



UNITED PROPERTIES
CREATING DEEP ROOTS

Gateway Mixed-Use Development

Environmental Assessment Worksheet

June 2018

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Environmental Assessment Worksheet

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:

<http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm>. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addressed collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation, and the need for an EIS.

1. Project Title

Gateway Mixed-Use Development

2. Proposer

Proposer: UP Gateway, LLC

Contact Person: Rick McKelvey

Title: Vice President – Commercial Development

Address: 651 Nicollet Mall, Suite 450

City, State, ZIP: Minneapolis, MN 55402

Phone: 952.893.8271

Email: Rick.Mckelvey@uproperties.com

3. RGU

RGU: City of Minneapolis

Contact Person: Hilary Dvorak

Title: Principal City Planner

Address: 250 South 4th Street

City, State, ZIP: Minneapolis MN 55415-1385

Phone: 612.673.2639

Email: hilary.dvorak@minneapolismn.gov

4. Reason for EAW Preparation

Check one:

Required:

EIS Scoping

Mandatory EAW

Discretionary:

Citizen petition

RGU discretion

Proposer initiated

If EAW or EIS is mandatory, give EQB rule category subpart number(s) and name(s):
Minnesota Rules, part 4410.4300, subpart 32 (Mixed residential and industrial-commercial projects)

5. Project Location

County: Hennepin

City/Township: Minneapolis

Address: 30 3rd Street S, Minneapolis, MN 55401

PLS Location (1/4, 1/4, Section, Township, Range): NE 1/4 of the SE 1/4 of Section 22, Township 29N, Range 24W

Watershed (81 major watershed scale): Mississippi River – Twin Cities

Tax Parcel Number: 2202924410107

At a minimum, attach each of the following to the EAW:

- County map showing the general location of the project (see Figure 1)
- US Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (see Figure 2)
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan. (see Figure 3 and Attachment A)

6. Project Description

- a. Provide the brief project summary to be published in the EQB Monitor (approximately 50 words).

The proposed mixed-use project would result in the redevelopment of an approximately 1.7-acre site, which is currently a surface parking lot bounded by Hennepin Avenue, S 3rd Street, S Washington Avenue, and Nicollet Mall in Minneapolis. Two scenarios (Plan A and Plan B) were evaluated for this site. The two scenarios are as follows: Plan A – approximately 589,700 square feet of office, 9,000 square feet of retail, 280 hotel rooms, 50 attached residential units, and 511 off-street parking spaces; Plan B – approximately 486,750 square feet of office, 15,070 square feet of retail, 140 attached residential units, and 530 off-street parking spaces. The chosen scenario will be constructed during two construction seasons.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion, include a description of the existing facility. Emphasize 1) construction and operation methods and features that will cause physical manipulation of the environment or will produce wastes; 2) modifications

to existing equipment or industrial processes; 3) significant demolition, removal, or remodeling of existing structures; and 4) timing and duration of construction activities.

A mixed-use development is proposed on the surface parking lot bounded by Hennepin Avenue, S 3rd Street, S Washington Avenue, and Nicollet Mall. See Figure 3 for project location. Two scenarios are currently being investigated. One of the following scenarios will be selected by the developer; however, for the purposes of this document, both scenarios (Plan A and Plan B) are being reviewed.

With either Plan A or Plan B, a streetcar easement will be recorded to allow for development of a future streetcar line. The proposed development is being designed with an open plaza in the easement area.

Construction is anticipated in spring 2019 with construction lasting two years for the selected scenario.

Plan A

Plan A includes a 40-story building with approximately 598,700 square feet of office space, 9,000 square feet of retail, 280 hotel rooms, 50 attached residential units, and 511 off-street parking spaces located in an underground parking structure. Plan A also includes a ground level outdoor plaza, an elevated terrace/plaza space, and a skyway connection across S 3rd Street to the Minneapolis Central Library. See Attachment A for proposed plans.

Building Design

The building is comprised of 19 office floors, 10 hotel guestroom floors, seven residential floors, and a three-story podium consisting of hotel amenities, lobby spaces, service areas, and retail/restaurant spaces at the street level. The mechanical and electrical central plants are included in the three-level, below-grade parking facility. Outdoor roof terraces are located at the third level podium to support hotel functions and the 14th level for office functions.

Site Design

The building will be located on the southern portion of the 1.7-acre site. A hardscape and landscaped plaza with seating and activity areas will be located on the northeast side of the site. The long axis of the tower portion of the building will front on Hennepin Avenue on the western side of the site. Terraced setbacks in the tower on the east side of the building will provide dramatic views of Minneapolis's Central Business District.

The plaza will have large landscaped zones contained within planter/seat walls with shrubs, grasses, trees, and commissioned artwork. Seating areas intermeshed with the plantings will help to activate the plaza.

The covered porte-cochere will accommodate valet drop-off for hotel guests and visitors as well as entrances to the hotel, office and residential lobbies. The floor-to-ceiling height of this space will be approximately 30 feet high. At grade level, the floor will be finished with stone pavers and driving lanes demarcated with decorative bollards. The below-grade parking will be accessed through the porte-cochere and will have an additional

entrance on S 3rd Street. This design element will continue to be addressed and may be modified.

Plan B

Plan B includes a 32-story building with approximately 486,750 square feet of office space, 15,070 square feet of retail space, 140 attached residential units, and 530 off-street parking spaces located in an underground parking structure. Plan B also includes a ground level outdoor plaza, an elevated terrace/plaza space, and a skyway connection across S 3rd Street to the Minneapolis Central Library. See Attachment A for proposed plans.

Building Design

The building is comprised of 15 office floors, 14 residential floors, and a two-story podium. The podium contains office and residential lobbies as well as retail and service spaces on level one. Level two consists of a fitness/spa center and an indoor/outdoor swimming pool complemented by a landscaped terrace with a covered bar area. The skyway connector wraps around the terrace at this level. The mechanical and electrical central plants are included in the below-grade parking facility.

Site Design

The site design for Plan B will be the same as Plan A.

c. Project magnitude

Table 1: Project Magnitude

Measure	Plan A	Plan B
Total Project Acreage	1.7 acres	1.7 acres
Linear Project Length	Not applicable	Not applicable
Number and Type of Residential Units	Approximately 50 residential units	Approximately 140 residential units
Commercial Building Area (Includes Office and Retail)	598,700 square feet	501,820 square feet
Industrial Building Area	None	None
Institutional Building Area	None	None
Other Uses – Parking	Approximately 511 parking stalls	Approximately 530 parking stalls
Other Uses – Hotel	280 rooms	None
Structure Height(s)	40 floors (558'-8" total height)	32 floors (459'-4" total height)

d. Explain the project purpose. If the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of the project is to redevelop the existing surface parking lot into a mixed-use residential and commercial development. The subject parcel is currently a surface parking lot and bus shelter.

e. Are future stages of this development, including development on any other property, planned or likely to happen? Yes No

If yes, briefly describe future stages, relationship to present project, timeline, and plans for environmental review.

The proposed development would occur in one phase.

- f. Is this project a subsequent stage of an earlier project? Yes No

If yes, briefly describe the past development, timeline, and past environmental review.

Not applicable.

7. Cover Types

Estimate the acreage of the site with each of the following cover types before and after development.

Table 2: Cover Types for Both Plan A and Plan B

Cover Type	Before (Acres)	After (Acres)
Wetlands	0	0
Deep Water/Streams	0	0
Wooded/Forest	0	0
Brush/Grassland	0	0
Cropland	0	0
Lawn/Landscaping	0.14	0.12
Impervious Surface	1.56	1.58
Stormwater Pond	0	0
Other (describe)	0	0
Total	1.7	1.7

8. Permits and Approvals Required

List all known local, state, and federal permits, approvals, certifications, 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.

Table 3: Permits and Approvals Required

Unit of Government	Type of Application	Status
Federal		
Federal Aviation Administration	Airspace hazard permit (for any structures more than 200 feet above ground level)	To be applied for
State		
Minnesota Department of Health	Water Main Installation Permit Drainage Permit	To be applied for To be applied for
Minnesota Pollution Control Agency	NPDES/SDS Construction Stormwater Permit	To be applied for

Unit of Government	Type of Application	Status
	Sanitary Sewer Extension Permit	To be applied for, if needed
	Response Action Plan Approval	To be applied for as redevelopment plans are developed
	Storage Tank Registration	To be applied for, if needed
Minnesota Department of Natural Resources	Groundwater Appropriation Permit (Temporary or Permanent)	To be applied for, if needed
Regional		
Metropolitan Council	SAC Determination Request	To be applied for, if needed
	Special Discharge Approval	To be applied for, if needed
	Sanitary Sewer Extension Permit	To be applied for, if needed
Mississippi River Water Management Organization	Stormwater Management Plan Approval	To be applied for
Hennepin County	Right-of-Way Permit	To be applied for
Local		
City of Minneapolis	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 Grading Permit	To be applied for
	Stormwater Management Plan Approval	To be applied for
	Approval of Easement Vacation (existing utility easement)	To be applied for, if needed
	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
	Encroachment Permit	To be applied for, if needed
	Utility Repair Permit	To be applied for, if needed
	Sidewalk Construction Permit	To be applied for, if needed
	Testing and Inspection Permit	To be applied for, if needed
	EIS Decision	In process
	Zoning (CUP for a PUD, Site Plan Review, Variances, etc.)	To be applied for
	Remediation Grant Applications	To be applied for, if needed
	Water Discharge from Dewatering or Storm Water Ponds	To be applied for, if needed
	Well Permit	To be applied for, if needed
	Tank Permit	To be applied for, if needed
	Remediation Permits	To be applied for, if needed
	Temporary On-Site Storage of Impacted Soil Approval	To be applied for, if needed
	Approval of Impacted Soil Reuse	To be applied for if needed
	Temporary Rock Crushing Permit	To be applied for if needed

9. Land Use

a. Describe:

- i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, and prime or unique farmlands.

The existing site is a surface parking lot with a bus shelter surrounded by roadways. According to the *Minneapolis Plan for Sustainable Growth* (October 2009), the existing land use of the project site is commercial. Surrounding the site, the existing land uses are commercial, mixed-use, parks/open space, residential (high-density housing), and cultural/entertainment (see existing land use map in Attachment D). The Mississippi River and riverfront parkland and trails are located two blocks to the northeast.

There are no prime or unique farmlands within the project site as it is located within an urban area.

- ii. Planned land use as identified in comprehensive plans (if available) and any other applicable plan for land use, water, or resource management by a local, regional, state, or federal agency.

