twice; one 30-minute measurement during the morning and one 30-minute measurement during the afternoon.[3] A trained noise monitoring technician was present at each session for the entire field measurement session to ensure correct operation of the sound level meter (SLM). The field measurement results are presented below in Table 2. Monitored daytime traffic noise levels ranged from 63.0 dBA (L_{10}) to 70.5 dBA (L_{10}).

Table 2. Field Measurement Summary Table

Receptor ID	Location Description	Start Time	End Time	Measured Level, L10, dBA	Measured Level, L50, dBA
M-1	South side of AUAR area along St. Anthony Avenue	10:20 AM	10:50 AM	66.5	64.5
M-1	South side of AUAR area along St. Anthony Avenue	12:50 PM	1:20 PM	66.5	64.0
M-2	East side of AUAR area along Pascal Street	11:00 AM	11:30 AM	64.0	59.0
M-2	East side of AUAR area along Pascal Street	1:30 PM	2:00 PM	63.0	58.5

[3] The first measurement at monitoring site 3 (M-3) (southwest corner of AUAR area along Snelling Avenue) was completed at midday. See Table 2 for field measurement start and end times.

Receptor ID	Location Description	Start Time	End Time	Measured Level, L10, dBA	Measured Level, L50, dBA
M-3	Southwest corner of AUAR area along Snelling Avenue	11:45 AM	12:15 PM	70.0	65.0
M-3	Southwest corner of AUAR area along Snelling Avenue	2:15 PM	2:45 PM	70.5	65.0

Field Measurements and Predicted Noise Levels

Noise monitoring results are presented in Table 3 along with the computer modeling results for existing daytime traffic noise levels. Computer modeling results are based on classified traffic (e.g., cars, medium trucks, and heavy trucks) observed during the field measurements. The speeds used for the model predictions were posted speeds (e.g., 55 miles per hour on eastbound and westbound Interstate-94 [I-94], 30 mph on northbound and southbound Snelling Avenue). Noise monitoring results presented in Table 3 are an average of the applicable morning and afternoon field measurements described above.

Table 3. Field Measurements and Predicted Noise Levels

Receptor ID	Field Measurement, L10, dBA	Field Measurement, L50, dBA	Predicted, L10, dBA	Predicted, L50, dBA	Difference (Field – Predicted), L10, dBA	Difference (Field – Predicted), L50, dBA
M-1	66.5	64.3	69.5	68.2	3.0	3.9
M-2	63.5	58.8	65.1	59.6	1.6	0.8
M-3	70.3	65.0	73.3	67.8	3.0	2.8

A discrepancy equal to or less than 3.0 dBA between field measurements and predicted levels is considered acceptable for noise model validation. Monitored traffic noise levels (L_{10}) varied from 1.6 dBA below predicted noise levels at Site M-2 to 3.0 dBA below predicted levels at Site M-1 and Site M-3. The discrepancy between field measurements and predicted levels was equal to or less than the 3.0 dBA (L_{10}) threshold described above. Therefore, the prediction model was utilized without corrections.

Worst Hourly Traffic Noise Analysis

In general, higher traffic volumes, vehicle speeds, and greater numbers of heavy trucks increase the loudness of highway traffic noise. The worst hourly traffic noise impact typically occurs when traffic is flowing more freely (e.g., level of service C conditions) and when heavy truck volumes are the

greatest. For determining the worst-case traffic noise hour, traffic noise levels were modeled for six daytime time periods at 12 representative receptor locations within the AUAR area under existing conditions, taking into account the appropriate classified traffic mix (i.e., cars, medium trucks, heavy trucks)[4] and directional split in traffic volume (e.g., eastbound and westbound I-94, eastbound and westbound University Avenue, northbound and southbound Snelling Avenue). The speeds used for the model predictions were posted speeds.

The daytime L_{10} and L_{50} levels for each of the six modeled time periods are summarized in Table 4. For a majority of the 12 modeled receptor locations, the 9:00 a.m. to 10:00 a.m. period represents the worst-cast traffic noise hour during the daytime period. Based on this analysis, it was determined that the 9:00 a.m. to 10:00 a.m. period represents the worst-case traffic noise hour during the daytime period. The 9:00 a.m. to 10:00 a.m. hour represents a period of higher medium and heavy truck volumes on I-94 at the south end of the AUAR area. The 6:00 a.m. to 7:00 a.m. hour was identified as the loudest hour of the nighttime period because of higher traffic volumes just prior to the start of the morning peak period.

Traffic Noise Modeling

Noise modeling was done using the noise prediction program "MINNOISEV31", a version of the FHWA "STAMINA" model adapted by MnDOT for use in Minnesota. This model uses traffic volumes, speed, class of vehicle,[5] and the typical characteristics of the roadways being analyzed (e.g., roadway horizontal and vertical alignments). The noise modeling assumed free flow conditions through at-grade intersections on local roadways adjacent to the AUAR area (e.g., Snelling Avenue/St. Anthony Avenue intersection, Snelling Avenue/University Avenue intersection, University Avenue/Pascal Street intersection, Pascal Street/St. Anthony Avenue intersection).

---

[4] Identification of the worst-case traffic noise hour based on May 2006 and June 2002 vehicle classification counts for eastbound and westbound I-94 east of Lexington Avenue in St. Paul (MnDOT Vehicle Classification Count Site #1301), and on February 2016 vehicle classification counts for University Avenue and Lexington Avenue.

[5] The traffic noise analysis for the proposed development followed MnDOT's vehicle classification scheme for use in MINNOISE (cars, medium trucks, and heavy trucks). Cars includes passenger cars, vans, SUVs and pickup trucks; medium trucks include vehicles with six wheels and only two axles, motorcycles, and buses; and heavy trucks include vehicles with three or more axles. See also http://www.dot.state.mn.us/environment/noise/policy/2011.html.

Table 4. Worst Hourly Traffic Noise Summary (Existing Modeled Daytime Noise Levels By Time Period)

Receptor ID	7:00 – 8:00 AM, L_{10}, dBA	7:00 – 8:00 AM, L_{50}, dBA	9:00 – 10:00 AM, L_{10}, dBA	9:00 – 10:00 AM, L_{50}, dBA	11:00 AM – Noon L_{10}, dBA	11:00 AM – Noon L_{50}, dBA	1:00 – 2:00 PM, L_{10}, dBA	1:00 – 2:00 PM, L_{50}, dBA	3:00 – 4:00 PM, L_{10}, dBA	3:00 – 4:00 PM, L_{50}, dBA	5:00 – 6:00 PM, L_{10}, dBA	5:00 – 6:00 PM, L_{50}, dBA
N0	65.5	55.4	67.6	57.8	68.2	59.2	69.2	60.0	68.9	60.5	69.3	61.5
N50	62.5	56.1	63.5	57.0	63.4	57.5	64.4	58.0	63.9	58.5	63.7	58.7
N100	60.7	56.9	61.5	57.3	61.0	57.3	62.0	57.8	61.4	58.0	61.0	57.8
E0	66.3	58.8	66.6	58.6	65.9	58.7	66.6	58.8	66.9	59.7	66.6	60.2
E50	63.2	59.3	63.6	59.2	62.6	58.9	63.4	59.0	63.4	59.4	62.5	59.0
E100	61.7	59.4	62.0	59.4	61.0	58.8	61.7	59.1	61.6	59.3	60.6	58.6
S0	73.5	70.3	73.7	69.9	72.8	69.4	73.3	69.5	73.3	70.0	72.1	69.2
S50	70.4	67.9	70.5	67.7	69.7	67.0	70.0	67.2	70.0	67.5	68.6	66.5
S100	68.5	66.2	68.5	66.1	67.9	65.3	68.1	65.6	68.0	65.8	66.6	64.6
W0	70.0	63.3	70.5	63.3	69.8	63.2	70.7	63.8	70.8	64.8	70.8	65.6
W50	65.8	62.1	66.3	62.0	65.4	61.6	66.2	62.1	66.1	62.7	65.6	62.7
W100	63.7	61.4	64.1	61.4	63.3	60.8	63.9	61.3	63.8	61.6	63.2	61.2
State Standard (NAC-1)	65	60	65	60	65	60	65	60	65	60	65	60
State Standard (NAC-2)	70	65	70	65	70	65	70	65	70	65	70	65
State Standard (NAC-3)	80	75	80	75	80	75	80	75	80	75	80	75

Traffic data for noise model input files included existing[6] and forecast traffic volumes for roadways surrounding the AUAR area. Forecast volumes for the future No Build Alternative (without the proposed development) were based on a 0.5 percent annual growth rate in background traffic volumes. Forecast volumes for the future Build scenario (with the proposed development) include the background traffic growth identified for the No Build Alternative plus the additional traffic generated by planned land uses at the AUAR area. Year 2035 was identified as the future year for analysis. Full build out conditions of the AUAR area are expected to be completed by year 2035.

The daytime hour of analysis was the 9:00 a.m. to 10:00 a.m. hour (see Worst Hourly Traffic Noise Analysis discussion above). The nighttime hour of analysis was the 6:00 a.m. to 7:00 a.m. hour. Traffic noise levels were also analyzed using future (2035) volumes for weekend event arrival (1:00 p.m. – 2:00 p.m.) and departure (4:00 p.m. – 5:00 p.m.) periods. Weekend event arrival and departure periods were evaluated because of higher background traffic levels compared to weekday event periods.

The traffic characteristics used to develop the noise model input from average daily traffic (ADT) volumes is provided in Appendix B. Modeled hourly traffic volumes by vehicle classification for existing conditions, the No Build Alternative, and the Build Alternative scenarios (with proposed development and weekend event conditions) are provided in Attachment C. To account for when congested conditions cause reduce speeds during event arrival and departure periods, a default traffic volume of 1,500 vehicles per lane per hour was used in the noise model input files for I-94, and 700 vehicles per lane per hour for local roadways where appropriate. The posted speed limit was used as the traffic speed for all noise model input files.

The proposed development is anticipated to include construction of new roadways internal to the site. At this stage in the planning process, there is not adequate engineering information (e.g., roadway alignment, profiles, etc.) available to accurately incorporate this internal street network into the traffic noise analysis. The traffic noise analysis was completed based on the existing roadway network surrounding the project site. Existing noise sources in the vicinity of the AUAR area includes traffic noise as well as noise generated from operations of the Green Line LRT. This analysis only considers L_{10} and L_{50} noise levels generated by vehicles (cars, medium trucks, heavy trucks) traveling on area roadways and does not include an evaluation of Green Line LRT.

[6] Existing traffic volumes from MnDOT annual average daily traffic (AADT) counts (Minnesota Department of Transportation. Office of Transportation Data and Analysis. Traffic Data & Analysis. http://www.dot.state.mn.us/traffic/data/tma.html).

Predicted Noise Levels and Noise Impacts

Noise Receptors

AUAR Area Receptors

Traffic noise levels were identified at 68 representative receptors located at incremental distances from the right of way limits along the north, east, south, and west sides of the AUAR area (e.g., 0 feet, 50 feet, 100 feet, 150 feet, 200 feet, 250 feet, 300 feet, 350 feet, and 400 feet). The purpose of locating representative receptors at these locations was to identify setback distances from existing right of way where modeled traffic noise levels would be at or below state daytime and nighttime standards for different noise area classifications. This analysis was based on existing topography, and assumed no intervening barriers or structures between the modeled receptor locations and roadways adjacent to the AUAR area. AUAR area receptor locations are illustrated in Attachment A.

Receptors Surrounding the AUAR Area

Traffic noise impacts were also assessed by modeling noise levels at representative receptor sites adjacent to the AUAR area along local streets (Snelling Avenue, University Avenue, and Pascal Street). Traffic noise levels were modeled at 12 representative receptor locations representing residential, commercial/office, and transportation (Snelling Avenue LRT Station) uses. Modeled receptors were located at exterior areas where frequent human use occurs. In instances where there was no apparent exterior area of frequent use, the modeled receptor was located at the façade of the building. Modeled receptor locations surrounding the AUAR area are illustrated in Attachment A.

Noise Model Results

AUAR Area Receptors

Daytime and Nighttime Analysis Results

Results of the noise modeling analysis for AUAR area receptors under existing conditions, the future (2035) No Build Alternative, and the future (2035) Build Alternative are tabulated in Table 5 (daytime) and Table 6 (nighttime). The results of the traffic noise modeling analysis are summarized below.

Existing daytime L_{10} noise levels at modeled receptor locations within the AUAR area range from 59.1 dBA to 73.7 dBA, whereas L_{50} noise levels range from 56.8 dBA to 69.9 dBA. Existing nighttime L_{10} modeled noise levels range from 57.9 dBA to 73.0 dBA, whereas L_{50} noise levels range from 52.2 dBA to 69.8 dBA.

Table 5. Traffic Noise Model Results (AUAR Area Receptors) (Daytime Levels)

Receptor ID	Distance from R/W	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
N0	0 feet	67.2	57.6	67.7	58.3	0.5	0.7	68.0	58.7	0.8	1.1
N50	50 feet	63.2	56.9	63.6	57.5	0.4	0.6	63.9	57.9	0.7	1.0
N100	100 feet	61.2	57.3	61.5	57.8	0.3	0.5	61.7	58.0	0.5	0.7
N150	150 feet	60.0	57.4	60.3	57.9	0.3	0.5	60.5	58.1	0.5	0.7
N200	200 feet	59.3	57.5	59.7	57.9	0.4	0.4	59.9	58.1	0.6	0.6
N250	250 feet	59.1	57.5	59.4	58.0	0.3	0.5	59.6	58.2	0.5	0.7
N300	300 feet	59.1	57.7	59.4	58.1	0.3	0.4	59.6	58.3	0.5	0.6
N350	350 feet	59.2	57.8	59.6	58.2	0.4	0.4	59.7	58.4	0.5	0.6
N400	400 feet	59.4	58.0	59.8	58.5	0.4	0.5	59.9	58.6	0.5	0.6
E0	0 feet	66.6	58.6	67.0	59.2	0.4	0.6	67.6	60.1	1.0	1.5
E50	50 feet	63.6	59.1	63.9	59.7	0.3	0.6	64.3	60.1	0.7	1.0
E100	100 feet	62.0	59.3	62.3	59.8	0.3	0.5	62.5	60.1	0.5	0.8
E150	150 feet	61.2	59.3	61.5	59.7	0.3	0.4	61.7	59.9	0.5	0.6
E200	200 feet	60.8	59.2	61.2	59.6	0.4	0.4	61.4	59.8	0.6	0.6
E250	250 feet	60.7	59.1	61.0	59.5	0.3	0.4	61.2	59.7	0.5	0.6
State Standard	NAC-1	65	60	65	60	--	--	65	60	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Table 5. Traffic Noise Model Results (AUAR Area Receptors) (Daytime Levels)

Receptor ID	Distance from R/W	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
E300	300 feet	60.6	59.1	61.0	59.5	0.4	0.4	61.1	59.7	0.5	0.6
E350	350 feet	60.6	59.1	61.0	59.5	0.4	0.4	61.1	59.7	0.5	0.6
E400	400 feet	60.6	59.1	61.0	59.5	0.4	0.4	61.1	59.7	0.5	0.6
S0	0 feet	73.7	69.9	74.0	70.4	0.3	0.5	74.1	70.6	0.4	0.7
S50	50 feet	70.5	67.7	70.8	68.2	0.3	0.5	70.9	68.3	0.4	0.6
S100	100 feet	68.5	66.1	68.9	66.5	0.4	0.4	69.0	66.6	0.5	0.5
S150	150 feet	67.1	64.8	67.4	65.3	0.3	0.5	67.6	65.4	0.5	0.6
S200	200 feet	66.0	63.8	66.3	64.3	0.3	0.5	66.4	64.4	0.4	0.6
S250	250 feet	65.0	63.0	65.4	63.4	0.4	0.4	65.5	63.6	0.5	0.6
S300	300 feet	64.2	62.3	64.6	62.7	0.4	0.4	64.7	62.9	0.5	0.6
S350	350 feet	63.5	61.7	63.9	62.1	0.4	0.4	64.0	62.3	0.5	0.6
S400	400 feet	62.9	61.2	63.3	61.6	0.4	0.4	63.4	61.8	0.5	0.6
W0	0 feet	70.5	63.3	70.9	63.9	0.4	0.6	71.6	64.8	1.1	1.5
W50	50 feet	66.3	62.0	66.6	62.5	0.3	0.5	67.1	63.1	0.8	1.1
W100	100 feet	64.1	61.4	64.4	61.8	0.3	0.4	64.8	62.2	0.7	0.8
State Standard	NAC-1	65	60	65	60	--	--	65	60	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Table 5. Traffic Noise Model Results (AUAR Area Receptors) (Daytime Levels)

Receptor ID	Distance from R/W	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
W150	150 feet	62.9	60.9	63.3	61.3	0.4	0.4	63.6	61.7	0.7	0.8
W200	200 feet	62.3	60.5	62.6	61.0	0.3	0.5	62.9	61.3	0.6	0.8
W250	250 feet	61.9	60.3	62.3	60.7	0.4	0.4	62.5	61.0	0.6	0.7
W300	300 feet	61.6	60.1	62.0	60.5	0.4	0.4	62.2	60.7	0.6	0.6
W350	350 feet	61.4	59.9	61.8	60.3	0.4	0.4	62.0	60.5	0.6	0.6
W400	400 feet	61.3	59.8	61.7	60.2	0.4	0.4	61.8	60.4	0.5	0.6
State Standard	NAC-1	65	60	65	60	--	--	65	60	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Table 6. Traffic Noise Model Results (AUAR Area Receptors) (Nighttime Levels)

Receptor ID	Distance from R/W	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
N0	0 feet	62.2	52.2	62.6	52.8	0.4	0.6	62.9	53.0	0.7	0.8
N50	50 feet	60.1	55.0	60.4	55.4	0.3	0.4	60.7	55.5	0.6	0.5
N100	100 feet	58.6	55.9	58.8	56.3	0.2	0.4	59.1	56.4	0.5	0.5
N150	150 feet	58.0	56.2	58.2	56.5	0.2	0.3	58.4	56.6	0.4	0.4
N200	200 feet	57.9	56.4	58.2	56.7	0.3	0.3	58.3	56.8	0.4	0.4
N250	250 feet	58.0	56.6	58.3	56.9	0.3	0.3	58.4	57.0	0.4	0.4
N300	300 feet	58.2	56.8	58.5	57.1	0.3	0.3	58.6	57.2	0.4	0.4
N350	350 feet	58.5	57.0	58.8	57.4	0.3	0.4	58.8	57.5	0.3	0.5
N400	400 feet	58.8	57.3	59.1	57.6	0.3	0.3	59.1	57.7	0.3	0.4
E0	0 feet	64.5	57.1	64.9	57.5	0.4	0.4	65.6	57.6	1.1	0.5
E50	50 feet	62.0	58.5	62.3	58.8	0.3	0.3	62.9	58.8	0.9	0.3
E100	100 feet	60.8	58.7	61.0	59.0	0.2	0.3	61.5	59.1	0.7	0.4
E150	150 feet	60.4	58.6	60.6	58.9	0.2	0.3	60.9	59.0	0.5	0.4
E200	200 feet	60.2	58.5	60.5	58.9	0.3	0.4	60.6	59.0	0.4	0.5
E250	250 feet	60.1	58.5	60.4	58.8	0.3	0.3	60.5	58.9	0.4	0.4
State Standard	NAC-1	55	50	55	50	--	--	55	50	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Table 6. Traffic Noise Model Results (AUAR Area Receptors) (Nighttime Levels)

Receptor ID	Distance from R/W	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
E300	300 feet	60.1	58.5	60.4	58.8	0.3	0.3	60.5	58.9	0.4	0.4
E350	350 feet	60.1	58.5	60.4	58.8	0.3	0.3	60.5	58.9	0.4	0.4
E400	400 feet	60.2	58.6	60.4	58.9	0.2	0.3	60.5	59.0	0.3	0.4
S0	0 feet	73.0	69.8	73.3	70.3	0.3	0.5	73.4	70.3	0.4	0.5
S50	50 feet	70.1	67.4	70.4	67.8	0.3	0.4	70.4	67.8	0.3	0.4
S100	100 feet	68.2	65.7	68.5	66.1	0.3	0.4	68.5	66.1	0.3	0.4
S150	150 feet	66.8	64.4	67.1	64.8	0.3	0.4	67.1	64.9	0.3	0.5
S200	200 feet	65.6	63.4	65.9	63.8	0.3	0.4	66.0	63.9	0.4	0.5
S250	250 feet	64.7	62.6	65.0	62.9	0.3	0.3	65.0	63.0	0.3	0.4
S300	300 feet	63.9	61.9	64.2	62.2	0.3	0.3	64.2	62.3	0.3	0.4
S350	350 feet	63.2	61.3	63.5	61.6	0.3	0.3	63.5	61.7	0.3	0.4
S400	400 feet	62.6	60.7	62.9	61.1	0.3	0.4	62.9	61.1	0.3	0.4
W0	0 feet	68.0	60.4	68.3	61.0	0.3	0.6	68.9	61.7	0.9	1.3
W50	50 feet	64.5	60.4	64.8	60.9	0.3	0.5	65.1	61.3	0.6	0.9
W100	100 feet	62.7	60.2	63.0	60.6	0.3	0.4	63.2	60.9	0.5	0.7
State Standard	NAC-1	55	50	55	50	--	--	55	50	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Table 6. Traffic Noise Model Results (AUAR Area Receptors) (Nighttime Levels)

Receptor ID	Distance from R/W	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
W150	150 feet	61.9	59.9	62.2	60.3	0.3	0.4	62.4	60.5	0.5	0.6
W200	200 feet	61.4	59.7	61.7	60.1	0.3	0.4	61.9	60.2	0.5	0.5
W250	250 feet	61.2	59.5	61.5	59.9	0.3	0.4	61.6	60.0	0.4	0.5
W300	300 feet	61.0	59.4	61.3	59.7	0.3	0.3	61.4	59.9	0.4	0.5
W350	350 feet	60.9	59.2	61.2	59.6	0.3	0.4	61.3	59.7	0.4	0.5
W400	400 feet	60.8	59.1	61.1	59.5	0.3	0.4	61.2	59.6	0.4	0.5
State Standard	NAC-1	55	50	55	50	--	--	55	50	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Future (2035) daytime L_{10} modeled noise levels within the AUAR area under the No Build Alternative are predicted to range from 59.4 dBA to 74.0 dBA, whereas L_{50} noise levels are predicted to range from 57.4 dBA to 70.4 dBA. Future nighttime L_{10} modeled noise levels under the No Build Alternative within the AUAR area are predicted to range from 58.2 dBA to 73.3 dBA, whereas L_{50} noise levels are predicted to range from 52.8 dBA to 70.3 dBA. Modeled daytime traffic noise levels are predicted to increase by 0.3 dBA to 0.5 dBA (L_{10}) under the No Build Alternative compared to existing conditions. This noise level increase is due to the background traffic growth from existing to future No Build conditions.

Future (2035) daytime L_{10} modeled noise levels within the AUAR area under the Build scenario (with the proposed development) are predicted to range from 59.6 dBA to 74.1 dBA, whereas L_{50} modeled noise levels range from 57.8 dBA to 70.6 dBA. Nighttime L_{10} modeled noise levels within the AUAR area under Build conditions are predicted to range from 58.3 dBA to 73.4 dBA, whereas L_{50} modeled noise levels are predicted to range from 53.0 dBA to 70.3 dBA. Modeled daytime and nighttime traffic noise levels are predicted to increase by 0.3 dBA to 1.1 dBA (L_{10}) under Build scenario conditions compared to existing conditions.

Modeled noise levels under future Build scenario conditions are compared to state daytime and nighttime standards for NAC-1 (residential land uses), NAC-2 (commercial uses) and NAC-3 (industrial uses) below.

- Modeled daytime L_{10} noise levels within the AUAR area were projected to exceed State daytime standards for NAC-1 (65 dBA) at distances ranging from 50 feet to 300 feet from area roadways. Modeled daytime L_{50} noise levels within the AUAR area were projected to exceed state standards for NAC-1 (60 dBA) out to 400 feet from adjacent roadways.
- Modeled nighttime L_{10} and L_{50} noise levels were predicted to exceed state nighttime standards for NAC-1 at all modeled receptor locations within the AUAR area.
- Modeled L_{10} and L_{50} noise levels were predicted to be below state daytime standards for NAC-2 at all modeled receptor locations along University Avenue and Pascal Street, and at distances ranging from 50 feet to 200 feet along Snelling Avenue and St. Anthony Avenue.
- Modeled L_{10} and L_{50} noise levels were predicted to be below state nighttime standards for NAC-2 at all modeled receptor locations within the AUAR area along University Avenue, Pascal Street, and Snelling Avenue. Modeled L_{10} and L_{50} noise levels were predicted to be below state nighttime standards for NAC-2 at distances of up to 150 feet from St. Anthony Avenue.
- Modeled L_{10} and L_{50} noise levels were predicted to be below state daytime and nighttime standards for NAC-3 at all modeled receptor locations within the AUAR area.

Weekend Event Arrival and Departure Periods

Results of the noise modeling analysis for AUAR area receptors during weekend event arrival (1:00 p.m. – 2:00 p.m.) and departure (4:00 p.m. – 5:00 p.m.) periods are tabulated in Table 7. In general, daytime traffic noise levels for the weekday worst noise hour were predicted to be approximately 1 dBA (L_{10}) greater than weekend event arrival and departure periods. Modeled L_{10} noise levels at one receptor location at the north end of the AUAR area (Receptor N0) and west side of the AUAR area (Receptor W0) were greater during event arrival and departure periods compared to the weekday worst noise hour. This is because of the higher traffic volumes along Snelling Avenue and University Avenue adjacent to the AUAR area during site events as compared to weekday traffic volumes.

Receptors Surrounding the AUAR Area

Daytime and Nighttime Analysis Results

Results of the noise modeling analysis for receptor locations adjacent to the AUAR area under existing conditions, the future (2035) No Build Alternative, and the future (2035) Build Alternative are tabulated in Table 8 (daytime) and Table 9 (nighttime). The results of the traffic noise modeling analysis are summarized below.

Existing daytime L_{10} noise levels at modeled receptor locations surrounding the AUAR area range from 57.3 dBA to 74.0 dBA, whereas L_{50} noise levels range from 53.1 dBA to 70.1 dBA. Existing nighttime L_{10} modeled noise levels range from 54.8 dBA to 73.5 dBA, whereas L_{50} noise levels range from 51.9 dBA to 69.8 dBA.

Future (2035) daytime L_{10} noise levels at modeled receptor locations surrounding the AUAR area under the No Build Alternative are predicted to range from 57.6 dBA to 74.4 dBA, whereas L_{50} noise levels are predicted to range from 53.6 dBA to 70.5 dBA. Future nighttime L_{10} modeled noise levels under the No Build Alternative at receptor locations surrounding the AUAR area are predicted to range from 55.0 dBA to 73.8 dBA, whereas L_{50} noise levels are predicted to range from 52.1 dBA to 70.2 dBA. Modeled daytime traffic noise levels are predicted to increase by 0.3 dBA to 0.5 dBA (L_{10}) under the No Build Alternative compared to existing conditions.

Table 7. Traffic Noise Model Results (AUAR Area Receptors) (Future Event Arrival and Departure Traffic)

Receptor ID	Distance from R/W	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Event Arrival (2035), L_{10}, dBA	Event Arrival (2035), L_{50}, dBA	Build – Arrival, L_{10}, dBA	Build – Arrival, L_{50}, dBA	Event Departure (2035), L_{10}, dBA	Event Departure (2035), L_{50}, dBA	Build – Departure, L_{10}, dBA	Build – Departure, L_{50}, dBA
N0	0 feet	68.0	58.7	68.6	60.3	-0.6	-1.6	68.7	60.4	-0.7	-1.7
N50	50 feet	63.9	57.9	63.8	58.6	0.1	-0.7	63.8	58.7	0.1	-0.8
N100	100 feet	61.7	58.0	61.3	58.1	0.4	-0.1	61.3	58.2	0.4	-0.2
N150	150 feet	60.5	58.1	60.0	57.8	0.5	0.3	60.0	57.9	0.5	0.2
N200	200 feet	59.9	58.1	59.2	57.7	0.7	0.4	59.3	57.7	0.6	0.4
N250	250 feet	59.6	58.2	58.9	57.6	0.7	0.6	58.9	57.6	0.7	0.6
N300	300 feet	59.6	58.3	58.9	57.7	0.7	0.6	58.9	57.7	0.7	0.6
N350	350 feet	59.7	58.4	58.9	57.8	0.8	0.6	58.9	57.8	0.8	0.6
N400	400 feet	59.9	58.6	59.1	57.9	0.8	0.7	59.1	57.9	0.8	0.7
E0	0 feet	67.6	60.1	67.1	60.1	0.5	0.0	67.6	60.5	0.0	-0.4
E50	50 feet	64.3	60.1	63.3	59.6	1.0	0.5	63.8	59.7	0.5	0.4
E100	100 feet	62.5	60.1	61.6	59.3	0.9	0.8	61.9	59.4	0.6	0.7
E150	150 feet	61.7	59.9	60.7	59.1	1.0	0.8	60.9	59.2	0.8	0.7
State Standard	NAC-1	65	60	65	60	--	--	65	60	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Table 7. Traffic Noise Model Results (AUAR Area Receptors) (Future Event Arrival and Departure Traffic)

Receptor ID	Distance from R/W	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Event Arrival (2035), L_{10}, dBA	Event Arrival (2035), L_{50}, dBA	Build – Arrival, L_{10}, dBA	Build – Arrival, L_{50}, dBA	Event Departure (2035), L_{10}, dBA	Event Departure (2035), L_{50}, dBA	Build – Departure, L_{10}, dBA	Build – Departure, L_{50}, dBA
E200	200 feet	61.4	59.8	60.4	59.0	1.0	0.8	60.5	59.0	0.9	0.8
E250	250 feet	61.2	59.7	60.2	58.9	1.0	0.8	60.3	58.9	0.9	0.8
E300	300 feet	61.1	59.7	60.1	58.8	1.0	0.9	60.2	58.9	0.9	0.8
E350	350 feet	61.1	59.7	60.1	58.8	1.0	0.9	60.1	58.8	1.0	0.9
E400	400 feet	61.1	59.7	60.1	58.8	1.0	0.9	60.1	58.8	1.0	0.9
S0	0 feet	74.1	70.6	73.2	69.9	0.9	0.7	73.3	70.1	0.8	0.5
S50	50 feet	70.9	68.3	69.8	67.4	1.1	0.9	69.8	67.5	1.1	0.8
S100	100 feet	69.0	66.6	67.9	65.7	1.1	0.9	67.9	65.7	1.1	0.9
S150	150 feet	67.6	65.4	66.5	64.4	1.1	1.0	66.4	64.4	1.2	1.0
S200	200 feet	66.4	64.4	65.3	63.4	1.1	1.0	65.3	63.4	1.1	1.0
S250	250 feet	65.5	63.6	64.4	62.6	1.1	1.0	64.4	62.6	1.1	1.0
S300	300 feet	64.7	62.9	63.6	61.9	1.1	1.0	63.6	61.9	1.1	1.0
S350	350 feet	64.0	62.3	62.9	61.3	1.1	1.0	62.9	61.3	1.1	1.0
S400	400 feet	63.4	61.8	62.4	60.8	1.0	1.0	62.3	60.8	1.1	1.0
State Standard	NAC-1	65	60	65	60	--	--	65	60	--	--
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	--
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	--

Table 7. Traffic Noise Model Results (AUAR Area Receptors) (Future Event Arrival and Departure Traffic)

Receptor ID	Distance from R/W	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Event Arrival (2035), L_{10}, dBA	Event Arrival (2035), L_{50}, dBA	Build – Arrival, L_{10}, dBA	Build – Arrival, L_{50}, dBA	Event Departure (2035), L_{10}, dBA	Event Departure (2035), L_{50}, dBA	Build – Departure, L_{10}, dBA	Build – Departure, L_{50}, dBA
W0	0 feet	71.6	64.8	72.1	66.3	-0.5	-1.5	70.9	64.9	0.7	-0.1
W50	50 feet	67.1	63.1	66.9	63.5	0.2	-0.4	66.3	62.9	0.8	0.2
W100	100 feet	64.8	62.2	64.4	62.1	0.4	0.1	64.0	61.8	0.8	0.4
W150	150 feet	63.6	61.7	63.0	61.3	0.6	0.4	62.8	61.1	0.8	0.6
W200	200 feet	62.9	61.3	62.2	60.8	0.7	0.5	62.1	60.6	0.8	0.7
W250	250 feet	62.5	61.0	61.7	60.4	0.8	0.6	61.6	60.3	0.9	0.7
W300	300 feet	62.2	60.7	61.4	60.1	0.8	0.6	61.3	60.0	0.9	0.7
W350	350 feet	62.0	60.5	61.1	59.8	0.9	0.7	61.1	59.8	0.9	0.7
W400	400 feet	61.8	60.4	60.9	59.6	0.9	0.8	60.9	59.6	0.9	0.8
State Standard	NAC-1	65	60	65	60	--	--	65	60	--	–
State Standard	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	NAC-3	80	75	80	75	--	--	80	75	--	–

Table 8. Traffic Noise Model Results (Receptors Surrounding AUAR Area) (Daytime Levels)

Receptor ID	Land Use	State NAC	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
A	Res.	1	**74.0**	**70.1**	**74.4**	**70.5**	0.4	0.4	**74.6**	**70.8**	0.6	0.7
B	Res.	1	**65.5**	**63.5**	**65.8**	**64.0**	0.3	0.5	**66.0**	**64.2**	0.5	0.7
C	Com.	2	70.0	63.2	**70.5**	63.8	0.5	0.6	**71.1**	64.6	1.1	1.4
D	Com.	2	67.3	61.9	67.7	62.4	0.4	0.5	68.3	63.1	1.0	1.2
E	Com.	2	**70.3**	63.6	**70.7**	64.1	0.4	0.5	**71.3**	64.9	1.0	1.3
F	Trans.	2	67.7	59.6	68.1	60.2	0.4	0.6	68.5	60.6	0.8	1.0
G	Com.	2	66.8	57.7	67.2	58.3	0.4	0.6	67.7	58.6	0.9	0.9
H	Com.	2	65.9	56.8	66.3	57.4	0.4	0.6	66.7	57.7	0.8	0.9
I	Com.	2	66.0	56.6	66.4	57.2	0.4	0.6	66.9	57.5	0.9	0.9
J	Com.	2	66.5	57.3	67.0	57.9	0.5	0.6	67.4	58.3	0.9	1.0
K	Com.	2	57.3	53.1	57.6	53.6	0.3	0.5	57.7	53.8	0.4	0.7
L	Com.	2	58.5	56.5	58.9	56.9	0.4	0.4	59.1	57.1	0.6	0.6
State Standard	Res.	NAC-1	65	60	65	60	--	–	65	60	--	–
State Standard	Com.	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	Indust.	NAC-3	80	75	80	75	--	--	80	75	--	–

Bold numbers exceed State daytime standards (L_{10} and/or L_{50}).

Land use codes: Res. = residential; Com. = retail commercial/office; Trans. = LRT Station & Platform Area; Indust. = Industrial.

Table 9. Traffic Noise Model Results (Receptors Surrounding AUAR Area) (Nighttime Levels)

Receptor ID	Land Use	State NAC	Existing, L_{10}, dBA	Existing, L_{50}, dBA	No Build (2035), L_{10}, dBA	No Build (2035, L_{50}, dBA	No Build – Existing, L_{10}, dBA	No Build – Existing, L_{50}, dBA	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Build – Existing, L_{10}, dBA	Build – Existing, L_{50}, dBA
A	Res.	1	**73.5**	**69.8**	**73.8**	**70.2**	0.3	0.4	**74.0**	**70.3**	0.5	0.5
B	Res.	1	**65.1**	**63.1**	**65.4**	**63.5**	0.3	0.4	**65.5**	**63.6**	0.4	0.5
C	Com.	2	67.7	60.5	68.0	61.0	0.3	0.5	68.6	61.8	0.9	1.3
D	Com.	2	65.3	59.6	65.6	60.1	0.3	0.5	66.0	60.7	0.7	1.1
E	Com.	2	66.9	59.2	67.3	59.8	0.4	0.6	68.0	60.7	1.1	1.5
F	Trans.	2	63.4	54.8	63.8	55.4	0.4	0.6	64.2	55.7	0.8	0.9
G	Com.	2	62.9	53.3	63.3	53.8	0.4	0.5	63.7	54.2	0.8	0.9
H	Com.	2	62.0	52.4	62.4	53.0	0.4	0.6	62.7	53.3	0.7	0.9
I	Com.	2	61.9	51.9	62.3	52.4	0.4	0.5	62.6	52.8	0.7	0.9
J	Com.	2	62.3	52.4	62.7	53.0	0.4	0.6	63.2	53.5	0.9	1.1
K	Com.	2	54.8	52.1	55.0	52.1	0.2	0.0	55.0	52.2	0.2	0.1
L	Com.	2	57.7	56.1	57.9	56.4	0.2	0.3	58.2	56.5	0.5	0.4
State Standard	Res.	NAC-1	65	60	65	60	--	–	65	60	--	–
State Standard	Com.	NAC-2	70	65	70	65	--	--	70	65	--	–
State Standard	Indust.	NAC-3	80	75	80	75	--	--	80	75	--	–

Bold numbers exceed State nighttime standards (L_{10} and/or L_{50}).

Land use codes: Res. = residential; Com. = retail commercial/office; Trans. = LRT Station & Platform Area; Indust. = Industrial.

Future (2035) daytime L_{10} noise levels at modeled receptor locations surrounding the AUAR area under the Build Alternative (with the proposed development) are predicted to range from 57.7 dBA to 74.6 dBA, whereas L_{50} modeled noise levels range from 53.8 dBA to 70.8 dBA. Nighttime L_{10} noise levels at modeled receptor locations surrounding the AUAR area under the Build Alternative are predicted to range from 55.0 dBA to 74.4 dBA, whereas L_{50} modeled noise levels are predicted to range from 52.2 dBA to 70.3 dBA. Modeled daytime and nighttime traffic noise levels are predicted to increase by 0.2 dBA to 1.1 dBA (L_{10}) under Build Alternative conditions compared to existing conditions.

Modeled noise levels at receptor locations surrounding the AUAR area in comparison to state daytime and nighttime standards for NAC-1 (residential land uses) and NAC-2 (commercial uses) are described below.

- Modeled noise levels exceed State daytime and nighttime L_{10} and L_{50} standards for NAC-1 at residential land uses along the west side of Snelling Avenue and north of St. Anthony Avenue under existing conditions, the future No Build Alternative, and future Build Alternative.
- In general, modeled noise levels are below State daytime L_{10} and L_{50} standards for NAC-2 at modeled commercial receptor locations surrounding the AUAR area under existing conditions, the future No Build Alternative, and future Build Alternative. Modeled daytime L_{10} noise levels at one commercial receptor location adjacent to the Snelling Avenue/University Avenue intersection exceeds state daytime standards for NAC-2 under existing conditions, the future No Build Alternative, and future Build Alternative.
- Modeled noise levels are below State nighttime L_{10} and L_{50} standards for NAC-2 for all commercial receptor locations surrounding the AUAR area under existing conditions, the future No Build Alternative, and future Build Alternative.

Weekend Event Arrival and Departure Periods

Results of the noise modeling analysis during weekend event arrival (1:00 p.m. – 2:00 p.m.) and departure (4:00 p.m. – 5:00 p.m.) periods for receptors surrounding the AUAR area are tabulated in Table 10. Modeled noise levels at commercial receptor locations along Snelling Avenue and University Avenue were predicted to be approximately 1 dBA (L_{10}) up to nearly 3 dBA (L_{50}) greater during event arrival and departure periods compared to the weekday worst noise hour. This is because of the higher traffic volumes along Snelling Avenue and University Avenue during site events compared to weekday traffic volumes.

Table 10. Traffic Noise Model Results (Receptors Surrounding Area) (Future Event Arrival and Departure Traffic)

Receptor ID	Land Use	State NAC	Build (2035), L_{10}, dBA	Build (2035), L_{50}, dBA	Event Arrival (2035), L_{10}, dBA	Event Arrival (2035), L_{50}, dBA	Build – Arrival, L_{10}, dBA	Build – Arrival, L_{50}, dBA	Event Departure (2035), L_{10}, dBA	Event Departure (2035), L_{50}, dBA	Build – Departure, L_{10}, dBA	Build – Departure, L_{50}, dBA
A	Res.	1	**74.6**	**70.8**	**73.4**	**70.2**	1.2	0.6	**74.3**	**70.9**	0.3	-0.1
B	Res.	1	**66.0**	**64.2**	**65.1**	**63.6**	0.9	0.6	**65.2**	**63.6**	0.8	0.6
C	Com.	2	**71.1**	64.6	**70.8**	**65.3**	0.3	-0.7	**71.5**	**65.9**	-0.4	-1.3
D	Com.	2	68.3	63.1	67.9	63.6	0.4	-0.5	68.4	63.9	-0.1	-0.8
E	Com.	2	**71.3**	64.9	**71.0**	**65.5**	0.3	-0.6	**71.6**	**66.1**	-0.3	-1.2
F	Trans.	2	68.5	60.6	69.2	62.5	-0.7	-1.9	69.3	62.6	-0.8	-2.0
G	Com.	2	67.7	58.6	68.8	60.9	-1.1	-2.3	68.9	61.1	-1.2	-2.5
H	Com.	2	66.7	57.7	67.9	60.1	-1.2	-2.4	68.1	60.4	-1.4	-2.7
I	Com.	2	66.9	57.5	68.1	60.0	-1.2	-2.5	68.3	60.3	-1.4	-2.8
J	Com.	2	67.4	58.3	68.6	60.7	-1.2	-2.4	68.8	61.0	-1.4	-2.7
K	Com.	2	57.7	53.8	57.4	53.6	0.3	0.2	56.9	53.3	0.8	0.5
L	Com.	2	59.1	57.1	58.2	56.5	0.9	0.6	58.4	56.5	0.7	0.6
State Standard	Res.	NAC-1	65	60	65	60	--	--	65	60	–	--
State Standard	Com.	NAC-2	70	65	70	65	--	--	70	65	–	--
State Standard	Indust.	NAC-3	80	75	80	75	--	--	80	75	--	--

Bold numbers exceed State daytime standards (L_{10} and/or L_{50}).

Land use codes: Res. = residential; Com. = retail commercial/office; Trans. = LRT Station & Platform Area; Indust. = Industrial.

Mitigation Strategies

AUAR Area Site Plan

As described in the previous section, modeled traffic noise levels are projected to exceed state noise standards for NAC-1 and NAC-2, depending upon the location within the AUAR area. The following strategies were evaluated to prevent future traffic noise impacts and minimize/mitigate the effects of traffic noise on future development within the AUAR area.

The AUAR area site plan is illustrated in Appendix A. The AUAR area is anticipated to be redeveloped in a phased manner to accommodate a mixed-use development including retail and service commercial, hospitality, residential, office, and open space uses. As shown in the site plan, locating outdoor use areas towards the interior of residential, hospitality, and office buildings will help prevent traffic noise impacts at these future uses. Locating outdoor uses in this manner results in greater setback distances from adjacent roadways (e.g., modeled L_{10} noise levels at approximately 50 feet from University Avenue and Pascal Street were projected to be below state daytime L_{10} standards for NAC-1). The buildings themselves also function to shield the outdoor use areas from traffic noise generated on nearby roadways.

The AUAR area site plan identifies two public assembly areas: one at the north end of the AUAR area along University Avenue and another in the southwest corner of the AUAR area at the Snelling Avenue/St. Anthony Avenue intersection (see AUAR area site plan figure in Attachment A). Public assembly areas are classified under NAC-2. The daytime and nighttime noise standards for NAC-2 are 70 dBA (L_{10}) and 65 dBA (L_{50}) (see Table 1).

The first public assembly area is located at the north end of the AUAR area along University Avenue. Modeled L_{10} and L_{50} traffic noise levels at the north end of the AUAR area at 50 feet from University Avenue are projected to be below state daytime and nighttime standards for NAC-2 (see Receptor N50 in Table 5 and Table 6).[7] Providing a setback from University Avenue would prevent traffic noise impacts for any future public assembly area at this location.

A second public assembly area is located in the southwest corner of the AUAR area at the Snelling Avenue/St. Anthony Avenue intersection. Traffic noise levels were modeled at a representative receptor located in the middle of the public assembly area (see Receptor CP-1 in the AUAR area figure in Attachment A). Daytime modeled noise levels at Receptor CP-1 were 70.2 dBA (L_{10}) and 68.0 dBA (L_{50}), whereas nighttime modeled noise levels at Receptor CP-1 were 69.8 dBA (L_{10}) and

[7] The traffic noise analysis described in this memorandum does not account for noise generated by Green Line LRT operations (e.g., LRT cars, horn noise).

67.4 dBA (L_{50}). Modeled L_{10} and L_{50} traffic noise levels at Receptor CP-1 are projected to exceed state daytime and/or nighttime standards for NAC-2 under future (2035) Build conditions.

A noise wall was evaluated in the southwest corner of the AUAR area along Snelling Avenue and St. Anthony Avenue, adjacent to Receptor CP-1. The evaluation of this noise barrier was completed following the procedures and criteria identified in the MnDOT Highway Noise Policy. The total length of the modeled noise wall was approximately 475 feet. The height of the modeled noise wall was 20 feet. A gap was included in the noise wall to accommodate the sidewalk connection through the public assembly area to pedestrian crossings at the Snelling Avenue/St. Anthony Avenue intersection.

Results of the noise wall evaluation are tabulated in Table 11 (daytime) and Table 12 (nighttime). The modeled noise wall does not achieve a minimum 5 dBA reduction to be considered acoustically feasible; therefore, a noise wall is not recommended at this location.

Receptors Surrounding the AUAR Area

Traffic noise levels are projected to increase by less than 1 dBA (L_{10}) at modeled receptor locations surrounding the AUAR area under future Build Alternative conditions compared to future No Build Alternative conditions. Additional traffic generated during weekend stadium event periods is projected to increase traffic noise levels by approximately 1 dBA (L_{10}) at commercial receptor locations along Snelling Avenue and University Avenue compared to future Build Alternative conditions (weekday worst noise hour). As a general rule, a change in sound levels of 3 dBA is barely noticeable by the human ear.

Modeled traffic noise levels currently exceed state standards for NAC-1 at residential receptor locations west of the AUAR area along Snelling Avenue, exceed state standards under the future No Build Alternative, and exceed state standards under future Build Alternative conditions. In general, modeled traffic noise levels at commercial receptor locations surrounding the AUAR area are below state standards for NAC-2 under existing, future No Build Alternative, and future Build Alternative conditions. Therefore, mitigation measures at modeled receptor locations surrounding the AUAR area were not considered.

Table 11. Noise Wall Evaluation Results (Daytime) (Southwest Quadrant of AUAR Area)

Receptor ID	Daytime L10, Build 2035 (no wall)	Daytime L10, Build 2035 (with noise wall)	Reduction (in dBA) with noise barrier	Number of residences, commercial or industrial establishments	Number of benefited residences, commercial or industrial establishments (1)	Design goal reduction ≥7 dBA (2)	Length of barrier (feet)	Wall Area (sq ft) (3)	Total cost of wall $20/sq ft	Cost/ Benefited Receptor
CP-1	70.2	66.4	3.8	1	0	0	475	8,800	$176,000	N/A

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA reduction.

(2) Noise wall must meet a noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier to be considered reasonable.

(3) Noise wall surface area includes tapers at wall ends.

Table 12. Noise Wall Evaluation Results (Nighttime) (Southwest Quadrant of AUAR Area)

Receptor ID	Nighttime L10, Build 2035 (no wall)	Nighttime L10, Build 2035 (with noise wall)	Reduction (in dBA) with noise barrier	Number of residences, commercial or industrial establishments	Number of benefited residences, commercial or industrial establishments (1)	Design goal reduction ≥7 dBA (2)	Length of barrier (feet)	Wall Area (sq ft) (3)	Total cost of wall $20/sq ft	Cost/ Benefited Receptor
CP-1	69.8	66.2	3.6	1	0	0	475	8,800	$176,000	N/A

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA reduction.

(2) Noise wall must meet a noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier to be considered reasonable.

(3) Noise wall surface area includes tapers at wall ends.

Conclusions and Recommendations

AUAR Area Receptors

Traffic noise levels were modeled at 68 representative receptor locations within the AUAR area. Receptors were located at incremental distances along University Avenue, Pascal Street, St. Anthony Avenue, and Snelling Avenue, ranging from 0 feet (at the right of way limits) up to 400 feet from the right of way limits.

Daytime L_{10} modeled noise levels within the AUAR area are predicted to range from 59.6 dBA to 74.1 dBA under future (2035) Build conditions, whereas daytime L_{50} modeled noise levels are predicted to range from 57.8 dBA to 70.6 dBA. Daytime traffic noise levels are projected to increase by approximately 0.4 dBA to 1.1 dBA (L_{10}) compared to existing conditions. Nighttime L_{10} modeled noise levels within the AUAR area are predicted to range from 58.3 dBA to 73.4 dBA under future (2035) Build conditions, whereas nighttime L_{50} modeled noise levels are predicted to range from 53.0 dBA to 70.3 dBA. Nighttime traffic noise levels are projected to increase by approximately 0.3 dBA to 1.1 dBA (L_{10}) compared to existing conditions.

Depending upon the location within the AUAR area, modeled traffic noise levels are projected to exceed state daytime and nighttime L_{10} and L_{50} standards for NAC-1 and NAC-2. Recommended strategies to help prevent future traffic noise impacts on development within the AUAR area include incorporating setback distances between area roadways and outdoor uses and locating buildings within the AUAR area between outdoor use areas and adjacent roadways.

The AUAR area site plan identifies two public assembly areas. Modeled noise levels at the public assembly area at the north end of the AUAR area along University Avenue are projected to be below state daytime and nighttime L_{10} and L_{50} standards for NAC-2, assuming a setback distance of at least 50 feet or greater. Modeled noise levels at a public assembly area in the southwest corner of the AUAR area along Snelling Avenue and St. Anthony Avenue are projected to exceed state daytime and nighttime L_{10} and/or L_{50} standards for NAC-2. A modeled noise wall adjacent to this public assembly area along Snelling Avenue and St. Anthony Avenue was not acoustically feasible (i.e., did not achieve a minimum 5 dBA reduction in traffic noise levels).

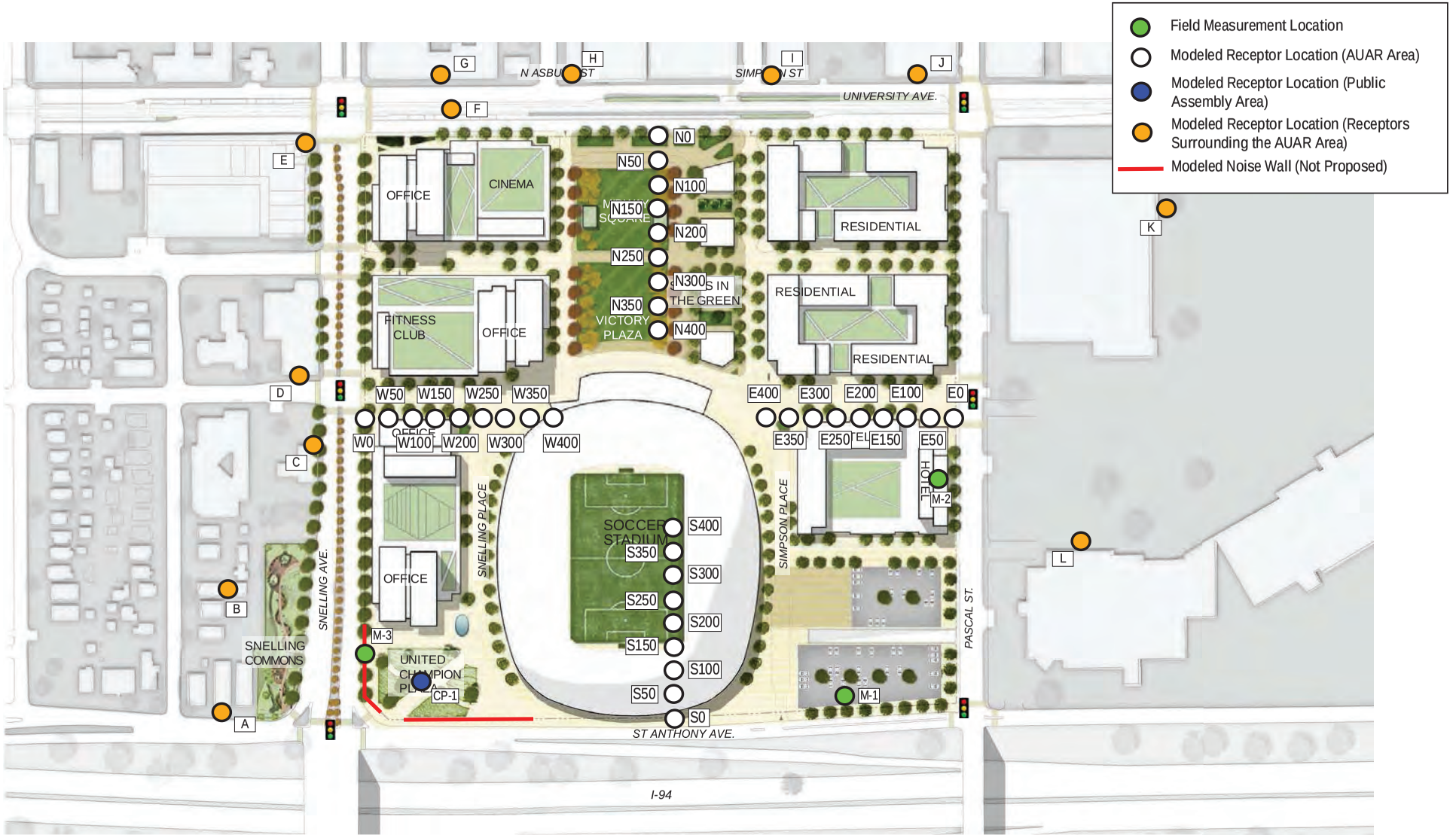
Receptors Surrounding the AUAR Area

Traffic noise levels were modeled at 12 representative receptor locations surrounding the AUAR area along Snelling Avenue, University Avenue, and Pascal Street. Future (2035) daytime L_{10} noise levels at modeled receptor locations surrounding the AUAR area with the proposed development are predicted to range from 57.7 dBA to 74.6 dBA, whereas L_{50} modeled noise levels range from 53.8 dBA to 70.8 dBA. Nighttime L_{10} noise levels at modeled receptor locations surrounding the AUAR area under the Build scenario are predicted to range from 55.0 dBA to 74.4 dBA, whereas L_{50} modeled noise levels are predicted to range from 52.2 dBA to 70.3 dBA. Modeled daytime and

nighttime traffic noise levels are predicted to increase by 0.2 dBA to 1.1 dBA (L_{10}) under Build Alternative conditions compared to existing conditions.

Modeled traffic noise levels would exceed state daytime and nighttime L_{10} and L_{50} standards for NAC-1 at residential receptor locations west of the AUAR area and Snelling Avenue under future No Build and Build conditions. Modeled traffic noise levels would exceed state daytime L_{10} standards for NAC-2 at one commercial receptor location at the Snelling Avenue/University Avenue intersection under future No Build and Build conditions. Modeled traffic noise levels at other commercial receptor locations surrounding the AUAR area would be below state daytime and nighttime standards for NAC-2 under future No Build and Build conditions. Because modeled traffic noise levels are either below state standards or would exceed state standards regardless of the No Build or Build Alternatives, mitigation measures at modeled receptor locations surrounding the AUAR area were not evaluated.

Attachment A (AUAR Area Master Plan)



H:\Projects\09000\9154\TS\Figures\Fig06_Master Plan.pdf

SRF Consulting Group, Inc.

0169154
April 2016

RK Midway Master Plan - Traffic Noise Analysis

Snelling Midway Stadium Environmental Review
City of St. Paul

Figure 3

Attachment B (Noise Model Traffic Assumptions)

Table 13. Traffic Characteristics, Noise Model Input (I-94)

	Traffic Volume (% of Daily Traffic)	Directional Split	Vehicle Class (% Cars)	Vehicle Class (% Medium Trucks)	Vehicle Class (% Heavy Trucks)	Modeled Speed (mph)
Daytime (9:00 a.m. to 10:00 a.m.)	5.5%	48% EB/ 52% WB	93% EB/ 93% WB	3% EB/ 2% WB	4% EB/ 5% WB	55 mph
Nighttime (6:00 a.m. to 7:00 a.m.)	5.6%	38% EB/ 62% WB	93% EB/ 95% WB	3% EB/ 1% WB	4% EB/ 4% WB	55 mph
Weekend Event Arrival	7.6%	54% EB/ 46% WB	97% EB/ 97% WB	1% EB/ 1% WB	2% EB/ 2% WB	55 mph
Weekend Event Departure	7.1%	47% EB/ 53% WB	97% EB/ 97% WB	1% EB/ 1% WB	2% EB/ 2% WB	55 mph

Source: Noise model input assumptions based on traffic count data from MnDOT loop detector site S479, MnDOT loop detector site S549, and MnDOT Vehicle Classification Count Site #1301. Vehicle classification percentages may not add to 100 percent due to rounding.

Table 14. Traffic Characteristics, Noise Model Input (Interchange Ramps)

	Traffic Volume (% of Daily Traffic)	Directional Split	Vehicle Class (% Cars)	Vehicle Class (% Medium Trucks)	Vehicle Class (% Heavy Trucks)	Modeled Speed (mph)
Daytime (9:00 a.m. to 10:00 a.m.)	5.3% to 6.6%	N/A	96.2%	3.4%	0.4%	40 mph
Nighttime (6:00 a.m. to 7:00 a.m.)	2.9% to 4.4%	N/A	96.7%	3.1%	0.2%	40 mph
Weekend Event Arrival	From traffic study	N/A	98.9%	0.7%	0.3%	40 mph
Weekend Event Departure	From traffic study	N/A	98.9%	0.7%	0.3%	40 mph

Source: Noise model input assumptions based on traffic count data from MnDOT loop detector site 2500, site 2637, site 2671, and site 3170. Vehicle classification based on 24-hour traffic counts collected in February 2016 at the University Avenue/Lexington Avenue intersection. Vehicle classification percentages may not add to 100 percent due to rounding.

Table 15. Traffic Characteristics, Noise Model Input (Local Roadways, North/South)

	Traffic Volume (% of Daily Traffic)	Directional Split	Vehicle Class (% Cars)	Vehicle Class (% Medium Trucks)	Vehicle Class (% Heavy Trucks)	Modeled Speed (mph)
Daytime (9:00 a.m. to 10:00 a.m.)	5.3%	51% NB/ 49% SB	96.2%	3.4%	0.4%	30 mph
Nighttime (6:00 a.m. to 7:00 a.m.)	2.7%	50% NB/ 50% SB	96.7%	3.1%	0.2%	30 mph
Weekend Event Arrival	From traffic study	From traffic study	98.9%	0.7%	0.3%	30 mph
Weekend Event Departure	From traffic study	From traffic study	98.9%	0.7%	0.3%	30 mph

Source: Noise model input assumptions based on 24-hour traffic counts (by vehicle classification) collected in February 2016 at the University Avenue/Lexington Avenue intersection. Vehicle classification percentages may not add to 100 percent due to rounding.

Table 16. Traffic Characteristics, Noise Model Input (Local Roadways, East/West)

	Traffic Volume (% of Daily Traffic)	Directional Split	Vehicle Class (% Cars)	Vehicle Class (% Medium Trucks)	Vehicle Class (% Heavy Trucks)	Modeled Speed (mph)
Daytime (9:00 a.m. to 10:00 a.m.)	4.8%	55% EB/ 45% WB	96.2%	3.4%	0.4%	30 mph
Nighttime (6:00 a.m. to 7:00 a.m.)	1.5%	44% EB/ 56% WB	96.7%	3.1%	0.2%	30 mph
Weekend Event Arrival	From traffic study	From traffic study	98.9%	0.7%	0.3%	30 mph
Weekend Event Departure	From traffic study	From traffic study	98.9%	0.7%	0.3%	30 mph

Source: Noise model input assumptions based on 24-hour traffic counts (by vehicle classification) collected in February 2016 at the University Avenue/Lexington Avenue intersection. Vehicle classification percentages may not add to 100 percent due to rounding.

