

---

# DOWNTOWN EAST DEVELOPMENT

---

## Draft Alternative Urban Areawide Review and Draft Mitigation Plan

AUGUST 2013



**Minneapolis**  
*City of Lakes*



# DRAFT ALTERNATIVE URBAN AREAWIDE REVIEW

This Alternative Urban Areawide Review (AUAR) follows the format of an Environmental Assessment Worksheet (EAW). Where the AUAR guidance provided by the Minnesota Environmental Quality Board (EQB) on how AUAR responses should differ notably from those required for an EAW, the guidance is noted for those sections in *italics*.

## 1. **Project Title:** Downtown East Development

---

Note: The project title has changed since the AUAR Order was issued. The Study Area is no longer referred to as the East Village (that name has been used elsewhere); rather, the new title is Downtown East. This document therefore uses the Downtown East reference throughout.

## 2. **Proposer:** Ryan Companies US, Inc.

---

**Contact person:** Robert A. Parr

**Title:** Director of Development

**Address:** 50 South 10<sup>th</sup> Street, Suite 300

**City, State, ZIP:** Minneapolis, MN 55403

**Phone:** 612-492-4355

**Fax:** 612-492-3355

**Email:** [bob.parr@ryancompanies.com](mailto:bob.parr@ryancompanies.com)

## 3. **Responsible Governmental Unit (RGU):** City of Minneapolis

---

**Contact person:** Hilary Dvorak

**Title:** Principal City Planner

**Address:** 250 South 4<sup>th</sup> Street, Room 300

**City, State, ZIP:** Minneapolis, MN 55415

**Phone:** 612-673-2639

**Fax:** 612-673-2526

**Email:** [hilary.dvorak@minneapolismn.gov](mailto:hilary.dvorak@minneapolismn.gov)

## 4. **Reason for EAW Preparation**

---

*AUAR Guidance: Not applicable to AUAR.*

## 5. **Project Location**

---

**County:** Hennepin                      **City/Township:** Minneapolis

NW ¼ Section 26 and SW ¼ Section 23, Township 29N, Range 24W

Attach each of the following to the EAW:

- County map showing the general location of the project; (see [Figure 5-1](#))
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); (see [Figure 5-1](#))
- Site plan showing all significant project and natural features. (see [Figure 5-2](#))
- Land use plans (see [Appendix A](#))

## 6. Description

---

*AUAR Guidance: Instead of the information called for on the form, the description section of an AUAR should include the following elements for each major development scenario included:*

- *Anticipated types and intensity (density) of residential and commercial/warehouse/light industrial development throughout the AUAR area;*
- *Infrastructure planned to serve development (roads, sewers, water, stormwater system, etc.) Roadways intended primarily to serve as adjoining land uses within an AUAR area are normally expected to be reviewed as part of an AUAR. More “arterial” types of roadways that would cross an AUAR area are an optional inclusion in the AUAR analysis; if they are included, a more intensive level of review, generally including an analysis of alternative routes, is necessary;*
- *Information about the anticipated staging of various developments, to the extent known, and of the infrastructure, and how the infrastructure staging will influence the development schedule.*

The AUAR Order approved by the City of Minneapolis defines two scenarios to be evaluated in the AUAR, with the AUAR Study Area boundary covering five city blocks on the east side of downtown. For reference, the blocks in the AUAR Study Area have been numbered one through five (see [Figure 5-2](#)). The types and intensity of potential development on each block in the Study Area, for each scenario, are provided in [Table 6-1](#). The two scenarios represent the anticipated minimum development density (Scenario 1, referred to as the Minimum Development Scenario) and the maximum development density (Scenario 2, referred to as the Maximum Development Scenario) that would be considered on these blocks by the current developer/owner.<sup>1</sup> Both scenarios are consistent with the City’s current Comprehensive Plan (*Minneapolis Plan for Sustainable Growth, 2009*) as required by Minnesota Rule 4410. 473.858. Both scenarios, including the Maximum Development Scenario, are well below the maximum density allowed under the comprehensive plan given that two of the blocks are proposed as open park space and as a public plaza for use in conjunction with the adjacent Multi-Purpose Stadium project. No new City infrastructure is required for either Development Scenario based on the existing grid network of roads and utilities; however, modifications to existing utilities (new connections) and roadways (turn lanes, signal modification, etc.) will be required as described in the following sections.

Under both Development Scenarios, a public plaza/park, to be controlled by a yet-to-be-determined public entity, is being proposed on Blocks 4 and 5. Permanent street closure options are being considered on Park and Portland Avenues, between 4<sup>th</sup> and 5<sup>th</sup> Streets, for both scenarios. To create a continuous public plaza/park, a one-block segment of Portland Avenue would need to be closed. To connect the public plaza/park to the Downtown East Transit Station, a one-block segment of Park Avenue would also need to be closed. To assess the potential impacts of closing these one-block

---

<sup>1</sup> Ryan Companies US, Inc. has a purchase agreement with the Star Tribune to acquire all five blocks.

sections of Park and Portland Avenues, four closure options (see **Figure 6-1**) were included in the traffic analysis (see Section 21) including:

- Option 1: Complete closure of both Portland and Park Avenues between 4<sup>th</sup> and 5<sup>th</sup> Streets.
- Option 2: Closure of Portland Avenue between 4<sup>th</sup> and 5<sup>th</sup> Streets. Additionally, Park Avenue would be modified to a two lane segment with no parking and open only during the peak traffic hours (7-9 am, 4-6 pm).
- Option 3: Closure of Park Avenue between 4<sup>th</sup> and 5<sup>th</sup> Streets. Additionally, Portland Avenue would be modified to a two lane segment with no parking and open only during the peak traffic hours (7-9 am, 4-6 pm).
- Option 4: Both Park and Portland remain open during the peak hours only and are modified to two-lane segments between 4<sup>th</sup> and 5<sup>th</sup> Streets and have no on-street parking.

**Table 6-1. Scenario Components by Block**

Component	Minimum Development Scenario		Maximum Development Scenario	
<b>Block 1</b>				
Parking Spaces	1,425		2,000	
Residential Units	60	or 150 room/110,000 square foot hotel	60	or 150 room/110,000 square foot hotel
Office (square feet)	0		300,000	
Retail (square feet)	25,000		25,000	
Public Plaza/Park	None		None	
<b>Block 2</b>				
Parking Spaces	250		225	
Residential Units	175		50	
Office (square feet)	700,000		700,000 (base) 440,000 (expansion)	
Retail (square feet)	27,500		27,500	
Park	None		None	
<b>Block 3</b>				
Parking Spaces	250		225	
Residential Units	175		50	
Office (square feet)	700,000		700,000 (base) 440,000 (expansion)	
Retail (square feet)	27,500		27,500	
Public Plaza/Park	None		None	
<b>Block 4</b>				
Parking Spaces	0		225	
Residential Units	0		175	
Office (square feet)	0		0	
Retail (square feet)	0		25,000	
Public Plaza/Park	Entire block		Remaining portion of block	
<b>Block 5</b>				
Parking Spaces	0		0	
Residential Units	0		0	
Office (square feet)	0		0	
Retail (square feet)	0		0	
Public Plaza/Park	Entire block		Entire block	

Component	Minimum Development Scenario	Maximum Development Scenario
<b>Totals</b>		
<b>Parking Spaces</b>	1,925	2,675
<b>Residential Units</b>	410 (or 350 with a 150 room / 110,000 square foot hotel)	335 (or 275 with a 150 room / 110,000 square foot hotel)
<b>Office (square feet)</b>	1,400,000	2,580,000 (1,400,000 base and 1,180,000 expansion)
<b>Retail (square feet)</b>	80,000	105,000
<b>Public Plaza/Park</b>	2 blocks	Approximately 1 <sup>2</sup> / <sub>3</sub> blocks

Construction completion dates for each of the blocks is estimated as shown below:

- Block 1 - 4<sup>th</sup> quarter 2015
- Block 2 - 4<sup>th</sup> quarter 2015
- Block 3 - 1<sup>st</sup> quarter of 2016
- Block 4 - 2<sup>nd</sup> quarter of 2016
- Block 5 - 2<sup>nd</sup> quarter of 2016

Skyways are anticipated to connect the office development across 5<sup>th</sup> Avenue to the existing downtown skyway network; between Blocks 1, 2 and 3; and to the new Minnesota Multi-Purpose Stadium.

## 7. Project Magnitude Data

For a summary of the two Development Scenarios, see [Table 7-1](#).

### Total project acreage

Number of residential units: unattached                      attached                      maximum units per building

Commercial, industrial, or institutional building area (gross floor space): total square feet

Indicate areas of specific uses (in square feet):

Office:

Manufacturing:

Retail:

Other industrial:

Warehouse:

Institutional:

Light industrial:

Agricultural:

Other commercial (specify):

Building height:                      If over 2 stories, compare to heights of nearby buildings:

*AUAR Guidance: No changes from the EAW form, except that the information should be given for each major development scenario.*

**Table 7-1. Scenario Component Totals**

Component Totals	Minimum Development Scenario	Maximum Development Scenario
<b>Parking Spaces</b>	1,925	2,675
<b>Residential Units</b>	410 (or 350 with a 150 room / 110,000 square foot hotel)	335 (or 275 with a 150 room / 110,000 square foot hotel)
<b>Office (square feet)</b>	1,400,000	2,580,000 (1,400,000 base and 1,180,000 expansion)
<b>Retail (square feet)</b>	80,000	105,000
<b>Public Plaza/Park (blocks)</b>	2	Approximately 1 <sup>2</sup> / <sub>3</sub>

Component Totals	Minimum Development Scenario	Maximum Development Scenario
<b>Acreage*</b>	12.4	12.4
<b>Building Height</b>	18 stories / 310 feet	20 stories / 360 feet

\* This area does not include any street or right-of-way area. In addition to the 12.4 acres, there is a 0.3 acre areaway under 4<sup>th</sup> Street.

See Section 26 for a comparison of building heights with nearby buildings.

## 8. Permits and Approvals Required

List all known local, state, and federal permits, approvals, and financial assistance for the project. Include modifications of any existing permits, governmental review of plans, and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing, and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.

Permits and approvals potentially required for the project Study Area are listed by governmental unit in Table 8-1.

Table 8-1. Permits and Approvals

Unit of Government	Type of Application	Status
<b>Federal</b>		
<b>Federal Aviation Administration</b>	Airspace hazard permit (for any structures more than 200 feet above ground level)	To be applied for
<b>State</b>		
<b>Minnesota Department of Health</b>	Abandonment of Water Wells	To be applied for
	Water Main Installation Permit	To be applied for, if needed
	Drainage Permit	To be applied for, if needed
<b>Minnesota Department of Natural Resources</b>	Groundwater Appropriation Permit (construction)	To be applied for, if needed
<b>Minnesota Historical Society</b>	Minnesota Historic Sites Act Minnesota Field Archaeology Act	Provisions will be met during construction, as applicable
<b>Minnesota Pollution Control Agency</b>	NPDES/SDS Construction Stormwater Permit	To be applied for
	Sanitary Sewer Extension Permit	To be applied for, if needed
	Soil and Groundwater Remediation Plan Approval	To be applied for, if needed
	Storage Tank Registration	To be applied for, if needed
<b>Regional</b>		
<b>Metropolitan Council</b>	Sanitary Sewer Extension Permit	To be applied for, if needed
<b>Middle Mississippi River Watershed Districted (defers to the City of Minneapolis for permitting)</b>	No formal review process	N/A

Unit of Government	Type of Application	Status
<b>Local</b>		
<b>City of Minneapolis</b>	Building permits	To be applied for
	Demolition permit	To be applied for
	Emergency Generator Fuel Storage Permit	To be applied for
	Erosion and Sedimentation Control Plan Approval and Permit	To be applied for
	Stormwater Management Plan Approval	To be applied for
	Street Vacation	To be applied for, if needed
	Planned Unit Development Review and Approval	To be applied for
	Land Subdivision	To be applied for
	Temporary Water Discharge Permit	To be applied for, if needed
	After Hours Work Permit	To be applied for, if needed
	Lane Obstruction Permit	To be applied for, if needed
	Right-of-Way Excavation Permit	To be applied for, if needed
	Encroachment Permit	To be applied for, if needed
	Utility Repair Permit	To be applied for, if needed
	Utility Connection Permits	To be applied for, if needed
	Sidewalk Construction Permit	To be applied for, if needed
	Testing & Inspection Agreement	To be applied for, if needed
	General Obligation Bonds for Blocks 4 and 5	To be applied for
	Department of Employment and Economic Development grants for redevelopment, and for demolition and clean up	To be applied for
Final AUAR and Mitigation Plan	In process	

## 9. Land Use

**Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.**

### **Land Use**

Current land use within the AUAR boundary consists of three office buildings, surface parking totaling approximately 1,200 spaces, and minimal landscaped areas (see **Table 9-1** and **Figure 5-2**). All of this would be removed as part of either scenario under consideration and replaced with new mixed use development and public plaza/park space.

**Table 9-1. Existing Land Use**

Block Number	Use	Existing Building Square Footage	Parking Spaces
1	<ul style="list-style-type: none"> <li>Approximately <math>\frac{3}{4}</math> of the block is surface parking</li> <li>Approximately <math>\frac{1}{4}</math> of the block is office building (on the corner of 4<sup>th</sup> Street and Park Avenue)</li> </ul>	McClellan Building: 80,300 Gross Square Feet (GSF)	252
2	<ul style="list-style-type: none"> <li>Approximately <math>\frac{3}{4}</math> of the block is surface parking</li> <li>Approximately <math>\frac{1}{4}</math> of the block is office building (on the corner of 4<sup>th</sup> Street and Portland Avenue)</li> </ul>	Freeman Building: 95,900 GSF	275
3	Surface parking	--	324
4	<ul style="list-style-type: none"> <li>Approximately <math>\frac{7}{8}</math> of the block is surface parking</li> <li>Approximately <math>\frac{1}{8}</math> of the block is landscaped space (on the corner of 5<sup>th</sup> Street and Portland Avenue)</li> </ul>	--	328
5	<ul style="list-style-type: none"> <li>Approximately <math>\frac{4}{5}</math> of the block is office building</li> <li>Approximately <math>\frac{1}{5}</math> of the block is parking</li> </ul>	Star Tribune Building: 440,000 GSF	16

The blocks within the AUAR boundary are zoned as follows:

- Blocks 1, 2, and 5 – B4N (Downtown Neighborhood District)
- Blocks 3 and 4 – B4S-2 (Downtown Service District)

Land adjacent to the AUAR Study Area is zoned as B4N (Downtown Neighborhood District), B4S-2 (Downtown Service District), B4-1 (Downtown Business District), and I1 (Light Industrial District). Surrounding land uses are primarily commercial, office, and parking. The existing Metrodome lies immediately east of the site, and construction of a new Minnesota Multi-Purpose Stadium to replace the Metrodome will begin in early 2014 and be completed by summer 2016. Proposed development under either of the Development Scenarios is similar in use and would be compatible with adjacent and surrounding land uses.

Any zoning inconsistencies for either Development Scenario, such as floor area ratio or building height, will be addressed through the City of Minneapolis Planned Unit Development (PUD) process.

Blocks 4 and 5 of the Downtown East Project (**Figure 5-2**) are one of two alternatives being considered by the Minnesota Sports Facility Authority (MSFA) for a public plaza and, therefore, could be considered part of the “stadium infrastructure” within the meaning of the Minnesota Multi-Use Stadium Act (Laws 2012, Chapter 299).

According to the Phase I Environmental Site Assessment (ESA) conducted for the five block AUAR Study Area (Liesch Associates Inc., July 2013), past land uses have included commercial (industrial and retail), public, and residential (single and multi-unit) since at least 1885. The Study Area has been redeveloped multiple times. Adjoining land use was commercial and residential since at least 1885 and is currently commercial. An executive summary of the report is provided in **Appendix C**.

## **Potential Environmental Hazards**

The Phase I ESA found that 26 petroleum underground storage tanks (USTs) and six above ground storage tanks (ASTs) have been reported in the Study Area. All of the USTs have been listed as removed and all the ASTs are listed as out of service according to the Minnesota Pollution Control Agency (MPCA) registered tank files. Four releases from the USTs were reported, two on Block 3 and two on Block 5, and all four have been closed by the MPCA. There are also three listings reported as closed on the MPCA SPILLS database located on Blocks 3 and 4. These SPILLS listings are considered a historically recognized environmental condition (REC).<sup>2</sup>

According to the MPCA's *What's in My Neighborhood?* database, there are 10 potentially contaminated sites within the AUAR Study Area. Two are active sites, and eight are inactive. Details on the sites are given in **Table 9-2**.

**Table 9-2. *What's in My Neighborhood?* Sites within the AUAR Boundary\***

Site Name and Location	Activity	Status
Eagle Standard 728 S 4 <sup>th</sup> Street	Hazardous Waste, Small to Minimal Quantity Generator	Inactive
Star & Tribune 425 Portland Avenue S	Leak Site	Inactive
	Leak Site	Inactive
	Tank Site	Inactive
<b>Star Tribune</b> <b>716 S 4<sup>th</sup> Street</b>	Hazardous Waste, Small to Minimal Quantity Generator	Active
	Tank Site	Inactive
<b>Minneapolis Star Tribune Co</b> <b>McClatchy Co</b> <b>425 Portland Avenue</b>	Hazardous Waste, Small to Minimal Quantity Generator	Active
	Industrial Stormwater Permit	Active
North Third Street Property 735, 763, & 805 N 3 <sup>rd</sup> Street	Voluntary Investigation & Cleanup (VIC)	Inactive
Rock Island Yard Fuel Oil West corner of Park Avenue & 3 <sup>rd</sup> Street S	Unpermitted Dump Site	Inactive
Bureau of Eng Site 502 S 4 <sup>th</sup> Street	Hazardous Waste, Small to Minimal Quantity Generator	Inactive <sup>a</sup>
Bureau of Engraving (Fourth Street) 500 S 4 <sup>th</sup> Street	Voluntary Investigation & Cleanup (VIC)	Inactive
	Voluntary Investigation & Cleanup (VIC)	Inactive
	Voluntary Investigation & Cleanup (VIC)	Inactive
Bureau of Engraving Inc – 4 <sup>th</sup> St 500 S 4 <sup>th</sup> Street	Air Permit	Inactive <sup>a</sup>
	Hazardous Waste, Small to Minimal Quantity Generator	Inactive
	Leak Site	Inactive
	Leak Site	Inactive
Hennepin County Safety Facility	Tank Site	Inactive

\* **Bold** text indicates the site has an active status.

<sup>a</sup> Property ownership transferred to Star Tribune, and site operations are no longer active.

<sup>2</sup> The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

Mitigation measures for environmental contamination in the State of Minnesota are typically undertaken in coordination with the MPCA. The MPCA offers the following fee-for-service voluntary programs which can provide liability assurances to owners, prospective purchasers, or developers:

- Petroleum Brownfield Program (PBP) for petroleum contamination
- Voluntary Investigation and Cleanup (VIC) program for non-petroleum contamination

The MPCA voluntary programs operate in coordination with state regulatory programs such as Superfund and Petroleum Remediation Program (PRP) to offer liability assurances consistent with both voluntary programs and regulatory statutes, rules, and policies. The voluntary programs also offer users prescribed guidelines and standardized approaches for investigation, response action planning, remediation, and monitoring of mitigation measures.

During site preparation, contamination or solid waste that must be properly managed to minimize risks may be encountered. The following materials management categories, each requiring unique permitting and documentation measures, are anticipated for materials that may be encountered within the AUAR Study Area:

- Landfill disposal/management of hazardous or solid waste
- Landfill disposal or potential reuse of regulated fill soil following state and local government notification procedures
- Potential on-site or off-site reuse or approved disposal of unregulated fill soil depending on soil characteristics and conditions at the prospective receiving site
- Potential on-site or off-site reuse or disposal of uncontaminated soil depending on soil suitability for planned construction uses
- Soil and bedrock, either contaminated or uncontaminated, which may remain *in situ*
- Discharge or sanitary disposal of potentially contaminated waters which may require advanced planning, permitting, and pre-treatment, or other management measures

The presence of soil gas contamination in the ground may result in migration and encroachment risks to buildings, whether existing or yet to be constructed. Given the information known about the Study Area, further investigation of potential vapor intrusion risks may be warranted. If investigation activities indicate a potential for vapor intrusion to occupied building space (retail, office, or residential) at concentrations exceeding action levels, then vapor mitigation measures would be necessary such as active or passive vent and barrier systems. The parking ramps on Blocks 1, 2, and 3 are required to be ventilated for exhaust and, therefore, could eliminate some vapor issues if a vapor issue arises.

The presence of the identified environmental impacts to soil and soil gas media will require enhanced diligence during planning and construction to manage risks associated with contaminated media, to coordinate waste stream management, to confirm the presence and degree of risks, and to mitigate any residual risks which are not remediated.

Specific mitigation for contamination and regulated waste is addressed in Section 20.

## 10. Cover Types

---

*AUAR Guidance: The following information should be provided instead:*

- a. *Cover type map, at least at the scale of a USGS topographic map, depicting:*
  - *Wetlands – identified by type (Circular 39)*
  - *Watercourses – rivers, streams, creeks, ditches*

- *Lakes – identify public waters status and shoreland management classification*
  - *Woodlands – breakdown by classes where possible*
  - *Grassland – identify native and old field*
  - *Cropland*
  - *Current development*
- b. *An “overlay” map showing anticipated development in relation to the cover types; this map should also depict any “protection areas,” existing or proposed, that will preserve sensitive cover types. Separate maps for each major development scenario should generally be provided.*

The Study Area does not contain any wetlands, watercourses, lakes, woodlands, grassland, or cropland. It is a developed area with buildings and paved parking lots. Grassy areas and trees are limited to parking lot and building landscaping. Green space would increase by 1 <sup>2</sup>/<sub>3</sub> blocks in the Maximum Development Scenario and by two blocks in the Minimum Development Scenario, with the addition of the public plaza/park. See **Figure 5-2**.

## 11. Fish, Wildlife, and Ecologically Sensitive Resources

---

- a. **Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts.**

There are no fish and wildlife resources and habitats on or near the AUAR Study Area. The entire AUAR site and surrounding area (within two to three blocks of the AUAR boundary) are fully developed with the only green space being isolated landscaped areas (sidewalk trees, shrubs, planters, and other manicured vegetation). The Mississippi River is approximately 0.4 miles from the Study Area and will not be impacted as a result of the project.

- b. **Are any state-listed (endangered, threatened, or special concern) species, rare plant communities, or other sensitive ecological resources on or near the site?  Yes  No**

**If yes, describe the resource and how it would be affected by the project. Describe any measures that will be taken to minimize or avoid adverse impacts. Provide the license agreement number ([LA-629](#)) and/or Division of Ecological Resources contact number (ERDB [See Appendix B](#)) from which the data were obtained and attach the response letter from the DNR Division of Ecological Resources. Indicate if any additional survey work has been conducted within the site and describe the results.**

A review of the DNR Natural Heritage Inventory database was conducted (license agreement LA-629) for the project Study Area and an area within a radius of approximately one mile of the Study Area. The database includes the known occurrences of any federal or state endangered, threatened, or special concern species. The review identified three species that may be found in this area: the black sandshell mussel, the peregrine falcon, and the tricolored bat.

- Black sandshell (*Ligumia recta*): Federal status – none; State status – special concern

The black sandshell is a mussel species known to occur in portions of the Mississippi River, living in the sand or gravel bottom areas of the river. The Downtown East project is approximately 0.4 miles from the river and will not have any direct effect on the Mississippi River or this mussel species.<sup>3</sup>

<sup>3</sup> <http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=IMBIV26020>

- Peregrine falcons (*Falco peregrinus*): Federal status – none; State status - threatened  
 Peregrine falcons were reintroduced to Minnesota and the Minneapolis metro area in the early 1980s and have been successful in establishing a local self-sustaining population. Population recovery has been extensive enough that in 1996 the state status of this species was changed from endangered to threatened. In 1999, the peregrine falcon was removed from the federal endangered species list. Peregrine falcons are known to nest within nesting boxes located on skyscrapers in downtown Minneapolis. Peregrine falcons feed mainly on birds, ranging from warblers to ducks, which are caught and killed in mid-air. In urban areas, pigeons provide an abundant food source. The construction of the Downtown East Development will not have an impact on peregrine nesting or affect their ability to survive within the downtown area. Therefore, no impact is anticipated on the peregrine falcon population in the city of Minneapolis.<sup>4</sup>
- Tricolored bats (*Perimyotis subflavus*): Federal status – none; State status – special concern  
 Tricolored bats, also known as the eastern pipistrelle, are known to colonize along the banks and caves of the Mississippi River. These bats are small and tend to colonize in small numbers. Tricolored bats forage early in the evening and may catch up to half their body weight in insects each hour. Tricolored bats eat moths, flies, beetles, and ants. They forage mainly over water and tend to avoid deep woods or open fields. The project area will not impact the Mississippi River (waterbody adjacent to the colonies); therefore, no impact is anticipated.<sup>5</sup>

The Minnesota DNR has reviewed the above findings and concurs that the two Development Scenarios will have no effect on the three species listed above and no potential to impact any rare species (**Appendix B**). The DNR did note in its review that peregrine falcons have nested annually on the Clock Tower of City Hall. It is unlikely that the proposed construction activities will affect these birds, but if the birds exhibit unusual behaviors or other signs of potential distress during construction, the Minnesota DNR will be contacted.