According to the *Minneapolis Plan for Sustainable Growth*, the planned land use for the site is commercial. See Attachment D for the future land use map. This land use category includes a broad range of commercial uses and is used for areas that are less suited for mixed-use development that includes residential.

The project site is also located in the Downtown Area that is identified as a Growth Center in the *Minneapolis Plan for Sustainable Growth*. Growth Centers contain a significant concentration of employment activity, and employment is complemented by a wide range of activities, including residential, office, retail, entertainment, and recreational uses.

Hennepin Avenue, Nicollet Mall, and S Washington Avenue are also identified as Commercial Corridors. Commercial Corridors can accommodate intensive commercial uses and high levels of traffic. The corridors support all types of commercial uses, with some light industrial and high density residential uses as well.

The following policies and implementation steps from the *Minneapolis Plan for Sustainable Growth* apply to the proposal:

- Land Use Policy 1.4: Develop and maintain strong and successful commercial and mixed-use areas with a wide range of character and functions to serve the needs of current and future users.
- Land Use Policy 1.5: Promote growth and encourage overall city vitality by directing new commercial and mixed-use development to designated corridors and districts.

- Land Use Policy 1.8: Preserve the stability and diversity of the city's neighborhoods while allowing for increased density in order to attract and retain long-term residents and businesses.
 - 1.8.1 Promote a range of housing types and residential densities, with highest density development concentrated in and along appropriate land use features.
 - Land Use Policy 1.10: Support development along Commercial Corridors that enhances the street's character, fosters pedestrian movement, expands the range of goods and services available, and improves the ability to accommodate automobile traffic.
 - Land Use Policy 1.15: Support development of Growth Centers as locations for concentration of jobs and housing, and supporting services.
- iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

Current Zoning

The existing primary zoning of the site is B4-1. The City of Minneapolis describes the B4-1 district as follows: "The B4-1 Downtown Business District is established to provide an environment for retail and office activities of citywide and regional significance. The district also allows entertainment, residential and public uses which complete the mixed-use character of the area." The B4-1 district allows the highest density office development within the downtown area.

Overlay Districts

Parts of the site are located within the Nicollet Mall Overlay District. The City of Minneapolis describes the Nicollet Mall Overlay District as follows: "The Nicollet Mall (NM) Overlay District is established to preserve and encourage the pedestrian character of the Nicollet Mall area and to promote street level activity by creating a pleasant and unique pedestrian environment."

The site is within the Downtown Parking Overlay District. The City of Minneapolis describes the Downtown Parking Overlay District as follows: "The Downtown Parking Overlay District (DP) is established to preserve significant and useful buildings to protect the unique character of the downtown area and the mixed-use downtown neighborhoods by restricting the establishment or expansion of surface parking lots and establishing certain minimum and maximum off-street parking standards in the downtown area."

The project site is not located within a shoreland, floodplain, wild and scenic river, critical area, or agricultural preserve.

- b. **Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.**

Both of the development scenarios are compatible with existing and planned uses for the area. The Minneapolis Plan for Sustainable Growth guides the site for this type of development.

The proposer anticipates applying for a conditional use permit for the project to be a planned unit development (PUD). Alternatives from certain zoning regulations may be approved in a PUD through the provision of amenities. The PUD application will include requests to reduce the required number of loading spaces and for approval of a master sign plan.

Table 4 sets forth the maximum development under consideration for the site.

Table 4: Maximum Development Under Consideration

Development Plan	Proposed Gross Floor Area (sf)	Site Area (sf)	Proposed Floor Area Ratio
Plan A	1,083,205	74,502	14.54
Plan B	829,940	74,502	11.14

Height and Floor Area Ratio (FAR)

There are no height limits for development in the B4-1 District.

Within the B4-1 district, the base allowed floor area ratio (FAR) of all structures is 8.0. Allowed FAR is increased for projects that qualify for FAR premiums as specified in Chapter 549 of the Minneapolis Zoning Code. Both Plan A and B are expected to meet the FAR requirement through the incorporation of premium features such as, but not limited to, skyway connections, outdoor urban open space, and an enclosed freight terminal.

Parking and Loading

Off-street parking and loading requirements are established in Chapter 541 of the Zoning Code.

Plan A

Plan A is proposing to provide approximately 511 parking spaces on three levels of underground parking, with 71 spaces dedicated to the residential uses and 70 parking spaces dedicated to the hotel. The remaining 370 parking spaces will be made available for the office component of the site, and during off-peak times, potentially made available for public parking.

Plan B

Plan B is proposing to provide approximately 530 parking spaces on three levels of underground parking, with 160 spaces dedicated to the residential uses. The remaining 370 parking spaces will be made available for the office component of the site, and during off-peak times, potentially made available for public parking.

Plan A and Plan B

The loading docks for Plan A and B will be similar in size and capacity with space for two full loading bays and one single unit loading bay. The size of the proposed loading docks is the industry standard for both scenarios of mixed-use development.

The proposed parking for both Plan A and Plan B meet the requirements of Chapter 541 and the Downtown Parking Overlay District. The proposed number of loading spaces is less than the number required by Chapter 541. The proposer will request an alternative to reduce the loading requirement in a PUD.

NM Overlay District

The NM Overlay District establishes a maximum 8-foot setback for the first floor, except where, as proposed for this project, the building is separated from Nicollet Mall by urban open space. The NM Overlay District also establishes requirements for stepping back of upper floors and for inclusion of street-level retail uses that the project will meet. The project will require variances from maximum sign height limits established in the NM Overlay District.

- c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The proposed development meets all land use and zoning requirements as outlined above.

10. Geology, Soils, and Topography/Land Forms

- a. **Geology** – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

According to the Geologic Atlas for Hennepin County (1989),¹ bedrock geology of the project site consists of Platteville and Glenwood Formations, fine-grained limestone containing thin shale partings near the top and base, underlain by green, sandy shale. The estimated depth to bedrock based on data from the Minnesota Well Index (MWI) is 22 feet. The surficial geology consists of Middle Terrace deposits (sand, gravelly sand, and loamy sand, overlain by thin deposits of silt, loam, or organic sediment).

No sinkholes, unconfined/shallow aquifers, or karst conditions were identified in the project area.

- b. **Soils and Topography** – Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability, or other soil limitations, such as steep slopes or highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between

¹ Available at <https://conservancy.umn.edu/handle/11299/58491>

construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections, or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, there is one soil type within the site (Urban land – Udisamsments (cut and fill land) complex; 0-2 percent slopes). Due to the location of the site and the Urban land classification of the soil, the soil type is not rated for an erosion hazard rating meaning that erosion is unlikely under ordinary climatic conditions.

A geotechnical review will be completed on the site. This will determine if any soil corrections or other measures will be necessary for construction.

The topography on the site varies from 840 feet in elevation to 842 feet in elevation across the site.

Site grading of all 1.7 acres for the proposed development will occur, with 90,203 cubic yards (cy) of excavation proposed for site grading and development.

11. Water Resources

- a. Describe surface water and groundwater features on or near the site below.
 - i. Surface Water – lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within one mile of the project. Include DNR Public Waters Inventory number(s), if any.

The Mississippi River is approximately 0.3 miles from the project site and is a Minnesota Department of Natural Resources (DNR) Public Water. No other surface water resources (wetlands, lakes, streams, etc.) are located within or adjacent to the project site. Within one mile of the site, there are two impaired waters: the Mississippi River and Bassett Creek.

- ii. Groundwater – aquifers, springs, and seeps. Include 1) depth to groundwater; 2) if project is within a MDH well protection area; and 3) identification of any onsite and/or nearby wells, including unique numbers and well logs, if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

The project site is not within a wellhead protection area or a drinking water supply management area.

According to the Minnesota Department of Health County Well Index, there are four wells located within the project site. Well information is included in

Table 5 and shown on Figure 4.

Table 5: Wells within the Project Site

Well Unique ID	Well Name	Status	Use
200352	Pick-Nicollet Hotel No. 1	Active	Commercial
223993	Synders Drug Co.	Unknown	Commercial
224053	Nicollet Hotel No. 3	Sealed	Air Conditioning
231895	Nicollet Hotel No. 2	Sealed	Commercial

If the wells are still active and located on the site, the MDH may require the wells to be properly sealed and grouted according to the current well sealing guidance prior to redevelopment of the site.

The depth to groundwater in this area is approximately 20 to 40 feet. The elevation at the bank of the Mississippi River is 798 feet. The elevation of the project site ranges from 840 to 842 feet.

- b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects below.

- i. **Wastewater** – For each of the following, describe the sources, quantities, and composition of all sanitary, municipal/domestic, and industrial wastewaters projected or treated at the site.

- 1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

There is an existing sanitary sewer line stubbed to the site from Hennepin Avenue, but there are no current uses on site that utilize the sanitary sewer. The future project is proposing to connect to the sanitary sewer main within Hennepin Avenue that drains to the north and east into a 3-foot by 5.5-foot sanitary tunnel. The maximum flow under Plan A is 136,000 gallons per day (GPD) and the maximum flow under Plan B is 102,000 GPD. The existing 30-inch sewer main in Hennepin Avenue along with the downstream sanitary tunnel will have sufficient capacity for the proposed project under either scenario. In order to tie into the public sanitary sewer lines, permits for work within the right-of-way may be required from the City of Minneapolis and Hennepin County.

The property will be served by the publicly owned Metropolitan Council (Met Council) Metropolitan Wastewater Treatment Plant in Saint Paul, MN. The plant currently treats approximately 178 million GPD, with a total capacity of up to 314 million GPD according to the Met Council Environmental Services Plant Inflow Summary Report for the period ending September 30, 2014. Based on the Twin Cities Met Council Sewer Availability Charge Guidelines, the estimated wastewater from the proposed mixed-use development is anticipated to consist primarily of normal domestic sewage. Plan A is expected to generate approximately 136,000 GPD (0.136 million GPD). The Met Council's Metropolitan Wastewater Treatment Plant can treat the volume

and composition of wastewater generated by the proposed project without pretreatment or other plant facility improvements.

- 2) If the wastewater discharge is to a subsurface sewage treatment system (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

Not applicable.

- 3) If the wastewater discharge is to surface water, identify the wastewater treatment methods, discharge points, and proposed effluent limitations to mitigation impacts. Discuss any effects to surface or groundwater from wastewater discharges.

Not applicable.

- ii. Stormwater – Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control, or stabilization measures to address soil limitations during and after project construction.