Attachment C (Noise Model Traffic Volume Inputs)

Table 17. Modeled Hourly Traffic Volumes for Existing Daytime Conditions

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	3,904	126	168
I-94 (east of Snelling Ave.)	55 mph	Eastbound	3,634	117	156
I-94 (east of Snelling Ave.)	55 mph	Westbound	3,937	85	212
I-94 (west of Snelling Ave.)	55mph	Westbound	4,229	91	227
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	651	23	3
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	1,027	36	4
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	535	19	2
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	912	32	4
Snelling Ave. (south of I-94)	30 mph	Northbound	1,118	40	5
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	871	31	4
Snelling Ave. (north of University Ave.)	30 mph	Northbound	793	28	3
Snelling Ave. (north of University Ave.)	30 mph	Southbound	762	27	3
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	837	30	3
Snelling Ave. (south of I-94)	30 mph	Southbound	1,074	38	4
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	414	15	2
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	378	13	2
University Ave. (east of Pascal St.)	30 mph	Eastbound	434	15	2
University Ave. (east of Pascal St.)	30 mph	Westbound	355	13	1

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	310	11	1
University Ave. (west of Snelling Ave.)	30 mph	Westbound	339	12	1
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	206	7	1
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	428	15	2
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	219	8	1
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	372	13	2
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	372	13	2
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	76	3	0
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	8	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	270	10	1
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	270	10	1

Table 18. Modeled Hourly Traffic Volumes for Existing Nighttime Conditions

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	3,147	102	135
I-94 (east of Snelling Ave.)	55 mph	Eastbound	2,929	94	126
I-94 (east of Snelling Ave.)	55 mph	Westbound	4,882	51	206
I-94 (west of Snelling Ave.)	55mph	Westbound	5,134	166	221
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	436	14	1
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	745	24	2
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	305	10	1
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	492	16	1
Snelling Ave. (south of I-94)	30 mph	Northbound	561	18	1
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	437	18	1
Snelling Ave. (north of University Ave.)	30 mph	Northbound	398	13	1
Snelling Ave. (north of University Ave.)	30 mph	Southbound	398	13	1
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	437	18	1
Snelling Ave. (south of I-94)	30 mph	Southbound	561	18	1
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	104	3	0
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	95	3	0
University Ave. (east of Pascal St.)	30 mph	Eastbound	109	3	0
University Ave. (east of Pascal St.)	30 mph	Westbound	139	4	0

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	121	4	0
University Ave. (west of Snelling Ave.)	30 mph	Westbound	132	4	0
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	106	3	0
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	219	7	0
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	112	4	0
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	191	6	0
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	191	6	0
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	39	1	
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	4	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	138	4	0
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	138	4	0

Table 19. Modeled Hourly Volumes for No Build (2035) Alternative Daytime Conditions

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	4,292	138	195
I-94 (east of Snelling Ave.)	55 mph	Eastbound	3,995	129	172
I-94 (east of Snelling Ave.)	55 mph	Westbound	4,185	90	225
I-94 (west of Snelling Ave.)	55mph	Westbound	4,649	100	250
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	717	25	3
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	1,130	40	5
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	589	29	2
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	1,003	35	4
Snelling Ave. (south of I-94)	30 mph	Northbound	1,230	43	5
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	958	34	4
Snelling Ave. (north of University Ave.)	30 mph	Northbound	872	31	4
Snelling Ave. (north of University Ave.)	30 mph	Southbound	838	30	3
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	921	33	4
Snelling Ave. (south of I-94)	30 mph	Southbound	1,182	42	5
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	455	16	2
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	417	15	2
University Ave. (east of Pascal St.)	30 mph	Eastbound	477	17	2
University Ave. (east of Pascal St.)	30 mph	Westbound	391	14	2

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	341	12	1
University Ave. (west of Snelling Ave.)	30 mph	Westbound	372	13	2
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	227	8	1
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	472	17	2
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	242	9	1
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	410	15	2
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	410	15	2
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	84	3	0
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	8	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	298	11	1
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	298	11	1

Table 20. Modeled Hourly Volumes for No Build (2035) Alternative Nighttime Conditions

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	3,459	112	149
I-94 (east of Snelling Ave.)	55 mph	Eastbound	3,220	104	138
I-94 (east of Snelling Ave.)	55 mph	Westbound	4,275	45	180
I-94 (west of Snelling Ave.)	55mph	Westbound	5,880	180	240
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	481	15	1
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	819	26	2
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	335	11	1
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	541	17	1
Snelling Ave. (south of I-94)	30 mph	Northbound	617	20	1
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	481	15	1
Snelling Ave. (north of University Ave.)	30 mph	Northbound	438	14	1
Snelling Ave. (north of University Ave.)	30 mph	Southbound	438	14	1
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	481	15	1
Snelling Ave. (south of I-94)	30 mph	Southbound	617	20	1
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	114	4	0
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	105	3	0
University Ave. (east of Pascal St.)	30 mph	Eastbound	120	4	0
University Ave. (east of Pascal St.)	30 mph	Westbound	153	5	0

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	133	4	0
University Ave. (west of Snelling Ave.)	30 mph	Westbound	145	5	0
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	116	4	0
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	242	8	0
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	124	4	0
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	210	7	0
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	210	7	0
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	43	1	0
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	4	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	153	5	0
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	153	5	0

Table 21. Modeled Hourly Volumes for Proposed Development (2035) Daytime Conditions

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	4,359	141	187
I-94 (east of Snelling Ave.)	55 mph	Eastbound	4,063	131	175
I-94 (east of Snelling Ave.)	55 mph	Westbound	4,185	90	225
I-94 (west of Snelling Ave.)	55mph	Westbound	4,722	102	254
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	889	31	4
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	1,291	46	5
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	729	26	3
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	1,145	40	5
Snelling Ave. (south of I-94)	30 mph	Northbound	1,261	45	5
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	1,153	41	5
Snelling Ave. (north of University Ave.)	30 mph	Northbound	918	32	4
Snelling Ave. (north of University Ave.)	30 mph	Southbound	882	31	4
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	1,108	39	5
Snelling Ave. (south of I-94)	30 mph	Southbound	1,212	43	5
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	484	17	2
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	444	16	2
University Ave. (east of Pascal St.)	30 mph	Eastbound	516	18	2
University Ave. (east of Pascal St.)	30 mph	Westbound	422	15	2

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	364	13	2
University Ave. (west of Snelling Ave.)	30 mph	Westbound	396	14	2
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	227	8	1
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	599	21	2
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	298	11	1
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	441	16	2
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	441	16	2
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	84	3	0
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	8	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	342	12	1
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	342	12	1

Table 22. Modeled Hourly Volumes for Proposed Development (2035) Nighttime Conditions

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	3,514	113	151
I-94 (east of Snelling Ave.)	55 mph	Eastbound	3,275	106	141
I-94 (east of Snelling Ave.)	55 mph	Westbound	4,275	45	180
I-94 (west of Snelling Ave.)	55mph	Westbound	5,580	180	240
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	596	19	1
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	936	30	2
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	415	13	1
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	618	20	1
Snelling Ave. (south of I-94)	30 mph	Northbound	633	20	1
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	579	19	1
Snelling Ave. (north of University Ave.)	30 mph	Northbound	461	15	1
Snelling Ave. (north of University Ave.)	30 mph	Southbound	461	15	1
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	579	19	1
Snelling Ave. (south of I-94)	30 mph	Southbound	633	20	1
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	122	4	0
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	112	4	0
University Ave. (east of Pascal St.)	30 mph	Eastbound	130	4	0
University Ave. (east of Pascal St.)	30 mph	Westbound	165	5	0

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	142	5	0
University Ave. (west of Snelling Ave.)	30 mph	Westbound	155	5	0
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	116	4	0
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	307	10	1
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	153	5	0
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	226	7	0
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	226	7	0
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	43	1	0
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	4	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	175	6	0
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	175	6	0

Table 23. Modeled Hourly Volumes for Proposed Development (2035) Daytime Conditions (Future Event Arrival Period)

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	5,820	60	120
I-94 (east of Snelling Ave.)	55 mph	Eastbound	4,365	45	90
I-94 (east of Snelling Ave.)	55 mph	Westbound	4,356	45	90
I-94 (west of Snelling Ave.)	55mph	Westbound	5,820	60	120
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	945	7	3
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	1,329	9	4
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	652	5	2
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	2,364	17	7
Snelling Ave. (south of I-94)	30 mph	Northbound	1,385	10	4
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	2,077	15	6
Snelling Ave. (north of University Ave.)	30 mph	Northbound	1,214	9	4
Snelling Ave. (north of University Ave.)	30 mph	Southbound	1,323	9	4
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	1,420	10	4
Snelling Ave. (south of I-94)	30 mph	Southbound	1,319	9	4
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	521	4	2
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	684	5	2
University Ave. (east of Pascal St.)	30 mph	Eastbound	865	5	3
University Ave. (east of Pascal St.)	30 mph	Westbound	691	5	2

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	717	5	2
University Ave. (west of Snelling Ave.)	30 mph	Westbound	437	3	1
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	222	2	1
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	755	5	2
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	744	5	2
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	655	5	2
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	507	4	2
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	103	1	0
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	15	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	605	4	2
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	592	4	2

Table 24. Modeled Hourly Volumes for Proposed Development (2035) Daytime Conditions (Future Event Departure Period)

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
I-94 (west of Snelling Ave.)	55 mph	Eastbound	5747	59	118
I-94 (east of Snelling Ave.)	55 mph	Eastbound	4365	45	90
I-94 (east of Snelling Ave.)	55 mph	Westbound	4365	45	90
I-94 (west of Snelling Ave.)	55mph	Westbound	5820	60	120
I-94/Snelling Ave. northeast ramp	40 mph	Westbound	597	4	2
I-94/Snelling Ave. northwest ramp	40 mph	Westbound	2499	18	8
I-94/Snelling Ave. southeast ramp	40 mph	Eastbound	946	7	3
I-94/Snelling Ave. southwest ramp	40 mph	Eastbound	1236	9	4
Snelling Ave. (south of I-94)	30 mph	Northbound	1385	10	4
Snelling Ave. (I-94 to University Ave.)	30 mph	Northbound	1193	8	4
Snelling Ave. (north of University Ave.)	30 mph	Northbound	1275	9	4
Snelling Ave. (north of University Ave.)	30 mph	Southbound	1118	8	3
Snelling Ave. (I-94 to University Ave.)	30 mph	Southbound	2077	15	6
Snelling Ave. (south of I-94)	30 mph	Southbound	1385	10	4
University Ave. (west of Snelling Ave.)	30 mph	Eastbound	497	4	2
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	706	5	2
University Ave. (east of Pascal St.)	30 mph	Eastbound	671	5	2
University Ave. (east of Pascal St.)	30 mph	Westbound	680	5	2

Roadway Segment	Modeled Speed (miles per hour, MPH)	Direction	Traffic Characteristics, Cars	Traffic Characteristics, Medium Trucks	Traffic Characteristics, Heavy Trucks
University Ave. (Snelling Ave. to Pascal St.)	30 mph	Westbound	760	5	2
University Ave. (west of Snelling Ave.)	30 mph	Westbound	537	4	2
Pascal St. (north of University Ave.)	30 mph	Northbound & Southbound	289	2	1
Pascal St. (University Ave. to St. Anthony Ave.)	30 mph	Northbound & Southbound	875	6	3
Pascal St. (south of St. Anthony Ave.)	30 mph	Northbound & Southbound	835	6	3
St. Anthony Ave. (east of Pascal St.)	30 mph	Westbound	719	5	2
St. Anthony Ave. (Pascal St. to Snelling Ave.)	30 mph	Westbound	756	5	2
St. Anthony Ave. (west of Snelling Ave.)	30 mph	Westbound	43	0	0
Concordia Ave. (west of Snelling Ave.)	30 mph	Eastbound	15	0	0
Concordia Ave. (Snelling Ave. to Pascal St.)	30 mph	Eastbound	360	3	1
Concordia Ave. (east of Pascal St.)	30 mph	Eastbound	430	3	1

Appendix F

Transportation Study

Snelling Midway Soccer Stadium

Transportation Study

Prepared for

Josh Williams, City of St. Paul

SRF Consulting Group, Inc. | Engineers Planners Designers

July 18, 2016

SRF No. 0169154

Table of Contents

List of Figures

List of Tables

Executive Summary

Introduction

A transportation study was conducted for the proposed soccer stadium and surrounding mixed-use development located in the southeast quadrant of the University Avenue/Snelling Avenue intersection in Saint Paul, Minnesota. The main objectives of this study are to review future traffic operations within the study area, evaluate development traffic impacts to the adjacent roadway network, including the proposed site access and internal circulation, evaluate traffic impacts, evaluation of the transit and pedestrian/bike system and recommend any necessary transportation improvements to accommodate the proposed developments. In general, assumptions made for purposes of this analysis were conservative, in particular with regard to transit clearance times and availability of nearby parking for stadium events.

Analysis was completed for:

- Full Development (Master Plan) for Year 2035
  - No Build and Build Conditions
  - Weekday AM and PM Peak Hour Traffic
- Soccer Stadium Event for Year of Opening in Year 2018
  - Stadium capacity 20,000
  - No new development
  - No Build and Build Conditions
  - Saturday 2:00 p.m. Start Time
    - Arrival Peak 1:00 to 2:00 p.m.
    - Departure Peak 4:00 p.m. to 5:00 p.m.
- Soccer Stadium for Year 2035
  - Stadium capacity 25,500
  - Full Development based on the Master Plan
  - No Build and Build Conditions
  - Saturday 2:00 p.m. Start Time
    - Arrival Peak 1:00 to 2:00 p.m.
    - Departure Peak 4:00 p.m. to 5:00 p.m.

The City of Saint Paul PED and Public Works, Ramsey County Public Work, Minnesota Department of Transportation, Metro Transit and FWHA met seven (7) times from January 28, 2016 to May 16, 2016 to discuss and coordinate elements of the transportation study.

Overall Transportation Analysis Inputs

Data Collection - The existing traffic and pedestrian volumes were reviewed during eight (8) different time periods at 30 intersections shown in Figure 2.

Background Traffic Forecasts - Traffic forecasts were developed for year 2018 and 2035 no build conditions using an annual background growth rate of one-half percent. The annual background growth rate is based on results from the Twin Cities Regional Travel Demand Model.
Intersection Evaluation Measurement Criteria - For the development scenario, overall intersection LOS A through LOS D is generally considered acceptable in the Twin Cities Metro Area for weekday peak hour traffic, with LOS E and F unacceptable. For the events scenarios, event traffic should dissipate in around one hour. Typically have acceptable LOS during the arrival of the event traffic.

Proposed Access to the development is proposed at the following locations in year 2035, shown in Figure 7, which includes modifying access at the Snelling Avenue and Spruce Tree Avenue intersection to a right-in/right-out only and relocate the traffic signal to a new full intersection at Shields. Realigning access on Pascal Street to line-up across from access points to Walmart and Cub.

Directional Distribution of the site trips are shown in Figure 8 for the development and Figure 15 for the event traffic. Development trips will be more regional in the future with the inclusion of the large office component. The traffic distribution for the event is based on other ticket information from other event venues, current soccer ticket sales and overall population density.

Proposed Development Analysis

Two development scenarios were evaluated for the proposed development. The development scenarios contain similar land uses, however, the sizes of the specific land uses differ from one another. These were:

1. Comprehensive Plan/Snelling Station TOD Development plan scenario,
2. RK Midway Master Plan Development plan

The RK Midway Master Plan includes 620 dwelling units, 1M square feet of Office, 370,000 square feet of shopping center, fitness club, movie theatre and supermarket, and 400 Hotel Spaces. This land use plan is slightly more intense than other and would generate 1,190 a.m. peak hour trips, 1,460 pm peak hour trips and 12,320 daily trip more than the existing site. Most of these new trips are generated by the office land use. These trips are more regional than the existing retail land use on the site.

Traffic Analysis – 2035 Development

2035 No Build Conditions – Weekday AM and PM Peak Hour

Results of the year 2035 No Build intersection capacity analysis indicate that all study intersections are expected to operate at an acceptable overall LOS D or better during the a.m. and p.m. peak hour with the proposed roadway geometry and traffic controls, except for the Snelling Avenue and Selby Avenue intersection during the a.m. peak hour.

Snelling Avenue during the p.m. peak is expected to be congested between I-94 and University Avenue and flow along Snelling Avenue south of the interchange is hindered by slower travel, high volumes and lane changing, however overall intersection is in the acceptable LOS D range.

2035 Build Conditions – Weekday AM and PM Peak Hour

Results of the year 2035 Build intersection capacity analysis indicate that all study intersections are expected to operate at an acceptable overall LOS D or better during the a.m. peak hour and p.m. peak hours with the new site access geometry and traffic controls, except for the Snelling Avenue and Selby Avenue intersection during the a.m. peak hour and the Hamline Avenue and Marshall Avenue intersection during the p.m. peak hour.

- The Snelling Avenue and Selby Avenue intersection is a no-build condition with no proposed mitigation.
- Poor operations are expected at the Hamline Avenue and Marshall Avenue intersection during the p.m. peak hour under the build condition. Based on preliminary analysis, providing an eastbound right-turn lane will improve to acceptable overall intersection operations. The improvement would require removing on-street parking stalls near the intersection, however, it may only be needed during the p.m. peak hour of the day. Another alternative would be adding left-turn lanes to Hamline Avenue.
- During the p.m. peak hour, intersections on Snelling Avenue between Thomas Avenue and Selby Avenue are expected to operate at an overall LOS D, however, side-street queuing and delay is expected, similar to year 2035 no build conditions. A rolling type queue is expected along southbound Snelling Avenue. The newly constructed westbound approach of the Snelling Avenue and Shields Avenue intersection is expected to have maximum queues of over 750 feet, which will potentially extend into the on-site parking structures.

Key Findings for Full Build Development

1. To improve Snelling Avenue operations, the traffic signal at Spruce Tree Avenue should be relocated to Shields Avenue. This will require modifications/reconstruction of Snelling Avenue to Shields Avenue. Shields Avenue will need three westbound approach lanes to accommodate the amount of traffic leaving the proposed office land use along Snelling.
2. Snelling Avenue will have intersections operating at acceptable LOS (delay) under the No Build and Build conditions. However, while all intersections are expected to operate at LOS D from Shields Avenue to Selby Avenue, the high volume, queues, and lane changing south of the I-94 interchange makes the area feel congested under no build and build conditions.
3. The only intersection that goes from an acceptable LOS in No Build to an unacceptable LOS in Build is at Hamline Avenue and Marshall Avenue. Mitigation would not be required with the year of opening of the Stadium or initial development. Addition of an eastbound right-turn lane (by time of day with the removal of on-street parking) would provide acceptable overall level of service or by providing left-turn lanes on Hamline Avenue.
4. Traffic signal timing within the study area would need to be updated to accommodate future development traffic.
5. The proposer should encourage future land use to use the transit system with Green Line LRT, A-Line BRT and the other regular Metro Transit service adjacent to the site. Consider travel demand management (TDM) measures to encourage the use of these facilities.

Soccer Stadium Events

As part of the Snelling Midway Stadium Alternative Urban Areawide Review (AUAR), an analysis was conducted to address transportation issues related to the proposed soccer stadium. The proposed stadium is expected to have a capacity of 20,000 for the 2018 year of opening with the opportunity to expand to a capacity of 25,500 by year 2035 and would include full re-development of the site.

The assumptions for the analysis are based on conditions prior to implementing mitigation strategies and could change based on mitigation strategies that are implemented. This analysis is intended to identify potential issues that will require further investigation. These could be strategies to increase auto-occupancy, provide additional parking, provide staging areas for transit, or provide pre and post-game activities.

Traffic Analysis Event Assumptions

Traffic Volumes - For the study area intersections were collected for events occurring on a weekday evening (7:00 p.m. start time), weekend afternoon (2:00 p.m. start time) and a weekend evening (7:00 p.m. start time). Typical matches last for approximately two hours. Based on a review of the traffic volumes collected, the weekend afternoon background volume was significantly higher than the other two scenarios.

Parking Availability - Included evaluation of on-site and nearby off-site parking within a one mile walking distance was completed for both a year of opening and future year full-build out scenario for event parking. The goal of the transportation analysis was to determine mitigation strategies such that parking in adjacent residential neighborhoods is not needed to meet event demand. Similarly, accommodating event parking in nearby lots or ramps on a first-come, first-serve basis is also unreliable, as capacity may vary from event to event, and staffing costs and insurance concerns may limit participation of lot/ramp owners.

Auto Occupancy - Based on prior experience with travel behavior characteristics for sports stadium around Twin Cities and around the country, it was estimated that 2.75 people per vehicle would be used as an average auto occupancy for all analysis time periods.

Event Traffic Characteristics - The arrival peak will be smoother and spread out over the course of the arrival hour, while the departure typically occurs all within about a half-hour interval. Not all event trips leave or arrive during the peak hour.

Year 2018 Event Conditions

Trip Generation - To account for traffic impacts associated with the proposed stadium development, trip generation estimates for weekend afternoon event (match starting at 2:00 p.m.) were developed. The highest background traffic is generated by the near-by retail land uses, connections to other destinations and access to I-94.

Transportation Mode

The year 2018 event transportation mode share is presented below. These are expected to differ from the mode share values in the year 2035 full build conditions.

Walk/Bike/Local Bus/Private Shuttle/Charter Bus would combined total of these modes would accommodate 2,000 (10 percent) for a weekday match and 3,000 (15 percent) for a weekend match.

Drive to Site - On-Site Parking is expected to keep changing as development occurs. For year of opening, it is expected that approximately 400 vehicles may be able to park on-site, which will equate to approximately 1,100 fans or 5.5 percent of fans for a capacity event.

Drive to near Site - Off-Site Adjacent Parking takes into account parking not on site, but within walking distance of the stadium. An assumption was made that a minimum of approximately 350 parking spaces, accommodating 1,000 fans, or 5 percent.

Arrive on Green Line LRT or A-Line BRT**.** The LRT mode share was identified that with a full one-hour utilization of both the eastbound and westbound LRT, approximately 6,200 fans or 31 percent will be able to utilize the LRT to arrive at the proposed stadium. The A-Line BRT is not operational until summer of 2016, based on the crush load and expected occupancy of the BRT buses, approximately 700 attendees or three and half percent of event fans.

Shuttle Buses to Remote Parking. The remaining event patrons would be take another mode. The proposed mitigation strategy has been proposed to provide a shuttle service to off-site parking facilities. Based on the crush load and 115 to 130 bus trips (40 to 50 buses), approximately 7,975 (weekend) to 8,975 (weekday) fans or 40 to 45 percent will utilize the shuttle bus service. Remote parking locations have not been confirmed.

The capacity of the stadium is expected to be approximately 20,000 patrons in year 2018. The trip generation estimates, shown in **Table S-1** (person trips, not vehicle trips), were developed using the described mode share.

Table S-1
Person Trip Generation Estimates – 20,000 Patrons

Modes	Percent of Total	Weekday		Percent of Total	Weekend	
		Arrival	Departure		Arrival	Departure
Non-Auto or LRT/BRT	10.0%	2,000	2,000	15.0%	3,000	3,000
On Site Parking	5.5%	1,100	1,100	5.5%	1,100	1,100
Off Site Parking	4.8%	965	965	4.8%	965	965
LRT/BRT	34.8%	6,960	6,960	34.8%	6,960	6,960
Off-Site Shuttles	44.9%	8,975	8,975	39.9%	7,975	7,975
Totals	100.0%	20,000	20,000	100.0%	20,000	20,000

Results of the trip generation estimates indicate that approximately 10 percent of trips for an event will occur using an automobile within the study area.

Traffic Analysis – Year 2018 Event Conditions

During the departure peak hour, minor issues are anticipated in the peak exiting half hour of event departure traffic. The majority of exiting vehicles are destined to exit in the half hour immediately after the game ends, which causes a spike in traffic volumes. Congestion is observed in the model at the following:

- Snelling Avenue and Shields Avenue intersection and along Snelling Avenue to St. Anthony Avenue. With a majority of vehicles destined to westbound I-94, expect queues from the southbound right-turn at St. Anthony Avenue and westbound thru on St. Anthony Avenue at Snelling Avenue.
- This queueing on St. Anthony Avenue could spill back from Snelling Avenue to Pascal Street and have an effect of a rolling queue from the parking lot exit on Pascal Street to the on-ramp at Snelling Avenue. Because of the amount of volume on Pascal Street after a match, driveway access from Midway Shopping Center, Walmart, and Cub will be busy.
- The event vehicles clear within one hour of the match. Mainly because of the limited number of parking spaces near the facility.

Multi-Modal Transportation Analysis - Year 2018 Event Conditions

A transportation model VISSIM/VISWALK was completed to analyze all modes (pedestrian/bicycle, LRT, transit, shuttle). The Saturday afternoon event departure conditions at 4 p.m. were analyzed with the proposed access configuration and a full capacity event (20,000) to determine potential multi-modal transportation impacts due to the increased pedestrian, transit and vehicular traffic. Results of the detailed transportation analysis focus on the average travel time and queues for event patrons heading to these mode types, along with the expected amount of space needed to accommodate the queues.

The assumptions to complete the transportation analysis and are included in the mitigation strategies. These include the following items:

- 10 minute headways for all LRT and BRT transit vehicles – Depending on the time and day of the event, this project may need to request the schedule be changed to higher frequency service.
- Three-vehicle LRT – It was noted during site observations that on Saturdays, it is common to run two-vehicle LRT. This was assumed to be the full three-vehicle LRT at the end of an event. The project needs to work with Metro Transit.
- Based on data collected on LRT, of the 540 person crush-load capacity approximately 480 event patrons could board the LRT, while about 70 people could board the BRT.
- Approximately 40 to 50 shuttle buses would need to make 115 to 130 shuttle bus trips. At this point, the assumption is that shuttle buses would operate along Saint Anthony Avenue on the southeast corner of the site. It was assumed that a complete round trip for the shuttle bus could be completed in approximately 20 to 30 minutes in order to run two to three shuttle bus trips per hour requiring the parking facilities are two to three miles away.

Results from the transportation analysis, shown in **Table S-2**, indicate the largest queue and average travel time for pedestrians using LRT/BRT to depart an event. The travel time is based on the time between the patron leaving the stadium and boarding the LRT/BRT vehicle. With a slightly larger number of patrons destined on westbound LRT, it is expected that the queue length and travel time would be larger than eastbound.

Table S-2
Transportation Analysis Results – LRT/BRT

Direction and Mode	Maximum Queue (Peds)	Average Travel Time (Minutes)
Westbound LRT	2,050	30
Eastbound LRT	1,700	20 to 25
Northbound BRT	150	10 to 15
Southbound BRT	150	10 to 15

- The BRT is expected to finish boarding in about one hour
- Westbound LRT event passengers board the final train approximately one hour and 15 minutes after the completion of the event.
- Based on these guidelines, a minimum westbound queueing area of approximately 16,500 square feet and minimum eastbound queueing area of approximately 13,750 square feet would be necessary.
- It is expected that the BRT queuing would be accommodated by the existing sidewalk infrastructure.

Results from the shuttle bus transportation analysis, shown in **Table S-3**, indicate the largest queue and average travel time for 7,200 patrons using a shuttle bus to depart a Saturday event. Based on the current site plan, there is room for up to four or five buses in the shuttle area. The buses would need to be staged, perhaps along St. Anthony Avenue east of Pascal Street or to the north on Pascal Street. The departure shuttling need to be efficient to maximize the shuttle bus loading area.

Table S-3
Transportation Analysis Results – Shuttle Bus

Mode	Maximum Queue (Peds)	Travel Time (Minutes)
Shuttle Bus Queue	3,050	20

- It is expected to take between one hour and an hour and fifteen minutes to clear the shuttle bus area.
- This queue will require a minimum queuing space of approximately 25,000 sf.

Key Findings for Year of Opening Event - 2018

Many more event patrons will want to drive directly to the event than can be accommodated by the parking on-site or within walking distance. This could result in significant traffic congestion, circulation trying to find a space, illegal parking and overall frustration. An event Transportation Management Plan (TMP) is needed to safely and efficiently get event patrons to and from the event while minimizing impact to the local business and residents.

- For a weekend event, it is expected that approximately 10 to 15 percent of event patrons will walk, bike, or take local bus locally to the site, and approximately 10 percent of event patrons will be able to park on-site or off-site within a walking distance. The remaining 75 to 80 percent of patrons are expected to use LRT/BRT and shuttle buses.
- Approximately 35 percent of event patrons will be able to utilize LRT/BRT, however, the time to clear the site may slightly exceed one hour after the event and dependent on actual demand.
- The remaining 40 percent (45 percent on a weekday) will need to be shuttled to remote parking within two to three miles. This operation may need to utilize 40 to 50 buses, depending on where the remote parking is located. The time to clear the site may take slightly over one hour.
- Storage and waiting areas for pedestrians using transit or shuttle service will need to be defined and will require additional event staff outside of the facility to manage it.
- A minimum westbound LRT queueing area of approximately 16,500 square feet and minimum eastbound LRT queueing area of approximately 13,750 square feet would be necessary. The shuttle bus pedestrian queue will require a minimum queuing space of approximately 25,000 square feet. Both of these queues are expected to take just over one hour to clear out.
- The I-94/Snelling interchange is a key vehicular bottleneck in the system. Event patrons should be encourage to use adjacent interchanges when arriving and departing the event. Shuttle bus service along Saint Anthony may need to be reconsidered because of this bottleneck.
- The area has a significant amount of retail land use. Weekend (Saturday) events starting between 1:00 p.m. and 5:00 p.m. and ending between 3:00 p.m. and 7:00 p.m. place the event traffic during the busiest business times and background traffic. Capacity events should be encouraged for a 7:00/7:30 p.m. start time with departure at 9:00/9:30 p.m.

Year 2035 Event Conditions

To identify potential impacts associated with the proposed soccer stadium events under full build conditions, traffic forecasts for year 2035 conditions (i.e. year of full build of adjacent development) were reviewed. The year 2035 conditions take into account general area background growth, trips generated by the adjacent buildings on the proposed site, and the additional trips generated by a soccer stadium event. The proposed soccer stadium has the potential to expand to a capacity of 25,500 by the year 2035, therefore, this analysis will consider this larger event attendance in addition to the adjacent development. The following sections provide details on the background traffic forecasts, estimated trip generation, and intersection capacity analysis for year 2035 conditions.

Trip Generation - To account for traffic impacts associated with the proposed stadium development, trip generation estimates for weekend afternoon event (match starting at 2:00 p.m.) were developed. The highest background traffic is generated by the near-by retail land uses, connections to other destinations and access to I-94.

Transportation Mode

The year 2035 event transportation mode share is presented below. These are expected to differ from the mode share values in the year 2018.

Walk/Bike/Local Bus/Private Shuttle/Charter Bus would combined total of these modes would accommodate 3,500 (14 percent) for a weekday match and 4,600 (18 percent) for a weekend match. Higher share than in 2018 due to the proposed land uses including residential and hotel.

Drive to Site - On-Site Parking is expected to keep changing as development occurs. For year of opening, it is expected that approximately 2,000 vehicles may be able to park on-site, which will equate to approximately 5,525 fans or 22 percent of fans for a capacity event.

Drive to near Site - Off-Site Adjacent Parking takes into account parking not on site, but within walking distance of the stadium. An assumption was made that a minimum of approximately 350 parking spaces, accommodating 1,000 fans, or 4.5 percent.

Arrive on Green Line LRT or A-Line BRT**.** The LRT mode share was identified that with a full one-hour utilization of both the eastbound and westbound LRT, approximately 6,200 fans or 24 percent will be able to utilize the LRT to arrive at the proposed stadium. The A-Line BRT is not operational until summer of 2016, based on the crush load and expected occupancy of the BRT buses, approximately 700 attendees or three percent of event fans.

Shuttle Buses to Remote Parking. The remaining event patrons would be take another mode. The proposed mitigation strategy has been proposed to provide a shuttle service to off-site parking facilities. Based on the crush load and 100 to 120 bus trips, approximately 7,150 (weekend) to 8,250 (weekday) fans or 28 to 33 percent will utilize the shuttle bus service. Remote parking locations have not been confirmed.

The capacity of the stadium is expected to be approximately 25,500 patrons in year 2035. The trip generation estimates, shown in **Table S-4** (person trips, not vehicle trips), were developed using the described mode share.

Table S-4
Person Trip Generation Estimates – 25,500 Patrons

Modes	Percent of Total	Weekday		Percent of Total	Weekend	
		Arrival	Departure		Arrival	Departure
Non-Auto or LRT/BRT	14.0%	3,515	3,515	18.1%	4,605	4,605
On Site Parking	22.0%	5,650	5,650	22.0%	5,650	5,650
Off Site Parking	4.5%	1,155	1,155	4.5%	1,155	1,155
LRT/BRT	27.3%	6,960	6,960	27.3%	6,960	6,960
Off-Site Shuttles	32.2%	8,250	8,250	28.1%	7,150	7,150
Totals	100.0%	25,500	25,500	100.0%	25,500	25,500

Traffic Analysis – Year 2035 Event Conditions

Based on the traffic analysis for the 25,500 capacity event and future development, congestion is observed at the following:

- During the arrival peak hour on a weekend afternoon, there is expected to be queuing in the northbound direction of Snelling Avenue from south of Selby Avenue to the I-94 interchange. This is due to the eastbound left-turning volume at Snelling Avenue and Concordia Avenue intersection coming from I-94 heading to the on-site event parking ramp along Snelling Avenue. Poor intersection operations and queuing are expected on Concordia Avenue and the I-94 eastbound off-ramp west of Snelling Avenue and Northbound Snelling Avenue from Concordia Avenue to Selby Avenue.
- During the departure peak hour, the analysis identified congestion at the Snelling Avenue and Shields Avenue intersection and along the driveways on Pascal Street. Traffic volumes during the exiting peak hour are large along Snelling Avenue, and with much of the traffic destined to the westbound I-94 on-ramp, significant southbound right-turn queueing from St. Anthony Avenue to Shields Avenue and westbound thru traffic on St Anthony at Snelling Avenue. This is due to the added parking on the west side of the site along Snelling Avenue. Because these two major movements conflict with one another queues are expected in both directions. This queueing on St. Anthony Avenue could spill back from Snelling Avenue to Pascal Street and have an effect of a rolling queue from the parking lot exit on Pascal Street. Because of the amount of volume on Pascal Street after a match, driveway access from Midway Shopping Center, Walmart, and Cub will be difficult.
- The site is expected to take approximately one and a half to two hours to clear with the on-site parking to be the last to clear.

- The event arrival conditions (queues and poor LOS) at Snelling Avenue and Concordia Avenue and almost two hours to leave the site do not meet expectations for an event.

Key Findings for Year 2035 Capacity Event

Additional findings beyond those for year of opening (2018):

- The site will continue to change as re-development occurs. An updated TMP should be prepared each year to account for the changes.
- The additional on-site parking, all located along Snelling Avenue, departing at one access point, is challenging. **The on-site parking will require one and a half to *two hours* to clear.**
- Additional parking should be found away from the site and have good access to the other interchanges to I-94, not Snelling Avenue.
- In order to clear event traffic in one hour (besides on-site vehicles), slightly more shuttle bus service may be needed. It is expected that the new residential uses, office, and hotel will result in more event patrons walking to the event.
- Weekend start times should be even more encouraged to start later in the day, although, the significant amount of vehicles departing from the site at Shields Avenue after an event will be problematic any time.
- Issues are expected along Snelling Avenue during both the arrival and departure peak hours. During arrivals, the eastbound left-turning volume at the Concordia Avenue/Snelling Avenue intersection is expected to back-up onto the Snelling Avenue exit ramp and potentially onto I-94. Additionally, the northbound direction of Snelling Avenue between Concordia Avenue and Selby Avenue is expected to be congested. Typically, other event arrivals do not result in such poor operations.
- During the departure peak hour, poor operations are expected when exiting the site through the Snelling Avenue and Shields Avenue intersection. With the majority of these vehicles destined to I-94 westbound, the Snelling Avenue and St. Anthony Avenue intersection is expected to be over capacity and will not be able to accommodate all of the event traffic within one hour. It is expected to take **one and a half to two hours** to clear event traffic.
- These event departure issues along Snelling Avenue are expected to impact the shuttle bus delivery and pick-up area along St. Anthony Avenue. Due to these impacts, the shuttle bus area may not be able to clear the shuttle pedestrian queue within a one hour timeframe.
- These potential traffic issues will need to be evaluated with any expansion plans in the future.

Mitigation Measures

This section relates to mitigation needed based on the re-development of the entire site and not related to traffic generated by an event at the soccer stadium. It is important to remember that the proposed plan has just a slight increase in the amount of retail space compared to the existing site. The retail trips are more local in nature. The site does propose new office space of around 1 million square feet. These trips are typically more regional.

At the completion of full development, the new improvements should include the following:

Internal roadway system connections to public roadways

1. Two internal north-south roadways that connect to University Avenue (partial access; right-in/right-out only) and the easterly north-south roadway connecting to Saint Anthony as a right-in/right-out access and western north-south roadway terminating in the site.
2. Two east-west roadways that connect Snelling Avenue and Pascal Street
    a. Extension of Spruce Tree would have modified access resulting in right-in/right-out only movements with the traffic signal removed at Snelling Avenue and full access at Pascal Street
    b. Extension of Shields Avenue would result in a new full access signalized access at Shields Avenue and full access with potential of a traffic signal at Pascal Street
3. Pedestrian and bike accommodations internal to the site

Around the Site

4. Pedestrian sidewalk should be provided around the perimeter of the site, with a minimum width of eight feet.
5. Bike racks for a minimum of 400 bicycles should be provided.

Snelling Avenue – University Avenue to Shields Avenue

To address the close spacing of the Spruce Tree and University Avenue intersection;

6. Spruce Tree intersection
    a. Add a center median to only allow right-in/right-only access
    b. Remove the traffic signal ("relocated" to Shields Avenue)
7. University Avenue Intersection
    a. Extend Northbound left-turn lane from 50 feet to 250 feet
8. Shields Avenue
    a. New traffic signal ("relocated" from Spruce Tree Avenue)
    b. Add Southbound left-turn lane
    c. Two-lanes of approach for eastbound Shields Avenue (check alignment across intersection); left-thru lane and a right-turn lane (may be convertible to parking in off-peak hours)
    d. Three-lanes of approach for Westbound Shields Avenue with two providing left-turn movements; left-turn lane, left-thru lane and right turn lane

e. Traffic signal phasing can vary throughout the time of day, depending on traffic volume demand. It is expected that the new signal controller and signal heads will be able to accommodate both phasing options presented:
    i. Westbound protected/permissive (i.e flashing yellow arrow) left-turn phasing with no eastbound left-turn phasing (more efficient)
        1. Best operation with an assumed 20 foot wide pedestrian crossing only on the north side
        2. This option is recommended to be run during all peak hours
    ii. Split Phasing
        1. Pedestrian crossing only on the north side
        2. This may be run in off peak times

Pascal Street – University Avenue to Saint Anthony Avenue

With the new land use; access points should align across Pascal and left-turn lanes provided.

9. Shields Extension – New traffic signal (when warranted)
10. Re-stripe Pascal to provide a three-lane roadway (one thru lane in each direction with left-turn lane) with the additional space as a for the existing bicycle facility. Maintain Northbound left-turn lane at University Avenue and add Southbound right-turn lane at Saint Anthony
11. Sufficient width and right-of-way should be obtained to provide a five-lane roadway if needed in the future.
12. Saint Anthony – Install a permanent traffic control signal

Marshall Avenue / Hamline Avenue Intersection

The site does not generate much traffic going through this intersection, but enough to cause the intersection to be unacceptable. The operations can be mitigated with two solutions:

13. Add an Eastbound right-turn lane during the p.m. peak hour by restricting 100 feet of parking along Marshall Avenue.
    a. Alternative would be to add northbound and southbound left-turn lanes.
    b. This improvement is not needed with the initial development phases.

Snelling Avenue from University Avenue to Selby Avenue

The expected additional development generated traffic is expected to be a small increase south of the I-94 interchange, we know that today queues can somedays back from the I-94 Southbound ramp intersection onto the freeway. Snelling Avenue south of the interchange can feel congested with the number of vehicles changing lanes to Selby Avenue and queues blocking unsignalized intersections during the peaks.

14. Update traffic signal timing along Snelling Avenue for the six intersections for each phase of development.

Policy Measures

Encourage use of Transit

The site is served by great transit facilities with Central Corridor LRT (Green Line) along University Avenue and a new BRT (Bus Rapid Transit) "A-Line" starting in summer of 2016.

15. Consider implementing TDMP (Travel Demand Management Plan) strategies with future re-development
16. Land use guidance to promote TOD (Transit Orientated Developed) and complementary land uses

Mitigation – Event (Year of Opening 2018 – Capacity of 20,000)

Mitigating an event requires a management strategy and elements of that strategy. Based on the modeling of the events, the following items are needed to be addressed in a Transportation Management Plan (TMP) in order to clear the event traffic within one hour. The transportation management plan should be started after the AUAR and continue to within a few months of the first event. The TMP committee should include MnUnited Soccer Team, RK Midway, City of Saint Paul Planning and Public Works, Metro Transit, Ramsey County Public Works, MnDOT and FWHA. They should meet prior to every MLS soccer season to discuss potential modification to the site plan or transportation system.

Develop Transportation Management Plan

1. Event Traffic Control Plan
   The event traffic control plan is how the actual day of the event will be managed outside of the physical stadium. This would include diagrams of routing event patrons, key conflict points would be managed by traffic control officers. Providing storage areas, etc.
   a. Traffic control officer locations
   b. Managed Storage Areas for Transit, Shuttle and Charter Bus
   c. Temporary lane or roadway closures
   d. Permanent or temporary barriers are needed to restrict uncontrolled pedestrian crossings on Snelling Avenue (median) and Pascal Street. Internal roadways and walkways will require barriers to direct pedestrian flow.
   e. Event traffic signal timing plan
2. Parking Plan
   On-Site Parking is only expected to accommodate approximately 10 percent of a capacity crowd. There will be more demand for parking near the facility than can be accommodated. To reduce congestion and frustration caused by vehicles trying to find parking, communication must be stated that if you do not have a reserved parking space for the event, then please take transit or shuttle buses from (list where they can park and ride transit/shuttle service). Parking on-site and immediately (within one mile) near-by should be assigned and purchased with the tickets. Potentially, this should be considered for all locations in order to minimize confusion and maximize efficiency.
3. Transit Plan
   Metro Transit is currently working with a transit consultant to work through some of the potential issues for transit before and after events. Expectations are that LRT, A-Line BRT and regular bus service are expected to accommodate approximately 35 percent of a capacity event. The project will need to work with Metro Transit to provide as much capacity for event arrival and departure as possible.

4. Shuttle Service to Remote Parking Plan
   Expectation is this shuttle service to remote parking would accommodate around 40 to 45 percent of a capacity event. This would result in approximately 115 to 130 bus trips with a crush-load of 70 people and require 40 to 50 buses depending on the location of the remote parking. Two key elements of the shuttle service is the amount of space on-site required to stage event patrons waiting for the shuttles and finding remote parking areas within a reasonable distance.
5. Routing and Wayfinding Plan
   All event patrons are pedestrians at some point of their trip to or from the Stadium. The team will need to provide direction to Snelling Avenue LRT Station, A-Line BRT Station (University Avenue Station), Charter Bus/Private Shuttle Bus, Shuttle Bus service to remote parking (and perhaps more than one destination) and parking lots. This information is needed on-site, but other off-site signage and wayfinding maybe needed. The intent is provide the most efficient, safe and easy to understand plan to have a great patron experience.
6. Communication and Education Plan
   The technical analysis and the other plans need to be communicated to the event patrons, local businesses/residents and those who drive/walk/bike or take transit through the area. The transportation system will need its full capacity to accommodate the arrival and departure of the event. This information can be mailed to ticket holders, websites, on parking vouchers, with any ticket purchase, media outlets, email notifications to anyone, etc. Most importantly, not enough on-site parking with be available for the potential demand, and therefore event patrons need to use transit or shuttle bus service to remote parking
7. Incident Management and Safety Plan
   This would be completed by emergency responders. It would cover situations in the case of an incident or issue at the stadium.
8. Other Considerations
   Other items to consider that impact the transportation event include existing usage of the transportation system, how to manage the event by spreading out the peak demand and how the site might develop resulting in adaption of the plan to new conditions.
   a. Continue the transportation committee (TAC) to meet at least twice a year to discuss event scheduling, transportation issues, improvements, etc.
   b. With the amount of retail land use in the area, the existing volumes are high until 6:30 p.m. on both weekdays and weekends. Recommend considering games begin at 7:00 p.m. or later.
   c. Avoid over-lapping events at the University of Minnesota (TCF Bank), State Fair (operates for twelve days from late August into early September, ending on Labor Day) and Vikings (US Bank Stadium), as these events will likely consume remote parking, transit capacity and regional roadway capacity.
   d. The team should consider activities/concerts/etc. before and after match events to spread out arrival and departure times. Work with local businesses to participate or lead such events.
   e. Consider pre-sale of parking at all venues including on-site, near-by, and remote parking facilities. This will guarantee a parking space, reduce circulation and patron confusion and frustration.

f. Consider pre-sale (and open marketing) of bike spaces, and transit and shuttle to remote parking. Limit money transfer to speed up process.
g. Identify an Event Transportation Manager for the Stadium
h. TMP needs to adapt as site changes

Items that need to be incorporated into the Year of Opening Plan Mitigation

1. Transportation Management Plan that includes event traffic control, parking, transit, shuttle service, routing and wayfinding, and communication and education.
2. Create a transportation management committee. Stakeholders should include MnUnited Soccer Team, RK Midway representative, City of Saint Paul Planning and Public Works, Metro Transit, Ramsey County Public Works, MnDOT and FHWA.
3. Fencing down the median of Snelling Avenue and allowance for future boulevard fencing on the west side of Pascal Street (permanent or temporary)
4. Providing shuttle service to remote parking
5. Site Plan
    a. Identification of transit, charter bus, private shuttle and shuttle bus loading and unloading areas
    b. Sufficient waiting areas for transit, charter bus, private shuttle and shuttle bus patrons
    c. Identification of taxi and drop-off/pick-up areas
    d. Identify bike parking facilities

Mitigation – Event (Future Expansion – Capacity of 25,500)

The mitigation of event would be similar to the year of opening plan. It will also have the benefit of knowing how the transportation is working on the site. Without any increase in Metro Transit's capacity to accommodate event patrons, the additional 5,500 patrons would need to be accommodated by on-site parking and shuttle bus service, as transit service is assumed at capacity. The expected proposed on-site parking would be available in the office developments along Snelling Avenue. This will result in adding traffic to the busiest roadway and a key interchange (I-94/Snelling) in the transportation network. Only so many additional cars can be added and this becomes more challenging when the event is scheduled on a Saturday starting at 2:00 to 4:00 p.m. and ending around 4:00 or 6:00 p.m., as the area is very active.

The additional parking spaces is planned to be in the office parking ramp along Snelling Avenue. This ramp is only served by one access point and would result in the event arrival conditions (queues and poor LOS) at Snelling Avenue and Concordia Avenue and almost two hours to leave the site. This condition does not meet expectations set for the event. These potential traffic issues will need to be evaluated with any expansion plans in the future. No additional mitigation is proposed because so much will possibly change between the year of opening and the full development and potential expansion of the stadium capacity. All stakeholders would have the ability to see how the existing facility operates and how to improve it under changes in the future.

Introduction

SRF has completed a transportation study for the proposed soccer stadium and surrounding mixed-use development located in the southeast quadrant of the University Avenue/Snelling Avenue intersection in St. Paul, MN (see Figure 1: Project Location). The main objectives of this study are to review future traffic operations within the study area, evaluate development traffic impacts to the adjacent roadway network, including the proposed site access and internal circulation, evaluate traffic impacts, and recommend any necessary improvements to accommodate the proposed developments. The future analysis will include analysis of both development related impacts and soccer stadium events. The future development will be analyzed under full build out conditions and for purposes of the study are expected to be completed by year 2035. The soccer stadium events will be analyzed for both a year of opening condition (20,000 seat stadium), and for purposes of the study future year 2035 (25,500 seat stadium) condition. The following information provides the assumptions, analysis, findings and recommendations offered for consideration. These assumptions were derived from a series of six sub-TAC meetings comprised of consultant, City, County, State, and FHWA staff in order to achieve concurrence.

Existing Traffic Volumes

The existing traffic volumes were reviewed during eight (8) different time periods to establish a baseline in order to identify any future impacts associated with the proposed development and during expected soccer stadium event times. The evaluation of existing conditions includes turning movement and field observations. It should be noted that there will not be an intersection capacity analysis completed for existing conditions as part of this study.

Data Collection

Peak hour turning movement counts were collected during the following time periods:

a) Weekday 7:30 a.m. to 8:30 a.m.
b) Weekday 4:45 p.m. to 5:45 p.m.
c) Weekday 6:00 p.m. to 7:00 p.m.
d) Weekday 9:00 p.m. to 10:00 p.m.
e) Saturday 1:00 p.m. to 2:00 p.m.
f) Saturday 4:00 p.m. to 5:00 p.m.
g) Saturday 6:00 p.m. to 7:00 p.m.
h) Saturday 9:00 p.m. to 10:00 p.m.

Existing traffic volumes were collected at locations shown in Figure 2. The time periods collected included a.m. and p.m. peak hours, and one hour before and after expected weekday and weekend Major League Soccer (MLS) games. A typical weekday game time is 7:00 p.m., while weekend games are typically between 2:00 p.m. and 7:00 p.m.

H:\Projects\09000\91541TS\Figures\Fig01_Project Location.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Project Location

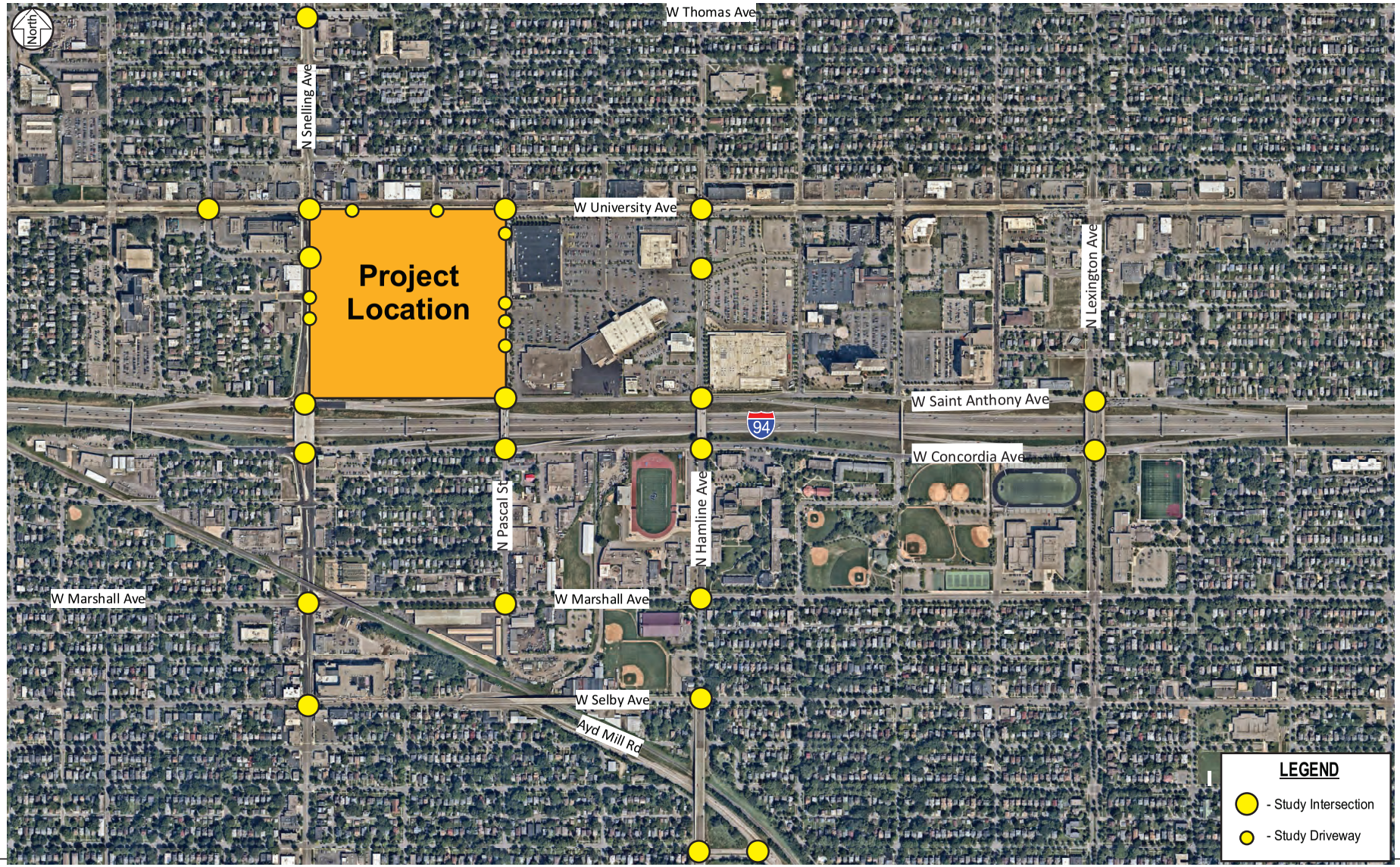
Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 1

In addition to the intersection turning movement counts and average daily traffic volumes (provided by the Minnesota Department of Transportation), observations were completed to identify roadway characteristics within the study area (i.e. roadway geometry, posted speed limits, and traffic controls). The posted speed limit along all study roadways is 30 miles per hour. Existing geometrics, traffic controls, and volumes for the a.m. and p.m. weekday peak hours in the study area are shown in Figures 3A and 3B. The remaining traffic volumes for the other time periods collected are shown in Appendix A. It should be noted that the midday peak hour was considered, however, the a.m. and p.m. peak hour experiences significantly higher volumes along Snelling Avenue for commuter peaks and therefore were selected. Additionally, the a.m. and p.m. peak hour peaks were selected based on the significant office component of the proposed development, which tends to peak during weekday a.m. and p.m. peak hours and not midday or weekend peaks.

Intersection Capacity Analysis

An existing intersection capacity analysis was not completed for the existing hours collected. These were deemed unnecessary as the future year 2035 no build conditions would be analyzed and these would be the comparison for the year 2035 build conditions. The year 2035 no build conditions are expected to be similar to the existing conditions due to the minimal background growth. The proposed development is expected to be built in several phases, and therefore not completed for the purpose of the study until year 2035.



H:\Projects\0900\09154\TS\Figures\Fig02_Data Collection Locations.pdf

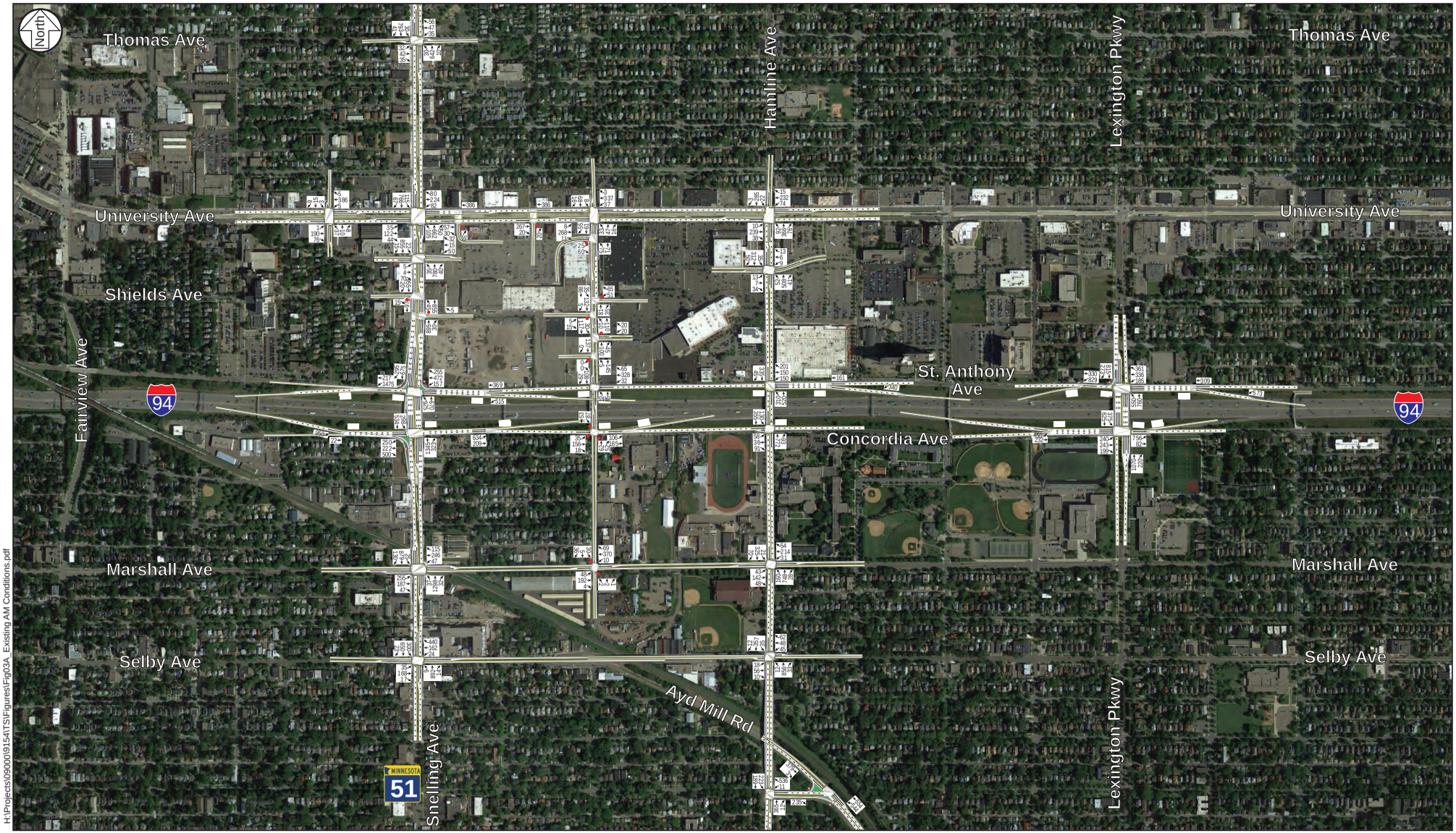
SRF Consulting Group, Inc.

0169154
April 2016

Data Collection Locations

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 2



H:\Projects\09000\9154\TS\Figures\Fig03A_Existing AM Conditions.pdf

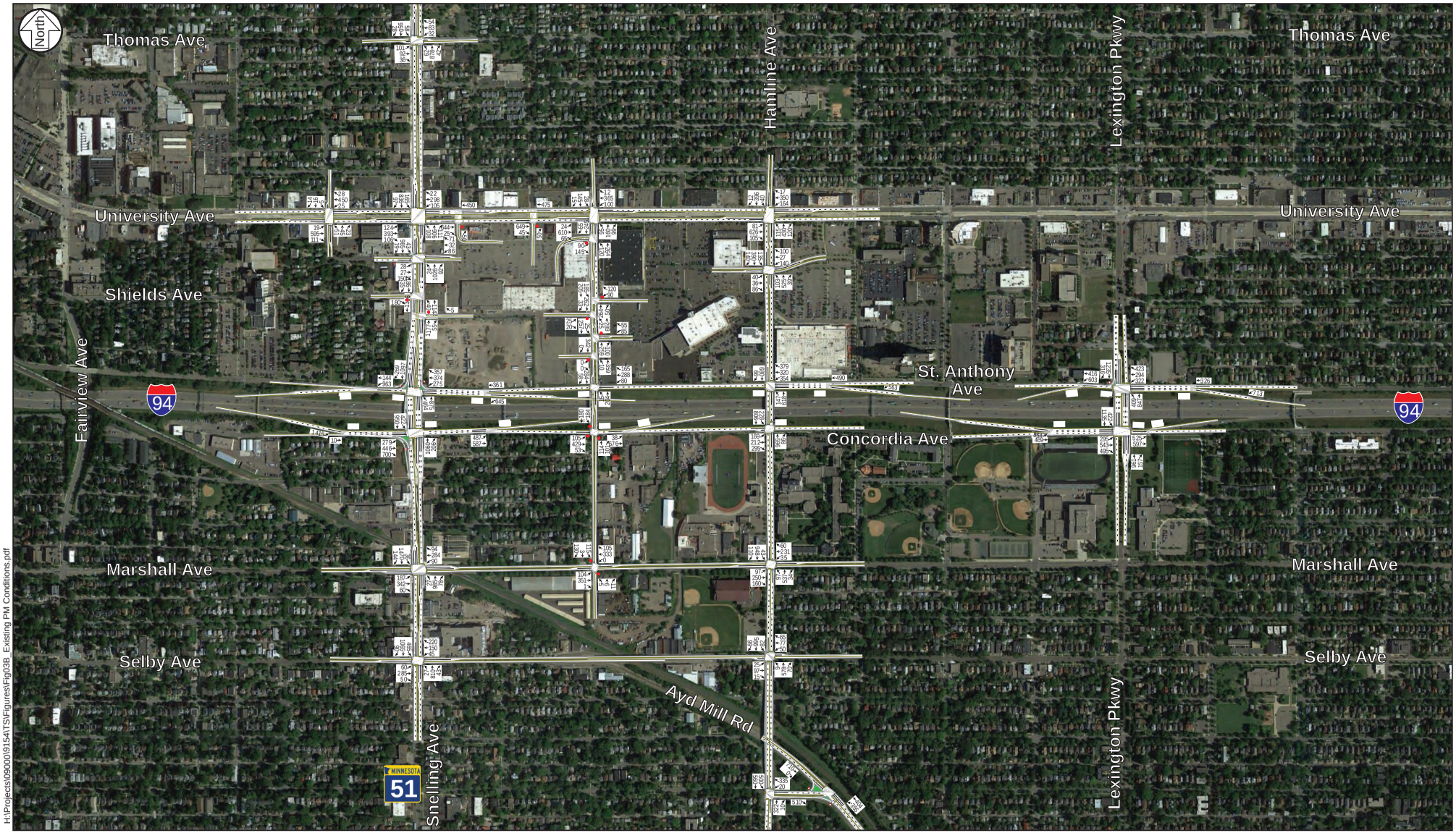
SRF Consulting Group, Inc.

0169154
April 2016

Existing Weekday AM Peak Conditions

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 3A



H:\Projects\09000\9154\TS\Figures\Fig03B_Existing PM Conditions.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Existing Weekday PM Peak Conditions

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 3B

Year 2035 No Build Conditions

Traffic Forecasts

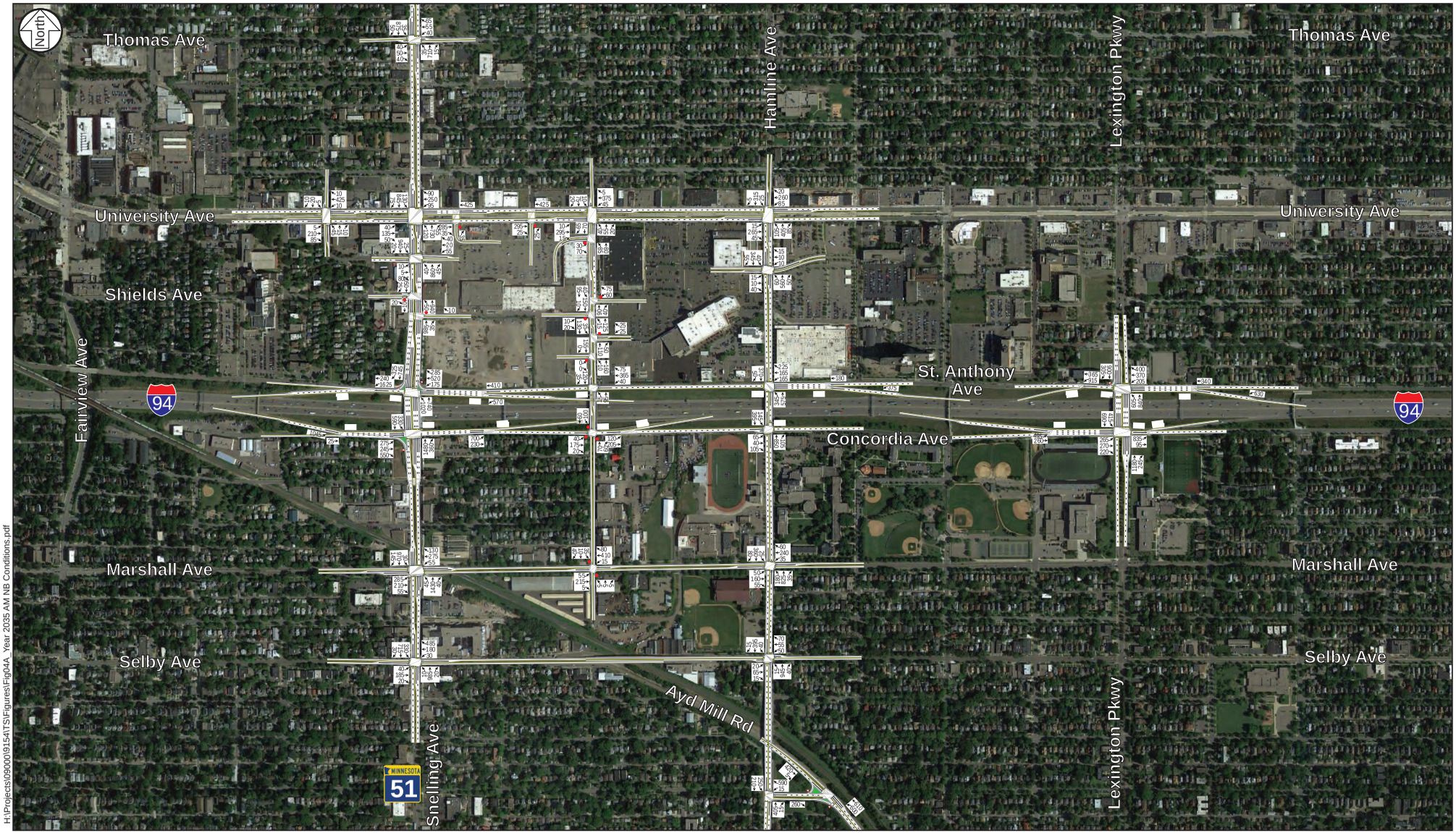
To determine the operational impact of the proposed development, a no build scenario was analyzed using the year 2035 traffic volumes and existing geometrics. Traffic forecasts were developed for year 2035 no build conditions (proposed year of full build out for purpose of the study) using an annual background growth rate of one-half percent. The annual background growth rate is based on results from the Twin Cities Regional Travel Demand Model. This growth rate provides a conservative approach and is consistent with previous traffic studies done in the area. The resultant year 2035 traffic forecasts for the a.m. and p.m. weekday peak hours, which include general background growth and trips generated by the proposed development, are shown in Figures 4A and 4B.

Intersection Capacity Analysis

The study intersections were analyzed using Synchro/SimTraffic (V9). Capacity analysis results identify a Level of Service (LOS), which indicates the quality of traffic flow through an intersection. Intersections are given a ranking from LOS A through LOS F. The LOS results are based on average delay per vehicle, which correspond to the delay threshold values shown in Table 1. LOS A indicates the best traffic operation, with vehicles experiencing minimal delays. LOS F indicates an intersection where demand exceeds capacity, or a breakdown of traffic flow. Overall intersection LOS A through LOS D is generally considered acceptable in the Twin Cities Metro Area for weekday peak hour traffic, but not for event traffic. LOS D describes operations with moderate traffic control delay. This level is typically assigned when the volume is nearing the capacity of the intersection where progression along the corridor is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures (i.e. not getting through during the green time) are noticeable. Events are intense peak flows resulting in intersections operating at LOS F, so mitigation strategies are needed to manage the large peak flow. The duration of the impacts from event traffic is measured as a level of effectiveness for the events. For this size venue, event traffic should dissipate in around one hour.