The building exteriors will be of similar design with steel structures, pre-cast panels, glass, metal mullions, and a decorative band of granite veneer at the base. Window faces will contribute to less than 40 percent of the building surface area, minimizing the potential for bird/window collisions. Additionally, the exterior building lighting will meet LEED goals, limiting night lighting and consequential impacts to migrating birds. The new buildings on Blocks 2 and 3 may provide new nest site opportunities for peregrine falcons.

## 12. Physical Impacts on Water Resources

**Will the project involve the physical or hydrologic alteration – dredging, filling, stream diversion, outfall structure, diking, and impoundment – of any surface waters such as a lake, pond, wetland, stream, or drainage ditch?  Yes  No**

**If yes, identify water resource affected and give the DNR Public Waters Inventory number(s) if the water resources affected are on the PWI: Describe alternatives considered and proposed mitigation measures to minimize impacts.**

No water resources were identified within the AUAR Study Area. The Development Scenarios will not involve any physical or hydrologic alterations of any surface waters.

<sup>4</sup> <http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABNKD06070>

<sup>5</sup> <http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=AMACC03020>

### 13. Water Use

**Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply, or appropriation of any ground or surface water (including dewatering)? X Yes \_No**

**If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.**

The deepest excavation for any of the new development would be 13-17 feet for the elevator pit areas, and groundwater in the area is an average of 30 feet below the ground surface per soil borings taken in the area. The seasonal high groundwater elevation is estimated to be within two to three feet of the observed groundwater. As a result, permanent dewatering is not anticipated.

Temporary dewatering may be required during project construction, particularly during caisson installation for each of the mixed use development blocks (1, 2, and 3). All water pumped during construction dewatering activities will be discharged in compliance with City and Minnesota Department of Natural Resources (DNR) requirements and the National Pollutant Discharge Elimination System (NPDES) permit. No discharge water will be directed to surface waters without prior retention in a temporary settling basin. A City of Minneapolis temporary water discharge permit will be required. The developer will determine if groundwater is contaminated as a basis for determining discharge to storm sewer or sanitary sewer. Temporary construction dewatering will require a Temporary Water Appropriations General Permit 1997-0005 if less than 50 million gallons per year and less than one year in duration.

#### **Water Wells and Water Main System**

The Hennepin County Well Index was consulted to verify the presence of water supply wells located within or near the AUAR boundary. There are two wells listed in the index, and information about these wells is provided in **Table 13-1**.<sup>6</sup> It is not known if the existing wells are used for water supply or if they are existing groundwater monitoring wells. The developer will coordinate with the MPCA on whether they will need to be relocated for continued monitoring or if they can be capped and sealed. If any additional wells are encountered during construction, they will be capped and sealed according to Department of Health regulations.

**Table 13-1. Wells within the AUAR Boundary**

<b>Well Name</b>	<b>Unique Well Number</b>	<b>Address</b>
<b>Minneapolis Star-Tribune</b>	200399	425 Portland Avenue
<b>Corn Exchange</b>	200627	North corner of 3 <sup>rd</sup> Street & 5 <sup>th</sup> Avenue

The AUAR boundary is served by the City's municipal water main system. Water mains exist in the following locations:

- 24-inch main in 5<sup>th</sup> Avenue
- 12-inch main in Portland Avenue
- 6-inch main in Park Avenue
- 12-inch main in Chicago Avenue

<sup>6</sup> County Well Index, Minnesota Department of Health Division of Environmental Health, 2007

- 6-inch main in 5<sup>th</sup> Street
- 12-inch main in 4<sup>th</sup> Street
- 6-inch main in 3<sup>rd</sup> Street

The City of Minneapolis has indicated that the public water system has adequate capacity to provide service to the development. The developer will perform engineering studies, including fire flow tests, to verify that the needs of their development can be met for internal fire suppression systems. The adequacy of the public water supply capacity assumes that there are no impacts by the proposed development to the existing system. There is no intent to remove any utilities as part of the roadway closure options for Park Avenue and/or Portland Avenue.

The estimated peak water demand range for the project based on the Minimum and Maximum Development Scenarios is 260,000 to 420,000 gallons per day (GPD).

#### 14. Water-Related Land Use Management District

---

**Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district?  Yes  No**  
**If yes, identify the district and discuss project compatibility with district land use restrictions.**

No part of either Development Scenario involves a shoreland zoning district, a delineated 100-year floodplain, or a state or federally designated wild or scenic river land use district. The Mississippi National River and Recreation Area (MNRRA) and state Mississippi River Critical Area (MRCA) boundaries, which run along South 2<sup>nd</sup> Street, lie two blocks north of the Study Area. Neither Development Scenario will impact any areas within the MNRRA or MRCA boundary (see [Figure 14-1](#)).

#### 15. Water Surface Use

---

**Will the project change the number or type of watercraft on any water body?  Yes  No**  
**If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.**

The AUAR area does not include or adjoin recreational water bodies; therefore, this section does not apply.

#### 16. Erosion and Sedimentation

---

**Give the acreage to be graded or excavated and the cubic yards of soil to be moved: acres: 12.4; cubic yards: 75,000. Describe any steep slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.**

*AUAR Guidance: The number of acres to be graded and number of cubic yards of soil to be moved need not be given; instead, a general discussion of the likely earthmoving needs for development of the area should be given, with an emphasis on unusual or problem areas. In discussing mitigation measures, both the standard requirements of the local ordinances and any special measures that would be added for AUAR purposes should be included.*

The AUAR Study Area consists of 12.4 acres of mostly impervious surfaces including paved parking, sidewalks, buildings, and streets. To facilitate development, existing surfaces throughout the AUAR Study Area will be excavated or graded. Excavation in the public plaza/park area will be made to the

depth required to remove existing pavement, buildings, or inactive infrastructure. Excavation on lots where high-rise buildings are proposed will have deeper excavations for construction of footings.

Areas with steep slopes are identified as having slopes greater than 1 vertical (v):3 horizontal (h) (12 percent or greater). There are no significant areas with steep slopes in the Study Area. The existing condition has little potential for erosion and sedimentation; however, there will be potential for erosion and sedimentation during construction as soils are disturbed by excavation and grading. Particular attention will be paid to areas with deep cuts as they can present unstable soil conditions that can result in erosion if not properly managed during construction activities.

Since the Study Area is contained in an urban environment, special attention should be given to sediment tracking potential. Construction vehicles entering and exiting the site will use temporary construction accesses with crushed rock to capture sediment from vehicle tires.

An Erosion and Sediment Control Plan is required in the City of Minneapolis (Chapter 52 of the Minneapolis Code of Ordinances) for all land disturbance activities which are in excess of either five thousand square feet or five hundred cubic yards of earth moved. The Study Area exceeds both of these parameters. The developer will follow the Erosion Control plan checklist and meet the City Code requirements, to minimize drainage problems, soil erosion, and prevention of sediment from entering curb and gutter systems and storm sewer inlets.

Erosion and sediment control measures planned for use during and after construction of either Development Scenario will meet or exceed the requirements of the National Pollution Discharge Elimination System (NPDES) Construction Storm Water Permit.

## 17. Water Quality: Surface Water Runoff

---

*AUAR Guidance: For an AUAR the following additional guidance should be followed in addition to that in EAW Guidelines:*

- *It is expected that an AUAR will have a detailed analysis of stormwater issues;*
- *A map of the proposed stormwater management system and of the water bodies that will receive stormwater should be provided;*
- *The description of the stormwater systems would identify on-site and "regional" detention ponding and also indicate whether the various ponds will be new water bodies or converted existing ponds or wetlands. Where on-site ponds will be used but have not yet been designed, the discussion should indicate the design standards that will be followed.*

**a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.**

The quantity of stormwater runoff in the Study Area will be significantly reduced through the conversion of two blocks into a public plaza/park. Currently most of the Study Area is comprised of impervious surfaces. There are no apparent stormwater best management practices (BMPs) to manage existing stormwater for water quality treatment or rate and volume attenuation in the Study Area. Stormwater runoff currently discharges to the municipal storm drain systems and then to the Mississippi River untreated.

The quality of stormwater runoff from the Study Area will be improved by BMPs to meet the treatment requirements for total suspended solids (TSS) removal enforced by the City of Minneapolis, as well as treatment requirements enforced by the MPCA. There will be a reduction in stormwater runoff volume as a result of the conversion of portions of the Study Area from impervious to pervious area.

Discharge rates will be controlled such that rates do not exceed existing condition peak discharge rates for the 2-, 10-, and 100-year storms, SCS Type II/24-hour storms. All proposed BMPs necessary to achieve compliance with the City stormwater treatment requirements will be located outside of public right-of-way. Regional treatment is not anticipated; however, in the event that it is proposed, any necessary private easements and agreements would be obtained by the developer.

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the Study Area and will serve as the basis for construction management of potential erosion and for managing sediment related to the construction activity. BMPs will be developed and employed to manage erosion and sedimentation during site construction. These BMPs may include silt fencing, inlet sediment filters, sediment traps, grit chambers, temporary ditch checks, rock filter dikes, fiber logs, turf reinforcement mats, temporary seeding, riprap and erosion control blankets for disturbed areas, and seeding or placement of sod or other plant materials for final restoration.

The proposed project will manage stormwater within the boundaries of the study area and will comply with the stormwater requirements stated in the Minneapolis Code of Ordinances, including Chapter 54, which has provisions for water quality and rate control. Determination of the BMPs to be used will be made during final design of each block. All development within the Study Area will be considered one action, and therefore all development within the Study Area will be captured under Chapter 54 of the Minneapolis Code of Ordinances.

**b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.**

The City of Minneapolis and the MPCA requirements are dependent in part on the downstream receiving system. The Study Area does not fall within an area that has been designated as flood prone by the City of Minneapolis. The Study Area drains to the Mississippi River. According to the Clean Water Act section 303(d) List of Impaired Waters (also known as the Total Maximum Daily Load or TMDL List) the Mississippi River is not impaired for construction-related parameters. The current standards of the two primary regulatory authorities specific to the Study Area are summarized in **Table 17-1**.

**Table 17-1. Stormwater Management Criteria**

Stormwater Requirement	Current Permitting Authority	
	City of Minneapolis	MPCA
Volume Control	Encourages the use of volume control measures to the greatest possible degree where site conditions are appropriate.	<u>Current rule:</u> Desired but not required for projects not draining to impaired or special waters <u>New rule (August 1, 2013):</u> Retain the volume equivalent to 1 inch of runoff from the added impervious surface
Rate Control	Do not exceed existing condition peak discharge rates for the 2-, 10-, and 100-year storms, SCS Type II/24-hour storms	Not applicable to projects not draining to impaired or special waters

Stormwater Requirement	Current Permitting Authority	
	City of Minneapolis	MPCA
Water Quality	70% Total Suspended Solids (TSS) removal from project runoff generated by a 1.25-inch rainfall	<p>Current rule: ½-inch of runoff from the added impervious surface (For filtration BMPs, the system must have a reasonable chance of achieving 80% TSS removal.)</p> <p><u>New rule (August 1, 2013):</u> 1 inch of runoff from the added impervious surface</p>

Since the site is currently comprised of mostly impervious surfaces and proposed redevelopment will convert two blocks to pervious surface, the MPCA rule to “retain the volume equivalent to 1-inch of runoff from the added impervious surface” will likely not apply. Instead, the City of Minneapolis water quality requirement for treatment of 70% TSS removal from the 1.25-inch rainfall event will likely govern. Assuming that infiltration and/or reuse will be the primary method used for treatment, it is estimated that 0.65 acre-feet of treatment volume will be required.

## 18. Water Quality: Wastewaters

*AUAR Guidance: Observe the following points of guidance in an AUAR:*

- Only domestic wastewater should be considered in an AUAR—industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process;
- Wastewater flows should be estimated by land use subareas of the AUAR area; the basis of flow estimates should be explained;
- The major sewer system features should be shown on a map and the expected flows should be identified;
- If not explained under section 6, the expected staging of the sewer system construction should be described;
- The relationship of the sewer system extension to the RGU’s comprehensive sewer plan and (for metro area AUARs) to Metropolitan Council regional systems plans, including MUSA expansions, should be discussed. For non-metro area AUARs, the AUAR must discuss the capacity of the RGU’s wastewater treatment system compared to the flows from the AUAR area; any necessary improvements should be described;
- If on-site systems will serve part of the AUAR the guidance in EAW Guidelines on page 16 regarding section 18b under Residential development should be followed.

### **a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.**

The estimated range of sewer demand for the Minimum and Maximum Development Scenarios is provided in **Table 18-1** and is based upon the 2013 MCEs SAC Procedure Manual Rates prescribed for various land uses. For the proposed parking garage on Block 1, it has been assumed that there will be on average one floor drain fixture connected to sanitary sewer for every 100 parking stalls in the garage.

**Table 18-1. Estimated Wastewater Generation**

Land Use	Minimum Development Scenario	Maximum Development Scenario	Rate (GPD)	Min. Demand (GPD)	Max. Demand (GPD)
Residential Units	335	350	274	91,790	95,900
Hotel (Rooms)		150	137	0	20,550
Retail (Square Feet)	80,000	105,000	0.091	7,280	9,555
Office (Square Feet)	1,400,000	2,580,000	0.114	159,600	294,120
Parking Garage (Vehicles)	1,925	2,675	0.161	310	431
Estimated Development Demand Range (GPD)				<b>258,980</b>	<b>420,556</b>

**b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies (identifying any impaired waters), and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.**

No on-site wastewater treatment is required for the Study Area.

**c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.**

The City of Minneapolis owns and operates a public sanitary sewer system that provides service to the Study Area. The City sanitary sewer network within and adjacent to the Study Area includes the following:

- 12-inch cement pipe in 4<sup>th</sup> Street
- 12-inch cement pipe in 5<sup>th</sup> Street
- 15-inch cement pipe in 5<sup>th</sup> Avenue
- 36-inch brick pipe in 3<sup>rd</sup> Street, increasing to 42-inch before tying into Chicago Avenue
- 18-inch cement pipe in Portland Avenue
- 15-inch cement pipe in Chicago Avenue south of 3<sup>rd</sup> Street

These City sewers ultimately discharge into the Metropolitan Council Environmental Services (MCES) interceptor sewer (1-MN-310) under Washington Avenue. The MCES interceptor has a capacity of 120 million gallons per day (mgd). In 2009, the average daily flow was less than 40 mgd, and peak flow was less than 70 mgd. Based upon this information, there is adequate capacity in the interceptor for the peak demand assumed in the Maximum Development Scenario.

The City of Minneapolis Department of Public Works has determined that the existing sanitary sewer infrastructure is adequate for the proposed development.

## 19. Geologic Hazards and Soil Conditions

---

**a. Approximate depth (in feet) to ground water:** 16 feet minimum and 30 feet average;

**To bedrock:** 37 feet average.

**Describe any of the following geologic site hazards to ground water and also identify them on the site map: sinkholes, shallow limestone formations, or karst conditions. Describe measures to avoid or minimize environmental problems due to any of these hazards.**

According to the Geologic Atlas of Hennepin County (Minnesota Geological Survey, 1989), bedrock in the Study Area consists of Platteville Formation, fine-grained limestone with thin shale partings near its base (up to 30 feet thick), underlain by Glenwood Formation, green sandy shale (up to five feet thick), and St. Peter Formation, fine- to medium-grained friable quartz sandstone (about 160 feet thick). There are no karst or sinkhole features present in the Study Area.

**b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil texture and potential for groundwater contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.**

Soil data was obtained from the NRCS Web Soil Survey.<sup>7</sup> The Study Area contains a single soil type, identified as U4A, Urban land – Udipsamments (cut and fill land) complex, with 0 to 2 percent slopes. The City of Minneapolis was historically excluded from the NRCS/SCS Soil Survey because of urban development and extensive soil reworking. According to the Geologic Atlas of Hennepin County (Minnesota Geological Survey, 1989), the surficial soils in the Study Area are Middle Terrace glacial-melt water stream sediments of sand, gravelly sand, and loamy sand, which are overlain in places by thin deposits of silt, loam, or organic sediment. The surficial deposits in heavily developed areas, such as those in the Study Area, are frequently covered by thick artificial fill or reworked local materials.

## 20. Solid Wastes, Hazardous Wastes, Storage Tanks

---

**a. Describe types, amounts, and compositions of solid or hazardous wastes, including solid animal manure, sludge, and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.**

*AUAR Guidance: For a, generally only the estimated total quantity of municipal solid waste generated and information about any recycling or source separation programs of the RGU need to be included.*

It is anticipated that demolition debris and earth materials will be generated during demolition of the existing buildings and parking lots. The development within the Study Area would require complete demolition of the existing McClellan, Freeman, and Star Tribune buildings, including outlying facilities and underground infrastructure. Demolition debris is inert material such as concrete, brick, bituminous, glass, plastic, untreated wood, and rock. It is estimated that up to 90 percent of the solid wastes generated during demolition could be recycled. The remainder would be disposed at a state permitted landfill. It is estimated that the demolition would generate 50,000 tons of concrete/asphalt debris and 5,000 tons of miscellaneous construction debris. Construction of the development would

---

<sup>7</sup> <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed June 18, 2013

generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which would be either recycled or disposed in the proper facilities.

Hazardous waste is not anticipated to be generated during demolition, except for abatement and removal of regulated materials such as asbestos, lead-based paint, refrigeration equipment, lights, or other regulated wastes would be necessary if they are encountered during demolition. A Pre-Demolition Survey is currently underway for the three buildings to be removed from the Study Area to determine if any regulated materials such as asbestos-containing materials, lead-based paint, and other regulated materials/wastes are present. An Abatement Plan will be prepared to address removal and proper disposal of any regulated materials identified in the Pre-Demolition Survey. Following abatement and demolition activities, a comprehensive Abatement Closeout Report will be prepared, which will document the removal, management, and disposal of the regulated materials.

Prior to initiation of subsurface construction activities, the project will be enrolled in the MPCA's Voluntary Investigation and Cleanup (VIC) Program and Petroleum Brownfields Program (PBP). A Phase II Environmental Site Assessment (Phase II ESA) is now being completed for the Study Area. Based upon the results of the Phase II ESA and previously conducted environmental investigations within the Study Area, a Response Action Plan (RAP) will be prepared and submitted to the VIC and PBP Programs for review and approval to address proper handling and treating of contaminated soil and/or groundwater within the context of, and consistent with, the proposed redevelopment activities.

A Construction Contingency Plan (CCP) will be developed and submitted to the MPCA with the RAP to address proper handling, treating, storing, and disposing of solid wastes, hazardous materials, petroleum products, and other regulated materials/wastes that are used or generated during construction. The CCP would also establish protocols to minimize impacts to soil and groundwater in the event a release of hazardous substances or petroleum occurs during construction. The CCP will also be implemented in the event that previously unknown hazardous substances or petroleum products (i.e., releases not identified in presently available reports or the Phase II ESA Report) are encountered during construction activities. In that event, the General Contractor, in consultation with the Project Environmental Consultant, will secure the area of the suspected release and follow the prescribed management protocols contained in the CCP. In the event of a release to the environment, the Minnesota Duty Officer would be contacted immediately to make the required agency contacts.

The U.S. Environmental Protection Agency (EPA)'s 2009 publication *Municipal Solid Waste in the United States* was consulted as a basis for Municipal Solid Waste (MSW) generation for the proposed development. It is estimated that 4.34 pounds of MSW will be generated per person per day, resulting in a range of 7,200 to 12,500 tons of MSW generated per year based upon the Minimum and Maximum Development Scenarios for the proposed development. There will be a corporate recycling program established in the two office buildings and a recycling program for the residential component. There will be a dedicated storage/trash area in the loading dock area that will be used for recycling management and pickup.

**b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating groundwater. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.**

*AUAR Guidance: No response is necessary for b.*

**c. Indicate the number, location, size, and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.**

Knowing that multiple stories will be constructed for residential, office, retail, and parking uses in either Development Scenario, generators to operate lights and elevators will be required at a minimum on Blocks 1, 2, and 3 for life and safety requirements. Therefore, diesel fuel tanks (one per Blocks 1, 2, and 3) are expected to be installed. The sizes of these tanks are estimated to be up to 12,000 gallon capacity. Installation and permitting will follow MPCA requirements.

## 21. Traffic

---

**Parking spaces added:**

**Existing spaces (if project involves expansion):**

**Estimated total average daily traffic generated:**

**Estimated maximum peak hour traffic generated and time of occurrence:**

**Indicate source of trip generation rates used in the estimates.**

**If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Using the format and procedures described in the Minnesota Department of Transportation's Traffic Impact Study Guidance (available at: <http://www.oim.dot.state.mn.us/access/pdfs/Chapter%205.pdf>) or a similar local guidance, provide an estimate of the impact on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system.**

*AUAR Guidance: For AUAR reviews a detailed traffic analysis will be needed, conforming to the MnDOT guidance as listed on the EAW form. The results of the traffic analysis must be used in the response to section 22 and in the noise aspect of section 24.*

See **Table 6-1** for a description of the number of parking spaces in each scenario.

The information in this Section is based on the *Downtown East Traffic Analysis Technical Memorandum* (Kimley-Horn, August 2013). This memorandum provides the methodology, assumptions, traffic volumes and findings of the traffic analysis, which are summarized below. The analysis includes evaluation of the traffic operations in the Study Area for No Build and future Build conditions based on proposed development scenarios.

The Downtown East AUAR traffic analysis includes:

- Year 2035 No Build Analysis for AM, Mid-day, and PM Peak Hours
- Year 2035 Build Analyses for AM, Mid-day, and PM Peak Hours

Development scenarios include a Minimum Development Scenario and a Maximum Development Scenario. An additional scenario was analyzed that includes a 2,000 attendee event in the proposed public plaza/park on the development site, with the event arrival coinciding with the PM peak hour.

In addition to development scenarios, four potential roadway options were analyzed as part of the Build development. The development has proposed four potential options that would result in closures to Portland Avenue and/or Park Avenue between 4<sup>th</sup> Street and 5<sup>th</sup> Street, within the development. The four Build roadway options are described as follows:

- Option 1: Park Avenue and Portland Avenue permanently closed

- Option 2: Park Avenue reduced to two northbound lanes and open during peak hours only; Portland Avenue permanently closed
- Option 3: Portland Avenue reduced to two southbound lanes and open during peak hours only; Park Avenue permanently closed
- Option 4: Park Avenue and Portland Avenue both reduced to two lanes and open during peak hours only

Each of these options proposed that the existing bicycle lanes on Park Avenue and Portland Avenue would be maintained (on-street or through the park), but all on-street parking would be eliminated within these two blocks.

Hennepin County, in cooperation with the City of Minneapolis, is planning for a roadway reconstruction project on Washington Avenue from Hennepin Avenue to 5<sup>th</sup> Avenue S in 2014. The project includes sidewalk and streetscape improvements, the addition of a cycle track, and changes in roadway lanes. Washington Avenue is proposed to be reduced from three eastbound lanes to two eastbound lanes, with a right-turn lane at 4<sup>th</sup> Avenue S. In the westbound direction, there are multiple options being considered that include either three westbound lanes, as in the existing conditions, or two westbound lanes with right-turn lanes at 3<sup>rd</sup> Avenue S, Marquette Avenue, and Hennepin Avenue. The base assumption for the traffic modeling included three westbound lanes on Washington Avenue. At the request of Hennepin County, additional Washington Avenue configuration scenarios were analyzed and these are included in the Cumulative Potential Effects section of this document (see Section 29).

A summary matrix of the roadway options and Development Scenarios that were modeled as part of the traffic analysis has been provided in [Table 21-1](#). The traffic operations analysis was completed in Synchro/SimTraffic, a software program that applies the methodologies of the Highway Capacity Manual. This tool was used to evaluate intersection volume/capacity ratio, operations, and level of service, and queuing. Level of service (LOS) is a rating system that describes how well an intersection operates. LOS A operations indicate the best traffic operations (little delay) and LOS F indicates an intersection that is failing to operate effectively. Operations of LOS D or better are generally considered acceptable to drivers under peak conditions. It should be noted that the Synchro/SimTraffic software cannot capture the impacts on traffic operations due to pedestrians, bicyclists, bus stops, loading/unloading, parking maneuvers, traffic control agents, and other activities that are typical in the downtown environment. Therefore, the LOS results presented would be considered to generally be better than what would be expected to be observed during a typical peak hour because of the model's inability to simulate these other factors.

**Table 21-1. Analysis Scenario Summary**

Development Scenario	No Build Roadway Network	Development Roadway Options			
		1. Park and Portland Closed	2. Park Open peak hours only, Portland Closed	3. Portland Open peak hours only, Park closed	4. Park and Portland Open peak hours only
<b>No Build</b>					
AM	✓				
Mid-day	✓				
PM	✓				
<b>Minimum Development Scenario</b>					
AM		✓	✓	✓	✓
Mid-day		✓			
PM		✓	✓		✓
PM – Public plaza/park event			✓		
PM – Washington Ave two westbound lanes					✓
<b>Maximum Development Scenario</b>					
AM		✓	✓	✓	✓
AM – Washington Ave two westbound lanes				✓	
Mid-day		✓			
PM		✓	✓		✓
PM – Public plaza/park event			✓		
PM – Washington Ave two westbound lanes			✓		✓

Scenario 3 operations were analyzed for only the AM peak hour because that was considered to be the worst case for that roadway scenario. All options for the Downtown East Development were analyzed for weekday conditions.