The proposed site consists of 1.7 acres of primarily impervious coverage. The project site was initially developed prior to the implementation of regulations to manage stormwater runoff quality and quantity and no apparent stormwater best management practices (BMPs) appear to be located within the site. Stormwater from the site currently drains into several municipal storm sewer catch basins that connect to a storm tunnel near Nicollet Mall and S Washington Avenue, which ultimately connects into the Mississippi River untreated.

Post-construction quality of stormwater runoff from the project site will be improved by BMPs to meet the treatment requirements of the City for total suspended solids (TSS) removal, as well as Minnesota Pollution Control Agency (MPCA) treatment requirements. Stormwater quantity will be controlled such that volume and discharge rates do not exceed existing for the 2-, 10-, and 100-year SCS Type II/24-hour storm events. All proposed BMPs for the project site will occur outside the public right-of-way. Completed conveyance systems and BMPs for the project will be designed according to acceptable industry standards and conform to jurisdictional requirements. Proprietary filtration treatment devices may be utilized to meet the City's water quality standards similar to several other downtown projects where space for BMPs is limited.

The final design of the site, once determined, will achieve all of the outcomes stated in the above paragraph to manage stormwater within the project boundaries and will comply with all stormwater requirements stated within the Minneapolis Code of Ordinances, including Chapter 54, which states provisions

for water quality and rate control. BMPs have not yet been determined for the project, but may include one or more of the following practices, among others: media filtration systems, bio-retention basins, underground detention systems, underground infiltration galleries, permeable pavements, and green roofs.

A Stormwater Pollution Prevention Plan (SWPPP) will be developed in accordance with the National Pollutant Discharge Elimination System (NPDES) permit administered by the MPCA. The SWPPP will cover temporary measures to prevent pollution during construction (erosion and sediment control as well as controls to minimize spills, leaks, or other discharges of pollutants) and permanent measures to prevent stormwater pollution after construction. These BMPs may include one or more of the following: 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 material for final restoration.

Additionally, an Erosion and Sediment Control Plan is required by the City of Minneapolis (Chapter 54 of the Minneapolis Code of Ordinances) for all land disturbance activities exceeding 5,000 square feet or 500 cubic yards of earth moved. An Erosion Control Plan checklist will be followed by the developer to meet the City Code requirements, minimize drainage problems, soil erosion, and prevent sediment from entering curb and gutter systems and storm sewer inlets.

- iii. Water Appropriation – Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use, and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Permanent dewatering is not expected as a part of this project. A Water Use Appropriations Permit would be obtained if permanent dewatering was determined to be necessary for the final design of the project.

A Water Use Appropriation Permit is required for permanent water appropriations and applies to users withdrawing more than 10,000 gallons of water per day or 1 million gallons per year.

A Temporary Projects General Permit 1997-0005 is required for all temporary water appropriations. To be included under this permit the project must have minimal potential for causing adverse environmental impacts, water appropriations that do not exceed 50 million gallons per year with appropriations completed within one year from start of pumping, and records of monthly water appropriation volumes that must be submitted to the DNR on or before February 15th of the year following water use. A City of Minneapolis Temporary Water Discharge Permit would also be obtained for any temporary dewatering for construction.

The applicant would be required to comply with all local permitting requirements necessary for dewatering of groundwater and stormwater on-site during construction as applicable.

iv. Surface Waters

- 1) Wetlands – Describe any anticipated physical effects or alterations to wetland features, such as draining, filling, permanent inundation, dredging, and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

No wetland features or surface waters were identified within the project site; therefore, no impacts are anticipated.

- 2) Other surface waters – Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, dike, stream diversion, impoundment, aquatic plant removal, and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

No impacts to surface water features are anticipated.

12. Contamination/Hazardous Materials/Wastes

- a. Pre-project Site Conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site, such as soil or groundwater contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize, or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

A Phase II Environmental Site Investigation was completed for the project site in April 2017 for Hennepin County.² The results of this Phase II Investigation indicate that conditions exist on the site that may require response actions:

- Fill soil with intermixed debris (i.e., regulated fill) was encountered across the site with thicknesses up to 20 feet below ground surface (bgs), overlying what appeared to be a buried basement foundation at a depth around 24 feet bgs in the northeastern half of the project area. Previous indications of a perched water table along Hennepin Avenue were not encountered during Phase II activities.
- Both petroleum and non-petroleum contaminants were identified on site at concentrations above applicable standards. Petroleum contamination was observed within the area of previously documented petroleum impacts at depths between 18 and 20 feet bgs. Although some removal of impacted soil occurred during the previous removal of the underground storage tanks, contaminated soils remain on site. Tetrachloroethene (also referred to as perchloroethylene or PCE) was identified in both soil and soil vapor on site.
- Petroleum and non-petroleum related volatile organic compounds (VOCs) were detected in all five soil gas samples at concentrations that were above Residential and/or Industrial Intrusion Screening Values (ISVs) for select compounds. All soil gas samples had 1,3-butadiene concentrations greater than industrial ISV. However, it is noted that this compound is commonly detected in soil gas samples from urban sites; thus, its presence is not considered to represent a significant concern with respect to the planned redevelopment.

A Response Action Plan/Construction Contingency Plan (RAP/CCP) will be prepared and approved by the MPCA that outlines procedures and requirements for soil remediation, vapor intrusion mitigation (if warranted), groundwater management, and environmental monitoring during redevelopment of the site.

Contaminated and/or geotechnically unsuitable soil removed during completion of construction-related excavations for building foundations and utilities, including underground parking, may require off-site disposal at a permitted landfill.

Based on MPCA's October 2016 vapor investigation and mitigation guidance, additional pre-construction vapor investigation may be required to provide sufficient data to make a determination as to whether any new structures will require active vapor mitigation to address the identified petroleum and non-petroleum (i.e., PCE) soil vapor impacts at the site.

Pre-project site conditions are the same for Plans A and B.

- b. Project Related Generation/Storage of Solid Wastes – Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage,

² Braun Intertec Corporation. *Phase II Environmental Site Investigation: Former Nicollet Hotel, 30 3rd Street South, Minneapolis, Minnesota*. April 18, 2017.

and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

Demolition debris and earth materials would be generated during demolition of the existing parking lot and bus shelter. Demolition debris is inert material such as concrete, brick, bituminous, glass, plastic, untreated wood, and rock. The solid wastes generated during demolition would be recycled or disposed of at a state-permitted landfill.

Construction of the proposed development under either Plan A or Plan B will generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which would either be recycled or disposed of in the proper facilities in accordance with state regulations and guidelines.

Hazardous waste products are not anticipated to be produced or stored within the proposed development under either Plan A or B.

- c. Project Related Use/Storage of Hazardous Materials – Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location, and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spills or releases of hazardous materials. Identify measures to avoid, minimize, or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

No underground or above ground storage tanks have been identified within the project site. A new 3,000-gallon diesel fuel tank for one or more emergency generators is anticipated for both scenarios. It will be located on the first level in the southwest portion of the building along S 3rd Street.

Any hazardous waste materials used/stored during construction and/or operation of the project will be disposed of in the manner specified by local or state regulation or by the manufacturer. A spill prevention plan will be developed, and proper spill prevention controls will be in place for any vehicle refueling or maintenance that occurs on site during construction.

- d. Project Related Generation/Storage of Hazardous Wastes – Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of hazardous wastes including source reduction and recycling.

Removal of the existing parking lot and bus shelter will not generate new hazardous waste. It is not anticipated for the bus shelter to contain any regulated waste (asbestos, lead paint, etc.) or for there to be unregulated fill that has been previously placed on site. If either is encountered, an Abatement Plan would be prepared by the contractor to address removal and proper disposal of any regulated materials. The plan would be reviewed by the MPCA prior to demolition. Following abatement and demolition activities, a comprehensive Abatement Closeout Report would be prepared, which

would document the removal, management, and disposal of the regulated materials. This report would be submitted to the MPCA for final closeout.

Regulated material and/or waste will be managed in accordance with state requirements. No known toxic or hazardous wastes are anticipated to be generated on the site. Toxic or hazardous waste to be stored on the site during construction will include fuel and oil necessary to operate heavy construction equipment and during operations may include commercial cleaning supplies.

13. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

- a. Describe fish and wildlife resources as well as habitats and vegetation on or near the site.

There are no fish and wildlife resources and habitats on or near the project site. Most of the project site is impervious. The project site is east of the Mississippi River Critical Area and the Mississippi River. Neither will be impacted as a result of this project.

- b. Describe rare features such as state-listed (endangered, threatened, or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-843) and/or correspondence number (ERDB) from which the data were obtained, and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe results.

A review of the DNR Natural Heritage Inventory System was conducted per license agreement LA-843 for the project site and within approximately one mile of the project site. The database includes the known occurrences of any state endangered, threatened, or special concern species. The review identified three species that may be found near this area.

- Black sandshell (*Ligumia recta*): 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 project site will not have any direct effect on the Mississippi River or this mussel species.³

- Peregrine falcons (*Falco peregrinus*): State status – special concern

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, and in 2013 the state status changed to special concern. 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

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

warblers to ducks, which are caught and killed in mid-air. In urban areas, pigeons provide an abundant food source. The construction of the project site 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.

- Tricolored bats (*Perimyotis subflavus*): 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.⁴

- a. Discuss how the identified fish, wildlife, plant communities, rare features, and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

No impacts to fish, wildlife, plant communities, rare features, or ecosystems are anticipated.

Invasive species are plants and animals that are not native to an area and are capable of causing harm. Certain measures can be taken to limit the likelihood of introducing invasive species, such as securing local materials to avoid the long-range movement of goods or washing vehicles prior to accessing the project site. Additionally, landscape design would include native, non-invasive plants.

- b. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

No adverse effects to fish, wildlife, plant communities, and sensitive ecological resources are anticipated as a result of redevelopment of this site.

With both Plan A and Plan B, the building exteriors will be Low-E, low reflective glass in an aluminum framing system, with precast concrete panels, decorative stone panels, and metal panels, all supported on a concrete structure. The lower podium will have extensive solid areas consisting of approximately 65 percent glass, 32 percent precast/stone, and 3 percent metal. The rest of the building will consist of approximately 87 percent glass, 10 percent precast/stone, and 3 percent metal. On the office floors, approximately 18 percent of the overall glass façade will be non-transparent spandrel glass with a ceramic frit coating. For Plan A on the hotel floors, approximately 15 percent of the glass will be non-transparent spandrel glass with a ceramic frit coating. The residential floors for both Plan A and Plan B will have balconies.