Table 1. Level of Service Criteria for Signalized and Unsignalized Intersections

LOS Designation	Signalized Intersection Average Delay/Vehicle (seconds)	Unsignalized Intersection Average 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



H:\Projects\0900091\54\TS\Figures\Fig04A_Year 2035 AM NB Conditions.pdf

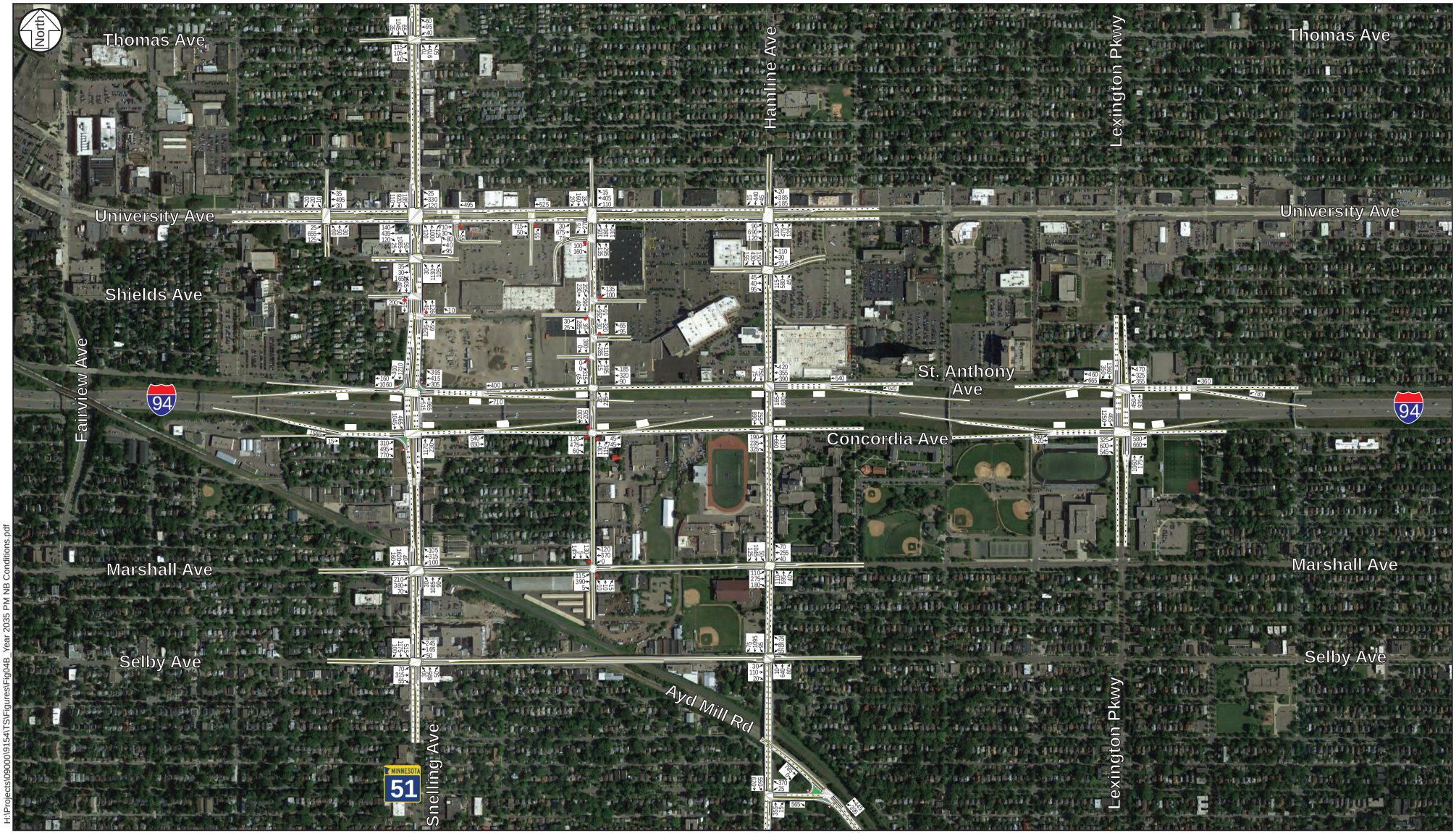
SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 AM Peak No Build Conditions

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 4A



H:\Projects\0900091\54\TS\Figures\Fig04B_Year 2035 PM NB Conditions.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 PM Peak No Build Conditions

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 4B

For two-way stop controlled intersections, special emphasis is given to providing an estimate for the level of service of the side-street approach. Traffic operations at an unsignalized intersection with side-street stop control can be described in two ways. First, consideration is given to the overall intersection level of service. This takes into account the total number of vehicles entering the intersection and the capability of the intersection to support these volumes.

Second, it is important to consider the delay on the minor approach. Since the mainline does not have to stop, the majority of delay is attributed to the side-street approaches. It is typical of intersections with higher mainline traffic volumes to experience high levels of delay (i.e. poor levels of service) on the side-street approaches, but an acceptable overall intersection level of service during peak hour conditions.

To determine if the existing roadway network can accommodate the year 2035 no build traffic forecasts, a detailed intersection capacity analysis was completed using Synchro/SimTraffic software. It should be noted that Snelling Avenue was recently reconstructed between Marshall Avenue and University Avenue and no further geometric changes are considered in the near future.

Results of the year 2035 intersection capacity analysis shown in Table 2 indicate that all study intersections are expected to operate at an acceptable overall LOS D or better during the a.m. and p.m. peak hour with the existing roadway geometry and traffic controls, except for the Snelling Avenue and Selby Avenue intersection during the a.m. peak hour, notably the westbound approach. It should be noted that optimized signal timing was assumed under future conditions. Additionally, access onto Snelling Avenue during the p.m. peak is expected to be difficult between I-94 and University Avenue and flow along Snelling Avenue south of the interchange is hindered by slower travel, high volumes and lane changing, however overall intersection LOS/delay is in the acceptable range. The full simulation results for year 2035 no build conditions are presented in Appendix B.

The significant delay at the Snelling Avenue and Selby Avenue intersection during the a.m. peak hour is caused by the significant westbound right-turning movement at the intersection.

During the p.m. peak hour, significant queuing is expected along Snelling Avenue between Concordia Avenue and Selby Avenue. While the overall intersection LOS is expected to remain at an acceptable overall LOS D, significant side-street delay is expected. These queuing and delay issues are a product of the significant eastbound right-turn from Concordia Avenue to southbound Snelling Avenue and the large southbound left-turn volume from Snelling Avenue to Selby Avenue.

An evaluation of the arterial LOS on Snelling Avenue from Thomas Avenue to Selby Avenue, based on travel speed through the corridor and guidelines in the HCM was completed. The results show that the year 2035 no build conditions yield an arterial LOS near the LOS D/E threshold during the p.m. peak hour. LOS D/E conditions represent an arterial speed of about 40 percent of the typical free-flow speed. This is consistent with the individual intersection LOS and shows the congestion on the Snelling Avenue corridor that drivers will experience.

Table 2. Year 2035 No Build Intersection Capacity Analysis

Intersection	A.M. Peak Hour	P.M. Peak Hour
	LOS	LOS
University Avenue/Fry Street	A	B
Snelling Avenue/Thomas Avenue	B	B
Snelling Avenue/University Avenue	C	D
Snelling Avenue/Spruce Tree Avenue	A	D
Snelling Avenue/Shields Avenue(1)	A/A	D/**F**
Snelling Avenue/Midway Shopping Center Driveway(1)	A/A	C/**F**
Snelling Avenue/St. Anthony Avenue	B	D
Snelling Avenue/Concordia Avenue	B	D
Snelling Avenue/Marshall Avenue	D	D
Snelling Avenue/Selby Avenue	**F**	D
University Avenue/West Midway Shopping Center Driveway(1)	A/A	A/A
University Avenue/East Midway Shopping Center Driveway(1)	A/A	A/A
University Avenue/Pascal Street	B	B
Pascal Street/North Midway Shopping Center Driveway(1)	A/A	A/C
Pascal Street/Walmart Driveway(1)	A/A	A/C
Pascal Street/South Midway Shopping Center Driveway(1)	A/A	A/A
Pascal Street/Cub Driveway(1)	A/A	A/A
Pascal Street/St. Anthony Avenue	B	B
Pascal Street/Concordia Avenue(2)	A	B
Pascal Street/Marshall Avenue(1)	A/B	A/C
University Avenue/Hamline Avenue	C	C
Hamline Avenue/Midway Marketplace	A	B
Hamline Avenue/St. Anthony Avenue	B	C
Hamline Avenue/Concordia Avenue	B	B
Hamline Avenue/Marshall Avenue	C	D
Hamline Avenue/Selby Avenue	B	B
Hamline Avenue/Ashland Avenue	B	B
Ayd Mill Road/Ashland Avenue	B	B
Lexington Avenue/St. Anthony Avenue	C	C
Lexington Avenue/Concordia Avenue	C	C

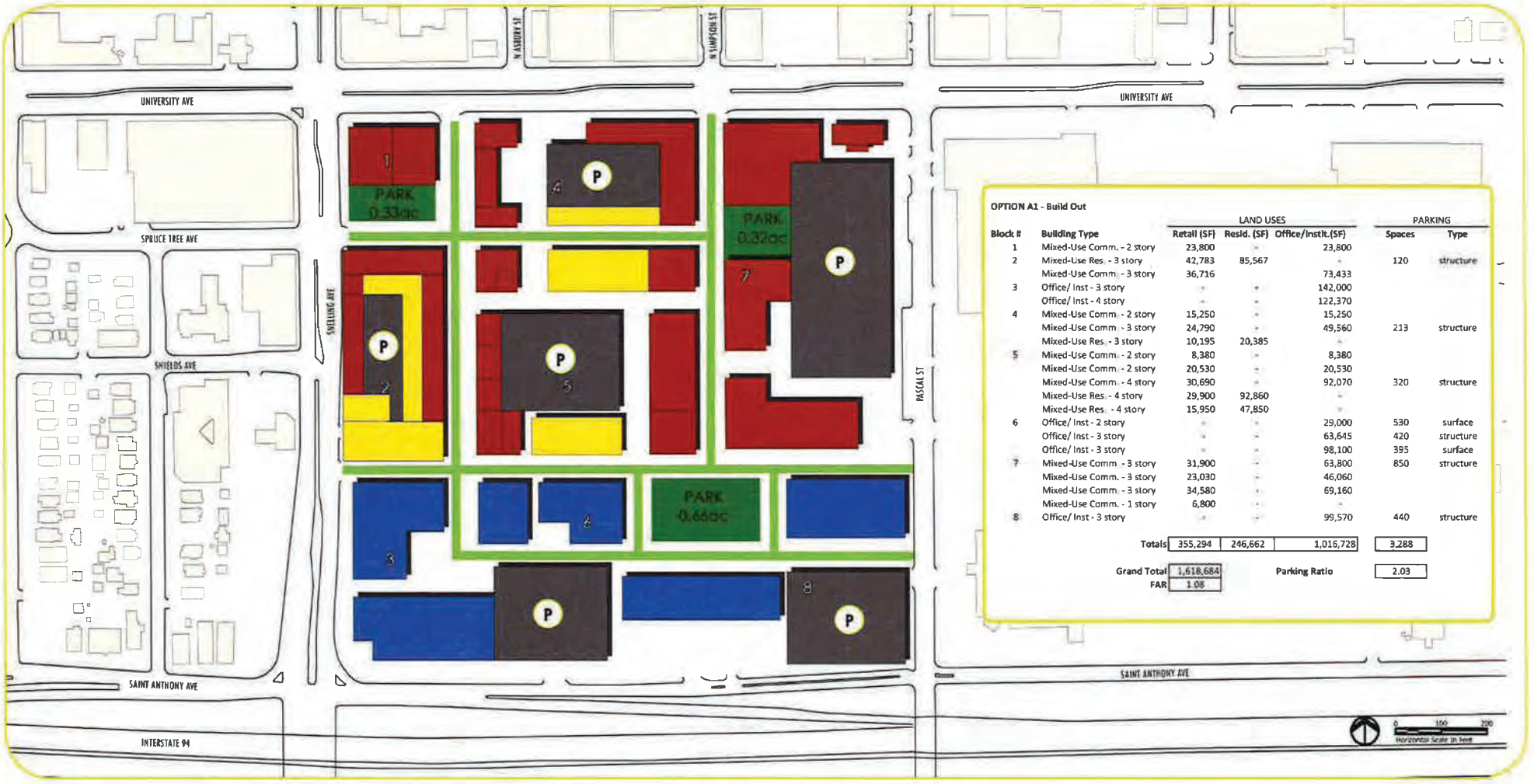
(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.
(2) Indicates All-Way Stop Control

Proposed Development

The proposed mixed-use development is bound by St. Anthony Avenue, University Avenue, Snelling Avenue, and Pascal Street. There are two different development scenarios for the proposed development. The two development scenarios contain similar land uses, however, the sizes of the specific land uses differ from one another. Scenario one is referred to as the Comprehensive Plan/Snelling Station TOD Development plan scenario, shown in Figure 5 and scenario two is referred to as the RK Midway Master Plan Development plan, shown in Figure 6. Under each plan the proposed development is expected to include a mixture of uses, including multi-family apartments, office, service retail type uses. In the RK Midway Master Plan, a 20,000 person capacity soccer stadium that is expandable to a capacity of 25,500 is also included. For purposes of this study, the proposed development was assumed to be fully operational by the year 2035. However, the proposed soccer stadium will be completed initially by year 2018. The Comprehensive Plan/Snelling TOD development framework has been accepted by the city and will be compared to the proposed Master Plan. The development scenario with a higher intensity of trip generation will be analyzed. Trips will be generated for both scenarios and compared with the existing site trips to find out the total of the new external trips to the network. The existing site is approximately currently 80 percent occupied.

Access to the proposed development is proposed at the following locations in year 2035, shown in Figure 7. The access modifications and mitigation to the existing site include:

- Modifying access at the Snelling Avenue and Spruce Tree Avenue intersection to a right-in/right-out only and relocate the traffic signal to a new full intersection at Shields.
    - This results in removal of the northbound and southbound left-turn lanes along Snelling Avenue. In conjunction, the northbound left-turn lane on Snelling Avenue at University Avenue is able to be lengthened.
- Constructing a westbound approach to the Shields Avenue and allowing for a full access intersection. It is expected that this intersection will become a signalized intersection under full build conditions.
    - A southbound left-turn lane would be constructed at Shields Avenue.
    - Westbound geometry is expected to include a left-turn lane, a shared left-turn and thru lane, and a right-turn lane.
- Realigning access on Pascal Street to line-up across from access points to Walmart and Cub.
    - Under full build conditions, there is potential that a traffic signal will be installed at the site access point (extension of Shields) that aligns with the Walmart driveway.



April 17, 2014

H:\Projects\09000\91541TS\Figures\Fig05_Site Plan.pdf

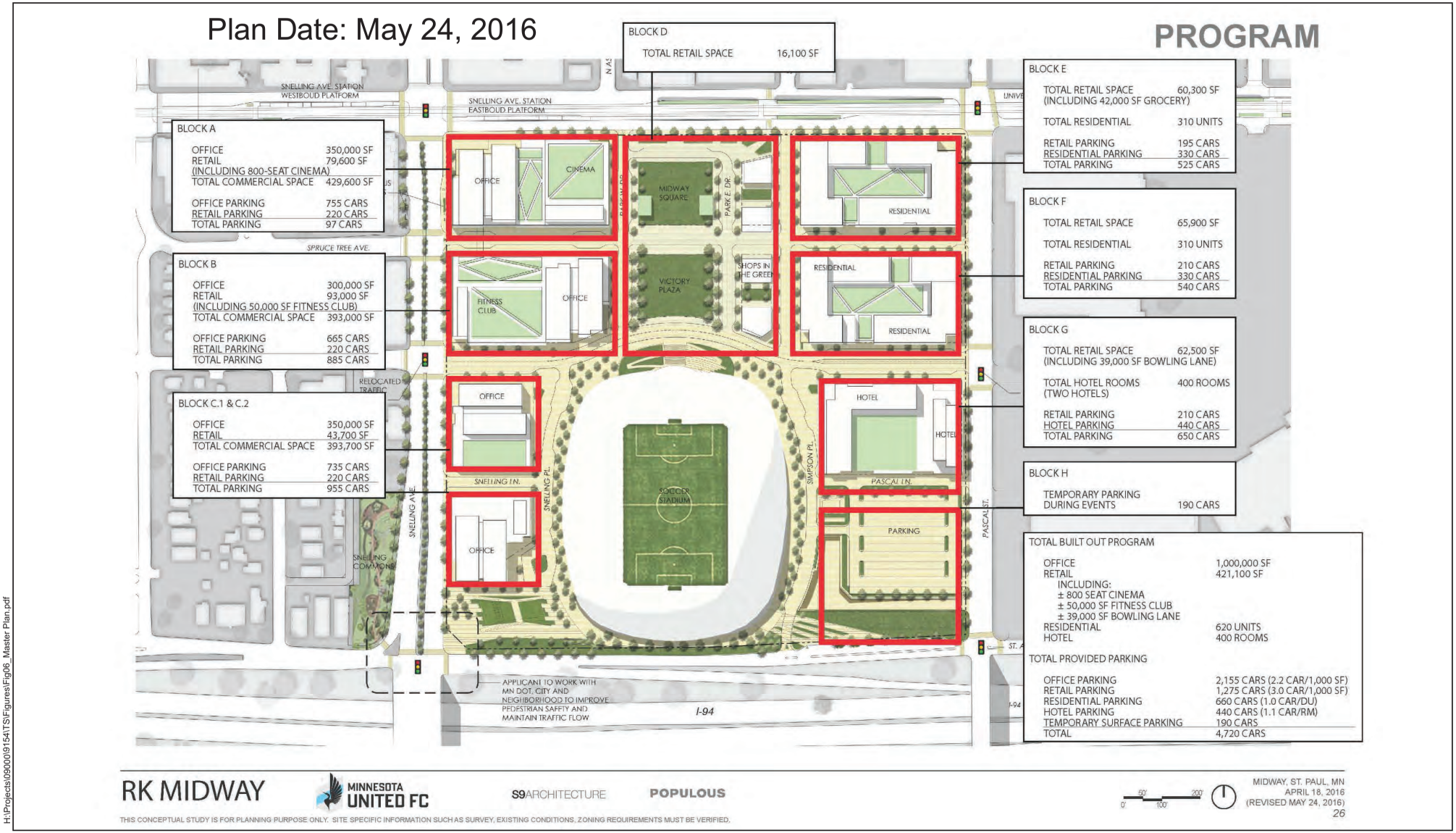
SRF Consulting Group, Inc.

0169154
April 2016

Snelling TOD Station/City Comprehensive Plan Site Plan

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 5



H:\Projects\09000\9154\TS\Figures\Fig06_Master Plan.pdf

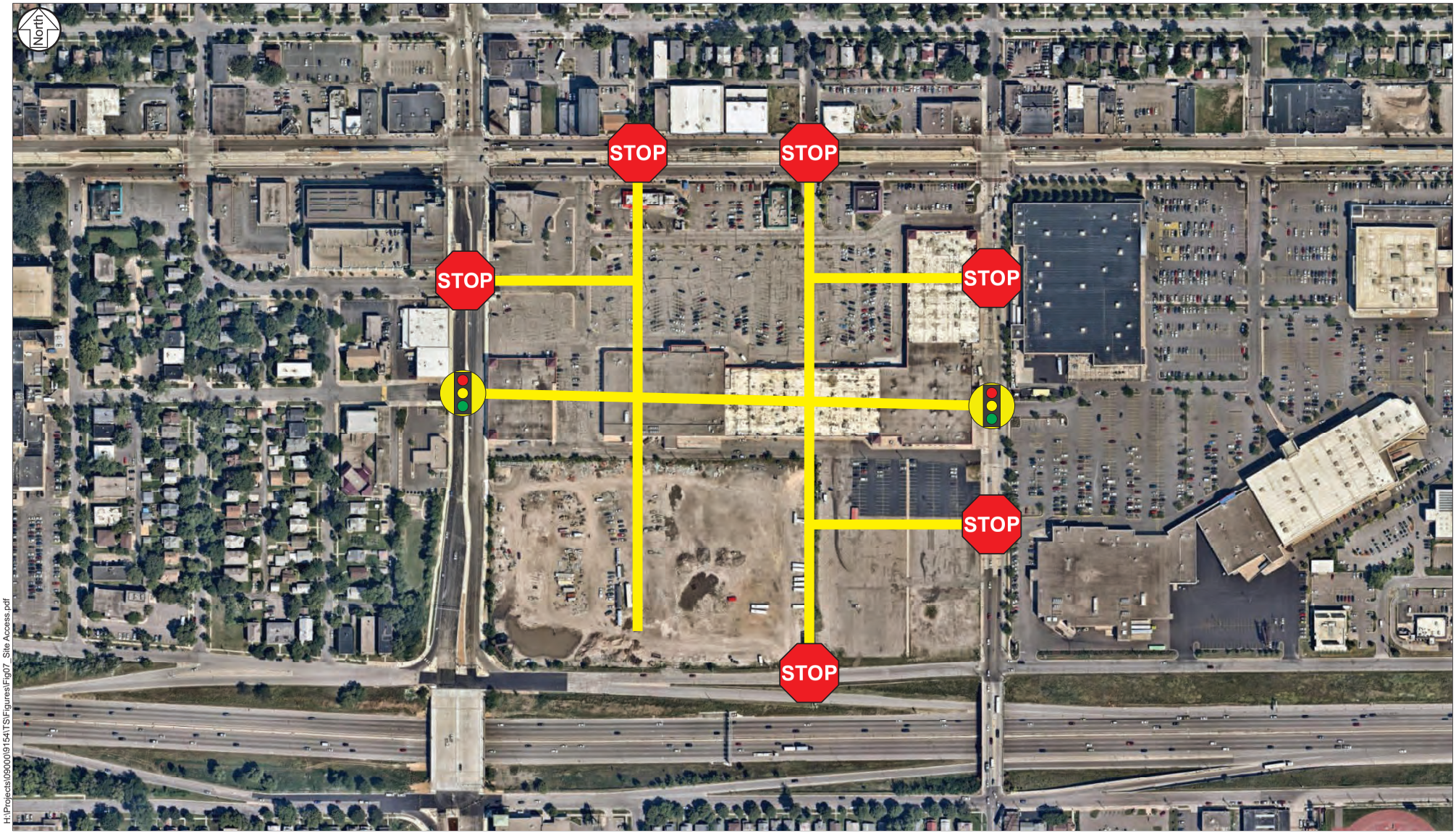
SRF Consulting Group, Inc.

0169154
April 2016

RK Midway Master Plan

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 6



H:\Projects\09000\91541\TS\Figures\Fig07_Site Access.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Proposed Site Access Plan

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 7

Trip Generation

In order to determine which development scenario would generate more external vehicle trips, a trip generation estimate for the proposed land uses in each plan was developed for the a.m. and p.m. weekday peak hours as well as a daily weekday basis. Trips are generated based on their land use sizes such as square footage, number of units, or seats. The trips are not generated based on the amount of parking spaces shown in the plans. Reductions were applied for trips between land uses (residential to retail) internal to the site, and for trips using other transportation modes besides a vehicle, and removal of the trips currently generated by the site.

The estimates for the Comprehensive Plan/Snelling Station TOD Development Plan from April 2014, shown in Table 3, were developed using the *ITE Trip Generation Manual, Ninth Edition*.

Table 3. Trip Generation Estimates – Comp. Plan/Snelling Station TOD Development Plan

Land Use Type *(ITE Code)*	Size	A.M. Peak Hour Trips		P.M. Peak Hour Trips		Daily Trips
		In	Out	In	Out	
Proposed Land Use						
Apartments *(220)*	225 Dwelling Units	23	92	91	49	1,496
General Office Building *(710)*	1,141,000 s.f.	1,566	214	289	1,411	12,585
Shopping Center *(820)*	355,000 s.f.	211	130	632	685	15,159
Total Trips		**1,800**	**436**	**1,012**	**2,145**	**29,240**
Internal Multi-Use Trip Reduction (10%)		**180**	**44**	**101**	**214**	**2,924**
Subtotal of External Trips		**1,620**	**392**	**911**	**1,931**	**26,316**
External Trip Mode Share						
Walk – 3%		49	12	27	58	789
Bike – 2%		32	8	18	39	526
LRT – 10%		162	39	91	193	2,632
Bus – 5%		81	20	46	97	1,316
Vehicle – 80%		1,296	313	729	1,544	21,053
Existing On-Site Trips (80% Occupied)		298	257	539	574	13,000
Total New External Vehicle Trips		**998**	**56**	**190**	**970**	**8,053**

Results of the trip generation estimates indicate the proposed development is expected to generate a total of approximately 1,054 a.m. peak hour, 1,160 p.m. peak hour and 8,053 daily *additional trips* to the network. This accounts for a 10 percent multi-use reduction (internal trips), which was developed based on the methodology within the *ITE Trip Generation Manual, Ninth Edition* and NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.*

Additionally, a mode share was completed using results from the Twin Cities Regional Model and the Ford Site Mode Share Methodology completed by SRF Consulting Group. This mode share provides an estimate of multi-modal reductions and can be increased for non-vehicular traffic with the implementation of travel demand management (TDM) measures. With a higher non-vehicle share, traffic impacts would be expected to be less.

The estimates for the RK Midway Master Plan Development Plan from May 24, 2016, shown in Table 4, were developed using the *ITE Trip Generation Manual, Ninth Edition*.

Table 4. Trip Generation Estimates – RK Midway Master Plan Development Plan

Land Use Type *(ITE Code)*	Size	A.M. Peak Hour Trips		P.M. Peak Hour Trips		Daily Trips
		In	Out	In	Out	
Proposed Land Use						
Apartments *(220)*	620 Dwelling Units	63	253	250	135	4,123
General Office Building *(710)*	1,000,000 s.f.	1,373	187	253	1,237	11,030
Shopping Center *(820)*	278,000 s.f.	165	101	495	536	11,871
Hotel *(310)*	400 rooms	125	87	122	118	3,268
Movie Theater *(445)*	800 Seats	0	0	23	41	1,000
Fitness Club *(492)*	50,000 s.f.	35	35	101	76	1,647
Supermarket *(850)*	42,000 s.f	89	54	203	195	4,294
Total Trips		**1,850**	**717**	**1,447**	**2,338**	**37,233**
Internal Multi-Use Trip Reduction (15%)		**278**	**108**	**217**	**351**	**5,585**
Subtotal of External Trips		**1,572**	**609**	**1,230**	**1,987**	**31,648**
External Trip Mode Share						
Walk – 3%		47	18	37	60	949
Bike – 2%		31	12	25	40	633
LRT – 10%		157	61	123	199	3,165
Bus – 5%		79	31	62	99	1,582
Vehicle – 80%		1,258	488	984	1,589	25,318
Existing On-Site Trips (80% Occupied)		298	257	539	574	13,000
Total New External Vehicle Trips		**960**	**231**	**445**	**1,015**	**12,318**

Results of the trip generation estimates indicate the proposed development is expected to generate a total of approximately 1,191 a.m. peak hour, 1,460 p.m. peak hour and 12,318 daily *additional trips* to the network. This accounts for a 15 percent multi-use reduction (internal trips), which was developed based on the methodology within the *ITE Trip Generation Manual, Ninth Edition* and NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. The higher multi-use reduction is a result of a higher amount of housing on site, which is expected to increase internal trips.

Once again, a mode share was completed using results from the Twin Cities Regional Model and the Ford Site Mode Share Methodology completed by SRF Consulting Group.

The results trip generation comparison between the Comprehensive Plan/Snelling Station TOD Plan and the RK Midway Master Plan indicated that the RK Midway Master Plan is expected to generate 4,265 additional daily trips and slightly more peak hour trips than the Comprehensive Plan/Snelling Station TOD Plan, and therefore, will be utilized to complete future year 2035 build conditions.

Year 2035 Build Conditions – Site Development

To identify potential impacts associated with the proposed development without a soccer event, traffic forecasts for year 2035 conditions (i.e. year of full build out) were reviewed. The year 2035 conditions take into account general area background growth, a reduction in existing site trips due to the removal of various buildings, and the new trips generated by the proposed development. The following sections provide details on the background traffic forecasts, estimated trip generation, and intersection capacity analysis for year 2035 conditions.

Background Traffic Growth

To account for general background growth and known adjacent developments in the area, an annual growth rate of one-half percent was applied to the existing peak hour traffic volumes to develop year 2035 background traffic forecasts. This growth rate is consistent with historical growth rates in the study area.

Trip Generation

Results of the previously completed trip generation estimates indicate the proposed development is expected to generate a total of approximately 1,191 a.m. peak hour, 1,460 p.m. peak hour and 12,318 daily new trips to the network. However based on the proposed land uses (i.e. the general retail), a portion of the trips using the site are expected to be from motorists already traveling along Snelling Avenue, University Avenue and Pascal Street within the study area. These trips are considered "pass-by" type trips. When accounting for the "pass-by" trip reductions (34 percent for retail based on the *ITE Trip Generation Manual, Ninth Edition*), the total new roadway network trip generation is expected to be approximately 1,091 a.m. peak hour, 1,110 p.m. peak hour and 8,363 daily trips.

Trips generated by the proposed development were distributed throughout the study area based on the directional distribution shown in Figure 8, which was developed based on existing travel patterns, the Twin Cities Regional Model, local business employee data, and engineering judgment. With the addition of the office space on site, the distribution of trips is expected to be more regional as opposed to the existing (i.e. only retail on-site) being more local. The resultant year 2035 traffic forecasts, which include general background growth and trips generated by the proposed development, are shown in Figures 9A and 9B.

H:\Projects\09000\91541TS\Figures\Fig08_Development Distribution.pdf

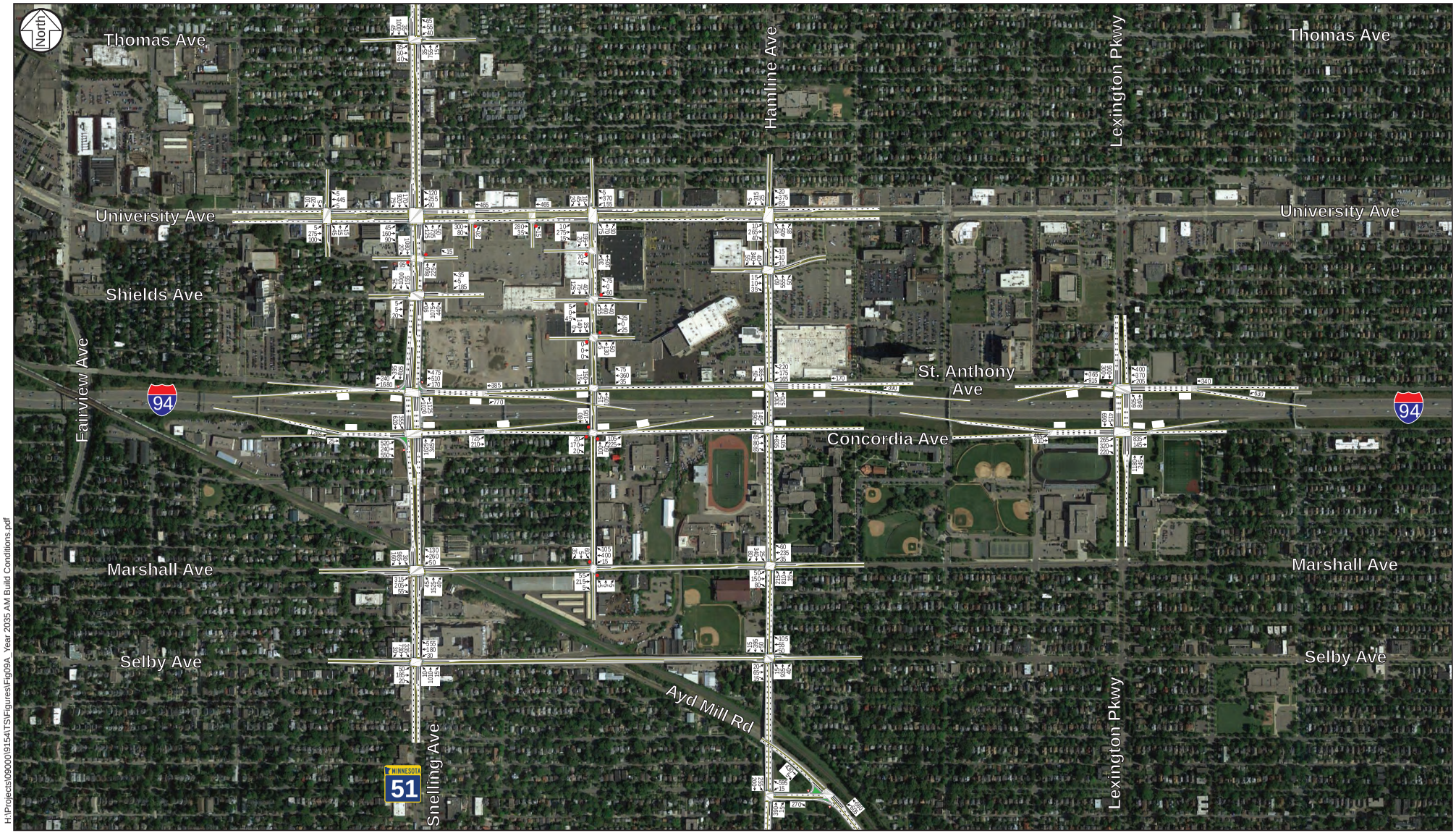
SRF Consulting Group, Inc.

0169154
April 2016

Development Distribution

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 8



H:\Projects\0900091\54\TS\Figures\Fig09A_Year 2035 AM Build Conditions.pdf

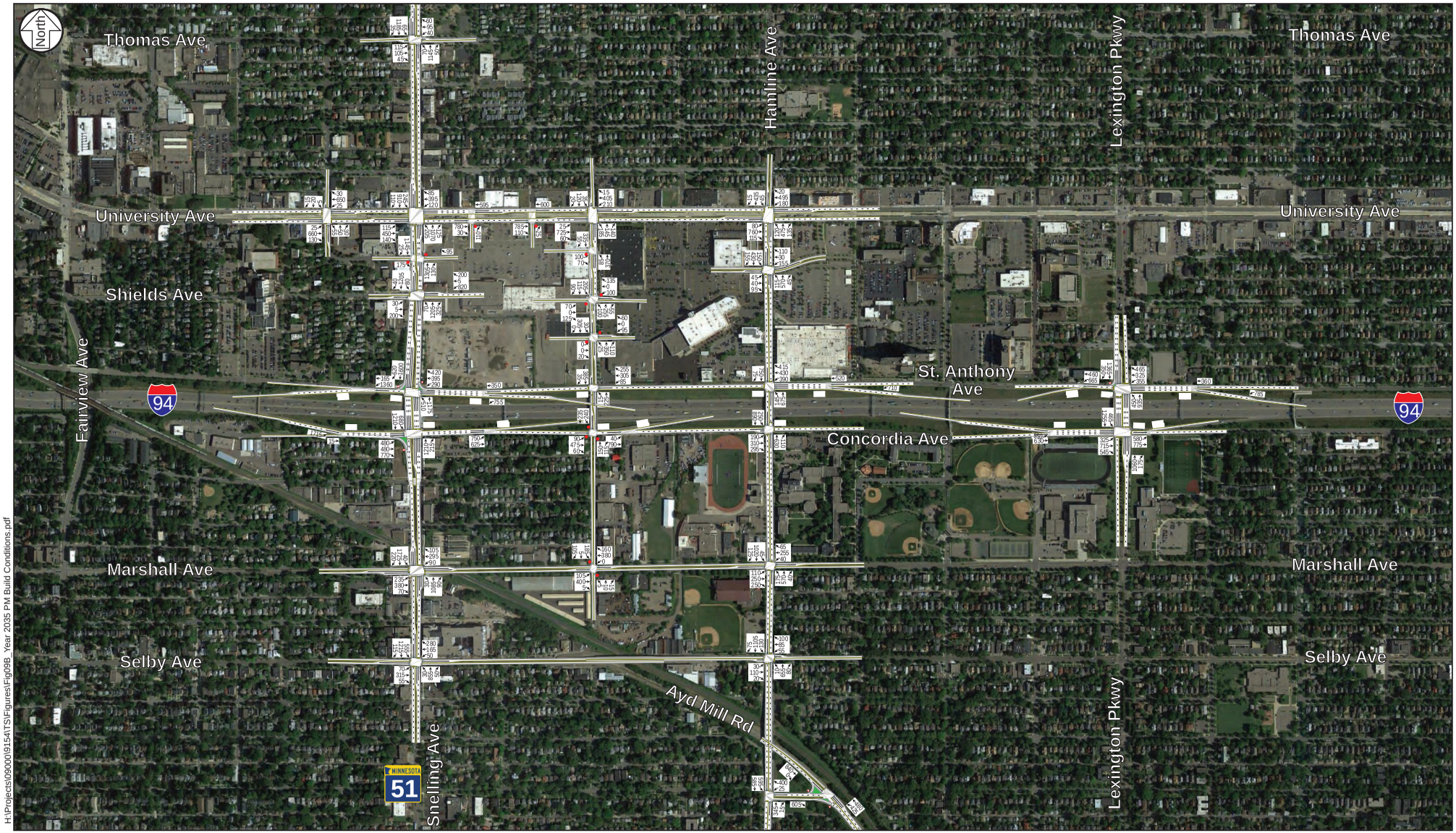
SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 AM Peak Build Conditions

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 9A



H:\Projects\0900091\54\TS\Figures\Fig09B_Year 2035 PM Build Conditions.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 PM Peak Build Conditions

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 9B

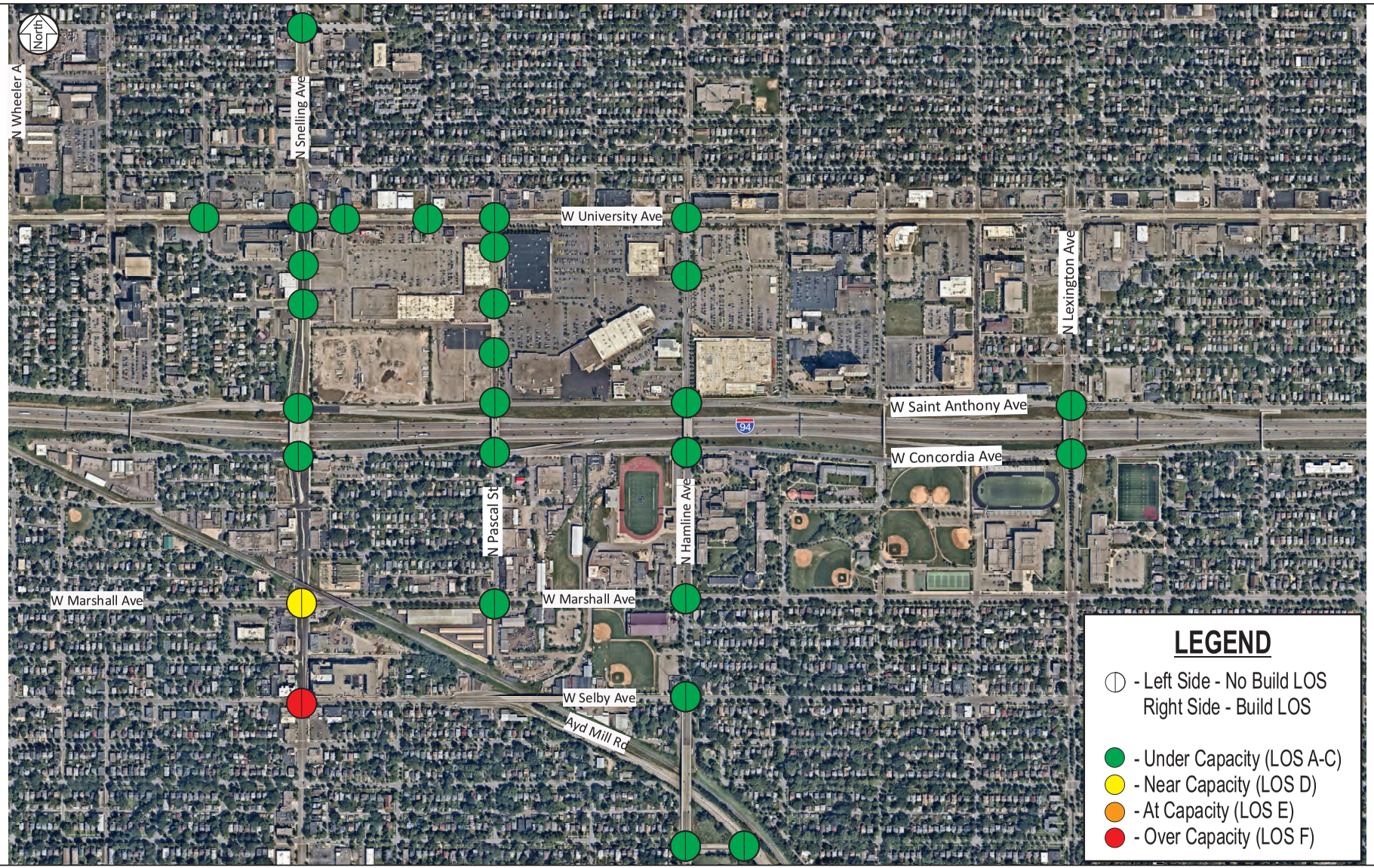
Intersection Capacity Analysis

Prior to completing the intersection capacity analysis for year 2035 build conditions, volumes were reviewed to determine preliminary geometry of the westbound approach of the Snelling Avenue and Shields Avenue intersection. Based on a review of the volumes, the westbound lanes of the intersection will require a left-turn lane, and a shared left-turn/thru lane and a right-turn lane. The right-turn lane is only needed during p.m. peak hour conditions, and can be converted to on-street parking during non-peak hours. With this configuration and the expected signal phasing, the south approach of the intersection is recommended to not include a pedestrian phase. A pedestrian phase and crosswalk would be provided on the north side of the intersection to allow pedestrians and bikes to cross Snelling Avenue. This will allow the large westbound left-turn movement from the development to operate in a permissive phase (i.e. flashing yellow arrow) in order to allow for improved intersection operations and eliminate potential pedestrian/vehicle safety conflicts.

Results of the year 2035 intersection capacity analysis shown in Table 5 indicate that all study intersections are expected to operate at an acceptable overall LOS D or better during the a.m. peak hour and p.m. peak hours with the previously described new site access geometry and traffic controls, except for the Snelling Avenue and Selby Avenue intersection during the a.m. peak hour and the Hamline Avenue and Marshall Avenue intersection during the p.m. peak hour. A comparison on the a.m. and p.m. peak hour analysis between year 2035 no build conditions and year 2035 build conditions in shown in Figures 10A and 10B. The full simulation results for year 2035 build conditions are presented in Appendix C.

The Snelling Avenue and Selby Avenue intersection is expected to continue to operate poorly during the a.m. peak hour due to the significant westbound right-turning volume. This is a no-build condition and mitigation is not identified. It should be noted that optimized signal timing for all study intersections was assumed under future build conditions.

During the p.m. peak hour, intersections of Snelling Avenue between Thomas Avenue and Selby Avenue are expected to operate at an overall LOS D, however, significant side-street queuing and delay is expected, similar to year 2035 no build conditions. A rolling type queue is expected along southbound Snelling Avenue. The newly constructed westbound approach of the Snelling Avenue and Shields Avenue intersection is expected to have queues of over 750 feet, which will potentially extend into the on-site parking structures. However, due to the nature of office trips, this is expected to only be a p.m. peak hour exiting issue. The queuing expected at these intersections is shown in Figures 11 and 12 for the area of Snelling Avenue between Thomas Avenue and Selby Avenue. The queues represent the average and 95th percentile queue from the a.m. or p.m. peak hours. It should be noted that since the new trips generated by the development would be office trips, these trips are generally more regional and destined for the near-by freeways. Therefore, the queues on Snelling Avenue south of the I-94 interchange are relatively similar between no build and build conditions since build conditions are expected to add on a minimal amount of trips within this area.



H:\Projects\09000\9154\TS\Figures\Fig10A_Year 2035 AM NB and Build Traffic Analysis.pdf

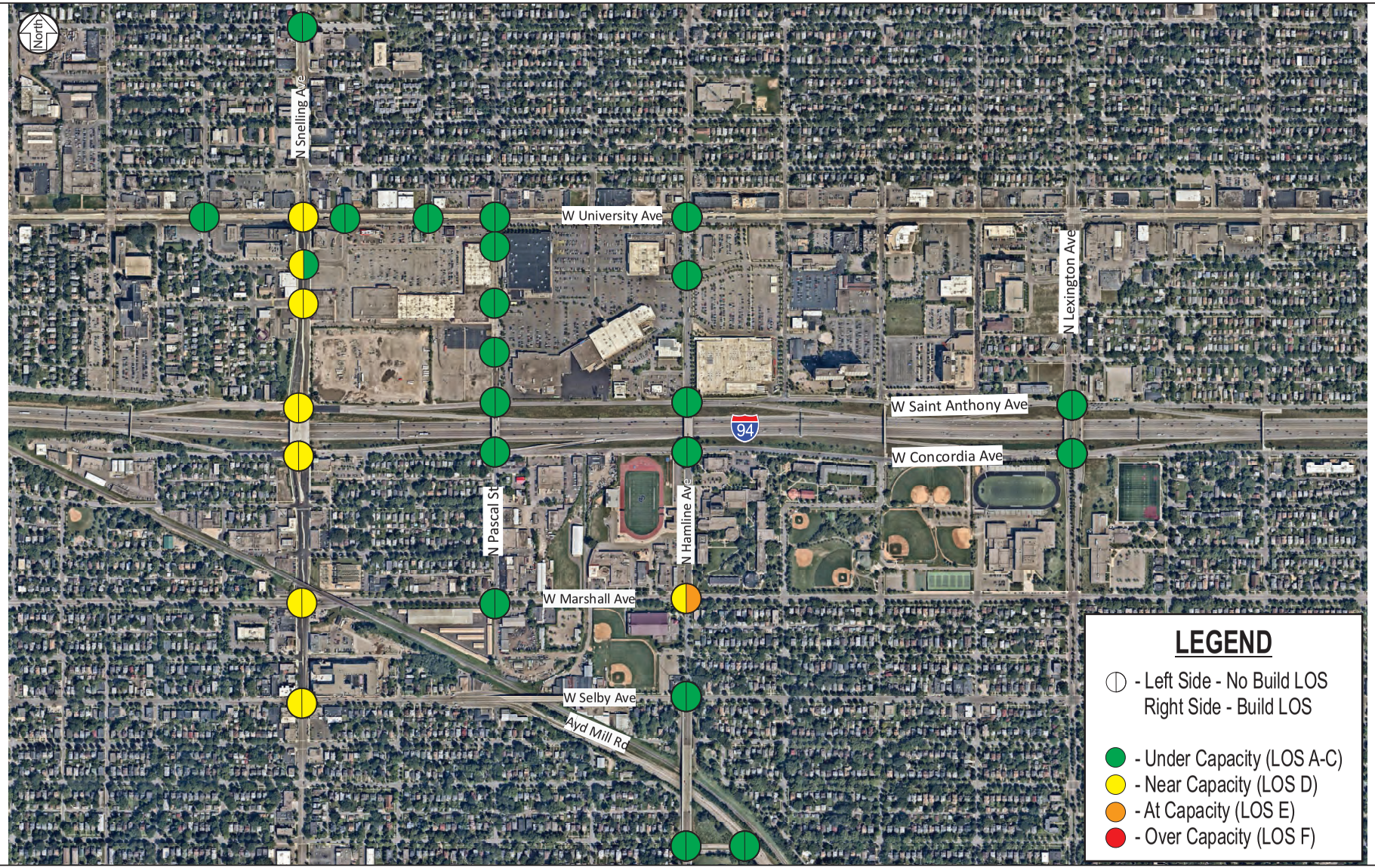
SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 AM Peak Hour No Build and Build Traffic Analysis

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 10A



H:\Projects\09000\9154\TS\Figures\Fig10B_Year 2035 PM NB and Build Traffic Analysis.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 PM Peak Hour No Build and Build Traffic Analysis

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 10B

H:\Projects\09000\9154\TS\Figures\Fig11_Snelling Marshall and Selby Improvements.pdf

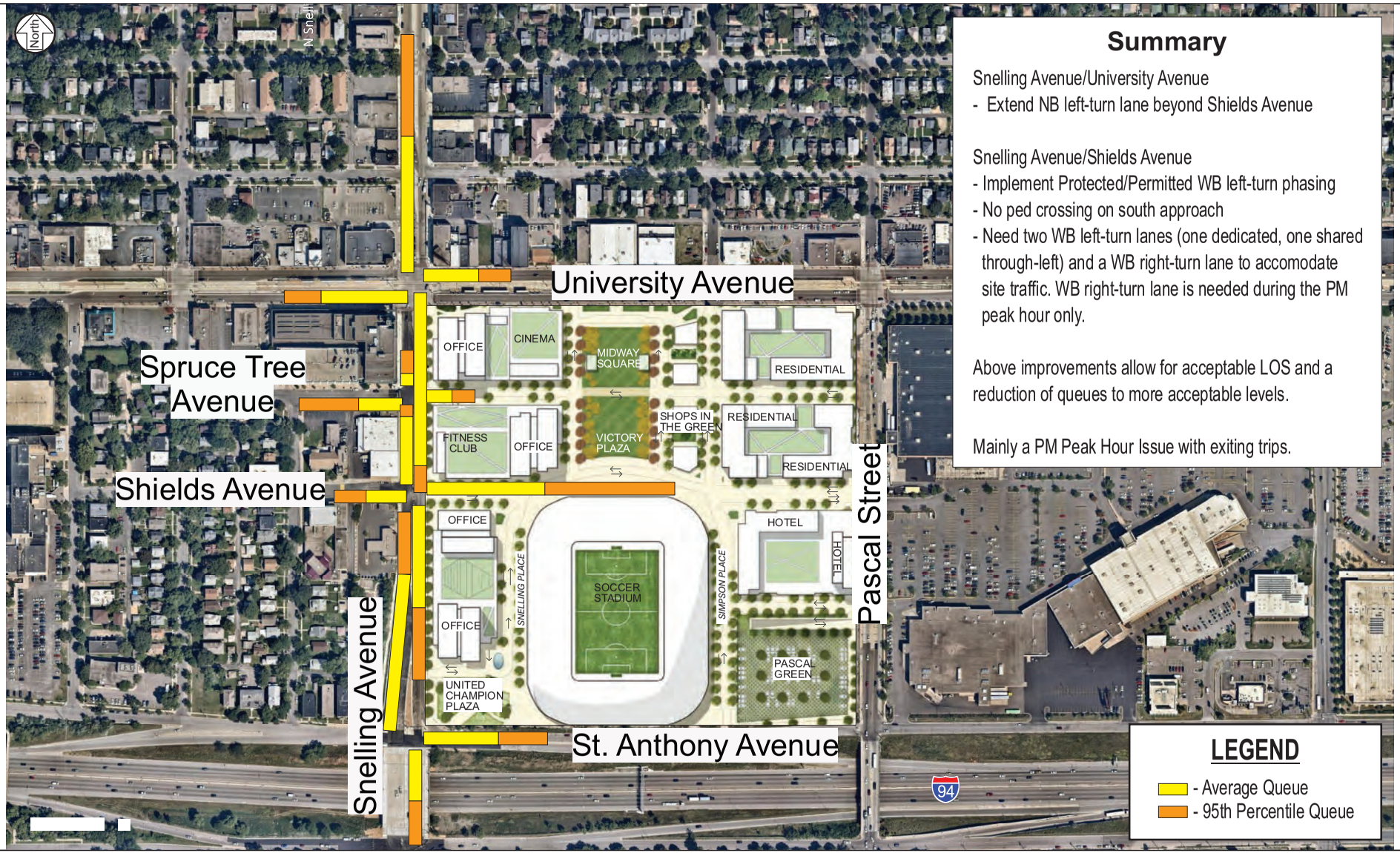
SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Build Analysis Queuing Information - Concordia Avenue to Selby Avenue

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 11



H:\Projects\09000\9154\TS\Figures\Fig12_Snelling University and Shields Improvements.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Build Analysis Queuing Information - University Avenue to St. Anthony Avenue

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 12

Table 5. Year 2035 Build Intersection Capacity Analysis

Intersection	A.M. Peak Hour	P.M. Peak Hour
	LOS	LOS
University Avenue/Fry Street	A	B
Snelling Avenue/Thomas Avenue	B	B
Snelling Avenue/University Avenue	C	D
Snelling Avenue/Spruce Tree Avenue(1)	A/B	B/**F**
Snelling Avenue/Shields Avenue	B	D
Snelling Avenue/St. Anthony Avenue	C	D
Snelling Avenue/Concordia Avenue	C	D
Snelling Avenue/Marshall Avenue	D	D
Snelling Avenue/Selby Avenue	**F**	D
University Avenue/Asbury Street(1)	A/A	A/A
University Avenue/Simpson Place(1)	A/A	A/A
University Avenue/Pascal Street	B	C
Pascal Street/North Development Driveway(1)	A/A	A/B
Pascal Street/Shields Avenue(1)	A/A	A/C
Pascal Street/ South Development Driveway(1)	A/A	A/B
Pascal Street/St. Anthony Avenue	B	B
Pascal Street/Concordia Avenue(2)	A	B
Pascal Street/Marshall Avenue(1)	A/B	B/**E**
University Avenue/Hamline Avenue	C	D
Hamline Avenue/Midway Marketplace	A	B
Hamline Avenue/St. Anthony Avenue	B	C
Hamline Avenue/Concordia Avenue	B	C
Hamline Avenue/Marshall Avenue	C	**E**
Hamline Avenue/Selby Avenue	B	B
Hamline Avenue/Ashland Avenue	B	C
Ayd Mill Road/Ashland Avenue	B	B
Lexington Avenue/St. Anthony Avenue	C	C
Lexington Avenue/Concordia Avenue	D	C

(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.
(2) Indicates All-Way Stop Control

The significant delay issues expected at the Hamline Avenue and Marshall Avenue intersection during the p.m. peak hour are due to the expected increase in volume making a northbound left-turn and eastbound right-turn at this intersection. Based on preliminary analysis, construction of an eastbound right-turn lane will improve overall intersection operations to an acceptable LOS. This would require removing some on-street parking stalls, however, it may only be needed during the peak hours of the day. Based on the analysis results, minimal mitigation may be necessary in order to allow for acceptable overall intersection operations within the study area.

A comparison of the arterial LOS on Snelling Avenue was completed between year 2035 no build and build conditions. The year 2035 build conditions experience very similar arterial LOS conditions near the LOS D/E threshold. In comparison to no build, this is approximately the same operations conditions along Snelling Avenue between Thomas Avenue and Selby Avenue. Both no build and build conditions are expected to experience a travel speed around 40 percent of the typical free-flow speed, meaning an average speed of about 12 miles per hour. This low travel speed is consistent with the congestion expected on the corridor.

Key Findings for Year 2035 Build Conditions

To improve Snelling Avenue operations, the traffic signal at Spruce Tree Avenue should be relocated to Shields Avenue. This will require modifications/reconstruction of Snelling Avenue to Shields Avenue. Shields Avenue will need a larger westbound approach to accommodate the amount of traffic leaving the proposed office land use along Snelling.

Snelling Avenue will have intersections operating at acceptable LOS (delay) under the No Build and Build. However, while all intersections are expected to operate at LOS D from Shields Avenue to Selby Avenue, the high volume, queues, and lane changing south of the I-94 interchange makes the area feel congested under no build and build conditions.

The only intersection that goes from an acceptable LOS in No Build to an unacceptable LOS in Build is at Hamline Avenue and Marshall Avenue. Mitigation would not be required with the year of opening of the Stadium or initial development. Addition of an eastbound right-turn lane (by time of day with the removal of on-street parking) would provide acceptable overall level of service.

Traffic signal timing within the study area is expected to be updated to accommodate future development travel pattern changes.

The proposer should encourage future land use to use the transit system with Green Line LRT, A-Line BRT and the other regular Metro Transit service adjacent to the site. Consider travel demand management (TDM) measures to encourage the use of these facilities.

Soccer Stadium

As part of the Snelling Midway Stadium Alternative Urban Areawide Review (AUAR), an analysis was conducted to address transportation issues related to the proposed soccer stadium. The proposed stadium is expected to have a capacity of 20,000 for the 2018 year of opening. The stadium is proposed to be constructed to allow for expansion to a capacity of 25,500 by year 2035, and will be located on land between University Avenue, I-94, Snelling Avenue, and Pascal Street as part of a larger overall redevelopment of the existing Midway shopping center. The soccer stadium is expected to open for the 2018 MLS season.

The transportation analysis was completed for all expected event time periods and included analysis of automobile traffic, transit, pedestrians, and bicyclists. Based on a review of other Midwestern teams, a typical MLS season consists of approximately 20 to 25 home matches (including preseason and exhibitions) and a potential for up to four home playoff matches. The following distribution of game days and times was assumed for this analysis in order to determine which time periods are most affected by event related traffic:

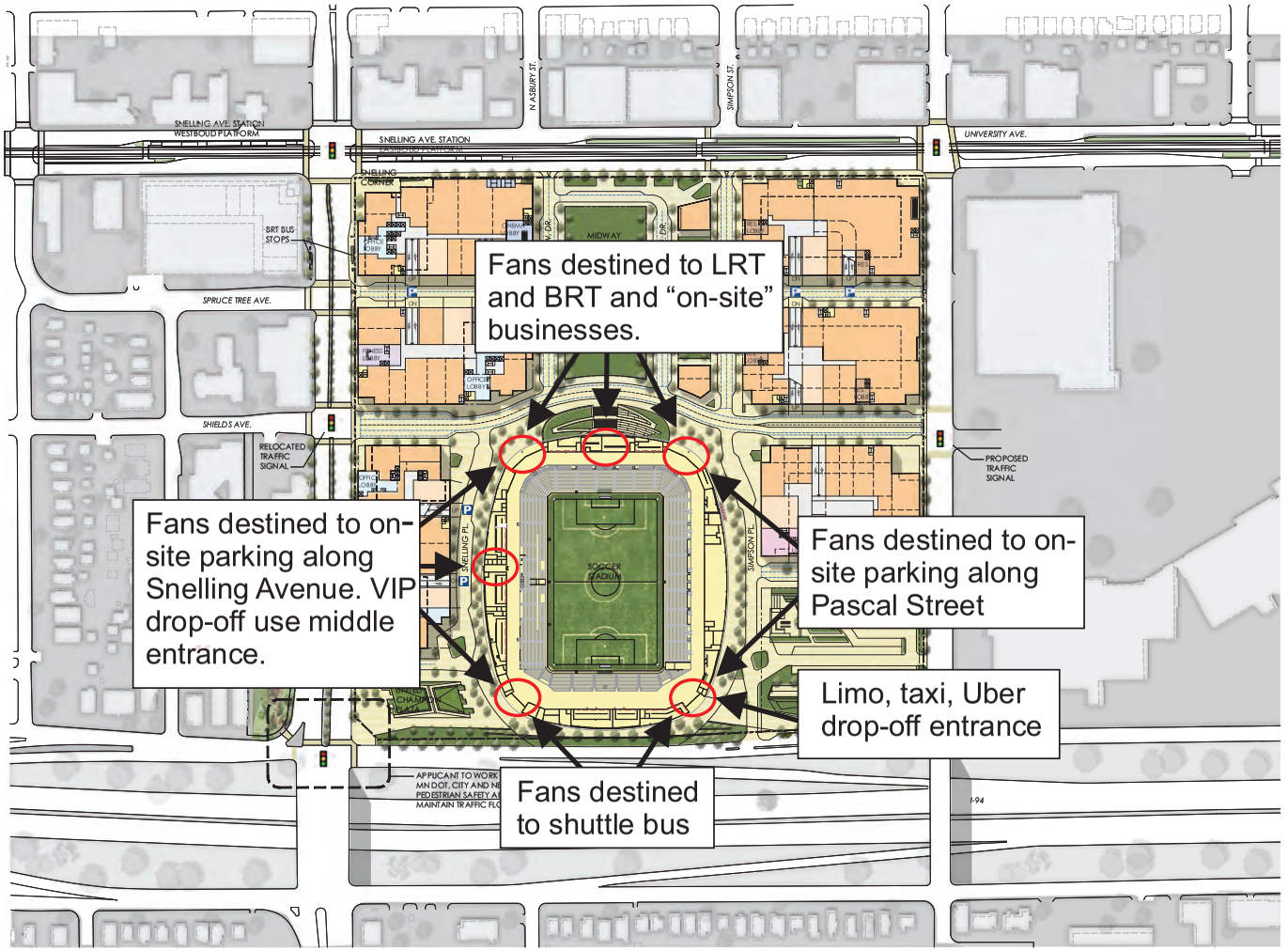
- Weekday Evening – 7:00 or 7:30 p.m. start time – approximately 5 games
- Saturday Afternoon – 2:00 or 4:00 p.m. start time – approximately 5 to 7games
- Saturday Evening – 7:00 or 7:30 p.m. start time - approximately 5 to 7 games
- Sunday Afternoon – 2:00 or 4:00 p.m. start times – approximately 5 to 7 games

Proposed access to the stadium is expected along the south edge of the building on St. Anthony Avenue, along the north edge of the building on the proposed Shields Avenue extension and access on both the east and west sides of the stadium. Each access is expected to attract a certain mode type. Each access and their respective mode type is shown in Figure 13.

The assumptions for the analysis are based on conditions prior to implementing mitigation strategies and could change based on mitigation strategies that are implemented. This analysis is intended to identify potential issues that will require further investigation/mitigation. These could be mitigation strategies to increase auto-occupancy, provide additional parking, provide staging areas for transit, or provide pre and post-game activities.

Traffic Analysis Assumptions

Traffic volumes for the study area intersections were collected for events occurring on a weekday evening (7:00 p.m. start time), weekend afternoon (2:00 p.m. start time) and a weekend evening (7:00 p.m. start time). Typical matches last for approximately two hours. Based on a review of the traffic volumes collected, the weekend afternoon background volume was significantly higher than the other two scenarios. This is due to the retail generated traffic peak that occurs on weekend afternoons. Therefore, the weekend afternoon peak scenario was selected for evaluation for worse-case conditions.



KEY PLAN

S9ARCHITECTURE
115 FIFTH AVENUE
NEW YORK, NY 10003
T 212.457.4077
S9ARCHITECTURE.COM

Owner:
RK MIDWAY LLC
C/O RD MANAGEMENT LLC
810 SEVENTH AVENUE, 10 TH FLOOR
NEW YORK, NY 10019

NO. DATE REVISION

PROJECT TITLE:
SNELLING MIDWAY REDEVELOPMENT SITE MASTER PLAN

1562 UNIVERSITY AVENUE W.
SAINT PAUL, MN 55104

PROJECT NO.: 63260.00

DRAWING TITLE:

SCALE: PAGE:

SEAL

FOR REFERENCE ONLY
NOT FOR CONSTRUCTION
4/15/2016

H:\Projects\09000\9154\TS\Figures\Fig13_Stadium Plan and Access.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Potential Stadium Access Plan

Snelling Midway Stadium Transportation Study
City of St. Paul

DN

Figure 13

The traffic operations analysis for the scenario was conducted for a one-hour time prior for event arrival and one-hour after for event departure. The event arrival is usually more spread-out, while the event departure is more concentrated. The traffic model used varying volumes within the analyzed one-hour time frame to reflect event traffic patterns. This allows for more accurate results and the magnitude of delay and queuing in the system. Event departure models were run longer than one-hour to determine when/if the duration of the event traffic exceeded one hour. To determine how event traffic will operate within the study area, the key intersections previously shown in Figure 2 were analyzed.

Parking Availability

An evaluation of on-site and adjacent off-site parking availability within a one mile walking distance was completed for both a year of opening and future year full-build out scenario for event parking. On-street parking is not a reliable source of event parking, and therefore was not included in this analysis as an option for meeting event parking needs. The goal of the transportation analysis was to determine mitigation strategies such that parking in adjacent residential neighborhoods is not needed to meet event demand. Similarly, accommodating event parking in nearby lots or ramps can also be unreliable. The available parking supply was divided into parking on site and parking to the north, east, south, and west. The parking supply on site is expected to change between 2018 and 2035 with full development of the site.

The adjacent (within one mile) off-site parking options are shown in Figure 14. These are only potential options that may allow event parking and no contractual agreements are in place. These businesses may not want parking for various reasons including various reasons including already being used, not current practice, insurance, licensing and sales tax. Therefore, an assumption was made that only those spaces proposed as part of site or master plan and the 350 spaces for which the City has already verified availability would be available for event use. This study identified approximately 2,500 potential off-site spaces within one mile of the proposed stadium.

Mode Split

A specific mode split was completed for both year 2018 (Capacity 20,000 attendees) and year 2035 (Capacity 25,500 attendees) conditions. The mode split for the two different conditions is expected to differ due to the amount of on-site parking, land use changes and the potential expansion of the stadium capacity by an additional 5,500 people. The mode split for fans at the proposed stadium is divided into five categories: 1) Non-Auto, LRT or BRT, which includes walking from home, biking, and regular Metro Transit bus service, 2) On-Site Parking, 3) Off-Site Parking within walking distance of the site, 4) Metro Transit's LRT (Green Line)/BRT (A-Line), and 5) Shuttles to off-site parking facilities. The complete mode share split breakdown in presented in Appendix D

.

H:\Projects\09000\91541TS\Figures\Fig14_Adjacent Off-Site Parking Plan.pdf

SRF Consulting Group, Inc.

Potential Adjacent Off-Site Parking

Snelling Midway Stadium Transportation Study
City of St. Paul

0169154
April 2016

Figure 14

Auto Occupancy

Based on prior experience with travel behavior characteristics for sports stadia around Twin Cities and around the country, an estimate of 2.75 people per vehicle would be used for average auto occupancy for all event transportation analysis.

Event Traffic Characteristics

It is assumed that not 100 percent of the event traffic is expected to arrive or depart the stadium area during the one-hour analysis periods. Based on previous experience with sports stadia in the Twin Cities, a certain percentage of attendees will arrive or depart outside of the analysis hour, depending on the time of day, available activities within the area, and day of the week. Table 6 shows the percent of vehicles arriving/departing during the analysis hour for each scenario. These assumptions are slightly more intense than the other stadium event studies completed in the Twin Cities Metro because of the current limited restaurant and pre-game/post-game entertainment options.

Table 6. Percent of Event Traffic to Arrive/Depart During Peak Hour

Scenario	Weekday		Weekend	
	2018	2035	2018	2035
Arrival	85%	70%	75%	65%
Departure	95%	95%	95%	90%

Based on arrival and departure observations from other local stadium events, peaks occur for vehicular and pedestrian traffic within the arrival and departure hours. Based on the mode share of this stadium, both the pedestrian and vehicle peak should occur at approximately the same time. It is anticipated that the arrival peak will be smoother and spread out over the course of the arrival hour, while the departure typically occurs all within about a half-hour interval.