**Traffic Study Area**

The roadway network that would be expected to have potential traffic impacts is bounded by 8<sup>th</sup> Street to the south, 3<sup>rd</sup> Avenue to the west, Washington Avenue to the north, and I-35W to the east. In addition, the intersections on Washington Avenue west to Hennepin Avenue were included. **Figure 21-1** shows the 51 intersections that were analyzed.

## **2035 No Build Conditions**

Existing conditions were not analyzed due to a number of roadway changes expected to occur prior to the opening of the Downtown East Development. These changes include:

- Reconstruction of Washington Avenue between Hennepin Avenue and 5<sup>th</sup> Avenue, as described previously in this section.
- Construction of an entrance ramp from 4<sup>th</sup> Street to I-35W northbound.
- Modification to several roadways adjacent to the Metrodome, as part of the construction of the proposed Minnesota Multi-Purpose Stadium. The Minnesota Multi-Purpose Stadium project has proposed permanent changes to 5<sup>th</sup> Street, 6<sup>th</sup> Street, and 11<sup>th</sup> Avenue near the stadium. The design plans for the Stadium project are still under development and several roadway options still remain. For the purposes of the Downtown East analysis, the following assumptions have been incorporated into all options:
  - 5<sup>th</sup> Street closed between 11<sup>th</sup> Avenue and Park Avenue;
  - One westbound lane provided on 6<sup>th</sup> Street from 11<sup>th</sup> Avenue to Park Avenue;
  - Realignment of the 5<sup>th</sup> Street/11<sup>th</sup> Avenue intersection, moving the intersection north of its current location, and reduction of 5<sup>th</sup> Street from four lanes to three lanes approaching 11<sup>th</sup> Avenue; and
  - Addition of a southbound right-turn lane on 11<sup>th</sup> Avenue from 5<sup>th</sup> Street to 6<sup>th</sup> Street.

All of the intersections included in the analysis are signalized. The base signal timing for the analysis assumed the proposed timings being implemented in summer/fall 2013 as part of the Downtown Signal Timing project. The operations analysis was conducted for all 51 intersections in the analysis area to determine how traffic will operate within the AUAR Study Area before the Downtown East project is implemented. A background growth rate of 0.5 percent per year was assumed to calculate 2035 No Build peak hour volumes from the existing (2011) peak hour turning movement counts.

The analysis was completed using Synchro/SimTraffic. Capacity analysis results identify a Level of Service (LOS) which indicates how well an intersection operates. Intersections are given a ranking from LOS A through LOS F. LOS A indicates the best traffic operation and LOS F indicates an intersection that is operating over capacity. LOS A through D are generally considered acceptable for peak hour conditions in an urban area. In a downtown grid network, the delay at individual intersections may not fully capture the impacts of a roadway or traffic volume change due to the close spacing of the intersections since the maximum delay on any approach is limited by the distance to the upstream intersection. Therefore, in addition to individual intersection LOS, overall network delay based on the SimTraffic output has been provided. Due to the interaction of the closely spaced intersections, changes in operations from LOS B to LOS C or LOS C to LOS D do not necessarily represent a significant degradation in operations at an intersection, but can be partially attributed to the random nature of the model and the interactions upstream on either roadway that can cause vehicle queues to block an intersection for a few cycles. For this reason, the analysis included intersection LOS, overall network delay, and observation of the simulations to identify when a roadway had reached capacity and was consistently unable to process the traffic volume arriving at an intersection.

Figures showing the peak hour traffic volumes used in the analysis of each No Build scenario can be found in the *Downtown East Traffic Analysis Technical Memorandum* (Kimley-Horn, August 2013).

Results of the analysis shown in **Table 21-2** indicate that most intersections will operate at an acceptable LOS D or better during the No Build peak periods. The modeling also showed that there are very few issues with queues extending beyond a block on any segment within the analysis area. The overall network delay measure shows the AM and PM peak hours have somewhat similar levels of congestion, while the Mid-day peak has approximately half as much overall delay.

However, four intersections in the study are expected to operate at LOS E or F during the AM and/or PM peak hours:

- Washington Avenue at the I-35W southbound ramps in the AM peak hour
- 5<sup>th</sup> Street at 11<sup>th</sup> Avenue in the AM peak hour
- Washington Avenue at 11<sup>th</sup> Avenue in the PM peak hour
- 5<sup>th</sup> Street at 4<sup>th</sup> Avenue in the PM peak hour

In addition, although the overall level of service was C or better for the 4<sup>th</sup> Street S/Chicago Avenue intersection in the peak hour No Build conditions, a southbound left-turn lane or rush hour parking restrictions are recommended on Chicago Avenue to accommodate the increase in southbound left-turn volume to the new entrance ramp to I-35W northbound from 4<sup>th</sup> Street. A turn lane or rush hour restrictions would allow through vehicles to bypass a waiting left-turn vehicle.

**Table 21-2. 2035 No Build Peak Hour Traffic Analysis Results**

Intersection			Intersection Level of Service		
Number	Road 1	Road 2	AM Peak	Mid-day Peak	PM Peak
Overall Network Delay (seconds/vehicle)			147	72	152
1	Washington Ave S	Hennepin Ave S	D	B	C
2	Washington Ave S	Nicollet Ave S	B	A	A
3	Washington Ave S	Marquette Ave S	B	B	B
4	Washington Ave S	2nd Ave S	C	B	B
5	Washington Ave S	3rd Ave S	D	B	D
6	Washington Ave S	4th Ave S	A	A	A
7	Washington Ave S	5th Ave S	B	B	C
8	Washington Ave S	Portland Ave S	B	A	B
9	Washington Ave S	Park Ave S	B	A	A
10	Washington Ave S	Chicago Ave S	B	B	B
11	Washington Ave S	10th Ave S	A	A	A
12	Washington Ave S	11th Ave S	D	C	E
13	Washington Ave S	I-35W SB Ramp	F	B	C
14	Washington Ave S	I-35W NB Ramp	B	A	C
15	3rd St S	3rd Ave S	B	B	C
16	3rd St S	4th Ave S	B	B	B
17	3rd St S	5th Ave S	A	A	A
18	3rd St S	Portland Ave S	B	A	B
19	3rd St S	Park Ave S	A	A	B
20	3rd St S	Chicago Ave S	B	B	B
21	4th St S	3rd Ave S	B	A	B
22	4th St S	4th Ave S	B	B	A
23	4th St S	5th Ave S	A	A	B
24	4th St S	Portland Ave S	B	A	B
25	4th St S	Park Ave S	A	B	A

Intersection			Intersection Level of Service		
Number	Road 1	Road 2	AM Peak	Mid-day Peak	PM Peak
26	4th St S	Chicago Ave S	B	B	B
27	5th St S	3rd Ave S	C	B	D
28	5th St S	4th Ave S	C	B	E
29	5th St S	5th Ave S	C	B	C
30	5th St S	Portland Ave S	B	B	B
31	5th St S	Park Ave S	C	B	B
32	5th St S	11th Ave S	F	B	B
33	6th St S	3rd Ave S	A	B	B
34	6th St S	4th Ave S	A	B	A
35	6th St S	5th Ave S	A	A	B
36	6th St S	Portland Ave S	B	A	B
37	6th St S	Park Ave S	B	A	B
38	6th St S	Chicago Ave S	B	A	B
39	6th St S	11th Ave S	B	A	F
40	7th St S	3rd Ave S	B	B	B
41	7th St S	4th Ave S	A	A	A
42	7th St S	5th Ave S	A	A	A
43	7th St S	Portland Ave S	B	A	B
44	7th St S	Park Ave S	B	B	A
45	7th St S	Chicago Ave S	C	B	B
46	8th St S	3rd Ave S	C	B	C
47	8th St S	4th Ave S	A	B	C
48	8th St S	5th Ave S	B	B	C
49	8th St S	Portland Ave S	A	A	B
50	8th St S	Park Ave S	C	A	B
51	8th St S	Chicago Ave S	B	B	B

### **Traffic Forecasts**

Traffic forecasts for the proposed redevelopment site were developed for future year 2035 Build conditions. Trip generation estimates for the AM, Mid-day, and PM peak periods were calculated for each proposed Development Scenario based on the proposed land use type and size. Trip generation rates from the 9<sup>th</sup> Edition of the *Institute of Transportation Engineers Trip Generation* (2012) were used to calculate development-generated traffic. A number of assumptions were also made related to internal trip capture (trips that are made on-site between the various proposed uses), pass-by trips (trips already existing within the Study Area that make use of the development land uses), and mode split (trips by transit, walking, or biking):

- Mode split
  - Office land use = 40% non-single occupant vehicle (SOV) trips
  - Residential land use = 50% non-SOV trips
  - Retail land use = 15% non-SOV trips

- Internal capture
  - 5% AM peak
  - 7% Mid-day peak
  - 7% PM peak
- Pass-by trips
  - 50% of retail trips only

The mode split assumptions were based on past downtown cordon counts, United States Census data, and commuter surveys that showed approximately 60 percent of commuters to Minneapolis travel by single occupant vehicle. The assumptions regarding pass-by and internal capture rates were based on the 2<sup>nd</sup> Edition of the *Institute of Transportation Engineers Trip Generation Handbook* (2004).

An assessment of existing traffic generated by the current land uses within the AUAR Study Area was also estimated based on the rates in *Institute of Transportation Engineers Trip Generation*. The trips generated by the existing uses were then subtracted from the new trips generated by the development to produce a calculation of net new traffic on the roadway network. Due to the lack of established Mid-day peak hour trip generation values, rates were estimated based on 55 percent of the PM peak hour rates. This estimate was based on the existing proportion of Mid-day peak hour traffic to PM peak hour traffic in downtown Minneapolis. Summaries of the trip generation calculations for the AM, Mid-day, and PM peak hours are shown in **Tables 21-3 to 21-5**.

**Table 21-3. AM Peak Hour Trip Generation**

Land Use Description	ITE Land Use Code	Size	ITE Trip Rate	Internal Capture	Pass-By	Non-SOV %	Enter %	Exit %	Total Vehicle Trips Enter	Total Vehicle Trips Exit	
<b>Minimum Development Scenario</b>											
General Office Building	710	1,400	1,000 sq ft	1.21	5%	0%	40%	88%	12%	850	120
Apartment	220			0.5	5%	0%	50%	20%	80%		
Block 1		60	Dwelling Units (DU)							0	10
Block 2		175	DU							10	30
Block 3		175	DU							10	30
<i>Subtotal</i>		410	DU							20	70
Retail	*	80	1,000 sq ft	5.72	5%	50%	15%	61%	39%	110	70
Subtotal New Development										980	260
Existing Use	710	-600	employees	0.52	0%	0%	40%	88%	12%	-160	-20
Minimum Development Scenario - Net New Vehicle Trips									820	240	
<b>Maximum Development Scenario</b>											
General Office Building	710	2,580	1,000 sq ft	1.21	5%	0%	40%	88%	12%	1,570	210
Apartment	220			0.5	5%	0%	50%	20%	80%		
Block 1		60	DU							10	20
Block 2		50	DU							0	10
Block 3		50	DU							0	10
Block 4		175	DU							10	30
<i>Subtotal</i>		335	DU							20	70
Retail	*	105	1,000 sq ft	5.72	5%	50%	15%	61%	39%	150	90
Subtotal New Development										1,740	370
Existing Use	710	-600	employees	0.52	0%	0%	40%	88%	12%	-160	-20
Maximum Development Scenario - Net New Vehicle Trips									1,580	350	

\*A mix of retail uses were considered to develop the trip generation rates, including specialty retail, grocery, restaurant, and pharmacy.

**Table 21-4. Mid-day Peak Hour Trip Generation**

Land Use Description	ITE Land Use Code	Size	ITE Trip Rate	Internal Capture	Pass-By	Non-SOV %	Enter %	Exit %	Total Vehicle Trips Enter	Total Vehicle Trips Exit	
<b>Minimum Development Scenario</b>											
General Office Building	710	1,400	1,000 sq ft	0.72	7%	0%	50%	50%	50%	230	230
Apartment	220			0.36	7%	0%	50%	50%	50%		
Block 1		60	DU							10	10
Block 2		175	DU							10	10
Block 3		175	DU							10	10
<i>Subtotal</i>		<i>410</i>	<i>DU</i>							<i>30</i>	<i>30</i>
Retail	*	80	1,000 sq ft	4.58	7%	50%	50%	50%	50%	40	40
Subtotal New Development										300	300
Existing Use	710	-600	employees	0.28	0%	0%	50%	50%	50%	-40	-40
Minimum Development Scenario - Net New Vehicle Trips									260	260	
<b>Maximum Development Scenario</b>											
General Office Building	710	2,580	1,000 sq ft	0.72	7%	0%	50%	50%	50%	430	430
Apartment	220			0.36	7%	0%	50%	50%	50%		
Block 1		60	DU							10	10
Block 2		50	DU							0	0
Block 3		50	DU							0	0
Block 4		175	DU							10	10
<i>Subtotal</i>		<i>335</i>	<i>DU</i>							<i>20</i>	<i>20</i>
Retail	*	105	1,000 sq ft	4.58	7%	50%	50%	50%	50%	60	60
Subtotal New Development										510	510
Existing Use	710	-600	employees	0.28	0%	0%	50%	50%	50%	-40	-40
Maximum Development Scenario - Net New Vehicle Trips									470	470	

\*A mix of retail uses were considered to develop the trip generation rates, including specialty retail, grocery, restaurant, and pharmacy.

**Table 21-5. PM Peak Hour Trip Generation**

Land Use Description	ITE Land Use Code	Size	ITE Trip Rate	Internal Capture	Pass-By	Non-SOV %	Enter %	Exit %	Total Vehicle Trips Enter	Total Vehicle Trips Exit	
<b>Minimum Development Scenario</b>											
General Office Building	710	1,400	1,000 sq ft	1.20	7%	0%	40%	17%	83%	160	780
Apartment	220			0.60	7%	0%	50%	65%	35%		
Block 1		60	DU							10	10
Block 2		175	DU							30	20
Block 3		175	DU							30	20
<i>Subtotal</i>		<i>410</i>	<i>DU</i>							<i>70</i>	<i>50</i>
Retail	*	80	1,000 sq ft	7.64	7%	50%	15%	51%	49%	120	120
Subtotal New Development										350	950
Existing Use	710	-600	employees	0.47	0%	0%	40%	17%	83%	-30	-140
Minimum Development Scenario - Net New Vehicle Trips									320	810	
<b>Maximum Development Scenario</b>											
General Office Building	710	2,580	1,000 sq ft	0.72	7%	0%	40%	17%	83%	290	1,430
Apartment	220			0.36	7%	0%	50%	65%	35%		
Block 1		60	DU							10	10
Block 2		50	DU							10	0
Block 3		50	DU							10	0
Block 4		175	DU							30	20
<i>Subtotal</i>		<i>335</i>	<i>DU</i>							<i>60</i>	<i>30</i>
Retail	*	105	1,000 sq ft	4.58	7%	50%	15%	51%	49%	160	160
Subtotal New Development										510	1,620
Existing Use	710	-600	employees	0.28	0%	0%	40%	17%	83%	-30	-140
Maximum Development Scenario - Net New Vehicle Trips									480	1,480	

\*A mix of retail uses were considered to develop the trip generation rates, including specialty retail, grocery, restaurant, and pharmacy.

The directional trip distribution for the site-generated vehicle traffic was based on the existing regional patterns of traffic into and out of the downtown, as shown in **Figures 21-2** and **21-3**. The peak hour traffic volumes used in the analysis of each Build scenario are included in the *Downtown East Traffic Analysis Technical Memorandum* (Kimley-Horn, August 2013). In addition to the regional distribution of vehicle traffic, an evaluation of existing parking supply and utilization, as well as proposed parking supply, was used to assign the new vehicle trips to a parking destination. All residential parking was assumed to be assigned to the same block where the units were located. Vehicle traffic generated by the office and retail uses was assumed to first utilize the structured parking that is proposed as part of the development (Block 1, also referred to as the McClellan Block) and then to seek nearby available parking. The distribution of parking demand outside the development blocks is shown in **Figure 21-4**.

### **Parking Generation**

The zoning of the proposed parcels do not require parking to be provided for the proposed development. However, the proposed land uses are expected to generate parking demand both within the AUAR Study Area and in the surrounding area. The weekday peak parking demand for the office and retail land uses of the proposed development was calculated based on the rates contained in the 4<sup>th</sup> Edition of the *Institute of Transportation Engineers Parking Generation* (2004). The residential uses are proposed to have reserved parking on the same block as the units, which will not be available for public parking. Note that of the parking proposed to be constructed on Block 1, a portion (100 spaces) was assumed to be reserved for the residential use, with the remaining available for public parking. The residential parking demand and supply are summarized in **Table 21-6**. The parking demand rates for office and retail were adjusted based on the assumed internal capture and mode split of the proposed development and the resulting new parking demand is shown in **Table 21-7**. An assessment of existing parking supply was also conducted to assess the availability of additional parking, outside of the Study Area. As shown in **Table 21-8**, there is adequate available parking supply for the expected new demand resulting from the Study Area development.

**Table 21-6. Development Residential Parking Demand**

Land Use Description	ITE Land Use Code	Size	Average Peak Parking Rate (stalls)	Peak Parking Demand (stalls)	Proposed Parking Supply (stalls)
<b>Minimum Development Scenario</b>					
Apartment	221		DU 1.2		
Block 1		60	DU	72	100
Block 2		175	DU	210	250
Block 3		175	DU	210	250
<i>Subtotal</i>		410	DU	492	600
<b>Maximum Development Scenario</b>					
Apartment	221		DU 1.2		
Block 1		60	DU	72	100
Block 2		50	DU	60	225
Block 3		50	DU	60	225
Block 4		175	DU	210	225
<i>Subtotal</i>		335	DU	402	875

**Table 21-7. Development Office and Retail Parking Demand**

Land Use Description	ITE Land Use Code	Size		Average Peak Parking Rate (stalls)	Internal Capture	Non-SOV Percentage	Peak Parking Demand (stalls)
<b>Minimum Development Scenario</b>							
General Office Building	710	1,400	1,000 sq ft	2.47	5%	40%	1,971
Retail	*	80	1,000 sq ft	3.14	5%	15%	203
Subtotal							2,174
Existing parking demand							-524
New public parking supply provided							1,425
Net new parking demand							225
<b>Maximum Development Scenario</b>							
General Office Building	710	2,580	1,000 sq ft	2.47	5%	40%	3,632
Retail	*	105	1,000 sq ft	3.14	5%	15%	266
Subtotal							3,898
Existing parking demand							-524
New parking supply provided							2,000
Net new parking demand							1,374

**Table 21-8. No Build Weekday Parking Supply and Utilization**

Parking Location	Capacity (Parking Stalls)	Weekday Mid-Day Non-Event	
		Percent Available	Stalls Available
<b>Stadium Parking</b>			
Ramps	2,400	30%	720
Hennepin Medical Center Ramp	1,192	20%	238
Private Lots	5,257	45%	2,366
<b>Subtotal</b>	<b>8,849</b>	<b>38%</b>	<b>3,324</b>
<b>North Of Washington Avenue Parking</b>			
Ramps	1,484	60%	890
Private Lots	76	70%	53
<b>Subtotal</b>	<b>1,560</b>	<b>60%</b>	<b>943</b>
<b>2nd Avenue To 5th Avenue Parking</b>			
Ramps	9,406	20%	1,881
Private Lots	1,159	20%	232
<b>Subtotal</b>	<b>10,565</b>	<b>23%</b>	<b>2,113</b>
<b>Total</b>	<b>20,974</b>	<b>30%</b>	<b>6,380</b>

\* Based on 12:00 PM data

### **Future Traffic Operations Analysis – Regional Network**

A freeway capacity analysis was completed to determine the impacts that development traffic would have on the regional roadway network. This analysis includes all freeway segments and ramps directly surrounding the downtown area.

Existing traffic volumes for a non-event condition were obtained from the Minnesota Department of Transportation's (MnDOT) traffic database from April 2013. To develop 2035 volumes, a review of historical traffic volumes was completed. Raw count data and published annual average daily traffic volume (AADTs) for the regional system over the past ten years were obtained from MnDOT's traffic database. The results of this evaluation indicated that no growth has occurred on the freeway system since 2004. For purposes of this analysis, a growth rate of 0.5 percent per year was assumed to account for any potential growth that may occur by year 2035.

Development traffic was assigned to the regional system using the directional distributions shown in **Figure 21-2** and **21-3**. The sum of the background and development traffic was calculated for each segment/ramp and used to determine the anticipated hourly traffic volumes for each event scenario.

A planning level ramp capacity threshold of 1,600 vehicles per lane per hour was used to determine if a ramp is over capacity, with a threshold of 1,440 to 1,600 considered to be approaching capacity.

The use of the existing MnPASS lanes on I-394 and the Priced Dynamic Shoulder Lane (PDSL) on northbound I-35W south of downtown Minneapolis were assumed to be available during the AM and PM peak periods. The future 4<sup>th</sup> Street ramp to northbound I-35W was also assumed to be in place as part of the analysis.

It should be noted that the total volume for each location assumes that all the traffic can get to that location during the hour (i.e., there are no bottlenecks upstream).

The results of the analysis are shown below in **Table 21-9**. The locations that are expected to be approaching or over capacity are highlighted. In both Development Scenarios, the locations identified in the Build conditions are the same as those identified in the No Build conditions scenario.

**Table 21-9. 2035 Freeway Analysis – Capacity Results**

Location	Number of Lanes	Capacity (vph)	Traffic Volumes (vph)				
			Background (No Build)	Minimum Development Scenario	Minimum Development Scenario Total	Maximum Development Scenario	Maximum Development Scenario Total
<b>AM Peak Hour</b>							
1. Southbound I-35W Exit To Washington Ave	1	1,600	1,690	70	1,760	130	1,820
2. Southbound I-35W Exit To 11th Ave	1	1,600	810	40	850	60	870
3. Westbound I-94 Exit To 5th St	1	1,600	1,720	70	1,790	130	1,850
4. Westbound I-94 Exit To 11th St	1	1,600	970	40	1,010	80	1,050
5. Westbound TH 55 Exit To 7th St	2	3,200	950	40	990	70	1,020
6. Northbound I-35W Exit To 3rd St	1	1,600	270	20	290	20	290
7. Northbound I-35W Exit To Washington Ave	1	1,600	490	20	510	40	530
8. Northbound I-35W Exit To 5th Ave	2	3,200	2,550	100	2,650	190	2,740
9. Eastbound I-394 Exit To 12th St	1	1,600	1,820	70	1,890	140	1,960
10. Eastbound I-394 Exit To 6th St	2	3,200	370	20	390	30	400
11. Eastbound I-394 Exit To 4th St	2	3,200	590	30	620	50	640
12. Eastbound I-394 Exit To Washington Ave	1	1,600	960	40	1,000	70	1,030
13. Eastbound I-94 Exit To 4th St	2	3,200	2,350	90	2,440	180	2,530
<b>PM Peak Hour</b>							
14. Northbound I-35W Entrance From Washington Ave	1	1,600	730	30	760	50	780
15. Northbound I-35W Entrance From 4th St	1	1,600	730	30	760	50	780
16. Eastbound I-94 Entrance From 6th St	2	3,200	1,610	60	1,670	110	1,720
17. Eastbound TH 55 Entrance From 8th St	2	3,200	1,020	40	1,060	70	1,090
18. Southbound I-35W Entrance From Washington Ave	1	1,600	800	30	830	60	860
19. Southbound I-35W Entrance From 4th St	1	1,600	160	10	170	20	180
20. Southbound I-35W Entrance From 4th Ave	2	3,200	2,390	90	2,480	160	2,550
21. Southbound I-35W Entrance From 12th St	1	1,600	860	40	900	60	920
21. Westbound I-94 Entrance From 4th Ave	1	1,600	1,000	40	1,040	70	1,070
21. Westbound I-94 Entrance From 3rd St	2	3,200	2,020	80	2,100	140	2,160
21. Westbound I-394 Entrance From Washington Ave	1	1,600	80	10	90	10	90
22. Westbound I-394 Entrance From 3rd St	2	3,200	1,810	70	1,880	120	1,930
23. Westbound I-394 Entrance From 10th St	1	1,600	150	10	160	10	160
24. Westbound I-394 Entrance From Linden Ave	1	1,600	1,480	60	1,540	100	1,580

### **Future Traffic Operations Analysis – Local Roadway Network**

To determine how well the roadway system will accommodate the proposed redevelopment, a peak hour traffic operations analysis was conducted for future year 2035 Build conditions under each development and roadway option. The signalized intersections were analyzed using the Synchro/SimTraffic software. The results of this analysis are shown in **Table 21-10** for the Minimum Development Scenario. The results for the Maximum Development Scenario are shown in **Table 21-11**. Note that the LOS results presented in these tables do not assume implementation of any mitigation measures. Based on the analysis, many key intersections will operate at an unacceptable LOS for future year 2035 Build conditions under several of the development and roadway options. In the Maximum Development Scenario, the modeling showed that some intersections were unable to process the vehicle demand over the course of the hour, which impacted the vehicle arrivals and LOS at downstream intersections. In these cases, observation of the simulations was critical to identifying the operational and capacity issues that needed to be mitigated.