⁴ <http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=AMACC03020>

The building design will also include limited interior plantings adjacent to the exterior glass; a horizontal canopy system at the ground level to reduce the apparent amount of visible glass and reflections; and a decorative and translucent frit pattern on a portion of the lobby's glass enclosure wall. The skyway will incorporate fritted glass or other bird-safe treatment. The features identified above will minimize the potential for bird/window collisions. It is anticipated that the exterior building lighting will meet LEED goals, with reduced night lighting in inclement weather, to reduce potential impacts to migrating birds.

14. Historic Properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include 1) historic designations; 2) known artifact areas; and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

The Minnesota State Historic Preservation Office (SHPO) was contacted to determine whether any known cultural resources have been previously identified within the project area (see Attachment E for the response letter). The SHPO response noted the project site is adjacent to two historic districts (noted below) and the Northwestern National Life Insurance Building which is eligible for listing on the National Register of Historic Places (NRHP).

The site is currently a 175-stall surface parking lot with a bus shelter. The project site is not located within any historic districts or known to have any historic or archeological resources. The project site does not have any historic designations. The site is within one block of both the Saint Anthony Falls Historic District and the Minneapolis Warehouse District. Construction and operation of the project will not have any effect on the nearby historic districts. The proposed building is also consistent in size and design as other buildings in the downtown core.

The plaza setback, as required by the streetcar easement, will provide adequate spacing between the proposed development and the Northwestern National Life Insurance Building. The proposed development is consistent with other high-rise buildings in the downtown core. The proposed development will not have any physical impacts to the Northwestern National Life Insurance Building; therefore, no adverse impacts are anticipated.

SHPO also recommended a Phase I archeological survey be conducted. Previous development on the site has included construction of the Nicollet House Hotel in 1858, demolition of the Nicollet House Hotel in 1923, construction of the Nicollet Hotel in 1924, and demolition of the Nicollet Hotel in 1991, at which time it became a surface parking lot. Due to the highly-disturbed nature of the site with fill material present down to bedrock under the existing surface parking lot, the project site is anticipated to have a low probability to contain any intact archeological resources and a Phase I survey is not planned.

15. Visual

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

Under Plan A the proposed development would include a 40-story building, and under Plan B the proposed development would include a 32-story building, both of which would be taller than the surrounding buildings. Either scenario would be visible from around the city. Across Nicollet Mall is the 13-story Marquette Plaza and Cancer Survivors Park; across S 3rd Street is the 5-story Minneapolis Central Library; across Hennepin Avenue is green space and two approximately 5-story buildings; and across Washington Avenue is the 6-story Northwestern National Life Building.

The shadow study included in Attachment B illustrates the shadows that would be created by the proposed development. The shadowing of this proposed development would be similar to other tower structures in the city. Specific to Cancer Survivors Park located across Nicollet Mall, the proposed development would cast a shadow on the northern part of the park in the evening hours, with the most shadowing occurring in the summer. The existing Marquette Plaza building also casts shadows on the park.

The existing views from the project site include Target Field, Hennepin Avenue Bridge, Gateway Park, and commercial buildings. The Mississippi River and riverfront development is not currently visible from the project site but would be visible from the proposed tower.

The exterior of the buildings would be approximately 75 percent vision glass and 25 percent solid façade. The proposed materials of stone with glass windows would provide consistent visual connection to the surrounding area.

16. Air

- a. Stationary Source Emissions – Describe the type, sources, quantities, and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health, or applicable regulatory criteria. Include a discussion of any methods used to **assess the project's effect on air** quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

No stationary source air emissions are anticipated under either Plan A or B; therefore, no mitigation is required. The heating and cooling systems for the development have not been designed. No significant impacts are anticipated from the typical residential/commercial systems that would provide heating and cooling for the proposed development.

- b. Vehicle Emissions – **Describe the effect of the project's traffic generation on air emissions.** **Discuss the project's vehicle**-related emissions effect on air quality. Identify measures (e.g., traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

Typical of most developments, the proposed project would 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 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 determine whether the total daily approach volume of the project site exceeds 82,300 AADT. If it does, then an analysis would be required. The approach volumes at all of the signalized intersections near the project site are below approximately 25,000 AADT for both Plan A and Plan B, well below the threshold of 82,300. Therefore, the first criterion is not met.

The second criterion compares the project site 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 the proposed project, then analysis would be required. The nearest of these intersections is 2.6 miles away, at the intersection of Hennepin Avenue and Lake Street in Minneapolis, and would not be impacted by the development; therefore, the second criterion is not met. As a result, no hot spot analysis is needed, and no measurable change in air quality is anticipated as a result of the project.

Local regulations exist for vehicle idling. No idling will be allowed in the loading dock or porte-cochere. The loading dock space will be ventilated and will have CO and nitrous oxide (NO₂) monitoring equipment. The porte-cochere will be open air and therefore does not require ventilation.

- c. Dust and Odors – Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under Item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

The construction and occupancy of the proposed project is not expected to generate objectionable odors under either Plan A or Plan B.

During construction, contractors would follow best management practices to reduce dust emissions. Once occupied, the project is not expected to generate fugitive dust emissions.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area; 2) nearby sensitive receptors; 3) conformance to state noise standards; and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

The information below applies to both Plan A and Plan B.

Existing Noise

The project site is located in an urban area surrounded by city and county roads.

Construction Noise

The Minneapolis Code of Ordinances regulates both the hours of operation for construction equipment and allowable noise levels. Construction of the project would adhere to requirements identified in Minneapolis Code of Ordinance, 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 work outside these hours as applicable.

Operational Noise

The Minneapolis Code of Ordinances and the MPCA regulate mechanical noise associated with building operation. The occupancy of the proposed project would comply with these requirements.

Building design will incorporate noise reduction technologies in interior spaces as a result of existing local traffic.

18. Transportation

- a. Describe traffic-related aspects of project construction and operation. Include 1) existing and proposed additional parking spaces; 2) estimated total average daily traffic generated; 3) estimated maximum peak hour traffic generated and time of occurrence; 4) source of trip generation rates used in the estimates; and 5) availability of transit and/or other alternative transportation modes.

Parking

Existing Parking

Approximately 175 surface parking stalls are on site. Additionally, Metro Transit buses use a portion of the site.

Plan A

Plan A is proposing to provide approximately 511 parking spaces on three levels of underground parking, with 71 spaces dedicated to the residential uses and 70 parking spaces dedicated to the hotel. The remaining 370 parking spaces will be made available for the office component of the site, and during off-peak times, potentially made available for public parking.

Plan B

Plan B is proposing to provide 530 parking spaces on three levels of underground parking, with 160 spaces dedicated to the residential uses. The remaining 370 parking spaces will be made available for the office component of the site, and during off-peak times, potentially made available for public parking.

Traffic Generation

The anticipated vehicle traffic generation was based on information provided in Institute of Transportation Engineers (ITE) Trip Generation 10th Edition, and accounted for non-vehicle trip reductions to account for trips arriving/departing via pedestrians, bicycles, and transit. The following non-automobile mode splits were assumed: 60 percent for residential, 50 percent for hotel, and 60 percent for office. More detailed information on the traffic generation is provided in the Travel Demand Management Plan (TDMP) (attached).

Table 6 and Table 7 provide a summary of the Plan A peak hour vehicle traffic generation for the weekday AM and PM peak hours, respectively.

Table 6: AM Peak Hour Vehicle Traffic Generation (Plan A)

ITE Land Use Code	Land Use Description	Units	No.	Average Rate	Mode Split Factor	Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips	
220	Multi-family mid-rise	DU	50	0.36	0.40	26%	74%	2	6	8	
310	Hotel	Rooms	280	0.47	0.50	59%	41%	39	27	66	
710	General office	SF	598,707	1.16	0.40	86%	14%	239	39	78	
Total									280	72	352

Table 7: PM Peak Hour Vehicle Traffic Generation (Plan A)

ITE Land Use Code	Land Use Description	Units	No.	Average Rate	Mode Split Factor	Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips	
220	Multi-family mid-rise	DU	50	0.36	0.40	26%	74%	5	4	9	
310	Hotel	Rooms	280	0.47	0.50	59%	41%	50	34	84	
710	General office	SF	598,707	1.16	0.60	86%	14%	44	232	276	
Total									99	270	369

Table 8 and Table 9 provide a summary of the Plan B peak hour vehicle traffic generation for the weekday AM and PM peak hours, respectively.

Table 8: AM Peak Hour Vehicle Traffic Generation (Plan B)

ITE Land Use Code	Land Use Description	Units	No.	Average Rate	Mode Split Factor	Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips
220	Multi-family mid-rise	DU	140	0.36	0.40	26%	74%	5	16	21
710	General office	SF	486,742	1.16	0.40	86%	14%	194	32	226
Total						199	48	247		

Table 9: PM Peak Hour Vehicle Traffic Generation (Plan B)

ITE Land Use Code	Land Use Description	Units	No.	Average Rate	Mode Split Factor	Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips
220	Multi-family mid-rise	DU	140	0.36	0.40	26%	74%	15	10	25
710	General office	SF	486,742	1.16	0.40	86%	14%	36	188	224
Total						51	198	249		

Availability of Transit

There is an ample amount of transit options near the proposed development, including an extensive sidewalk network, Nice Ride bike sharing, downtown skyway system, and bus/light rail transit (LRT).

As part of this project, a skyway connection is proposed, which will be connected to the existing downtown skyway system and will help in promoting non-automobile use.

There are currently two Nice Ride stations located adjacent to the development, with an additional six stations within a couple blocks.

The development is located within two blocks of the Warehouse District/Hennepin Avenue LRT station, which provides access to both the METRO Blue Line and METRO Green Line.

The existing bus stop on the site will be relocated to the Hennepin County Library block. There are other bus stops adjacent to the site that provide access to over 38 bus routes.

- b. Discuss the effect 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**. 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. Use the format and procedures described in the **Minnesota Department of Transportation's Access Management Manual**, Chapter 5 (available at:

<http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance.

As part of the TDMP, a traffic analysis was performed to determine existing and proposed operating conditions at the adjacent signalized intersections. Based on the analysis, all intersections are anticipated to operate at an acceptable level of service during existing conditions and with the proposed development. More detailed information on the traffic analysis is provided in the TDMP (see Attachment C).

- c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

Based on the traffic analysis provided in the TDMP (see Attachment C), there are no off-site mitigation measures needed as the intersections are anticipated to operate at an acceptable level of service.

As part of the development, a porte-cochere is proposed along Hennepin Avenue to serve valet operations for all hotel users in addition to restaurant users and residential/office guests that choose to utilize the valet service. To minimize any impacts to the pedestrian facilities and travel lanes along Hennepin Avenue, a secondary valet station will be provided in parking level 1 to accommodate increased valet service during events that utilize the hotel's meeting and ballroom space.