Event Attendees Origin/Destination Information

Event attendees' origin/destination information is based on zip codes collected from individual and season ticket holders for other professional sports teams in the Twin Cities, the current Minnesota United team, and metro area population densities. The zip codes were mapped and assigned to the most efficient travel shed to the stadium from the zip code. The zip code information helps represent the likely distribution of event attendees within the metro area. . The directional distribution for an event based on season ticket holder information is shown in Figure 15.

H:\Projects\090009154\TS\Figures\Fig08_Development Distribution.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Development Distribution

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 15

Year 2018 Event Conditions

To identify potential impacts associated with the proposed soccer stadium events, traffic forecasts for year 2018 conditions (i.e. the expected year of soccer stadium opening) were analyzed. The year 2018 conditions take into account general area background growth, a reduction in existing site trips due to the removal of various buildings on-site, and the additional trips generated by a soccer stadium event. It should be noted that analysis conducted for year 2018 conditions focuses solely on event scenarios since it is expected that any proposed on-site non-stadium development will not be constructed prior to 2018. The following sections provide details on the background traffic forecasts, estimated trip generation, and intersection capacity analysis for year 2018 conditions.

Roadway/Access Closures

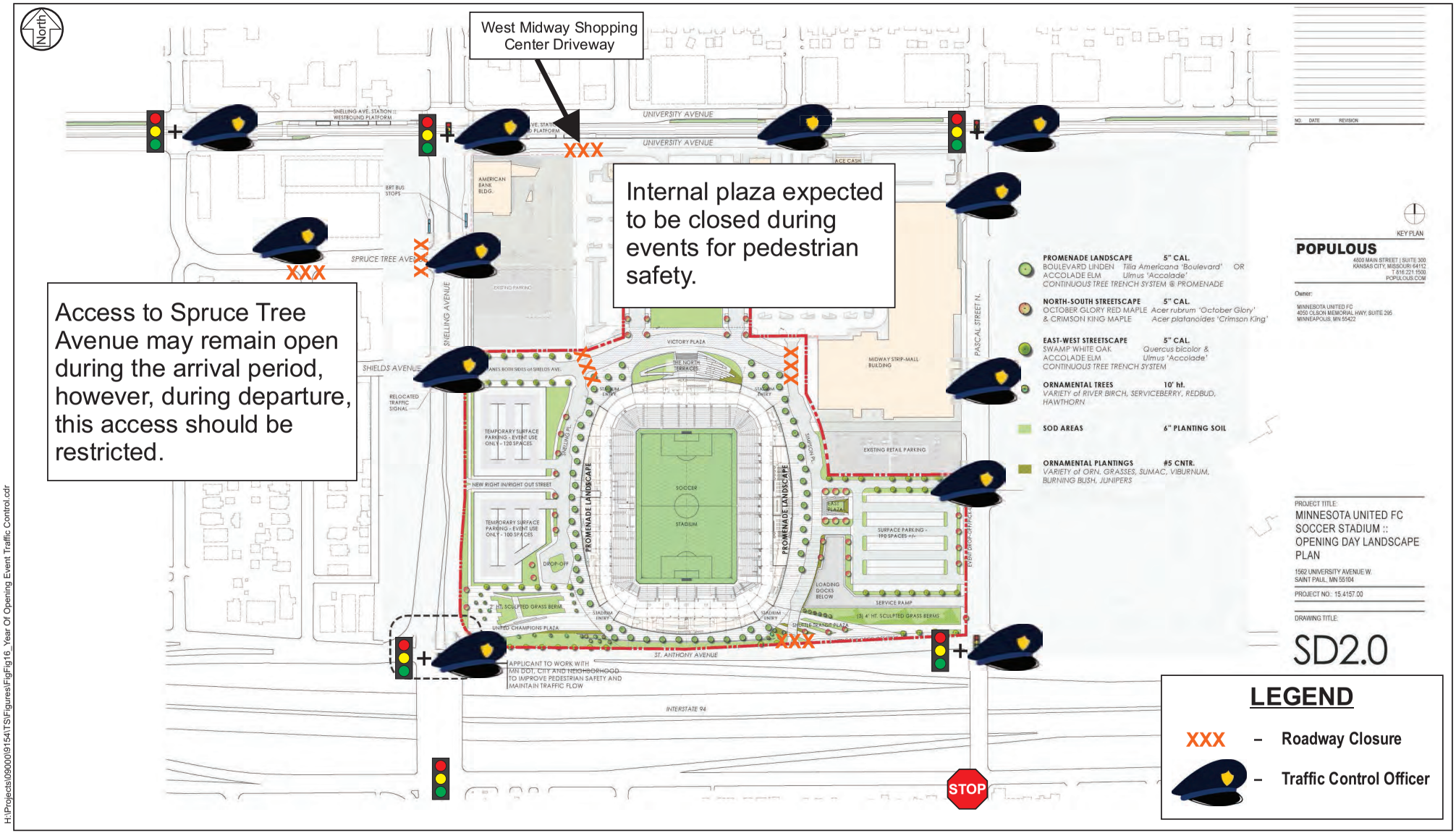
In the year of opening of the stadium, it is not expected that the full access modifications shown in Figure 6 will be completed. To allow for a safe and efficient flow of traffic, the following modifications are assumed for year of opening events:

- Traffic control officers at intersections adjacent to the site for arrival and departure times
- Restriction of traffic movements at the Snelling Avenue and Spruce Tree Avenue intersection during the post-game departure. This allows for safer pedestrian movements between the stadium and LRT.
- Restricting vehicles leaving the Spruce Tree Parking Ramp to only turning right and proceed north to the University Avenue and Fry Avenue intersection. Additionally, these motorists would be required to turn left onto westbound University Avenue.
- Close the University Avenue/West Midway Shopping Center Access for arrival and departure periods to allow for safer pedestrian movements between LRT and the stadium.

The following site access modifications for year of opening are shown in Figure 16.

Background Traffic Growth

To account for general background growth in the area, an annual growth rate of one-half percent was applied to the existing peak hour traffic volumes to develop year 2018 background traffic forecasts. This growth rate is consistent with historical growth rates in the study area and results from the Twin Cities Regional Demand Model. However, based on event management experience, it is anticipated that an event within the study area may have the effect of drivers modifying their trip to avoid the event traffic. For the analysis, it is assumed that 20 percent of background traffic will avoid interfering with event traffic either by modifying their route or completing their trip at a different time. These trips are still expected to occur to and from local area businesses, however, they are expected to occur at different times of the day in order to avoid the congestion of an event. This background traffic reduction is consistent with other studies completed for other Twin Cities sport's teams event traffic analysis competed by SRF. Mitigation strategies should include informing drivers using this area to use a different route or timeframe if not having an origin/destination in the area.



H:\Projects\09000\9154\TS\Figures\FigFig16_Year Of Opening Event Traffic Control.cdr

SRF Consulting Group, Inc.
0169154
April 2016

Potential Year of Opening Event Traffic Control
Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 16

2018 Event Mode Share

The year 2018 event mode share will break down in more detail how the specific mode share numbers were developed for each mode. These are expected to differ from the mode share values in the year 2035 full build conditions.

Walk/Bike/Local Bus/Private Shuttle

The non-auto/LRT/BRT includes local bus service and people walking/biking to the event from their home or business. In order to determine the number of people walking to the site, an evaluation of the population of the metro was completed. It was determined that approximately one percent of the population lives within a one mile walking distance of the stadium. It was assumed that local area residents living close to the stadium would be more likely to attend since they are within walking distance. This results in an estimate of about three percent of event attendees. This number is expected to increase slightly to five percent during weekend events due to increased potential for family groups attending with potential guests within the walking distance.

The potential biking share of two percent was estimated from bike usage at Minnesota Twins games at Target Field.

The local bus service was evaluated to determine how many routes and number of trips are within the area. Figure 17 shows the existing transit stops and provides a proposed schedule for each transit option. Based on this data, it was assumed that approximately one and half percent of fans (about 250 people) will utilize existing transit service outside of LRT/BRT.

Charter bus usage for these events is difficult to estimate and therefore was assumed to be low in order to remain conservative. Charter bus usage from of Minnesota Twins games was used to assist with developing an estimate. It was determined that 200 (one percent) fans on weekdays and 600 fans (three percent) on weekends will utilize charter buses. The team does have a fan base outside the metro area based on current ticket purchases. Fans from Mankato, Rochester, St. Cloud, and Duluth would be likely candidates to use charter buses.

In addition to charter buses, local area private shuttle buses will bring fans to the match. These include local businesses/bars that may run shuttles to events from their business. Depending on the number of bars offering this service, this may vary, however, it was assumed that on weekdays about 400 (two percent) fans will arrive via private shuttle, and on the weekends, up to 600 (three percent) fans. An additional 100 (half percent) fans may arrive via taxi, Uber/Lyft, or limo service from other destinations.

The combined total of these modes would accommodate 2,000 (10 percent) for a weekday match and 3,000 (15 percent) for a weekend match.

H:\Projects\09000\91541TS\Figures\Fig01_Project Location.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Transit Options Near the Proposed Stadium

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 17

On-Site Parking

The on-site parking mode-split is expected to differ between year 2018 and year 2035. Based on discussions with City staff and the developer, a proposed on-site parking plan for year 2018 was developed, shown in Figure 18. From this plan, it is expected that approximately 400 vehicles may be able to park on-site during the year of opening, which will equate to approximately 1,100 fans (based on a 2.75 person occupancy), or 5.5 percent of fans for a capacity event. This parking plan is considered temporary and will change over time to accommodate site development as further site redevelopment occurs.

Off-Site Adjacent Parking

The off-site parking mode-split takes into account parking not on site, but within walking distance of the stadium. Potential off-site parking locations are previously shown in Figure 14. An assumption was made that a minimum of approximately 350 parking spaces, accommodating 965 fans, or 5 percent of the event fans for a capacity event, will be able to utilize off-site adjacent parking. This percentage could fluctuate depending on local area businesses' desire to utilize their lots during events for parking. At this time, the City has verified the availability of 350 nearby off-street parking spaces for event use.

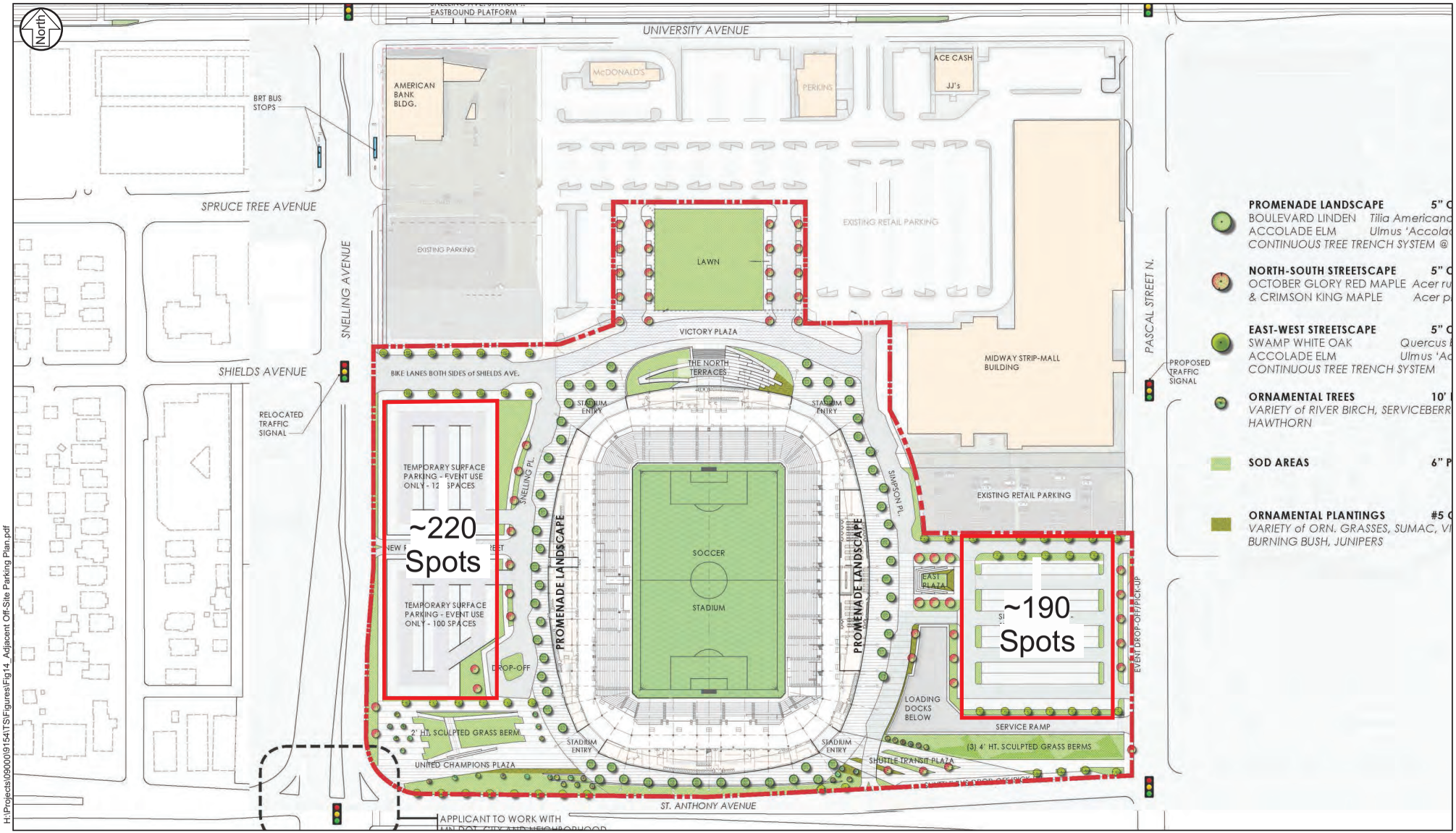
Although many adjacent retail and office centers may have a surplus of parking, most of these lots are not gate controlled and not specifically used for public paid parking. Therefore, these spaces may not be available for event use. The decision to open up a private lot for event use is determined by the private lot landowner, who is responsible for permits, insurance, and additional employment cost to control the lots.

LRT/BRT

The LRT mode share was determined on available capacity of the LRT during the peak hours and the available crush load of approximately 540 people per three car train. It is anticipated that the LRT will need to run three-car trains during all game times with the expected 10 minute headways. The LRT and BRT stations are also shown in Figure 17.

The LRT mode split is expected to be heavily utilized under both year 2018 and year 2035 conditions. Data was collected to determine the amount of available capacity during event arrival and departures. It was assumed that in each three-car LRT, there is availability for a crush load of 540 patrons, and therefore, the existing utilization of the LRT was subtracted from the crush load to determine how much available event capacity exists. The amount of utilization for each scenario is shown in the complete mode share breakdown in Appendix D

.



H:\Projects\09000\91541TS\Figures\Fig14_Adjacent Off-Site Parking Plan.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year of Opening On-Site Parking

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 18

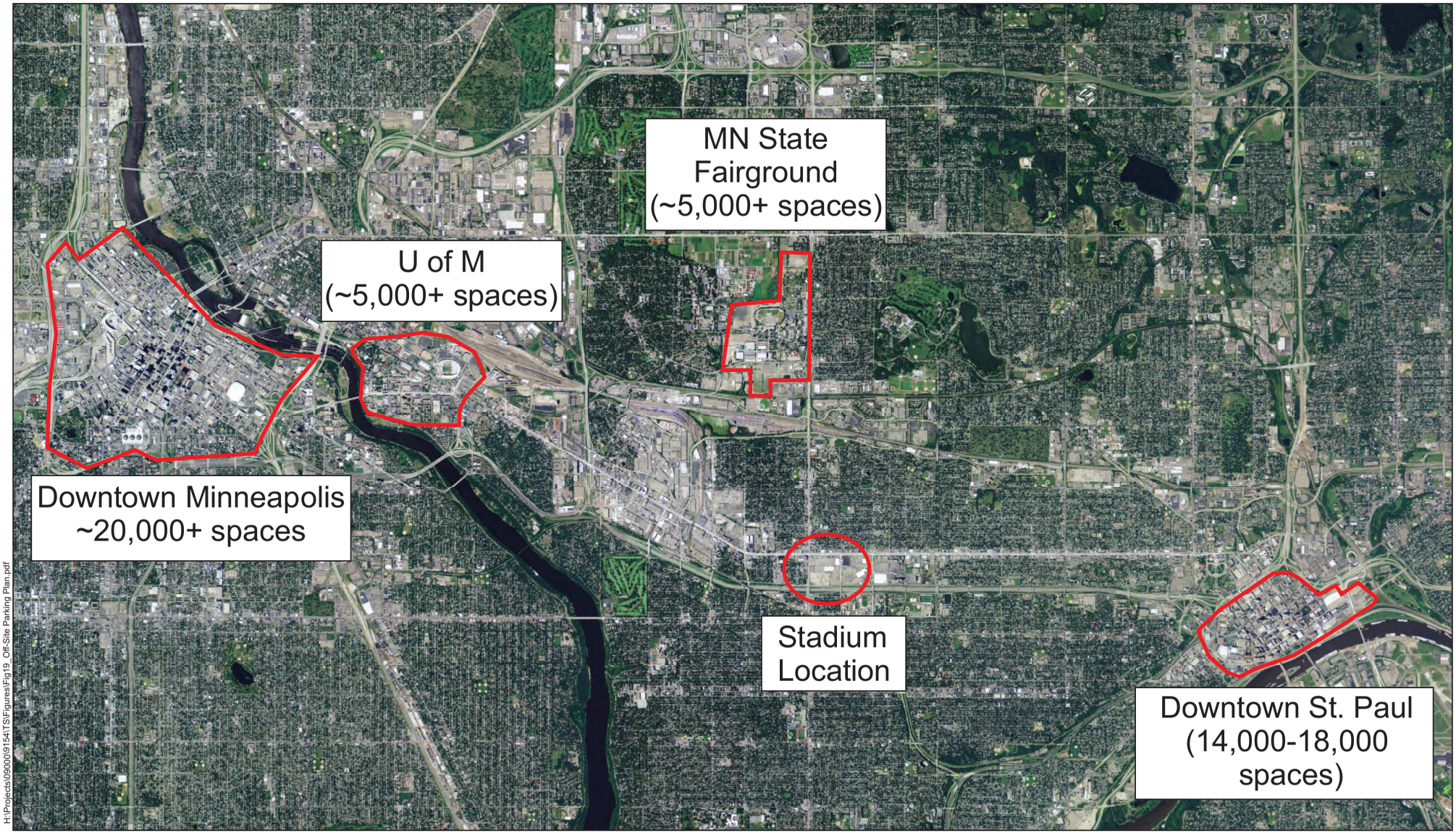
Based on comments from Metro Transit and observation of events, it is expected that most event patrons using LRT will arrive or depart one hour before or after the game. It is expected that the full hour before or after events will be fully utilized for both eastbound and westbound trains. These trains will be utilized by fans that are completing their trip without a car but live near the LRT stations outside of the walking distance, fans that park on-street in areas not near the stadium, or fans that park in ramps at the University of Minnesota, Downtown Minneapolis, Downtown St. Paul, and surrounding areas. These ramps are expected to be different locations than the ones identified for the park and ride shuttle users, unless the potential ramp has enough capacity to serve both LRT users and shuttle users. It was identified that with a full utilization of both the eastbound and westbound LRT, approximately 31 percent of fans will be able to utilize the LRT to arrive at the proposed stadium. Further discussions will be needed to further refine the parking locations.

It should be noted that based on the event distribution, the majority of fans will be coming from west of the site. Mitigation strategies will need to influence fans arriving via LRT to utilize stations to the east. The most likely candidates to consider this option would be fans in the north and south metro who may otherwise come from I-35W to potentially use I-35E and arrive east of the site and utilizing parking in downtown Saint Paul or near the capitol area.

The A-Line BRT is not operational until summer of 2016. However, a baseline assumption is shown in Appendix D. Based on discussions with Metro Transit, there is an assumed crush load of 70 people within a BRT bus with 10 minute headways both directions during many of the events. An assumption was made that the BRT will be fully utilized for one hour prior to and after the event. Based on the crush load and expected occupancy of the BRT buses, approximately 700 attendees or three and half percent of event fans will be able to utilize the BRT.

Shuttle Buses to Remote Parking

The remaining event patrons would be shuttles to remote parking facilities. A mitigation strategy has been proposed to provide a shuttle service to off-site parking facilities. These "park–and-ride lots" are desired to be located within a two to three mile (i.e. 20 to 30 minute round trip) radius as these shuttles are expected to operate a few trips back and forth to the stadium. Potential park-and-ride shuttle lots, along with estimated capacity, are shown in Figure 19. The number of potential identified remote parking spaces for events exceeds the number of parking spaces needed by a factor of approximately six (6). For purposes of this analysis, it is anticipated that a sufficient number of the spaces identified will be available at event times sufficient to provide for transportation to and from events for the number of anticipated patrons not served via other modes.



H:\Projects\09000\91541TS\Figures\Fig19_Off-Site Parking Plan.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Potential Park and Ride Shuttle Facilities

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 19

Trip Generation

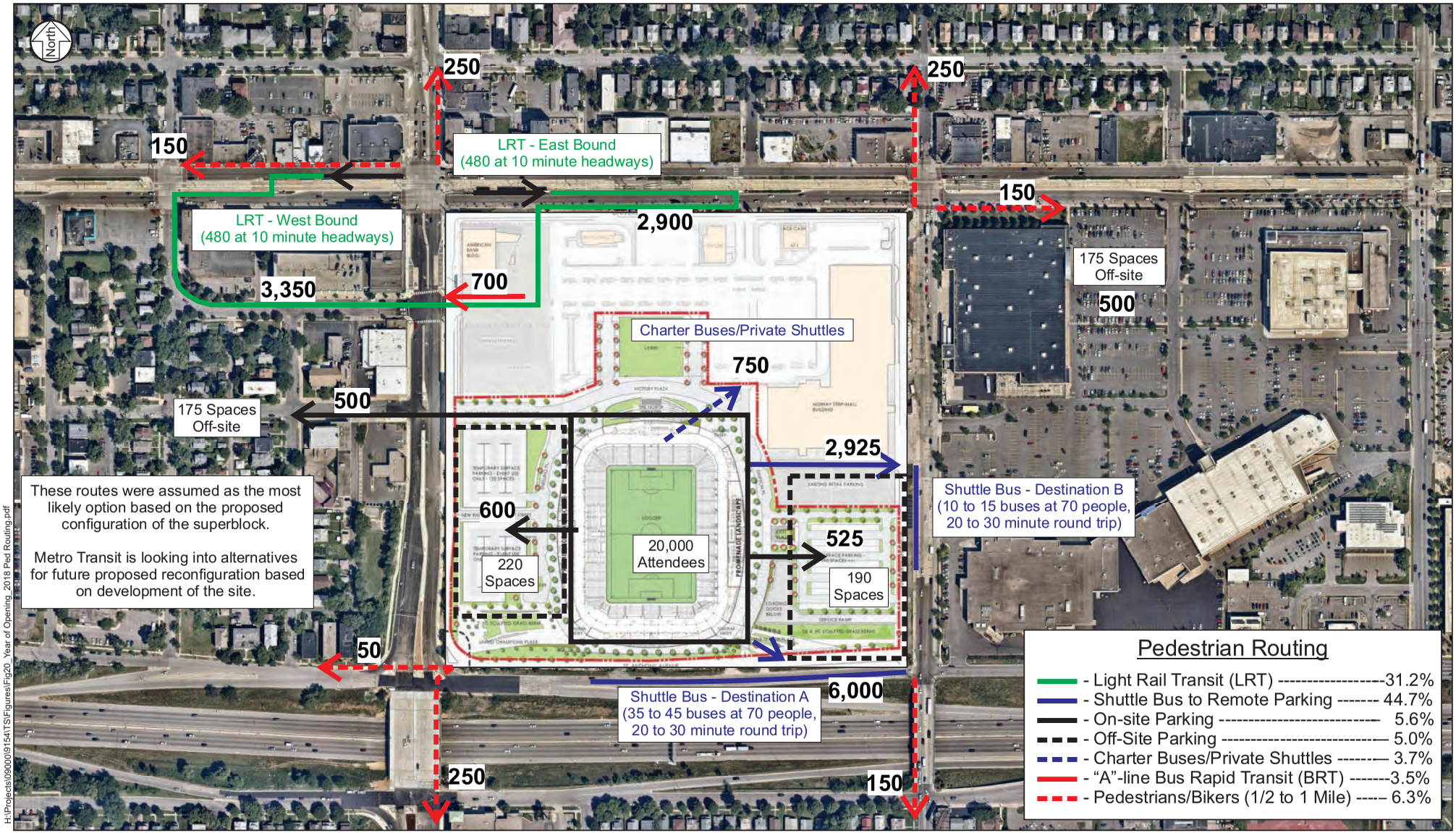
To account for traffic impacts associated with the proposed stadium development, trip generation estimates for weekend afternoon event (match starting at 2:00 p.m.) were developed. It should be noted that weekday evening and weekend evening events are possible, however, the weekend afternoon event was determined to have the highest background traffic, and therefore only this scenario was analyzed. The high background traffic is generated by the near-by retail land uses, connections to other destinations and access to I-94. Any mitigation as a result of the weekend afternoon event is expected to alleviate traffic concerns during the other two potential soccer match times.

The capacity of the stadium is expected to be approximately 20,000 patrons in year 2018. The trip generation estimates, shown in Table 7, were developed using the previously described mode share. It should be noted that the trips shown in Table 7 are person trips, not vehicle trips.

Table 7. Person Trip Generation Estimates – 20,000 Patrons

Modes	Percent of Total	Weekday		Percent of Total	Weekend	
		Arrival	Departure		Arrival	Departure
Non-Auto or LRT/BRT	10.0%	2,000	2,000	15.0%	3,000	3,000
On Site Parking	5.5%	1,100	1,100	5.5%	1,100	1,100
Off Site Parking	4.8%	965	965	4.8%	965	965
LRT/BRT	34.8%	6,960	6,960	34.8%	6,960	6,960
Off-Site Shuttles	44.9%	8,975	8,975	39.9%	7,975	7,975
Totals	100.0%	20,000	20,000	100.0%	20,000	20,000

Results of the trip generation estimates indicate that approximately 10 percent of trips for an event will occur using an automobile within the study area. A breakdown of the proposed person trip routes is shown in Figure 20. It is expected that for weekend events, walking and biking become more attractive options due to events occurring earlier in the day and the potential event patrons will have more available time to walk or bike from further distances. Trips generated by the proposed development were distributed throughout the study area based on the directional distribution shown in Figure 12, which was developed based on existing sports team's ticket information and engineering judgment. The resultant year 2018 event vehicular traffic forecasts, which include general background growth and trips generated by an event, are shown in Figures 21A and 21B.



H:\Projects\09000\91541TS\Figures\Fig20_Year of Opening_2018 Ped Routing.pdf

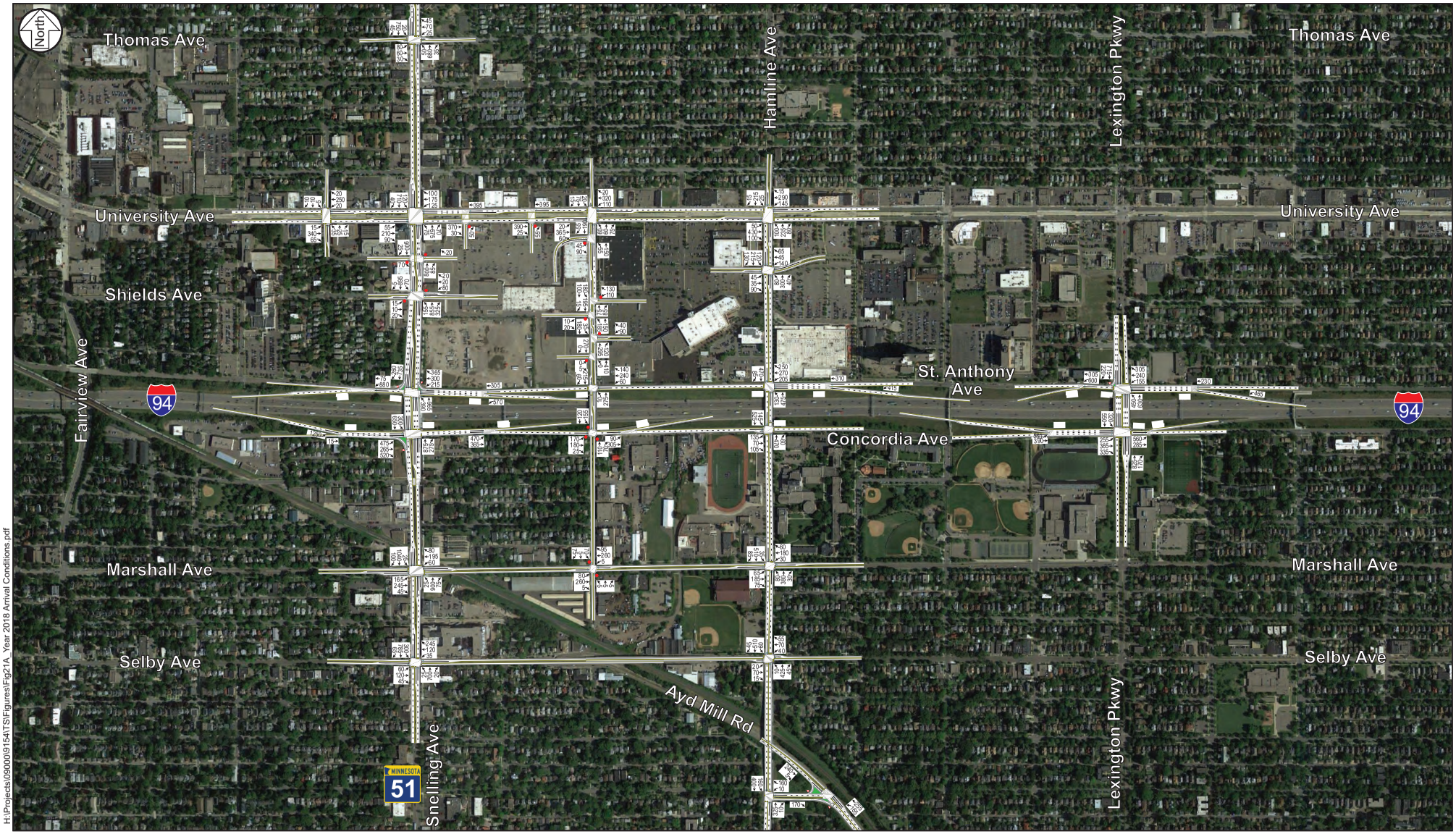
SRF Consulting Group, Inc.

0169154
April 2016

Year of Opening 2018 Event - Potential Pedestrian Routing of Capacity Event (Mode Selection - Potential Plan)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 20



H:\Projects\09000\91541TS\Figures\Fig21A_Year 2018 Arrival Conditions.pdf

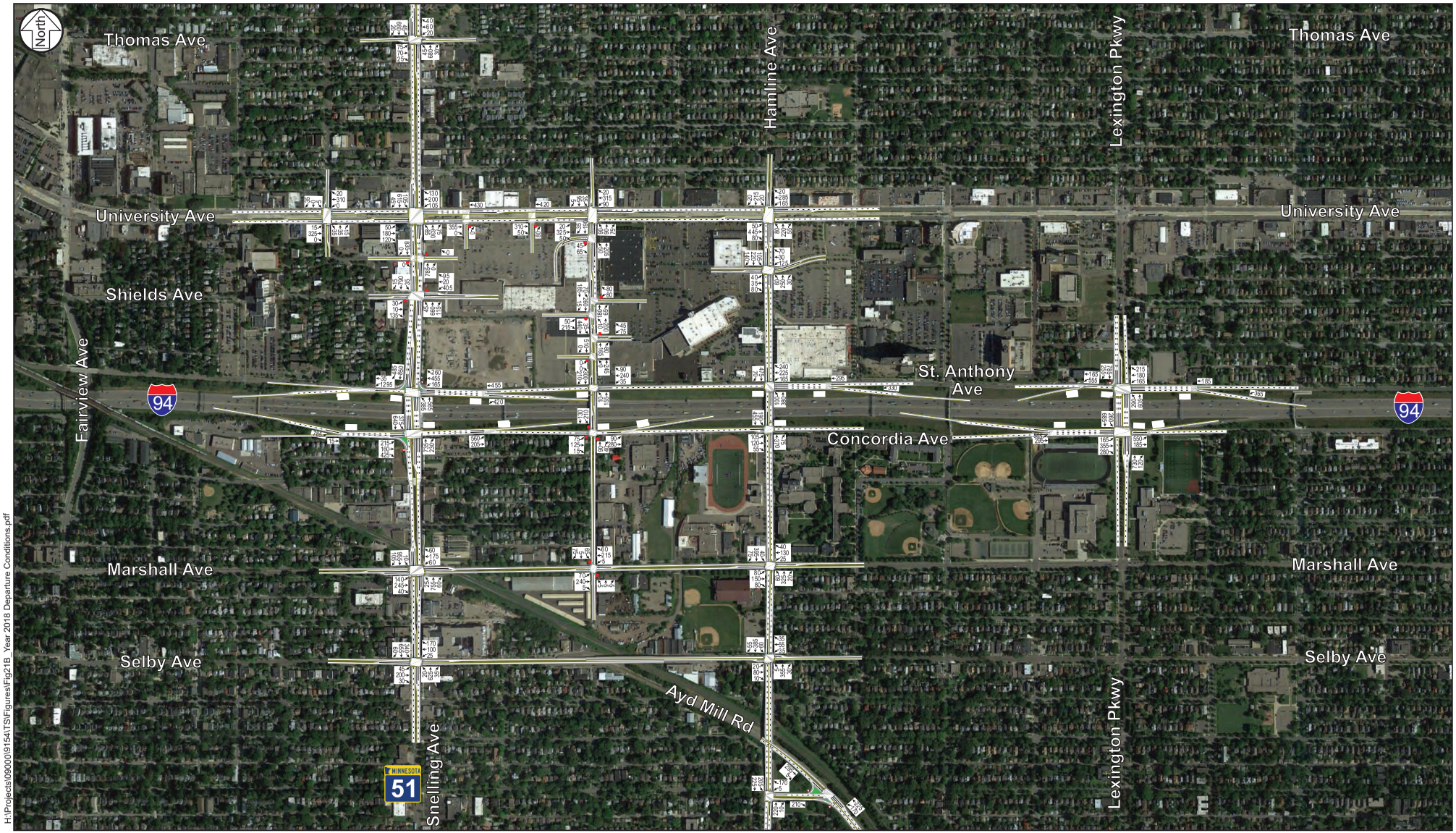
SRF Consulting Group, Inc.

0169154
April 2016

Year 2018 Weekend Afternoon Arrival Conditions (2:00 PM Event Start Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 21A



H:\Projects\0900\09154\TS\Figures\Fig21B_Year 2018 Departure Conditions.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2018 Weekend Afternoon Departure Conditions (4:00 PM Event Departure Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 21B

Intersection Capacity Analysis

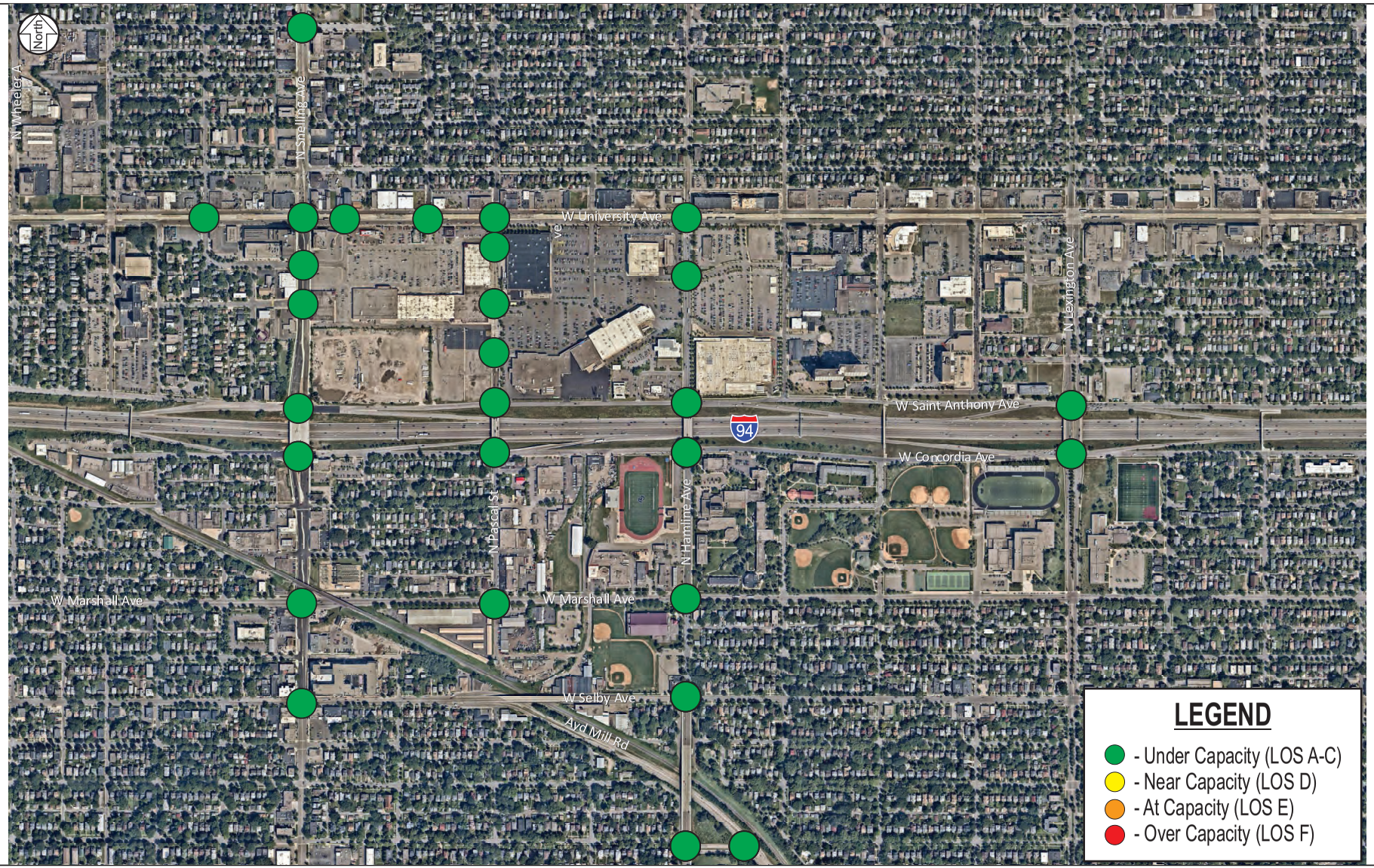
Weekend afternoon event conditions were analyzed with the proposed roadway configuration and a full capacity event to determine potential transportation impacts due to the increased pedestrian and vehicular traffic. It should be noted that weekday evening and weekend evening events are possible, however, the weekend afternoon event was determined to have the highest background traffic volumes, and therefore this worse-case scenario was analyzed. This is caused by the heavy retail peak that occurs on weekend afternoons within the study area. Any mitigation as a result of the weekend afternoon event is expected to alleviate traffic concerns during the other two potential soccer match times.

Events are intense peak flows resulting in intersections operating at LOS F, so mitigation strategies are needed to manage it. The amount of time needed to clear the departure will also be identified. Another metric is to identify if queues are impacting adjacent intersections and affecting network wide transportation options. Unacceptable conditions occur when queues begin to impact freeways free flow ability or limit the ability of transit options operation, especially if these occur over the course of more than one hour.

This scenario assumes an afternoon start time of 2:00 p.m. and departure time of 4:00 p.m. Arrival and departure traffic operations analysis were conducted for the hour before and after the match respectively. Based on the mode share methodology previously discussed, approximately 750 automobiles are assumed to drive to the site or have a parking space within walking distance for the event. It is expected that 75 percent of the vehicles (565) arrive prior to the game during the peak hour, and 95 percent of the vehicles (715) depart during the peak hour. It should be noted that an optimized event signal timing plan was assumed.

A detailed intersection capacity analysis was completed for vehicular traffic operations during the weekend afternoon arrival and departure using Synchro/SimTraffic. The analysis assumes there is no circulation of people looking for parking. The analysis was completed assuming everyone knows their destination (i.e parking/shuttle/transit) prior to coming to the events. This is necessary due to the limited amount of parking. Results of the detailed intersection capacity analysis are shown in Table 8. In addition, level of service results for the arrival and departure are shown in Figures 22A and 22B, respectively.

During the arrival peak hour on a weekend afternoon, it is not expected that any significant intersection operational issues will occur. These arrival trips are more spread-out than departure trips. It should be noted that a special game time arrival traffic signal optimization was assumed. A game time specific traffic signal plan is a recommended mitigation strategy, along with information to reduce vehicles searching for parking. The full simulation results for year of opening arrival and departure conditions are presented in Appendix E.



H:\Projects\09000\9154\TS\Figures\Fig22A_Year 2018 Weekend Arrival Traffic Analysis.pdf

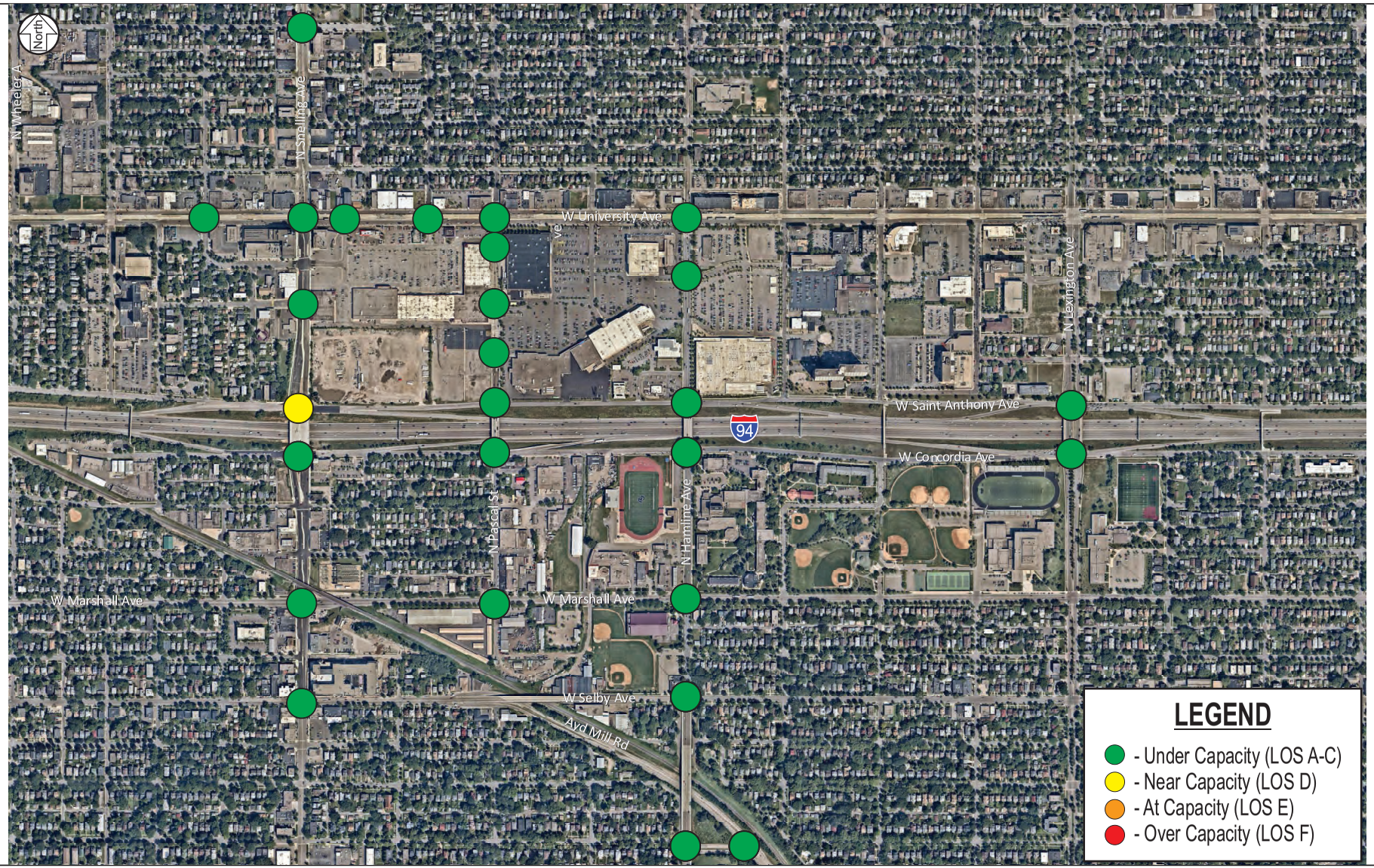
SRF Consulting Group, Inc.

0169154
April 2016

Year 2018 Weekend Arrival Traffic Analysis (2:00 PM Event Start Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 22A



H:\Projects\09000\9154\TS\Figures\Fig22B_Year 2018 Weekend Departure Traffic Analysis.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2018 Weekend Departure Traffic Analysis (4:00 PM Event Departure Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 22B

Table 8. Year 2018 Weekend Afternoon Event Intersection Capacity Analysis

Intersection	Arrival (1:00 p.m.) Peak Hour	Departure (4:00 p.m.) Peak Hour
	LOS	LOS
University Avenue/Fry Street	B	A
Snelling Avenue/Thomas Avenue	B	B
Snelling Avenue/University Avenue	C	C
Snelling Avenue/Spruce Tree Avenue	B/C	--
Snelling Avenue/Shields Avenue	C	C
Snelling Avenue/St. Anthony Avenue	C	D
Snelling Avenue/Concordia Avenue	C	B
Snelling Avenue/Marshall Avenue	B	B
Snelling Avenue/Selby Avenue	B	B
University Avenue/West Midway Shopping Center Driveway(1)	A/A	--
University Avenue/East Midway Shopping Center Driveway(1)	A/A	A/A
University Avenue/Pascal Street	B	B
Pascal Street/North Midway Shopping Center Driveway(1)	A/A	A/A
Pascal Street/Walmart Driveway(1)	A/B	A/B
Pascal Street/South Midway Shopping Center Driveway(1)	A/B	A/B
Pascal Street/Cub Driveway(1)	A/C	A/B
Pascal Street/St. Anthony Avenue	C	C
Pascal Street/Concordia Avenue(2)	B	A
Pascal Street/Marshall Avenue(1)	A/B	A/B
University Avenue/Hamline Avenue	C	C
Hamline Avenue/Midway Marketplace	B	B
Hamline Avenue/St. Anthony Avenue	B	B
Hamline Avenue/Concordia Avenue	B	B
Hamline Avenue/Marshall Avenue	B	B
Hamline Avenue/Selby Avenue	A	A
Hamline Avenue/Ashland Avenue	B	B
Ayd Mill Road/Ashland Avenue	B	B
Lexington Avenue/St. Anthony Avenue	B	B
Lexington Avenue/Concordia Avenue	B	B

(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.
(2) Indicates All-Way Stop Control

During the departure peak hour, minor issues are observed in the peak exiting half hour of event departure traffic. The majority of exiting vehicles are destined to exit in the half hour immediately after the game ends, which causes a spike in traffic volumes. Congestion is observed at the Snelling Avenue and Shields Avenue intersection and along Snelling Avenue to St. Anthony Avenue. With a majority of vehicles destined to westbound I-94, expect queues from the southbound right-turn queueing at St. Anthony Avenue to extend to Shields Avenue. Additionally, the majority of traffic from Pascal Street is also destined to the I-94 westbound on-ramp, which travels westbound on St. Anthony Avenue. Because these two major movements conflict with one another queues are expected in both directions. This queueing on St. Anthony Avenue could spill back from Snelling Avenue to Pascal Street and have an effect of a rolling queue from the parking lot exit on Pascal Street to the on-ramp at Snelling Avenue. Because of the amount of volume on Pascal Street after a match, driveway access from Midway Shopping Center, Walmart, and Cub will be difficult. It is anticipated that motorists that use these facilities will find alternate routes out of the shopping area, however, to remain conservative, these volumes were kept in the network at the specific driveway. **It should be noted the intersections with poor operations are expected to recover within one hour of the match.**

Detailed mitigation strategies for the year of opening event scenario are provided on page 73.

Multi-Modal Transportation Analysis

A transportation model VISSIM/VISWALK was completed to analyze all modes (pedestrian/bicycle, LRT, transit, shuttle).Weekend afternoon event conditions were analyzed with the proposed roadway configuration and a full capacity event (20,000) to determine potential multi-modal transportation impacts due to the increased pedestrian, transit and vehicular traffic.

This scenario assumes a weekend (Saturday) afternoon departure time of 4:00 p.m. The departure was analyzed because of the peak pedestrian flows leaving the stadium. The event modeled had 90 percent of the event patrons leaving the stadium a half-hour after the match. This will result in people queuing to board any of the transit or shuttle modes. Based on the mode share methodology previously discussed, approximately 7,000 patrons are destined for LRT/BRT, while approximately 8,000 patrons are destined to off-site shuttle bus parking.

A detailed transportation analysis was completed for the weekend departure using the VISSIM/VISWALK software (Version 7.00-16). Results of the detailed transportation analysis focus on the average travel time and queues for event patrons heading to these mode types, along with the expected amount of space needed to accommodate the queues.

Assumptions were necessary in order to complete the transportation analysis and are included in the mitigation strategies. These include the following items:

- 10 minute headways for all LRT and BRT transit vehicles – Depending on the time and day of the event, this project may need to request the schedule be changed to higher frequency service.
- Three-vehicle LRT – It was noted during site observations that on Saturdays, it is common to run two-vehicle LRT. This was assumed to be the full three-vehicle LRT at the end of an event. The project needs to work with Metro Transit.
- Based on data collected on LRT, approximately 480 people could board the LRT, while about 70 people could board the BRT.
- Approximately 40 to 50 shuttle buses – Would need 115 to 130 shuttle bus trips. At this point, the assumption is that shuttle buses would operate along Saint Anthony Avenue on the southeast corner of the site. Additionally, there may need to be storage for the shuttles prior to the event departure along St. Anthony Avenue east of Pascal Street or on Pascal Street to the north. Additionally, it was assumed that a complete round trip for the shuttle bus could be completed in approximately 20 to 30 minutes in order to run two to three shuttle bus trips per hour.
- For purposes of this analysis, pedestrians were routed to the LRT platform or bus stop based on routes shown in Figure 20. These routes were chosen based on understanding of likely configuration of the portion of the superblock north of the proposed extended Shields Avenue at the time of stadium opening in 2018. However, Metro Transit has looked at alternatives for pedestrian routing and staging that would also be feasible for accommodating transit riders. The alternatives implemented in 2018 will be determined in consultation with Metro Transit based on actual site configuration in 2018, and modified going forward as the remainder of the superblock redevelops.

Results from the LRT transportation analysis, shown in Table 9, indicate the largest queue and average travel time for pedestrians using LRT/BRT to depart an event. . The travel time is based on the time between the patron leaving the stadium and boarding the LRT/BRT vehicle. With a slightly larger number of patrons destined on westbound LRT, it is expected that the queue length and travel time would be larger than eastbound. **The BRT is expected to finish boarding in about one hour, while the LRT may board its final train about one and a half hours after the completion of the event.**

Table 9. Transportation Analysis Results – LRT/BRT

Direction and Mode	Maximum Queue (Peds)	Average Travel Time (Minutes)
Westbound LRT	2,050	30
Eastbound LRT	1,700	20 to 25
Northbound BRT	150	10 to 15
Southbound BRT	150	10 to 15

Based on the results from the LRT transportation analysis, it was observed that the larger westbound queue and travel time accounted for approximately the amount of time and queue length of one extra train. Screen captures of the event queues in relation to how much physical space they may require are shown in Appendix F. The maximum observed queues for westbound and eastbound LRT indicate the need for 2,050 and 1,700 pedestrians, respectively. Guidelines from the Highway Capacity Manual (HCM), a minimum of eight (8) sf per person is expected for capacity conditions for a pedestrian and for an event departure, it is expected that capacity conditions will occur. This maximum queue represents the maximum number of people who have left the stadium and arrived in the queue to board the LRT/BRT. The 7,000 event patrons utilizing LRT/BRT are expected to depart over the course of a half hour after the match, not all immediately at one time. This can be a result of fans attending post game entertainment or nearby bars/restaurants before arriving in the queue to board. Additionally, full LRT/BRT vehicles will be departing the stations immediately after the match. This applied similarity to the shuttle bus maximum queue results. Additional post-game entertainment opportunities could help mitigate the queue.

Based on these guidelines, a minimum westbound queueing area of approximately 16,500 sf and minimum eastbound queueing area of approximately 13,750 sf would be necessary. It is expected that the BRT queuing would be accommodated by the existing sidewalk infrastructure.

Results from the shuttle bus transportation analysis, shown in Table 10, indicate the largest queue and average travel time for 8,000 patrons using a shuttle bus to depart an event. It was assumed that approximately 115 to 130 shuttle bus trips would be necessary to clear the shuttle bus queue which would require 40 to 50 shuttle busses making round trips. Based on the site plan in Figure 13, there is room for up to four or five buses in the shuttle area. The buses would need to be staged, perhaps along St. Anthony Avenue east of Pascal Street or to the north on Pascal Street. The departure shuttling need to be efficient to maximize the shuttle bus loading area.

Table 10. Transportation Analysis Results – Shuttle Bus

Mode	Maximum Queue (Peds)	Travel Time (Minutes)
Shuttle Bus Queue	3,050	20

Based on the results from the shuttle bus transportation analysis, a maximum queue of 3,050 pedestrians is expected. **This queue will require a minimum queuing space of approximately 25,000 sf.** On average, a shuttle bus user is expected to wait for 20 minutes to board a shuttle bus. **It is expected to take between one hour and an hour and fifteen minutes to clear the shuttle bus area.**

Additional information regarding the pedestrian routes, specific platform loading areas, shuttle bus destinations, and other mitigation factors is provided in the mitigation section on page 72.

Key Findings for Year of Opening Event

More event patrons will want to drive directly to the event than can be accommodated by the parking assumed to be available on-site or within walking distance. Unless carefully managed, this could potentially result in significant traffic congestion, circulation trying to find a space, illegal parking and overall frustration. An event Transportation Management Plan (TMP) is needed to safely and efficiently get event patrons to and from the event while minimizing impact to the local business and residents.

- It is expected that approximately 10 to 15 percent of event patrons will walk, bike, or take local bus locally to the site, and approximately 10 percent of event patrons will be able to park on-site or off-site within a walking distance. The remaining 75 to 80 percent of patrons are expected to be divided up between LRT/BRT and shuttle buses.
- Approximately 35 percent of event patrons will be able to utilize LRT/BRT, however, the time to clear the site may slightly exceed one hour after the event.
- The remaining 45 percent will need to be shuttled to remote parking within two to three miles, preferred. This operation may need to utilize up to 40 to 50 buses, depending on where the remote parking is located. Once again, the time to clear the site may take slightly over one hour.
- Storage and waiting areas for pedestrians using transit or shuttle service will need to be defined and will require additional event staff outside of the facility to manage it.
- Based on Highway Capacity Manual guidelines, a minimum westbound LRT queueing area of approximately 16,500 sf and minimum eastbound LRT queueing area of approximately 13,750 sf would be necessary. The shuttle bus pedestrian queue will require a minimum queuing space of approximately 25,000 sf. Both of these queues are expected to take just over one hour to clear out.
- The I-94/Snelling interchange is a key bottleneck in the system. Event patrons should be encourage to use adjacent interchanges when arriving and departing the event. Shuttle bus service along Saint Anthony may need to be reconsidered because of this bottleneck.
- The area has a significant amount of retail land use. Weekend events starting between 1:00 p.m. and 5:00 p.m. and ending between 3:00 p.m. and 7:00 p.m. place the event traffic during the busiest business times and background traffic. Capacity events should be encouraged for a 7:00/7:30 p.m. start time with departure at 9:00/9:30 p.m.

Year 2035 Event Conditions

To identify potential impacts associated with the proposed soccer stadium events under full build conditions, traffic forecasts for year 2035 conditions (i.e. year of full build of adjacent development) were reviewed. The year 2035 conditions take into account general area background growth, trips generated by the adjacent buildings on the proposed site, and the additional trips generated by a soccer stadium event. The proposed soccer stadium has the potential to expand to a capacity of 25,500 by the year 2035, therefore, this analysis will consider this larger event attendance in addition to the adjacent development. The following sections provide details on the background traffic forecasts, estimated trip generation, and intersection capacity analysis for year 2035 conditions.

Roadway/Access Closures

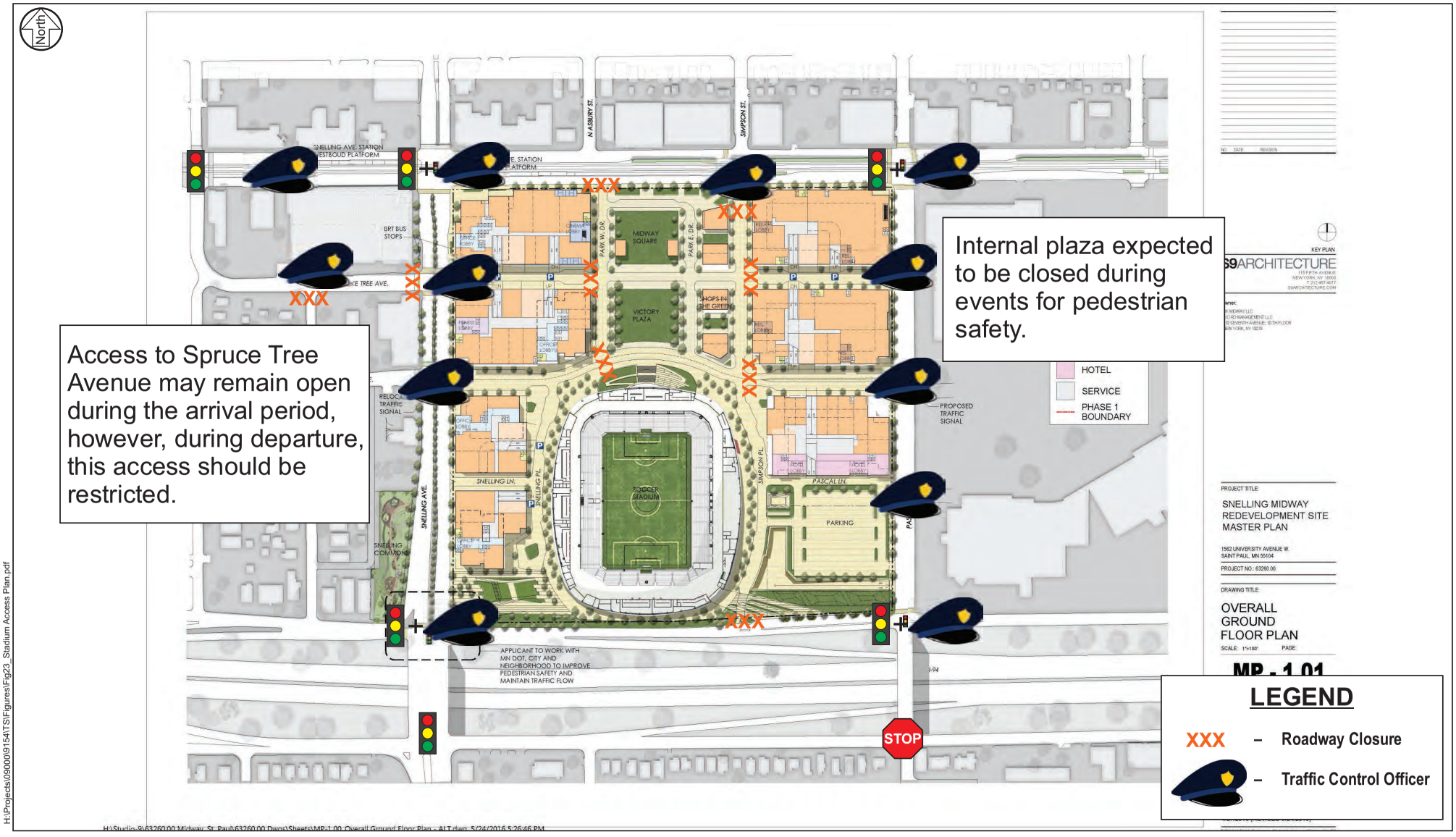
By the year 2035, it is expected that the full access modifications shown in Figure 6 will be completed. To allow for a safe and efficient flow of traffic, the following modifications are assumed for events:

- Traffic control officers at intersections adjacent to the site for arrival and departure times
- No traffic movements at the eastbound approach of the Snelling Avenue and Spruce Tree Avenue intersection during the post-game departure. This allows for safer pedestrian movements between the stadium and LRT.
- Restricting vehicles leaving the Spruce Tree Parking Ramp to only turning right and proceed north to the University Avenue and Fry Avenue intersection. Additionally, these motorists would be required to turn left onto westbound University Avenue.
- Close the University Avenue/Asbury Street access for arrival and departure periods to allow for safer pedestrian movements between LRT and the stadium.

The following site access modifications for year of opening are shown in Figure 23.

Background Traffic Growth

To account for general background growth in the area, an annual growth rate of one-half percent was applied to the existing peak hour traffic volumes to develop year 2035 background traffic forecasts. This growth rate is consistent with historical growth rates in the study area and results from the Twin Cities Regional Demand Model. However, based on event management experience, it is anticipated that an event within the study area may have the effect of drivers modifying their trip to avoid the event traffic. For the analysis, it is assumed that 20 percent of background traffic will avoid interfering with event traffic either by modifying their route or completing their trip at a different time. These trips are still expected to occur to and from local area businesses, however, they are expected to occur at different times of the day in order to avoid the congestion of an event. Mitigation strategies should include informing drivers using this area to use a different route or timeframe if not having an origin/destination in the area.



H:\Projects\09000\9154\TS\Figures\Fig23_Stadium Access Plan.pdf

H:\Studio-9\63260.00 Midway St. Paul\63260.00 Dwgs\Sheets\MP-1.00 Overall Ground Floor Plan - ALT.dwg, 5/24/2016 5:26:46 PM

Year 2035 Event Traffic Control

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 23

SRF Consulting Group, Inc.
0169154
April 2016

2035 Event Mode Share

The year 2035 event mode share will break down in more detail how the specific mode share numbers were developed for each mode.

Walk/Bike/Local Bus/Charter and Private Shuttle

The non-auto/LRT/BRT includes local bus service and people walking/biking to the event from their home or business. In order to determine the number of people walking to the site, an evaluation of the population of the metro was completed. It was determined that approximately one percent of the population lives within a one mile walking distance of the stadium. By year 2035, it was assumed that additional soccer fans would have moved into the surrounding area. Therefore, four percent of event patrons are expected to walk from the surrounding area for weekday events, and up to six percent during weekend events due to increase in full families attending with potential guests.

With the new development expected on site near the stadium, it is expected that a portion of these workers, residents, and hotel visitors will attend a match. During a weekday and weekend, it is assumed that approximately 800 fans (three percent) of the total attendance could come from people already on site. This assumption is consistent between weekday and weekend matches. It is expected that local businesses will supply a larger amount of fans on weekdays, while the hotel visitors for matches will be higher on weekends. This is based on game day information provided from local businesses near stadiums, other Twin Cities sports teams, and information gathered from hotels near the Xcel Energy Center.

The biking and local bus service mode share of two percent is not expected to change from year 2018 conditions. The combined total of all of these modes would accommodate 3,515 (14 percent) fans on weekdays and 4,605 (18 percent) fans on weekends.

The percentages for charter buses destined to outstate metro areas and local area bars is not expected to change from three percent between year 2018 and year 2035.

On-Site Parking

The on-site parking mode-split is expected to differ between year 2018 and year 2035. Based on discussions with City staff and the developer, a proposed on-site parking plan for year 2035 was developed, shown in Figure 24. From this plan, it is expected that approximately 2,050 vehicles may be able to park on-site during events in year 2035 mostly along Snelling Avenue, which will equate to approximately 5,650 fans (based on a 2.75 person occupancy), or 22 percent of fans for a capacity event. This parking plan is considered preliminary as future discussions with office tenants on site will be necessary to discuss available game day parking on weekdays and weekends.

Off-Site Adjacent Parking

The off-site parking mode-split takes into account parking not on site, but within walking distance of the stadium. Potential off-site parking locations are previously shown in Figure 16 for year 2018 conditions and are expected to minimally change for year 2035 conditions.

LRT/BRT

The LRT/BRT mode share is not expected to differ between year 2018 and year 2035 conditions. Under both scenarios, it was assumed that the LRT/BRT will be fully utilized to full capacity for one hour. This equates to 27.5 percent.