**Table 21-10. 2035 Build Traffic Analysis Results – Minimum Development Scenario**

Intersection			Intersection LOS								
			AM				Mid-day	PM			
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 1	Roadway Option 2	Roadway Option 2 – Park Event	Roadway Option 4
Overall Network Delay (seconds/vehicle)			227	182	186	150	78	241	183	309	176
1	Washington Ave	Hennepin Ave	D	D	D	D	B	C	C	D	C
2	Washington Ave	Nicollet Ave	B	C	C	C	A	A	A	B	A
3	Washington Ave	Marquette Ave	B	C	D	C	B	B	B	D	B
4	Washington Ave	2nd Ave S	B	C	C	C	B	B	B	D	B
5	Washington Ave	3rd Ave S	D	D	D	D	C	D	D	D	D
6	Washington Ave	4th Ave S	B	B	A	A	A	A	A	C	A
7	Washington Ave	5th Ave S	B	C	B	B	B	C	C	D	C
8	Washington Ave	Portland Ave	B	C	B	B	A	B	B	E	B
9	Washington Ave	Park Ave	A	C	A	B	A	A	A	C	A
10	Washington Ave	Chicago Ave	C	D	B	B	B	B	B	E	B
11	Washington Ave	10th Ave S	A	B	A	A	A	A	A	C	B
12	Washington Ave	11th Ave S	D	D	D	E	C	E	E	F	E
13	Washington Ave	I-35W SB Ramp	F	E	F	F	B	C	C	D	C
14	Washington Ave	I-35W NB Ramp	B	B	B	B	A	C	C	C	C
15	3rd St S	3rd Ave S	B	B	B	B	B	B	C	C	C
16	3rd St S	4th Ave S	C	C	B	B	B	B	B	D	B
17	3rd St S	5th Ave S	B	C	A	A	A	B	B	D	B
18	3rd St S	Portland Ave	A	B	B	B	A	C	B	E	B
19	3rd St S	Park Ave	B	A	B	A	A	B	B	C	B
20	3rd St S	Chicago Ave	C	B	B	B	B	D	C	F	B
21	4th St S	3rd Ave S	C	C	B	B	A	B	B	D	B
22	4th St S	4th Ave S	D	D	B	B	B	B	B	E	B
23	4th St S	5th Ave S	B	B	B	A	A	C	A	E	B
24	4th St S	Portland Ave	B	B	B	B	B	B	B	E	B
25	4th St S	Park Ave	A	C	B	B	B	C	B	D	A
26	4th St S	Chicago Ave	C	B	B	B	B	C	B	C	B
27	5th St S	3rd Ave S	C	C	C	C	B	D	D	D	D
28	5th St S	4th Ave S	D	E	C	C	B	C	C	C	C

Intersection			Intersection LOS								
			AM				Mid-day	PM			
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 1	Roadway Option 2	Roadway Option 2 – Park Event	Roadway Option 4
29	5th St S	5th Ave S	C	C	D	C	B	B	C	E	C
30	5th St S	Portland Ave	D	C	D	C	A	B	A	A	B
31	5th St S	Park Ave	E	C	D	D	C	B	B	D	B
32	5th St S	11th Ave S	F	F	F	F	B	B	B	C	B
33	6th St S	3rd Ave S	B	B	B	A	B	B	B	C	B
34	6th St S	4th Ave S	C	C	B	A	B	C	B	C	C
35	6th St S	5th Ave S	C	C	C	A	A	D	B	E	C
36	6th St S	Portland Ave	C	C	B	B	B	C	B	B	B
37	6th St S	Park Ave	B	B	C	C	B	C	B	C	B
38	6th St S	Chicago Ave	C	B	D	B	A	D	B	C	B
39	6th St S	11th Ave S	B	B	B	B	B	F	E	F	F
40	7th St S	3rd Ave S	B	B	B	B	B	B	B	B	B
41	7th St S	4th Ave S	A	A	A	A	A	B	B	A	A
42	7th St S	5th Ave S	B	B	C	A	A	D	A	C	A
43	7th St S	Portland Ave	C	B	C	B	A	C	B	C	B
44	7th St S	Park Ave	C	B	C	B	A	C	A	D	A
45	7th St S	Chicago Ave	D	C	D	C	B	E	B	D	B
46	8th St S	3rd Ave S	C	C	C	C	B	C	C	C	C
47	8th St S	4th Ave S	A	A	A	A	B	C	C	C	C
48	8th St S	5th Ave S	C	C	C	B	B	F	C	F	C
49	8th St S	Portland Ave	A	A	A	A	A	C	B	B	B
50	8th St S	Park Ave	E	B	D	C	A	E	B	F	B
51	8th St S	Chicago Ave	B	B	B	B	B	F	B	C	B

Note: Scenario 3 operations were analyzed for the AM peak hour because that was considered to be the worst case for that roadway scenario.

**Table 21-11. 2035 Build Traffic Analysis Results – Maximum Development Scenario**

Intersection			Intersection LOS								
			AM				Mid-day	PM			
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 1	Roadway Option 2	Roadway Option 2 – Park Event	Roadway Option 4
Overall Network Delay (seconds/vehicle)			746	239	327	167	82	454	197	548	177
1	Washington Ave	Hennepin Ave	F	E	E	D	B	D	C	D	C
2	Washington Ave	Nicollet Ave	C	C	C	C	A	A	A	C	A
3	Washington Ave	Marquette Ave	E	C	B	C	B	C	B	D	B
4	Washington Ave	2nd Ave S	E	D	B	C	B	C	B	D	B
5	Washington Ave	3rd Ave S	E	E	D	D	B	D	D	E	D
6	Washington Ave	4th Ave S	C	B	A	A	A	B	A	C	A
7	Washington Ave	5th Ave S	D	B	B	B	B	D	C	D	C
8	Washington Ave	Portland Ave	F	B	B	B	A	D	B	F	C
9	Washington Ave	Park Ave	C	B	A	A	A	B	B	D	A
10	Washington Ave	Chicago Ave	E	C	B	C	B	D	D	F	B
11	Washington Ave	10th Ave S	C	A	A	A	A	B	B	D	B
12	Washington Ave	11th Ave S	F	E	F	E	C	E	E	F	E
13	Washington Ave	I-35W SB Ramp	F	F	F	F	B	D	C	E	C
14	Washington Ave	I-35W NB Ramp	D	C	B	B	A	C	C	D	C
15	3rd St S	3rd Ave S	C	D	B	B	B	C	C	D	C
16	3rd St S	4th Ave S	F	B	B	B	B	D	B	F	B
17	3rd St S	5th Ave S	F	C	B	A	A	C	C	E	B
18	3rd St S	Portland Ave	F	B	B	B	A	D	C	F	B
19	3rd St S	Park Ave	D	B	B	B	A	D	C	E	B
20	3rd St S	Chicago Ave	F	B	B	B	B	F	C	F	B
21	4th St S	3rd Ave S	F	F	B	B	A	C	B	E	B
22	4th St S	4th Ave S	F	D	B	B	B	D	C	F	B
23	4th St S	5th Ave S	E	B	C	A	A	C	B	F	B
24	4th St S	Portland Ave	A	B	B	B	B	C	C	F	B
25	4th St S	Park Ave	A	C	A	C	B	D	C	E	A
26	4th St S	Chicago Ave	C	B	B	B	B	D	C	C	B
27	5th St S	3rd Ave S	D	C	B	C	B	D	D	E	D
28	5th St S	4th Ave S	F	E	C	C	B	E	C	D	C
29	5th St S	5th Ave S	E	C	C	C	B	C	D	F	D
30	5th St S	Portland Ave	C	B	D	C	A	C	A	A	B

Intersection			Intersection LOS								
			AM				Mid-day	PM			
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 1	Roadway Option 2	Roadway Option 2 – Park Event	Roadway Option 4
31	5th St S	Park Ave	E	C	C	D	C	C	C	E	C
32	5th St S	11th Ave S	F	F	F	F	B	C	B	E	B
33	6th St S	3rd Ave S	E	C	B	B	B	C	B	D	B
34	6th St S	4th Ave S	E	B	B	A	B	E	B	E	C
35	6th St S	5th Ave S	F	B	C	A	B	F	C	F	C
36	6th St S	Portland Ave	E	C	C	B	B	E	B	B	B
37	6th St S	Park Ave	A	B	B	C	B	D	B	E	B
38	6th St S	Chicago Ave	C	B	C	B	A	E	B	D	B
39	6th St S	11th Ave S	D	B	C	B	B	F	F	F	F
40	7th St S	3rd Ave S	E	C	B	B	B	B	B	C	B
41	7th St S	4th Ave S	C	B	C	A	A	C	B	A	A
42	7th St S	5th Ave S	F	B	C	B	A	E	B	E	B
43	7th St S	Portland Ave	F	B	D	B	A	E	B	D	B
44	7th St S	Park Ave	F	B	D	C	B	E	B	F	A
45	7th St S	Chicago Ave	F	C	F	C	B	F	C	F	B
46	8th St S	3rd Ave S	F	C	C	C	B	E	C	F	C
47	8th St S	4th Ave S	C	A	B	A	B	D	C	C	C
48	8th St S	5th Ave S	F	B	E	B	B	F	C	F	C
49	8th St S	Portland Ave	D	A	C	A	A	C	B	B	B
50	8th St S	Park Ave	F	B	F	C	A	F	B	F	B
51	8th St S	Chicago Ave	D	B	B	B	B	F	B	D	B

Note: Scenario 3 operations were analyzed for the AM peak hour because that was considered to be the worst case for that roadway scenario.

### Minimum Development Scenario

Based on the results of the analysis, the additional traffic generated by the Minimum Development Scenario is expected to be able to be accommodated under Roadway Option 4 with less than five percent increase in overall network delay in the AM peak hour and approximately 15 percent increase in overall network delay in the PM peak hour. The intersections that were shown to operate at LOS E or LOS F in the No Build conditions are expected to also operate at LOS E or LOS F in this scenario. However, three additional issues were also identified due to increases in traffic volume due to the development:

- Near-capacity operations at the Washington Avenue/11<sup>th</sup> Avenue intersection in the AM peak, in addition to operational issues identified in the No Build scenario in the PM peak.
- Increased delay on northbound 11<sup>th</sup> Avenue at 6<sup>th</sup> Street due to the impact of left-turning vehicles in the PM peak.
- Increased delay on north/south roadways crossing the 5<sup>th</sup> Street corridor, due to the green time allocated to LRT progression, in both the AM and PM peaks.

Under Roadway Option 2, most intersections continue to operate at acceptable LOS, but the overall network delay increased by approximately 20 to 25 percent in both the AM and PM peak hours, representing a noticeable increase in delay and congestion. The same operational issues identified in Roadway Option 4 were noted, along with the following additional issues:

- Near-capacity operations on southbound 4<sup>th</sup> Avenue in the AM peak. Block length vehicle queues would be expected between 6<sup>th</sup> Street and Washington Avenue.
- Increased delay on westbound Washington Avenue at Hennepin Avenue in the AM peak, especially for westbound left-turn traffic, due to the increased volume of through traffic.
- Near-capacity operations on southbound Chicago Avenue in the PM peak. Block length vehicle queues would be expected between 6<sup>th</sup> Street and 3<sup>rd</sup> Street. The average corridor travel time on Chicago Avenue under Roadway Option 2 is expected to increase by more than 30 percent in the PM peak hour, compared to the average travel time under Roadway Option 4.
- 4<sup>th</sup> Street operations are impacted in the PM peak hour due to congestion on Chicago Avenue. The eastbound approaches at the Park Avenue and Portland Avenue intersections were shown to process approximately 90 percent of the demand volume during the peak hour.

Under Roadway Option 3, overall network delay in the AM peak hour is approximately 5 percent greater compared to Roadway Option 2, due to the high volume of traffic on Park Avenue that was rerouted in the network. The same operational issues identified in Option 4 were noted, along with the following additional issues:

- Near-capacity operations on 5<sup>th</sup> Avenue in the AM peak. Block length vehicle queues would be expected between 7<sup>th</sup> Street and Washington Avenue. The average corridor travel time on 5<sup>th</sup> Avenue under Roadway Option 3 is expected to increase by nearly 20 percent in the AM peak hour, compared to the average travel time under Roadway Option 4. In addition, the 5<sup>th</sup> Avenue approaches at 5<sup>th</sup> Street, 4<sup>th</sup> Street, and 3<sup>rd</sup> Street were only able to process approximately 90 percent of the demand volume during the peak hour.
- Increased delay on westbound Washington Avenue at Hennepin Avenue in the AM peak, especially for westbound left-turn traffic, due to the increased volume of through traffic.

Under Roadway Option 1, the overall network delay in the AM and PM peak hour increased by more than 50 percent compared to the No Build conditions, representing the highest degree of delay and

congestion. The overall network delay in the Mid-day peak hour was less than 10 percent greater than the No Build conditions. In the AM and PM peak hours, the same operational issues identified in Roadway Options 2, 3, and 4 were noted, along with the following additional issues:

- Capacity operations at the Park Avenue/7<sup>th</sup> Street in the AM peak, resulting in upstream congestion and delays.
- Capacity operations at the Washington Avenue/4<sup>th</sup> Avenue intersection in the AM peak due to over-capacity operations on 4<sup>th</sup> Avenue.
- 6<sup>th</sup> Street, 7<sup>th</sup> Street, and 8<sup>th</sup> Street operations are impacted in the PM peak hour due to congestion on Chicago Avenue.

With the addition of event traffic to the PM peak hour, in the Park Event scenario, the same operational issues identified in Roadway Option 2 were observed. In addition, the increased traffic demands at the 4<sup>th</sup> Street/Park Avenue intersection caused that intersection to fail and impact multiple upstream intersections.

#### Maximum Development Scenario

Based on the results of the analysis, the additional traffic generated by the Maximum Development Scenario is expected to be able to be accommodated under Roadway Option 4 with approximately 15 percent increase in overall network delay in both the AM and PM peak hours. The intersections that were shown to operate at LOS E or LOS F in the No Build conditions are expected to also operate at LOS E or LOS F in this scenario. However, three additional issues were also identified due to increases in traffic volume due to the development:

- Near-capacity operations at the Washington Avenue/11<sup>th</sup> Avenue intersection in the AM peak, in addition to operational issues identified in the No Build scenario in the PM peak.
- Increased delay on northbound 11<sup>th</sup> Avenue at 6<sup>th</sup> Street due to the impact of left-turning vehicles in the PM peak.
- Increased delay on north/south roadways crossing the 5<sup>th</sup> Street corridor, due to the green time allocated to LRT progression, in both the AM and PM peaks.

Under Roadway Option 2, most intersections continue to operate at acceptable LOS, but the overall network delay in the AM peak hour increased by over 50 percent and by approximately 30 percent in the PM peak hour, indicating a noticeable increase in delay and congestion. The same operational issues identified in Roadway Option 4 were noted, along with the following additional issues:

- Capacity operations on southbound 4<sup>th</sup> Avenue in the AM and PM peak hours. Block length vehicle queues would be expected between 6<sup>th</sup> Street and Washington Avenue.
- Increased delay on westbound Washington Avenue at Hennepin Avenue in the AM peak, especially for westbound left-turn traffic, due to the increased volume of through traffic.
- Capacity operations on 4<sup>th</sup> Street in the AM and PM peak hours. The average eastbound corridor travel time on 4<sup>th</sup> St under Roadway Option 2 is expected to increase by nearly 40 percent in the PM peak hour, compared to the average travel times under Roadway Option 4.
- Capacity operations on southbound Chicago Avenue in the PM peak. Block length vehicle queues would be expected between 6<sup>th</sup> Street and 3<sup>rd</sup> Street. The average corridor travel time on Chicago Avenue under Roadway Option 2 is expected to increase by nearly 40 percent in the PM peak hour, compared to the average travel time under Roadway Option 4.

Under Roadway Option 3, overall network delay in the AM peak hour increased an additional 35 percent compared to Roadway Option 2, and more than doubled compared to the No Build conditions due to the high volume of traffic on Park Avenue that was rerouted in the network. The same

operational issues identified in Roadway Option 4 were noted, along with the following additional issues:

- Capacity operations on 5<sup>th</sup> Avenue in the AM peak. Block length vehicle queues would be expected between 7<sup>th</sup> Street and Washington Avenue. The average corridor travel time on 5<sup>th</sup> Avenue under Roadway Option 3 is expected to increase by more than 50 percent in the AM peak hour, compared to the average travel time under Roadway Option 4.
- Capacity operations at the Park Avenue/7<sup>th</sup> Street in the AM peak, resulting in upstream congestion and delays.
- Increased delay on westbound Washington Avenue at Hennepin Avenue in the AM peak, especially for westbound left-turn traffic, due to the increased volume of through traffic.
- Increased delay on Washington Avenue at 4<sup>th</sup> Avenue, 3<sup>rd</sup> Avenue, and Chicago Avenue in the AM peak.

Under Roadway Option 1, the overall network delay increased by more than 200 percent in both the AM and PM peak hours, representing the highest degree of delay and congestion observed. However, in the Mid-day peak hour the overall network delay increased by less than 15 percent. In the AM and PM peak hours, the same operational issues identified in Roadway Options 2, 3, and 4 were noted, along with the following additional issues:

- Capacity operations at the Washington Avenue/4<sup>th</sup> Avenue intersection in the AM peak due to over-capacity operations on 4<sup>th</sup> Avenue.
- Capacity operations on 3<sup>rd</sup> Avenue, 7<sup>th</sup> Street, and 8<sup>th</sup> Street in the AM peak hour.
- 6<sup>th</sup> Street, 7<sup>th</sup> Street, and 8<sup>th</sup> Street operations are impacted in the PM peak hour due to congestion on Chicago Avenue.
- 5<sup>th</sup> Avenue S operates over capacity in the PM peak hour and cannot accommodate the full traffic demand.

With the addition of event traffic to the PM peak hour, in the Park Event scenario, the same operational issues identified in Roadway Option 2 were observed. In addition, the increased traffic demands at the 4<sup>th</sup> Street/Park Avenue intersection caused that intersection to fail and impact multiple upstream intersections.

### Roadway Options

This section addresses the potential impacts that may result from the road closure options, such as the interruption of the street grid and its redundancies, longer travel routes for through motorists, and the need for road modifications for through and turning movements. In addition to impacts to traffic flow discussed in this section, Roadway Options 1 through 3 (closure of Park and/or Portland Avenues) may also result in:

- Increased conflicts with dual turn lane configurations for bicycle facilities on mitigation routes
- Potential elimination of on-street parking on mitigation routes
- Potential for delayed emergency response times

All of the roadway closure options provide the opportunity for developing a signature park in Downtown East, as well as providing safe pedestrian movements during events in the area, especially during major events at the adjacent stadium.

These impacts are discussed further in other sections of this document.

## **Traffic Mitigation**

A number of improvements are recommended to bring the AUAR Study Area intersections to acceptable LOS levels and eliminate queuing that impacted upstream intersections. These recommended improvements range from reassigning existing lanes to provide additional turn lane capacity, eliminating parking to provide travel lanes, modifying signal phasing, and optimizing signal timing, among others. It should be noted that eliminating parking has impacts on the community and on the City. However, for the purposes of developing mitigation strategies, eliminating parking is deemed to have a lesser impact than the effects of expanding the roadway footprint through right-of-way acquisition or the effects of unmitigated traffic impacts.

The recommended improvements as described in detail in the Final Mitigation Plan are summarized in **Table 21-12**.

In both Development Scenarios, the mitigation for an event in the public plaza/park that overlaps with the PM peak would be a Traffic Management Plan for the event. The Traffic Management Plan would need to include measures such as the implementation of event signal timings, wayfinding signing for parking, and traffic control agents at critical intersections such as 4<sup>th</sup> Street/Park Avenue.

The mitigation strategies identified in **Table 21-12** address the capacity and operations issues that were observed in the traffic modeling. However, these strategies have the potential to have ancillary impacts on parking, safety, and other modes such as pedestrians, bicyclists, and transit. **Table 21-12** also lists these potential impacts for each of the 16 mitigation strategies. In general, additional through or turn lanes will increase the conflict areas between vehicles and pedestrians or bicyclists.

**Table 21-12. Mitigation Strategies Summary and Potential Impacts of Mitigation Strategies**

Mitigation Strategy		Roadway Option 1		Roadway Option 2		Roadway Option 3		Roadway Option 4		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies
		Min <sup>a</sup>	Max <sup>b</sup>								
1	Add northbound left turn lane at 6th St / 11th Ave	X	X	X	X			X	X	<ul style="list-style-type: none"> <li>• Lane alignment on 11th Ave</li> <li>• Potential widening of 11th Ave due to addition of southbound right turn lane at 6th St as part of Stadium project</li> </ul>	Coordination needed with Stadium roadway design
2	Convert Chicago Ave to a 4-lane cross-section (no new turn lanes) -OR- install turn lanes as identified in 2B	X <sup>c</sup>	X <sup>d</sup>	X <sup>e</sup>	X <sup>d</sup>					<ul style="list-style-type: none"> <li>• Restrict or eliminate on-street parking from 3rd St to 4th St, and from 6th St to 8th St</li> <li>• Roadway widening needed from 4th St to 6th St</li> <li>• Impact on plaza space in front of Stadium</li> </ul>	Coordination needed with Stadium roadway design
2B	Convert Chicago Ave to a 3-lane typical cross-section w/ turn lanes as noted below (2B.1-2B.8)	X	X	X	X					See location specific impacts in items 2B.1-2B.10	
2B.1	Add southbound right turn lane at 5th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>• Roadway widening needed</li> <li>• Impacts plaza space in front of Stadium</li> </ul>	Coordination needed with Stadium roadway design
2B.2	Add northbound left turn lane at 5th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>• Impacts plaza space in front of stadium</li> </ul>	Coordination needed with Stadium roadway design
2B.3	Add southbound left turn lane at 6th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>• Impacts plaza space in front of stadium</li> </ul>	Coordination needed with Stadium roadway design
2B.4	Add northbound right turn lane at 6th St/ Chicago Ave	X	X		X					<ul style="list-style-type: none"> <li>• Restrict or eliminate on-street parking</li> </ul>	
2B.5	Add southbound right turn lane at 7th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>• Restrict or eliminate on-street parking</li> </ul>	
2B.6	Add northbound left turn lane at 7th St/ Chicago Ave	X	X		X					<ul style="list-style-type: none"> <li>• Restrict or eliminate on-street parking</li> </ul>	
2B.7	Exclusive southbound left turn lane at 8th St/Chicago	X	X		X					<ul style="list-style-type: none"> <li>• Restrict or eliminate on-street parking</li> <li>• Potential impact to southbound farside bus stop</li> </ul>	

Mitigation Strategy		Roadway Option 1		Roadway Option 2		Roadway Option 3		Roadway Option 4		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies
		Min <sup>a</sup>	Max <sup>b</sup>								
2B.8	Add northbound right turn lane at 8th St/ Chicago Ave	X	X		X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> <li>Potential impact to northbound nearside bus stop</li> </ul>	
2B.9	Add southbound left turn lane at 4th St/ Chicago Ave		X		X		X			<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
2B.10	Add northbound left turn lane at 3rd St/ Chicago Ave		X		X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
3	Reduce LRT green band between City Hall and Downtown East Stations	X	X	X	X	X		X	X	<ul style="list-style-type: none"> <li>Impacts to LRT delay and schedule</li> </ul>	Installation of LRT detection on 5th St at Park Ave, 5th Ave, and 4th Ave
4	Add protected/ permissive left turn phase for westbound left turn at Washington Ave/Hennepin Ave	X	X			X	X			<ul style="list-style-type: none"> <li>Replace westbound signal heads</li> <li>Revise recently implemented signal timings</li> </ul>	
5	Add southbound left turn lane at 4th Ave/ 6th St	X	X							<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
6	Add second westbound left turn lane at Washington Ave/ 4th Ave	X	X							<ul style="list-style-type: none"> <li>Lane reassignment and median modifications would be needed on Washington Ave</li> </ul>	Coordination needed with Washington Ave roadway design
7	Convert eastbound through lane to shared right turn/through lane at Washington Ave/ 4th Ave	X	X							<ul style="list-style-type: none"> <li>Conflicts with future planned bicycle facility</li> <li>Potential impacts to bus stop and bus operations</li> </ul>	Coordination needed with Washington Ave roadway design
8 <sup>f</sup>	Convert northbound through lane to shared left turn/through lane at Park Ave/ 7th St	X	X				X			<ul style="list-style-type: none"> <li>Conflicts with existing bicycle lane</li> </ul>	Convert bicycle lane to shared use lane for bicycles and vehicles
9	Add protected/ permissive northbound left turn phase at 3rd St/ Chicago Ave		X							<ul style="list-style-type: none"> <li>Replace northbound signal heads</li> <li>Revise recently implemented signal timings</li> </ul>	
10 <sup>f</sup>	Convert northbound through lane to shared right turn/through lane at 5th Ave/ 4th St		X							<ul style="list-style-type: none"> <li>Conflicts with existing bicycle lane</li> </ul>	Convert bicycle lane to shared use lane for bicycles and vehicles
10.1	Increase northbound right turn lane storage to 150 feet at 5th Ave/ 4th St		X							<ul style="list-style-type: none"> <li>Potential impacts to bus stop and bus operations</li> </ul>	

Mitigation Strategy		Roadway Option 1		Roadway Option 2		Roadway Option 3		Roadway Option 4		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies
		Min <sup>a</sup>	Max <sup>b</sup>								
11 <sup>f</sup>	Add second northbound left turn lane at 11th Ave/ Washington Ave		X				X		X	<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> <li>Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes</li> </ul>	
12 <sup>f</sup>	Add second southbound left turn lane at 11th Ave/ Washington Ave		X				X		X	<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> <li>Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes</li> </ul>	
13	Convert eastbound through lane to shared left turn/through lane at 8th St/ 5th Ave		X				X			<ul style="list-style-type: none"> <li>Potential impacts to bus stop and bus operations</li> </ul>	
14	Add westbound right turn lane at 7th St/ 5th Ave		X				X			<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
15	Convert westbound through lane to shared left turn/through lane at 3rd St/ 4th Ave		X							<ul style="list-style-type: none"> <li>Restrict on-street parking during AM peak, as well as PM peak</li> </ul>	
16	Add northbound right turn lane at 3rd Ave/ 8th St		X							<ul style="list-style-type: none"> <li>Median removal and lane restriping</li> </ul>	

<sup>a</sup> Minimum Development Scenario

<sup>b</sup> Maximum Development Scenario

<sup>c</sup> 5<sup>th</sup> Street to 8<sup>th</sup> Street

<sup>d</sup> 3<sup>rd</sup> Street to 8<sup>th</sup> Street

<sup>e</sup> 5<sup>th</sup> Street to 7<sup>th</sup> Street

<sup>f</sup> Requires modification to bike lane, either remove or share with through lane

The expected operations with the implementation of the mitigation measures were then analyzed for each of the Development Scenarios. The Mid-day peak operations were not re-analyzed because none of the intersections had LOS E or LOS F operations in any of the scenarios. The intersections that are shown to have LOS E or LOS F operations in the mitigated results are the intersections that also operated at LOS E or LOS F in the No Build conditions.