City Staff has concerns about allowing a porte-cochere on Hennepin Avenue both from a transportation and access standpoint and also an urban design standpoint. This design element will continue to be addressed and may be modified.

19. Cumulative Potential Effects

- a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

This EAW describes the redevelopment of the surface parking lot site bound by Hennepin Avenue, S 3rd Street, S Washington Ave and Nicollet Mall in Minneapolis. While no specific adjacent development projects are known at this time, redevelopment opportunities do exist within close proximity to the site and within the broader vicinity despite the fact that the area is a built-out urban environment. The proposed development was anticipated and implements plans and policies adopted by the City. The proposed project is not expected to have any adverse impacts. Due to the proposed urban characteristics and for the somewhat restricted opportunities for new development in this area, no cumulative potential impacts of this development are anticipated.

- b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

Hennepin Avenue Reconstruction

The City of Minneapolis is looking to reconstruct Hennepin Avenue between Washington Avenue and 12th Street. The reconstructed street will accommodate all modes within the

existing right-of-way. Construction will begin in 2020 and last two years. Pre-construction utility work is scheduled for 2019.

Coordination between the proposed development and the City's utility work should occur to minimize disturbance in the project area. Otherwise, no impacts to the project site are anticipated.

[Nicollet-Central Modern Streetcar](#)

The Locally Preferred Alternative for the Nicollet-Central Modern Street Car project will be located along Nicollet Mall and Hennepin Avenue, which will run adjacent to the project. The proposed project will be providing for a future streetcar guideway over the plaza and a traction power substation (TPSS) duct bank through the underground parking garage to minimize future impacts to the project site once the Nicollet-Central Modern Streetcar project moves forward.

- c. Discuss 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.

There are no other major development projects that have been identified within the project area. The proposed project may impact contamination/hazardous materials/wastes and if they are encountered, a Response Action Plan/Construction Contingency Plan (RAP/CCP) will be prepared and approved by the MPCA that outlines procedures and requirements for soil remediation, vapor intrusion mitigation (if warranted), groundwater management, and environmental monitoring during redevelopment of the site.

[20. Other Potential Environmental Effects](#)

If the project may cause any additional environmental effects not addressed by Items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

All known potentially adverse environmental effects are addressed in the preceding EAW items.

RGU Certification

The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages, or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively,
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature

Hilary Drnak

Date

June 28, 2018

Title

Principal City Planner

Figures

Figure 1: County Map

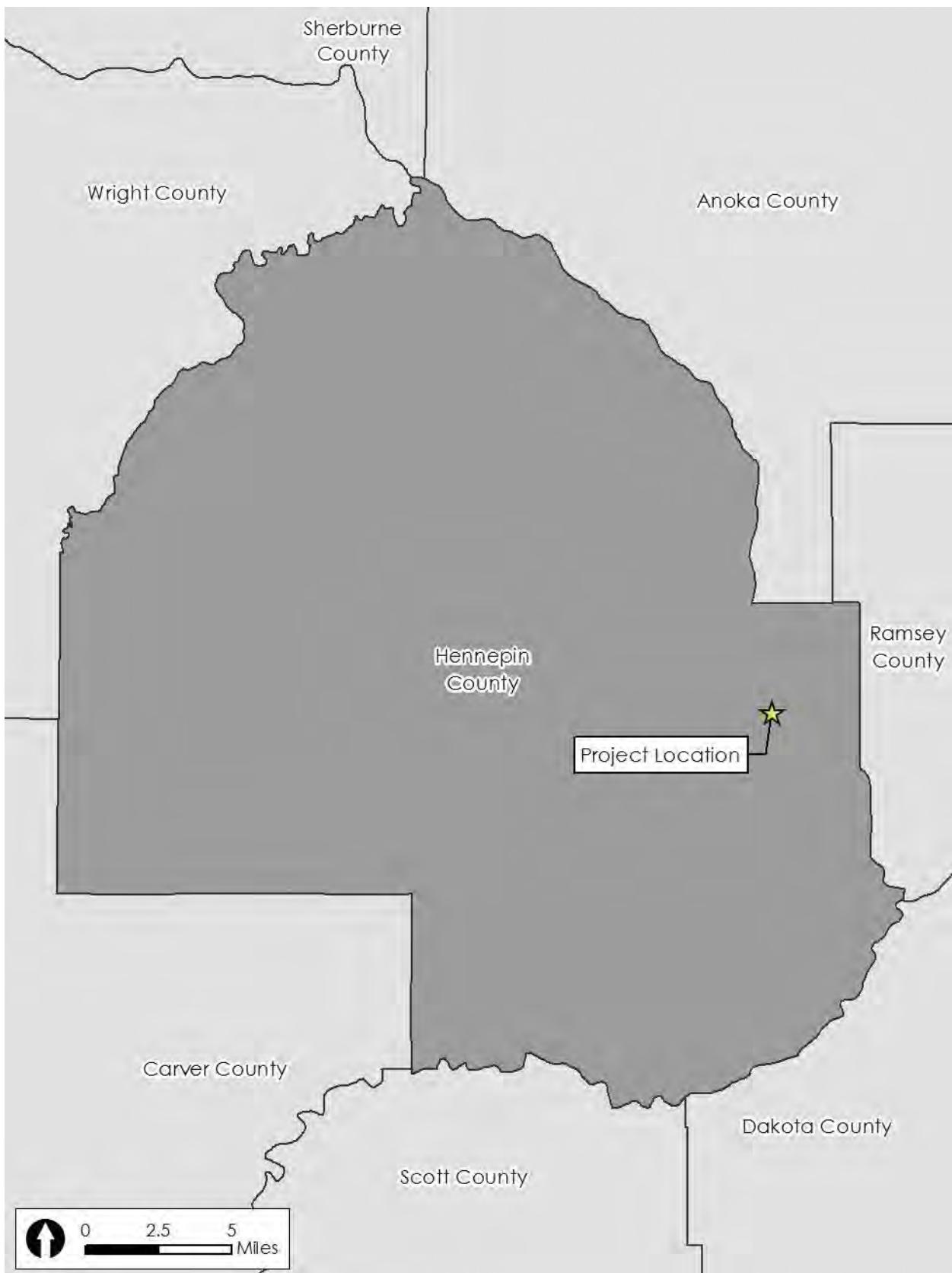


Figure 2: USGS Map

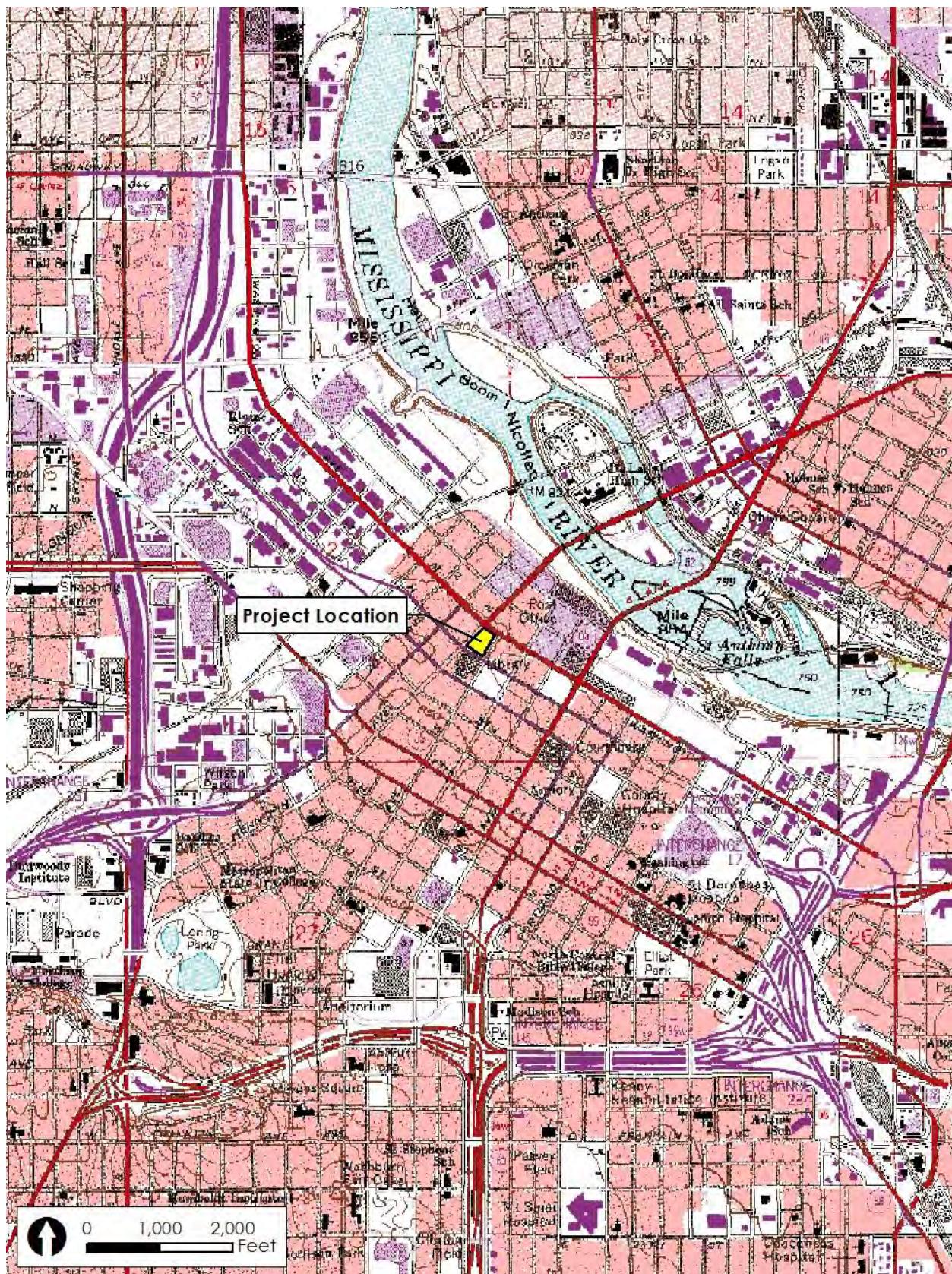
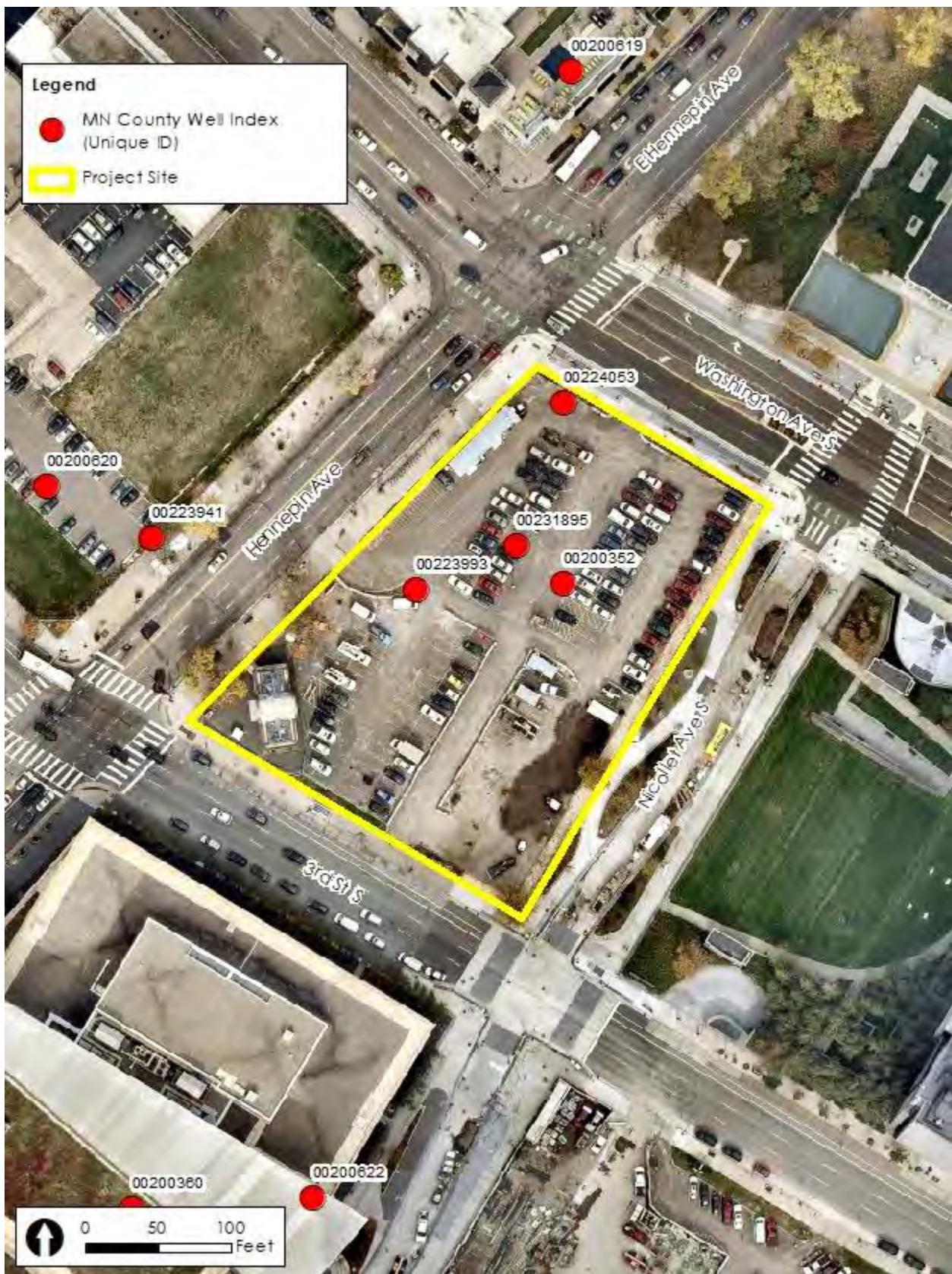