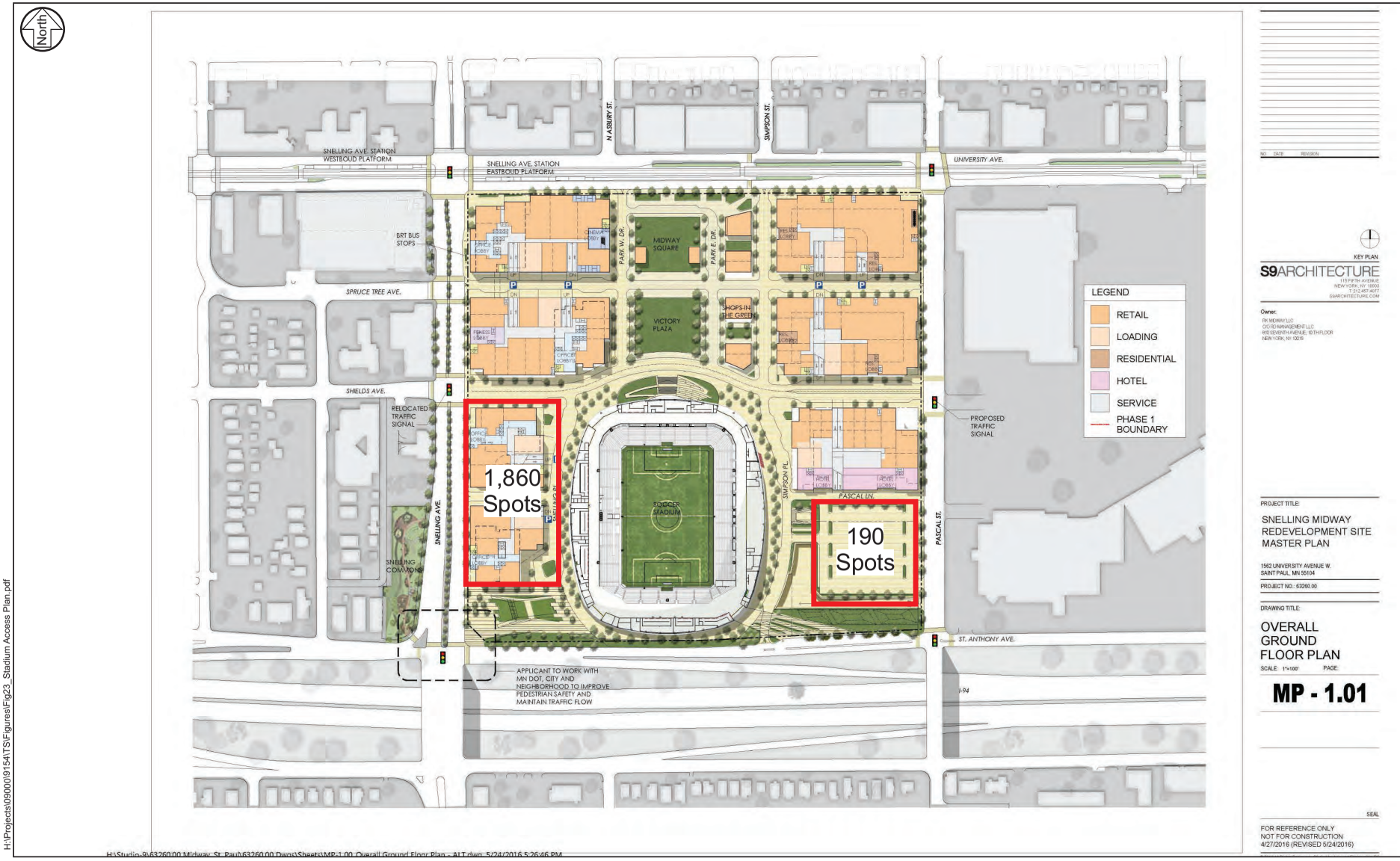
Shuttle Buses to Remote Parking

Once again all remaining event patrons that do not utilize the other modes are expected to arrive and depart the event utilizing a shuttle bus. The park and ride lots are desired to be located within a two to three mile radius as these shuttles are expected to operate a few trips back and forth to the stadium. Potential park and ride shuttle lots, along with capacity, were previously shown in Figure 19.

Trip Generation

To account for traffic impacts associated with the proposed stadium development, trip generation estimates for weekend afternoon event (match starting at 2:00 p.m.) were developed. It should be noted that weekday evening and weekend evening events are possible, however, the weekend afternoon event was determined to have the highest background traffic, and therefore this scenario was analyzed as the worse-case scenario. The high background traffic is generated by the near-by retail land uses, connections to other destinations and access to I-94. Any mitigation as a result of the weekend afternoon event is expected to alleviate traffic concerns during the other soccer match times.

The analysis completed was for a capacity of 25,500 patrons in year 2035 coinciding with the potential full development of the site. The trip generation estimates, shown in Table 11, were developed using the previously described mode share. It should be noted that the trips shown in Table 11 are person trips, not vehicle trips.



H:\Studio-9\63260.00 Midway St. Paul\63260.00 Dwgs\Sheets\MP-1.00 Overall Ground Floor Plan - ALT.dwg, 5/24/2016 5:26:46 PM

KEY PLAN

S9ARCHITECTURE
115 FIFTH AVENUE
NEW YORK, NY 10003
T 212.457.4077
S9ARCHITECTURE.COM

Owner:
RK MIDWAY LLC
C/O RD MANAGEMENT LLC
810 SEVENTH AVENUE, 10TH FLOOR
NEW YORK, NY 10019

PROJECT TITLE:
SNELLING MIDWAY REDEVELOPMENT SITE MASTER PLAN

1562 UNIVERSITY AVENUE W.
SAINT PAUL, MN 55104

PROJECT NO.: 63260.00

DRAWING TITLE:
OVERALL GROUND FLOOR PLAN

SCALE: 1"=100' PAGE:

MP - 1.01

SEAL

FOR REFERENCE ONLY
NOT FOR CONSTRUCTION
4/27/2016 (REVISED 5/24/2016)

H:\Projects\09000\9154\TS\Figures\Fig23_Stadium Access Plan.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Event Traffic Parking (Estimated Availability)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 24

Table 11. Person Trip Generation Estimates – 25,500 Patrons

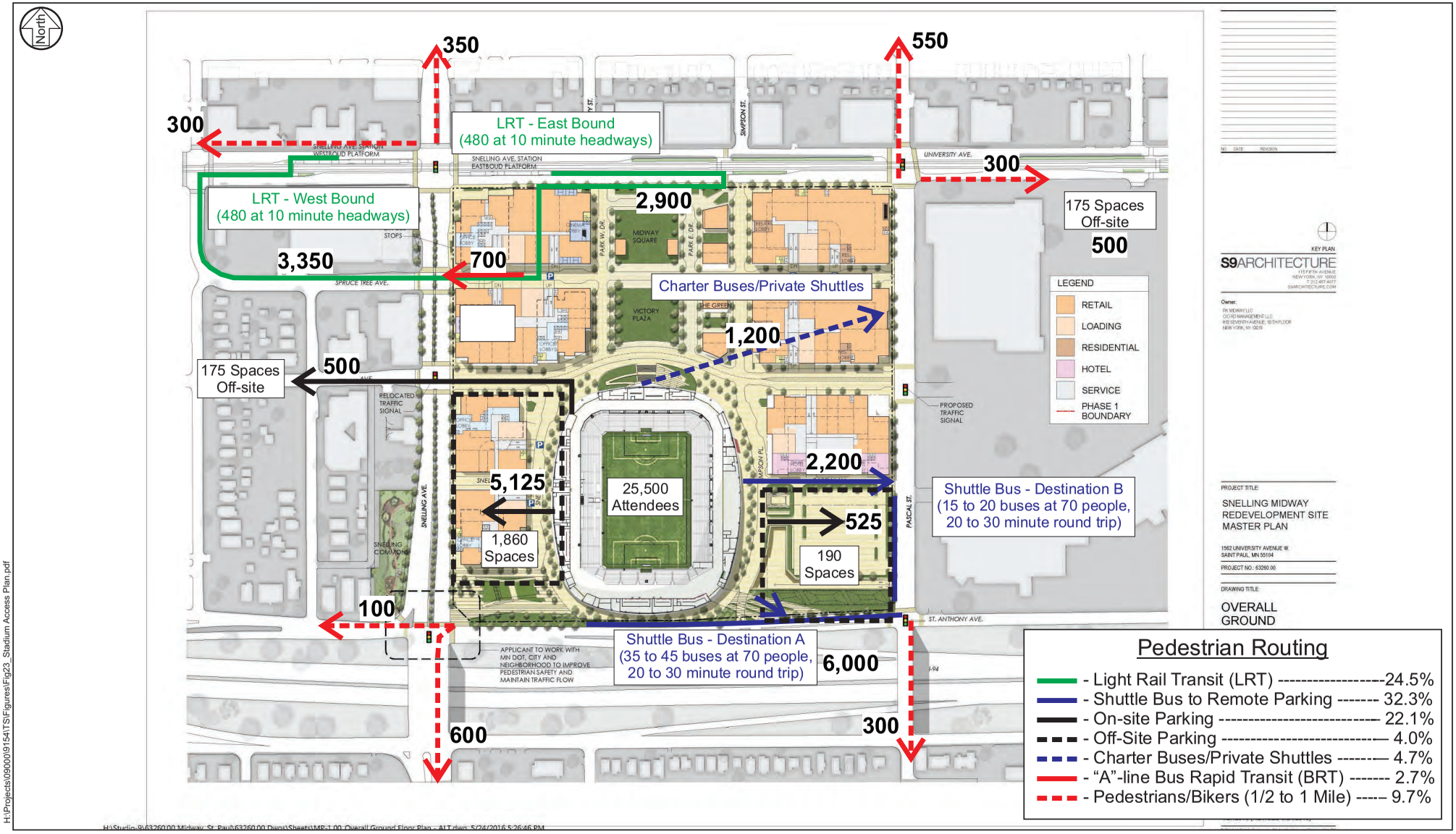
Modes	Percent of Total	Weekday		Percent of Total	Weekend	
		Arrival	Departure		Arrival	Departure
Non-Auto or LRT/BRT	14.0%	3,515	3,515	18.1%	4,605	4,605
On Site Parking	22.0%	5,650	5,650	22.0%	5,650	5,650
Off Site Parking	4.5%	1,155	1,155	4.5%	1,155	1,155
LRT/BRT	27.3%	6,960	6,960	27.3%	6,960	6,960
Off-Site Shuttles	32.2%	8,250	8,250	28.1%	7,150	7,150
Totals	100.0%	25,500	25,500	100.0%	25,500	25,500

Results of the trip generation estimates indicate that approximately 26.5 percent of trips for an event will occur using an automobile within the study area. A breakdown of the proposed person trip routes is shown in Figure 25. It is expected that for weekend events, walking and biking become more attractive options due to events occurring earlier in the day and the potential event patrons will have more available time to walk or bike from further distances.

Trips generated by the proposed event were distributed throughout the study area based on event attendees' origin/destination information is based on zip codes collected from individual and season ticket holders for other professional sports teams in the Twin Cities, the current Minnesota United team, and metro area population densities. The zip codes were mapped and assigned to the most efficient travel shed to the stadium from the zip code. The zip code information provides an accurate representation of where potential attendees are expected to be located in the metro area. The directional distribution is shown in Figure 15.

In addition to the trips generated by the event, the surrounding development on site is expected to generate a significant amount of trips within the study area. Assumptions were made in order to determine the trips generated during the weekend peak hours. Certain land uses had published trip generation from a combination of ITE, SRF locally collected data on weekends, and other local data from TripGeneration.org. Based on these sources, the trips were able to be adjusted from the a.m. and p.m. peak hour trips to better represent weekend peak hour arrival and departure time peak hour trips. These trip generation estimates can be found Appendix G.

The resultant year 2035 event traffic forecasts, which include general background growth, trips generated by the adjacent on-site development, and trips generated by an event, are shown in Figures 26A and 26B.



H:\Projects\09000\9154\TS\Figures\Fig23_Stadium Access Plan.pdf

H:\Studio-9\63260.00 Midway St. Paul\63260.00 Dwgs\Sheets\MP-1.00 Overall Ground Floor Plan - ALT.dwg, 5/24/2016 5:26:46 PM

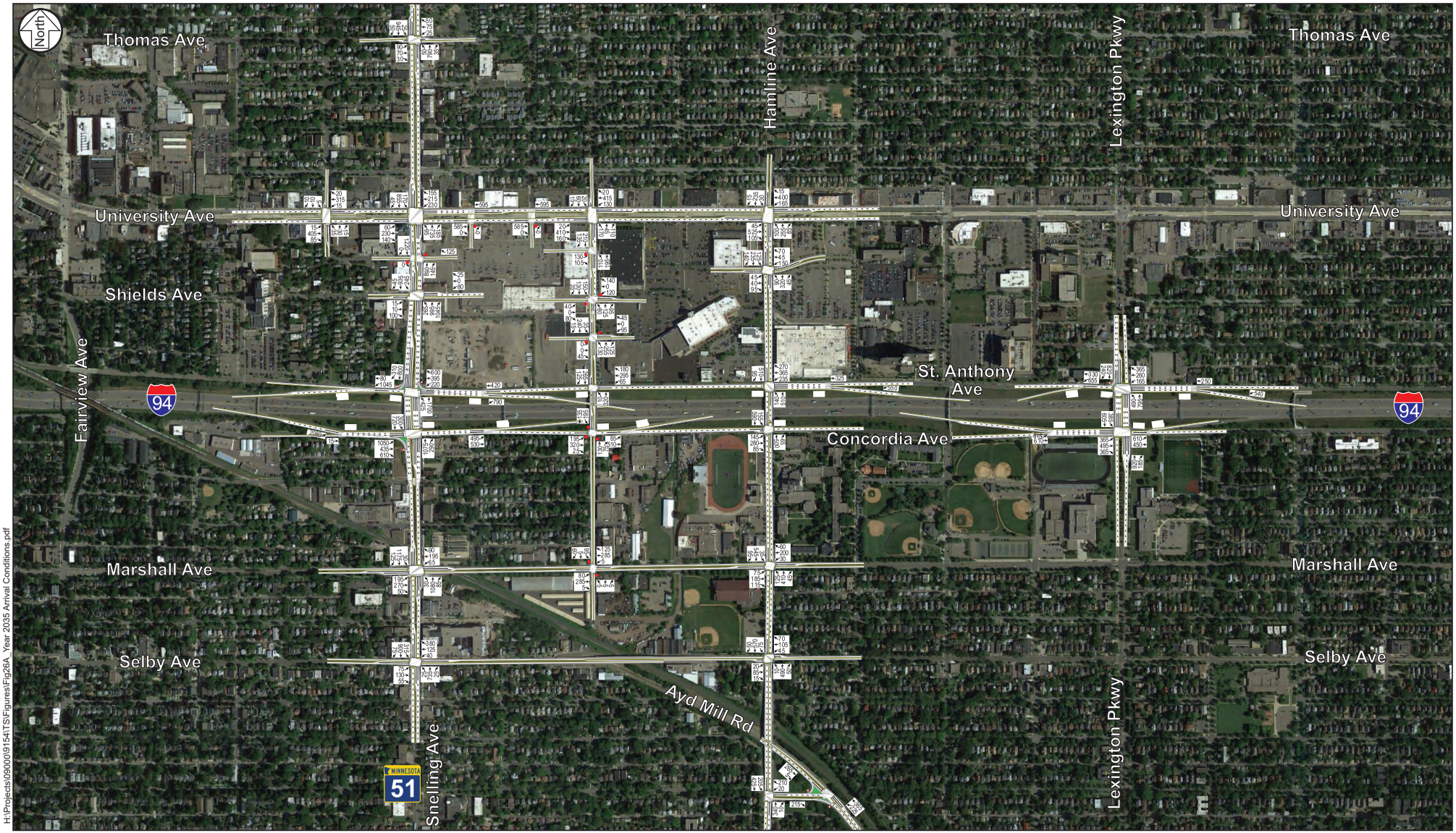
SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Event - Pedestrian Routing Capacity Event (Mode Selection - Potential Plan)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 25



H:\Projects\0900\09154\TS\Figures\Fig26A_Year 2035 Arrival Conditions.pdf

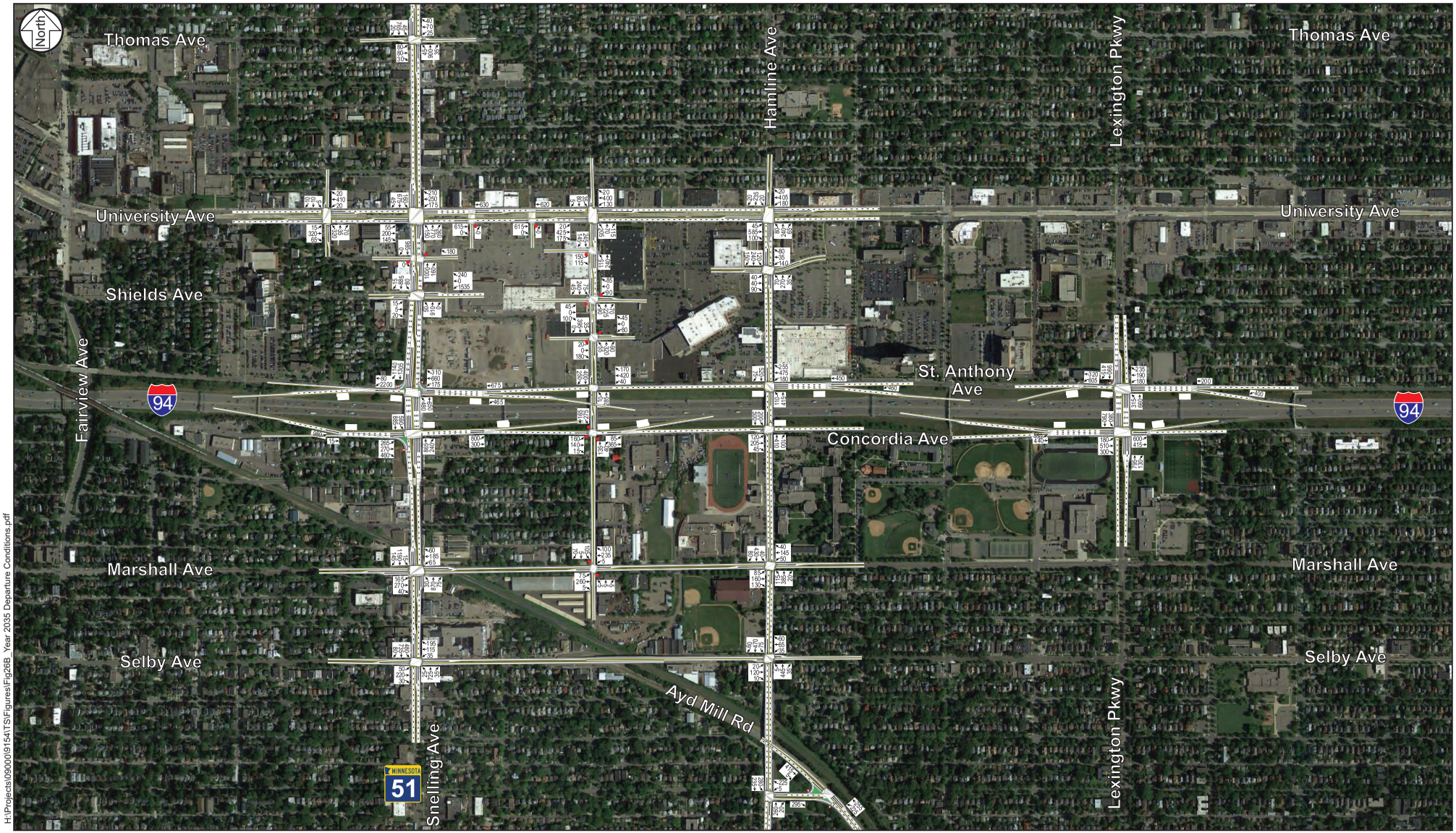
SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Weekend Afternoon Arrival Conditions (2:00 PM Event Start Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 26A



H:\Projects\09000\91541TS\Figures\Fig26B_Year 2035 Departure Conditions.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Weekend Afternoon Departure Conditions (4:00 PM Event Departure Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 26B

Intersection Capacity Analysis

Weekend afternoon event conditions were analyzed with the proposed roadway configuration and a full capacity event to determine potential transportation impacts due to the increased pedestrian and vehicular traffic. It should be noted that weekday evening and weekend evening events are possible, however, the weekend afternoon event was determined to have the highest background traffic volumes, and therefore this worse-case scenario was analyzed. This is caused by the heavy retail peak that occurs on weekend afternoons within the study area. Any mitigation as a result of the weekend afternoon event is expected to alleviate traffic concerns during the other two potential soccer match times. As previously noted, overall intersection LOS A through LOS D is generally considered acceptable in the Twin Cities Metro Area for weekday peak hour traffic, but not for event traffic. Events are intense peak flows resulting in intersections operating at LOS F, so mitigation strategies are needed to manage it and limit the duration of the event traffic. Additionally, events can be measured by the effects queues have on other intersections within the study area. The amount of time needed to clear the departure will be identified as another measure of effectiveness.

This scenario assumes an afternoon start time of 2:00 p.m. and a departure time of 4:00 p.m. Arrival and departure traffic operations analysis were conducted for the hour before and after the match respectively. Based on the mode share methodology previously discussed, approximately 2,430 automobiles are assumed to drive to the site or have a sparking space within walking distance for the event. It is expected that 65 percent of the vehicles (1,580) arrive prior to the game during the peak hour, and 90 percent of the vehicles (2,190) depart during the peak hour.

A detailed intersection capacity analysis was completed for the weekend afternoon arrival and departure using Synchro/SimTraffic. Results of the detailed intersection capacity analysis are shown in Table 12. In addition, level of service results for the arrival and departure are shown in Figures 27A and 27B, respectively. The full simulation results for year 2035 arrival and departure conditions are presented in Appendix H.

During the arrival peak hour on a weekend afternoon, there is expected to be queuing in the northbound direction of Snelling Avenue from south of Selby Avenue to the I-94 interchange. This is due to the significant eastbound left-turning volume at Snelling Avenue and Concordia Avenue intersection coming from I-94 heading to the on-site event parking lot along Snelling Avenue. Additionally, a rolling eastbound queue is expected from the exit from I-94 to Concordia Avenue that will spill back onto the freeway exit ramp. In addition to causing significant queuing, the overall LOS is expected to be an overall LOS E at the Snelling Avenue and Concordia Avenue intersection and an overall LOS F at the Snelling Avenue and Selby Avenue intersection. This operation is caused by needing additional green time for event traffic coming from I-94, resulting in queuing south of Concordia Avenue to Selby Avenue. This significant northbound Snelling Avenue queue is a result of the I-94 exit at on Concordia Avenue eastbound left-turn requiring a significant amount of green time within the traffic signal cycle. The queuing caused by the arrival conditions is considered unacceptable if it extends onto the I-94 mainline. The expectation is that the freeway will be free-flowing, and these queues could cause safety concerns.

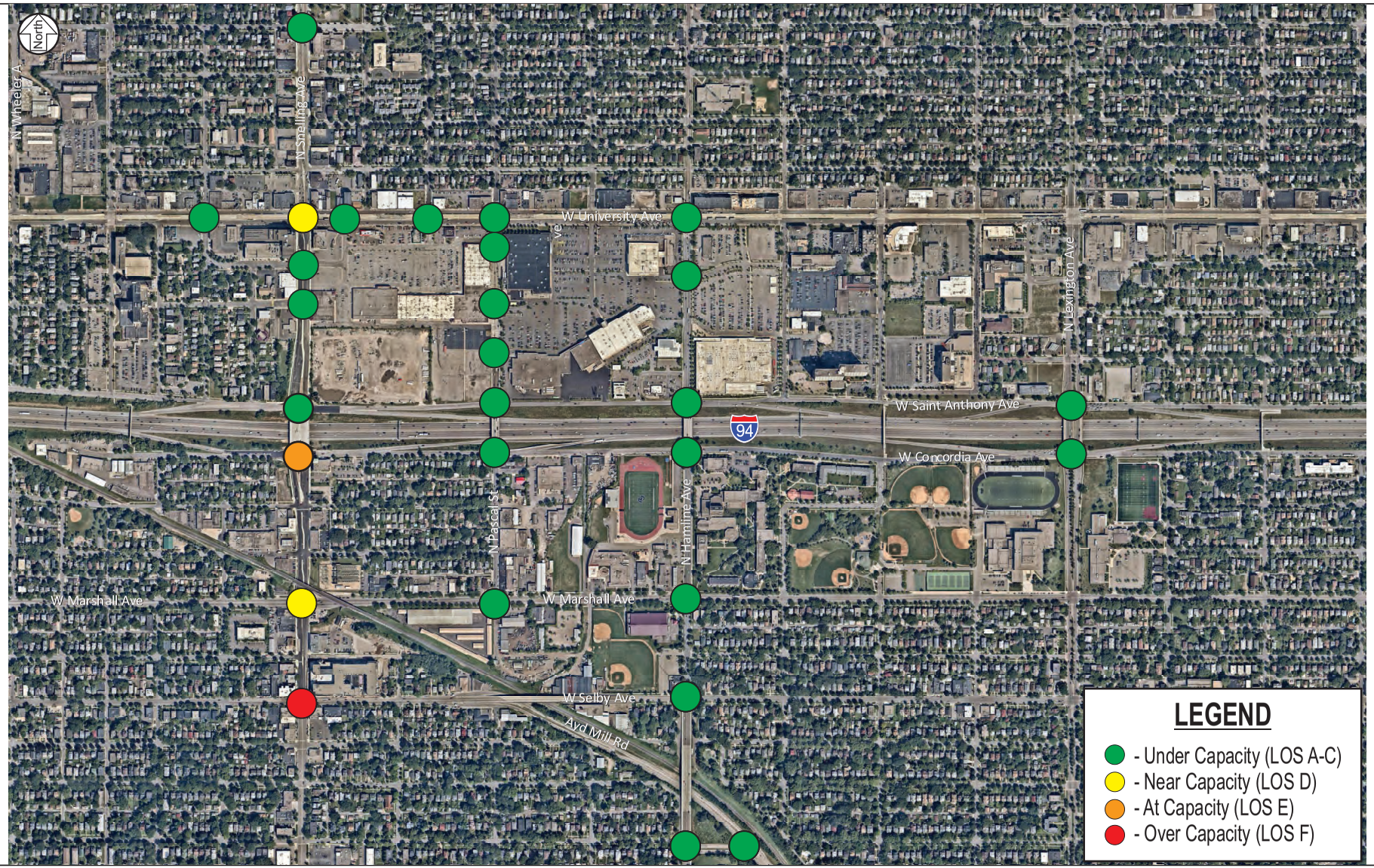
During the departure peak hour, issues are observed over the course of the peak hour for vehicular traffic. The majority of exiting vehicles are destined to exit in the half hour immediately after the end of the game, which causes a spike in traffic volumes. This is observed at the Snelling Avenue and Shields Avenue intersection and along the driveways on Pascal Street. Traffic volumes during the exiting peak hour are large along Snelling Avenue, and with much of the traffic destined to the westbound I-94 on-ramp, significant southbound right-turn queueing from St. Anthony Avenue to Shields Avenue is expected. This is due to the added parking on the west side of the site along Snelling Avenue. Additionally, the majority (~40 percent) of traffic from Pascal Street is also destined to the I-94 westbound on-ramp, which travels westbound on St. Anthony Avenue. Because these two major movements conflict with one another queues are expected in both directions. This queueing on St. Anthony Avenue could spill back from Snelling Avenue to Pascal Street and have an effect of a rolling queue from the parking lot exit on Pascal Street. Because of the amount of volume on Pascal Street after a match, driveway access from Midway Shopping Center, Walmart, and Cub will be difficult. It is anticipated that motorists that use these facilities will find alternate routes out of the shopping area, however, to remain conservative, these volumes were kept in the network at the specific driveway. Traffic control officers will be needed to control these access points. This significant queue along St. Anthony Avenue is also expected to have a major impact on the shuttle bus pick-up and drop-off area and could cause excessive delays for shuttles trying to depart. If the queuing does impact bus operations, the shuttle area may need to be moved for operational considerations. If the shuttle bus area is not allowed to work efficiently, this would cause an unacceptable condition. This includes leaving the shuttle area and getting to Snelling Avenue to depart to the park and ride locations.

The majority of the study intersections not immediately adjacent to the site are expected to operate at an acceptable overall LOS D or better, however the significant queuing and delay is one that cannot be mitigated without negatively impacting other aspects of the overall transportation network. **The significant queuing is expected to take approximately one and a half to two hours to clear.**

Table 12. Year 2035 Weekend Afternoon Event Intersection Capacity Analysis

Intersection	Arrival Peak Hour	Departure Peak Hour
	LOS	LOS
University Avenue/Fry Street	A	D
Snelling Avenue/Thomas Avenue	B	E
Snelling Avenue/University Avenue	D	F
Snelling Avenue/Spruce Tree Avenue	A/B	D/F
Snelling Avenue/Shields Avenue	C	F
Snelling Avenue/St. Anthony Avenue	C	E
Snelling Avenue/Concordia Avenue	E	C
Snelling Avenue/Marshall Avenue	D	B
Snelling Avenue/Selby Avenue	F	C
University Avenue/Asbury Street(1)	A/A	--
University Avenue/Simpson Place(1)	A/A	C/E
University Avenue/Pascal Street	C	C
Pascal Street/North Midway Shopping Center Driveway(1)	A/B	E/F
Pascal Street/Shields Avenue-Walmart Driveway(1)	A/B	F/F
Pascal Street/South Driveway-Cub Driveway(1)	A/B	F/F
Pascal Street/St. Anthony Avenue	B	F
Pascal Street/Concordia Avenue(2)	A	A
Pascal Street/Marshall Avenue(1)	A/B	A/A
University Avenue/Hamline Avenue	C	C
Hamline Avenue/Midway Marketplace	B	A
Hamline Avenue/St. Anthony Avenue	B	C
Hamline Avenue/Concordia Avenue	B	B
Hamline Avenue/Marshall Avenue	C	B
Hamline Avenue/Selby Avenue	B	B
Hamline Avenue/Ashland Avenue	B	B
Ayd Mill Road/Ashland Avenue	B	B
Lexington Avenue/St. Anthony Avenue	B	B
Lexington Avenue/Concordia Avenue	B	B

(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.
(2) Indicates All-Way Stop Control



H:\Projects\09000\9154\TS\Figures\Fig27A_Year 2035 Weekend Arrival Traffic Analysis.pdf

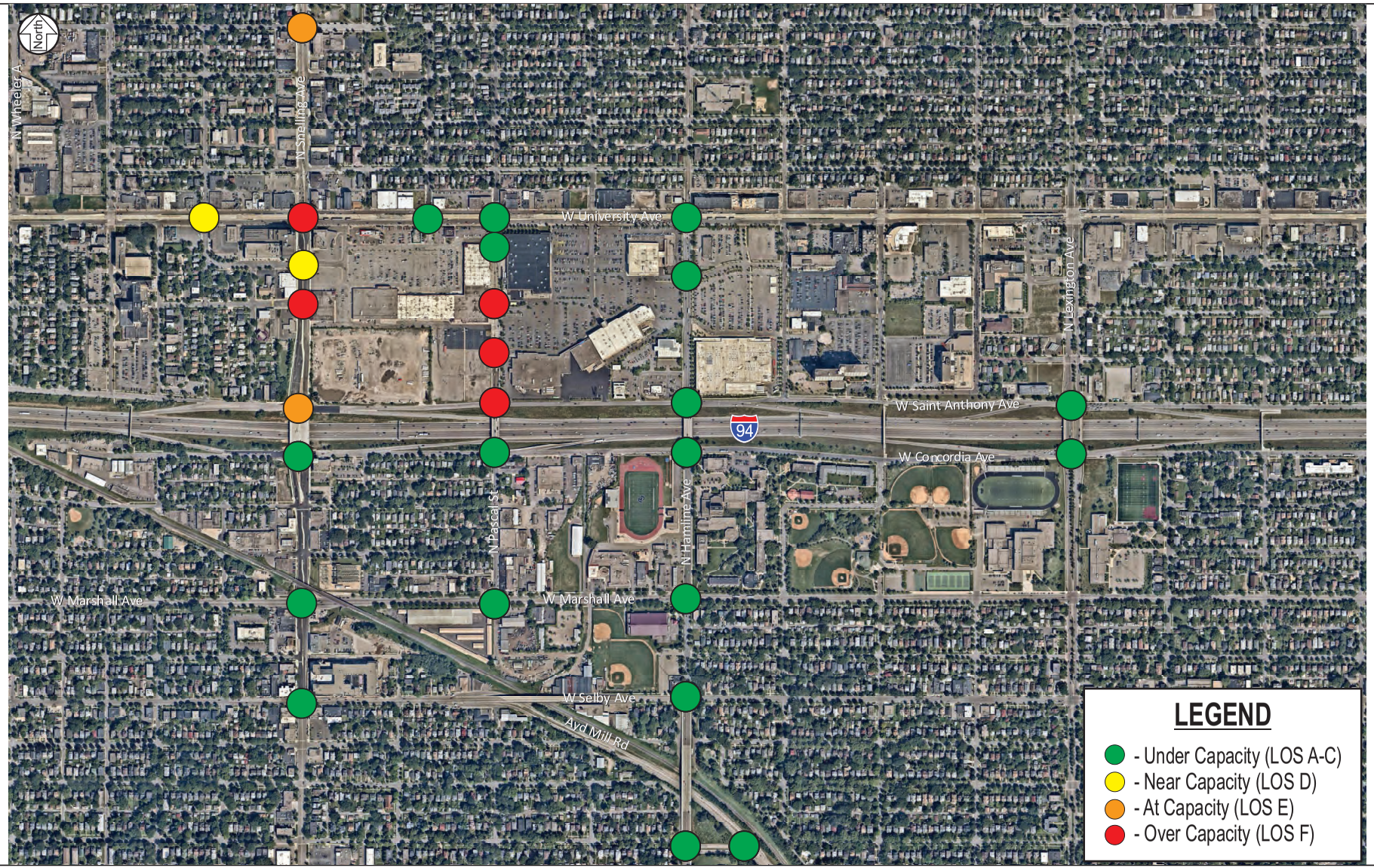
SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Weekend Arrival Traffic Analysis (2:00 PM Event Start Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 27A



H:\Projects\09000\9154\TS\Figures\Fig27B_Year 2035 Weekend Departure Traffic Analysis.pdf

SRF Consulting Group, Inc.

0169154
April 2016

Year 2035 Weekend Departure Traffic Analysis (4:00 PM Event Departure Time)

Snelling Midway Stadium Transportation Study
City of St. Paul

Figure 27B

Key Findings for Year 2035 Capacity Event

Additional findings beyond those for year of opening (2018):

The site will continue to change as re-development occurs. An updated TMP should be prepared each year to account for the changes.

The additional on-site parking, all located along Snelling Avenue, departing at one access point, is challenging. The on-site parking will require almost **two hours to clear.**

Additional parking should be found away from the site and have good access to the other interchanges to I-94, not Snelling Avenue.

In order to clear event traffic in one hour (besides on-site vehicles), additional shuttle bus service will be needed. Although, it is expected that the new residential uses, office, and hotel will result in more event patrons walking to the event.

Weekend start times should be even more encouraged to start later in the day, although, the significant amount of vehicles departing from the site at Shields Avenue after an event will be problematic at any time.

Issues are expected along Snelling Avenue during both the arrival and departure peak hours. During arrivals, the significant eastbound left-turning volume at the Concordia Avenue/Snelling Avenue intersection is expected to back-up onto the Snelling Avenue exit ramp and potentially onto I-94. Additionally, the northbound direction of Snelling Avenue between Concordia Avenue and Selby Avenue is expected to suffer from the significant eastbound left-turning volume. Typically, other event arrivals do not result in such poor operations.

During the departure peak hour, significant issues are expected when exiting the site through the Snelling Avenue and Shields Avenue intersection. With the majority of these vehicles destined to I-94 westbound, the Snelling Avenue and St. Anthony Avenue intersection is expected to be significantly over capacity and will not be able to accommodate all of the event traffic within one hour. It is expected to take **one and a half to two hours** to clear event traffic due to the significant volumes heading westbound on Shields Avenue to southbound Snelling Avenue destined to the I-94 interchange.

These event departure issues along Snelling Avenue are expected to impact the shuttle bus delivery and pick-up area along St. Anthony Avenue. Due to these impacts, the shuttle bus area may not be able to operate as intended, which will impact how long the shuttle bus queue takes to dissipate. Additional shuttle areas may be necessary in order to clear the shuttle pedestrian queue within a one hour timeframe.

These potential traffic issues will need to be evaluated with any expansion plans in the future.

Mitigation Measures

This section relates to mitigation needed based on the re-development of the entire site and not related to traffic generated by an event at the soccer stadium. It is important to remember that the proposed plan has just a slight increase in the amount of retail space compared to the existing site. The retail trips are more local in nature. The site does propose new office space of around 1 million square feet. These trips are typically more regional.

Completion of full development

At the completion of full development, the new improvements should include the following:

Internal roadway system connections to public roadways:

1. Two internal north-south roadways that connect to University Avenue (partial access; right-in/right-out only) and the easterly north-south roadway connecting to Saint Anthony as a right-in/right-out access and western north-south roadway terminating in the site.
2. Two east-west roadways that connect Snelling Avenue and Pascal Street
    a. Extension of Spruce Tree would have modified access resulting in right-in/right-out only movements with the traffic signal removed at Snelling Avenue and full access at Pascal Street
    b. Extension of Shields Avenue would result in a new full access signalized access at Shields Avenue and full access with potential of a traffic signal at Pascal Street
3. Pedestrian and bike accommodations internal to the site

Around the Site

4. Pedestrian sidewalk should be provided around the perimeter of the site, with a minimum width of eight feet.
5. Bike racks for a minimum of 400 bicycles should be provided.

Snelling Avenue – University Avenue to Shields Avenue

To address the close spacing of the Spruce Tree and University Avenue intersection;

6. Spruce Tree intersection
    a. Add a center median to only allow right-in/right-only access
    b. Remove the traffic signal ("relocated" to Shields Avenue)
7. University Avenue Intersection
    a. Extend Northbound left-turn lane from 50 feet to 250 feet
8. Shields Avenue
    a. New traffic signal ("relocated" from Spruce Tree Avenue)
    b. Add Southbound left-turn lane

c. Two-lanes of approach for eastbound Shields Avenue (check alignment across intersection); left-thru lane and a right-turn lane (may be convertible to parking in off-peak hours)
d. Three-lanes of approach for Westbound Shields Avenue with two providing left-turn movements; left-turn lane, left-thru lane and right turn lane
e. Traffic signal phasing can vary throughout the time of day, depending on traffic volume demand. It is expected that the new signal controller and signal heads will be able to accommodate both phasing options presented:
    i. Westbound protected/permissive (i.e flashing yellow arrow) left-turn phasing with no eastbound left-turn phasing (more efficient)
        1. Best operation with an assumed 20 foot wide pedestrian crossing
        2. Pedestrian crossing is only feasible on the north side
        3. This option is recommended to be run during all peak hours
    ii. Split Phasing
        1. Pedestrian crossing only on the north side
        2. This may be run in off peak times

Pascal Street – University Avenue to Saint Anthony Avenue

With the new land use; access points should align across Pascal and left-turn lanes provided.

9. Shields Extension – New traffic signal (when warranted)
10. Re-stripe Pascal to provide a three-lane roadway (one thru lane in each direction with left-turn lane) with the additional space for the existing bicycle facility. Maintain Northbound left-turn lane at University Avenue and add Southbound right-turn lane at Saint Anthony
11. Sufficient width and right-of-way should be obtained to provide a five-lane roadway if needed in the future.
12. Saint Anthony – Install a permanent traffic control signal

Marshall Avenue / Hamline Avenue Intersection

The site does not generate much traffic going through this intersection, but enough to cause the intersection to be unacceptable. The operations can be mitigated with two solutions:

13. Add an Eastbound right-turn lane during the p.m. peak hour by restricting 100 feet of parking along Marshall Avenue.
    a. Alternative would be to add northbound and southbound left-turn lanes.
    b. This improvement is not needed with the initial development phases.

Snelling Avenue from University Avenue to Selby Avenue

The expected additional development generated traffic is expected to be a small increase south of the I-94 interchange, we know that today eastbound queues can somedays back from the I-94 eastbound ramp intersection onto the freeway due to southbound queuing on Snelling Avenue. Snelling Avenue south of the interchange can feel congested with the number of vehicles changing lanes to Selby Avenue and queues blocking unsignalized intersections during the peaks.

14. Update traffic signal timing along Snelling Avenue for the six intersections for each phase of development.

Policy Measures

Encourage use of Transit

The site is served by great transit facilities with Central Corridor LRT (Green Line) along University Avenue and a new BRT (Bus Rapid Transit) "A-Line" starting in summer of 2016.

15. Consider implementing TDMP (Travel Demand Management Plan) strategies with future re-development
16. Land use guidance to promote TOD (Transit Orientated Developed) and complementary land uses

Mitigation – Event (Year of Opening 2018 – Capacity of 20,000)

Mitigating an event requires a management strategy and elements of that strategy. Based on the modeling of the events, the following items are needed to be addressed in a Transportation Management Plan (TMP) ***in order to clear the event traffic within one hour***. The transportation management plan should be started after the AUAR and continue to within a few months of the first event. The TMP committee should include MnUnited Soccer Team, RK Midway, City of Saint Paul Planning and Public Works, Metro Transit, Ramsey County Public Works, MnDOT and FWHA. They should meet prior to every MLS soccer season to discuss potential modification to the site plan or transportation system.

1. Develop Transportation Management Plan
    a. The TMP will evaluate potential mitigation measures to determine the relative cost and effectiveness.
2. Event Traffic Control Plan
   The event traffic control plan is how the actual day of the event will be managed outside of the physical stadium. This would include diagrams of routing event patrons, key conflict points would be managed by traffic control officers. Providing storage areas, etc.
    a. Traffic Control Officers – They are needed to manage pedestrian flows and where modes (pedestrians, bikes, buses, cars or LRT) cross/conflict. Traffic control officers will be needed to be further explored in the TMP, but the following seem to be likely areas:

i. Snelling Avenue at Concordia Avenue, Saint Anthony Avenue, Shields Avenue, Spruce Tree Avenue and University Avenue
ii. Pascal Street at Concordia Avenue, Saint Anthony Avenue, two driveways, Shields Avenue extension, Spruce Tree Extension and University Avenue
iii. University Avenue at Fry Street for westbound LRT platform and the crossing to the eastbound LRT platform on the south side of University Avenue at Simpson Street.
iv. Metro Transits Staff at the Snelling Avenue Platforms and manage queues getting onto the platforms. Hamline Avenue Platform to ensure compliance.
v. Additional traffic control will be needed at the Shuttle Bus Loading areas, Charter Bus and Private Shuttle Bus Loading areas to assist with loading and unloading on the site.
vi. Traffic control for taxi, drop-off/pick-up areas.
vii. Internal traffic control to direct pedestrians to transit service and maintain orderly flow and eliminate any modal conflict.

b. Managed Storage Areas for Transit, Shuttle and Charter Bus. Storage areas have been ***estimated*** for the maximum number of patrons per transit mode:
   i. Westbound LRT – 1,500 to 2,100 people (12,000 to 17,000 sq. ft.)
   ii. Eastbound LRT – 1,250 to 1,750 people (10,000 to 14,000 sq. ft.)
   iii. Shuttles to Remote Parking – 3,000 to 3,500 people (24,000 to 28,000 sq. ft.)
   iv. A Line BRT – 200 people (2,000 sq. ft.)
c. Temporary lane or roadway closures. Need to identify these locations in the TMP. Consideration could be given to lane closures on Spruce Tree Avenue, behind remaining businesses on-site and several internal roadways.
d. Permanent or temporary barriers are needed to restrict uncontrolled pedestrian crossings on Snelling Avenue (median) and Pascal Street. Internal roadways and walkways will require barriers to direct pedestrian flow.
e. Event traffic signal timing plan at the following intersections:
   i. University Avenue at Fry Street, Snelling Avenue, Pascal Street, Hamline Avenue and Lexington Avenue.
   ii. Snelling Avenue at Thomas Avenue, University Avenue, Shields Avenue, Saint Anthony Avenue, Concordia Avenue, Marshall Avenue and Selby Avenue
   iii. Pascal Street at University Avenue, Shields Avenue (once built) and Saint Anthony Avenue

3. Parking Plan

On-Site Parking is only expected to accommodate approximately 10 percent of a capacity crowd. There will be more demand for parking near the facility than can be accommodated. To reduce congestion and frustration caused by vehicles trying to find parking, communication must be stated that if you do not have a reserved parking space for the event, then please take transit or shuttle buses from (list where they can park and ride transit/shuttle service). Assigned Parking on-site and immediately (within one mile) near-by should be assigned and purchased with the tickets. Potentially, this should be considered for all locations in order to minimize confusion.

a. LRT/BRT and Shuttle Buses to remote parking will need to identify these locations and communicate their locations to event patrons.

b. Parking spaces for event patrons leaving by LRT – westbound will need about 1,200 to 1,400 parking spaces. These could be located at the University of Minnesota or in Downtown Minneapolis.
c. Parking spaces for event patrons leaving by LRT – eastbound will need about 1,000 to 1,200 parking spaces. These could be located near the capitol or Downtown Saint Paul.
d. Parking spaces for event patrons leaving by Shuttle Bus to remote parking will need about 3,000 parking spaces. These could be located at several locations including the State Fair Grounds, etc., although the destinations are preferably limited to two or three in order to maximize efficiency of shuttle operations.
e. Work with businesses and quasi-government agencies to provide event parking such as the State Fair Grounds, University of Minnesota, Downtown Saint Paul, etc. Consider pre-sale of these facilities.
f. Encourage on-site parking to have high vehicle occupancy. Example – Able to purchase on-site parking pass with the purchase of 4 or more tickets, etc.
g. Private businesses could have available parking supply during events but may not be interested in providing parking for various reasons including already being used, not current practice, insurance, licensing and sales tax. However, the potential for additional use of nearby lots during events should be explored if locations can be accessed without additional traffic passing through the I-94/Snelling interchange.

4. Transit Plan

Metro Transit is currently working with a transit consultant to work through some of the potential issues for transit before and after events. Expectations are that LRT, A-Line BRT and regular bus service are expected to accommodate approximately 35 percent of a capacity event. This analysis made the following assumptions regarding the movement and queueing of transit riders on the site:

The Snelling Ave LRT Station westbound platform departure operation would load from the Fry Street end. LRT passengers alighting at this station would proceed to Snelling Avenue side of the station. The Snelling Avenue LRT Station eastbound platform departure operation would load similar to the westbound, except boarding at the midblock crossing near Simpson Street with alightings directed toward to Snelling Avenue.

These operations are shown on Figure 20. The routes were chosen based on understanding of likely configuration of the portion of the superblock north of the proposed extended Shields Avenue at the time of stadium opening in 2018. However, Metro Transit has looked at alternatives for pedestrian routing and staging that would also be feasible for accommodating transit riders. The alternatives implemented in 2018 will be determined in consultation with Metro Transit based on actual site configuration in 2018, and modified going forward as the remainder of the superblock redevelops.

The project will need to work with Metro Transit in the following areas:

a. Identification of preferred alternatives for movement and queueing of transit riders based on actual site configuration in 2018.
b. Modification of alternatives as the remainder of the superblock redevelops.
c. Request continued LRT frequency of 10 minute headways through event departures

d. Request 3 car LRT trains are available during event arrivals and departures on the weekends
e. Initial understanding is that Metro Transit would not be able to add LRT trains for the event, because no storage areas exist near this station and was never planned for Stadium. Continue to investigate this option with them.
f. "A" Line (Snelling Avenue) BRT service will come on-line in summer of 2016. Request that BRT frequency of 10 minute headways is continued through event departures
g. Ask Metro Transit if the frequency can be increased for the BRT service
h. Ask if regular Metro Transit bus service can be expanded for events
i. Ask if Metro Transit will supplement LRT with additional bus service, especially on University Avenue and Snelling Avenue.
j. The limitation of expanded bus service depends on the availability of buses and operators

5. Shuttle Service to Remote Parking Plan
Expectation is this shuttle service to remote parking would accommodate around 30 percent of a capacity event. This would result in approximately 100 to 120 bus trips with a crush-load of 70 people and require 40 to 50 buses depending on the location of the remote parking. Two key elements of the shuttle service is the amount of space on-site required to stage event patrons waiting for the shuttles and finding remote parking areas within a reasonable distance.
    a. Shuttle service area to remote parking could include State Fair, University of Minnesota, large parking areas at private businesses, Capitol Area or downtown Saint Paul. Recommend parking locations within two to three miles to reduce the number of buses. Once locations are determined, then will need to determine location and routing.
    b. Temporary shuttle area alighting and boarding areas along either St Anthony or Pascal are contemplated, although event traffic queueing from the Snelling/Saint Anthony intersection might be an issue.
    c. Shuttle area's unloading and loading areas should be for one destination each, so event patrons don't become confused. The same location should be for drop-off and pick-up.
    d. Temporary fencing may be necessary in order to control how pedestrian queues flow within the shuttle area.

6. Routing and Wayfinding Plan
All event patrons are pedestrians at some point of their trip to or from the Stadium. The team will need to provide direction to Snelling Avenue LRT Station, A-Line BRT Station (University Avenue Station), Charter Bus/Private Shuttle Bus, Shuttle Bus service to remote parking (and perhaps more than one destination) and parking lots. This information is needed on-site, but other off-site signage and wayfinding maybe needed. The intent is provide the most efficient, safe and easy to understand plan to have a great patron experience.
    a. Bike rack storage (pre-sale spaces)
    b. Event signage (Changeable Message Sign (CMS)) on freeway, local streets and on-site
    c. Planning routes and minimizing use of Snelling/I-94 interchange
    d. Locations to all of the transportation modes
    e. Show these plans on the website, tickets, etc.

7. Communication and Education Plan
   The technical analysis and the other plans need to be communicated to the event patrons, local businesses/residents and those who drive/walk/bike or take transit through the area. The transportation system will need its full capacity to accommodate the arrival and departure of the event. This information can be mailed to ticket holders, websites, on parking vouchers, with any ticket purchase, media outlets, email notifications to anyone, etc.
   a. Not enough on-site parking with be available for the potential demand, and therefore event patrons need to use transit or shuttle bus service to remote parking
   b. Need good information techniques to guide event patrons to remote parking and transit
   c. Information that on-site and adjacent off-site parking is limited and should be pre-sale
   d. Only want so much parking on-site. Desire parking that is east or west of site and does not use the Snelling Avenue interchange to access I-94.
   e. Provide private charter and shuttle bus service providers to event patrons.

8. Incident Management and Safety Plan
   This would be completed by emergency responders. It would cover situations in the case of an incident or issue at the stadium.

9. Other Considerations
   Other items to consider that impact the transportation event include existing usage of the transportation system, how to manage the event by spreading out the peak demand and how the site might develop resulting in adaption of the plan to new conditions.
   a. Form a transportation committee that meets at least twice a year to discuss event scheduling, transportation issues, improvements, etc. Group should include MnUnited Soccer Team, RK Midway, City of Saint Paul Planning and Public Works, Metro Transit, Ramsey County Public Works, MnDOT Area Manager and FWHA
   b. With the amount of retail land use in the area, the existing volumes are high until 6:30 p.m. on both weekdays and weekends. Recommend considering games begin at 7:00 p.m. or later. Matches starting at 2:00 or 4:00 p.m. would have challenges with event arrival and departure traffic.
   c. Avoid over-lapping events at the University of Minnesota (TCF Bank), State Fair (operates for twelve days from late August into early September, ending on Labor Day) and Vikings (US Bank Stadium), as these events will likely consume remote parking, transit capacity and regional roadway capacity.
   d. The team should consider activities/concerts/etc. before and after match events to spread out arrival and departure times. Work with local businesses to participate or lead such events.
   e. Consider pre-sale of parking at all venues including on-site, near-by, and remote parking facilities. This will guarantee a parking space, reduce circulation and patron confusion and frustration.
   f. Consider pre-sale (and open marketing) of bike spaces, and transit and shuttle to remote parking. Limit money transfer to speed up process.
   g. Identify an Event Transportation Manager for the Stadium
   h. TMP needs to adapt as site changes

10. Items that need to be incorporated into the Year of Opening Plan Mitigation
    a. Transportation Management Plan that includes event traffic control, parking, transit, shuttle service, routing and wayfinding, and communication and education.
    b. Create a transportation management committee. Stakeholders include MnUnited Soccer Team, RK Midway representative, City of Saint Paul Planning and Public Works, Metro Transit, Ramsey County Public Works, MnDOT and FHWA.
    c. Fencing down the median of Snelling Avenue and allowance for future boulevard fencing on the west side of Pascal Street (permanent or temporary)
    d. Providing shuttle service to remote parking
    e. Site Plan
        i. Identification of transit, charter bus, private shuttle and shuttle bus loading and unloading areas
        ii. Sufficient waiting areas for transit, charter bus, private shuttle and shuttle bus patrons
        iii. Identification of taxi and drop-off/pick-up areas
        iv. Identify bike parking facilities

Mitigation – Event (Future Expansion – Capacity of 25,500)

The mitigation of event would be similar to the year of opening plan. It will also have the benefit of knowing how the transportation is working on the site. Without any increase in Metro Transit's capacity to accommodate event patrons, the additional 5,500 patrons would need to be accommodated by on-site/adjacent parking and shuttle bus service. The proposed parking that would be available is expected to be in the office developments along Snelling Avenue. This will result in adding traffic to the busiest roadway and a key interchange (I-94/Snelling) in the transportation network. Only so many additional cars can be added and this becomes more challenging when the event is scheduled on a Saturday starting at 2:00 to 4:00 p.m. and ending around 4:00 or 6:00 p.m., as the area is very active.

Additional parking for the event might be an additional 1,000 spaces with the full re-development of the site, so 2,750 of the additional 5,500 patrons would be accommodated by on-site parking. This might be challenging to accommodate all of these vehicles onto Snelling Avenue at Shields. It is expected that with new residential and hotels being planned for the site, more internal walking trips will be included in a mode to the stadium. This will likely result in full capacity of the transit system for one hour and similar bus service to remote parking. The one issue is the additional parking is challenging to accommodate at one access at Snelling Avenue and Shields Avenue. This could result in a two hour duration to clear the on-site parked vehicles. If the parking is able to be rearranged so that it is not as one-sided or all accessing through one intersection, the departure time may be able to be reduced.

Appendix G

Draft AUAR Comment Letters

July 5, 2016

Mr. Josh Williams, Senior Planner
City of St. Paul
25 W. 4th Street – CHA1300
St. Paul, MN 55102

RE: Minnesota MLS Stadium and Surrounding Mixed Use Urban Village Draft Alternative Urban Areawide Review
Metropolitan Council Review File No. 21568-1
Metropolitan Council District 14

Dear Mr. Williams:

Metropolitan Council staff completed its review of the Minnesota MLS Stadium and Surrounding Mixed Use Urban Village draft Alternative Urban Areawide Review (AUAR) to determine its accuracy and completeness in addressing regional concerns. The Council is excited by this opportunity and supports the City's redevelopment efforts for the MLS facility and surrounding parcels.

The Council has concerns about the potential impacts to regional systems that the Final AUAR will need to address. The following comments are offered for your consideration:

Item 9 Land Use *(Patrick Boylan, 651-602-1438; Todd Graham, 651-602-1322)*
Forecasts are not discussed in the AUAR, but this would be helpful information to discuss and provide. A draft set of TAZ forecasts for 2040 has been prepared by the Council and provided to the City to review and adjust. As the City pursues this site development, changes to the TAZ forecast will be needed. TAZ #1913 is currently forecasted to add 47 households and 1,240 jobs during 2014-40. Council staff suggest that the TAZ #1913 forecast should be increased, in consideration of the development discussed in the AUAR, to reflect the 620 planned households discussed in the AUAR. The forecast for this TAZ should be updated through correspondence to the Council. The City total forecast does not need revision, only the TAZ forecasts.

Item 18 Transportation *(Russ Owen 651-602-1724, Jonathan Ehrlich, 651-602-1408; Steve Mahowald, 612-349-7775).*
Council staff are concerned regarding the assumptions used to determine mode split for travel to the site. Those assumptions appear to be tilted heavily to make the case that very few if any roadway improvements are needed from this massive traffic generator.

The Draft AUAR's transportation analysis and tech memo seem to treat auto access, pedestrian access, and transit access separately. The document should explicitly address the overlap of these transportation modes and points of conflict, along with potential mitigation strategies to address identified issues.

Council staff have several questions and comments regarding transportation, grouped into sub-categories below:

Mode Split
Council staff are concerned about assumptions that are used to determine mode split. The Final AUAR should include more details to fully analyze mode split, which need to be based on more

elaborate data sources and analysis. It is unclear in the Draft AUAR whether high transit usage will result from shuttle service and/or LRT to the stadium. Available potential capacity on the Green Line LRT does not automatically translate to usage. Furthermore the analysis of mode split should consider where the expected fan base might be coming from, perhaps using Figure 18-4 as a starting point.

- The transportation tech memo should support the claims of the mode split with observed or modeled data.
- The document should include evidence, if any, that passengers will utilize LRT to crush load and methods that will be used to insure that it is not more.
- The document should also discuss whether there are similar stadiums where 45% of attendees arrive in shuttles from off-site.

The AUAR includes an assumption on mode split of full utilization of LRT/BRT with peak-hour headways and capacity. Assuming that full capacity is available for event attendees is highly questionable for weeknight evening games, which will be competing with regular commuter users. The AUAR analysis should look at existing loads during these times and assume available capacity is crush load minus some assumptions about no build usage.

Regional transit system

Affects to the regional transportation and transit system need to be examined in more detail. Specific issues to be addressed include:

- The effect of 150 proposed shuttle bus loadings/hour on St. Anthony Avenue on traffic operations. The potential impacts to I-94 and to Snelling Avenue.
- The effect of 3,000 pedestrians/hour crossing University and Snelling to/from westbound LRT on traffic operations. The Final AUAR should indicate how traffic operations mitigation strategies affect the ability of pedestrians to make it across those streets, for example.
- Figures for LRT capacity on Figure 18-6 do not match the text (480 crush load vs. 540 crush load). This inconsistency needs to be rectified.

Parking

Parking availability should be a consideration along the transit lines intended to be used for event traffic transit usage. Downtown Minneapolis event mode split is heavily influenced by available parking capacity at the south end of the line, which does not exist to the same degree along the Green Line. However, downtown Minneapolis parking capacity may be used in this capacity, especially at locations like U.S. Bank Stadium or University of Minnesota ramps that are less likely to be used on Saturdays (except during concurrent events).

Highways

The transportation analysis needs to address potential impacts to the operation of Interstate 94, in particular potential queueing of the Snelling/Concordia and Snelling/St. Anthony intersections onto the freeway mainline and any mitigation, both under weekday peak and event conditions.
There was limited discussion of the impact of game-day traffic on I-94 and the interchanges in the area. For 7:00 PM weekday games, there is no additional capacity on I-94 if fans arrive at 5:30 or 6:00 PM. The queues from vehicles trying to get to the site will likely spill onto mainline I-94. As part of the Final AUAR, impacts to mainline I-94 need to be avoided, minimized or appropriately mitigated. The City should work with the Minnesota Department of Transportation to develop appropriate strategies.

Pedestrians

The transportation tech memo should support the estimated pedestrian queues to board LRT and shuttle buses. Issues to be addressed include the following:

- The Council has recently invested in BRT stations and is concerned about safety for pedestrians leaving the site for northbound and southbound A-Line BRT stations on Snelling Avenue. The final AUAR needs to address this issue with respects to signalized intersection and describe pedestrian crossing locations for both opening day and full build-out scenarios.
- Will people wait 40 minutes in queues of up to 3,000 to board shuttle buses? Or will they arrive/depart another way?
- How do operations risks affect this? For example, what would be the impacts if 120 shuttle bus operations could not be achieved and only 110 were possible?
- There is discussion in the text of having pedestrians avoid the Snelling Avenue intersection. Does this mean a new pedestrian crossing over I-94? Or what route might pedestrians traveling in that direction take?
- Figure 18-6 shows 2,900 pedestrians crossing University Avenue to board eastbound LRT, while 3,350 pedestrians crossing at Spruce Tree to board westbound LRT. The AUAR needs to clarify the plans for opening day of the new stadium and final, full build-out of the site.
- There may need to be policies addressed about crossing LRT tracks where the Perkins restaurant currently sits. Given the location of the proposed square and plaza, this could be a major event traffic location. Will passengers have to cross the LRT tracks, and is this being addressed through a pedestrian bridge over tracks similar to the one near the Vikings stadium in downtown Minneapolis? The study should compare estimates used to justify that pedestrian bridge. An event traffic plan should address this crossing, since it is not signalized.

Metro Transit is working with a consultant to conduct a post-event platform boarding study which is not complete at time of this letter. The City needs to work with Metro Transit following the conclusion of the post-event platform study for further concept and site plan development. The Mitigation Plan should include strategies and steps to address pedestrian safety issues in coordination with project partners, including Metro Transit.

The AUAR needs to include plans for adequate, well designed, and safe pedestrian connections from Snelling bus stops to the stadium site, as well as pedestrian facilities through the greater redevelopment site. Project developers need to ensure that internal roadways are designed such that they do not preclude further operation of transit on the site.

In addition, for Snelling Avenue, page 365 (Figure 12) shows the signal at Spruce Tree being relocated to Shields for the initial development phase. This is incorrect and is contradictory to the recommendation found in the body of the SRF traffic Study.

Shuttles

The use of shuttles is asserted in the AUAR based on parking capacity and transit capacity, but the AUAR does not provide evidence to support that level of usage. The shuttle bus discussion assumes park-and-ride lots with capacity for 8,000-9,000 fans within 2-3 miles of the site (ideally). There is only one public park-and-ride even close to within that distance, and it is not very large (Como Ave. and Eustis St.). The AUAR needs to include a more thorough analysis of park-and-ride availability or site characteristics that would facilitate the use of shuttles. Churches may be a potential partner for Saturday games. State Fair shuttle services may provide a reasonable model for how realistic these assumptions are and the associated costs.

Freight
The AUAR should recognize and address freight impacts. Snelling Avenue is the designated truck route for through movements between BNSF Midway intermodal hub on Pierce Butler Route and I-35E to/from the south. The AUAR need to identify and address the impacts in both Scenarios on the intermodal freight movements.

The AUAR also need to address how trucks will be able to access the stadium and mixed use development. The AUAR should discuss the impacts of freight deliveries by trucks of all sizes from single-unit, double-axle to full-size semi-tractor-trailer 64-foot wheelbase combinations to the stadium, and to the existing freight-dependent businesses including groceries, pharmaceutical, and food establishments.

Traffic Modeling
Near the end of the Report (Appendix F) there are screen shots taken of Vissim traffic modeling for pedestrians queuing up LRT and BRT post event boarding. As mentioned above in the "Pedestrians" section of this letter, Metro Transit is currently undertaking its own pedestrian flow and queue modeling analysis of several post-game scenarios. The screen shots contained in the AUAR for the eastbound and westbound Green Line platforms are only two of several being considered. The examples used in the AUAR should be considered preliminary concepts, and have not received approval by either Metro Transit operations or public safety. The City needs to coordinate with Metro Transit on this issue in preparation of the final AUAR.

The Council offers our support and any assistance we can provide as you move forward to develop the final AUAR. The Council will not take formal action on the Draft AUAR. If you have any questions, need further information, or would like to meet to discuss any of the items contained in this letter, please do not hesitate to contact Patrick Boylan, Principal Reviewer, at 651-602-1438.

Sincerely,

LisaBeth Barajas, Manager
Local Planning Assistance

CC: Steve O'Brien, MHFA
Tod Sherman, Development Reviews Coordinator, MnDOT - Metro Division
Jon Commers, Metropolitan Council District 14
Amy Vennewitz, Deputy Director, MTS
Patrick Boylan, Sector Representative/ Principal Reviewer
Raya Esmaeili, Reviews Coordinator

Minnesota Department of Transportation
Metropolitan District
Water's Edge Building
1500 County Road B2 West
Roseville, MN 55113

June 23, 2016

Joshua Williams
City of St. Paul
Department of Planning and Economic Development
25 West 4th Street, CHA 1300
St. Paul, MN 55102

Name: Midway Stadium
MnDOT Review Number: AUAR16-001A
Location: NE quad of MN51 (Snelling Ave) and Saint Anthony Ave
City: Saint Paul County: Ramsey
CS: 6125

Dear Mr. Williams:

Thank you for the opportunity to review the Midway Stadium AUAR. Due to the concept level nature of an AUAR the information determined in the traffic impact study can only be considered as a general indication of environmental impact. The development scenarios many times change after the AUAR is completed, therefore rendering the traffic analysis incomplete. Review of the AUAR does not constitute approval of a regional analysis and is not a specific approval for access or new roadway improvements.

When the detailed site plans are developed the traffic analysis should reflect the proposed development. Our agency would request the opportunity to review any updated information, and continue to meet with the city to discuss traffic issues.

Planning
MnDOT has commented extensively on several different site plans, redevelopment plans and plats throughout the stadium development process and has included the comment letters for the record.

For questions regarding these comments please contact Karen Scheffing at 651-234-7784 or karen.scheffing@state.mn.us.

Design
There will be significant traffic, transit, bike and pedestrian concerns as this development moves forward which may require a MnDOT Layout Review. Coordinate with MnDOT as this project moves forward. A technical review will occur as the project becomes more detailed.