The results of the analysis for the Minimum Development Scenario are shown in **Table 21-13**. In the mitigated scenarios, intersections that operated at LOS E or F in the Build conditions generally improved to LOS D or better and the overall network delays increased by less than 15 percent for Roadway Options 2, 3, and 4, and by less than 25 percent for Roadway Option 1.

The results of the Maximum Development Scenario analysis are provided in **Table 21-14**. In the mitigated scenarios, intersections that operated at LOS E or F in the Build conditions generally improved to LOS D or better and the overall network delays increased by less than 25 percent for Roadway Options 2 and 4, by approximately 40 percent for Roadway Option 3 (AM peak hour only), and by approximately 35 percent (PM peak) to 60 percent (AM peak) for Roadway Option 1.

**Table 21-13. 2035 Build Traffic Analysis Results – Mitigated Minimum Development Scenario**

Intersection			Intersection LOS						
			AM				PM		
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 2	Roadway Option 4
Overall Network Delay (seconds/vehicle)			177	151	165	150	187	170	165
1	Washington Ave	Hennepin Ave	D	D	D	D	C	C	C
2	Washington Ave	Nicollet Ave	B	B	B	C	A	A	A
3	Washington Ave	Marquette Ave	B	B	B	C	B	B	B
4	Washington Ave	2nd Ave S	B	C	B	C	B	B	B
5	Washington Ave	3rd Ave S	D	D	D	D	D	D	D
6	Washington Ave	4th Ave S	A	A	A	A	A	A	A
7	Washington Ave	5th Ave S	B	B	B	B	C	C	C
8	Washington Ave	Portland Ave	B	B	B	B	B	B	B
9	Washington Ave	Park Ave	A	B	A	B	A	A	A
10	Washington Ave	Chicago Ave	B	C	B	B	B	B	B
11	Washington Ave	10th Ave S	A	A	A	A	B	B	A
12	Washington Ave	11th Ave S	D	D	D	E	E	E	E
13	Washington Ave	I-35W SB Ramp	F	D	F	F	C	C	C
14	Washington Ave	I-35W NB Ramp	B	B	B	B	C	C	C
15	3rd St S	3rd Ave S	A	B	A	B	C	C	C
16	3rd St S	4th Ave S	B	B	B	B	B	B	B
17	3rd St S	5th Ave S	A	B	A	A	B	B	A
18	3rd St S	Portland Ave	B	A	B	B	B	B	B
19	3rd St S	Park Ave	B	A	B	A	B	B	B
20	3rd St S	Chicago Ave	B	B	B	B	C	D	B
21	4th St S	3rd Ave S	B	B	B	B	B	B	B
22	4th St S	4th Ave S	B	B	B	B	B	B	A
23	4th St S	5th Ave S	B	A	B	A	C	A	B
24	4th St S	Portland Ave	B	B	B	B	B	B	B
25	4th St S	Park Ave	A	C	A	B	C	B	A
26	4th St S	Chicago Ave	B	B	B	B	B	B	B
27	5th St S	3rd Ave S	C	C	C	C	D	D	D
28	5th St S	4th Ave S	C	B	C	C	C	C	B
29	5th St S	5th Ave S	C	C	C	C	B	C	C
30	5th St S	Portland Ave	C	C	C	C	B	A	B
31	5th St S	Park Ave	C	C	C	D	B	C	B
32	5th St S	11th Ave S	F	F	F	F	B	B	B

Intersection			Intersection LOS						
			AM				PM		
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 2	Roadway Option 4
33	6th St S	3rd Ave S	B	B	B	A	B	B	B
34	6th St S	4th Ave S	B	B	B	A	B	B	C
35	6th St S	5th Ave S	B	C	B	A	C	B	B
36	6th St S	Portland Ave	B	C	B	B	A	B	B
37	6th St S	Park Ave	B	B	B	C	B	B	B
38	6th St S	Chicago Ave	C	B	C	B	B	B	B
39	6th St S	11th Ave S	B	B	B	B	B	B	B
40	7th St S	3rd Ave S	B	B	B	B	B	B	B
41	7th St S	4th Ave S	A	A	A	A	A	A	A
42	7th St S	5th Ave S	B	B	B	A	B	A	A
43	7th St S	Portland Ave	C	B	C	B	B	B	B
44	7th St S	Park Ave	C	B	C	B	A	A	A
45	7th St S	Chicago Ave	D	C	D	C	B	B	B
46	8th St S	3rd Ave S	C	C	C	C	C	C	C
47	8th St S	4th Ave S	A	A	A	A	C	C	C
48	8th St S	5th Ave S	C	C	C	B	D	C	C
49	8th St S	Portland Ave	A	A	A	A	B	B	B
50	8th St S	Park Ave	D	B	D	C	B	B	B
51	8th St S	Chicago Ave	B	B	B	B	B	B	B

Note: Scenario 3 operations were analyzed for the AM peak hour only because that was considered to be the worst case for that roadway scenario.

**Table 21-14. 2035 Build Traffic Analysis Results – Mitigated Maximum Development Scenario**

Intersection			Intersection LOS						
			AM				PM		
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 2	Roadway Option 4
Overall Network Delay (seconds/vehicle)			237	173	208	165	204	191	177
1	Washington Ave	Hennepin Ave	E	D	D	D	C	C	C
2	Washington Ave	Nicollet Ave	B	B	B	B	A	A	A
3	Washington Ave	Marquette Ave	C	B	A	C	B	B	B
4	Washington Ave	2nd Ave S	D	C	B	C	B	B	B
5	Washington Ave	3rd Ave S	D	D	D	D	D	D	D
6	Washington Ave	4th Ave S	B	A	A	A	A	A	A
7	Washington Ave	5th Ave S	C	B	B	B	C	C	C
8	Washington Ave	Portland Ave	C	B	B	B	B	C	C
9	Washington Ave	Park Ave	B	B	A	A	A	A	A
10	Washington Ave	Chicago Ave	C	C	B	C	C	C	B
11	Washington Ave	10th Ave S	A	A	A	A	B	B	B
12	Washington Ave	11th Ave S	D	D	E	C	E	E	E
13	Washington Ave	I-35W SB Ramp	E	F	F	F	C	C	C
14	Washington Ave	I-35W NB Ramp	B	B	B	B	C	C	C
15	3rd St S	3rd Ave S	B	B	B	B	C	C	C
16	3rd St S	4th Ave S	C	B	B	B	C	B	B
17	3rd St S	5th Ave S	C	B	B	A	B	B	B
18	3rd St S	Portland Ave	B	B	B	B	C	C	C
19	3rd St S	Park Ave	B	B	B	B	B	C	B
20	3rd St S	Chicago Ave	B	B	B	B	C	C	B
21	4th St S	3rd Ave S	C	C	B	B	B	B	B
22	4th St S	4th Ave S	D	C	B	B	C	C	B
23	4th St S	5th Ave S	C	A	C	A	C	B	A
24	4th St S	Portland Ave	B	B	B	B	B	C	B
25	4th St S	Park Ave	A	C	A	C	A	C	A
26	4th St S	Chicago Ave	C	B	B	B	C	B	B
27	5th St S	3rd Ave S	C	C	C	C	D	D	D
28	5th St S	4th Ave S	D	D	C	C	D	D	B
29	5th St S	5th Ave S	C	C	C	C	C	D	D
30	5th St S	Portland Ave	A	B	D	C	B	A	B
31	5th St S	Park Ave	C	D	C	D	B	C	C
32	5th St S	11th Ave S	F	F	F	F	B	B	B

Intersection			Intersection LOS						
			AM				PM		
No.	Road 1	Road 2	Roadway Option 1	Roadway Option 2	Roadway Option 3	Roadway Option 4	Roadway Option 1	Roadway Option 2	Roadway Option 4
33	6th St S	3rd Ave S	C	B	B	B	B	B	B
34	6th St S	4th Ave S	D	B	B	A	B	B	C
35	6th St S	5th Ave S	D	C	C	A	C	C	B
36	6th St S	Portland Ave	B	C	C	B	A	B	B
37	6th St S	Park Ave	A	C	B	C	B	B	B
38	6th St S	Chicago Ave	B	B	C	B	C	B	B
39	6th St S	11th Ave S	B	B	B	B	B	B	B
40	7th St S	3rd Ave S	C	B	B	B	B	B	B
41	7th St S	4th Ave S	C	A	C	A	B	B	A
42	7th St S	5th Ave S	C	B	C	B	B	B	A
43	7th St S	Portland Ave	B	B	C	B	B	B	B
44	7th St S	Park Ave	B	C	C	D	B	B	A
45	7th St S	Chicago Ave	B	C	C	C	C	C	B
46	8th St S	3rd Ave S	E	C	C	C	C	C	C
47	8th St S	4th Ave S	A	A	A	A	C	C	C
48	8th St S	5th Ave S	C	B	E	B	C	D	C
49	8th St S	Portland Ave	A	A	A	A	B	B	C
50	8th St S	Park Ave	A	C	C	D	B	B	B
51	8th St S	Chicago Ave	B	B	B	B	B	B	B

Note: Scenario 3 operations were analyzed for the AM peak hour only because that was considered to be the worst case for that roadway scenario.

## 22. Vehicle-Related Air Emissions

---

**Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts.**

*AUAR Guidance: Although the Pollution Control Agency no longer issues Indirect Source Permits, traffic-related air quality may still be an issue if the analysis in section 21 indicates that development would cause or worsen traffic congestion. The general guidance for section 22 in EAW Guidance should still be followed. Questions about the details of air quality analysis should be directed to the MPCA staff.*

Typical of most developments, the proposed development will generate air pollution as a result of increased motor vehicle activity. Motor vehicles emit a variety of air pollutants including carbon monoxide (CO), hydrocarbons, nitrogen oxides and particulates. The primary pollutant of concern is CO, which is a byproduct of the combustion process of motor vehicles. CO concentrations are highest where vehicles idle for extended periods of time. For this reason, CO concentrations are generally highest in the vicinity of signalized intersections where vehicles are delayed and emitting CO. Generally, concentrations approaching state air quality standards are found within about 100 feet of a roadway source. Further from the road, the CO in the air is dispersed by the wind such that concentrations rapidly decrease.

The Indirect Source Permit (ISP) rule 7023.9010 was terminated in 2001; therefore, an ISP is not required for the proposed development. A hot spot air quality screening was conducted and is described below.

The U.S. Environmental Protection Agency has approved a screening method to determine which intersections need analysis for potential hot spot air quality impacts. The screening analysis consists of two criteria. If either criterion is met, then an intersection analysis would be required.

The first criterion is to check if the total daily approach volume of the AUAR Study Area exceeds 79,400 AADT. If it does, then an analysis would be required. The approach volumes at all of the signalized intersections near the AUAR Study Area are below approximately 20,000 AADT, well below the threshold of 79,400. Therefore, the first criterion is not met.

The second criterion compares the AUAR Study Area to the locations of 10 intersections that the MPCA has identified as having the highest volumes in the metro area. If any of these 10 intersections were affected by either Development Scenario then analysis would be required. The nearest of these intersections is 2.5 miles away, at the intersection of Lake Street and Hennepin Avenue in Minneapolis, and would not be impacted by either Development Scenario; therefore, the second criterion is not met. No hot spot analysis is needed, and no measurable change in air quality is anticipated under any of the scenarios.

No air quality mitigation is required.

## 23. Stationary Source Air Emissions

---

**Describe the type, sources, quantities, and compositions of any emissions from stationary sources of air emissions such as boilers, exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult *EAW Guidelines* for a listing) and any greenhouse gases (such as carbon dioxide, methane, nitrous oxide) and ozone-depleting chemicals (chloro-fluorocarbons, hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride). Also describe**

**any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.**

*AUAR Guidance: This section is not applicable to an AUAR. Any stationary air emissions source large enough to merit environmental review requires individual review.*

## 24. Odors, Noise, and Dust

---

**Will the project generate odors, noise or dust during construction or during operation?  Yes  
 No**

**If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at section 23 instead of here.)**

*AUAR Guidance: Dust, odors, and construction noise need not be addressed in an AUAR, unless there is some unusual reason to do so. The RGU might want to discuss as part of the mitigation plan, however, any dust control or construction noise ordinances in effect. If the area will include or adjoin major noise sources a noise analysis is needed to determine if any noise levels in excess of standards would occur, and if so, to identify appropriate mitigation measures. With respect to traffic-generated noise, the noise analysis should be based on the traffic analysis of section 21.*

As stated in the AUAR guidelines, this section need not be addressed unless there is some unusual reason to do so. No unusual circumstances have been identified that would necessitate a detailed noise analysis for any generators except traffic. Traffic-generated noise is discussed below.

### **Noise Characteristics**

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 three dBA is barely noticeable by the human ear, a five 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 three dBA increase in noise, which is just barely noticeable to most people. On the other hand, if traffic increases by a factor of 10, the resulting sound level will increase by about 10 dBA and be heard as 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<sub>10</sub> and L<sub>50</sub> levels, respectively. The L<sub>10</sub> value is the noise level that is exceeded for a total of 10 percent of an hour, or six minutes. The L<sub>50</sub> value is the noise level that is exceeded for a total of 50 percent of an hour, or 30 minutes.

**Table 24-1** provides a rough comparison of the noise levels of some common noise sources.

**Table 24-1. Decibel Levels of Common Noise Sources**

Sound Pressure Level (dBA)	Noise Source
140	Jet Engine (at 25 meters)
130	Jet Aircraft (at 100 meters)
120	Rock and Roll Concert
110	Pneumatic Chipper
100	Jointer/Planar
90	Chainsaw
80	Heavy Truck Traffic
70	Business Office
60	Conversational Speech
50	Library
40	Bedroom
30	Secluded Woods
20	Whisper

Source: "A Guide to Noise Control in Minnesota," Minnesota Pollution Control Agency, <http://www.pca.state.mn.us/programs/pubs/noise.pdf> and "Highway Traffic Noise," FHWA, <http://www.fhwa.dot.gov/environment/htnoise.htm>

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) 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 three 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 Minnesota State Standards for L<sub>10</sub> are 65 dBA for daytime and 55 dBA for nighttime; the standards for L<sub>50</sub> are 60 dBA for daytime and 50 dBA for nighttime. The MPCA defines daytime as 7:00 AM to 10:00 PM and nighttime from 10:00 PM to 7:00 AM. State noise standards are depicted in **Table 24-2**. Minnesota State noise standards apply to the outdoor atmosphere (i.e., exterior noise levels).

**Table 24-2. Minnesota State Noise Standards**

Land Use	Noise Area Classification	Daytime Hours (7:00 AM to 10:00 PM)		Nighttime Hours (10:00 PM to 7:00 AM)	
		L10 (dBA)	L50 (dBA)	L10 (dBA)	L50 (dBA)
Residential	1	65	60	55	50
Commercial	2	70	65	70	65
Industrial	3	80	75	80	75

State noise standards apply to trunk highway facilities and local roadways within the city of Minneapolis. Minnesota Rules 7030.0050, subp. 3, lists exceptions to the State noise standards and land use classifications identified in **Table 24-2**. The noise area classification for a land use may be changed if applicable conditions in Minnesota Rules 7030.0050, subp. 3 are met. For example, under Minnesota Rules 7030.0050, subp. 3A the daytime standard for NAC 1 is applied to NAC 1 during the nighttime if the land use activity does not include overnight lodging. Other exceptions for NAC 1, 2, and 3 are described in Minnesota Rules 7030.0050, subp. 3B through subp. 3D.

## **Roadway Traffic Noise Impacts**

The AUAR Study Area is located in the city of Minneapolis. Adjacent land uses surrounding the Study Area include residential (multi-story condominiums), multi-story offices, restaurants, hotels, government offices, institutional uses (churches), light warehousing, transportation uses (parking and light rail transit station), and supporting utility infrastructure. For purposes of this traffic noise analysis, modeled receptor locations were identified within a five-block area with three blocks bounded by S 3<sup>rd</sup> Street, 5<sup>th</sup> Avenue S, S 4<sup>th</sup> Street, and Chicago Avenue S. The additional two blocks are bounded by S 4<sup>th</sup> Street, 5<sup>th</sup> Avenue S, S 5<sup>th</sup> Street, and Park Avenue S.

## **Traffic Noise Modeling**

Noise modeling for the Study Area was done using the noise prediction program MINNOISE31, a version of the Federal Highway Administration (FHWA) STAMINA model adapted by MnDOT for use in Minnesota. This model uses traffic volumes, speed, class of vehicle, and the typical characteristics of the roadway being analyzed (e.g., roadway horizontal and vertical alignment). The noise modeling assumed free-flow conditions through signalized intersections within and adjacent to the Study Area. Traffic data input into the MINNOISE31 noise model input files for the Study Area included the existing PM peak hour (4:30-5:30 PM),<sup>8</sup> and year 2035 No Build alternative. To account for when congested conditions cause reduced speeds during the PM peak and event arrival periods, a default traffic volume of 700 vehicles per lane per hour was used in the noise model input files where appropriate.

## **Modeled Noise Receptor Locations**

Traffic noise impacts were assessed by modeling noise levels at representative receptor sites adjacent to the Study Area likely to be affected by changes in traffic patterns and volumes on local streets under the development scenarios. Traffic noise levels were modeled at 45 representative receptor locations within the Study Area representing exterior areas where frequent human use occurs (e.g., balconies/patios of residential properties, outdoor dining areas). The model receptor locations are illustrated in **Figure 24-1** Land uses are listed with each modeled receptor location in **Table 24-5**.

## **Noise Model Results**

Results of the noise modeling analysis for existing conditions (PM peak hour), the future (2035) No Build alternative (PM peak hour), and 2035 Maximum Development Scenario with Option 1 Roadway Network are tabulated in **Table 24-5**. This condition will result in the greatest traffic volumes in the project area and represents the worst-case condition. The results of the traffic noise modeling analysis ( $L_{10}$  and  $L_{50}$  descriptors) are summarized below.

Existing (2011) daytime modeled noise levels (PM peak hour) at modeled receptor locations range from 64.1 dBA ( $L_{10}$ ) to 75.0 dBA ( $L_{10}$ ). Modeled daytime traffic noise levels exceed State daytime  $L_{10}$  and  $L_{50}$  standards at 30 modeled receptor locations under existing PM peak hour conditions. In general, these modeled receptor locations primarily represent residential land uses (NAC 1). Modeled noise levels exceed State daytime  $L_{10}$  standards only at two commercial receptor locations (Receptors K and U), while modeled noise levels at remaining commercial receptor locations are below applicable State daytime  $L_{10}$  and  $L_{50}$  standards.

---

<sup>8</sup> Existing traffic volumes from year 2011 Minnesota Department of Transportation (MnDOT) counts for downtown Minneapolis. 2011 Publication Traffic Volumes Metro Street Series – 3E available on the MnDOT Website at <http://www.dot.state.mn.us/traffic/data/data-products.html#volume>, accessed 3/6/2013.

Modeled traffic noise levels currently exceed (2011) State daytime noise standards at more than half of the modeled receptor locations. Traffic noise levels at three-fourths of the modeled receptor locations are projected to exceed State daytime standards under the future (2035) No Build alternative.

Future (2035) daytime modeled noise levels with the Maximum Development Scenario (PM Peak period) are predicted to range from 64.4 dBA (L<sub>10</sub>) to 75.1 dBA (L<sub>10</sub>). Modeled daytime traffic noise levels are predicted to increase by up to 2.3 dBA (L<sub>10</sub>) compared to the No Build alternative. Modeled traffic noise levels are predicted to exceed State daytime L<sub>10</sub> and L<sub>50</sub> standards at 34 modeled receptor locations under the Maximum Development Scenario

**Table 24-5. Traffic Noise Analysis Model Results**

Receptor ID	NAC*	Existing (2011) PM Peak Hour		No Build (2035)		Maximum Development Scenario with Option 1 (2035)		No Build – Option 1 Difference	
		L <sub>10</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>50</sub>
A (C)	2	<b>70.2</b>	64.2	<b>70.5</b>	64.7	<b>71.0</b>	<b>65.4</b>	0.5	0.7
B (R)	1	<b>72.5</b>	<b>64.9</b>	<b>72.5</b>	<b>64.9</b>	<b>73.1</b>	<b>65.7</b>	0.6	0.8
C-1 (R)	1	<b>72.7</b>	<b>65.0</b>	<b>72.7</b>	<b>64.9</b>	<b>73.3</b>	<b>65.7</b>	0.6	0.8
C-2 (R)	1	<b>72.3</b>	<b>64.9</b>	<b>72.2</b>	<b>64.8</b>	<b>72.8</b>	<b>65.6</b>	0.6	0.8
C-3 (R)	1	<b>71.7</b>	<b>64.7</b>	<b>71.6</b>	<b>64.6</b>	<b>72.2</b>	<b>65.4</b>	0.6	0.8
C-4 (R)	1	<b>71.1</b>	<b>64.7</b>	<b>71.1</b>	<b>64.5</b>	<b>71.6</b>	<b>65.3</b>	0.5	0.8
D (R)	1	<b>70.3</b>	<b>64.2</b>	<b>70.2</b>	<b>64.1</b>	<b>70.7</b>	<b>64.7</b>	0.5	0.6
E-1 (R)	1	<b>72.6</b>	<b>65.9</b>	<b>72.7</b>	<b>66.0</b>	<b>72.8</b>	<b>66.2</b>	0.1	0.2
E-2 (R)	1	<b>72.4</b>	<b>65.9</b>	<b>72.5</b>	<b>66.0</b>	<b>72.6</b>	<b>66.2</b>	0.1	0.2
E-3 (R)	1	<b>72.0</b>	<b>65.8</b>	<b>72.1</b>	<b>65.9</b>	<b>72.2</b>	<b>66.1</b>	0.1	0.2
E-4 (R)	1	<b>71.5</b>	<b>65.7</b>	<b>71.6</b>	<b>65.7</b>	<b>71.8</b>	<b>66.0</b>	0.2	0.3
E-5 (R)	1	<b>71.1</b>	<b>65.5</b>	<b>71.2</b>	<b>65.6</b>	<b>71.3</b>	<b>65.8</b>	0.1	0.2
E-6 (R)	1	<b>70.6</b>	<b>65.3</b>	<b>70.7</b>	<b>65.3</b>	<b>70.8</b>	<b>65.6</b>	0.1	0.3
F (C)	2	69.9	64.7	69.9	<b>65.0</b>	<b>70.5</b>	<b>65.7</b>	0.6	0.7
G-1 (R)	1	<b>73.4</b>	<b>65.4</b>	<b>72.8</b>	<b>64.8</b>	<b>73.6</b>	<b>65.8</b>	0.8	1.0
G-2 (R)	1	<b>72.9</b>	<b>65.4</b>	<b>72.4</b>	<b>64.8</b>	<b>73.2</b>	<b>65.8</b>	0.8	1.0
G-3 (R)	1	<b>72.3</b>	<b>65.3</b>	<b>71.8</b>	<b>64.8</b>	<b>72.5</b>	<b>65.7</b>	0.7	0.9
G-4 (R)	1	<b>71.6</b>	<b>65.1</b>	<b>71.2</b>	<b>64.8</b>	<b>71.9</b>	<b>65.6</b>	0.7	0.8
H (C)	2	68.7	64.8	68.3	64.4	69.2	<b>65.4</b>	0.9	1.0
I (C)	2	67.2	63.8	67.1	63.6	67.4	64.0	0.3	0.4
J (R)	1	<b>68.9</b>	<b>61.6</b>	<b>71.1</b>	<b>64.2</b>	<b>71.2</b>	<b>64.3</b>	0.1	0.1
K (C)	2	<b>75.0</b>	<b>68.2</b>	<b>75.0</b>	<b>68.2</b>	<b>75.1</b>	<b>68.3</b>	0.1	0.1
L-1 (R)	1	<b>67.9</b>	<b>63.5</b>	<b>67.9</b>	<b>63.5</b>	<b>68.0</b>	<b>63.7</b>	0.1	0.2
L-2 (R)	1	<b>67.9</b>	<b>63.5</b>	<b>67.9</b>	<b>63.5</b>	<b>68.0</b>	<b>63.7</b>	0.1	0.2
M-1 (R)	1	<b>65.4</b>	<b>61.2</b>	<b>65.4</b>	<b>61.2</b>	<b>65.5</b>	<b>61.4</b>	0.1	0.2
M-2 (R)	1	<b>65.4</b>	<b>61.2</b>	<b>65.4</b>	<b>61.2</b>	<b>65.5</b>	<b>61.4</b>	0.1	0.2
N (C)	2	64.2	60.3	64.2	60.3	64.4	60.5	0.2	0.2
O (R)	1	<b>67.8</b>	<b>63.7</b>	<b>68.0</b>	<b>63.8</b>	<b>68.2</b>	<b>64.1</b>	0.2	0.3
P (P)	1	<b>70.3</b>	<b>65.7</b>	<b>70.3</b>	<b>65.7</b>	<b>70.4</b>	<b>65.8</b>	0.1	0.1
Q (I)	3	67.0	63.0	67.0	63.0	67.0	63.2	0.0	0.2
R (C)	2	68.2	63.0	68.7	63.7	67.9	62.5	-0.8	-1.2
S (C)	2	68.9	62.9	69.1	63.3	65.1	62.1	-4.0	-1.2
T (T)	2	64.4	60.9	64.3	61.0	64.7	61.0	0.4	0.0
U (C)	2	<b>72.0</b>	<b>66.1</b>	<b>72.2</b>	<b>66.5</b>	<b>73.4</b>	<b>68.1</b>	1.2	1.6
V (C)	2	66.3	62.4	66.1	62.6	66.2	62.4	0.1	-0.2

Receptor ID	NAC*	Existing (2011) PM Peak Hour		No Build (2035)		Maximum Development Scenario with Option 1 (2035)		No Build – Option 1 Difference	
		L <sub>10</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>50</sub>
W (M)	1	<b>67.8</b>	<b>63.8</b>	<b>68.2</b>	<b>64.4</b>	<b>68.0</b>	<b>64.1</b>	-0.2	-0.3
X (C)	2	69.2	64.3	69.6	<b>65.0</b>	69.9	<b>65.2</b>	0.3	0.2
Y (C)	2	69.6	63.7	<b>71.9</b>	<b>66.5</b>	<b>70.2</b>	64.6	-1.7	-1.9
Z (R)	1	<b>69.6</b>	<b>64.1</b>	<b>70.6</b>	<b>65.6</b>	<b>70.1</b>	<b>64.9</b>	-0.5	-0.7
AA (R)	1	64.1	59.5	64.6	<b>60.2</b>	64.4	<b>60.0</b>	-0.2	-0.2
BB (C)	1	65.0	<b>60.6</b>	<b>65.3</b>	<b>61.0</b>	<b>65.3</b>	<b>61.0</b>	0.0	0.0
CC (R)	1	<b>69.1</b>	<b>64.6</b>	<b>69.1</b>	<b>64.6</b>	<b>69.8</b>	<b>65.4</b>	0.7	0.8
DD (Ch)	1	64.3	<b>60.6</b>	64.8	<b>61.2</b>	64.7	<b>61.1</b>	-0.1	-0.1
EE (R)	1	64.6	57.7	<b>65.2</b>	58.5	<b>65.2</b>	58.5	0.0	0.0
FF (P)	1	64.5	57.6	<b>65.1</b>	58.5	<b>65.1</b>	58.5	0.0	0.0
NAC-1	--	65	60	65	60	65	60	--	--
NAC-2	--	70	65	70	65	70	65	--	--
NAC-3	--	80	75	80	75	80	75	--	--

**Bold** numbers are above State daytime standards.

(R) – Residential; (C) – Commercial; (B) – Business/Office; (Ch) – Church; (I) – Industrial; (P) – Park/Trail; (T) – Transportation

\* Noise Area Classification (NAC) associated with each modeled receptor location.