Figure 3: Existing Site Conditions



Figure 4: County Well Index



Attachment A

Site Plans





EASTBOUND VIEW FROM THIRD AVE



WESTBOUND VIEW FROM HENNEPIN AVE



WESTBOUND VIEW FROM WASHINGTON AVE



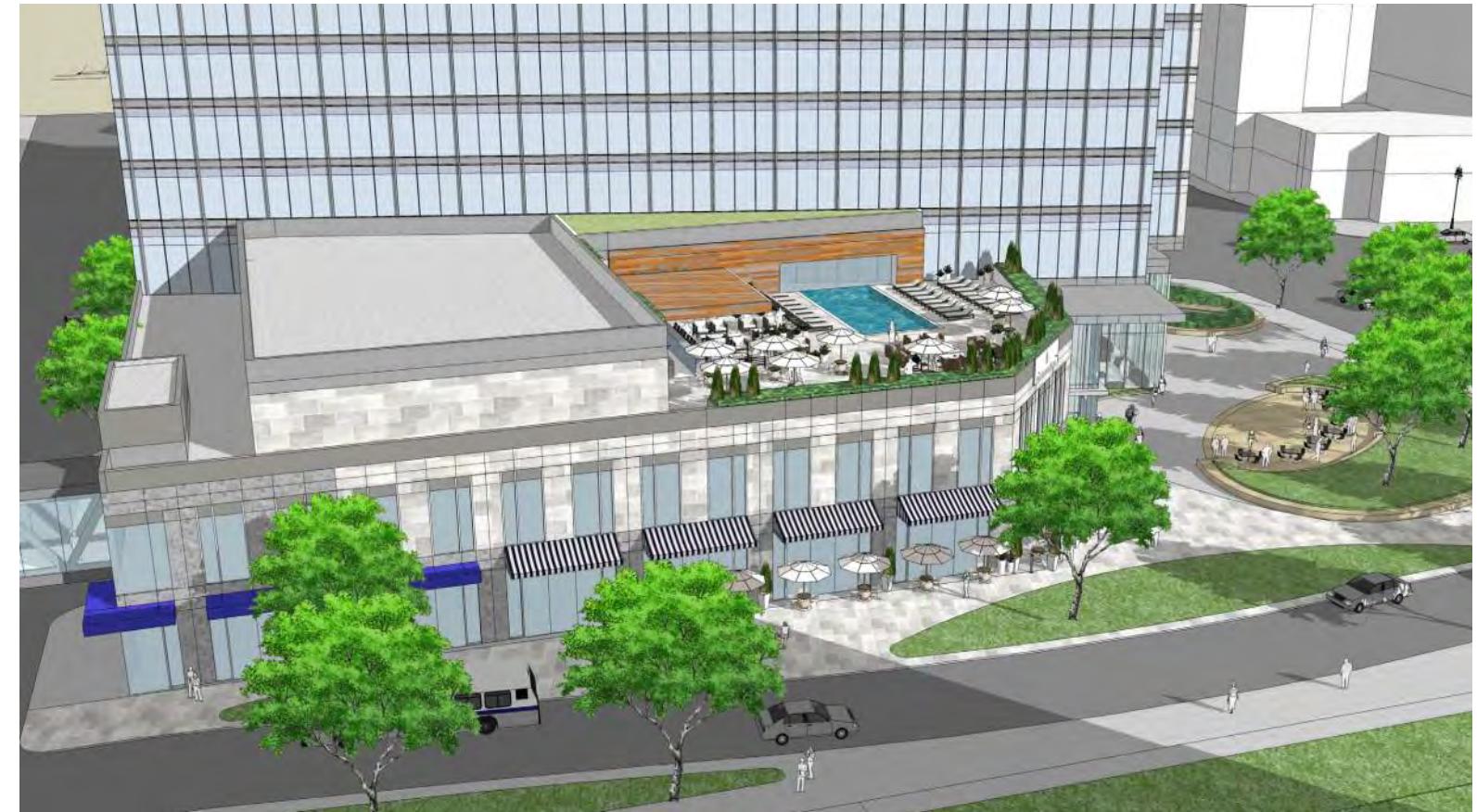
NORTHBOUND VIEW AT THE CORNER
OF NICOLLET MALL AND THIRD AVE



NORTHBOUND VIEW FROM NICOLLET MALL



EASTBOUND VIEW FROM HENNEPIN AVE



AERIAL VIEWS OF PODIUM LEVELS



CONTEXT PLAN

GATEWAY MIXED-USE

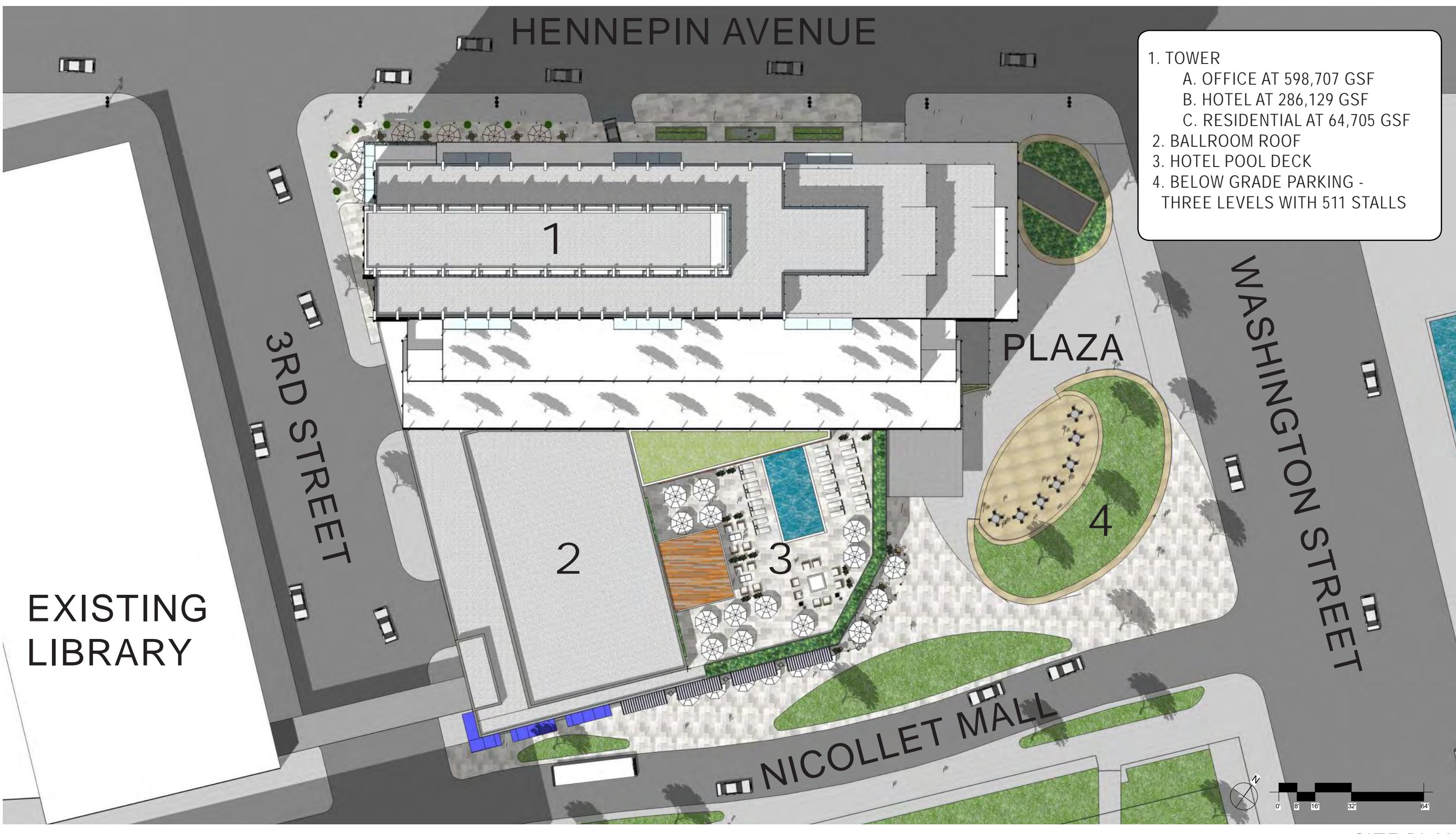


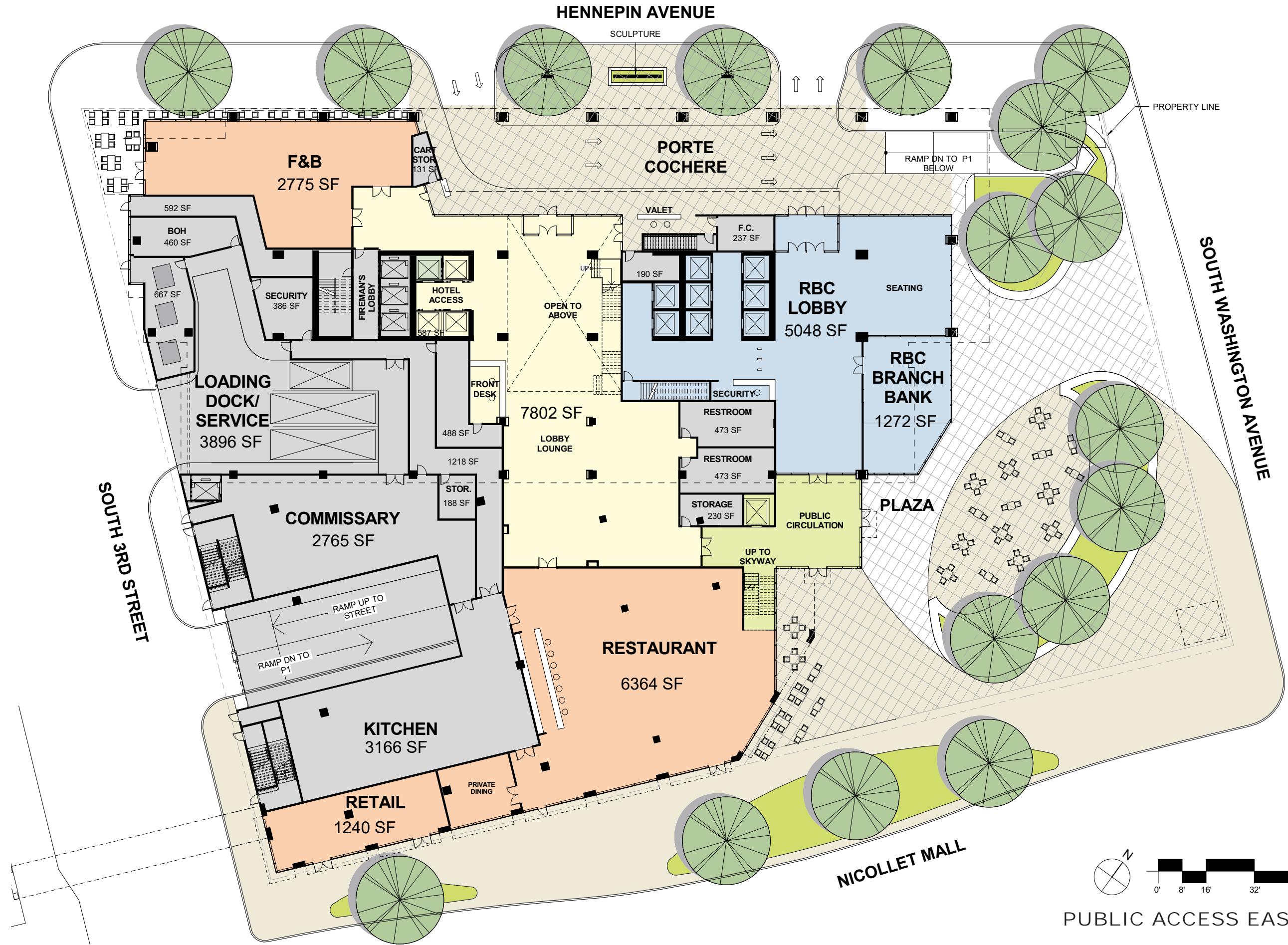
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REALTY