For questions regarding these comments please contact Nancy Jacobson at 651.234.7647 or Nancy.L.Jacobson@state.mn.us

Right of Way
This project will likely involve upgrading the area to become ADA compliant. Please continue to keep MnDOT informed as the modifications to the sidewalks and ADA Ramps will likely require upgrades as part of this project.

For questions regarding these comments please contact Matt Aguirre at 651-234-7599 or matthew.aguirre@state.mn.us.

Permits:
Any use of or work within or affecting MnDOT right of way requires a permit. Permit forms are available from MnDOT's utility website: http://www.dot.state.mn.us/utility/forms.html . Please include one 11x17 plan set and one full size plan set with each permit application.
Please direct any permitting questions to Jeff Dierberger (651-234-7916) of MnDOT's Metro Permits section.

Review Submittal Options:
MnDOT's goal is to complete the review of plans within 30 days. Submittals sent in electronically can usually be turned around faster. There are four submittal options. Please submit either:

1. One (1) electronic pdf. version of the plans. MnDOT can accept the plans via e-mail at metrodevreviews.dot@state.mn.us provided that each separate e-mail is under 20 megabytes.
2. Three (3) sets of full size plans. Although submitting seven sets of full size plans will expedite the review process. Plans can be sent to:

   MnDOT – Metro District Planning Section
   Development Reviews Coordinator
   1500 West County Road B-2
   Roseville, MN 55113

3. One (1) compact disc.
4. Plans can also be submitted to MnDOT's External FTP Site. Please send files to: ftp://ftp2.dot.state.mn.us/pub/incoming/MetroWatersEdge/Planning Internet Explorer doesn't work using ftp so please use an FTP Client or your Windows Explorer (My Computer). Also, please send a note to metrodevreviews.dot@state.mn.us indicating that the plans have been submitted on the FTP site.

If you have any questions concerning this review, please contact me at (651) 234-7784.

Sincerely,

Karen Scheffing
Principal Planner

Copy sent via E-Mail to:
Bruce Irish, Water Resources
Gayle Gedstad, Traffic
Mark Lindeberg, Area Engineer
Sheila Kauppi, Area Manager
Matt Aguirre, Right of Way
Nancy Jacobson, Design
Jeff Dierberger, Permits
Larry Zangs, Saint Paul
Russ Owen, Met Council

Minnesota Department of Transportation
Metropolitan District
Water's Edge Building
1500 County Road B2 West
Roseville, MN 55113

March 17, 2016

Joshua Williams
City of St. Paul
Department of Planning and Economic Development
25 West 4th Street, CHA 1300
St. Paul, MN 55102

Name: Midway Stadium
MnDOT Review Number: AUAR16-001
Location: NE quad of MN51 (Snelling Ave) and Saint Anthony Ave
City: Saint Paul County: Ramsey
CS: 6125

Dear Mr. Williams:

Thank you for the opportunity to review the Midway Stadium AUAR. Due to the concept level nature of an AUAR the information determined in the traffic impact study can only be considered as a general indication of environmental impact. The development scenarios many times change after the AUAR is completed, therefore rendering the traffic analysis incomplete. Review of the AUAR does not constitute approval of a regional analysis and is not a specific approval for access or new roadway improvements.

When the detailed site plans are developed the traffic analysis should reflect the proposed development. Our agency would request the opportunity to review any updated information, as well as meet with the city and developer to discuss traffic issues.

Design
Work with MnDOT to develop a successful Snelling Avenue Layout. As this plan gets finalized a more detailed review of the plan will be necessary.

For questions regarding these comments please contact Nancy Jacobson at 651.234.7647 or Nancy.L.Jacobson@state.mn.us

Right of Way
This project will likely involve upgrading the area to become ADA compliant. Please continue to keep MnDOT informed as the modifications to the sidewalks and ADA Ramps will likely require upgrades as part of this project.

For questions regarding these comments please contact Matt Aguirre at 651-234-7599 or matthew.aguirre@state.mn.us.

Permits:
Any use of or work within or affecting MnDOT right of way requires a permit. Permit forms are available from MnDOT's utility website: http://www.dot.state.mn.us/utility/forms.html . Please include one 11x17 plan set and one full size plan set with each permit application.
Please direct any permitting questions to Jeff Dierberger (651-234-7916) of MnDOT's Metro Permits section.

Review Submittal Options:
MnDOT's goal is to complete the review of plans within 30 days. Submittals sent in electronically can usually be turned around faster. There are four submittal options. Please submit either:

1. One (1) electronic pdf. version of the plans. MnDOT can accept the plans via e-mail at metrodevreviews.dot@state.mn.us provided that each separate e-mail is under 20 megabytes.
2. Three (3) sets of full size plans. Although submitting seven sets of full size plans will expedite the review process. Plans can be sent to:

   MnDOT – Metro District Planning Section
   Development Reviews Coordinator
   1500 West County Road B-2
   Roseville, MN 55113

3. One (1) compact disc.
4. Plans can also be submitted to MnDOT's External FTP Site. Please send files to: ftp://ftp2.dot.state.mn.us/pub/incoming/MetroWatersEdge/Planning Internet Explorer doesn't work using ftp so please use an FTP Client or your Windows Explorer (My Computer). Also, please send a note to metrodevreviews.dot@state.mn.us indicating that the plans have been submitted on the FTP site.

If you have any questions concerning this review, please contact me at (651) 234-7784.

Sincerely,

Karen Scheffing
Principal Planner

Copy sent via E-Mail to:
Bruce Irish, Water Resources
Gayle Gedstad, Traffic
Mark Lindeberg, Area Engineer
Sheila Kauppi, Area Manager
Matt Aguirre, Right of Way
Nancy Jacobson, Design
Jeff Dierberger, Permits
Larry Zangs, Saint Paul
Russ Owen, Met Council

Minnesota Department of Transportation
Metropolitan District
Water's Edge Building
1500 County Road B2 West
Roseville, MN 55113

April 8, 2016

Joshua Williams
City of St. Paul
Department of Planning and Economic Development
25 West 4th Street, CHA 1300
St. Paul, MN 55102

Name: Snelling Midway Redevelopment Master Plan
MnDOT Review Number: S16-018
Location: NE quad of MN51 (Snelling Ave) and Saint Anthony Ave
City: Saint Paul County: Ramsey
CS: 6125

Dear Mr. Williams:

Thank you for the opportunity to review the Snelling Midway Redevelopment Master Plan. Before any development occurs please address the following comments:

Traffic:

- P.12, the pictures should match the key
- MnDOT fully supports the City's plan to heavily utilize transit/bikes/pedestrian for transportation and limit additional parking on this site. Snelling Avenue and I-94 are heavily congested during peak periods and cannot accommodate significant growth in traffic volumes without large investments.
- The right-in right-out access proposed on St. Anthony is acceptable.
- The proposed right-in right-out on Snelling immediately north of I-94 will not be allowed. This location has northbound traffic entering the auxiliary lane, the motorists traveling from west to north must weave into the through lanes, and pedestrians will be crossing at an unsignalized crossing. It will be very difficult for motorists turning right-out to find gaps in both streams of traffic. Motorists turning right-into the site will slow at the location where west to north bound motorists are accelerating and northbound traffic is entering the auxiliary lane.
- The intersections of Snelling at I-94 ramp terminals are both in the top 25 for crash costs within the Twin Cities (2010-2014) and the eastbound exit from 94 regularly backs up onto the mainline. Given the existing operational and safety deficiencies here MnDOT expects such a large redevelopment project to include a sophisticated review of the signal coordination along Snelling between University Ave and Selby Ave that will eliminate queuing onto I-94 and address the many reoccurring crashes.
- The A-Line BRT will open in June 2016 along Snelling Avenue. The traffic analysis and any suggested signal changes should include evaluation on BRT operations as well as on local transit service.

- The proposed development meets the minimum threshold (2500 new trips) to require a traffic impact study for inclusion with the environmental document. Please include the area of Snelling avenue south to Selby Avenue and north to University Avenue. Please also include detail on how new coordinated signal timing would work during peak, non-peak and event times. MnDOT Traffic Impact Study guidance can be found in the MnDOT Access Management Manual located at: http://www.dot.state.mn.us/accessmanagement/resources.html

For questions regarding these comments please contact Gayle Gedstad at 651-234-7815 or gayle.gedstad@state.mn.us.

General site plan comments:

- MnDOT would like to see a circulation map of how all forms of traffic (vehicles, pedestrians, bicycles), would enter and exit the site. Include detail on what parking would be made available during events and event (non MTC or A-Line) bus loading and drop off areas.
- A sidewalk should be provided on the south side of the stadium along St. Anthony for people accessing the site from the south.
- The Snelling Commons property identified at the southwest corner of Snelling and St. Anthony would be an ideal site for a jurisdictional transfer to the City.

For questions regarding these comments please contact Karen Scheffing at 651-234-7784 or karen.scheffing@state.mn.us.

Site Distance/Plantings:

Please ensure the plantings shown along Snelling Avenue, in the median or on the redevelopment site are set back to ensure proper site distances for vehicles and pedestrians and comply with ADA guidance. Plantings in this location need to be maintained by the City.

The Redevelopment Master Plan does not indicate who would be responsible for the long term maintenance of any plantings and landscaping along Snelling and in the I-94 right of way area. All plantings need to be approved by Paul Voigt in MnDOT's roadside vegetation unit 651-366-3631 or paul.voigt@state.mn.us.

Water Resources:

Because of the conceptual nature of this plan, not enough information is known at this time about how drainage will affect MnDOT right of way. A drainage permit may be needed. The stormwater workshop for this redevelopment fostered many great ideas on how to contain stormwater on the project site. MnDOT would like to see these creative ideas carried forward on the project site. The proposed development will need to meet current drainage rates to MnDOT right of way. The project developer will need to submit the current construction plans and existing/proposed hydraulic computations for the 2, 10 and 100 year rainfall events verifying that all existing drainage patterns and systems affecting MnDOT right of way will be perpetuated. Direct connections to MnDOT storm system shall be avoided. The Drainage permit application can be found at: http://www.dot.state.mn.us/utility/forms.html-Application for Drainage Permit

For questions regarding these comments please contact Bruce Irish at 651-234-7534 or bruce.irish@state.mn.us.

Right of Way:
As part of the project, analysis should include reviewing necessary right of way for improving the site for ADA curb ramps and sidewalk. The area needed for the permanent structures of the curb ramps and sidewalk should be covered by public right of way.

For questions regarding this comment please contact Matt Aguirre at 651-234-7599 or matthew.aguirre@state.mn.us.

Permits:
No impacts to I-94 will be allowed. In addition to the drainage permit, any use of or work within or affecting MnDOT right of way on Snelling Avenue requires a permit. Permit forms are available from MnDOT's utility website at
http://www.dot.state.mn.us/metro/maintenance/permits.html

Please include one 11 x 17 plan set and one full size plan set with each permit application. Please direct any questions regarding permit requirements to Buck Craig (651-234-7911) of MnDOT's Metro Permits Section.

Review Submittal Options:
MnDOT's goal is to complete the review of plans within 30 days. Submittals sent in electronically can usually be turned around faster. There are four submittal options. Please submit either:

1. One (1) electronic pdf. version of the plans. MnDOT can accept the plans via e-mail at metrodevreviews.dot@state.mn.us provided that each separate e-mail is under 20 megabytes.
2. Three (3) sets of full size plans. Although submitting seven sets of full size plans will expedite the review process. Plans can be sent to:

   MnDOT – Metro District Planning Section
   Development Reviews Coordinator
   1500 West County Road B-2
   Roseville, MN 55113

3. One (1) compact disc.
4. Plans can also be submitted to MnDOT's External FTP Site. Please send files to: ftp://ftp2.dot.state.mn.us/pub/incoming/MetroWatersEdge/Planning Internet Explorer doesn't work using ftp so please use an FTP Client or your Windows Explorer (My Computer). Also, please send a note to metrodevreviews.dot@state.mn.us indicating that the plans have been submitted on the FTP site.

If you have any questions concerning this review, please contact me at (651) 234-7718.

Sincerely,

Sheila Kauppi
North Area manager

Copy sent via E-Mail to:
Bruce Irish, Water Resources
Gayle Gedstad, Traffic
Mark Lindeberg, Area Engineer
Sheila Kauppi, Area Manager
Matt Aguirre, Right of Way
Nancy Jacobson, Design
Jeff Dierberger, Permits
Larry Zangs, Saint Paul
Russ Owen, Met Council
April Crockett, Area Engineer
Brian Isaacson, I-94 project
Tony Fischer, Traffic
Gina Mitteco, Transit
Melissa Barnes, Bike & Ped

Minnesota Department of Transportation
Metropolitan District
Water's Edge Building
1500 County Road B2 West
Roseville, MN 55113

June 3, 2016

Joshua Williams
City of St. Paul
Department of Planning and Economic Development
25 West 4th Street, CHA 1300
St. Paul, MN 55102

Name: Snelling Midway Stadium opening day plans
MnDOT Review Number: S16-018A
Location: NE quad of MN51 (Snelling Ave) and Saint Anthony Ave
City: Saint Paul County: Ramsey
CS: 6125

Dear Mr. Williams:

Thank you for the opportunity to review the Snelling Midway Opening Day Plans. Before any development occurs please address the following comments:

Design
There will be significant traffic, transit, bike and pedestrian concerns as this development moves forward which may require a MnDOT Layout Review. Coordinate with MnDOT as this project moves forward. A technical review will occur as the project becomes more detailed.

For questions regarding these comments please contact Nancy Jacobson at 651.234.7647 Nancy.L.Jacobson@state.mn.us

Traffic:
The proposed development meets the minimum threshold (2500 new trips) to require a traffic impact study for inclusion with the environmental document. Please include the area of Snelling avenue south to Selby Avenue and north to University Avenue. Please also include detail on how new coordinated signal timing would work during peak, non-peak and event times. Signal timing should favor interstate i-94 so that unnecessary queuing does not occur. MnDOT Traffic Impact Study guidance can be found in the MnDOT Access Management Manual located at: http://www.dot.state.mn.us/accessmanagement/resources.html

For questions regarding these comments please contact Tony Fischer at 651-234-7875 or jose.fischer@state.mn.us.

Right of Way (r/w):
1. St. Anthony Avenue is within the MnDOT R/W.
    a. The Shuttle Bus Drop-Off / Pick Up needs to be confirmed that a Permit or an agreement is not needed.

2. The existing MnDOT R/W should be labeled on both St. Anthony Avenue and also on Snelling Avenue.
3. The labels TH 51 and TH 94 should be added to these roads as well.

For questions regarding this comment please contact Matt Aguirre at 651-234-7599 or matthew.aguirre@state.mn.us.

Permits:
No impacts to I-94 will be allowed.

Please direct any questions regarding permit requirements to Buck Craig (651-234-7911) of MnDOT's Metro Permits Section.

Review Submittal Options:
MnDOT's goal is to complete the review of plans within 30 days. Submittals sent in electronically can usually be turned around faster. There are four submittal options. Please submit either:

1. One (1) electronic pdf. version of the plans. MnDOT can accept the plans via e-mail at metrodevreviews.dot@state.mn.us provided that each separate e-mail is under 20 megabytes.
2. Three (3) sets of full size plans. Although submitting seven sets of full size plans will expedite the review process. Plans can be sent to:

   MnDOT – Metro District Planning Section
   Development Reviews Coordinator
   1500 West County Road B-2
   Roseville, MN 55113

3. One (1) compact disc.
4. Plans can also be submitted to MnDOT's External FTP Site. Please send files to: ftp://ftp2.dot.state.mn.us/pub/incoming/MetroWatersEdge/Planning Internet Explorer doesn't work using ftp so please use an FTP Client or your Windows Explorer (My Computer). Also, please send a note to metrodevreviews.dot@state.mn.us indicating that the plans have been submitted on the FTP site.

If you have any questions concerning this review, please contact me at (651) 234-7784.

Sincerely,

Karen Scheffing
Principal Planner

Copy sent via E-Mail to:
Bruce Irish, Water Resources
Gayle Gedstad, Traffic
Mark Lindeberg, Area Engineer
Sheila Kauppi, Area Manager
Matt Aguirre, Right of Way
Nancy Jacobson, Design
Buck Craig, Permits
Larry Zangs, Saint Paul
Russ Owen, Met Council
April Crockett, Area Engineer
Brian Isaacson, I-94 project
Tony Fischer, Traffic
Gina Mitteco, Transit
Melissa Barnes, Bike & Ped

Minnesota Historical Society

MINNESOTA HISTORIC PRESERVATION OFFICE

July 7, 2016

Josh Williams, Senior Planner
Dept of Planning & Economic Development
City of St. Paul
25 W. 4th Street
St. Paul, MN 55012

RE: Draft Alternative Urban Areawide Review
Minnesota United MLS Stadium and Surrounding Mixed-Use Urban Village
St. Paul, Ramsey County
MnHPO Number: 2016-1711

Dear Mr. Williams:

Thank you for the opportunity to comment on the Draft Alternative Urban Areawide Review (AUAR) for the above-referenced project. It has been reviewed pursuant to the responsibilities given the Minnesota Historical Society under the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

We have reviewed the Draft AUAR, specifically *Section 14. Historic properties* and including the *Cultural Resources Analysis, Alternative Urban Areawide Review (AUAR) for the Proposed Minnesota United Midway Project, City of St. Paul, Ramsey County, Minnesota*, incorporated as an appendix. Our comments and recommendations are provided below.

Proposed Stadium and Urban Village Site

We agree with the statements provided in Section 14 (pages 32-33) which indicate that there are no historic properties currently listed in the National Register of Historic Places (NRHP) within the proposed development site, which we would consider the area of potential effect for direct effects. However, this section incorrectly states that two (2) properties which are over fifty (50) years old and proposed to be demolished – the Midway National Bank and Midway Shopping Center West Building – are eligible for listing in the NRHP. To clarify, these properties have not yet been fully evaluated for listing in the NRHP and therefore not have not been determined eligible for listing. We recommend that this language be corrected to reflect their current status as unevaluated.

We do, however, recommend that these properties be evaluated for listing in the NRHP and the evaluations should be prepared and completed in conformance with the Secretary of the Interior's Standards for Identification and Evaluation (Standards) as well as the Minnesota Historic Preservation Office's (MnHPO) *Guidelines for History/Architecture Projects in Minnesota*.

We also recommend that a Phase I reconnaissance archaeological survey be completed for the proposed site. While our records indicate that there are no recorded archaeological sites within the project boundary, it is our opinion, based upon past use of the area, that there is a potential for historic archaeological resources under the currently paved areas. The archaeological survey should also be prepared and completed in conformance with the Standards and MnHPO's *Manual for Archaeological Projects in Minnesota*.

Surrounding Site

It is our understanding that the proposed development project includes construction of a major sports venue stadium as well as the potential for construction of a mixed-use urban village on the site. The plans and designs for all the facilities are only in the conceptual stage at this time.

As noted in our comments on the Environmental Assessment Worksheet in March 2016, although much of this area – predominantly facing University Avenue - was surveyed for the Central Corridor/Green Line LRT Project, including

identification of NRHP-eligible properties adjacent to the project site, this survey data is considered somewhat outdated and we recommended, as a first step in the state-level environmental review process, completion of a Literature Review to ensure that survey results from the LRT project meet current Standards for historic property identification and evaluation.

This Literature Review was completed and is presented in the *Cultural Resources Analysis* section of the AUAR. While this section does provide summary information based upon database searches and field verification of extant properties previously inventoried in our statewide inventory files, the analysis also includes determinations that properties are not eligible for listing in the NRHP. Typically, it is not appropriate to include NRHP determinations as part of a Literature Review as this level of survey does not meet historic property identification or evaluation Standards, nor does it comply with reporting requirements established by our office. Determinations of NRHP eligibility, or non-eligibility, are made as a result of full Phase I reconnaissance or Phase II intensive level surveys meeting the Standards and MnHPO reporting guidelines listed above.

The analysis report also does not provide definitive definition of an area of potential effect for indirect effects to historic properties, if extant, caused by the proposed development project. In the analysis report, potential indirect effects are identified as visual effects only, but, per standard procedure, we recommend that all potential adverse effects be considered and these include visual, auditory, atmospheric effects, as well as change in access, setting, and use of a historic property. An area of potential effect for indirect effects should be fully defined and documented in consultation with our office and other interested parties. Once the area of potential effect for indirect effects has been defined, we recommend that a Phase I reconnaissance-level history/architecture survey be completed for this area in order to formally identify all historic properties, listed in the NRHP or eligible for listing in the NRHP, which may be affected by the proposed project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, procedures of the Advisory Council on Historic Preservation for the protection of historic properties. If this project is considered for federal assistance, or requires a federal license or permit, it should be submitted to our office by the responsible federal agency.

If you have any questions regarding our review of this project, please contact me at 651-259-3456 or sarah.beimers@mnhs.org.

Sincerely,

Sarah J. Beimers

Sarah J. Beimers, Manager
Government Programs and Compliance

Minnesota Pollution Control Agency
520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300
800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

July 6, 2016

Mr. Josh Williams, Senior Planner
City of St. Paul
25 West 4th Street – CHA 1300
St. Paul, MN 55102

Re: Minnesota United MLS Stadium Draft Alternative Urban Areawide Review

Dear Mr. Williams:

Thank you for the opportunity to review and comment on the Draft Alternative Urban Areawide Review (AUAR) for the Minnesota United MLS Stadium project (Project) located in the city of St. Paul, Ramsey County, Minnesota. The Project consists of construction of a new soccer stadium and associated mixed use development. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA staff has the following comments for your consideration.

Solid waste, Hazardous Wastes, Storage Tanks (Item 12)
St. Paul has a great reputation for having some of the most sustainable sports venues around. The Xcel Energy Center has received numerous green and sustainable awards. Newly constructed CHS Field built many sustainable practices into the ballpark. Both venues provide access to recycling and organics collection to their patrons as well as back of the house collections.

While the Draft AUAR states the Project will comply with the state statute for recycling, the MPCA recommends the Project Proposer consider the following when designing a recycling/organics collection system for the new stadium:

- Design complete waste stations in all areas of the facility. Each station should accommodate recycling, composting, and trash collection containers. Designing adequate space for these containers in public areas, concessions area, and at the loading dock is critical during the design phase. Successful programs place the recycling and compost containers next to every trash container.
- Design the loading dock to include adequate space for dumpsters for trash, recycling, and compostable waste. Lack of dock space is a common barrier to improving recycling and compost recovery. Make it easy and safe for facility staff to dump materials into dumpsters, preferably so that containers can be rolled to and tipped into dumpsters or compactors without lifting.
- Distribute only recyclable or compostable products during events. Working with the facilities operators and vendors to distribute food and beverages in recyclable or compostable products simplifies the recycling and composting programs for fans attending the game. Target Field in Minneapolis has been most successful in this regard.

- Work with city and county staff to have consistent signage throughout the stadium. Color code bins (trash – black, recycling – blue, organics – green) throughout the public and back of house areas. Work with your local government who has access to signage that can be customized to products sold at the stadium.

Air (Item 16)
The MPCA recommends conducting an air quality analysis of a worst-case scenario when the stadium has an event, there is peak evening traffic, and there are other events (such as an event at the Xcel Center or State Fair Grounds) in the area. The EAW indicates that analysis to date is only for an event in the stadium and normal evening traffic.

Transportation (Item 18)
The traffic analysis does not appear to address worst-case scenarios where events may be held during peak weekday travel times. While the soccer games are planned for later in the evening, concerts or other events held at the stadium might coincide with weekday commuting.

We appreciate the opportunity to review this Project. Please provide the notice of decision on the need for an Environmental Impact Statement. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this EA/EAW/EIS/AUAR, please contact me via email at Karen.kromar@state.mn.us or via telephone at 651-757-2508.

Sincerely,

Karen Kromar

Karen Kromar
Planner Principal
Environmental Review Unit
Resource Management and Assistance Division

KK:bt

cc: Dan Card, MPCA, St. Paul
Amanda Smith, MPCA, St. Paul
Susan Heffron, MPCA, St. Paul
Teresa McDill, MPCA, St. Paul

July 1, 2016

Katrina Nygaard
Planner
Stantec Consulting Services, Inc.
2335 Highway 36
West St. Paul, MN 55113-3819

RE: Minnesota United MLS Stadium and Surrounding Mixed-Use Urban Village AUAR

Dear Ms. Nygaard:

I appreciate the opportunity to comment on the above listed project. I reviewed it pursuant to the Minnesota Field Archaeology Act (MS 138.31 - .41), the Private Cemeteries Act (MS 307.08), and the Minnesota Environmental Policy Act (MS 116D). As State Archaeologist, I have no official role in federal environmental review processes so this letter does not address Section 106 of the National Historic Preservation Act if this project involves federal funds, federal lands, or federal permits. My comments also do not address historic sites of a non-archaeological nature.

While there are no recorded archaeological sites within the project boundary, based on the historic use of this area, there is the potential for historic archaeological resources under paved areas. Thus, I recommend that a qualified archaeologist examine the area after the pavement has been removed, or monitor excavation activity during construction.

You can obtain a list of qualified archaeologists from the State Historic Preservation Office (SHPO) at: http://www.mnhs.org/shpo/review/contract_arch.htm. I would be available to discuss this recommendation with you if you need further explanation or assistance.

Sincerely,

Amanda Gronhovd
Minnesota State Archaeologist
Office of the State Archaeologist
Fort Snelling History Center
St. Paul, MN 55111
612-725-2411
Amanda.Gronhovd@state.mn.us

MIDWAY AUAR
Alternative Urban Areawide Review (AUAR)

Comments from Public Open House Comment Cards
6/7/2016

1. Name: Jill Westermeyer

   I am hoping when considering fan transportation, that accommodations for bikes will be considered. We live in Roseville and would choose to bike to the games if we could do so safely. Please consider having bike racks at the stadium and bike lanes on the roads leading to the stadium.

2. Name: Laura Perdue

   What if.....there was a bus route from downtown Minneapolis to Snelling and Uni. If people take the bus to get to downtown Minne from....say Uptown..... they would now have to take the train east instead of getting a transfer to go east by bus. They are paying twice, if you will. And then again on the return trip.

3. Name: Hally Turner

   Great job! I'm VERY excited for the great work you are doing and the improvement (ped, bike, safety, etc.) that will come with the project. Do continue to look at all options to improve the on/off ramp traffic problems that may likely worsen with all the people that will want to come to the great businesses, jobs, and attractions this project will bring.

4. Name: Micah Pace

   Great start with mobilizing people via transit. Continue the work making transit the easy solution and parking won't be a problem. E.g. free transit passes the first season is a great idea!

5. Name: Laurie Johnson

   I work in the Spruce Tree Centre. I don't even walk the 1/8 mile because of traffic between Selby/University and Snelling. People turning right, off the freeway, do not look for walkers. I have been close to being hit. I tapped one guy's truck to let him know I was crossing with the green light and he started swearing at me and threatened to sue me if I scratched his truck. Traffic has gotten worse since Whole Foods went in. The city's planning does not seen to have worked for that new facility. How are you going to accommodate 20,000?!?

6. Name: Mary Montagne

   Has a health impact assessment been done? if not, please do one before tear down and building or as soon as possible.

   What is the plan for use of solar energy on this site?

   How will the loss of the grocery store ("Rainbow") impact the neighborhood(s)?

7. Name: Tim Faust

   I support moving forward on this project despite the challenges outlined in the AUAR. I trust and expect that the City, MnDOT, Metro Transit and others can solve the traffic and other issues (existing and anticipated) so that these are not barriers to realizing the full potential of this project.

   I anticipate hearing involvement of the local community members in solving these issues and mitigating impacts.

   Does the first line of Table 18-7 factor in the 21 local bus route? There are large immigrant populations that are served by this line. These communities are presumed to be fans of soccer.

8. Name: Natalie Brown

   A lot of old white people in the room tonight! Wondering what outreach efforts you plan on doing to involve people of color and minorities in a very diverse neighborhood. How do you plan on addressing gentrification? Thank you for all that you do!

9. Name: Ryan Anderson

   Concerned about parking on my street during games due to non-permit parking. It's already used by new businesses during the day on our street and concerned that game and event days it will be also taken at evening/night hours.

10. Name: Mark V. Wiedul, MD

    Choke points for traffic at Snelling/University and Snelling Bridge need to be addressed. Diverting traffic from University/Snelling intersection to deal with light rail crowd movement. Make bus terminal at south end of site so bus movement from site is WBI-94 to 280 N to State Fair parking lots. Divert NB Snelling on Concordia Avenue to Pascal and N past the stadium and away from University/Snelling intersection.

11. Name: Nan Fergen

    I live in Midway (Asbury @Van Buren) and I use the midway arteries (primarily Snelling, but also Hamline, Fairview, Lexington, I-94, and University Avenue) all the time, often several times each day. I believe it is common knowledge that the Snelling/University intersection

is the most congested in the Metro. It is also acknowledged that the Midway area is a depressed area economically…it even looks shabby. I am not convinced from anything the City or soccer stadium folks have presented that we can take on the added traffic that all the suggested/proposed influx of new traffic that would come with the new development. No one from the planning side of this argument is being realistic (probably because the resulting traffic grid lock will not impact them except on rare occasions). Game days aside, there is no way we can add the proposed residential, business, retail, movie and fitness complexes etc. without exacerbating an already horrible traffic problem. Unless there are plans and money to build separate relief (over/under/parallel) for the north and south Snelling traffic pattern.

I also agree with many other neighbors who have been vocal at the last 3-4 public meetings that the parking issues and the noise issues have not been honestly and adequately addressed. I am not opposed to bringing new life and beauty to the neighborhood. We need a face lift and the economic vitally. And I am not opposed to a soccer stadium per se, but I do not believe a stadium in this location is good for nearby residents or others who regularly need to travel through it unless you <u>really</u> address the traffic congestion issue.

From: ellison yahner
To: *CI-StPaul_SnellingMidwayComments
Subject: Comments regarding Snelling-Midway Site
Date: Wednesday, June 08, 2016 9:42:20 AM

Good morning,

Thanks to all city staff working hard to plan for the Snelling-Midway site. Our family and friends are thrilled to have a stadium, expanded development, and enhanced pedestrian realm!

Here are my comments:

- Consider lanes/specified areas for drop off/pick up, taxis or uber. Not everyone arriving by car needs to park. This is helpful for people with disabilities, the elderly, or families with children. If not planned for, people need to get out at busy intersections or in traffic, and/or double park.

- Are there any requirements for minimizing light pollution. Many parts of Saint Paul still allow residents to see stars - this is really something special and unique in an urban area. While lighting is often praised for safety, it can be done in a way that respects wildlife and people.

- For us the most disruptive aspect of additional urban development and crowds is the poor behavior of people who have had too much to drink (not parking or traffic). We do not oppose serving alcohol, but ask the city keep in mind last call, drunk driving and disruption enforcement and allowing overnight parking if people need to take alternative transportation.

Thanks for considering my comments, again, thanks for all the work you do!
Ellison Yahner

From:	Danette Lincoln
To:	*CI-StPaul_SnellingMidwayComments
Subject:	Alternative Urban Areawide Review
Date:	Thursday, June 09, 2016 10:57:34 PM

Danette Lincoln
1607 Carroll Avenue
St. Paul, MN 55104

I have concerns regarding these areas:

Traffic
Parking/business lots
Litter
Noise/light

I believe the AUAR study on traffic and parking is unrealistic due to inaccurate statistics regarding the number of attendees that will drive to the games. I believe the game being held at Target Field on June 25, 2016, will provide more realistic statistics on number of attendees and their mode of transportation. I suggest re-evaluating the study findings based on the data obtained from that upcoming soccer game.

I question the use of business parking lots in residential neighborhoods for extra paid parking. How will the noise and traffic affect the residential neighborhood as these cars pass through? Or will they be routed through alleys?

How will litter be handled around the stadium area and surrounding community?

Finally, how much light will a semi-translucent stadium add to the neighborhood versus a non-translucent stadium? Also, have concerns about the noise levels being controlled under the MN statues set up to protect people without MN United being allowed a noise variance.

Input on the Alternative Urban Areawide Review, Snelling-Midway Redevelopment, and Soccer Stadium.

From: Kyle Bauman, St. Paul Resident, Loons Season Ticket Holder

I favor the stadium at the Midway site, but think the AUAR committee and planning commission are making some incorrect assumptions on parking. If not given attention, this team may wonder where all the fans are on game days.

Survey the fans now at Blaine. Where do they live? Do they just go to the game, or do they shop or make other stops before/after the game? Will they attend games in St. Paul? How will they get there? How far will they come from to see an MLS game?

Of course, there are the loud, dedicated, vocal minority supporter groups. These fans will ride the trains or buses to the new stadium and fill the standing section with 3,000+ bodies. However, the largest fan base attending games now is families with children from the suburbs and beyond. They do not live on the green line, and they will not be riding the bus. They will drive, just as they are driving to games now. Study the logistics of these fans and be sure to list every step. Use six sigma or basic flowcharting of the steps. We're going to be a big league like NHL, NFL, MLB, NBA – these fans will be coming from as far as St. Cloud, Mankato, Rochester and all places in-between that have soccer programs in their towns.

What the AUAR study imagines is a family will:

1) drive, from a distance of 15 – 90 miles away, to a dedicated parking lot ½ mile+ from the stadium,
2) pay for the parking,
3) walk to a shuttle stop (or station)
4) wait for a shuttle/train (with kids),
5) take the shuttle/train to the stadium,
6) walk from the shuttle stop (or station) to the stadium,
7) watch the 2 hour game,
8) walk from the stadium to the shuttle stop (or station),
9) wait for a shuttle/train (with kids), the post-game wait will be longer,
10) take the shuttle/train to the parking lot,
11) walk to the car,
12) wait in traffic until back on a freeway,
13) drive the 15-90 mile journey home.

What a family with kids from the suburbs and beyond want to do:

1) drive, from a distance of 15 – 90 miles away, to free parking, close to the stadium **OR** paid parking, walking distance to the stadium,
2) walk to the stadium,
3) enjoy the 2 hour game,
4) walk from the stadium to their car (with kids – who now can sleep),
5) wait in traffic until back on a freeway,
6) drive the 15-90 mile journey home.

If people spend more time transiting than they do attending the game, they will not return. If people come to a game and can't find a place to park, or have to pay for parking AND take a rail or shuttle, they will not return. This franchise will not fill the seats (with the exception of the 3,000 train riders in the standing section) because fans will not return.

This is not Portland; stop pretending. As someone who has attended games in Portland, there are no shuttles to remote parking lots and not everyone is taking the rail. A lot of people drive and park on the street in residential neighborhoods. This is accepted (or tolerated) by the residents.

This is not Seattle, which by-the-way does have a lot of parking around their stadium.

This is not the State Fair. People use remote parking and take a shuttle to the State Fair because they stay at the Fair all day long!!! You are comparing an all-day outing with a 2-hour soccer game.

My recommendations:

A. **Be honest with the public and accept that street parking in residential areas will happen. Stop trying to present different assumptions. Don't waste time on trying to control where people park on game days. They will park where they park. Highlight the benefit of increased foot traffic for local businesses.**
B. **Be honest with the public on percentages of rail/bus fans – they will be more in line (10-15%) with the other sports teams in town, including the Saints. Not the 70% fantasy I've heard.**
C. **Schedule away games during the State Fair.**
D. **Put in the development plans that every new building on the 35-acre lot must have one level of game-day parking.**
E. **Survey the fans attending games in Blaine. Survey fans in the parking lot before the game. Make an effort to get data from fans that bring the kids. Watch what the kids are doing during the game and you'll discover much more needs to be done for an equal game-day experience in St. Paul. Cater as much to the future fans as you do to the current supporter groups.**
F. **Focus on promoting shuttles from farther out. Offer free, on-site parking for vans or mini-buses of fans from outside the metro – you'll get returning groups from Blaine to Duluth!**

The most bizarre statement I've heard by one of the study team members was that people drive to Blaine now because they have to drive, and when the new stadium opens in St. Paul, they won't have to drive. Whoever originated this thought does not know much about the majority of Loons fans or where they live. The majority of fans will still have to drive, and they want to drive!!! (And yes, many would like to tailgate also!)

My second observation has to do with the RK Midway development. The ownership of this team, and fans that support this team, campaigned very hard to have a stadium… outdoor soccer… on real grass… sun, rain, sleet, or snow the way the game is meant to be played… in a home not covered with logos and colors of another team in town. My request is to not have towering buildings on the west side of the stadium. I don't need big buildings blocking the west setting sun during the games. The translucent design of the stadium shell should let all the natural light in and provide a wonderful view of the games. Please no shadows. Keep the tall buildings away and let the stadium be the center of the 35-acre plot. Limit the height of the buildings to fewer than 10 stories ~ 5-6 would be better ~ with one level dedicated to game-day parking.

This team, at this site, has the potential to be much more than just a destination for 3,000-5,000 train riders.

Thank you.

Kyle Bauman, 541-801-8333, bauman.kj@gmail.com

From: Dadlez, Kady (CI-StPaul)
To: *CI-StPaul_SnellingMidwayComments
Subject: FW: Midway Redevelopment Comment
Date: Monday, June 13, 2016 1:17:49 PM
Attachments: image001.jpg

Kady Dadlez
Senior Planner
Planning and Economic Development
25 West Fourth Street
Saint Paul, MN 55102
P: 651-266-6619
Kady.Dadlez@ci.stpaul.mn.us

Making Saint Paul the Most Livable City in America

From: David Rasmussen [mailto:bertrecords@gmail.com]
Sent: Friday, June 10, 2016 10:21 PM
To: Dadlez, Kady (CI-StPaul)
Subject: Midway Redevelopment Comment

1. The DSI report is of major concern to me. Details are not worked out yet transportation safety is to be evaluated now.

How are 1800 people (per hour) to cross University Avenue to get the the LRT and then home after a soccer game? Presumably, auto traffic will also be peaking at this time. 1800 people on the LRT is only anticipated to be 7% of attendance.

It would seem worthwhile to look into ways to increase that percentage, yet it is unclear that even 7% is do-able given current platform placement and the existing conflicts with auto and truck traffic.

Further, it is unclear that ordinary non-peak LRT usage is safe. There have been two fatalities at Snelling Avenue station where pedestrians were hit by the train.

Even a larger danger is pedestrians being hit by cars. It is not unusual to see bus passengers run across traffic and scale the wall to get on the eastbound LRT platform at Snelling Avenue. Typically, these are high school boys and girls after a school day. Would soccer fans behave similarly?

If I were DSI, I might conclude that the LRT design is unsafe even without peak soccer traffic, and that it is definitely not designed for peak soccer traffic. I would specify new platforms in the Midway Center area as a spur off the Green line and specify queuing areas away from heavy traffic. I would build room for additional trains such that 15% to 25% of attendance could use the train instead of just 7%. In combination with BRT and shuttles, percent transit use could be made comparable to the games at the Oakland Coliseum. A new platform for a new stadium is an ordinary occurrence.

Toward additional safety and toward benefits even at non-peak times, a transit station should be part of the Midway Center plan. Currently, transfers between buses and trains are not designed with the transit user in mind, thus people cross at odd places.

DSI has an impossible job right now. They are tasked with approving bandaid fixes for a design that in an unstressed mode has proven over the life of the Green Life to kill people each year. With the additional demands of a soccer stadium, I hope that the Metropolitan Council, city, and developers will see this opportunity to make improved transit and safer transit an integral part of the design of a redeveloped Midway Center.

As a neighbor (two blocks away), this is a critical piece toward my support of the soccer stadium proposal. If DSI would value further input, I am available to meet.

2. I would hate to see much demolition of Midway Center and hate to see much city investment toward the next phase of Midway Center prior to market confirmation of whatever is to be next. Credibility is low given the multiple city plans and the failure of the Snelling Station area plan to date. Jobs and businesses should remain unless more jobs and more businesses are a sure thing. T4 zoning should be reconsidered if development continues to stall as development has stalled since the Snelling Station area plan was approved.

3. Moving the stop light from Spruce Tree to Shields conflicts with the city plan. Spruce Tree Road west of Snelling is currently designed as a bypass. Shields west of Snelling is a residential area that trucks would find to be impassable. Existing residential neighborhood design is not proposed to change west of Snelling per any approved city plan.

David Rasmussen
409 Roy Street

From:	*CI-StPaul_SnellingMidwayComments
To:	Simer, Fay; Tom Sachi; Pat Corkle
Cc:	Williams, Josh (CI-StPaul); Drummond, Donna (CI-StPaul)
Subject:	Snelling-Midway AUAR Comments
Date:	Monday, June 27, 2016 10:56:57 AM

All-
I am forwarding the most recent AUAR comment received.
-Kady

Kady Dadlez
Senior Planner
Planning and Economic Development
25 West Fourth Street
Saint Paul, MN 55102
P: 651-266-6619
Kady.Dadlez@ci.stpaul.mn.us

Making Saint Paul the Most Livable City in America

-----Original Message-----
From: KC Cox [mailto:kelabrescue@yahoo.com]
Sent: Saturday, June 25, 2016 5:28 PM
To: *CI-StPaul_SnellingMidwayComments
Subject: AUAR Comments

Parking issues for 20,000 fans
- 400 parking spaces on site (2 persons per car = 800 fans)
- 7000 (35%) use mass transit
- 20,000 - 7,800 =12,200 left arriving by vehicle These people will park in the residential areas within 1/2 mile of the stadium. This means I will not be able to park in front of my own home.

Resolution: make all the residential parking within 1/2 mile of the stadium to be permit parking, but the residents will NOT have to pay for the permits. I believe that our taxes cover this cost.

Noise issues for 20,000

At the meeting you indicated the dB would be 65 or lower - and if they go above? You did not have a resolution.

Traffic coming eastbound, onto the interstate 94 Snelling Ave ramp. Currently around 3:45 to 4:30 pm - traffic backed up down the ramp, onto interstate 94 - and that without fans. This intersection is extremely bottle necked. I don't see this decreasing on game night. There didn't seem to be a resolution on the traffic board.

I feel that these issues were found by the committee, but there were not any resolutions given to the public. You seem to have made the decision to "do" this soccer thing, but didn't take the people who live in the surrounding area into the equation.

One other thing that was not addressed was property values - there was no discussion on will this stadium increase property values or decrease them? The development for the area was out 25-30 years -- in the interim, how would the property values be affected? I believe you need to look at this issue as well.

KC Cox

Merriam Park

From:	Dadlez, Kady (CI-StPaul)
To:	Simer, Fay
Cc:	Williams, Josh (CI-StPaul)
Subject:	FW: Draft AUAR For Stadium Site
Date:	Thursday, June 30, 2016 11:28:17 AM

Fay-

See below for another comment.

Kady Dadlez
Senior Planner
Planning and Economic Development
25 West Fourth Street
Saint Paul, MN 55102
P: 651-266-6619
Kady.Dadlez@ci.stpaul.mn.us

Making Saint Paul the Most Livable City in America

From: *CI-StPaul_SnellingMidwayComments
Sent: Thursday, June 30, 2016 11:26 AM
To: Dadlez, Kady (CI-StPaul)
Subject: FW: Draft AUAR For Stadium Site

Kady Dadlez
Senior Planner
Planning and Economic Development
25 West Fourth Street
Saint Paul, MN 55102
P: 651-266-6619
Kady.Dadlez@ci.stpaul.mn.us

Making Saint Paul the Most Livable City in America

From: Mike and Benita [mailto:warns@pclink.com]
Sent: Thursday, June 30, 2016 4:18 AM
To: *CI-StPaul_SnellingMidwayComments
Subject: Draft AUAR For Stadium Site

Please enter this email into the official record of public comments for this project.

After reading through the draft, and also the Appendix for noise impacts and mitigation, there is only one mention of my biggest concern for noise – fireworks. When the noise review was done at the Kansas City stadium, fireworks noise was noted in the data. However, nothing was mentioned anywhere in the documents about use of fireworks during events at the stadium, let alone any plans to manage the noise from them.

Use of fireworks creates very intrusive noise that travels at far greater distances than loudspeaker or crowd noises. Explosive noises cause trauma for many military veterans with PTSD, as well as for many companion animals. I have personal experience with this, as my nephew served in the Army and was stationed in Afghanistan for over a year on a remote mountain outpost, getting shot at and shelled by Taliban. When he first came home, he carried a baseball bat next to him in his car in case of attack. He suffered a traumatic brain injury when he was awakened from sleep by an explosion. When he jumped up to grab his weapon, he hit his head on something and was knocked out. As a result, every time he hears any kind of sudden loud noise, especially explosive ones like fireworks, he jumps, starts to dive for the floor, and looks for his weapon. My nephew lives in the area around the stadium. There are many other military veterans living among us throughout the neighborhood who have similar stories. Many of them do not want to discuss their PTSD, including my nephew. Out of respect for them, no fireworks should be allowed at the stadium.

Another issue with fireworks is the reaction by many of our pets. I don't personally have pets, but most of my neighbors do. I remember sitting out on our front steps when the sudden explosive noise from fireworks frightened my neighbor's dog, and she bolted. She saw my husband and ran to him and dove for cover in his lap. This poor dog was trembling and so very frightened. I don't know where that dog would have taken shelter had we not been there. If you have ever held a trembling dog that is frightened out of its mind by fireworks noise, you would ban them from use near residential neighborhoods.

I want to know the team's plan for fireworks. Do they plan to use them? If so, how are they going to keep their intrusive noise from disturbing our peace? Is the team willing to commit to banning fireworks at the site? This is a major quality of life issue for those of us who will have to put up with all the other inconveniences of this stadium. Please provide me with some answers.

Benita Warns
1440 Lafond Avenue
St. Paul, MN 55104
651-641-1037
warns@pclink.com

PLANNING COMMISSION
Barbara A. Wencl, Chair

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

25 West Fourth Street
Saint Paul, MN 55102

Telephone: 651-266-6700
Facsimile: 651-228-3220

June 30, 2016

Josh Williams, Senior Planner
City of Saint Paul- PED
25 W 4th Street, Suite 1400
St. Paul, MN 55102

Re: Snelling-Midway AUAR

Dear Josh:

On behalf of the Saint Paul Transportation Committee of the Planning Commission, I am writing to convey the following comments expressed during our meeting on June 27, 2016:

- The project should more strongly consider bicycle connections that implement the City's Bicycle Plan and the goals of the Comprehensive Plan's Transportation Chapter. This includes connections via Shields Ave. and Pascal St., and generally connections over I-94 and to Minneapolis. Strong bicycle connections will mitigate parking concerns, benefit the surrounding neighborhoods, reduce area traffic levels, and will have a positive impact on both the project itself and the city as a whole.

- The project should more closely consider pedestrian safety, flow and queuing on the site and surrounding the site, including connecting people to transit and ensuring safe and comfortable walking connections to the surrounding neighborhoods.

Thank you for your consideration of these comments in the AUAR and future planning of this major project.

Sincerely,

(on behalf of the full committee)

Bill Lindeke, Chair
Saint Paul Transportation Committee

Comments to AUAR concerning MLS stadium impacts

from-- Michaelene Zawistowski

1480 Randolph Ave. #105

St. Paul, MN 55105

Concerns:

A. Increased traffic congestion along Snelling Ave.

B. Serious disruption to area residents' homes

A. The AUAR report states that there is "sufficient parking for soccer fans...and traffic patterns are also manageable..."

1. Even if more parking would be available, the fact remains that a car must first be driven on a street before locating a parking space. This means an additional 800+ vehicles driving on a street **already congested** with the usual daily traffic of cars, busses, and trucks. As a main traffic artery, Snelling connects to I-94, Ayd Mill Rd., the State Fair and other fairground events, Rosedale, Har Mar, and the Selby development with condos and Whole Foods. There is proposed development for a five-story building on St. Clair and Snelling. Although the A Line moves people north and south, a glut of park-and-ride creates new parking issues. **One street can only hold so much.**

2. The AUAR recommends coordinating soccer dates and times as a way to mitigate congestion. This is a lot to juggle with an entire season also possibly involving concerts and other events.

3. Providing post-game entertainment as a way to manage a mass exit would keep the lights and noise on. After a game most people want to get going.

4. As part of an online review, a Chicago Fire fan wrote about parking at Toyota Park. It took him "40 minutes to get into a lot after paying $15 and it took another hour to leave after the game." And this park is in a small suburb rather than in the middle of a large city.

5. See the attached article confirming that **Snelling and University is a dangerous and congested intersection. The stadium would add more foot traffic as well as vehicle traffic.** There are definite **safety** concerns here. Consider the former site of the St. Paul Saints off Energy Park Drive.

B. There is a significant number of homes especially north and west of the proposed stadium site that would experience serious disruption. The outdoor Saints and Twins stadiums are not in close proximity to houses.

1. Do not assume that **fans will** not **park in front of homes**. This is already happening because of rapid transit such as light-rail.

2. **Bright lights and noise** cause a serious disruption to residents' lives. You cannot fine a soccer crowd for cheering. A Toyota Park website review speaks of "loud fan sections with lots of snare drums and chanting."

3. It is possible that neighborhood residents will experience a major increase in taxes or rent if the area is gentrified and promoted as desirable. People should not be driven out of their homes.

been successful. Sometimes you can make things worse."

Here's information about the top (or worst) four intersections in the Twin Cities and what can be done, if anything, to make them safer.

No. 1: I-94 and Snelling Avenue ramps, St. Paul ★ Worst

According to Impola, this highly congested area sees crashes from people lined up on Snelling trying to turn onto I -94 and vice-versa. "There's a lot of red-light running and distracted driving, which usually leads to rear-ends," he says.

I can believe it. When I drove through during rush hour, cars trying to exit to Snelling were backed up far down the ramp. I can understand why drivers, anxious to get where they're going, try to jump the lights.

Building a bigger interchange would be impossible because the area is too built up, says Impola. A step-up in police enforcement might reduce crashes, but even if a traffic cop were willing to work at this dangerous spot, there's no room to pull cars over without creating more delays and possibly more accidents.

MnDOT has considered constructing another entry to I-94 nearby to relieve congestion, but that would be very costly and likely require acquisition of land that's already being put to other uses.

One possible solution: "An 'all-red' light," says Hourdos, by which he means a couple of seconds when everybody has a red light -- a kind of time-out for drivers. During those moments, he says, "things clear up." The folks who ran a red light won't be crashing into those who jumped to go through the green signal. The only problem, he says, "it delays everybody."

No. 2: Hiawatha (Hwy. 55) and 26th Street, Minneapolis

Go south on Hiawatha from, say, Washington Avenue. You sail along for a while at 60 miles an hour as though you're on a freeway. In fact, you may have come onto Hiawatha only seconds earlier from I-35. Then, all of a sudden, there's a traffic light at 26th Street. Screech. Bang. Cars rear-end each other. Obviously, they do more than that because there were two fatalities at the intersection in the last five years. A pedestrian or bicyclist trying to cross 26th could easily be a candidate for the Grim Reaper.

Impola says that MnDOT is working with Minneapolis to retime lights on Hiawatha. Doing so would allow cars, after hitting the first green light, to keep going and clear all lights, as long as they follow the speed limit.

One little problem: "We'd have to coordinate it with the intersections," says Impola. Otherwise drivers would be waiting to cross or enter Hiawatha at 26th, 38th and 46th Streets for five full minutes at a time.

From:	Bicycle Coalition
To:	Williams, Josh (CI-StPaul); *CI-StPaul_SnellingMidwayComments
Cc:	#CI-StPaul_Ward1; #CI-StPaul_Ward4
Subject:	Comments on MLS Stadium proposal
Date:	Tuesday, July 05, 2016 5:15:15 PM

To whom it may concern,

The Saint Paul Bicycle Coalition is disappointed that no significant bicycle facilities are part of the MLS Stadium planning and proposed implementation. Worse, there is talk of eliminating or compromising the bicycle facility on Pascal Street-- the most important facility for accessing the new stadium and a critical facility for cyclists passing through the area.

Pascal Street is already an important north-south, city-designated bikeway running from Marshall Avenue all the way north to Hamline University and Hewitt Avenue. It connects to the Green Line and other public transit and Pascal is the only bicycle facility that crosses I-94 for at least a half mile in either direction. A bicycle facility for Snelling Avenue from Selby to St. Anthony Avenue was part of the "Snelling Avenue Multi-Modal Study" plan-set recommendations, approved by MnDOT and community partners in 2014. Unfortunately, engineers at MnDOT and Saint Paul Public Works unilaterally threw out these recommendations and rebuilt Snelling Avenue without the planned bike facilities. Since Shields never reaches Aldine (to the west), Pascal is the only way for cyclists to access the proposed MLS Stadium. Given the volume of cars that could be entering the new stadium on a regular basis via Pascal, on-street or even protected bike lanes need to be officially striped on Pascal as part of the MLS Stadium project. Far from doing this, the Draft AUAR raises the possibility of eliminating the existing shoulders on Pascal to accommodate more motor vehicle traffic. This is completely unacceptable and runs counter to the goals of achieving a high mode share for bicycling and walking at the stadium and surrounding development.

What's more, no bicycle facilities are being proposed for Shields Avenue as part of the stadium project, even though Shields is part of the official Saint Paul Bikeways Plan. Beyond Pascal and Shields, the city should consider Council Member Russ Stark’s proposal to make a two-way bicycle facility on St. Anthony Avenue from Snelling west to Prior Avenue. The city should also be actively exploring a Saint Paul Greenway Extension, something that's been on the city's comprehensive and community plans for over a decade. The city should bring county, state and CP Railroad officials into discussions of how the city can acquire the necessary easements to extend the Minneapolis Greenway across the Mississippi River and into the Midway.

The proposed MLS Stadium site is one of the most difficult places in the city to reach by bicycle. Given that it has grocery and other important retail stores, an LRT station and now a proposed stadium, the city should be doing everything it can to make the area more bike-friendly. Instead the city is making it worse.

At minimum, the city needs to stripe bike lanes on Pascal and Shields as part of the MLS Stadium project. Anything less will be a huge failure for the city's sustainability and transportation goals and a dangerous disservice for the thousands of soccer fans, young and old, who are looking forward to bicycling to MLS games in Saint Paul.

Sincerely,

Mike Sonn and Jeff Zaayer, Co-Chairs
Saint Paul Bicycle Coalition
saintpaulbike@gmail.com
http://www.saintpaulbicyclecoalition.org/
https://www.facebook.com/Saint-Paul-Bicycle-Coalition-133657969979958/

From: Dennis Hill
To: *CI-StPaul_SnellingMidwayComments
Subject: AUAR
Date: Wednesday, July 06, 2016 8:27:12 AM

The concerns I have with the findings of the AUAR are:

The findings of the Transportation Study are based on unrealistic assumptions about how fans would travel to the stadium in my opinion. In particular the willingness of fans to use public transit and shuttle buses. The experience at other Twin Cities sporting venues do not support the projections contained in the report. I believe the report under estimates the number of people who will drive to the stadium and attempt to find parking in the neighborhoods near the stadium and the A Line bus route.

Also should the public the be willing to use public transit and shuttle buses to get to the stadium I have concerns about the capability of the Snelling-University Green Line station to be able to accommodate the large number of riders boarding and disembarking in a safe manner. I am also concern about the safety of these people once they become pedestrians attempting to get to the stadium. The intersections near the stadium can be very unsafe for pedestrians considering the increase in automobile traffic on game days.

I also feel there will not be enough green space to accommodate the large crowds before and after events at the stadium and not enough clarity about who will be responsible for maintaining the green space that is in the current plans year round.

I would also like to see more green technology incorporated into the design of the stadium to deal with rainwater runoff, trash recycling, and energy conservation.

Dennis Hill
76 Front Street
St. Paul, MN 55117

From: Emily Metcalfe
To: *CI-StPaul_SnellingMidwayComments
Subject: Emily Metcalfe Snelling Midway AUAR Comments
Date: Wednesday, July 06, 2016 12:09:05 PM

Dear Mr. Williams:

I have reviewed the Snelling-Midway redevelopment AUAR and submit the following comments:

The mitigation plan describes a Transportation Management Committee that will develop a transportation management plan prior to the stadium opening with continued review of the plan after the stadium begins operations. I request that representatives of the surrounding neighborhoods be included on this committee (ie, district councils).

The mitigation plan considers future infrastructure changes that may be necessary to accommodate movement of people once the site is fully built out. I request that this section be revised to consider the Saint Paul Bike Plan, which calls for bike lanes on Shields, Pascal, and Hamline in the considered area. To this end, I suggest the following text changes on pages 70-72:

- Under Snelling, University Ave to Shields Avenue, part 7, Shields Ave (page 71), an additional bullet point should be added to say, Add bike lanes.
- Under Pascal Street, University Avenue to Saint Anthony, part 9 (page 71), remove the words “or shoulder”, and part 10 amend the text to read “five-lane roadway with bike lanes.”
- Under Marshall Avenue/Hamline Avenue Intersection, part 12 (page 71), add a bullet point to say, Any infrastructure changes must preserve bike lanes on Marshall and Hamline.

In addition, the mitigation plan should consider the need for improved bike connections to the north and south of the stadium, especially along Pascal south to Marshall, as this will be a major route of bicycle access to the stadium for cyclists coming from Minneapolis as well as Saint Paul.

Thank you for all your work on this project.

Emily Metcalfe
Union Park resident and Spokeswoman with St Paul Women on Bikes

A MEMBER OF COMMUNITY SHARES MINNESOTA

The Lexington-Hamline Community Council

July 6, 2016

Saint Paul Planning Commission
Saint Paul City Hall
15 Kellogg Blvd West
St. Paul, MN 55102

Dear Saint Paul Planning Commission Members,

The Lexington-Hamline Community Council (the "LHCC") represents the residents and businesses of the Lexington-Hamline neighborhood. The LHCC has long supported the sustainable and thoughtful redevelopment of the Snelling-Midway area, including through the building of a soccer stadium and the improvement and addition of greenspace. Thank you for your work in these respects.

That said, the LHCC has serious concerns about the impact the current Snelling-Midway redevelopment master plan will have on the quality of life for Lexington-Hamline residents and businesses, particularly with regard to transportation and parking. As you know, any soccer game or other large event at the proposed stadium will bring thousands of people to the area, and many of these people will look for free parking nearby.

To date, we have not seen any viable plan to address the parking needs of stadium visitors. The findings in the recently released Alternative Urban Areawide Review ("AUAR") include assumptions that 45% of attendees will not arrive by car and that no additional parking will be needed on residential streets. The most recent presentation at the Snelling Redevelopment Community Meeting on June 7th included selling parking tickets to stadium visitors in partnership with local businesses and ramps in the surrounding area. The Commission has displayed a map of the area that suggests private business may have up to 4,000 such spaces available.

Even a cursory review of this map suggests serious problems. For example, the ***entirety*** of the Concordia University campus is shown as available for parking during stadium events. In actuality, much of Concordia University is already-occupied space, and the limited parking available on campus routinely overflows into the surrounding Lexington-Hamline neighborhood for Concordia's own, much smaller events. We are certain that a careful review of the Commission's parking map will reveal other similar problems, and suggests the Commission has drastically over-estimated the parking available and under-estimated the number of cars that will need accommodation for events.

Similarly, asking stadium visitors to pay for privately-owned parking spaces in the neighborhoods surrounding the stadium will only incentivize visitors to instead park for free on the adjacent neighborhood streets. Those neighborhoods will overflow with unplanned-for traffic and parking, which will increase congestion and decrease the quality of life for the very residents this redevelopment is intended to benefit. Due to its proximity to the redevelopment and southern access to the site via Ayd Mill Road, the Lexington-Hamline neighborhood will bear a disproportionately large share of this burden.

We urge the Commission to re-evaluate its plan for stadium visitor parking immediately. The proposed redevelopment is poised to reinvigorate the Snelling-Midway area and all of its surrounding neighborhoods while simultaneously improving quality of life for residents. Executing this plan without accounting for the very significant traffic and parking implications that will result will hamstring both of those goals, and alienate some of the plan's most ardent supporters. Please do not hesitate to contact me on behalf of the LHCC, as the LHCC Board of Directors would be more than happy to engage with you on this or any related issue.

Thank you,

Amy Gundermann
Executive Director
Lexington-Hamline Community Council

From:	Williams, Josh (CI-StPaul)
To:	*CI-StPaul_SnellingMidwayComments
Cc:	Simer, Fay; Tom Sachi (TSachi@srfconsulting.com); Pat Corkle; Dadlez, Kady (CI-StPaul)
Subject:	FW: Proposed Midway Stadium
Date:	Wednesday, July 06, 2016 4:15:40 PM

Josh Williams
Senior Planner
Planning and Economic Development
25 W. Fourth Street
Saint Paul, MN 55102
P: 651.266.6659
josh.williams@ci.stpaul.mn.us

Making Saint Paul the Most Livable City in America

-----Original Message-----
From: Karen Kormann [mailto:sochi@comcast.net]
Sent: Wednesday, July 06, 2016 1:25 PM
To: Williams, Josh (CI-StPaul)
Cc: Tom Goldstein
Subject: Proposed Midway Stadium

Hi Josh,

Julie Reiter provided your email for me.

I have great concerns about the health and environmental issues related to the proposed stadium, among the more familiar criticisms.

Several weeks ago, I plowed through the AUAR and realized the likelihood of sub-ground contamination under both the barn site and the shopping center site. I think the public should be aware of such hazards in such a densely populated area and what exact safeguards are available if necessary.

The public has not been adequately informed of much besides 'the plan' with pictures, a dubious public relations tactic.

The real message of the AUAR is buried in rushes of words meant to reassure us that the developers and city are thoroughly certain of our safety----air, water, traffic, physical. This is an untruth, and needs to be rectified before the citizens are in over their heads again paying for something they did not really understand from the beginning.

There are many,many reasons to halt this project until the real facts are known by all.

Thank you,

Karen Rom Kormann

651-210-1613

1717 vanburen ave
st paul, mn 55104

From:	Karen Kormann
To:	Sage-Martinson, Jonathan (CI-StPaul)
Cc:	*CI-StPaul_SnellingMidwayComments
Subject:	Midway soccer stadium proposal
Date:	Wednesday, July 06, 2016 10:24:21 PM

Hello Jonathan:

I am letting you, as Director of the Planning Commission, that I am strongly opposed to the approval of the Midway Soccer Stadium.

1. The AUAR does not adequately cover the risks and is mired in unreliable justifications that have not been fully investigated.

   There should have been an EIS.

2. The contested area needs further investigation by 3rd party as well as state agencies regarding

   (1) presence of toxic substances in underground soil both in the bus barn location and the Midway Shopping Center location. Facts regarding prior usage related to hazardous materials that could be released during construction are unclear; the pollution hazards have not been adequately addressed nor has the public been apprised.

   (2) The midway area is already among the top congested and air- polluted centers of the Twin Cities. To add to that significantly, both during construction and during game traffic, does a great disservice to the St Paul Midway; many low-income people live and work here. The AUAR assurances are not believable.

   (3) Others have covered the tax issues.

   (4) Issues of how long it will take to empty the stadium (three hours) and the intention to hold concerts afterwards to amuse people is totally insane.

   (5) The site is within several blocks of the BLAST ZONE area (evacuation area in case of hazmat train explosion); the transport of hazardous materials by train, and also truck along Interstate 94 and University Ave has become a fast-growing concern nationwide, but particularly in the Twin Cities which is a railroad hub for transport of Bakken oil, as well as ethanol and other highly explosive materials.

   A responsible plan would have included this possibility along with evacuation routes…..clearly an enormous problem given the increased traffic and congestion.

The lack of transparency on the above and other issues, and lack of public information, the speed with which the City and the Developers have pushed this past thoughtful and complete

circumspection make the proposal open to question and criticism.

This proposal should not be approved without further study and opportunity for public input.

Respectfully submitted,

Karen Rom Kormann
1717 Van Buren Ave.
St Paul, MN 55104
651-210-1613

ST. PAUL Smart Trips

55 E 5TH ST. SUITE 202
ST. PAUL, MN 55101

6 July 2016

Josh Williams, Senior Planner
City of Saint Paul
25 W. 4th Street, St. Paul, MN 55102

Dear Mr. Williams:

I am writing on behalf of St. Paul Women on Bikes, a program of St. Paul Smart Trips, to comment on the Snelling-Midway redevelopment draft Alternative Urban Areawide Review (AUAR). St. Paul Women on Bikes (WOB) is a coalition of over a thousand women and families working to make it safer and easier to ride a bike in St. Paul through advocacy, education, and fun.

It is vital that the AUAR recognizes and fully considers the Saint Paul Bicycle Plan. The importance of a variety of transportation options, including bicycling, walking, and transit, in and around the stadium site cannot be understated. Planning for and incentivizing these multi-modal options will help mitigate air quality issues and traffic congestion that will result from stadium traffic. Additionally, safe and easy biking and walking have been shown to support retail and other types of economic development. The existence of transportation options in and around the stadium development site will majorly contribute to the success of this vision. We are pleased to see the consideration of people biking, walking, using transit, and carpooling considered in the draft AUAR.

The mitigation plan considers future infrastructure changes that may be necessary to accommodate movement of people once the site is fully built out. We request that this section be revised to consider the Saint Paul Bicycle Plan. This plan calls for bike lanes on Shields, Pascal, and Hamline through the considered area. To this end, we suggest the following text changes on pages 70-72:

- Under Snelling, University Ave to Shields Avenue, part 7, Shields Ave (page 71), an additional bullet point should be added to say, Add bike lanes.
- Under Pascal Street, University Avenue to Saint Anthony, part 9 (page 71), remove the words “or shoulder”, and part 10 amend the text to read “five-lane roadway with bike lanes.”
- Under Marshall Avenue/Hamline Avenue Intersection, part 12 (page 71), add a bullet point to say, Any infrastructure changes must preserve bike lanes on Marshall and Hamline.