### **Construction Noise**

Noise will be generated by equipment and vehicles used in the construction within the Study Area. Elevated noise levels during construction are unavoidable for this type of project. Noise levels and potential adverse effects due to construction activities will vary depending on the type of equipment, the location of the equipment, the location of noise receptors, the duration of operations, and the time of operations. High-impact construction equipment (e.g., pile drivers) typically results in the greatest potential for construction noise issues. At a distance of 50 feet, an impact pile driver can produce peak noise levels of up to 101 decibels (Source: FHWA). Noise will also be generated during demolition of existing structures.

### **Mitigation**

Construction of the Study Area would result in increases in traffic noise of less than 3.0 dBA at most modeled receptor locations compared to the No Build alternative with Study Area development under either Development Scenario. A change in sound levels of three dBA is barely noticeable by the human ear. Therefore, the change in traffic noise levels with either development scenario is not anticipated to be readily perceptible. Construction of noise barriers along city streets in downtown Minneapolis to reduce traffic noise levels is not feasible or reasonable because of the proximity of roadways, sidewalks, and buildings to one another. Therefore, mitigation is not proposed as part of the project. To the extent possible, construction activities will adhere to the Minneapolis Code of Ordinances, Chapter 59.30, which states “operation of construction equipment without a permit is allowed only on Monday through Friday from 7:00 a.m. to 6:00 p.m., not including federal holidays.” A permit will be obtained from the City for any work outside these hours.

## 25. Nearby Resources

---

Are any of the following resources on or in proximity to the site?

Archaeological, historical, or architectural resources?  Yes  No

Prime or unique farmlands or land within an agricultural preserve?  Yes  No

Designated parks, recreation areas, or trails?  Yes  No

Scenic views and vistas?  Yes  No

Other unique resources?  Yes  No

If yes, describe the resource and identify any project-related impacts on the resource.

Describe any measures to minimize or avoid adverse impacts.

### **Archaeological, Historical, Or Architectural Resources**

There are no locally or nationally recognized historic districts or architectural resources identified within the Study Area. Known properties listed on the National Register of Historic Places (NRHP) in the vicinity of the AUAR boundary include: Minneapolis Armory (500 6<sup>th</sup> Street S); Minneapolis City Hall (350 5<sup>th</sup> Street S); Grain Exchange Building (400-412 4<sup>th</sup> Street S); Northern Implement Co. (616 3<sup>rd</sup> Street S); and Advanced Thresher/Emerson Newton Co. (700-08 3<sup>rd</sup> Street S). All of these properties are also locally designated landmarks. There are two historic districts within ½ mile of the Study Area: the Saint Anthony Falls Historic District and the South Ninth Street Historic District. Location of these properties and districts are illustrated in **Figure 25-1**.

Since none of the designated historic districts or NRHP-listed properties identified above are located within the AUAR boundary or directly adjacent to the boundary, no direct impacts to those historic resources are expected.

Potential indirect impacts to the NRHP-listed properties, including impacts on visual settings, traffic patterns, noise, and economics, are discussed below.

### **Visual Settings**

As discussed in Section 26, the height and massing on the northern blocks from either Development Scenario would be larger than the height and massing of existing nearby buildings, including the existing Metrodome, and the new stadium that will be built on the Metrodome site. However, the primary proposed materials of stone with glass windows would provide a consistent visual connection to the surrounding area and would respond to the design guidelines in the Downtown East/North Loop Master Plan that seek greater connectivity between “a single enormous structure” (i.e., the stadium) “and a series of finer-grain neighborhoods that surround it.” The proposed development would also provide a continuance and consistency with the larger buildings located immediately to the west, in the downtown core.

The existing views of the Study Area to and from the St. Anthony Falls Historic District and the South Ninth Street Historic District are partially obscured by existing multi-story buildings. Partial views may be seen between buildings, from streets, and from upper level floors of some buildings; although the relatively flat nature of the existing Study Area does not offer any distinguishing visual features. Views of the proposed Study Area development will be similarly obscured, but the upper floors and roof line of the tallest buildings will be more visible because they will be several stories taller (18 or 20 compared to seven) than the buildings immediately to the north and south. Views of Blocks 4 and 5 would also be partially visible from either of the historic districts as seen between buildings, from streets, and from upper level floors of some buildings. The new view would be of public plaza/park space in lieu of the current parking lots and buildings.

The proposed construction of the office, residential, retail, parking, and/or hotel uses would change the current views to and from the Advance Thresher/Emerson-Newton Company and Northern Implement Company properties. The existing views to the southwest and southeast from these properties are of office buildings, parking garages, surface parking lots, with some landscaping, and the Metrodome. Construction of the new buildings would obscure views of these historic buildings from the south.

The proposed construction of the office, residential, retail, parking, and/or hotel uses would also change the current view to and from the Minneapolis Armory property. The existing view to the northwest and northeast from this property is of parking garages, surface parking lots, with some landscaping, and office buildings. Construction of the new buildings would obscure views of this historic building from the north but would provide views from more vantage points from the north with the opening up of the public plaza/park blocks.

The existing view from Minneapolis City Hall and the Grain Exchange Building to the southeast is of parking garages, office buildings, a surface parking lot and, at a three or four block-plus distance, the Metrodome. The proposed public plaza/park on Blocks 4 and 5 would provide a view corridor to the new Stadium site from areas generally to the west, including the site of the Minneapolis City Hall, the Grain Exchange Building, and the Minneapolis Armory.

Skyways are anticipated to be provided to connect across 5<sup>th</sup> Avenue to the existing downtown skyway network; between Blocks 1, 2 and 3; and to the new Minnesota Multi-Purpose Stadium. The Ninth Street South Historic District is located four to five blocks south and due to elevation changes, is not visible from where skyways would be placed. Elements of the St. Anthony Falls Historic District are visible from 5<sup>th</sup>, Park, Portland, and Chicago Avenues, and may be slightly obstructed from the at-grade view by the presence of skyways. Minor obstructions may also be experienced for views of the Minneapolis Armory from Portland Avenue. It is not anticipated that the views of Minneapolis City Hall, Grain Exchange Building, Advance Thresher/Emerson-Newton Company, and Northern Implement Company properties would be noticeably compromised from street level. The skyways crossing 5<sup>th</sup> Avenue and Portland Avenue and from Block 2 to the parking ramp on Block 3 will primarily be glass, so for users of the skyways, views of these historic structures may be enhanced by the elevated perspective, and more of the historic districts may also be visible.

### **Traffic Impacts**

No significant changes in traffic are expected to occur in the St. Anthony Falls Historic District (southern boundary is 2<sup>nd</sup> Street) or the South Ninth Street Historic District (northern boundary is 9<sup>th</sup> Street). It is not anticipated that current traffic through these districts would become noticeably different as a result of the Study Area development scenarios.

Portions of Park Avenue and/or Portland Avenue may be temporarily or permanently closed under either Development Scenario, depending on the roadway option selected. A new parking ramp will also be provided, and there will be more traffic activity to and from the proposed Study Area. These permanent and/or temporary changes to the roadway network will result in changes in traffic patterns in east downtown Minneapolis, including all surrounding streets and in front of the historic properties which may be noticeable during the peak hours.

### **Noise Impacts**

Modeled noise levels would exceed State daytime standards at the adjacent NRHP buildings; however, the increase would be less than three dBA. Typically, a change in sound levels of three dBA is barely noticeable by the human ear. Therefore, the change in traffic noise levels at these properties under the development scenarios is not anticipated to be readily perceptible. Construction of noise

barriers along city streets in downtown Minneapolis to reduce traffic noise levels is not feasible or reasonable because of the proximity of roadways, sidewalks, and buildings to one another.

### **Economic Impacts**

The primary uses in the St. Anthony Falls Historic District and the South Ninth Street Historic District are residential, office, entertainment, restaurants, and some limited retail. The primary uses in the historic buildings immediately adjacent to the AUAR Study Area are office. The changes in visual setting, traffic, and noise resulting from either of the two Development Scenarios are not anticipated to negatively affect the economic viability of the identified historic districts and structures. There may be positive economic effects on the historic districts and structures as a result of new construction and amenities (i.e., the public plaza/park) including increased property values, increased residential development, and increased restaurant, entertainment, and retail activity.

During construction, there will be additional traffic, congestion, and detours caused by the construction of either Development Scenario. However, these impacts are not expected to permanently impact the office uses in the adjacent historic structures. The two historic districts are several blocks from the Study Area, and therefore, limited economic impacts are expected during construction. Ultimately, the potential long-term economic benefits will likely enhance the integrity and visibility of both historic districts.

### **Other Historic Resources**

There are three buildings located within the five-block Study Area, all of which are owned and operated by the Star Tribune. According to the Phase I Environmental Site Assessment (Liesch Associates Inc., July 2013), the main Star Tribune Building, located at 425 Portland Avenue (Block 5), was constructed in 1940 as a four-story office building with one subgrade level. There have been multiple later additions to the original structure such that the building now covers the majority of the block. Currently the building is used exclusively as an office space for management and staff involved in producing a daily newspaper. The printing of newspapers was one part of the activities at this site, but that activity was moved to a different location in 1987. A skyway and tunnel connect this building across 4<sup>th</sup> Street S to a smaller five-story office building (Block 2) which covers about one-fifth of that block. This building was constructed in 1982 and is known as the Freeman Building. The third structure, located on Block 1 and known as the McClellan Building, covers about one-quarter of the block and was built in 1915 as a three-story above ground office building and attached service garage with one subgrade level.

The main building at 425 Portland Avenue was identified in the early 1980s as a potential local historic resource.<sup>9</sup> In 2011, a City-sponsored Historic Resources Inventory was completed by Mead & Hunt and recommended 425 Portland Avenue along with 62 other properties in the Central Core Survey Area as good candidates for intensive-level research and survey for local and/or National Register designation. All three buildings will be demolished under both Development Scenarios. Because Block 1 of the Study Area is within the boundaries established by the MSFA for the Minnesota Multi-Purpose Stadium site, the review of the proposed land use for Block 1, including the demolition of the McClellan Building, will be conducted through the Stadium Implementation Committee process established by the Stadium Act (Laws 2012, Chapter 299). Similarly, because Blocks 4 and 5 of the East Village Project (the 425 Portland Block) are one of two alternatives being

---

<sup>9</sup> When evaluating a property for local designation as a landmark or historic district, the city considers a property's historical, cultural, architecture, archaeological or engineering significance as expressed in at least one of seven categories, as identified in Section 599.210 of the Minneapolis Code of Ordinances.

considered by the Minnesota Sports Facility Authority for a public plaza and, therefore, could be considered part of the “stadium infrastructure” within the meaning of the Stadium Act.

### **Designated Parks, Recreation Areas, or Trails**

There are currently no parks within or directly adjacent to the AUAR Study Area. The closest parks are Gold Medal Park and Elliot Park, both located within a half-mile distance of the site. A public plaza/park is included as part of the proposed development. The public plaza/park would occupy Block 5 and  $\frac{2}{3}$  (Maximum Development Scenario) or all (Minimum Development Scenario) of Block 4. To create a continuous public plaza/park parcel, one block of Portland Avenue would need to be closed. The result would be an approximate five-acre public plaza/park space that would be controlled by a public entity and available for public use, providing a sizable green space and community gathering area with potential to host events. Impacts of a specific park event are not estimated in this AUAR (except for traffic), and any large event at the park would need to be a permitted event with its own management plan.

Within and adjacent to the AUAR boundary, there are existing on-street bike lanes on 4<sup>th</sup> Street (eastbound only), 3<sup>rd</sup> Street (westbound only), Park Avenue (northbound only), Portland Avenue (southbound only), and 5<sup>th</sup> Avenue (northbound only). An on-street bicycle lane east of the site along Norm McGrew Place connects the eastbound 4<sup>th</sup> Street bike lane with the westbound 3<sup>rd</sup> Street bike lane. If the Park and Portland Avenue road closures are part of the proposed development, those portions of the on-street bike lanes would also be closed and potentially rerouted through the public plaza/park, to connect back to existing trails to the north of the Study Area. Other facilities are planned to remain in place with either Development Scenario (see [Figure 25-2](#)). The road closures would also impact traffic patterns, which are discussed in Section 21.

### **Trail Mitigation**

If road closures are part of the selected scenario, detours or rerouting of on-street bicycle lanes will be coordinated with Hennepin County, as owner of these roadways. Traffic mitigation measures are discussed in Section 21.

## **26. Visual Impacts**

---

**Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks?  Yes  No**

**If yes, explain.**

The physical setting of the Downtown East Development is just west of the current Metrodome and lies within the Downtown East Neighborhood. Existing buildings within the AUAR boundary are between three and five stories high. The immediate surroundings of the Downtown East site consist of a mix of surface parking lots and low-rise structures that range in height from one to 10 stories. The highest adjacent structure is the Metrodome at approximately 190 feet. The new stadium will be approximately 290 feet at its highest point. The downtown core of Minneapolis, identifiable by its many high-rise structures, begins just to the west of the Downtown East site.

Proposed building heights in the AUAR Study Area vary between 18 stories or 310 feet for the Minimum Development Scenario, and 20 stories or 360 feet for the Maximum Development Scenario. The Minimum Development Scenario reflects the minimum height of any 18-story building with the minimum floor to floor height ratio and a reduced tower top. The Maximum Development Scenario reflects 20 stories with a slightly taller floor to floor height and maintaining a taller tower top. Either scenario is taller than any of the buildings in the immediate area but consistent with other structures

in the central downtown area just to the west. For example, the Hennepin County Government Center, located just one block southwest of the site, is 24 stories and over 400 feet tall. The U.S. Courthouse, located one block northwest, is 15 stories and almost 300 feet tall. The clock tower of Minneapolis City Hall, one block west, is 345 feet tall. Section 530.250 of the City of Minneapolis Code of Ordinances states that “to the extent practical, site plans shall limit the blocking of views of important elements of the city such as parks and greenways, significant buildings, and waterbodies” and references that a shadow study may be required.

**Figures 26-1** and **26-2** illustrate the shadows that will be created by the different building scenarios in comparison to shadows cast by similarly tall buildings in the nearby downtown core, and the new stadium that will be built by 2016. It is not anticipated that either Development Scenario will result in shadowing that is inconsistent with other types of development in the downtown area.

There are many views of the current Metrodome/new stadium from the Downtown East Development site. Other properties further away from the site have either views of the roofline or views of a narrow section of the Metrodome structure. With the implementation of the proposed development, some views of the Metrodome/new stadium may be partially obstructed from some areas of downtown, due to the massing and height of the proposed buildings. From the east/southeast, views of the Metrodome/new stadium may remain similar or be opened up further with construction of the public plaza/park.

The Mississippi River itself is not visible from the Downtown East Development site, due to the presence of buildings and the lower elevation of the river. Riverfront structures are visible from the site, and as part of the St. Anthony Falls Historic District, are discussed under Section 25.

Skyways are anticipated to be provided to connect across 5<sup>th</sup> Avenue to the existing downtown skyway network; between Blocks 1, 2 and 3; and to the new Minnesota Multi-Purpose Stadium. There are no skyways currently on the site; however, an extensive skyway system connects many buildings in the heart of downtown, just to the west.

It is expected that the presence of these skyways would be in character with the new development and would not create a significant visual intrusion (potential visual impacts to historic structures are discussed under Section 25). The skyways crossing 5<sup>th</sup> Avenue and Portland Avenue and from Block 2 to the parking ramp on Block 3 will primarily be glass, with steel support structures and an accent band of pre-cast to tie into the pre-cast exterior panels on the office towers.

Building lighting would be designed to LEED standards and would not include any uplighting that may negatively impact the surrounding uses and neighborhoods. Exterior building lighting will be designed to meet Minneapolis Zoning Code standards. The proposed public plaza/park would have street lights as required by the City of Minneapolis.

Lighting impacts on surrounding neighborhoods, if any, will be considered during the review process with the City of Minneapolis.

## 27. Compatibility with Plans and Land Use Regulations

---

Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency?  Yes  No

If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.

*AUAR Guidance: The AUAR must include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out at 4410.3610, subpart 1. The AUAR document should discuss the proposed AUAR area development in the context of the comprehensive plan. If this has not been done as part of the responses to sections 6, 9, 18, 21, and others, it must be addressed here; a brief synopsis should be presented here if the material has been presented in detail under other sections. Necessary amendments to comprehensive plan elements to allow for any of the development scenarios should be noted. If there are any management plans of any other local, state, or federal agencies applicable to the AUAR area, the document must discuss the compatibility of the plan with the various development scenarios studied, with emphasis on any incompatible elements.*

The following paragraphs discuss the compatibility of the development scenarios with relevant and applicable planning documents.

### **Minneapolis Plan for Sustainable Growth (Minneapolis Comprehensive Plan)**

Current land use and zoning of the AUAR Study Area is described in Section 9 Land Use. The *Minneapolis Plan for Sustainable Growth* (adopted 2009; amended 2011), which functions as the City's comprehensive plan, states an overall mission that "Minneapolis will develop and maintain a land use pattern that strengthens the vitality, quality, and urban character of its downtown core, commercial corridors, industrial areas, and neighborhoods while protecting natural systems and developing a sustainable pattern for future growth." Specific policies outlined in the plan support development such as is proposed. For example, Land Use Policy 1.17 is to "invest in targeted place-making strategies to build upon and enhance existing community assets and encourage private sector development," and Economic Development Policy 4.1 is to "support private sector growth to maintain a healthy, diverse economy." The plan also identifies downtown Minneapolis as one of four designated "Growth Centers." To be a designated Growth Center, an area must contain a significant concentration of employment activity; and employment must be complemented by a wide range of activities, including residential, office, retail, entertainment, and recreational uses. The proposed office, retail, residential, and public plaza/park uses under either scenario, combined with the adjacent stadium, rolls all the values of a Growth Center into one area.

The plan identifies future land use for the AUAR Study Area as follows: Blocks 1, 2, and 5 are designated for mixed use; and Blocks 3 and 4 are designated for commercial use. The development scenarios include mixed use on Blocks 1, 2, and 3, and potentially part of Block 4 under the Minimum Development Scenario; and public plaza/park use on Blocks 4 and 5. While public plaza/park use is not designated in the comprehensive plan, it does fulfill other objectives stated in the plan, such as Parks Policy 7.9: "Work to develop high quality open spaces in Downtown." The plan specifically notes that the increased residential density is creating an additional need for more greening of downtown.

The potential closures of Park and/or Portland Avenues create some conflict with transportation elements of the plan, which encourage maintenance of the street grid and reconnections where possible to encourage connectivity for all modes of travel (bicycles, pedestrians, vehicles, etc.). The

disconnect or interruption caused by potential roadway block closures would not be supportive of this element.

### **Minneapolis Park and Recreation Board (MPRB) 2007-2020 Comprehensive Plan**

The *Minneapolis Plan for Sustainable Growth* also incorporates the *Minneapolis Park and Recreation Board (MPRB) 2007-2020 Comprehensive Plan*, adopted in 2007. The MPRB plan states that one of its strategies is to help shape the built form of the city by developing and/or implementing park plans to acquire parkland and build amenities in current or projected growth areas of the city, including downtown. It should be noted that the owner and/or operator of a potential new public plaza/park within the Study Area has not been determined and could be the MPRB or another public entity.

### **Downtown East/North Loop Master Plan**

The *Downtown East/North Loop Master Plan*, adopted in 2003, provides direction for how growth should occur in the underdeveloped areas of downtown Minneapolis surrounding rail transit stations. The plan includes recommendations for land use, infrastructure, transportation, parking, urban design, and streetscape. Recommendations also promote downtown living by forging Complete Communities that include a mixture of transit stations, commercial office, retail, housing, and parks/plazas. Specific to the Downtown East neighborhood, the plan proposed redevelopment while supporting and expanding the downtown core. Recommendations for the AUAR Study Area include mixed-use residential and office, with open space elements. This is generally consistent with the current development scenarios.

In Chapter 5 of the plan (Urban Design Plan), it states that “maintaining utility and convenience of the downtown street grid is critical to ensuring access across the entire central business district for pedestrians, bicycles, buses, trucks, and automobiles. However, as new opportunities present themselves, it is important to consider modifications and adjustments to the existing street system that will ensure that it continues to serve downtown livability and economic vitality, rather than detract from it” (Chapter 5 Urban Design Plan, p. 51). The disconnect or interruption caused by potential closures of Park and/or Portland Avenues would not be compatible with maintaining the street grid.

### **Hennepin County Planning Documents**

The *Hennepin County Comprehensive Plan Update* (2011) and the *Hennepin County Transportation Systems Plan* (HC-TSP, 2011) were created with the goal of setting the stage for future transportation investments that will keep the County competitive in attracting businesses and future work force, and will sustain a high quality of life for County residents. The development scenarios are not directly in conflict with any of the goals stated in this plan. However, the potential closures of blocks of Park and/or Portland Avenues are not consistent with the County’s overall plans for these roadways, which serve as A-minor relievers connected to another A-minor reliever directly to the north, Washington Avenue. Closure of Park and/or Portland Avenue would interrupt the connectivity of the County’s system through downtown Minneapolis.

The development will be closely coordinated with decisions made by the City and Hennepin County on the road closure options.

## 28. Impact on Infrastructure and Public Services

---

**Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project? \_\_Yes \_\_No**

**If yes, describe the new or additional infrastructure or services needed. (Note: any infrastructure that is a connected action with respect to the project must be assessed in the EAW; see *EAW Guidelines* for details.)**

*AUAR Guidance: This section should first of all summarize information on physical infrastructure presented under sections (such 6, 17, 18 and 21). Other major infrastructure or public services not covered under other sections should be discussed as well — this includes major social services such as schools, police, fire, etc. The RGU must be careful to include project-associated infrastructure as an explicit part of the AUAR review if it is to exempt from project-specific review in the future.*

### **Utilities**

Redevelopment under either of the proposed Development Scenarios will not require the implementation of upgrades or replacement of existing water main, storm sewer, and sanitary sewer facilities to accommodate increased use and serve new buildings. Only new service to the existing mains will be necessary. These utilities are discussed in greater detail in Sections 13, 17, and 18. The impacts to Park and Portland Avenues would not consist of alterations to the existing water, storm, or sanitary, and as a result, no additional sewer extensions or improvements to increase capacity are anticipated. This is consistent with discussions with the City of Minneapolis Department of Public Works.