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Plan A

HENNEPIN AVENUE

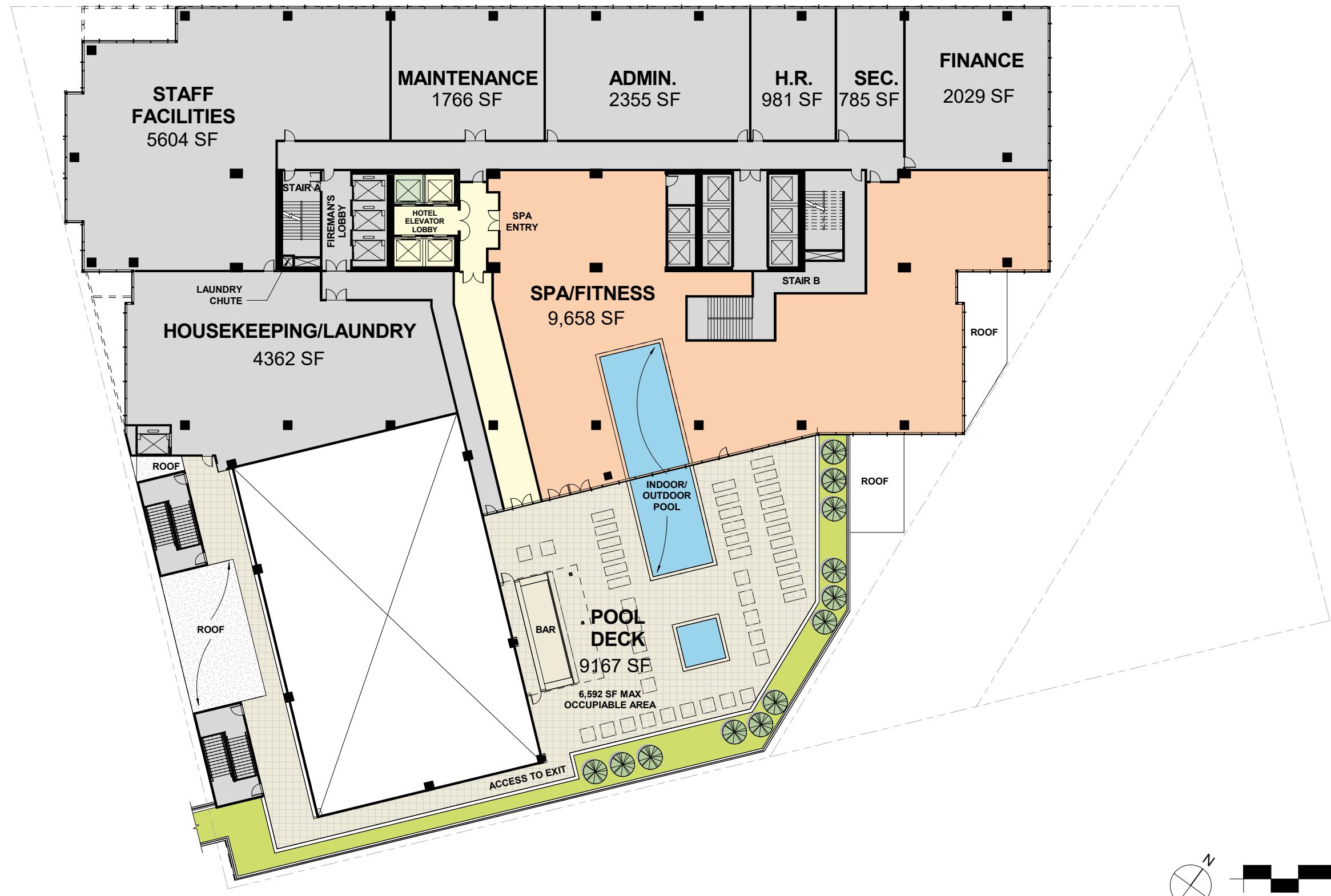


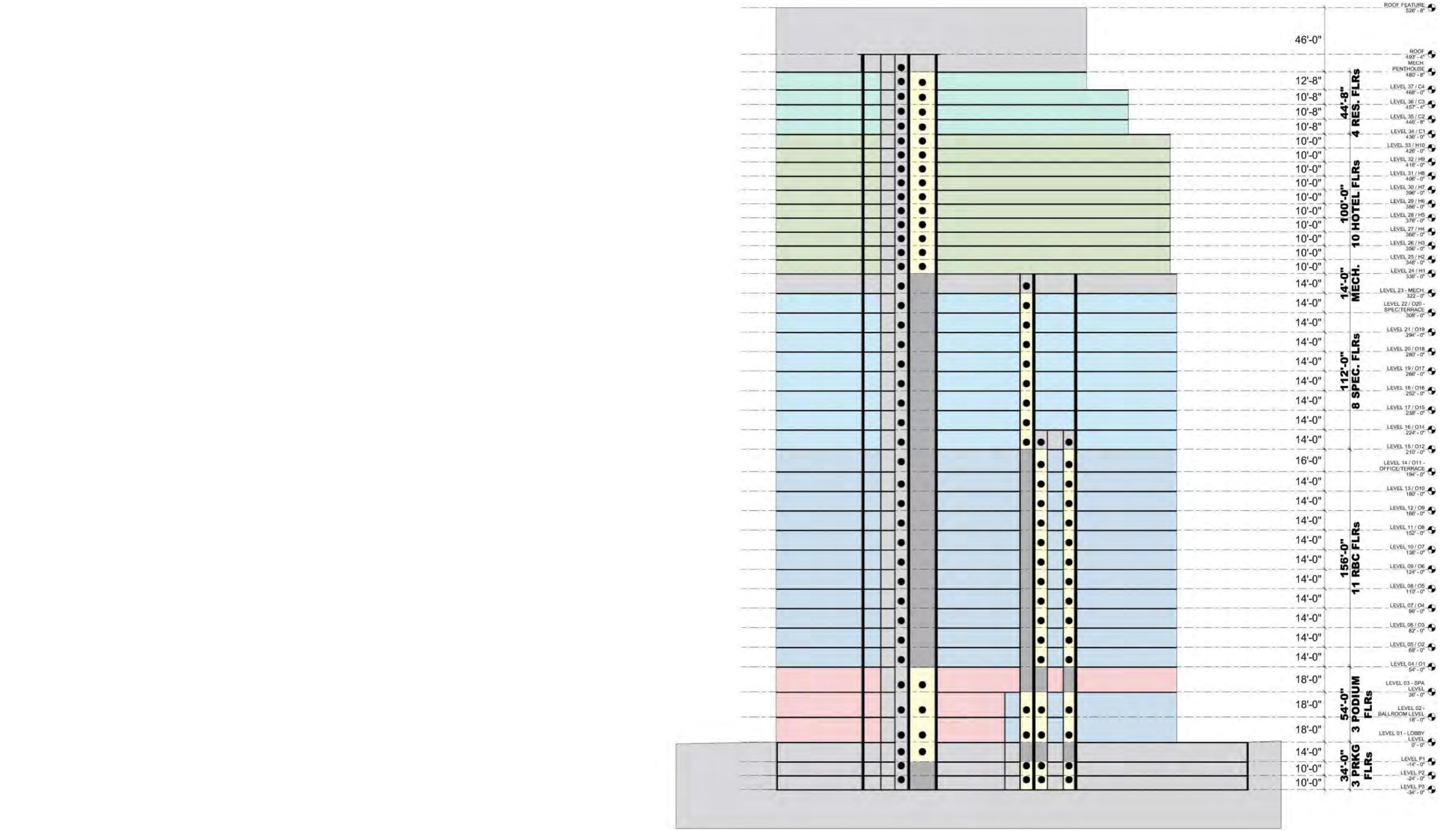


HENNEPIN AVENUE



LEVEL 2 FLOOR PLAN - BALLROOM / MEETING SPACE





SECTION DIAGRAM

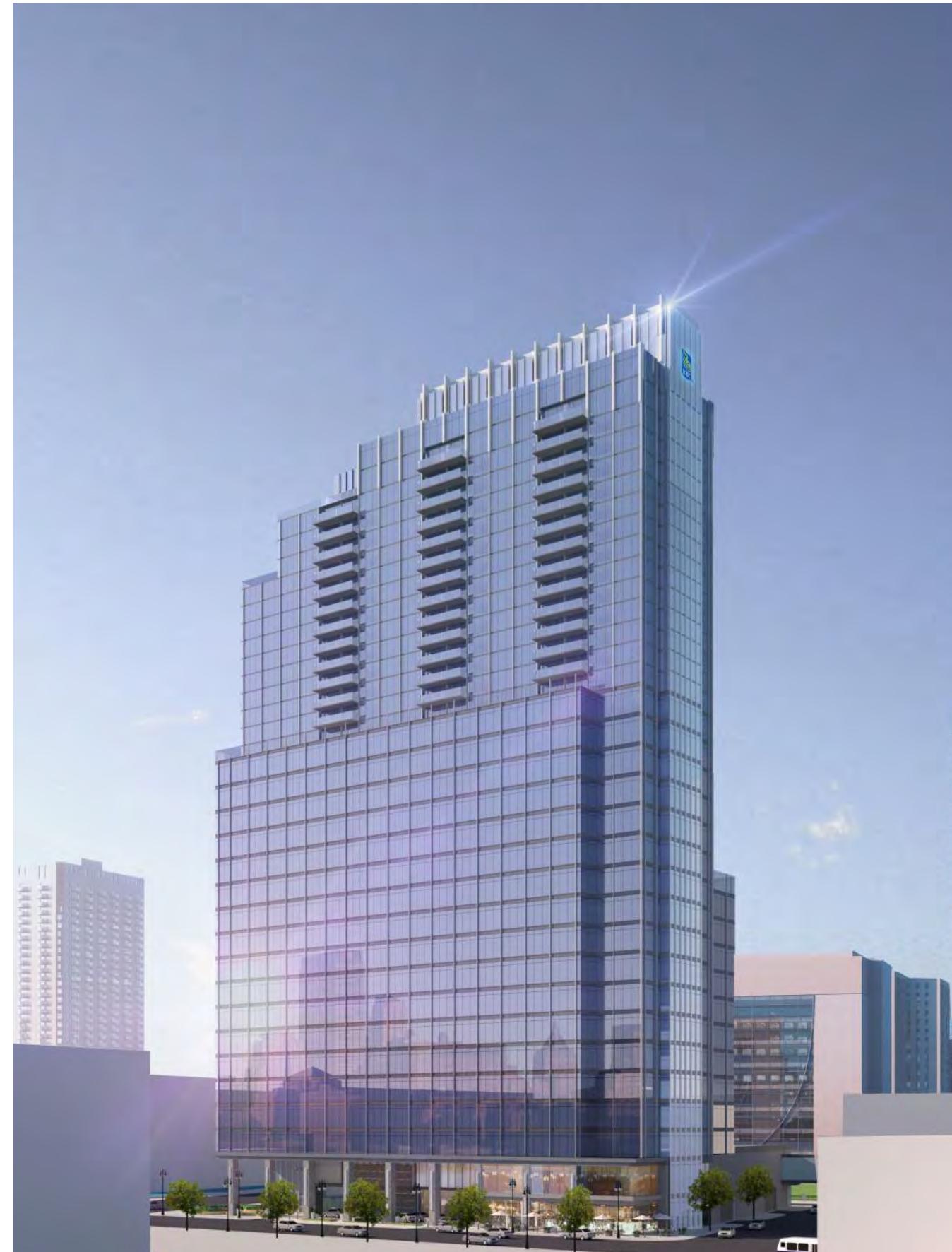
GATEWAY MIXED-USE  Smallwood, Reynolds, Stewart, Stewart & Associates, Inc.



JMI
E A L T Y