In addition, the mitigation plan should consider the need for improved bike connections to the north and south of the stadium, especially along Pascal south to Marshall, as this will be a major route of bicycle access to the stadium for cyclists coming from Minneapolis as well as Saint Paul. While it may be outside the scope of the AUAR, we also suggest including an emphasis on the importance of protected bike lanes and intersections in and around the site. Protected bikeways have been proven to incentivize ridership for women, families, and other people who would ride to matches and other events if it felt safe to do so.

On page 76 the creation of a Transportation Management Committee is recommended. We believe stakeholders on this committee should also include neighborhood and community representatives from District Councils and beyond, as well as groups like St. Paul Women on Bikes or the Friendly Streets Initiative who are actively working on multi-modal connections in and around the stadium.

Thank you,

Stephanie Weir
St. Paul Women on Bikes Program Manager at St. Paul Smart Trips

NEIGHBORS AGAINST CORPORATE SUBSIDIES

1399 Sherburne Avenue • St. Paul, Minnesota 55104 • 651-644-8558 • stpaulnacs@gmail.com

July 6, 2016

Joshua Williams, Senior Planner
Department of Planning and Economic Development
25 W. Fourth Street – CHA 1300
Saint Paul, MN 55102

Dear Josh:

According to the Minnesota Environmental Quality Board (EQB), the Alternative Urban Areawide Review (AUAR) "is a planning tool that local governments can use to understand how different development scenarios will affect the environment of their community before the development occurs" and that "environmental analysis information from an AUAR can be used to inform local planning and zoning decisions." However, if such a planning tool is to have legitimate value, it must be based on a credible methodology that utilizes genuine research and factual analysis rather than speculation and tautological reasoning.

While the AUAR draft for the "Minnesota United MLS Stadium and Surrounding Mixed-Use Urban Village" appears to properly address many of the issues that would arise under either of the two proposed development scenarios (the city Comprehensive Plan and RK Midway Stadium Buildout Plan), I believe the document is substantially deficient in several key areas.

Specifically, the report offers no evidence that would support the claim that a stadium will serve as a "catalyst for redevelopment"; the transportation "study" referenced in the report that concludes up to 70% of game attendees will use alternative transportation (LRT, shuttle buses, etc.) to arrive at the stadium is simply not credible; the potential parking mitigation plan outlined in the report assumes an efficient park-and-ride system dependent on a vast network of local businesses and land owners that have neither been identified nor organized—and fails to explain why game attendees would opt for paid lots when free parking abounds in neighborhoods surrounding the proposed stadium; and, finally, to issue a report when no test results have been obtained that measure the potential soil contamination or presence of other dangerous pollutants in the AUAR area makes something of a mockery of the purported environmental analysis intended to aid the local planning process.

1. *The soccer stadium will not serve as a catalyst for redevelopment*

Economists who have been studying the stadium boom for the past thirty years have found that stadiums do not generate ancillary development beyond the bars and restaurants that sometimes spring up around them. At most, stadiums simply shift spending patterns within a community. Neither the city nor the team has produced any evidence to the contrary, and it is incumbent upon the promoters of this project to demonstrate that such development will happen.

While the RK Midway/Minnesota United Stadium Plan may envision a hotel, high-rise office buildings, a movie theater, bowling alley, housing, etc., absent any financial commitments or enforceable developer agreements, these potential uses are speculative at best—particularly since RK

Midway has made it clear that any additional development will be dependent upon "market conditions." (As noted in the AUAR draft, "no development plans for the remainder of the AUAR area have been submitted to the RGU at this time.") As such, the only piece of the Stadium Buildout Plan that will likely be completed in the foreseeable future is construction of a soccer stadium.

It is also worth noting that stadiums usually serve as a disincentive for surrounding development. In fact, in its application to the Federal Transit Administration for a joint-development project on this site, the Metropolitan Council wrote "if the development proceeds as planned, this may be one of the rare examples of a sports facility delivering significant economic development benefits…." Rare indeed, particularly when there is nothing but vague assurances that related development will occur.

a. The stadium violates the Comprehensive Plan

The Snelling Area Plan and previous iterations of the Comprehensive Plan have always focused on breaking up the monolithic Midway Shopping Center strip mall and establishing a street and block grid on the Midway Superblock site. At no point was a stadium or similar outdoor entertainment venue contemplated because it was not compatible with the plan—hence the need for an amendment to make such a use allowable within the permitted zoning for this area.

A stadium that will occupy nearly a quarter of the Superblock site will completely disrupt the proposed street and block grid—and the footprint of the stadium will likely exceed the overall size of the very strip mall that the city wants to eliminate. As PED Director Jonathan Sage-Martinson noted in his testimony before the Planning Commission on June 10th, many years of careful planning went into the development of the Snelling Station Area Plan. Introducing a suburban-style soccer stadium that will dominate the site and not fit within an urban block and street grid is inimical to the city's Comp Plan.

b. Without significant investment in structured parking, the funding gap for redeveloping the Midway Superblock will persist.

According to a study completed by the Urban Investment Group (UIG) in 2014 at the request of the city, RK Midway, and the Metropolitan Council, the potential redevelopment of the Midway Superblock site faces "a large gap between the cost of the infrastructure needed and what the market will support." The biggest contributor to this gap is an estimated $40 million for structured parking, a figure the city cited when tabling discussions about a joint redevelopment of the site two years ago.

While it would be preferable to redevelop the Midway Superblock in such a manner that the need for more parking would be greatly reduced, the assumption remains that additional on-site parking will be needed to attract developer interest. (In fact, one of the key scenarios for mitigating the expected parking snafu when a new soccer stadium opens is phasing in structured parking over the next decade, thus alleviating the likely traffic spillover into the surrounding neighborhood.)

Unfortunately, stadiums do not typically catalyze surrounding development, meaning the same funding gap that precluded shared development plans moving ahead in 2014 will continue to persist whether a soccer stadium is built or not. Since the latest iteration of the Stadium Build plan shows little change in the RK Midway site beyond the addition of a stadium and possibly some green space to the north of the AUAR area, the AUAR report's suggestion that the stadium will "catalyze redevelopment" is not borne out by the facts on the ground.

2. *The Traffic Study uses a flawed methodology for estimating transit preferences*

A careful reading of the AUAR shows numerous assumptions being made using generalities rather than legitimate analysis based on specific data. This is particularly true with regards to traffic and parking issues, where the authors conclude that as many as 70 percent of soccer fans will use alternative transit options to attend games—even though "Metro Transit says that (only) about 14 percent of baseball fans take public transit to Twins games and about 13 percent of Gophers football fans take mass transit to TCF Bank Stadium at the University of Minnesota."

How did Stantec get to the 70 percent figure? By claiming that the *mere available capacity* of alternative transit modes—light rail, bus rapid transit, park and ride shuttles—is evidence that soccer fans will in fact use those alternative modalities. That's not even close to legitimate statistical analysis, and no examples are provided that demonstrate such a strategy has been effectively deployed at other professional sports events in the Twin Cities—or anywhere else in the country.

More troubling about this aspect of the AUAR is that no data is provided to substantiate the conclusions reached. The author(s) report that "event attendees' origin/destination information is based on zip codes collected from individual and season ticket holders for other professional sports teams in the Twin Cities, the current Minnesota United team, and metro area population densities," but we know nothing about the sample size used or whether the travel habits of season ticket holders for other professional sports teams in the Twin Cities mirror those of professional soccer fans. It appears that no surveys were conducted of current Minnesota United fans to determine how they would travel to soccer matches in St. Paul—the most reliable indicator of the likely traffic patterns of attendees. Without this data, any purported studies about likely use of alternative transit options are simply best guesses.

Interestingly, Minnesota United Owner Bill McGuire claimed that 50 to 80 percent of soccer fans in Portland and New York use public transportation to attend matches. If those numbers are accurate, why wasn't that information included in the AUAR—along with data analyzing whether the transportation options in those cities is similar to or substantially different from what is available in the Twin Cities? Simply put, consultants and city staff can't pretend to do an accurate analysis when the effort is rushed in order to meet an arbitrary deadline established by Major League Soccer to ensure its proposed franchisee gets the necessary approvals for the stadium it desires to build.

3. *Parking mitigation strategies are speculative at best and related costs ignored*

Assuming that a comprehensive parking plan could be developed that would include two-to-three remote parking locations and numerous small lots in the vicinity of the stadium, there is no guarantee that such locations would be offered up by businesses or lot owners, that attendees would be willing to pay for parking, or that the development of such a plan would do anything to alleviate the expected traffic that would converge on the stadium on game days or nights.

a. <u>Park & Ride Lots</u>

If one could persuade soccer fans to use remote park and ride lots like those at the State Fairgrounds, should several thousand cars arrive at a parking lot at around the same time—even with assigned parking spaces connected to the purchase of a game ticket—the result will still be significant traffic

delays, as borne out at stadiums that already have "reserved" parking spots for certain season ticket holders.

Such a scenario also assumes that fans traveling by automobile would be willing to endure the delays in finding their parking location in a remote lot, wait twenty minutes to half an hour to catch a shuttle to the stadium, wait another half hour to catch a shuttle back to the lot after the match is over, then spend time fighting traffic in departing the remote parking lot. Of course, fans would also have to be willing to pay for the parking as well, something that seems highly unlikely—and for which no data is provided that would suggest soccer fans' spending habits are dramatically different from those who root for other professional sports teams.

Even if a remote park and ride lot were located near an LRT station, such as the parking lots that surround TCF Bank Stadium, the anticipated delay in boarding a train after a match is expected to be at least half an hour—with no clear idea where the additional space necessary to accommodate the large queue of departing fans waiting for shuttles or to board trains will be found.

b. Establishing a Parking Lot Network adjacent to the Stadium

Another mitigation strategy proposed to address parking and traffic concerns in the stadium area is developing a network of local businesses or lot owners willing to provide off-street space. However, unless the city is willing to ban event parking in the surrounding neighborhoods, what guarantee is there that soccer patrons will pay for this convenience? After all, if people didn't mind paying for parking, why would they take the time driving around neighborhoods during sporting events looking for a free spot and clogging up the streets? And, as the study notes, the city has no data on whether businesses or land owners would have any desire to participate in such an arrangement—or if it would even be financially feasible for them to do so.

c. Operating Costs for Ensuring Smooth flow of Traffic, Trains, and Buses

If, for the sake of argument, we assume that "where there's a will, there's a way," i.e., that the team, the city, the fans, Metro Transit, local businesses, and neighbors all cooperate to make sure that traffic and parking issues related to soccer games are dealt with in an efficient, comprehensive way, there is still the question of who pays? According to Minnesota United's lease with the city, the team is responsible for all operating costs related to the stadium. But do operating costs include such things as traffic monitors blocks from the stadium, additional personnel to ensure smooth boarding of trains and shuttles, or the shuttles themselves? If not, who pays? (Will restaurants offer free shuttles like some do for Minnesota Wild games?) And if it is the responsibility of the team, how long are they going to foot the bill to ensure smooth game night/day operations—particularly if attendance does not remain at capacity year after year?

For the AUAR to be a useful planning document, all of these questions need to be answered—or will the city just pick up the tab for any additional costs that the team chooses not to cover?

d. Worst-Case Scenarios?

What happens if Minnesota United or MLS proves not to be the huge success that is predicted by fans, politicians, and the media, such that traffic flows around the stadium are exacerbated because those

who drive to games decide they're just going to park in the neighborhood rather than be directed to a remote lot? Or, if the team is a success but the related development does not happen such that the "fan experience" is limited to only attending matches—with people showing up right before game time and departing immediately at match end, also leading to increased traffic and congestion?

Or what if the team is a huge success and, as anecdotal data would suggest, nearly 80 percent of fans regularly choose to drive to games and park in the vicinity of the stadium? Will the traffic volumes become so overwhelming that the current access ramps to and from Interstate 94 will no longer be adequate? Will the city decide that it's time to connect Ayd Mill Road to I-94 via St. Anthony Avenue to end bottlenecks caused on game nights because of the additional traffic?

Remote possibilities perhaps for an entertainment venue that is only expected to host 15-20 professional soccer contests a year, but with so many questions about traffic, parking, size and scope of the stadium, lack of job creation, etc., that have not been adequately addressed by the city—and the lack of binding commitments (from the principals involved in designing and building the stadium) that anything beyond a soccer stadium and some adjoining green space will be constructed on the Midway Superblock site—these are exactly the kind of unanticipated costs that would be borne by taxpayers and which the AUAR ignores because of speculative transit modeling that assumes manageable car volumes on Snelling Avenue. Will they be? Will the city ban event parking in the surrounding streets?

Unfortunately, the AUAR does not contemplate these possibilities.

4. *The Master Plan is not yet ready for adoption, meaning the AUAR itself is premature*

The Saint Paul Planning Commission's own staff report indicates that "a staff recommendation on the master plan request is premature" and cites the following information as still needed:

a. Public and private roads and their features and dimensions must be clearly identified in the master plan. Detailed information on the location and widths of sidewalks and bicycle facilities must also be provided on the master plan.
b. An open space plan, including a preliminary design treatment for open space, must be provided. It is unclear whether this will be publicly or privately owned open space, who will make improvements to it and who will maintain it. This information must be provided in the master plan.
c. Not enough detail exists in the stadium site plan to determine whether the development meets density, height, and setback requirements and master plan standards. This information needs to be provided as part of the site plan submittal.
d. A preliminary landscape plan indicating street trees and landscape treatment of streets and public spaces must be provided.
e. A preliminary stormwater plan identifying preliminary locations of structures and methods to be used in managing stormwater and surface water on the site must be submitted.
f. Master plan guidelines should be submitted addressing the areas of bicycle facilities; landscaping; street furnishings/lighting/wayfinding; building placement, heights, massing, form and facades; energy efficiency; parking; stormwater management; utilities; and public art.

Until these issues are addressed and incorporated into the AUAR, the latter document is incomplete.

5. *Environmental testing should be completed before the AUAR is finalized or the amended Comprehensive Plan submitted for approval by the City Council*

The agreement between the city and the Metropolitan Council allocates $6 million for soil remediation and pollution cleanup of the AUAR site. With no significant testing having been completed, this scenario assumes that man-made fill down to twenty feet will be removed if necessary to ensure a "shovel-ready" site. But what if there are more serious pollution problems such that it is only feasible to clean the site up to commercial standards? That would greatly alter the possibility for residential housing development on the site—and stymie the goals of the Snelling Station Area Plan.

Similarly, what if the proposed location of the green space just north of the stadium site is contaminated—like the problems encountered at the Jimmy Lee Rec Center years ago when new athletic fields were installed? Will the green space be lost? Such cleanup would likely be at city expense, a potentiality for which there has been no budget discussions or funds allocated.

Failure to properly assess the risks for the Saints ballpark project resulted in a $9 million cost overrun due to contamination, an amount borne entirely by the city. We cannot tolerate any more such surprises in projects of this magnitude. Therefore, unless we have a completed environmental analysis that can be incorporated into the AUAR review *prior to* any final decisions being made on this proposed project, I do not believe the current draft meets the requirements laid out in Minnesota statute.

Thank you for your consideration.

Sincerely,

Tom Goldstein

From: mike@mudpuppies.net
To: *CI-StPaul_SnellingMidwayComments
Subject: AUAR is deficient
Date: Thursday, July 07, 2016 10:27:35 AM

To Whom It May Concern,

The AUAR is deficient because it contains no social justice section.

The social justice section should have examined and documented the stadium deal including the tax exemptions and the lease arrangement extended to the soccer team's investment group. It should have contrasted the material wealth of those investors that stand to profit from this sweetheart deal with those who live near the site and will have to endure all of the inconveniences of game days. It should have emphasized the Minnesota Department of Revenue's determination that the tax exemptions will shift the state's tax burden away from the business located on the site onto surrounding residents and businesses.

That the lead investor, Dr. William McGuire, was penalized $468 million by the Securities and Exchange Commission less than ten years ago is also relevant to the issue of social justice. It is noteworthy that he has not yet completed his ten year prohibition against serving on a corporate board.

The stadium deal is a giveaway of prime St. Paul real estate.

The tax exemptions are unfair to working class people.

The AUAR is not adequate without a social justice section that addresses these issues.

Mike Madden
1768 Iglehart Avenue
St. Paul, MN 55104

UNION PARK DISTRICT COUNCIL
1602 Selby Avenue, Suite 10, Saint Paul, MN 55104
651.645.6887 | info@unionparkdc.org | www.unionparkdc.org
An Affirmative Action, Equal Opportunity Employer

July 6, 2016

Josh Williams, Senior Planner
City of Saint Paul
25 West 4th Street
St. Paul, MN 55102

Dear Mr. Williams:

At its regular meeting on July 6, 2016, the Union Park District Council Board unanimously endorsed the attached letter reflecting comments on the Snelling-Midway AUAR submitted by members of our Transportation Committee.

Additionally, the Board made and endorsed the following comments:

First, the Transportation Committee's letter references the AUAR section entitled Mitigation-Event (pages 75-76), where a Transportation Management Committee is described. According to the AUAR, this Committee will be responsible for developing a transportation management plan and meeting periodically after implementation to adjust the plan. **The Board emphasized and reiterated the request that the Union Park District Council be allowed to have specific representation on this committee.**

Second, given the central nature of transit to Midway Center and the proposed soccer stadium, and concerns about safe and convenient access to transit and transfer between lines, the City and Metro Transit are encouraged to consider modifications to the Snelling and University intersection, including the possibility of constructing a transit station for the short term, and other infrastructure changes for the long term, to enhance pedestrian safety in the area.

Third, because of the negative impact loud fireworks have on residents, especially veterans and individuals with pets, it is requested that there be no fireworks with accompanying loud sounds allowed at the stadium site.

Fourth, it should be required that the stadium operation, and the businesses on and near the site, participate in comprehensive waste recycling programs.

Sincerely,

Julie Reiter, Executive Director
Union Park District Council

6 July 2016

Josh Williams, Senior Planner
City of Saint Paul
25 W. 4th Street
St. Paul, MN 55102

Dear Mr. Williams:

The Union Park District Council Transportation Committee would like to thank you for coming and presenting the Snelling-Midway AUAR to our committee. We have reviewed the Snelling Midway AUAR and we submit the following comments:

Under Mitigation-Event (page 75,76), the AUAR describes a Transportation Management Committee responsible for developing a transportation management plan (TMP) and meeting periodically after implementation to adjust the plan.

Comment: We request that the Union Park District Council be included among the stakeholders listed in the AUAR to be represented on the committee.

Under Event Control Plan, part c (page 72), temporary lane or roadway closures are proposed for the TMP. Consideration is recommended for Spruce Tree Dr and internal roadways.

Comment: We request that the TMP consider temporary lane or roadway closures to prevent event traffic from circulating on nearby neighborhood streets west of the site and south of I94.

Under Parking Plan (page 73), the AUAR states that on-site or nearby parking should be assigned and purchased with tickets.

Comment: We request that event attendees with disabilities or mobility problems be given priority to purchase on-site or nearby parking with tickets.

Under Parking Plan (page 73), the AUAR proposes strategies to manage parking on-site and near the site.

Comment: We request that the TMP considers the impact to the nearby neighborhoods from vehicles trying to find free on street parking, and propose actionable strategies to reduce congestion, frustration, and address neighborhood parking concerns.

Under Around the Site (pages 70-72), future infrastructure changes are described to streets around the site.

Comments: We request that future road uses consider the Saint Paul Bike Plan, which calls for bike lanes on Shields, Pascal, and Hamline in the project area. To this end, we request the following changes:

- Under Snelling, University Ave to Shields Avenue, part 7, Shields Ave (page 71), an additional bullet point should be added to say, Add bike lanes.

- Under Pascal Street, University Avenue to Saint Anthony, part 9 (page 71), remove the words “or shoulder”, and part 10 amend the text to read “five-lane roadway with bike lanes.”
- Under Marshall Avenue/Hamline Avenue Intersection, part 12 (page 71), add a bullet point to say, Any infrastructure changes must preserve bike lanes on Marshall and Hamline.

Submitted by the following members of the Union Park District Council Transportation Committee:

Emily Metcalfe, Co-chair

Sean Ryan, Co-Chair

Benita Warns, Member

Ryan Smith, Member

Lisa Nelson, Member

Michael Mechtenberg, Member

Colin Martin, Member

Annika Tohlen, Member

Appendix H

Response to Draft AUAR Comment Letters

AUAR Guidelines: The final AUAR document must include a section specifically responding to each timely and substantive comment on the draft that indicates the way in which the comment has been addressed. Similar comments may be combined for purposes of responding.

The Minnesota United Stadium and Mixed-Use Urban Village Draft Alternative Urban Areawide Review (Draft AUAR) was prepared for the City of Saint Paul and distributed to the Minnesota Environmental Quality Board (EQB) and persons and agencies on the official EQB mailing list in accordance with EQB rules on June 6, 2016.

Response to Comments

The 30-day comment period expired on July 6, 2016. Five agencies, six organizations and 23 individuals submitted comments on the Draft AUAR. All comments are transcribed and organized by the AUAR item number each comment addresses. Copies of all comment letters submitted are included in Appendix G in the order shown below.

Agency/Organization/Citizen	**Letter Dated**	**Signatory**
Metropolitan Council	7.6.16	LisaBeth Barajas
Minnesota Department of Transportation	6.23.16	Karen Scheffing
Minnesota State Historic Preservation Office	7.7.16	Sarah J. Beimers
Minnesota Pollution Control Agency	7.6.16	Karen Kromar
State Archeologist	7.1.16	Amanda Gronhovd
Jill Westermeyer	6.7.16	
Laura Perdue	6.7.16	
Hally Turner	6.7.16	
Micha Pace	6.7.16	
Laurie Johnson	6.7.16	
Mary Montagne	6.7.16	
Tim Faust	6.7.16	
Natalie Brown	6.7.16	
Ryan Anderson	6.7.16	
Mark Wiedul	6.7.16	
Nancy Fergen	6.7.16	
Ellison Yahner	6.8.16	
Danette Lincoln	6.9.16 and 6.10.16	
Kyle Bauman	6.10.16	
David Rasmussen	6.13.16	
KC Cox	6.25.16	
Benita Warns	6.30.16	
St. Paul Transportation Committee of the Planning Commission	6.30.16	Bill Lindeke
Michaelene Zawistowski	7.1.16	
Saint Paul Bicycle Coalition	7.5.16	
Dennis Hill	7.6.16	
Emily Metcalfe	7.6.16	
Lexington-Hamline Community Council	7.6.16	Amy Gundermann
Karen Kormann	7.6.16	
St. Paul Smart Trips	7.6.16	Stephanie Weir

Tom Goldstein	7.6.16	
Mike Madden	7.6.16	
Union Park District Council	7.6.16	Julie Reiter
Union Park District Council Transportation Committee	7.6.16	Metcalfe, Ryan, Warns, Smith, Nelson, Mechtenberg, Martin, Tohlen

Responses are generally confined to substantive issues that "address the accuracy and completeness of the information provided in the draft analysis, potential impacts that may warrant further analysis, further information that may be required in order to secure permits for specific projects in the future, and mitigation measures or procedures necessary to prevent significant environmental impacts within the area when actual development occurs" (Minnesota Rules Part 4410.3610, Subp. 5). Although comments and recommendations that do not address these areas need not have a response, they have been duly noted for the record and are not necessarily specifically addressed in the responses. As required by MN Rules, the RGU has provided replies to comments that are ***substantive*** (involving matters with major or practical importance) and where necessary, note any correction(s) to be made to the appropriate sections of the AUAR or Mitigation Plan.

Item 9 Land Use

1. **Comment:** I would hate to see much demolition of Midway Center and hate to see much city investment toward the next phase of Midway Center prior to market confirmation of whatever is to be next. Credibility is low given the multiple city plans and the failure of the Snelling Station area plan to date. Jobs and businesses should remain unless more jobs and more businesses are a sure thing. T4 zoning should be reconsidered if development continues to stall as development has stalled since the Snelling Station area plan was approved.

   Commenter: David Rasmussen

   Response: At this time, the Proposers do not intend to demolish buildings whose removal is not necessitated by stadium construction needs. The Proposer intends to demolish the remaining buildings in the AUAR area in response to market demand for new construction in those locations. As required by the Environmental Quality Board, the AUAR will be updated every five years to reflect changing conditions.

2. **Comment:** The stadium violates the Comprehensive Plan. The Snelling Area Plan and previous iterations of the Comprehensive Plan have always focused on breaking up the monolithic Midway Shopping Center strip mall and establishing a street and block grid on the Midway Superblock site. At no point was a stadium or similar outdoor entertainment venue contemplated because it was not compatible with the plan—hence the need for an amendment to make such a use allowable within the permitted zoning for this area. A stadium that will occupy nearly a quarter of the Superblock site will completely disrupt the proposed street and block grid—and the footprint of the stadium will likely exceed

the overall size of the very strip mall that the city wants to eliminate. As PED Director Jonathan Sage-Martinson noted in his testimony before the Planning Commission on June 10th, many years of careful planning went into the development of the Snelling Station Area Plan. Introducing a suburban-style soccer stadium that will dominate the site and not fit within an urban block and street grid is inimical to the city's Comp Plan.

Commenter: Tom Goldstein

Response: Prior to the construction of the Green Line along University Avenue, the City of Saint Paul developed the Snelling Station Area Plan (SAP), which was adopted as an addendum to the Comprehensive Plan. The vision for the area includes future development that is mixed-use, walkable, sustainable, provides new open spaces, increases transit ridership, and serves as an economic catalyst. Development should be dense, with four to six story building heights and point towers up to fifteen stories. In regard to the AUAR area, the SAP calls for a land use strategy that focuses on connectivity, design, and transit and for increasing development intensity in the area. The SAP also recommends these blocks be transformed into a "new urban village" and a transit-oriented development demonstration site. The SAP generally indicates that entertainment-related uses are best located in the southern portion of the AUAR area and specifically identifies entertainment uses as a desired potential use for the bus barn property (p. 27, Policy 4.1.2 e).

The mix of commercial, residential, open space, and institutional uses identified in Scenario 2 are permitted in the T4 zoning district. As noted in question 9a, the T4 zoning district allows entertainment uses. The City of Saint Paul interprets stadiums to be an entertainment use. However, because of the unique scale of stadiums, the City intends to amend its zoning code to allow outdoor sports and entertainment uses in the T4 district.

3. **Comment:** Forecasts are not discussed in the AUAR, but this would be helpful information to discuss and provide. A draft set of TAZ forecasts for 2040 has been prepared by the Council and provided to the City to review and adjust. As the City pursues this site development, changes to the TAZ forecast will be needed. T AZ #1913 is currently forecasted to add 47 households and 1,240jobs during 2014-40. Council staff suggest that the TAZ # 1913 forecast should be increased, in consideration of the development discussed in the AUAR, to reflect the 620 planned households discussed in the AUAR. The forecast for this TAZ should be updated through correspondence to the Council. The City total forecast does not need revision, only the T AZ forecasts.

   Commenting Agency: Metropolitan Council

   Response: The City will use the selected scenario and information contained in the AUAR and revise during the 2040 update to the Comprehensive Plan to reflect the changes in TAZ projections. The forecast for this TAZ will be updated through correspondence to the Council.

Item 12 Solid Wastes, Hazardous Wastes, Storage Tanks

1. **Comment:** I have great concerns about the health and environmental issues related to the proposed stadium, among the more familiar criticisms.

   Several weeks ago, I plowed through the AUAR and realized the likelihood of sub-ground contamination under both the barn site and the shopping center site. I think the public should be aware of such hazards in such a densely populated area and what exact safeguards are available if necessary.

   The public has not been adequately informed of much besides 'the plan' with pictures, a dubious public relations tactic.

   The real message of the AUAR is buried in rushes of words meant to reassure us that the developers and city are thoroughly certain of our safety----air, water, traffic, physical. This is an untruth, and needs to be rectified before the citizens are in over their heads again paying for something they did not really understand from the beginning.

   There are many, many reasons to halt this project until the real facts are known by all.

   The contested area needs further investigation by 3rd party as well as state agencies regarding presence of toxic substances in underground soil both in the bus barn location and the Midway Shopping Center location. Facts regarding prior usage related to hazardous materials that could be released during construction are unclear; the pollution hazards have not been adequately addressed nor has the public been apprised.

   Commenter: Karen Rom Kormann

   Response: A Response Action Plan (RAP) and Construction Contingency Plan (CCP) were prepared by a third-party (Braun Intertec) and submitted to the Minnesota Pollution Control Agency (MPCA) for review in March 2016. The MPCA approved the RAP/CCP on April 28, 2016. The RAP presents the proposed environmental response actions and includes procedures for managing contaminated soil and groundwater, subsurface vapors and other environmental mitigation measures during proposed construction of the southern portion of the AUAR area. The CCP includes measures for handling unknown contaminated materials that may be encountered during construction. MPCA cleanup standards that are protective of human health and the environment are incorporated in the RAP/CCP. The RAP also summarizes the results of 46 environmental related reports for the AUAR area dating back to 1989. The RAP/CCP are public documents and available to the public for review at www.stpaul.gov/midway.

   Similar environmental investigations, RAP and CCP, will be prepared prior to development of the northern portion of the AUAR area.

2. **Comment:** Environmental testing should be completed before the AUAR is finalized or the amended Comprehensive Plan submitted for approval by the City Council

The agreement between the city and the Metropolitan Council allocates $6 million for soil remediation and pollution cleanup of the AUAR site. With no significant testing having been completed, this scenario assumes that man-made fill down to twenty feet will be removed if necessary to ensure a "shovel-ready" site. But what if there are more serious pollution problems such that it is only feasible to clean the site up to commercial standards? That would greatly alter the possibility for residential housing development on the site—and stymie the goals of the Snelling Station Area Plan.

Similarly, what if the proposed location of the green space just north of the stadium site is contaminated—like the problems encountered at the Jimmy Lee Rec Center years ago when new athletic fields were installed? Will the green space be lost? Such cleanup would likely be at city expense, a potentiality for which there has been no budget discussions or funds allocated.

Failure to properly assess the risks for the Saints ballpark project resulted in a $9 million cost overrun due to contamination, an amount borne entirely by the city. We cannot tolerate any more such surprises in projects of this magnitude. Therefore, unless we have a completed environmental analysis that can be incorporated into the AUAR review prior to any final decisions being made on this proposed project, I do not believe the current draft meets the requirements laid out in Minnesota statute.

Commenter: Tom Goldstein

Response: As indicated in the response to comment #1 of this section, the RAP/CCP prepared for the southern portion of the AUAR area evaluated the contamination associated with development of this portion of the site. The RAP/CCP was reviewed and approved by the MPCA on April 28, 2016. The RAP/CCP reviewed 46 environmental reports for this location dating back to 1989. The RAP/CCP are public documents and available to the public for review at www.stpaul.gov/midway. Item 12-8 of the mitigation plan documents the City of Saint Paul's commitment to preparing a RAP/CCP for the northern portion of the AUAR area.

3. **Comment:** It should be required that the stadium operation, and the businesses on and near the site, participate in comprehensive waste recycling programs.

   Commenter: Union Park District Council

   Response: The stadium and nearby development will meet the criteria specified in state statute for recycling effective January 1, 2016 (115A.151 Recycling Requirements; Public Entities; Commercial Buildings; Sports Facilities).

4. **Comment:** While the Draft AUAR states the Project will comply with the state statute for recycling, the MPCA recommends the Project Proposer consider the following when designing a recycling/organics collection system for the new stadium:
   - Design complete waste stations in all areas of the facility. Each station should accommodate recycling, composting, and trash collection containers. Designing

adequate space for these containers in public areas, concessions area, and at the loading dock is critical during the design phase. Successful programs place the recycling and compost containers next to every trash container.

- Design the loading dock to include adequate space for dumpsters for trash, recycling, and compostable waste. Lack of dock space is a common barrier to improving recycling and compost recovery. Make it easy and safe for facility staff to dump materials into dumpsters, preferably so that containers can be rolled to and tipped into dumpsters or compactors without lifting.
- Distribute only recyclable or compostable products during events. Working with the facilities operators and vendors to distribute food and beverages in recyclable or compostable products simplifies the recycling and composting programs for fans attending the game. Target Field in Minneapolis has been most successful in this regard.
- Work with city and county staff to have consistent signage throughout the stadium. Color code bins (trash - black, recycling - blue, organics - green) throughout the public and back of house areas. Work with your local government who has access to signage that can be customized to products sold at the stadium.

Commenting Agency: Minnesota Pollution Control Agency

Response: The City of Saint Paul acknowledges these recommendations and encourages the project proposers to consider them as it designs a recycling/organics collection system.

Item 14 Historic Properties

1. **Comment:** We agree with the statements provided in Section 14 (pages 32-33) which indicate that there are no historic properties currently listed in the National Register of Historic Places (NRHP) within the proposed development site, which we would consider the area of potential effect for direct effects. However, this section incorrectly states that two (2) properties which are over fifty (50) years old and proposed to be demolished - the Midway National Bank and Midway Shopping Center West Building - are eligible for listing in the NRHP. To clarify, these properties have not yet been fully evaluated for listing in the NRHP and therefore not have not been determined eligible for listing. We recommend that this language be corrected to reflect their current status as unevaluated.

   We do, however, recommend that these properties be evaluated for listing in the NRHP and the evaluations should be prepared and completed in conformance with the Secretary of the Interior's Standards for Identification and Evaluation (Standards) as well as the Minnesota Historic Preservation Office's (MnHPO) Guidelines for History/Architecture Projects in Minnesota.

   We also recommend that a Phase I reconnaissance archaeological survey be completed for the proposed site. While our records indicate that there are no recorded archaeological sites within the project boundary, it is our opinion, based upon past use of the area, that there is a potential for historic archaeological resources under the currently paved areas. The archaeological survey should also be prepared and

completed in conformance with the Standards and MnHPO's Manual for Archaeological Projects in Minnesota.

As noted in our comments on the Environmental Assessment Worksheet in March 2016, although much of this area - predominantly facing University Avenue - was surveyed for the Central Corridor/Green Line LRT Project, including identification of NRHP-eligible properties adjacent to the project site, this survey data is considered somewhat outdated and we recommended, as a first step in the state-level environmental review process, completion of a Literature Review to ensure that survey results from the LRT project meet current Standards for historic property identification and evaluation. This literature Review was completed and is presented in the Cultural Resources Analysis section of the AUAR. While this section does provide summary information based upon database searches and field verification of extant properties previously inventoried in our statewide inventory files, the analysis also includes determinations that properties are not eligible for listing in the NRHP. Typically, it is not appropriate to include NRHP determinations as part of a literature Review as this level of survey does not meet historic property identification or evaluation Standards, nor does it comply with reporting requirements established by our office. Determinations of NRHP eligibility, or non-eligibility, are made as a result of full Phase I reconnaissance or Phase II intensive level surveys meeting the Standards and MnHPO reporting guidelines listed above.

The analysis report also does not provide definitive definition of an area of potential effect for indirect effects to historic properties, if extant, caused by the proposed development project. In the analysis report, potential indirect effects are identified as visual effects only, but, per standard procedure, we recommend that all potential adverse effects be considered and these include visual, auditory, atmospheric effects, as well as change in access, setting, and use of a historic property. An area of potential effect for indirect effects should be fully defined and documented in consultation with our office and other interested parties. Once the area of potential effect for indirect effects has been defined, we recommend that a Phase I reconnaissance-level history/architecture survey be completed for this area in order to formally identify all historic properties, listed in the NRHP or eligible for listing in the NRHP, which may be affected by the proposed project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, procedures of the Advisory Council on Historic Preservation for the protection of historic properties. If this project is considered for federal assistance, or requires a federal license or permit, it should be submitted to our office by the responsible federal agency.

Commenting Agency: Minnesota State Historic Preservation Office

Response: The City of St. Paul acknowledges these comments and made changes in the Final AUAR according to responses below.

Ms. Beimers makes reference to Appendix B and Section 14 of the AUAR. She indicates that the Midway Shopping Mall was eligible for the NRHP.

> As indicated in Appendix B, in the professional opinion of Phase One Archeology, the Midway Shopping Center Mall is not eligible for NRHP. The Midwest Bank building may be eligible (an earlier investigation submitted material to the SHPO that it is eligible for the NRHP) and will require further study.

Ms. Beimers notes that the analysis does not include a formal assessment of NRHP listings or a well-defined area of potential impacts (area of potential effect or APE).

> The recommendations were anticipated while writing the draft cultural resources report and relate to conducting a more formal evaluation of the structures for NRHP that will be affected by the planned project activities.
>
> The evaluations of the structures were not undertaken for the AUAR as the specific project plans that were needed to assess adverse effects and identify the project APE were not finalized at the time of the AUAR cultural resources investigation. Also, Ms. Beimers noted, typically these evaluations are not made in an AUAR.

Ms. Beimers recommends working with the State Archeologist to complete a Phase I assessment of the site.

> See response to Comment 2 below.

As noted in Item 14-2 of the Mitigation Plan, the City of Saint Paul will review the Central Corridor Final EIS and update the SHPO of any changes relating to historic structures since that document's publication. This includes changes to both federal and state procedures for evaluating standing structures, noting whether any buildings have been razed or altered since the previous evaluation, and whether any buildings in the indirect and direct APE are eligible for NRHP listing. After the APE is agreed upon with SHPO and other concerned parties, the City of Saint Paul will complete the aforementioned analysis.

2. **Comment:** While there are no recorded archaeological sites within the project boundary, based on the historic use of this area, there is the potential for historic archaeological resources under paved areas. Thus, I recommend that a qualified archaeologist examine the area after the pavement has been removed, or monitor excavation activity during construction.

   Commenting Agency: Minnesota State Archeologist

   Response: The City of Saint Paul acknowledges your concern for the potential existence of archeological sites in the area. Item 14-1 in the Mitigation Plan documents the City of

Saint Paul's commitment to monitoring the site for archeological resources after paved areas are removed and construction begins.

Item 15 Visual

1. **Comment:** Are there any requirements for minimizing light pollution? Many parts of Saint Paul still allow residents to see stars - this is really something special and unique in an urban area. While lighting is often praised for safety, it can be done in a way that respects wildlife and people.

   Commenter: Ellison Yahner

   Response: The AUAR area is within a fully-developed portion of Saint Paul. The City will enforce Sec. 63.116 of its Zoning Code to minimize impact of lighting resulting from development of the AUAR area.

   Figure 15-1 in the Draft AUAR depicts anticipated mounting conditions of light fixtures in the proposed stadium to direct glow toward the playing field. Fixtures will have internal shielding and external glare shrouds and will be aimed to optimize the lighting on the playing field. All fixtures will be aimed down so that no direct lighting will leave the confines of the stadium. There will be a glow from the reflected light but it will be limited and no light pollution will impact the surrounding areas.

   Every future development project in the AUAR area will require site plan review by the City of Saint Paul. Proposed lighting will be evaluated during site plan review.

2. **Comment:** How much light will a semi-translucent stadium add to the neighborhood versus a non-translucent stadium?

   Commenter: Danette Lincoln

   Response: According to the Proposers, light spill of interior lighting to the property boundary from a translucent stadium will be minimal (nearly immeasurable) compared to light spill at the property boundary from a non-translucent stadium.

3. **Comment:** Bright lights and noise cause a serious disruption to residents' lives.

   Commenter: Michaelene Zawistowski

   Response: See response to Comment 1 in this section.

Item 16 Air

1. **Comment:** The midway area is already among the top congested and air- polluted centers of the Twin Cities. To add to that significantly, both during construction and

during game traffic, does a great disservice to the St Paul Midway; many low-income people live and work here. The AUAR assurances are not believable.

Commenter: Karen Kormann

Response: The AUAR has addressed vehicle-related air quality concerns according to applicable state and federal guidance. Among the pollutants associated with vehicle emissions only Carbon Monoxide has been identified as a potential concern in the project area. A detailed analysis was completed for this project and documented in the AUAR demonstrating that expected concentrations will not exceed state and federal standards.

2. **Comment:** The MPCA recommends conducting an air quality analysis of a worst-case scenario when the stadium has an event, there is peak evening traffic, and there are other events (such as an event at the Xcel Center or State Fair Grounds) in the area. The EAW indicates that analysis to date is only for an event in the stadium and normal evening traffic.

   Commenting Agency: The Minnesota Pollution Control Agency

   Response: Additional analysis of multiple event conditions was considered for evaluation of the proposed project. The evaluations completed assume a worst-case scenario during winter months at very low temperatures. Large events are not anticipated at the State Fair Grounds during these periods and therefore would not impact traffic volumes near the proposed site. Events at the Xcel Energy Center were also reviewed and were not found to result in meaningful impacts to traffic volumes near the proposed site.

Item 17 Noise

1. **Comment:** I forgot to address the noise and pollution the actual building of the superblock will cause for residents over the course of the ten/fifteen year building term. Has this been taken into consideration?

   Commenter: Dannette Lincoln

   Response: Steps to minimize impacts to surrounding residents during construction are identified in the Mitigation Plan under Items 11, 12 and 13. City Noise Regulations, Chapter 293 of the Legislative Code, establish daytime (7:00 am to 10:00 pm) and nighttime (10:00 pm to 7:00 am) standards. The daytime standard in residential areas is 65 dBA and the nighttime standard is 55 dBA. There are provisions for construction and demolition, in which the construction site operation must not exceed an L_{10} noise source (no more than six (6) minutes per hour) of 85 dBA at a distance of fifty (50) feet measured from the source. A sound level variance can be applied for if it is anticipated that the standards will be exceeded. A sound level variance application includes notification to the affected area and requires a public hearing at the City Council.

2. **Comment:** I have concerns about the noise levels being controlled under the MN statues set up to protect people without MN United being allowed a noise variance.

   Commenter: Dannette Lincoln

   Response: The City of Saint Paul acknowledges your concern regarding noise. During site plan review, the City will consider how design of the stadium and its noise system can be implemented in such a way as to minimize noise levels outside the stadium. In considering changes to its noise ordinance outlined in Chapter 293, the City of Saint Paul may require that the Proposer commit to annual dialog with the surrounding neighborhood to assess and evaluate how programming noise impacts residents.

3. **Comment:** Noise issues for 20,000: At the meeting you indicated the dB would be 65 or lower - and if they go above? You did not have a resolution.

   Commenter: KC Cox

   Response: See response to Comment #1 above.

4. **Comment:** After reading through the draft, and also the Appendix for noise impacts and mitigation, there is only one mention of my biggest concern for noise – fireworks. When the noise review was done at the Kansas City stadium, fireworks noise was noted in the data. However, nothing was mentioned anywhere in the documents about use of fireworks during events at the stadium, let alone any plans to manage the noise from them.

   Use of fireworks creates very intrusive noise that travels at far greater distances than loudspeaker or crowd noises. Explosive noises cause trauma for many military veterans with PTSD, as well as for many companion animals. I have personal experience with this, as my nephew served in the Army and was stationed in Afghanistan for over a year on a remote mountain outpost, getting shot at and shelled by Taliban. When he first came home, he carried a baseball bat next to him in his car in case of attack. He suffered a traumatic brain injury when he was awakened from sleep by an explosion. When he jumped up to grab his weapon, he hit his head on something and was knocked out. As a result, every time he hears any kind of sudden loud noise, especially explosive ones like fireworks, he jumps, starts to dive for the floor, and looks for his weapon. My nephew lives in the area around the stadium. There are many other military veterans living among us throughout the neighborhood who have similar stories. Many of them do not want to discuss their PTSD, including my nephew. Out of respect for them, no fireworks should be allowed at the stadium.

   Another issue with fireworks is the reaction by many of our pets. I don't personally have pets, but most of my neighbors do. I remember sitting out on our front steps when the sudden explosive noise from fireworks frightened my neighbor's dog, and she bolted. She saw my husband and ran to him and dove for cover in his lap. This poor dog was trembling and so very frightened. I don't know where that dog would have taken shelter

had we not been there. If you have ever held a trembling dog that is frightened out of its mind by fireworks noise, you would ban them from use near residential neighborhoods.

I want to know the team's plan for fireworks. Do they plan to use them? If so, how are they going to keep their intrusive noise from disturbing our peace? Is the team willing to commit to banning fireworks at the site? This is a major quality of life issue for those of us who will have to put up with all the other inconveniences of this stadium. Please provide me with some answers.

Commenter: Benita Warns

Response: Minnesota United FC expressed an interest in having fireworks displays during some of its soccer events in the stadium.

The City has a process for reviewing and permitting fireworks displays. Minnesota State Fire Code regulates fireworks. Fireworks permits are approved through the City's Department of Safety and Inspections (DSI), Fire Inspection Division. The permitting process includes working with a licensed pyrotechnics company to determine a fallout zone to ensure safety for event attendees and for residents in the surrounding area. Based on a preliminary review of the proposed stadium site it appears it may be difficult to achieve the required setback for aerial fireworks. For every 1 inch of mortar diameter, a 70 foot radius is required. It is questionable whether that can be met even with a very small mortar like a 1 inch. For comparison the displays at CHS Field utilize a maximum 2 inch mortar.

Fireworks displays are typically of short duration (the average duration of fireworks displays at CHS field is 12 minutes). Noise is associated with fireworks displays. If a fireworks permit is issued for the stadium, individuals wishing to know when fireworks are planned can contact the Fire Inspection Division of DSI (after permits for fireworks have been issued) with questions about dates and times of planned fireworks displays. Minnesota United FC is encouraged to identify the dates that fireworks are planned on its schedule to make the information widely available.

5. **Comment:** Bright lights and noise cause a serious disruption to residents' lives. You cannot fine a soccer crowd for cheering. A Toyota Park website review speaks of "loud fan sections with lots of snare drums and chanting."

   Commenter: Michaelene Zawistowski

   Response: See response to Comment #1 above.

6. **Comment:** Because of the negative impact loud fireworks have on residents, especially veterans and individuals with pets, it is requested that there be no fireworks with accompanying loud sounds allowed at the stadium site.

   Commenter: Union Park District Council

Response: See response to #4 above.

Item 18 Transportation

1. **Comment:** What if.....there was a bus route from downtown Minneapolis to Snelling and Uni. If people take the bus to get to downtown Minne from....say Uptown..... they would now have to take the train east instead of getting a transfer to go east by bus. They are paying twice, if you will. And then again on the return trip.

   Commenter: Laura L Perdue

   Response: All LRT and local bus service is included in the 2.5 hour transfer window. If taking a local bus to downtown Minneapolis users should ask for a transfer from the bus driver. They should hold on to that transfer ticket, which has an expiration time printed on the back. As long as they get on the Green Line (or any other local or LRT route) within 2.5 hours of boarding the first bus and they have the transfer ticket, the ride is free. If they have a go-to card, they should tap it on the bus. When they tap it at the train station the reader will automatically register it as a transfer and will not deduct the fare, as long as it's within the 2.5 hour window.

   Note that if they transfer to a more expensive ride (express bus or commuter rail) they would be charged the difference in fare. Details on Metro Transit transfer policies can be found here: http://www.metrotransit.org/transfers.

2. **Comment:** Great start with mobilizing people via transit. Continue the work making transit the easy solution and parking won't be a problem. E.g. free transit passes the first season is a great idea!

   Commenter: Micah Pace

   Response: Thank you for your comment. As suggested in the mitigation section of the AUAR, a detailed Transportation Management Plan will be developed managing transportation on games days. This plan will be developed by a Transportation Management Committee, which will include representatives of the team, developer and Metro Transit. Free transit passes is one potential strategy to consider to encourage transit use.

3. **Comment:** Consider lanes/specified areas for drop off/pick up, taxis or uber. Not everyone arriving by car needs to park. This is helpful for people with disabilities, the elderly, or families with children. If not planned for, people need to get out at busy intersections or in traffic, and/or double park.

   Commenter: Ellison Yahner

   Response: A specific taxi/Uber/Limo/Metro Mobility drop off/pick-up is currently proposed in the southeast corner of the AUAR site.

4. **Comment:** For us the most disruptive aspect of additional urban development and crowds is the poor behavior of people who have had too much to drink (not parking or traffic). We do not oppose serving alcohol, but ask the city keep in mind last call, drunk driving and disruption enforcement and allowing overnight parking if people need to take alternative transportation.

   Commenter: Ellison Yahner

   Response: Thank you for your comment. MN United FC has indicated that they intend to pursue a license to sell alcohol at the proposed stadium, and licenses typically contain terms of sale. Public safety officials from the City and other jurisdictions are responsible for enforcement of drunken driving laws.

5. **Comment:** I am hoping when considering fan transportation, that accommodations for bikes will be considered. We live in Roseville and would choose to bike to the games if we could do so safely. Please consider having bike racks at the stadium and bike lanes on the roads leading to the stadium.

   Commenter: Jill Westermeyer

   Response: Within the mitigation section of the AUAR Document, it is noted that installation of a minimum of 400 bike racks should be completed to accommodate fans utilizing bikes as their mode of transportation. The development of a Transportation Management Plan (TMP) as suggested in the mitigation section of the AUAR will further investigate bike routing to the development and stadium. Thank you for considering biking to the stadium.

6. **Comment:** The DSI report is of major concern to me. Details are not worked out yet transportation safety is to be evaluated now.

   How are 1800 people (per hour) to cross University Avenue to get the LRT and then home after a soccer game? Presumably, auto traffic will also be peaking at this time. 1800 people on the LRT is only anticipated to be 7% of attendance.

   It would seem worthwhile to look into ways to increase that percentage, yet it is unclear that even 7% is do-able given current platform placement and the existing conflicts with auto and truck traffic.

   Further, it is unclear that ordinary non-peak LRT usage is safe. There have been two fatalities at Snelling Avenue station where pedestrians were hit by the train.

   Even a larger danger is pedestrians being hit by cars. It is not unusual to see bus passengers run across traffic and scale the wall to get on the eastbound LRT platform at Snelling Avenue. Typically, these are high school boys and girls after a school day. Would soccer fans behave similarly?

   If I were DSI, I might conclude that the LRT design is unsafe even without peak soccer traffic, and that it is definitely not designed for peak soccer traffic. I would specify new platforms in the Midway Center area as a spur off the Green line and specify queuing

areas away from heavy traffic. I would build room for additional trains such that 15% to 25% of attendance could use the train instead of just 7%. In combination with BRT and shuttles, percent transit use could be made comparable to the games at the Oakland Coliseum. A new platform for a new stadium is an ordinary occurrence.

Toward additional safety and toward benefits even at non-peak times, a transit station should be part of the Midway Center plan. Currently, transfers between buses and trains are not designed with the transit user in mind, thus people cross at odd places.

DSI has an impossible job right now. They are tasked with approving bandaid fixes for a design that in an unstressed mode has proven over the life of the Green Life to kill people each year. With the additional demands of a soccer stadium, I hope that the Metropolitan Council, city, and developers will see this opportunity to make improved transit and safer transit an integral part of the design of a redeveloped Midway Center.

Commenter: David Rasmussen

Response: For a capacity event of 20,000, it is anticipated approximately 7,000 (35%) event patrons will use LRT. The AUAR identified one potential scenario for movement of patrons to and from transit and remote parking. Metro Transit has been studying the platforms for event traffic and will be providing additional ideas on platform sizing, queuing areas and crossing locations. They already anticipate needing a number of traffic control agents to manage the user queues, street crossing and boarding areas. A detailed Transportation Management Plan (TMP) will be developed for games, which will finalize plans for pedestrian movement on and near the site. LRT user crossing of University Avenue and Snelling Avenue would be controlled by traffic control agents, similar to other stadiums such as Target Field, US Bank and TCF Bank Stadium (it should be noted that all those stadia have at least twice as much capacity as the proposed facility). With additional control, we anticipate safe and efficient movement of LRT patrons to the platforms.

7. **Comment:** Moving the stop light from Spruce Tree to Shields conflicts with the city plan. Spruce Tree Road west of Snelling is currently designed as a bypass. Shields west of Snelling is a residential area that trucks would find to be impassable. Existing residential neighborhood design is not proposed to change west of Snelling per any approved city plan.

   Commenter: David Rasmussen

   Response: Based on traffic counts and observations, the northbound left-turn movement at Spruce Tree is low volume, likely due to the longer delays making the left-turn movement from northbound Fry Street to westbound University Avenue. The existing eastbound right-turn Spruce Tree to southbound Snelling movement would be maintained after the proposed modification. The northbound left-turn lane from Snelling Avenue to University Avenue would be significantly lengthened to improve storage and operation.

8. **Comment:** I believe the AUAR study on traffic and parking is unrealistic due to inaccurate statistics regarding the number of attendees that will drive to the games. I believe the

game being held at Target Field on June 25, 2016, will provide more realistic statistics on number of attendees and their mode of transportation. I suggest re-evaluating the study findings based on the data obtained from that upcoming soccer game.

I question the use of business parking lots in residential neighborhoods for extra paid parking. How will the noise and traffic affect the residential neighborhood as these cars pass through? Or will they be routed through alleys?

Commenter: Danette Lincoln

Response: Target Field area has ample parking supply, although use of transit is strongly encouraged. That is not the condition for this site. The controlled parking supply is very limited at this location. We agree more patrons would desire to drive to the site, but unless additional off-street parking in the general area become available for game parking, this will not be physically possible. Event patrons will be directed to remote parking lots (University of Minnesota, Downtown Saint Paul, Downtown Minneapolis, State Fair Grounds, i.e.) and use LRT, Metro Transit Bus or Shuttle Bus Service. Our recommendation is to inform event patrons that if they have not already secured/purchased a parking location on-site/adjacent or off-site prior to the event, they should park at the appropriate remote parking lots. The on-street parking spaces in this area are not a reliable or desirable source of event parking and will be discouraged. The Transportation Management Plan proposed in the mitigation section of the AUAR will work out the details of how parking is managed and tools for communicating best options for transportation to and from the site to patrons. The City and MN United FC are also exploring the availability of additional nearby, off-street parking for game days. Parking lot patrons will be given directions to parking lot locations that avoid the intersection of Snelling and I-94 and avoid residential streets.

9. **Comment:** Do continue to look at all options to improve the on/off ramp traffic problems that may likely worsen with all the people that will want to come to the great businesses, jobs, and attractions this project will bring.

   Commenter: Hally Turner

   Response: Thank you for your comment. The AUAR analyzed the impact of the proposed redevelopment of the entire state. Future developments on the site will also require site plan review, and the City evaluates traffic impacts of proposed projects during that review as needed.

10. **Comment:** Continue the work making transit the easy solution and parking won't be a problem. E.g. free transit passes the first season is a great idea!work making transit the easy solution and parking won't be a problem. E.g. free transit passes the first season is a great idea!

    Commenter: Laurie Johnson

Response: Thank you for your comment. As suggested in the mitigation section of the AUAR, a detailed Transportation Management Plan will be developed managing transportation on games days. This plan will be developed by a Transportation Management Committee that will include representatives of the team, developer and Metro Transit. Free transit passes is one potential strategy to consider to encourage transit use.

11. **Comment:** I live in Midway (Asbury @Van Buren) and I use the midway arteries (primarily Snelling, but also Hamline, Fairview, Lexington, I-94, and University Avenue) all the time, often several times each day. I believe it is common knowledge that the Snelling/University intersection is the most congested in the Metro. It is also acknowledged that the Midway area is a depressed area economically…it even looks shabby. I am not convinced from anything the City or soccer stadium folks have presented that we can take on the added traffic that all the suggested/proposed influx of new traffic that would come with the new development. No one from the planning side of this argument is being realistic (probably because the resulting traffic grid lock will not impact them except on rare occasions). Game days aside, there is no way we can add the proposed residential, business, retail, movie and fitness complexes etc. without exacerbating an already horrible traffic problem. Unless there are plans and money to build separate relief (over/under/parallel) for the north and south Snelling traffic pattern.

    I also agree with many other neighbors who have been vocal at the last 3-4 public meetings that the parking issues and the noise issues have not been honestly and adequately addressed. I am not opposed to bringing new life and beauty to the neighborhood. We need a face lift and the economic vitally. And I am not opposed to a soccer stadium per se, but I do not believe a stadium in this location is good for nearby residents or others who regularly need to travel through it unless you <u>really</u> address the traffic congestion issue.

    Commenter: Nan Fergen

    Response: Thank you for your comment. The AUAR analyzed the impact of the proposed redevelopment of the entire site. It found some potential for limited impacts to traffic will full redevelopment, for which mitigation was recommended. As buildout of the proposed master plan occurs, projects on the site will require site plan review, and the City will evaluate traffic impacts of the proposed projects during that review as needed.

    The AUAR included analysis of potential noise impacts from both the proposed stadium and traffic associated with the proposed redevelopment of the remainder of the site. The potential for limited impacts from some stadium events was identified, and options for mitigation were proposed.

12. **Comment:** I support moving forward on this project despite the challenges outlined in the AUAR. I trust and expect that the City, MnDOT, Metro Transit and others can solve the traffic and other issues (existing and anticipated) so that these are not barriers to realizing the full potential of this project.

I anticipate hearing involvement of the local community members in solving these issues and mitigating impacts.

Does the first line of Table 18-7 factor in the 21 local bus route? There are large immigrant populations that are served by this line. These communities are presumed to be fans of soccer.

Commenter: Tim Faust

Response: Thank you for your comment. The first line of table 18-7 does include users of any local bus routes (i.e. not A-Line or Green Line LRT). We anticipate this Route 21 to be well utilized during games as it does serve a large near-by population of potential soccer fans.

13. **Comment:** Concerned about parking on my street during games due to non-permit parking. It's already used by new businesses during the day on our street and concerned that game and event days it will be also taken at evening/night hours.

    Commenter: Mark Wiedul

    Response: The City does have a residential permit parking program. Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the program.

    https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

14. **Comment:** Choke points for traffic at Snelling/University and Snelling Bridge need to be addressed. Diverting traffic from University/Snelling intersection to deal with light rail crowd movement. Make bus terminal at south end of site so bus movement from site is WBI-94 to 280 N to State Fair parking lots. Divert NB Snelling on Concordia Avenue to Pascal and N past the stadium and away from University/Snelling intersection.

    Commenter: Mark Wiedul

    Response: The AUAR included detailed modeling of game day transportation. As proposed in the mitigation section of the AUAR, a Transportation Management Committee (TMC) will be completing a Transportation Management Plan (TMP) to further detail the actual plan on moving traffic. Likely aspects of the plan will include routing event vehicles away from the the University/Snelling intersection and pedestrian crossings to the LRT/BRT platforms and to provide alternative routes to the I-94/Snelling Avenue interchange to extent practicable. The stadium site plan proposes staging on the southern side of the stadium for shuttle bus service to remote parking locations. In addition, an event traffic signal timing plan would be implemented, and traffic control agents will help manage pedestrian and vehicular movements during events.

15. **Comment Summary:** The AUAR makes incorrect assumptions on parking. The largest fan base attending games now is families with children from the suburbs and beyond. Study the logistics of these fans and be sure to list every step. Use six sigma or basic flowcharting of the steps. If people spend more time transiting than they do attending the game, they will not return. If people come to a game and can't find a place to park, or have to pay for parking AND take a rail or shuttle, they will not return.

    Commenter: Kyle Bauman

    Response: Thank you for your comment. The AUAR assumed that only off-street parking which is proposed as part of the stadium development or already under City or MN United FC control would be available for game day parking. However, the City and MN United FC are currently exploring the availability of additional nearby, off-street parking for game days. Options are also currently and will be further reviewed for remote park and ride options. The goal is to provide multiple, convenient options for patrons to get to and from games. The City will pass your comment on to MN United FC as well.

16. **Comment:**
    Parking issues for 20,000 fans
    - 400 parking spaces on site (2 persons per car = 800 fans)
    - 7000 (35%) use mass transit
    - 20,000 - 7,800 =12,200 left arriving by vehicle These people will park in the residential areas within 1/2 mile of the stadium. This means I will not be able to park in front of my own home.
    Resolution: make all the residential parking within 1/2 mile of the stadium to be permit parking, but the residents will NOT have to pay for the permits. I believe that our taxes cover this cost.

    Commenter: KC Cox

    Response: Thank you for your comment. We understand your concern about event parking in residential areas. The mitigation proposed by the AUAR calls for providing additional off-site parking serviced by shuttles.

    The City does have a residential permit parking program. Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. The City currently charges limited permit fees to cover costs of the residential permit parking program, but has the authority to waive fees at the discretion of the City Council. Please see the following website about the residential permit parking program:

    https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

17. **Comment:** Traffic coming eastbound, onto the interstate 94 Snelling Ave ramp. Currently around 3:45 to 4:30 pm - traffic backed up down the ramp, onto interstate 94 - and that without fans. This intersection is extremely bottle necked. I don't see this decreasing on game night. There didn't seem to be a resolution on the traffic board.

    Commenter: KC Cox

Response: It is not anticipated that many fans will arrive during the 3:45 to 4:30 pm time period. Weekday soccer matches are expected to have 7:00 or 7:30 pm starts time with event traffic arriving from 6:00 to 7:00 pm. The City anticipates developing an event traffic signal timing plan to better accommodate game day traffic volumes. Traffic control agents can also help to manage traffic congestion during events.

18. **Comment:** Increased traffic congestion along Snelling Ave.: The AUAR report states that there is "sufficient parking for soccer fans… and traffic patterns are also manageable…" Even if more parking would be available, the fact remains that a car must first be driven on a street before locating a parking space. This means and additional 800+ vehicles driving on a street already congested with the usual daily traffic of cars, buses, and trucks. As a main traffic artery, Snelling connects I-94, Ayd Mill Rd., the State Fair and other fairground events, Rosedale, Har Mar and the Selby development with condos and Whole Foods. This is proposed development for a five-story building on St. Clair and Snelling. Although the A Line moves people north and south, a glut of park-and-ride creates new parking issues. One street can only hold so much.

    Commenter: Michaelene Zawistowski

    Response: The reference in the AUAR to sufficient parking did not mean exclusively parking on-site or adjacent to it. For a capacity event, most event patrons driving to the match would need to park at a remote parking site (University of Minnesota, Downtown Saint Paul, Downtown Minneapolis, State Fair Grounds) and take LRT, Snelling A Line, Regular bus service or proposed shuttle bus service. We do not want event patrons to drive to the stadium area without already having a reserved parking space. The City and MN United FC are also exploring the availability of existing off-street parking within walking distance of the stadium that is accessible via existing streets other than Snelling Avenue.

19. **Comment:** The AUAR recommends coordinating soccer dates and times as a way to mitigate congestion. This is a lot to juggle with an entire season and also possibly involving concerns and other events.

    Providing post-game entertainment as a way to manage a mass exist would keep the lights and noise on. After a game most people want to get going.

    Commenter: Michaelene Zawistowski

    Response: Coordinating dates to avoid other large events is recommended, however, the MLS makes the decision on game dates and times. Efforts will be made to avoid large event overlaps. Post-game entertainment has proved to be successful with other professional teams in town. Post game events would need to comply with City noise standards or obtain a sound level variance from the City Council. Lighting issues are addressed in the AUAR.

20. **Comment:** As part of an online review, a Chicago Fire fan wrote about parking at Toyota Park. It took him "40 minutes to get into a lot after paying $15 and it took another hour to leave after the game." And this park is in a small suburb rather than in the middle of a large city.

See the attached article [Where are Minnesota's most crash-prone intersections?, MinnPOST, July 2012] confirming that Snelling and University is a dangerous and congested intersection. The stadium would add more foot traffic as well as vehicle traffic. There are definite safety concerns here. Consider the former St. Paul Saints off Energy Park Drive.

Serious disruption to peoples' homes: There is a significant number of homes especially north and west of the proposed stadium site that would experience serious disruption. The outdoor Saints and Twins stadiums are not in close proximity to houses.

Do not assume that fans will not park in front of homes. This is already happening because of rapid transit such as light-rail.

Commenter: Michaelene Zawistowski

Response: Thank you for your comments. Transportation around large events is challenging, and all patrons, regardless of mode they are using, should think about travel time when planning to attend. The AUAR found that by using multiple modes of transportation, most fans could get to and from the stadium within about an hour before and after games if desired. MN United FC has indicated that they believe many fans will want to arrive further in advance of games, which would reduce travel demand for arrival at peak period. The Transportation Management Plan recommended in the mitigation section of the AUAR will spell out the details for getting fans to and from games safely and efficiently.

Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the City's residential permit parking program.

https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

21. **Comment:** Concerned about parking on my street during games due to non-permit parking. It's already used by new businesses during the day on our street and concerned that game and event days it will be also taken at evening/night hours.

    Commenter: Ryan Anderson

    Response: Thank you for your comment. We understand your concern about event parking in residential areas. The City does have a residential permit parking program.

    Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the City's residential permit parking program.

https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

22. **Comment:** The findings of the Transportation Study are based on unrealistic assumptions about how fans would travel to the stadium in my opinion. In particular the willingness of fans to use public transit and shuttle buses. The experience at other Twin Cities sporting venues do not support the projections contained in the report. I believe the report under estimates the number of people who will drive to the stadium and attempt to find parking in the neighborhoods near the stadium and the A Line bus route.