### **Transit**

The AUAR Study Area is currently directly served by multiple bus routes operated by Metro Transit, as illustrated in **Figure 28-1**. The bus stop at 4<sup>th</sup> Street and Portland Avenue includes three routes traveling between Minneapolis and various areas of St. Paul (144, 3, 16, 50), limited stop to Snelling Avenue/University of Minnesota (144), and an express route between Minneapolis and St. Paul (94). Riders can also access Route 144 at 5<sup>th</sup> Street and Portland. At the 4<sup>th</sup> Street and 5<sup>th</sup> Avenue stop, Route 7 provides service between Plymouth and south Minneapolis, while Route 22 travels between Brooklyn Center and the Veteran's Hospital. The bus stop at 5<sup>th</sup> Street and 5<sup>th</sup> Avenue includes Routes 7 and 22, as well as a limited stop service to TH 55/Golden Valley (755), and an express service between Golden Valley and Minneapolis (764). The Downtown East/Metrodome LRT station is located just east/southeast of the AUAR Study Area. Here riders can catch a number of the same bus routes as well as the Blue Line Light Rail Transit (LRT), which provides service between downtown Minneapolis, the Mall of America in Bloomington, and the Minneapolis/St. Paul (MSP) airport. The Green Line LRT between Minneapolis and St. Paul will also provide service to this station beginning in 2014.

Expansion of existing routes and/or implementation of new transit routes may be necessary to serve the AUAR Study Area under either of the proposed Development Scenarios. In addition, if closure of Park and/or Portland Avenues is included in the selected scenario, rerouting of selected bus routes would be necessary.

### **Police, Fire and Ambulance Services**

Emergency medical and public safety services are critical activities of Hennepin County that operate on a 24/7 basis in proximity to the AUAR Study Area. Hennepin County Medical Center (HCMC), located at 7<sup>th</sup> Street and Park Avenue, receives 19,000 patients who arrive via ambulance to its emergency room each year. In addition, 360 emergency patients arrived by helicopter in 2012. All

ambulance arrivals utilize local streets, specifically, Park, Portland, and Chicago Avenues, and 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> Streets, among others (source: *Hennepin County comments on Minnesota Multi-Purpose Stadium Draft Environmental Impact Statement, 2013*). Both Park and Portland Avenues serve as primary access routes to HCMC's Emergency and Level 1 Trauma Center located on the HCMC campus between these two roadways. Potential closure of Park and/or Portland Avenues within the AUAR Study Area would impact routing and travel times of emergency vehicles. Specifically, direct access from Washington Avenue, fed by the 3<sup>rd</sup> Avenue Bridge, Hennepin Avenue Bridge, and southbound traffic off of I-35W would be impacted. Access is also a concern for the patients traveling from the north and west end of the city to receive care at HCMC.

Current police and fire services for the AUAR area are provided by the City of Minneapolis. The nearest fire department is Station One, located at 530 S 3<sup>rd</sup> Street, adjacent to the AUAR Study Area. As 3<sup>rd</sup> Street is a one-way going westbound, fire trucks exiting the station are forced to turn right away from the AUAR Study Area and would not likely be impacted by potential closure of Park Avenue. However, Portland Avenue is the primary route for responses to the south from Station One; therefore, complete closure of Portland Avenue (Roadway Option 1) would have an impact on the Minneapolis Fire Department's response time to some emergencies located south of the station.

The Study Area is within the 1<sup>st</sup> Police Precinct, located at 19 N 4<sup>th</sup> Street, approximately seven blocks west/northwest of the AUAR Study Area. Potential road closures within the AUAR Study Area are not anticipated to greatly impact police activities.

Under either of the Development Scenarios, there would be an increase in the residential population, as well as an increase in the number of employees and public plaza/park users, which may increase the demand for emergency medical and public safety services.

### **Schools**

The AUAR Study Area would be served by Minneapolis Public Schools. Residential units are proposed under both of the proposed Development Scenarios, ranging from 275 (Maximum Development Scenario, with hotel) to 410 units (Minimum Development Scenario, without hotel). However, generally speaking it is not anticipated that the type of housing and the project setting will be attractive to many families with school-aged children, as compared to a more traditional single-family development. Therefore, the impact on the school district will be minimal.

### **Infrastructure Summary**

Water, storm sewer, and sanitary mitigation measures are discussed in Sections 13, 17, and 18. Discussions will take place with Metro Transit during site planning regarding bus rerouting or additional service. No additional mitigation is required for schools. Close coordination with the police department, fire department, and HCMC will take place so that emergency routing and other activities can be adjusted as necessary if road closures are part of the development.

## 29. Cumulative Potential Effects

---

Minnesota Rule part 4410.1700, subpart 7, item B requires that the RGU consider the "cumulative potential effects of related or anticipated future projects" when determining the need for an environmental impact statement.

Identify any past, present or reasonably foreseeable future projects that may interact with the project described in this EAW in such a way as to cause cumulative potential effects. (Such future projects would be those that are actually planned or for which a basis of expectation has been laid.)

Describe the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects (or discuss each cumulative potential effect under appropriate section(s) elsewhere on this form).

*AUAR Guidance: Because the AUAR process by its nature is intended to deal with cumulative potential effects from all future developments within the AUAR area, it is presumed that the responses to all sections on the EAW form automatically encompass the impacts from all anticipated developments within the AUAR area. However, the total impact on the environment with respect to any of the sections on the EAW form may also be influenced by past, present, and reasonably foreseeable future projects outside of the AUAR area. The cumulative potential effect descriptions may be provided as part of the responses to other appropriate EAW sections, or in response to this section.*

The following projects have been identified as reasonably foreseeable and have the potential to interact with either Development Scenario as to cause varying degrees of reasonably foreseeable cumulative impacts. Each of the identified projects is or has elements that are geographically proximate to the AUAR Study Area.

- Infrastructure improvements
  - Washington Avenue reconstruction from Hennepin Avenue to I-35W
  - 10<sup>th</sup> Avenue Bridge rehabilitation
  - Traffic and safety improvements on 4<sup>th</sup> Avenue S from 10<sup>th</sup> Street S to 3<sup>rd</sup> Street S
  - Replacement of the driving surface on 4<sup>th</sup> Street S, 8<sup>th</sup> Street S, and 9<sup>th</sup> Street S from Hennepin Avenue to Chicago Avenue
  - Replacement of the driving surface on 14<sup>th</sup> Street S from Park Avenue to 11<sup>th</sup> Avenue S
  - Rehabilitation/repairs of the Central City and MnDOT (I-35W) storm water tunnels
  - Sealcoating on 10<sup>th</sup> Street S between 3<sup>rd</sup> Avenue S and 11<sup>th</sup> Avenue S
  - Street resurfacing of 11<sup>th</sup> Street S between 3<sup>rd</sup> Avenue S and 11<sup>th</sup> Avenue S
  - Tunnel work on Washington Avenue between Hennepin Avenue and Portland Avenue
  - A signal timing optimization project that includes all signalized intersections in downtown Minneapolis
  - Construction of a new freeway entrance ramp from 4<sup>th</sup> Street South to I-35W northbound
  - Green Line (Central Corridor) LRT line sharing the existing Blue Line LRT alignment near the AUAR Study Area, utilizing the same stations
  - Two-way traffic operations on Park Avenue S and Portland Avenue S (not programmed)

- Two-way traffic operations on 9<sup>th</sup> Street S and 10<sup>th</sup> Street S, east of 5<sup>th</sup> Avenue S (not programmed)
- New exit ramp from westbound I-94 to 7<sup>th</sup> Street S
- Changes to Washington Avenue S and 3<sup>rd</sup> Street S interchanges at I-35W
- West River Parkway seal coating
- Downtown sidewalk ADA Pedestrian Ramp replacement (6<sup>th</sup> Street, 7<sup>th</sup> Street, 8<sup>th</sup> Street, and 9<sup>th</sup> Street)
- 15<sup>th</sup> Avenue S Reconstruction (4<sup>th</sup> Street S to 6<sup>th</sup> Street S)
- Development
  - Minnesota Multi-Purpose Stadium and associated amenities (parking, plaza, etc.)
  - New social services hub (service center) in the Health Services Building at 6<sup>th</sup> Street and Park Avenue
  - HCMC Hyperbaric Chamber Addition (716 7<sup>th</sup> Street S)
  - Emanuel Housing (822 3<sup>rd</sup> Street S)
  - Izzy's Ice Cream (1100 2<sup>nd</sup> Street S)
  - Valspar Addition (1101 3<sup>rd</sup> Street S)
  - Stonebridge Lofts (1120 2<sup>nd</sup> Street S)
  - Currie Park Lofts (1500 6<sup>th</sup> Street S)
  - Planning Only – 301 Washington Avenue S (3<sup>rd</sup> Avenue S to 4<sup>th</sup> Avenue S)
  - Planning Only – Mill City Quarter (2<sup>nd</sup> Street S at 3<sup>rd</sup> Avenue S)

As discussed in other sections of this AUAR, both Development Scenarios will result in various levels of impact in a number of impact categories. Some of the other planned projects in the area may have similar impacts, such as impervious surface, generating noise, and changing the visual landscape. New development in the area may also utilize the parking provided within the AUAR site, including the new Minnesota Multi-Purpose Stadium, scheduled to open in 2016. The evaluation of these future projects, if they are scheduled to occur beyond the date of the proposed Downtown East Development, should consider Downtown East as part of the baseline or existing condition when conducting analysis of parking, noise, visual, stormwater, and other issues that may contribute to cumulative impacts. However, based on assumption that other developments or projects in the area will be held to the same regulatory requirements for surface water, utilities, and visual landscape, that the potential for cumulative impacts would be minimized through existing review and permit processes.

In general, the potential for cumulative traffic impacts was evaluated through the assumptions included in the background traffic, traffic growth and other infrastructure improvements. A discussion of traffic, in the context of cumulative impacts of two specific projects (Washington Avenue improvements, and the Minnesota Multi-Purpose Stadium), is provided below.

### **Traffic**

There are no specific plans to improve Park and Portland Avenues at this time, but any potential future improvements may be impacted by potential closure of one or both of these roadways within the Project Area, if that becomes part of the selected Development Scenario.

At the request of Hennepin County, traffic operations analysis was conducted for the potential two-lane westbound section on Washington Avenue between Hennepin Avenue and 5<sup>th</sup> Avenue. Several of the proposed development and roadway options were tested for the potential Washington Avenue configuration for AM and PM peak hours:

- Option 2a: Park Avenue reduced to two northbound lanes and open during peak hours only; Portland Avenue permanently closed; Washington Avenue westbound reduced to two lanes with right-turn lanes
- Option 3a: Portland Avenue reduced to two southbound lanes and open during peak hours only; Park Avenue permanently closed; Washington Avenue westbound reduced to two lanes with right-turn lanes
- Option 4a: Park and Portland Avenues each reduced to two lanes and open during peak hours only; Washington Avenue westbound reduced to two lanes with right-turn lanes

The results of the traffic operations analysis are presented in **Table 29-1**. The analysis shows that with Washington Avenue reduced from three westbound lanes to two westbound lanes, increased congestion is expected in the PM peak hour.

**Table 29-1. 2035 Build Traffic Analysis Results – Washington Avenue Westbound 2-Lane Section**

Intersection			Intersection LOS			
No.	Road 1	Road 2	Minimum Development Scenario	Maximum Development Scenario		
			PM Peak – Mitigated Roadway Option 4a	AM Peak – Roadway Option 3a	PM Peak – Mitigated Roadway Option 2a	PM Peak – Mitigated Roadway Option 4a
Overall Network Delay (seconds/vehicle)			171	299	163	188
1	Washington Ave	Hennepin Ave	C	E	C	C
2	Washington Ave	Nicollet Ave	A	C	A	A
3	Washington Ave	Marquette Ave	B	B	B	B
4	Washington Ave	2nd Ave S	B	B	B	B
5	Washington Ave	3rd Ave S	D	D	D	D
6	Washington Ave	4th Ave S	B	A	B	B
7	Washington Ave	5th Ave S	C	B	C	C
8	Washington Ave	Portland Ave	B	B	C	D
9	Washington Ave	Park Ave	B	A	B	C
10	Washington Ave	Chicago Ave	C	B	C	C
11	Washington Ave	10th Ave S	A	A	B	B
12	Washington Ave	11th Ave S	E	E	E	F
13	Washington Ave	I-35W SB Ramp	C	F	C	C
14	Washington Ave	I-35W NB Ramp	C	C	C	C
15	3rd St S	3rd Ave S	C	B	C	C
16	3rd St S	4th Ave S	B	B	B	B
17	3rd St S	5th Ave S	B	B	B	B
18	3rd St S	Portland Ave	B	B	C	C

Intersection			Intersection LOS			
No.	Road 1	Road 2	Minimum Development Scenario	Maximum Development Scenario		
			PM Peak – Mitigated Roadway Option 4a	AM Peak – Roadway Option 3a	PM Peak – Mitigated Roadway Option 2a	PM Peak – Mitigated Roadway Option 4a
19	3rd St S	Park Ave	B	B	B	B
20	3rd St S	Chicago Ave	C	B	C	B
21	4th St S	3rd Ave S	B	B	B	A
22	4th St S	4th Ave S	B	B	C	B
23	4th St S	5th Ave S	A	C	A	B
24	4th St S	Portland Ave	B	B	C	B
25	4th St S	Park Ave	B	A	B	A
26	4th St S	Chicago Ave	B	B	C	B
27	5th St S	3rd Ave S	D	C	D	D
28	5th St S	4th Ave S	C	C	C	B
29	5th St S	5th Ave S	C	C	C	D
30	5th St S	Portland Ave	A	C	A	B
31	5th St S	Park Ave	B	C	C	C
32	5th St S	11th Ave S	B	F	B	B
33	6th St S	3rd Ave S	B	B	B	B
34	6th St S	4th Ave S	B	B	B	C
35	6th St S	5th Ave S	B	C	B	C
36	6th St S	Portland Ave	B	B	B	B
37	6th St S	Park Ave	B	B	B	B
38	6th St S	Chicago Ave	B	C	B	B
39	6th St S	11th Ave S	B	B	B	B
40	7th St S	3rd Ave S	B	B	B	B
41	7th St S	4th Ave S	A	C	A	A
42	7th St S	5th Ave S	A	C	A	A
43	7th St S	Portland Ave	B	C	B	B
44	7th St S	Park Ave	A	D	A	A
45	7th St S	Chicago Ave	B	D	B	B
46	8th St S	3rd Ave S	C	C	C	C
47	8th St S	4th Ave S	C	A	C	C
48	8th St S	5th Ave S	C	D	C	C
49	8th St S	Portland Ave	B	B	B	B
50	8th St S	Park Ave	B	F	B	B
51	8th St S	Chicago Ave	B	B	B	B

## Stadium Traffic and Parking

Traffic analysis was recently completed for the proposed Minnesota Multi-Purpose Stadium, which studied event and non-event traffic patterns. It also studied area parking, including a new parking ramp on Block 1 within the AUAR Study Area. The traffic evaluation for the proposed Downtown East Development studied weekday AM and PM peak traffic flows for the same block. On a limited basis, Stadium and Downtown East Development traffic peaks may intersect, such as when there is a weekday evening event with event attendees arriving to the area around the same time that employees in the Downtown East Development are exiting. This would result in heavier traffic patterns and delays during those times. The Minnesota Multi-Purpose Stadium Environmental Impact Statement (EIS) documents the expected operations during arrival for a capacity event held on a weekday evening, which would overlap with the PM peak hour. In addition, the Stadium EIS evaluated the proposed temporary closure of Park Avenue and Portland Avenue for a weekend event arrival scenario only. The closures would occur under the potential East/West Plaza configuration and would provide space for pre-game activities.

The owner of the proposed Minnesota Multi-Purpose Stadium, the Minnesota Sports Facilities Authority (MSFA), has not proposed permanent closure of Park Avenue and Portland Avenue or closures during weekend event departure or weekday event arrival, and therefore, these cases were not evaluated as part of the Stadium EIS. Because the Downtown East Development does include roadway options that would reduce the capacity of, or permanently close, these roadways, additional analysis was done under the Minimum Development Scenario for Roadway Options 1 and 4. These options were chosen for further evaluation to be able to evaluate the full range of potential impacts with Roadway Option 4 expected to represent the best case operations because it has the greatest roadway capacity, and Roadway Option 1 expected to represent the worst case operations because it has the least roadway capacity. The Minimum Development Scenario was chosen because it is anticipated to represent the most likely development densities. If a development scenario or roadway option other than what has been analyzed were to ultimately be selected, additional analysis may need to be conducted in cooperation between the City, MSFA, and developer to identify potential impacts not captured by this analysis.

The results of the traffic operations analysis are presented in [Table 29-2](#). All analysis was completed for the mitigated roadway network as identified in Section 21 and including Stadium event roadway closures on 4<sup>th</sup> Street from Park Avenue to Norm McGrew Place, Chicago Avenue from 3<sup>rd</sup> Street to 6<sup>th</sup> Street, and 5<sup>th</sup> Street from Chicago Avenue to Park Avenue. Weekend event departure is generally assumed to be 3:00-4:00 PM (12:00 PM game start), but due to the low volume of background traffic on weekends, the results are also considered to be valid for event departures from weekend afternoon/evening or weekday evening event game times.

The analysis shows that during the weekend event departure period under Roadway Option 4, the worst delays are expected along the Washington Avenue and 11<sup>th</sup> Avenue corridors, due to traffic flows destined for I-35W and I-94. Delay and spillback along these corridors would be expected to impact upstream intersections. Park Avenue queues are expected to extend beyond 6<sup>th</sup> Street due to the delay to the northbound right turn movement at Washington Avenue. Without the spillback from these corridors, the rest of the study area is expected to operate at LOS D or better. Under Roadway Option 1, the closure of Park and Portland Avenues during the event departure period generally shifts these delays and impacts, with less than three percent increase in overall network delay per vehicle. The 4<sup>th</sup> Avenue and 5<sup>th</sup> Avenue corridors have the capacity to accommodate the rerouted southbound and northbound traffic. Traffic rerouted from Park Avenue to 5<sup>th</sup> Avenue better balances northbound traffic at Washington Avenue compared to Roadway Option 4. The biggest impact of the Park Avenue and Portland Avenue closures is on the 6<sup>th</sup> Street corridor, where the queues at the 11<sup>th</sup> Avenue

intersection spillback substantially due to the eastbound left turn vehicles. However, compared to the Minnesota Multi-Purpose Stadium 2030 Weekend Event Departure analysis, the Roadway Option 4 analysis resulted in one additional intersection expected to operate at LOS E and four additional intersections expected to operate at LOS F. Roadway Option 1 resulted in three additional intersections expected to operate at LOS F and one fewer intersection expected to operate at LOS E.

In the weekday event arrival analysis, many intersections would be expected to have volumes exceeding the roadway network capacity. The combination of trips entering downtown for the event and exiting downtown at the end of the work day results in high volumes throughout the Study Area. Some of the worst capacity issues are expected along Washington Avenue, between I-35W and 4<sup>th</sup> Avenue, and in particular, for eastbound left turns from Washington Avenue to I-35W northbound. The event roadway closures around the stadium, including portions of Chicago Avenue S and 4<sup>th</sup> Street S, are expected to divert additional traffic to Washington Avenue. The closures of Park and Portland Avenues as part of Roadway Option 1 are expected to impact Chicago Avenue in the area of 6<sup>th</sup> Street S, 7<sup>th</sup> Street S, and 8<sup>th</sup> Street S in particular. Due to the significant degree of over capacity operations expected during the PM peak, the SimTraffic software resulted in gridlock and was unable to consistently simulate traffic operations on the roadway network. Therefore, the intersection LOS for the Weekday Event Arrival scenarios shown in **Table 29-2** are based on Synchro LOS results, which does not account for interactions between intersections (such as queuing) when calculating delay.

When compared to the Minnesota Multi-Purpose Stadium 2030 Weekday Event Arrival analysis, Roadway Option 1 resulted in an additional two intersections that would be expected to operate at LOS E, and an additional two intersections that would be expected to operate at LOS F during the weekday event arrival period. Roadway Option 4 resulted in an additional two intersections that would be expected to operate at LOS E, and an additional three intersections that would be expected to operate at LOS F.

**Table 29-2. 2035 Build Traffic Analysis Results – Minimum Development and Capacity Stadium Event**

Intersection			Intersection LOS			
No.	Road 1	Road 2	Weekend Event Departure		Weekday Event Arrival	
			Mitigated Roadway Option 1	Mitigated Roadway Option 4	Mitigated Roadway Option 1	Mitigated Roadway Option 4
Overall Network Delay (seconds/vehicle)			366	357	86	66
1	Washington Ave	Hennepin Ave	C	C	D	D
2	Washington Ave	Nicollet Ave	A	B	A	A
3	Washington Ave	Marquette Ave	A	B	B	B
4	Washington Ave	2nd Ave S	A	C	C	C
5	Washington Ave	3rd Ave S	C	E	F	F
6	Washington Ave	4th Ave S	A	D	D	A
7	Washington Ave	5th Ave S	B	E	F	F
8	Washington Ave	Portland Ave	C	D	C	E
9	Washington Ave	Park Ave	D	E	C	F
10	Washington Ave	Chicago Ave	D	F	D	D
11	Washington Ave	10th Ave S	F	F	B	B

Intersection			Intersection LOS			
No.	Road 1	Road 2	Weekend Event Departure		Weekday Event Arrival	
			Mitigated Roadway Option 1	Mitigated Roadway Option 4	Mitigated Roadway Option 1	Mitigated Roadway Option 4
12	Washington Ave	11th Ave S	F	F	F	F
13	Washington Ave	I-35W SB Ramp	C	D	F	F
14	Washington Ave	I-35W NB Ramp	B	D	F	F
15	3rd St S	3rd Ave S	C	E	C	D
16	3rd St S	4th Ave S	C	F	E	B
17	3rd St S	5th Ave S	F	D	C	A
18	3rd St S	Portland Ave	E	D	D	C
19	3rd St S	Park Ave	F	F	B	D
20	3rd St S	Chicago Ave	E	C	C	C
21	4th St S	3rd Ave S	C	E	F	F
22	4th St S	4th Ave S	C	E	F	F
23	4th St S	5th Ave S	D	F	E	C
24	4th St S	Portland Ave	F	D	A	D
25	4th St S	Park Ave	F	F	B	E
26	4th St S	Chicago Ave	N/A	N/A	N/A	N/A
27	5th St S	3rd Ave S	B	C	F	E
28	5th St S	4th Ave S	D	B	F	D
29	5th St S	5th Ave S	D	E	D	C
30	5th St S	Portland Ave	C	B	C	F
31	5th St S	Park Ave	C	F	F	F
32	5th St S	11th Ave S	D	D	F	F
33	6th St S	3rd Ave S	C	B	D	D
34	6th St S	4th Ave S	C	C	F	D
35	6th St S	5th Ave S	C	B	F	B
36	6th St S	Portland Ave	C	C	D	D
37	6th St S	Park Ave	C	D	E	F
38	6th St S	Chicago Ave	D	A	E	E
39	6th St S	11th Ave S	F	F	F	F
40	7th St S	3rd Ave S	B	B	E	E
41	7th St S	4th Ave S	A	A	E	E
42	7th St S	5th Ave S	B	B	F	F
43	7th St S	Portland Ave	B	A	F	E
44	7th St S	Park Ave	A	C	E	B
45	7th St S	Chicago Ave	B	C	D	D
46	8th St S	3rd Ave S	C	B	E	E
47	8th St S	4th Ave S	C	C	F	D

Intersection			Intersection LOS			
No.	Road 1	Road 2	Weekend Event Departure		Weekday Event Arrival	
			Mitigated Roadway Option 1	Mitigated Roadway Option 4	Mitigated Roadway Option 1	Mitigated Roadway Option 4
48	8th St S	5th Ave S	B	B	D	D
49	8th St S	Portland Ave	B	B	B	C
50	8th St S	Park Ave	B	C	B	C
51	8th St S	Chicago Ave	A	A	C	B

Note: Synchro results are reported for the Weekday event scenarios.

Overall, the traffic impacts of any event at the Minnesota Multi-Purpose Stadium would be increased with any Downtown East Development Scenario. However, the change in traffic operations due to the Downtown East Development Scenarios is minor compared to the larger impacts of the stadium event, particularly for a weekday evening event.

Event traffic volumes are temporary in nature and are expected to occur on a limited number of days per year. Where capacity events at the new stadium may intersect with peak traffic periods associated with the Study Area development (i.e., weekday stadium arrivals during peak departures from the development), additional traffic management strategies, such as traffic control agents, wayfinding, and event signal timing plans, would need to be implemented by the MSFA to manage event traffic levels.

Due to the potential cumulative impacts of stadium events and operations together with changes to the roadway configuration proposed by area developments, an increased quantity of traffic mitigation measures may be needed in addition to the traffic mitigation measures which would be needed by either stadium events alone or area developments alone. As noted above, additional traffic control agents and additional wayfinding might be needed to manage event traffic if Park and/or Portland Avenues are closed compared to if Park and Portland Avenue remain in their existing configurations.