    Also should the public the be willing to use public transit and shuttle buses to get to the stadium I have concerns about the capability of the Snelling-University Green Line station to be able to accommodate the large number of riders boarding and disembarking in a safe manner. I am also concern about the safety of these people once they become pedestrians attempting to get to the stadium. The intersections near the stadium can be very unsafe for pedestrians considering the increase in automobile traffic on game days.

    Commenter: Dennis Hill

    Response: Other event venues have ample parking supply, although use of transit is strongly encouraged. That is not the condition for this site. The controlled parking supply is very limited at this location. We agree more patrons would desire to drive to the site, but unless additional off-street parking in the general area become available for game parking, this will not be physically possible. Event patrons will be directed to remote parking lots (University of Minnesota, Downtown Saint Paul, Downtown Minneapolis, State Fair Grounds, i.e.) and use LRT, Metro Transit Bus or Shuttle Bus Service. Our recommendation is to inform event patrons that if they have not already secured/purchased a parking location on-site/adjacent or off-site prior to the event, they should park at the appropriate remote parking lots. The on-street parking spaces in this area are not a reliable or desirable source of event parking and will be discouraged. The Transportation Management Plan proposed in the mitigation section of the AUAR will work out the details of how parking is managed and tools for communicating best options for transportation to and from the site to patrons. The City and MN United FC are also exploring the availability of additional nearby, off-street parking for game days. Parking lot patrons will be given directions to parking lot locations that avoid the intersection of Snelling and I-94 and avoid residential streets.

    Regarding neighborhood parking, without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the City's residential permit parking program.

    https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

    During events, event traffic control officers would be present around the stadium site to provide organized, safe and efficient pedestrian movements across Snelling Avenue,

University Avenue, Pascal Avenue and the LRT platforms. The AUAR identified one option for safely accommodating movement of and staging of transit riders, and Metro Transit is also exploring other alternatives. The Transportation Management Plan recommended in the mitigation section of the AUAR for events will select a preferred alternative.

23. **Comment:** The Saint Paul Bicycle Coalition is disappointed that no significant bicycle facilities are part of the MLS Stadium planning and proposed implementation. Worse, there is talk of eliminating or compromising the bicycle facility on Pascal Street-- the most important facility for accessing the new stadium and a critical facility for cyclists passing through the area.

    Pascal Street is already an important north-south, city-designated bikeway running from Marshall Avenue all the way north to Hamline University and Hewitt Avenue. It connects to the Green Line and other public transit and Pascal is the only bicycle facility that crosses I-94 for at least a half mile in either direction. A bicycle facility for Snelling Avenue from Selby to St. Anthony Avenue was part of the "Snelling Avenue Multi-Modal Study" plan-set recommendations, approved by MnDOT and community partners in 2014. Unfortunately, engineers at MnDOT and Saint Paul Public Works unilaterally threw out these recommendations and rebuilt Snelling Avenue without the planned bike facilities. Since Shields never reaches Aldine (to the west), Pascal is the only way for cyclists to access the proposed MLS Stadium. Given the volume of cars that could be entering the new stadium on a regular basis via Pascal, on-street or even protected bike lanes need to be officially striped on Pascal as part of the MLS Stadium project. Far from doing this, the Draft AUAR raises the possibility of eliminating the existing shoulders on Pascal to accommodate more motor vehicle traffic. This is completely unacceptable and runs counter to the goals of achieving a high mode share for bicycling and walking at the stadium and surrounding development.

    What's more, no bicycle facilities are being proposed for Shields Avenue as part of the stadium project, even though Shields is part of the official Saint Paul Bikeways Plan. Beyond Pascal and Shields, the city should consider Council Member Russ Stark's proposal to make a two-way bicycle facility on St. Anthony Avenue from Snelling west to Prior Avenue. The city should also be actively exploring a Saint Paul Greenway Extension, something that's been on the city's comprehensive and community plans for over a decade. The city should bring county, state and CP Railroad officials into discussions of how the city can acquire the necessary easements to extend the Minneapolis Greenway across the Mississippi River and into the Midway.

    The proposed MLS Stadium site is one of the most difficult places in the city to reach by bicycle. Given that it has grocery and other important retail stores, an LRT station and now a proposed stadium, the city should be doing everything it can to make the area more bike-friendly. Instead the city is making it worse.

    At minimum, the city needs to stripe bike lanes on Pascal and Shields as part of the MLS Stadium project. Anything less will be a huge failure for the city's sustainability and transportation goals and a dangerous disservice for the thousands of soccer fans, young and old, who are looking forward to bicycling to MLS games in Saint Paul.

    Commenter: The Saint Paul Bicycle Coalition

    Response: The bike lanes on Pascal Street are not assumed to be removed with this project, although the AUAR did find that increased vehicular traffic may need to be

accommodated on Pascal in the future. Any future redesign of Pascal would go through a typical City process, which would consider all modes and provide opportunities for public input. Any approved design would also need to be consistent with adopted City plans, including the Saint Paul Bicycle Plan. A final design for the internal roadway network has not been completed at this time. However the Planning Commission's site plan and master plan recommendations are for inclusion of a bike facility on Shields Avenue and a street network that is hospitable to all modes of transportation. The potential for extension of the greenway into Saint Paul and for development of a two-way bike facility on St. Anthony are beyond the scope of this AUAR, although it should be noted that while game day operations would impact St. Anthony in the vicinity of the stadium, nothing that has been proposed that would prevent either project from moving forward.

It is noted in the mitigation section of the AUAR than installation of a minimum of 400 bike racks should be completed to accommodate fans utilizing bikes as their mode of transportation. The Transportation Management Plan (TMP) will also further investigate bike routing to the development and stadium. Thank you for considering biking to the stadium.

24. **Comment:** The mitigation plan describes a Transportation Management Committee that will develop a transportation management plan prior to the stadium opening with continued review of the plan after the stadium begins operations. I request that representatives of the surrounding neighborhoods be included on this committee (ie, district councils).

    The mitigation plan considers future infrastructure changes that may be necessary to accommodate movement of people once the site is fully built out. I request that this section be revised to consider the Saint Paul Bike Plan, which calls for bike lanes on Shields, Pascal, and Hamline in the considered area. To this end, I suggest the following text changes on pages 70-72:
    - Under Snelling, University Ave to Shields Avenue, part 7, Shields Ave (page 71), an additional bullet point should be added to say, Add bike lanes.
    - Under Pascal Street, University Avenue to Saint Anthony, part 9 (page 71), remove the words "or shoulder", and part 10 amend the text to read "five-lane roadway with bike lanes."
    - Under Marshall Avenue/Hamline Avenue Intersection, part 12 (page 71), add a bullet point to say, Any infrastructure changes must preserve bike lanes on Marshall and Hamline.

    In addition, the mitigation plan should consider the need for improved bike connections to the north and south of the stadium, especially along Pascal south to Marshall, as this will be a major route of bicycle access to the stadium for cyclists coming from Minneapolis as well as Saint Paul.

    Commenter: Emily Metcalfe

    Response: Thank you for your comments. While final make-up of the Transportation Management Committee has not been determined, the City agrees that inclusion of community representatives is appropriate. The AUAR was developed based on the proposed stadium site plan and master plan, which called for bike lanes on a new Shields Avenues, and on existing conditions, including the present configuration of Pascal

Street as a shared-lane bike facility and the existing bike lanes on Marshall Avenue. The statements in the AUAR your comments address are suggested mitigation measures based on anticipated vehicular traffic. Unless explicitly stated, the AUAR does not suggest removal of either existing or planned facilities. To clarify, the AUAR text on page 71 regarding Pascal Street will be modified to read as follows:

"9. Re-stripe Pascal to provide a three-lane roadway (one thru lane in each direction with left-turn lane) with the additional space accommodating the existing bicycle facility…"

Please note that any future changes within the Pascal or Marshall Avenue right-of-way would go through a typical City process, which would consider all modes and provide opportunities for public input. Any approved design would also need to be consistent with adopted City plans, including the Saint Paul Bicycle Plan.

The Transportation Management Plan proposed in the mitigation section of the AUAR will include more details on access to the stadium site for all modes, including bicycle.

25. **Comment:** The LHCC has serious concerns about the impact the current Snelling-Midway redevelopment master plan will have on the quality of life for Lexington-Hamline residents and businesses, particularly with regard to transportation and parking. As you know, any soccer game or other large event at the proposed stadium will bring thousands of people to the area, and many of these people will look for free parking nearby.

    To date, we have not seen any viable plan to address the parking needs of stadium visitors. The findings in the recently released Alternative Urban Areawide Review ("AUAR") include assumptions that 45% of attendees will not arrive by car and that no additional parking will be needed on residential streets. The most recent presentation at the Snelling Redevelopment Community Meeting on June 7th included selling parking tickets to stadium visitors in partnership with local businesses and ramps in the surrounding area. The Commission has displayed a map of the area that suggests private business may have up to 4,000 such spaces available.

    Even a cursory review of this map suggests serious problems. For example, the ***entirety*** of the Concordia University campus is shown as available for parking during stadium events. In actuality, much of Concordia University is already-occupied space, and the limited parking available on campus routinely overflows into the surrounding Lexington-Hamline neighborhood for Concordia's own, much smaller events. We are certain that a careful review of the Commission's parking map will reveal other similar problems, and suggests the Commission has drastically over-estimated the parking available and under-estimated the number of cars that will need accommodation for events. Similarly, asking stadium visitors to pay for privately-owned parking spaces in the neighborhoods surrounding the stadium will only incentivize visitors to instead park for free on the adjacent neighborhood streets. Those neighborhoods will overflow with unplanned-for traffic and parking, which will increase congestion and decrease the quality of life for the very residents this redevelopment is intended to benefit. Due to its proximity to the redevelopment and southern access to the site via Ayd Mill Road, the Lexington-Hamline neighborhood will bear a disproportionately large share of this burden.

    We urge the Commission to re-evaluate its plan for stadium visitor parking immediately. The proposed redevelopment is poised to reinvigorate the Snelling-Midway area and all

of its surrounding neighborhoods while simultaneously improving quality of life for residents. Executing this plan without accounting for the very significant traffic and parking implications that will result will hamstring both of those goals, and alienate some of the plan's most ardent supporters. Please do not hesitate to contact me on behalf of the LHCC, as the LHCC Board of Directors would be more than happy to engage with you on this or any related issue.

Commenter: Lexington-Hamline Community Council

Response: Thank you for your comments. Please contact Josh Williams with Department of Planning and Economic Development (651-266-6659 or josh.williams@ci.stpaul.mn.us) to arrange for a meeting with City staff to discuss LHCC concerns.

The controlled parking supply is very limited near the proposed stadium. We agree more patrons would desire to drive to the site, but unless additional off-street parking in the general area becomes available for game parking, this will not be physically possible. Event patrons will be directed to remote parking lots (University of Minnesota, Downtown Saint Paul, Downtown Minneapolis, State Fair Grounds, i.e.) and use LRT, Metro Transit Bus or Shuttle Bus Service. Our recommendation is to inform event patrons that if they do not already secured/purchased a parking location on-site/adjacent off-site prior the event, they should park at the appropriate remote parking lots. The on-street parking spaces in this area are not a reliable or desirable source of event parking and will be discouraged. The Transportation Management Plan proposed in the mitigation section of the AUAR will work out the details of how parking is managed and tools for communicating best options for transportation to and from the site to patrons. The City and MN United FC are also exploring the availability of additional nearby, off-street parking for game days. Parking lot patrons will be given directions to parking lot locations that avoid the intersection of Snelling and I-94 and avoid residential streets. The overall intent of the approach is to encourage patrons to avoid showing up to the game expecting to find parking that has not been arranged in advance.

The comment notes that parking at Concordia University may not be available. The map referenced in the comment identifies potential parking locations within approximately ¾ of a mile of the proposed stadium. For illustrative purposes, entire parcels were shown rather than just the actual available parking. For example, most of the Concordia University campus is taken up by buildings and open space, not parking. Although not shown at the June 7 meeting, the City has also prepared a list of potentially available parking spaces at each mapped location. Estimates of the number of potentially available spaces at each location were based on hand counts of aerial photographs and, in some cases, existing City records. The locations included in the map and list are all places that are less likely to have peak parking demand on evenings and weekends, when MLS games occur. The City understands that not all of the surveyed spaces will likely be available for all games; for this reason, the AUAR assumed none of the spaces would be available to evaluate how transportation of patrons to and from the stadium for games would work in such a "worst case" scenario. However, the City believes it is likely that significant amounts of existing, off-street parking can secured for use on game days.

Lastly, the City does have a residential permit parking program. Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with

input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the program.

https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

26. **Comment:** Issues of how long it will take to empty the stadium (three hours) and the intention to hold concerts afterward to amuse people is totally insane.

    Commenter: Karen Kormann

    Response: The expected departure time for the year of opening (2018) capacity event (20,000) is one hour to one hour and fifteen minutes after the event, depending on the transportation mode. The expected departure time if the stadium was fully occupied under a future 25,500 person capacity event is a maximum of one and half to two hours, if leaving the site by vehicle. Shuttle bus service and transit options are expected to be less. Providing entertainment post-game is common by most sports teams and can help reduce the peak rush of fans departing an event. MN United FC has indicated that they do not intend to hold concerts in the proposed stadium, although they may hold other types of events before or after games. Any events ending after 10 pm would need to meet City nighttime noise standards or seek a sound level variance from the City Council.

27. **Comment:** It is vital that the AUAR recognizes and fully considers the Saint Paul Bicycle Plan. The importance of a variety of transportation options, including bicycling, walking, and transit, in and around the stadium site cannot be understated. Planning for and incentivizing these multi-modal options will help mitigate air quality issues and traffic congestion that will result from stadium traffic. Additionally, safe and easy biking and walking have been shown to support retail and other types of economic development. The existence of transportation options in and around the stadium development site will majorly contribute to the success of this vision. We are pleased to see the consideration of people biking, walking, using transit, and carpooling considered in the draft AUAR.

    The mitigation plan considers future infrastructure changes that may be necessary to accommodate movement of people once the site is fully built out. We request that this section be revised to consider the Saint Paul Bicycle Plan. This plan calls for bike lanes on Shields, Pascal, and Hamline through the considered area. To this end, we suggest the following text changes on pages 70-72:

    - Under Snelling, University Ave to Shields Avenue, part 7, Shields Ave (page 71), an additional bullet point should be added to say, Add bike lanes.
    - Under Pascal Street, University Avenue to Saint Anthony, part 9 (page 71), remove the words “or shoulder”, and part 10 amend the text to read “five-lane roadway with bike lanes.”
    - Under Marshall Avenue/Hamline Avenue Intersection, part 12 (page 71), add a bullet point to say, Any infrastructure changes must preserve bike lanes on Marshall and Hamline.

In addition, the mitigation plan should consider the need for improved bike connections to the north and south of the stadium, especially along Pascal south to Marshall, as this will be a major route of bicycle access to the stadium for cyclists coming from Minneapolis as well as Saint Paul. While it may be outside the scope of the AUAR, we also suggest including an emphasis on the importance of protected bike lanes and intersections in and around the site. Protected bikeways have been proven to incentivize ridership for women, families, and other people who would ride to matches and other events if it felt safe to do so.

On page 76 the creation of a Transportation Management Committee is recommended. We believe stakeholders on this committee should also include neighborhood and community representatives from District Councils and beyond, as well as groups like St. Paul Women on Bikes or the Friendly Streets Initiative who are actively working on multi-modal connections in and around the stadium.

Commenter: Saint Paul Smart trips, St. Paul Women on Bikes

Response: Thank you for your comments. While the make-up of the Transportation Management Committee has not been determined, the City agrees that inclusion of community members representing diverse viewpoints is appropriate. The AUAR was developed based on the proposed stadium site plan and master plan, which called for bike lanes on a new Shields Avenues, and on existing conditions, including the present configuration of Pascal Street as a shared-lane bike facility and the existing bike lanes on Marshall Avenue. The statements in the AUAR your comments address are suggested mitigation measures based on anticipated vehicular traffic. Unless explicitly stated, the AUAR does not suggest removal of either existing or planned facilities. To clarify, the AUAR text on page 71 regarding Pascal Street will be modified to read as follows:

"9. Re-stripe Pascal to provide a three-lane roadway (one thru lane in each direction with left-turn lane) with the additional space accommodating the existing bicycle facility…"

Please note that any future changes within the Pascal or Marshall Avenue right-of-way would go through a typical City process, which would consider all modes and provide opportunities for public input. Any approved design would also need to be consistent with adopted City plans, including the Saint Paul Bicycle Plan.

The Transportation Management Committee will be developing more detailed plans around managing game day transportation, including how to get people to and from the stadium safely and efficiently. Plans for roadway design on the site are not finalized, but the comment regarding protected lanes is noted.

It is noted than installation of a minimum of 400 bike racks should be completed to accommodate fans utilizing bikes as their mode of transportation. The Transportation Management Plan (TMP) would further investigate bike routing to the development and stadium.

28. **Comment:** The Traffic Study uses a flawed methodology for estimating transit preferences

A careful reading of the AUAR shows numerous assumptions being made using generalities rather than legitimate analysis based on specific data. This is particularly true with regards to traffic and parking issues, where the authors conclude that as many as 70 percent of soccer fans will use alternative transit options to attend games—even though "Metro Transit says that (only) about 14 percent of baseball fans take public transit to Twins games and about 13 percent of Gophers football fans take mass transit to TCF Bank Stadium at the University of Minnesota."

How did Stantec get to the 70 percent figure? By claiming that the *mere available capacity* of alternative transit modes—light rail, bus rapid transit, park and ride shuttles—is evidence that soccer fans will in fact use those alternative modalities. That's not even close to legitimate statistical analysis, and no examples are provided that demonstrate such a strategy has been effectively deployed at other professional sports events in the Twin Cities—or anywhere else in the country.

More troubling about this aspect of the AUAR is that no data is provided to substantiate the conclusions reached. The author(s) report that "event attendees' origin/destination information is based on zip codes collected from individual and season ticket holders for other professional sports teams in the Twin Cities, the current Minnesota United team, and metro area population densities," but we know nothing about the sample size used or whether the travel habits of season ticket holders for other professional sports teams in the Twin Cities mirror those of professional soccer fans. It appears that no surveys were conducted of current Minnesota United fans to determine how they would travel to soccer matches in St. Paul—the most reliable indicator of the likely traffic patterns of attendees. Without this data, any purported studies about likely use of alternative transit options are simply best guesses.

Commenter: Tom Goldstein

Response: Please note that the AUAR assumes that 35 percent of fans are expected to take LRT, the remaining 35 to 40 percent taking shuttle service to remote parking. Please also note that the other facilities mentioned in your comment have a significantly higher parking supply and facility capacities two to two and half times larger.

The assumptions used in the AUAR are for purposes of modeling game day transportation. Given the lack of currently controlled off-street parking on and near the site, the City made conservative assumptions to ensure that all potential scenarios were considered. The AUAR found that patrons will be able to get to and from the stadium site conveniently and safely given the assumptions used in modeling. The City and MN United FC continue to explore the potential for game day use of existing off-street parking facilities; any additional parking that becomes available will reduce the need for shuttle service and transit. The AUAR recommends careful management of parking to ensure it is used efficiently. The Transportation Management Plan recommended in the mitigation section of the AUAR will include more details and identify specific strategies for ensuring transportation to and from games runs as smoothly as possible. A number of potential strategies for influencing how people will choose to travel to the stadium, including tying access to parking to ticket purchases and communications strategies are outlined in the AUAR.

29. **Comment:** Interestingly, Minnesota United Owner Bill McGuire claimed that 50 to 80 percent of soccer fans in Portland and New York use public transportation to attend

matches. If those numbers are accurate, why wasn't that information included in the AUAR—along with data analyzing whether the transportation options in those cities is similar to or substantially different from what is available in the Twin Cities? Simply put, consultants and city staff can't pretend to do an accurate analysis when the effort is rushed in order to meet an arbitrary deadline established by Major League Soccer to ensure its proposed franchisee gets the necessary approvals for the stadium it desires to build.

Commenter: Tom Goldstein

Response: The AUAR addresses the proposed stadium and mixed-use urban village at the Snelling Midway redevelopment site. As the comment notes, there are similarities but also significant differences between Saint Paul, Portland and New York City. This makes anything other than perhaps anecdotal comparisons difficult, and for this reason the AUAR relied on the best available local data and assumptions developed with input from local transportation agencies.

The AUAR was conducted on a timeline consistent with state environmental review requirements.

30. **Comment:** *Parking mitigation strategies are speculative at best and related costs ignored*
Assuming that a comprehensive parking plan could be developed that would include two-to-three remote parking locations and numerous small lots in the vicinity of the stadium, there is no guarantee that such locations would be offered up by businesses or lot owners, that attendees would be willing to pay for parking, or that the development of such a plan would do anything to alleviate the expected traffic that would converge on the stadium on game days or nights.

    a. Park & Ride Lots

    If one could persuade soccer fans to use remote park and ride lots like those at the State Fairgrounds, should several thousand cars arrive at a parking lot at around the same time—even with assigned parking spaces connected to the purchase of a game ticket—the result will still be significant traffic delays, as borne out at stadiums that already have "reserved" parking spots for certain season ticket holders.
    Such a scenario also assumes that fans traveling by automobile would be willing to endure the delays in finding their parking location in a remote lot, wait twenty minutes to half an hour to catch a shuttle to the stadium, wait another half hour to catch a shuttle back to the lot after the match is over, then spend time fighting traffic in departing the remote parking lot. Of course, fans would also have to be willing to pay for the parking as well, something that seems highly unlikely—and for which no data is provided that would suggest soccer fans' spending habits are dramatically different from those who root for other professional sports teams.
    Even if a remote park and ride lot were located near an LRT station, such as the parking lots that surround TCF Bank Stadium, the anticipated delay in boarding a train after a match is expected to be at least half an hour—with no clear idea where the additional space necessary to accommodate the large queue of departing fans waiting for shuttles or to board trains will be found.

b. Establishing a Parking Lot Network adjacent to the Stadium

Another mitigation strategy proposed to address parking and traffic concerns in the stadium area is developing a network of local businesses or lot owners willing to provide off-street space. However, unless the city is willing to ban event parking in the surrounding neighborhoods, what guarantee is there that soccer patrons will pay for this convenience? After all, if people didn't mind paying for parking, why would they take the time driving around neighborhoods during sporting events looking for a free spot and clogging up the streets? And, as the study notes, the city has no data on whether businesses or land owners would have any desire to participate in such an arrangement—or if it would even be financially feasible for them to do so.

Commenter: Tom Goldstein

Response: The City has been in contact with the University of Minnesota, State Fair Grounds, Downtown and a couple of the off-site, adjacent facilities about using their parking for events, all of these are within 2 to 3.5 miles from the site. The City and MN United FC are also exploring the potential for game day use of additional existing off-street parking within walking distance of the stadium. Because the availability for use of this later group has not been confirmed, it was not assumed to be available for the AUAR. The Transportation Management Plan recommended in the mitigation section of the AUAR will include strategies for informing event patrons that if they have not already secured/purchased a parking location on-site/adjacent off-site prior the event, they should park at the appropriate remote parking lots. Regardless of location, people will need to pay for off-street parking. The AUAR recommends that to the maximum extent practicable, parking fees and fees to cover cost of shuttle services should be collected as part of ticket sales.

Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the residential permit parking program.

https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

Space requirements have been identified for those waiting for LRT, shuttle buses and A-Line Rapid Bus, and the AUAR include one potential scenario for transit rider staging on movement. The Transportation Management Plan will identify a preferred alternative for getting transit and shuttle riders safely and efficiently on and off site.

31. **Comment:** c. Operating Costs for Ensuring Smooth flow of Traffic, Trains, and Buses

If, for the sake of argument, we assume that “where there’s a will, there’s a way,” i.e., that the team, the city, the fans, Metro Transit, local businesses, and neighbors all cooperate to make sure that traffic and parking issues related to soccer games are dealt with in an efficient, comprehensive way, there is still the question of who pays? According to Minnesota United’s lease with the city, the team is responsible for all

operating costs related to the stadium. But do operating costs include such things as traffic monitors blocks from the stadium, additional personnel to ensure smooth boarding of trains and shuttles, or the shuttles themselves? If not, who pays? (Will restaurants offer free shuttles like some do for Minnesota Wild games?) And if it is the responsibility of the team, how long are they going to foot the bill to ensure smooth game night/day operations—particularly if attendance does not remain at capacity year after year? For the AUAR to be a useful planning document, all of these questions need to be answered—or will the city just pick up the tab for any additional costs that the team chooses not to cover?

Commenter: Tom Goldstein

Response: The AUAR does not generally address who bears the cost of mitigation measures. The Use Agreement approved by the City Council indicates that MN United FC will pay for the costs of increased security on game days. This agreement is similar to the public safety agreement we have with the Wild at the Xcel Center.

32. **Comment:** d. Worst-Case Scenarios?

What happens if Minnesota United or MLS proves not to be the huge success that is predicted by fans, politicians, and the media, such that traffic flows around the stadium are exacerbated because those who drive to games decide they're just going to park in the neighborhood rather than be directed to a remote lot? Or, if the team is a success but the related development does not happen such that the "fan experience" is limited to only attending matches—with people showing up right before game time and departing immediately at match end, also leading to increased traffic and congestion? Or what if the team is a huge success and, as anecdotal data would suggest, nearly 80 percent of fans regularly choose to drive to games and park in the vicinity of the stadium? Will the traffic volumes become so overwhelming that the current access ramps to and from Interstate 94 will no longer be adequate? Will the city decide that it's time to connect Ayd Mill Road to I-94 via St. Anthony Avenue to end bottlenecks caused on game nights because of the additional traffic?
Remote possibilities perhaps for an entertainment venue that is only expected to host 15-20 professional soccer contests a year, but with so many questions about traffic, parking, size and scope of the stadium, lack of job creation, etc., that have not been adequately addressed by the city—and the lack of binding commitments (from the principals involved in designing and building the stadium) that anything beyond a soccer stadium and some adjoining green space will be constructed on the Midway Superblock site—these are exactly the kind of unanticipated costs that would be borne by taxpayers and which the AUAR ignores because of speculative transit modeling that assumes manageable car volumes on Snelling Avenue. Will they be? Will the city ban event parking in the surrounding streets?
Unfortunately, the AUAR does not contemplate these possibilities.

Commenter: Tom Goldstein

Response: The assumptions used in the transportation analysis are consistent with one of the "worst case scenarios"—fans all arriving as shortly as possible before the game and leaving as quickly as possible thereafter. The analysis found that with an opening-year capacity crowd of 20,000, this could be handled in about an hour before and after the

game. The AUAR cannot control behavior of attendees, but it can identify the most efficient and safe way to get people to and from the stadium. The Transportation Management Plan (TMP) recommended in the AUAR will contain the details and strategies for achieving this outcome. The AUAR did not find that the proposed master plan redevelopment—which would add traffic on a daily basis, as opposed to just during events—would result in the need for significant changes to the existing road network. For unanticipated event traffic congestion, the event TMP will rely on traffic control agents, who would be able to respond to any unanticipated traffic congestion during events and adjust strategies for subsequent events, rather than making major infrastructure investments. As noted previously, no parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future.

33. **Comment:** First, the Transportation Committee's letter references the AUAR section entitled Mitigation-Event (pages 75-76), where a Transportation Management Committee is described. According to the AUAR, this Committee will be responsible for developing a transportation management plan and meeting periodically after implementation to adjust the plan. The Board emphasized and reiterated the request that the Union Park District Council be allowed to have specific representation on this committee.

    Second, given the central nature of transit to Midway Center and the proposed soccer stadium, and concerns about safe and convenient access to transit and transfer between lines, the City and MetroTransit are encouraged to consider modifications to the Snelling and University intersection, including the possibility of constructing a transit station for the short term, and other infrastructure changes for the long term, to enhance pedestrian safety in the area.

    Commenter: Union Park District Council

    Response: Thank you for your comments. While makeup of the Transportation Management Committee (TMC) has not been determined, the City agrees that community representation on the TMC is appropriate. The proposed Transportation Management Plan will include identification of preferred alternatives for movement and staging of pedestrians and transit users on and near the site in relation to games. In addition, Metro Transit has retained a separate consultant to continue working on transit capacity issues at the site. Your request to give further consideration to transit users in regard to the eventual redevelopment of Midway Center, and specifically to consider transit infrastructure changes, has been noted and will be shared with Metro Transit.

34. **Comment:** Under Mitigation-Event (page 75,76), the AUAR describes a Transportation Management Committee responsible for developing a transportation management plan (TMP) and meeting periodically after implementation to adjust the plan.

    We request that the Union Park District Council be included among the stakeholders listed in the AUAR to be represented on the committee.

Under Event Control Plan, part c (page 72), temporary lane or roadway closures are proposed for the TMP. Consideration is recommended for Spruce Tree Dr and internal roadways.

We request that the TMP consider temporary lane or roadway closures to prevent event traffic from circulating on nearby neighborhood streets west of the site and south of I94.

Commenter: Union Park District Council Transportation Committee

Response: Thank you for your comments. While makeup of the Transportation Management Committee (TMC) has not been determined, the City agrees that community representation on the TMC is appropriate. Your comments regarding street closures are noted, and the closures will be considered during development of the Transportation Management Plan.

35. **Comment:** Under Parking Plan (page 73), the AUAR states that on-site or nearby parking should be assigned and purchased with tickets.

    Commenter: Union Park District Council Transportation Committee

    Response: A drop off/pick-up area and parking lot in the southeast corner of the AUAR site are provided for handicap accessibility. Additionally, new roadways and sidewalks will be designed for ADA standards. Ticket purchases will be the responsibility of the team and we will forward this comment to them.

36. **Comment: We request that event attendees with disabilities or mobility problems be given priority to purchase on-site or nearby parking with tickets.**

    Commenter: Union Park District Council Transportation Committee

    Response: Among the goals of the TMP will be to provide adequate park and ride options to eliminate the need to unnecessarily circulate the neighborhood. On-street parking is not a reliable or desirable parking supply.

    The City does have a residential permit parking program. Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the program.

    https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

37. **Comment:** Under Parking Plan (page 73), the AUAR proposes strategies to manage parking on-site and near the site.

We request that the TMP considers the impact to the nearby neighborhoods from vehicles trying to find free on street parking, and propose actionable strategies to reduce congestion, frustration, and address neighborhood parking concerns.

Commenter: Union Park District Council Transportation Committee

Response: Among the goals of the TMP will be to provide adequate park and ride options to eliminate the need to unnecessarily circulate the neighborhood. On-street parking is not a reliable or desirable parking supply.

The City does have a residential permit parking program. Without restrictions, public streets are open to all parking users. No parking restrictions related to the proposed stadium or redevelopment have been proposed at this time, but the City, with input from residents and property and business owners, has the ability to put in place restrictions in the future. Please see the following website about the program.

https://www.stpaul.gov/departments/public-works/traffic-lighting/parking/residential-permit-parking

38. **Comment:** Under Around the Site (pages 70-72), future infrastructure changes are described to streets around the site.

    We request that future road uses consider the Saint Paul Bike Plan, which calls for bike lanes on Shields, Pascal, and Hamline in the project area. To this end, we request the following changes:
    ● Under Snelling, University Ave to Shields Avenue, part 7, Shields Ave (page 71), an additional bullet point should be added to say, Add bike lanes.
    ● Under Pascal Street, University Avenue to Saint Anthony, part 9 (page 71), remove the words "or shoulder", and part 10 amend the text to read "five-lane roadway with bike lanes."
    ● Under Marshall Avenue/Hamline Avenue Intersection, part 12 (page 71), add a bullet point to say, Any infrastructure changes must preserve bike lanes on Marshall and Hamline.

    Commenter: Union Park District Council Transportation Committee

    Response: The AUAR was developed based on the proposed stadium site plan and master plan, which called for bike lanes on a new Shields Avenues, and on existing conditions, including the present configuration of Pascal Street as a shared-lane bike facility and the existing bike lanes on Marshall Avenue. The statements in the AUAR your comments address are suggested mitigation measures based on anticipated vehicular traffic. Unless explicitly stated, the AUAR does not suggest removal of either existing or planned facilities. To clarify, the AUAR text on page 71 regarding Pascal Street will be modified to read as follows:

    "9. Re-stripe Pascal to provide a three-lane roadway (one thru lane in each direction with left-turn lane) with the additional space accommodating the existing bicycle facility…"

Please note that any future changes within the Pascal or Marshall Avenue right-of-way would go through a typical City process, which would consider all modes and provide opportunities for public input. Any approved design would also need to be consistent with adopted City plans, including the Saint Paul Bicycle Plan.

39. **Comment:** The project should more strongly consider bicycle connections that implement the City's Bicycle Plan and the goals of the Comprehensive Plan's Transportation Chapter. This includes connections via Shields Ave and Pascal St., and generally connections over I-94 and to Minneapolis. Strong bicycle connections will mitigate parking concerns, benefit the surrounding neighborhoods, reduce area traffic levels, and will have a positive impact on both the project itself and the city as a whole.

    The project should more closely consider pedestrian safety, flow and queuing on the site and surrounding the site, including connecting people to transit and ensuring safe and comfortable walking connections to the surrounding neighborhoods.

    Commenter: Saint Paul Transportation Committee of the Planning Commission

    Response: The AUAR was developed based on the proposed stadium site plan and master plan, which called for bike lanes on a new Shields Avenues, and on existing conditions, including the present configuration of Pascal Street as a shared-lane bike facility and the existing bike lanes on Marshall Avenue. The statements in the AUAR your comments address are suggested mitigation measures based on anticipated vehicular traffic. Unless explicitly stated, the AUAR does not suggest removal of either existing or planned facilities. To clarify, the AUAR text on page 71 regarding Pascal Street will be modified to read as follows:
    "9. Re-stripe Pascal to provide a three-lane roadway (one thru lane in each direction with left-turn lane) with the additional space accommodating the existing bicycle facility…"
    Please note that any future changes within the Pascal or Marshall Avenue right-of-way would go through a typical City process, which would consider all modes and provide opportunities for public input. Any approved design would also need to be consistent with adopted City plans, including the Saint Paul Bicycle Plan. The Transportation Management Plan (TMP) will further investigate bike routing to the development and stadium, and will identify preferred alternatives for queuing and movement of pedestrians and transit users on and near the site. In addition, it should be noted that the proposed site plan and master plan as recommended by the Planning Commission would provide significantly upgraded pedestrian environments.

40. **Comment:** The traffic analysis does not appear to address worst-case scenarios where events may be held during peak weekday travel times. While the soccer games are planned for later in the evening, concerts or other events held at the stadium might coincide with weekday commuting.

    Commenting Agency: The Minnesota Pollution Control Agency

    Response: Game times are expected at either 7:00 or 7:30 pm during the weekdays, with the majority of vehicular traffic arriving after 6:00 pm, which avoids the pm rush hour. Saturday afternoons reflect a higher peak traffic volume than the weekday evenings due to the nature of local retail land uses. It is not expected that any capacity concerts will be held at this facility during the weekday afternoon or potentially at all. Potential weekday events could be held at the stadium, but not anywhere near capacity.

41. **Comment:** Due to the concept level nature of an AUAR the information determined in the traffic impact study can only be considered as a general indication of environmental impact. The development scenarios many times change after the AUAR is completed, therefore rendering the traffic analysis incomplete. Review of the AUAR does not constitute approval of a regional analysis and is not a specific approval for access or new roadway improvements. When the detailed site plans are developed the traffic analysis should reflect the proposed development. Our agency would request the opportunity to review any updated information, and continue to meet with the city to discuss traffic issues.

    Planning: MnDOT has commented extensively on several different site plans, redevelopment plans and plats throughout the stadium development process and has included the comment letters for the record.

    Design: There will be significant traffic, transit, bike and pedestrian concerns as this development moves forward which may require a MnDOT Layout Review. Coordinate with MnDOT as this project moves forward. A technical review will occur as the project becomes more detailed.

    This project will likely involve upgrading the area to become ADA compliant. Please continue to keep MnDOT informed as the modifications to the sidewalks and ADA Ramps will likely require upgrades as part of this project.

    Permits: Any use of or work within or affecting MnDOT right of way requires a permit.

    Commenting Agency: Minnesota Department of Transportation

    Response: Thank you for your comments. Final approvals will be sought from MnDOT as required and future updates to the AUAR will be completed as necessary.

42. **Comment:** Council staff are concerned regarding the assumptions used to determine mode split for travel to the site. Those assumptions appear to be tilted heavily to make the case that very few if any roadway improvements are needed from this massive traffic generator. The Draft AUAR's transportation analysis and tech memo seem to treat auto access, pedestrian access, and transit access separately. The document should explicitly address the overlap of these transportation modes and points of conflict, along with potential mitigation strategies to address identified issues.

    Commenter: Metropolitan Council

    Response: Given the lack of currently controlled off-street parking on and near the site, the City made conservative assumptions to ensure that all potential scenarios were considered. The AUAR found that patrons will be able to get to and from the stadium site conveniently and safely given the assumptions used in modeling. The City and MN United FC continue to explore the potential for game day use of existing off-street parking facilities; any additional parking that becomes available will reduce the need for shuttle service and transit. Given existing capacity of infrastructure in the area and the number of alternative routes for accessing the general area depending on direction of approach, the City believes that even with additional off-street parking and a mode shift to more automobile traffic, game day transportation can be effectively managed. The

Transportation Management Plan recommended in the mitigation section of the AUAR will include more details and preferred strategies for ensuring transportation to and from games runs as smoothly as possible. A number of potential approaches for influencing how people will choose to travel to the stadium, including tying access to parking to ticket purchases and communications strategies, are outlined in the AUAR.

It should also be noted that a technical advisory group (MnDOT, Ramsey County, Metro Transit, FHWA and City of Saint Paul) met 6 or 7 times to discuss assumptions. While this does not constitute formal agency agreement, we had general concurrence from the group on many of the assumptions.

The City does understand that transportation modes overlap, and significant modeling of pedestrian and transit user movement at potential points of conflict around the site was done. The AUAR identifies one alternative for pedestrian and transit user staging and movement on and around the site. Metro Transit is also studying the issue in a separate study, and the recommended Transportation Management Plan for events will identify the preferred alternative for these movements. As noted in the AUAR, use of traffic control agents to ensure safe and efficient movements will be a key strategy.

43. **Comment:**
Mode Split
Council staff are concerned about assumptions that are used to determine mode split. The Final AUAR should include more details to fully analyze mode split, which need to be based on more elaborate data sources and analysis. It is unclear in the Draft AUAR whether high transit usage will result from shuttle service and/or LRT to the stadium. Available potential capacity on the Green Line LRT does not automatically translate to usage. Furthermore the analysis of mode split should consider where the expected fan base might be coming from, perhaps using Figure 18-4 as a starting point.
• The transportation tech memo should support the claims of the mode split with observed or modeled data.

Commenter: Metropolitan Council

Response: Please see the response above regarding modal split assumptions. It is not clear from the comment what more elaborate data sources and analyses should be considered or how further analysis of fan base location—if robust data were available—would impact modal split assumptions, but City staff would be happy to discuss approaches with the commenter.

44. **Comment:**
- The document should include evidence, if any, that passengers will utilize LRT to crush load and methods that will be used to insure that it is not more.
- The document should also discuss whether there are similar stadiums where 45% of attendees arrive in shuttles from off-site.
- The AUAR includes an assumption on mode split of full utilization of LRT/BRT with peak-hour headways and capacity. Assuming that full capacity is available for event attendees is highly questionable for weeknight evening games, which will be competing with regular commuter users. The AUAR analysis should look at existing loads during these times and assume available capacity is crush load minus some assumptions about no build usage.

Commenter: Metropolitan Council

Response: Please see response above. To reiterate, modal splits are informed by the estimation of available on-site parking, those within walking/biking distance, capacity of A-Line and LRT (and based on other events), and supplemented by the shuttle bus service to remote parking locations. The analysis did consider existing transit usage during event times.

The City has been working with Metro Transit on understanding and maximizing transit capacity, and it is important to note that a detailed Transportation Management Plan will be in place to help manage game days.

As stadium situations differ substantially, it is not clear how informative a direct comparison with other facilities is. Other Twin Cities stadia, including TCF Bank Stadium and Target Field, have lower percentages of people arriving by transit and shuttle, but have much larger overall capacities and have more adjacent parking available.

45. **Comment: Regional transit system**
Affects to the regional transportation and transit system need to be examined in more detail. Specific issues to be addressed include:
    - The effect of 150 proposed shuttle bus loadings/hour on St. Anthony Avenue on traffic operations. The potential impacts to I-94 and to Snelling A venue.
    - The effect of 3,000 pedestrians/hour crossing University and Snelling to/from westbound LRT on traffic operations. The Final AUAR should indicate how traffic operations mitigation strategies affect the ability of pedestrians to make it across those streets, for example.
    - Figures for LRT capacity on Figure 18-6 do not match the text (480 crush load vs. 540 crush load). This inconsistency needs to be rectified.

Commenter: Metropolitan Council

Response: The City completed a detailed Vissim model for event departure. Most of the event departures would occur at 9 to 10pm, so the existing traffic is lower. We did observe some issues with shuttle service going thru the Snelling/I-94 North Ramp intersection. The shuttle operation will need further refinement with the Transportation Management Plan (TMP).

A Vissim model was used to evaluate the impacts of crossing the street to the platforms. Event patrons would need to be stored across from the platforms. Crossing would be controlled by traffic control officers to ensure a safe and efficient crossing.

The crush load capacity is 540 passengers per three-car train. Based on utilization counts, 60 passengers (approximately 10 percent) were on LRT during the planned event departure of an event. Therefore, approximately 90 percent (480 passengers per three car train) is available for event patrons and that is what is shown on Figures 18-6 and 18-8. The capacity used is based on the discussed value with Metro Transit.

46. **Parking**
Parking availability should be a consideration along the transit lines intended to be used for event traffic transit usage. Downtown Minneapolis event mode split is heavily influenced by available parking capacity at the south end of the line, which does not exist to the same degree along the Green Line. However, downtown Minneapolis parking capacity may be used in this capacity, especially at locations like U.S. Bank Stadium or University of Minnesota ramps that are less likely to be used on Saturdays (except during concurrent events).

Commenter: Metropolitan Council

Response: The City has had preliminary contact with the University of Minnesota, Downtown Saint Paul parking facilities and the State Fairgrounds about potential availability of their facilities. Our desire is to avoid simultaneous events, if at all possible.

47. **Comment:**
Highways
The transportation analysis needs to address potential impacts to the operation of Interstate 94, in particular potential queueing of the Snelling/Concordia and Snelling/St. Anthony intersections onto the freeway mainline and any mitigation, both under weekday peak and event conditions.
There was limited discussion of the impact of game-day traffic on I-94 and the interchanges in the area. For 7:00 PM weekday games, there is no additional capacity on I-94 if fans arrive at 5:30 or 6:00 PM. The queues from vehicles trying to get to the site will likely spill onto mainline I-94. As part of the Final AUAR, impacts to mainline I-94 need to be avoided, minimized or appropriately mitigated. The City should work with the Minnesota Department of Transportation to develop appropriate strategies.

Commenter: Metropolitan Council

Response: The majority of event patrons arriving one hour prior the event. In addition, based on current site plan, only limited on-site parking spaces are available on-site. The City and Team will be discouraging event patrons from driving to the facility unless they already have a reserved parking space. The I-94 off-ramp has been a concern of MnDOT's. The City has agreed that an event signal timing plan is needed around the site and at the I-94 ramps.

48. **Comment:**
Pedestrians
The transportation tech memo should support the estimated pedestrian queues to board LRT and shuttle buses. Issues to be addressed include the following:
    - The Council has recently invested in BRT stations and is concerned about safety for pedestrians leaving the site for northbound and southbound A-Line BRT stations on Snelling Avenue. The final AUAR needs to address this issue with respects to signalized intersection and describe pedestrian crossing locations for both opening day and full build-out scenarios.

Commenter: Metropolitan Council

Response: The crossing location will eventually change as the site redevelops and the traffic signal (presently at Spruce Tree Avenue and relocated to Shields Avenue) is relocated. Timing of the signal move is dependent in part on redevelopment of the larger site, and timing of the move is an ongoing area of discussion for the City, Metro Transit, and MnDOT. The City is also considering placing a fence down the median of Snelling Avenue from University Avenue to the I-94 ramps.

49. **Comment:** Will people wait 40 minutes in queues of up to 3,000 to board shuttle buses? Or will they arrive/depart another way?

    Commenter: Metropolitan Council

    Response: For a capacity event, they will have limited other alternatives that will not already be at-capacity. Currently, event patrons wait this long for LRT at Vikings and Gopher football games.

50. **Comment:** How do operations risks affect this? For example, what would be the impacts if 120 shuttle bus operations could not be achieved and only 110 were possible?

    Commenter: Metropolitan Council

    Response: It would take 10 minutes longer to clear the event patrons from the site. The plan is to have 50 to 60 shuttle buses making 2 to 3 trips for one hour after the event (or until all patrons have been served). The plan is to have enough shuttle buses to accommodate the event patrons within one hour (or slightly longer) from the end of the event.

51. **Comment:** There is discussion in the text of having pedestrians avoid the Snelling A venue intersection. Does this mean a new pedestrian crossing over 1-94? Or what route might pedestrians traveling in that direction take?

    Commenter: Metropolitan Council

    Response: The approach suggested in the AUAR is LRT event patrons heading WB would cross Snelling Avenue at Shields and heading EB they would cross at the mid-block crossing along University Avenue. Final determinations need to be worked out in conjunction with Metro Transit through the Transportation Management Plan (TMP) process. We don't want to direct event pedestrians into the Snelling Avenue/University intersection or Snelling/I-94 if possible. Pedestrians crossing I-94 to the south would need to use the existing Pascal Street or Snelling Avenue bridges.

52. **Comment:** Figure 18-6 shows 2,900 pedestrians crossing University Avenue to board eastbound LRT, while 3,350 pedestrians crossing at Spruce Tree to board westbound LRT. The AUAR needs to clarify the plans for opening day of the new stadium and final, full build-out of the site.

    Commenter: Metropolitan Council

Response: This will be clarified in the Transportation Management Plan. The site is going to go under re-development and routing plans will need to be evaluated every season. Metro Transit has been part of the discussions and will need to continue working through this issue. The AUAR identifies waiting times and storage requirements for the various transit elements.

53. **Comment:** There may need to be policies addressed about crossing LRT tracks where the Perkins restaurant currently sits. Given the location of the proposed square and plaza, this could be a major event traffic location. Will passengers have to cross the LRT tracks, and is this being addressed through a pedestrian bridge over tracks similar to the one near the Vikings stadium in downtown Minneapolis? The study should compare estimates used to justify that pedestrian bridge. An event traffic plan should address this crossing, since it is not signalized.

    Commenter: Metropolitan Council

    Response: The crossing is proposed to be controlled by traffic control agents during the event arrival and departure. No pedestrian bridge is being proposed. Patrons after an event will be stored on the site. This stadium is less than 1/3rd the size of US Bank Stadium, and closer in size to Target Center and the Xcel Energy Center.

54. **Comment:** Metro Transit is working with a consultant to conduct a post-event platform boarding study which is not complete at time of this letter. The City needs to work with Metro Transit following the conclusion of the post-event platform study for further concept and site plan development. The Mitigation Plan should include strategies and steps to address pedestrian safety issues in coordination with project partners, including Metro Transit.

    Commenter: Metropolitan Council

    Response: The City has been working with Metro Transit and knows about this study. We understand the success of managing the event traffic is in cooperation with Metro Transit. We look forward to continuing working with them.

55. **Comment:** The AUAR needs to include plans for adequate, well designed, and safe pedestrian connections from Snelling bus stops to the stadium site, as well as pedestrian facilities through the greater redevelopment site. Project developers need to ensure that internal roadways are designed such that they do not preclude further operation of transit on the site.

    Commenter: Metropolitan Council

    Response: The current plans for the site include an east-west street intersecting Snelling Avenue at Spruce Tree Drive. Once the signal currently at that location moves south to Shields Avenue, a median fence may be needed to prevent attempted pedestrian crossings of Snelling Avenue at that location. After the signal is relocated, safe crossings of Snelling Avenue for pedestrians will be available just north and south (Shields and

University) of the existing bus stops. Proposed plans and the Planning Commission's recommendations for the development of the site include substantially upgraded pedestrian facilities. The City will contact Metro Transit to make sure bus movement requirements are considered in final design of internal roadways to ensure that future transit operations are not precluded.

56. **Comment:** In addition, for Snelling A venue, page 365 (Figure 12) shows the signal at Spruce Tree being relocated to Shields for the initial development phase. This is incorrect and is contradictory to the recommendation found in the body of the SRF traffic Study.

    Commenter: Metropolitan Council

    Response: The timing of the moving of the signal is under continued discussion. It has not been concluded that it needs to be relocated at the time of the construction of the stadium and the portions of the site south of Shields Avenue, but it will likely need to move when development other than interim use as surface parking occurs on the portion of the site west of the proposed stadium and south of Shields occurs. It should be noted that it is anticipated that moving the traffic signal will improve traffic flow on Snelling Avenue and allow the northbound left-turn at University Avenue to be significantly lengthened.

57. **Comment:**
    Shuttles
    The use of shuttles is asserted in the AUAR based on parking capacity and transit capacity, but the AUAR does not provide evidence to support that level of usage. The shuttle bus discussion assumes park-and-ride lots with capacity for 8,000-9,000 fans within 2-3 miles of the site (ideally). There is only one public park-and-ride even close to within that distance, and it is not very large (Como Ave. and Eustis St.). The AUAR needs to include a more thorough analysis of park-and-ride availability or site characteristics that would facilitate the use of shuttles. Churches may be a potential partner for Saturday games. State Fair shuttle services may provide a reasonable model for how realistic these assumptions are and the associated costs.

    Commenter: Metropolitan Council

    Response: The AUAR analysis did not focus on existing public park-and-ride facilities because, as noted in the comment, there is relatively little capacity near the stadium location. The AUAR did look at using existing, large parking facilities that regularly serve event traffic and are likely to be available during game times. City staff have contacted the University of Minnesota, State Fairgrounds and downtown Saint Paul parking facilities about potential availability for soccer events. The aggregate number of spaces available is more than 20,000; approximately, 3,000 to 3,200 parking spaces will need to be available for a game if no additional parking within walking distance of the stadium is identified.

58. **Comment:**
    Freight
    The AUAR should recognize and address freight impacts. Snelling Avenue is the designated truck route for through movements between BNSF Midway intermodal hub

on Pierce Butler Route and I-35E to/from the south. The AUAR needs to identify and address the impacts in both Scenarios on the intermodal freight movements.

Commenter: Metropolitan Council

Response: Development should have minimal additional impacts to the freight route.

59. **Comment:** The AUAR also need to address how trucks will be able to access the stadium and mixed use development. The AUAR should discuss the impacts of freight deliveries by trucks of all sizes from single-unit, double-axle to full-size semi-tractor-trailer 64-foot wheelbase combinations to the stadium, and to the existing freight-dependent businesses including groceries, pharmaceutical, and food establishments.

    Commenter: Metropolitan Council

    Response: The stadium has its own separate freight access, which was designed to meet its anticipated needs. The internal roadway system will evaluate truck movements with refined site plans and when actual developments are proposed noting exact loading dock locations. The construction of the stadium will not impede freight access to existing businesses which remain on the larger site after its construction.

60. **Comment:**
    Traffic Modeling

    Near the end of the Report (Appendix F) there are screen shots taken of Yissim traffic modeling for pedestrians queuing up LRT and BRT post event boarding. As mentioned above in the "Pedestrians" section of this letter, Metro Transit is currently unde11aking its own pedestrian flow and queue modeling analysis of several post-game scenarios. The screen shots contained in the AUAR for the eastbound and westbound Green Line platforms are only two of several being considered. The examples used in the AUAR should be considered preliminary concepts, and have not received approval by either Metro Transit operations or public safety. The City needs to coordinate with Metro Transit on this issue in preparation of the final AUAR.

    Commenter: Metropolitan Council

    Response: As noted previously, the City understands that Metro Transit is evaluating event transit operations. The modeling was used to estimate wait times and storage requirements. The City anticipates this will be a continued discussion with the technical advisory team during the Transportation Management Plan (TMP). It is likely the plan needs to be flexible as site conditions will change over time with the re-development.

Other Comments

1. **Comment:** How will litter be handled around the stadium area and surrounding community?

    Commenter: Danette Lincoln

Response: The City acknowledges your concern regarding the potential for increased litter in surrounding neighborhoods.

Minnesota United FC will operate and maintain the stadium, associated areas, and the stadium site and is responsible for upkeep and maintenance of the property. The Saint Paul Planning Commission has recommended that Minnesota United FC and RK Midway designate a community liaison to serve as a single point of contact for neighborhood issues and concerns during and after construction.

Union Park District Council plans to convene a task force with various stakeholders to address neighborhood issues.

2. **Comment:** Has a health impact assessment been done? If not, please do one before tear down and building or as soon as possible.

   What is the plan for use of solar energy on this site?

   How will the loss of the grocery store ("Rainbow") impact the neighborhood(s)?

   Commenter: Mary Montagne

   Response: A health impact assessment has not been performed for the AUAR area. The AUAR analysis document, format, and content are prescribed by Minnesota Administrative Rules 4410.3610 Subpart 4. The rules state that the content must be similar to that of the EAW. The EAW form and content does not include a health impact assessment section. There is not currently a plan to incorporate solar energy in the stadium. Solar and alternative energy sources will be considered as part of the full development of the site. The Midway neighborhood is served by Walmart, Cub Foods, SuperTarget, and Whole Foods, all of which sell groceries within a half-mile of the Midway site. Figure 6-3 in the Draft AUAR depicts the Proposer's proposed program for future development of the AUAR area which includes 42,000 square feet of grocery.

3. **Comment:** A lot of old white people in the room tonight! Wondering what outreach efforts you plan on doing to involve people of color and minorities in a very diverse neighborhood. How do you plan on addressing gentrification? Thank you for all that you do!

   Commenter: Natalie Brown

   Response: The proposed development of the AUAR area is consistent with the Snelling-Midway Station Area Plan, which was adopted as part of the Saint Paul Comprehensive Plan by the City's elected officials after a robust community engagement process.

   In December 2015 the City launched the Snelling-Midway Community Advisory Committee (CAC) to ensure diverse community input was reflected and included in the plans for the proposed development. The CAC met nine times between December 2015 and May 2016. Input from the community at large was also gathered at public open house meetings held in November, February, March and June. Input was also received from Open Saint Paul, the City's on-line public input opportunity throughout the planning

process. Additional engagement occurred at Gordon Parks High School, Saint Paul Central High School, and Skyline Tower.
Tower apartment building, Union Park District Council, Community Action Partnership of Washington and Ramsey County, and a workshop hosted by Little Africa Business & Cultural District of Minnesota.

The City of Saint Paul convened a Snelling-Midway Jobs Workgroup in January 2016. Its mission is to maximize the retention and attraction of jobs and businesses on the Snelling Midway site and in the surrounding area. This economic development partnership from the public and private sectors prepared a report for the Planning Commission, the Snelling Midway Jobs Strategy Report, in May 2016.

In addition, the Union Park District Council plans to convene a Midway Center Redevelopment Task Force to partner with the City of Saint Paul, RK Midway and Minnesota United to serve as a conduit for community engagement, advocate for opportunities for neighbors to address issues, and to seek equitable positive solutions that strengthen the quality of life, business climate and livability of the neighborhood.

The intent of the mixed use urban village envisioned for the AUAR area is to create an inclusive community where all people can live, work, and play with diverse housing opportunities and a vibrant local economy.

4. **Comment:** I feel that these issues were found by the committee, but there were not any resolutions given to the public. You seem to have made the decision to "do" this soccer thing, but didn't take the people who live in the surrounding area into the equation.

   One other thing that was not addressed was property values - there was no discussion on will this stadium increase property values or decrease them? The development for the area was out 25-30 years -- in the interim, how would the property values be affected? I believe you need to look at this issue as well.

   Commenter: KC Cox

   Response: Please see response to Comment #3 above regarding opportunities for public input regarding the development of the AUAR area.

   The proposed stadium equates to approximately $150 million in real estate investment on this property. Full buildout of the AUAR area will involve hundreds of millions of new investment in the neighborhood. The City of Saint Paul intends to carefully manage the development of this site to minimize negative impacts to neighbors throughout the construction period.

5. **Comment:** Is it possible that neighborhood residents will experience a major increase in taxes or rent if the area is gentrified and promoted as desirable. People should not be driven out of their homes.

   Commenter: Michaelene Zawistowski

Response: See response to Comment 3 in this section. Every effort will be made to ensure that the stadium and surrounding mixed use development is a positive addition to the community and surrounding neighborhoods. This will require a sustained commitment and review and analysis and appropriate action steps at every stage of the redevelopment process.

6. **Comment:** I also feel there will not be enough green space to accommodate the large crowds before and after events at the stadium and not enough clarity about who will be responsible for maintaining the green space that is in the current plans year round.

   I would also like to see more green technology incorporated into the design of the stadium to deal with rainwater runoff, trash recycling, and energy conservation.

   Commenter: Dennis Hill

   Response: The AUAR identifies the minimum amount of space per person needed for queuing (8 square feet) based on the Highway Capacity Manual. Metro Transit is completing additional study to understand queuing needs of pedestrians after stadium events. This study is underway and information was not available during Draft AUAR analysis. Minnesota United FC will operate and maintain the stadium, associated areas, and the stadium site and is responsible for upkeep and maintenance of the property.

   It is also assumed that the operations of the facility and all of the transportation systems that will serve it will be monitored and modified to mitigate problems and improve operations.

   The City of St. Paul is also committed to sustainability and will seek ways to advance these principles and objectives as the project develops. A comprehensive approach to stormwater management is being developed and considered for the AUAR area. Regarding trash and recycling, see response to Item 12, Comments #3 and #4 in this document. Any future project that receives more than $200,000 in City financing is required to meet the City's sustainability requirements.

7. **Comment:** The AUAR does not adequately cover the risks and is mired in unreliable justifications that have not been fully investigated. There should have been an EIS.

   Commenter: Karen Kormann

   Response: The AUAR is an accepted alternative to an EIS for projects that will develop over a long period of time and cannot be defined in detail at the outset. The AUAR is developed to the same level of detail as an EIS.

   Since the commenter did not identify the specific risks and justifications deemed to be inadequate it isn't possible to respond more fully.

8. **Comment:** The site is within several blocks of the BLAST ZONE area (evacuation area in case of hazmat train explosion); the transport of hazardous materials by train, and also

truck along Interstate 94 and University Ave has become a fast-growing concern nationwide, but particularly in the Twin Cities which is a railroad hub for transport of Bakken oil, as well as ethanol and other highly explosive materials.

A responsible plan would have included this possibility along with evacuation routes.....clearly an enormous problem given the increased traffic and congestion.

Commenter: Karen Kormann

Response: This is an important concern and it demands careful consideration and planning. It is, however, also true that the adopted Comprehensive Plan, the Snelling/University Station Area Plan and other relevant planning studies all supported a significant amount of density in a mixed use development pattern. The public safety concern expressed in this comment is important whether the area develops as proposed, or in any other scenario that is consistent with the Comprehensive Plan. The Saint Paul Department of Emergency Management is responsible for coordination of the City's response to emergency situations and disasters such as:

- Severe weather
- Flooding
- National events
- Hazardous material incidents
- Mass casualty incidents
- Acts of terrorism
- And much more

To accomplish this the Department of Emergency Management has developed the City's Emergency Operations Plan, or the EOP. This plan provides the framework upon which the City of St. Paul prepares for, responds to, and performs its emergency response functions. More information is available at https://www.stpaul.gov/departments/emergency-management.

9. **Comment:** The soccer stadium will not serve as a catalyst for redevelopment**.** Economists who have been studying the stadium boom for the past thirty years have found that stadiums do not generate ancillary development beyond the bars and restaurants that sometimes spring up around them. At most, stadiums simply shift spending patterns within a community. Neither the city nor the team has produced any evidence to the contrary, and it is incumbent upon the promoters of this project to demonstrate that such development will happen.

   While the RK Midway/Minnesota United Stadium Plan may envision a hotel, high-rise office buildings, a movie theater, bowling alley, housing, etc., absent any financial commitments or enforceable developer agreements, these potential uses are speculative at best—particularly since RK Midway has made it clear that any additional development will be dependent upon "market conditions." (As noted in the AUAR draft, "no development plans for the remainder of the AUAR area have been submitted to the RGU at this time.") As such, the only piece of the Stadium Buildout Plan that will likely be completed in the foreseeable future is construction of a soccer stadium.

Without significant investment in structured parking, the funding gap for redeveloping the Midway Superblock will persist.

According to a study completed by the Urban Investment Group (UIG) in 2014 at the request of the city, RK Midway, and the Metropolitan Council, the potential redevelopment of the Midway Superblock site faces "a large gap between the cost of the infrastructure needed and what the market will support." The biggest contributor to this gap is an estimated $40 million for structured parking, a figure the city cited when tabling discussions about a joint redevelopment of the site two years ago.

While it would be preferable to redevelop the Midway Superblock in such a manner that the need for more parking would be greatly reduced, the assumption remains that additional on-site parking will be needed to attract developer interest. (In fact, one of the key scenarios for mitigating the expected parking snafu when a new soccer stadium opens is phasing in structured parking over the next decade, thus alleviating the likely traffic spillover into the surrounding neighborhood.)

Unfortunately, stadiums do not typically catalyze surrounding development, meaning the same funding gap that precluded shared development plans moving ahead in 2014 will continue to persist whether a soccer stadium is built or not. Since the latest iteration of the Stadium Build plan shows little change in the RK Midway site beyond the addition of a stadium and possibly some green space to the north of the AUAR area, the AUAR report's suggestion that the stadium will "catalyze redevelopment" is not borne out by the facts on the ground.

The Master Plan is not yet ready for adoption, meaning the AUAR itself is premature
The Saint Paul Planning Commission's own staff report indicates that "a staff recommendation on the master plan request is premature" and cites the following information as still needed:
a. Public and private roads and their features and dimensions must be clearly identified in the master plan. Detailed information on the location and widths of sidewalks and bicycle facilities must also be provided on the master plan.
b. An open space plan, including a preliminary design treatment for open space, must be provided. It is unclear whether this will be publicly or privately owned open space, who will make improvements to it and who will maintain it. This information must be provided in the master plan.
c. Not enough detail exists in the stadium site plan to determine whether the development meets density, height, and setback requirements and master plan standards. This information needs to be provided as part of the site plan submittal.
d. A preliminary landscape plan indicating street trees and landscape treatment of streets and public spaces must be provided.
e. A preliminary stormwater plan identifying preliminary locations of structures and methods to be used in managing stormwater and surface water on the site must be submitted.
f. Master plan guidelines should be submitted addressing the areas of bicycle facilities; landscaping; street furnishings/lighting/wayfinding; building placement, heights, massing,

form and facades; energy efficiency; parking; stormwater management; utilities; and public art.
Until these issues are addressed and incorporated into the AUAR, the latter document is incomplete.

Commenter: Tom Goldstein

Response: The City acknowledges the comments related to the master plan. Since the time of this comment Department of Planning & Economic Development staff and the Planning Commission have recommended approval of the master plan and stadium site plan to the Mayor and City Council.

The market realities cited in the UIG Report are real and parking will present significant challenges throughout the build out of the project area, just as it has in similar redevelopment projects in the past. The specific solutions and financial strategies to fill gaps will need to be addressed at every phase of redevelopment. It isn't reasonable to expect a comprehensive description of the ultimate solutions to each of these challenges because the nature and timing of future development is unknown at this time.

The quotations from the Planning Report are statements of fact and they identify several important issues that the City and several partner agencies recognize as necessary to address before final approval for the project can be given. The Commenter is incorrect in stating that all of these issues have to be addressed before the AUAR can be finalized. An AUAR is a planning tool and they are frequently prepared and adopted before all of the specific project details are worked out. That is precisely why AUARs review scenarios and include a Mitigation Plan with the flexibility to respond to future changes.

The purpose of the AUAR, (or any other environmental review) is to inform decision making. The fact that the Planning Report identifies numerous issues that still need to be resolved is not a negative reflection on the AUAR, to the contrary is demonstrates that the City (as RGU) is fully aware of these issues and is committed to addressing them adequately before granting final approval.

10. **Comment:** The AUAR is deficient because it contains no social justice section. The social justice section should have examined and documented the stadium deal including the tax exemptions and the lease arrangement extended to the soccer team's investment group. It should have contrasted the material wealth of those investors that stand to profit from this sweetheart deal with those who live near the site and will have to endure all of the inconveniences of game days. It should have emphasized the Minnesota Department of Revenue's determination that the tax exemptions will shift the state's tax burden away from the business located on the site onto surrounding residents and businesses.

    That the lead investor, Dr. William McGuire, was penalized $468 million by the Securities and Exchange Commission less than ten years ago is also relevant to the issue of social justice. It is noteworthy that he has not yet completed his ten year prohibition against serving on a corporate board.

The stadium deal is a giveaway of prime St. Paul real estate.

The tax exemptions are unfair to working class people.

The AUAR is not adequate without a social justice section that addresses these issues.

Commenter: Mike Madden

Response: The AUAR analysis document, format, and content are prescribed by Minnesota Administrative Rules 4410.3610 Subpart 4. The rules state that the content must be similar to that of the EAW. The EAW form and content does not include a social justice section.