The City and/or the MSFA may also choose to promote alternative modes of travel (i.e., transit), and other recommendations such as early arrivals or departures for drivers. Agreements between parking ramp owners and the MSFA could also reduce daytime parking, or encourage early departures, at the ramps near the stadium on event days, thereby reducing PM peak traffic volumes in the study area.

### **Cumulative Impact Summary**

Overall, the Development Scenarios, when considered in combination with the other identified reasonably foreseeable projects, have limited potential for cumulative impacts to the resources directly or indirectly affected by the Development Scenarios, except for traffic. As noted above, a number of mitigation measures will be considered to minimize cumulative traffic impacts during major stadium events, reducing the potential for cumulative traffic impact during major weekday stadium events.

Any changes to Park and/or Portland Avenues agreed to by Hennepin County will be closely coordinated with the County and City of Minneapolis.

### 30. Other Potential Environmental Impacts

---

**If the project may cause any adverse environmental impacts not addressed by sections 1 to 28, identify and discuss them here, along with any proposed mitigation.**

*AUAR Guidance: If applicable, this section should be answered as requested by the EAW form.*

*All known adverse environmental impacts are addressed in sections 1 to 29.*

### 31. Summary of Issues

---

**List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.**

*AUAR Guidance: The RGU may answer this question as asked by the form, or instead may choose to provide an Executive Summary to the document that basically covers the same information. Either way, the major emphasis should be on: potentially significant impacts, the differences in impacts between major development scenarios, and the proposed mitigation.*

Sections 1 through 7 provide general Study Area information. Section 8 lists the permits and approvals required for redevelopment within the Study Area. There were no impacts identified in Sections 10 through 15, 19, 22, 23, 29, or 30; therefore, these areas require no mitigation and are not included in the Draft Mitigation Plan.

The remaining sections have identified mitigation measures that reduce the level of potential impact of development within the Study Area and are summarized in the following Draft Mitigation Plan.

## DRAFT MITIGATION PLAN

This Draft Mitigation Plan is submitted as part of the Draft AUAR to provide reviewers and regulators with an understanding of the actions which are advisable, recommended, or necessary to protect the environment and minimize the potential impacts caused by the proposed Development Scenarios. This Draft Mitigation Plan will be revised and updated based on comments received during the Draft AUAR comment period.

The mitigation plan is intended to satisfy the AUAR rules that require the preparation of a mitigation plan that specifies measures or procedures that will be used to avoid, minimize, or mitigate the potential impacts of development within the AUAR Study Area. Although mitigation strategies are discussed throughout the AUAR document, this plan will be formally adopted by the City of Minneapolis as their action plan to prevent significant environmental impacts.

The primary mechanism for mitigation of environmental impacts is the effective use of ordinances, rules, and regulations. The plan does not modify the regulatory agencies responsibilities for implementing their respective regulatory programs, nor create additional regulatory requirements. The mitigation plan specifies the legal and institutional arrangements that will assure that the adopted mitigation measures are implemented.

There were no impacts identified in Sections 10 through 15, 19, 22, 23, 29, or 30; therefore, these areas require no mitigation and are not included in the Draft Mitigation Plan. The remaining sections have identified regulatory requirements and/or mitigation measures that reduce the level of potential impact of development within the Study Area. The plan is formatted consistent with the sections of the AUAR for ease of reference.

## Section 8. Permits and Approvals Required

Unit of Government	Type of Application	Status
<b>Federal</b>		
<b>Federal Aviation Administration</b>	Airspace hazard permit (for any structures more than 200 feet above ground level)	To be applied for
<b>State</b>		
<b>Minnesota Department of Health</b>	Abandonment of Water Wells	To be applied for
	Water Main Installation Permit	To be applied for, if needed
	Drainage Permit	To be applied for, if needed
<b>Minnesota Department of Natural Resources</b>	Groundwater Appropriation Permit	To be applied for, if needed
<b>Minnesota Historical Society</b>	Minnesota Historic Sites Act Minnesota Field Archaeology Act	Provisions will be met during construction, as applicable
<b>Minnesota Pollution Control Agency</b>	NPDES/SDS Construction Stormwater Permit	To be applied for
	Sanitary Sewer Extension Permit	To be applied for, if needed
	Soil and Groundwater Remediation Plan Approval	To be applied for, if needed
	Storage Tank Registration	To be applied for, if needed
<b>Regional</b>		
<b>Metropolitan Council</b>	Sanitary Sewer Extension Permit	To be applied for, if needed
<b>Middle Mississippi River Watershed Districted (which defers to the City of Minneapolis for permitting)</b>	No formal review process	NA
<b>Local</b>		
<b>City of Minneapolis</b>	Building permits	To be applied for
	Demolition permit	To be applied for
	Emergency Generator Fuel Storage Permit	To be applied for
	Erosion and Sedimentation Control Plan Approval and Permit	To be applied for
	Stormwater Management Plan Approval	To be applied for
	Street Vacation	To be applied for, if needed
	Planned Unit Development Review and Approval	To be applied for
	Land Subdivision	To be applied for
	Temporary Water Discharge Permit	To be applied for, if needed
	After Hours Work Permit	To be applied for, if needed
	Lane Obstruction Permit	To be applied for, if needed
	Right-of-Way Excavation Permit	To be applied for, if needed
	Encroachment Permit	To be applied for, if needed
	Utility Repair Permit	To be applied for, if needed
	Utility Connection Permits	To be applied for, if needed
Sidewalk Construction Permit	To be applied for, if needed	

Unit of Government	Type of Application	Status
	Testing and Inspection Agreement	To be applied for, if needed
	General Obligation Bonds for Blocks 4 and 5	To be applied for
	Department of Employment and Economic Development grants for redevelopment, and for demolition and clean up	To be applied for
	Final AUAR and Mitigation Plan	In process

## Section 9. Land Use

---

Potential impacts and mitigation measures are the same under both Development Scenarios for land use.

### *Potential Impacts*

- Any zoning inconsistencies for either development scenario, such as floor area ratio or building height, will be addressed through the City of Minneapolis Planned Unit Development (PUD) process
- The Phase I ESA found 26 petroleum underground storage tanks (USTs) and six above ground storage tanks (ASTs) have been reported in the Study Area.
- Four releases from the USTs were reported; two on Block 3 and two on Block 5, and all four have been closed by the MPCA. There are also three listings reported as closed on the MPCA SPILLS database located on Blocks 3 and 4.
- According to the MPCA's *What's in My Neighborhood?* database, there are 10 potentially contaminated sites within the AUAR Study Area. Two are active sites, and eight are inactive.

### *Mitigation Strategies*

- 9.1 A zoning change may be requested for the five blocks within the Study Area boundary. This will be coordinated through the City of Minneapolis Planned Unit Development (PUD) process, if required.
- 9.2 Removal of all tanks and associated piping in accordance with state and federal laws.
- 9.3 Mitigation measures for environmental contamination in the State of Minnesota are typically undertaken in coordination with the MPCA. Mitigation measures for known and unknown contamination are addressed under Section 20.

### *How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

### *Involvement by Other Agencies, if applicable*

Mitigation measures to address site contaminants will be undertaken in coordination with MPCA.

## Section 13. Water Use

---

Potential impacts and mitigation measures are the same under both Development Scenarios for water use.

### *Potential Impacts*

- Abandonment of two on-site wells.
- Temporary dewatering may occur during construction of the buildings.

### *Mitigation Strategies*

- 13.1 If any additional wells are encountered during construction, they will be relocated (if necessary) or capped and sealed according to Department of Health regulations.
- 13.2 Water pumped during construction dewatering activities will be tested for contaminants to determine if discharge can be to sanitary or storm sewer system.
- 13.3 Obtain a National Pollutant Discharge Elimination System (NPDES) permit.

### *How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

### *Involvement by Other Agencies, if applicable*

All water pumped during construction dewatering activities will be discharged in compliance with the City and Minnesota Department of Natural Resources (DNR) requirements, and the National Pollutant Discharge Elimination System (NPDES) permit.

## **Section 16. Erosion and Sedimentation**

---

Potential impacts and mitigation measures are the same under both Development Scenarios for erosion and sedimentation.

### *Potential Impacts*

- Construction activities that involve moving soil and/or excavation may cause erosion and sedimentation impacts to storm sewer infrastructure or surface waters could result.

### *Mitigation Strategies*

- 16.1 Require project proposers to acquire NPDES General Stormwater Permit for Construction Activity from the MPCA prior to initiating earthwork for each phase of the project. This permit requires that the MPCA's Best Management Practices be used to control erosion and that all erosion controls be inspected after each significant rainfall.
- 16.2 Require project proposers to meet the erosion and sediment control regulations in all applicable regulations, ordinances, and rules of the City and MPCA.

### *How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

### *Involvement by Other Agencies, if applicable*

The developer must apply for and MPCA must issue an NPDES permit.

## **Section 17. Water Quality: Surface Water Runoff**

---

Storm water runoff from the Study Area will be reduced under both Development Scenarios with development of two blocks as public plaza/park.

### *Potential Impacts*

- No impacts were identified assuming water quality management standards are implemented.

### *Mitigation Strategies*

- 17.1 Require stormwater management systems to be developed in accordance with City of Minneapolis code, MPCA, and Mississippi WMO, as needed.

### *How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

### *Involvement by Other Agencies, if applicable*

The developer must apply for and MPCA must issue an NPDES permit.

## **Section 20. Solid Waste, Hazardous Waste, Storage Tanks**

---

The potential to encounter contaminants is the same under both Development Scenarios.

### *Potential Impacts*

- It is estimated that the demolition would generate 50,000 tons of concrete/asphalt debris and 5,000 tons of miscellaneous construction debris.
- The Phase I ESA found that 26 petroleum underground storage tanks (USTs) were reported to have been previously removed from the Study Area according to the MPCA registered tank files. Six above ground storage tanks (ASTs) were reported as inactive. Several leak sites were also reported, as noted in Section 9.

### *Mitigation Strategies*

- 20.1 A Pre-Demolition Survey is currently underway for the three buildings to be removed from the Study Area to determine if any regulated materials are present. An Abatement Plan will be prepared to address removal and proper disposal of any regulated materials identified in the Pre-Demolition Survey.
- 20.2 The project will be enrolled in the MPCA's Voluntary Investigation and Cleanup (VIC) Program and Petroleum Brownfields Program (PBP).
- 20.3 A Phase II Environmental Site Assessment (Phase II ESA) is now being completed for the Study Area. Based upon the results of the Phase II ESA and previously conducted environmental investigations within the Study Area, a Response Action Plan (RAP) will be prepared and submitted to the VIC and PBP Programs for review and approval to address proper handling and treating of contaminated soil and/or groundwater within the context of, and consistent with, the proposed redevelopment activities.
- 20.4 A Construction Contingency Plan (CCP) will be developed and submitted to the MPCA with the RAP to address proper handling, treating, storing, and disposing of solid wastes, hazardous materials, petroleum products, and other regulated materials/wastes that are used or generated during construction.
- 20.5 There will be a corporate recycling program established in the two office buildings and a recycling program for the residential component. There will be a dedicated storage/trash area in the loading dock area that will be used for recycling management and pickup.

### *How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

### *Involvement by Other Agencies, if applicable*

The developer will coordinate with the MPCA regarding the required plans, material handling and disposal.

## **Section 21. Traffic**

---

### *Potential Impacts*

#### Minimum Development Scenario Impacts:

Under Roadway Option 4 the following impacts were identified:

- Near-capacity operations at the Washington Avenue/11<sup>th</sup> Avenue intersection in the AM peak, in addition operational issues identified in the No Build scenario in the PM peak.
- Increased delay on northbound 11<sup>th</sup> Avenue at 6<sup>th</sup> Street due to the impact of left-turning vehicles in the PM peak.
- Increased delay on north/south roadways crossing the 5<sup>th</sup> Street corridor, due to the green time allocated to LRT progression, in both the AM and PM peaks.

Under Roadway Option 2, the same operational issues identified in Roadway Option 4 were noted, along the following additional issues:

- Near-capacity operations on southbound 4<sup>th</sup> Avenue in the AM peak. Block length vehicle queues would be expected between 6<sup>th</sup> Street and Washington Avenue.
- Increased delay on westbound Washington Avenue at Hennepin Avenue in the AM peak, especially for westbound left-turn traffic, due to the increased volume of through traffic.
- Near-capacity operations on southbound Chicago Avenue in the PM peak. Block length vehicle queues would be expected between 6<sup>th</sup> Street and 3<sup>rd</sup> Street.
- 4<sup>th</sup> Street operations are impacted in the PM peak hour due to congestion on Chicago Avenue.

Under Roadway Option 3, the same operational issues identified in Roadway Option 4 were noted, along with the following additional issues:

- Near-capacity operations on 5<sup>th</sup> Avenue in the AM peak. Block length vehicle queues would be expected between 7<sup>th</sup> Street and Washington Avenue.
- Increased delay on westbound Washington Avenue at Hennepin Avenue in the AM peak, especially for westbound left-turn traffic, due to the increased volume of through traffic.

Under Roadway Option 1, the same operational issues identified in Roadway Options 2, 3, and 4 were noted, along the following additional issues:

- Capacity operations at the Park Avenue/7<sup>th</sup> Street in the AM peak, resulting in upstream congestion and delays.
- Capacity operations at the Washington Avenue/4<sup>th</sup> Avenue intersection in the AM peak due to over-capacity operations on 4<sup>th</sup> Avenue.
- 6<sup>th</sup> Street, 7<sup>th</sup> Street, and 8<sup>th</sup> Street operations are impacted in the PM peak hour due to congestion on Chicago Avenue.

With the addition of event traffic to the PM peak hour, in the Park Event scenario, the same operational issues identified in Roadway Option 2 were observed. In addition, the increased traffic demands at the 4<sup>th</sup> Street/Park Avenue intersection caused that intersection to fail and impact multiple upstream intersections.

Maximum Development Scenario Impacts:

Under the Maximum Development Scenario, additional intersections are impacted depending on the roadway option, and several intersections that were near capacity under the Minimum Development Scenario would be at capacity with the Maximum Development Scenario.

*How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City. The design of the proposed public plaza/park should provide access to the stadium in a way that reduces pedestrian/vehicle conflict for major events at the new Minnesota Multi-Purpose Stadium.

*Involvement by Other Agencies, if applicable*

Coordination with Hennepin County and the City of Minneapolis will continue.

Mitigation Strategies

**Table 21-12. Mitigation Strategies Summary and Potential Impacts of Mitigation Strategies**

Mitigation Strategy		Roadway Option 1		Roadway Option 2		Roadway Option 3		Roadway Option 4		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies
		Min <sup>a</sup>	Max <sup>b</sup>								
21.1	Add northbound left turn lane at 6th St / 11th Ave	X	X	X	X			X	X	<ul style="list-style-type: none"> <li>Lane alignment on 11<sup>th</sup> Ave</li> <li>Potential widening of 11<sup>th</sup> Ave due to addition of southbound right turn lane at 6<sup>th</sup> St as part of Stadium project</li> </ul>	Coordination needed with Stadium roadway design
21.2	Convert Chicago Ave to a 4-lane cross-section (no new turn lanes) -OR- install turn lanes as identified in 2B	X <sup>c</sup>	X <sup>d</sup>	X <sup>e</sup>	X <sup>d</sup>					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking from 3<sup>rd</sup> St to 4<sup>th</sup> St, and from 6<sup>th</sup> St to 8<sup>th</sup> St</li> <li>Roadway widening needed from 4<sup>th</sup> St to 6<sup>th</sup> St</li> <li>Impact on plaza space in front of Stadium</li> </ul>	Coordination needed with Stadium roadway design
21.2B	Convert Chicago Ave to a 3-lane typical cross-section w/ turn lanes as noted below (2B.1-2B.8)	X	X	X	X					See location specific impacts in items 2B.1-2B.10	
21.2B.1	Add southbound right turn lane at 5th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>Roadway widening needed</li> <li>Impacts plaza space in front of Stadium</li> </ul>	Coordination needed with Stadium roadway design
21.2B.2	Add northbound left turn lane at 5th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>Impacts plaza space in front of stadium</li> </ul>	Coordination needed with Stadium roadway design
21.2B.3	Add southbound left turn lane at 6th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>Impacts plaza space in front of stadium</li> </ul>	Coordination needed with Stadium roadway design
21.2B.4	Add northbound right turn lane at 6th St/ Chicago Ave	X	X		X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
21.2B.5	Add southbound right turn lane at 7th St/ Chicago Ave	X	X	X	X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
21.2B.6	Add northbound left turn lane at 7th St/ Chicago Ave	X	X		X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
21.2B.7	Exclusive southbound left turn lane at 8th St/Chicago	X	X		X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> <li>Potential impact to southbound farside bus stop</li> </ul>	

Mitigation Strategy		Roadway Option 1		Roadway Option 2		Roadway Option 3		Roadway Option 4		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies
		Min <sup>a</sup>	Max <sup>b</sup>								
21.2B.8	Add northbound right turn lane at 8th St/ Chicago Ave	X	X		X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> <li>Potential impact to northbound nearside bus stop</li> </ul>	
21.2B.9	Add southbound left turn lane at 4th St/ Chicago Ave		X		X		X			<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
21.2B.10	Add northbound left turn lane at 3rd St/ Chicago Ave		X		X					<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
21.3	Reduce LRT green band between City Hall and Downtown East Stations	X	X	X	X	X		X	X	<ul style="list-style-type: none"> <li>Impacts to LRT delay and schedule</li> </ul>	Installation of LRT detection on 5 <sup>th</sup> St at Park Ave, 5 <sup>th</sup> Ave, and 4 <sup>th</sup> Ave
21.4	Add protected/ permissive left turn phase for westbound left turn at Washington Ave/Hennepin Ave	X	X			X	X			<ul style="list-style-type: none"> <li>Replace westbound signal heads</li> <li>Revise recently implemented signal timings</li> </ul>	
21.5	Add southbound left turn lane at 4th Ave/ 6th St	X	X							<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
21.6	Add second westbound left turn lane at Washington Ave/ 4th Ave	X	X							<ul style="list-style-type: none"> <li>Lane reassignment and median modifications would be needed on Washington Ave</li> </ul>	Coordination needed with Washington Ave roadway design
21.7	Convert eastbound through lane to shared right turn/through lane at Washington Ave/ 4th Ave	X	X							<ul style="list-style-type: none"> <li>Conflicts with future planned bicycle facility</li> <li>Potential impacts to bus stop and bus operations</li> </ul>	Coordination needed with Washington Ave roadway design
21.8 <sup>f</sup>	Convert northbound through lane to shared left turn/through lane at Park Ave/ 7th St	X	X				X			<ul style="list-style-type: none"> <li>Conflicts with existing bicycle lane</li> </ul>	Convert bicycle lane to shared use lane for bicycles and vehicles
21.9	Add protected/ permissive northbound left turn phase at 3rd St/ Chicago Ave		X							<ul style="list-style-type: none"> <li>Replace northbound signal heads</li> <li>Revise recently implemented signal timings</li> </ul>	
21.10 <sup>f</sup>	Convert northbound through lane to shared right turn/through lane at 5th Ave/ 4th St		X							<ul style="list-style-type: none"> <li>Conflicts with existing bicycle lane</li> </ul>	Convert bicycle lane to shared use lane for bicycles and vehicles

Mitigation Strategy		Roadway Option 1		Roadway Option 2		Roadway Option 3		Roadway Option 4		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies
		Min <sup>a</sup>	Max <sup>b</sup>								
21.10.1	Increase northbound right turn lane storage to 150 feet at 5th Ave/ 4th St		X							<ul style="list-style-type: none"> <li>Potential impacts to bus stop and bus operations</li> </ul>	
21.11 <sup>f</sup>	Add second northbound left turn lane at 11th Ave/ Washington Ave		X				X		X	<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> <li>Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes</li> </ul>	
21.12 <sup>f</sup>	Add second southbound left turn lane at 11th Ave/ Washington Ave		X				X		X	<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> <li>Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes</li> </ul>	
21.13	Convert eastbound through lane to shared left turn/through lane at 8th St/ 5th Ave		X				X			<ul style="list-style-type: none"> <li>Potential impacts to bus stop and bus operations</li> </ul>	
21.14	Add westbound right turn lane at 7th St/ 5th Ave		X				X			<ul style="list-style-type: none"> <li>Restrict or eliminate on-street parking</li> </ul>	
21.15	Convert westbound through lane to shared left turn/through lane at 3rd St/ 4th Ave		X							<ul style="list-style-type: none"> <li>Restrict on-street parking during AM peak, as well as PM peak</li> </ul>	
21.16	Add northbound right turn lane at 3rd Ave/ 8th St		X							<ul style="list-style-type: none"> <li>Median removal and lane restriping</li> </ul>	

<sup>a</sup> Minimum Development Scenario

<sup>b</sup> Maximum Development Scenario

<sup>c</sup> 5<sup>th</sup> Street to 8<sup>th</sup> Street

<sup>d</sup> 3<sup>rd</sup> Street to 8<sup>th</sup> Street

<sup>e</sup> 5<sup>th</sup> Street to 7<sup>th</sup> Street

<sup>f</sup> Requires modification to bike lane, either remove or share with through lane

## Section 24. Odors, Noise, and Dust

---

Potential impacts and mitigation measures are the same under both Development Scenarios for traffic and construction Noise.

### *Potential Impacts*

- Construction noise will occur during demolition and construction.
- Traffic noise increases would be less than three dBA at most receptors, and therefore barely perceptible to the human ear. Noise barrier mitigation is not feasible in the downtown streetscape.

### *Mitigation Strategies*

- 24.1 Construction hours will follow City code (limited to Monday through Friday, 7:00 a.m. to 10:00 p.m., unless and after hours work permit is secured from the City).

### *How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. The developer's agreement will address relevant mitigation measures prior to final approval by the City.

### *Involvement by Other Agencies, if applicable*

Not applicable.

## Section 25. Nearby Resources

---

Potential impacts and mitigation measures are the same under both Development Scenarios for historic resources and trails.

### *Potential Impacts*

- Known properties listed on the National Register of Historic Places (NRHP) in the vicinity of the AUAR boundary include: Minneapolis Armory (500 6<sup>th</sup> Street S); Minneapolis City Hall (350 5<sup>th</sup> Street S); Grain Exchange Building (400-412 4<sup>th</sup> Street S); Northern Implement Co. (616 3<sup>rd</sup> Street S); and Advanced Thresher/Emerson Newton Co. (700-08 3<sup>rd</sup> Street S).
- The main building at 425 Portland Avenue was identified in the early 1980s as a potential local historic resource. In 2011, a City-sponsored Historic Resources Inventory was completed by Mead & Hunt and recommended 425 Portland Avenue along with 62 other properties in the Central Core Survey Area, as good candidates for intensive-level research to determine eligibility for local and/or National Register designation.
- If the Park and Portland Avenue road closures are part of the proposed development, those portions of the on-street bike lanes between 4<sup>th</sup> and 5<sup>th</sup> Streets would also be closed and rerouted, potentially through the public plaza/park, to connect back to existing trails to the north of the Study Area.

### *Mitigation Strategies*

- 25.1 If road closures are agreed to by Hennepin County and become part of the selected Development Scenario, detours or rerouting of on-street bicycle lanes will be coordinated with Hennepin County and the City of Minneapolis. Traffic mitigation measures are discussed in Section 21.

#### *How Mitigation Will be Applied and Assured*

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

#### *Involvement of Other Agencies, if applicable*

To be determined after roadway option is selected through coordination with Hennepin County and City of Minneapolis.

### **Section 28. Impact on Infrastructure and Public Services**

---

Potential impacts and mitigation measures are the same under both Development Scenarios for public services.

#### *Potential Impacts*

- If closure of Park and/or Portland Avenues is included in the selected Development Scenario, rerouting of selected bus routes would be necessary.
- If closure of Park and/or Portland Avenues is included in the selected Development Scenario, the response times for emergency medical and public safety services would increase to/from some parts of the service area.
- Development would increase the residential population, as well as increase the number of employees and public plaza/park users, which may increase the demand for emergency medical and public safety services.

#### *Mitigation Strategies*

- 28.1 Discussions will take place with Metro Transit during site planning regarding bus rerouting or additional service.
- 28.2 Keeping Park and Portland Avenues open to emergency vehicle traffic, such as by gating or curbing and providing a drivable surface, might reduce the delay to response times.
- 28.3 Close coordination with the police department, fire department, and HCMC will take place so that emergency routing and other activities can be adjusted, as necessary.

#### *How Mitigation will be Applied and Assured*

To be determined after roadway option is selected.

#### *Involvement by Other Agencies, if applicable*

To be determined after roadway option is selected.

### **Section 29. Cumulative Potential Effects**

---

#### *Potential Impacts*

- Overall, the Development Scenarios, when considered in combination with the other identified reasonably foreseeable projects, have limited potential for cumulative impacts to the resources directly or indirectly affected by the Development Scenarios. The impacts of the roadway options that were analyzed are not compounded by the other identified reasonably foreseeable projects and are addressed in the traffic section.

*Mitigation Strategy*

- 29.1 Any approved changes to Park and/or Portland Avenues as a result of either Development Scenario will be closely coordinated with Hennepin County and the City of Minneapolis.

*How Mitigation will be Applied and Assured*

To be determined after roadway option is selected.

*Involvement by Other Agencies, if applicable*

To be determined after roadway option is selected.