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Plan A



EASTBOUND AERIAL VIEW

GATEWAY MIXED-USE



Smallwood, Reynolds, Stewart, Stewart & Associates, Inc.

Plan B

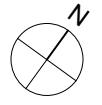
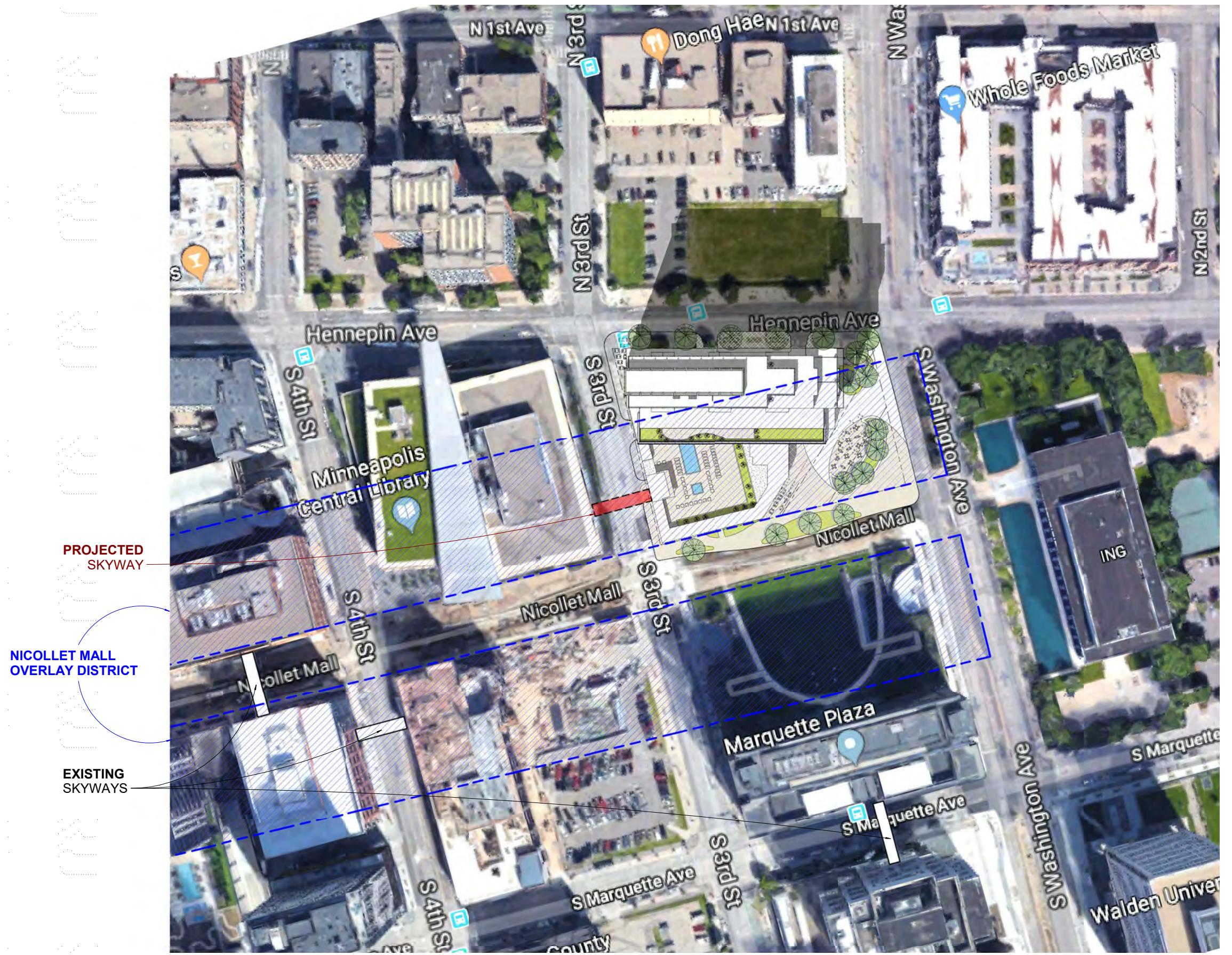
MAR 28, 2018 ②

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WESTBOUND VIEW FROM HENNEPIN AVE



CONTEXT PLAN

GATEWAY MIXED-USE



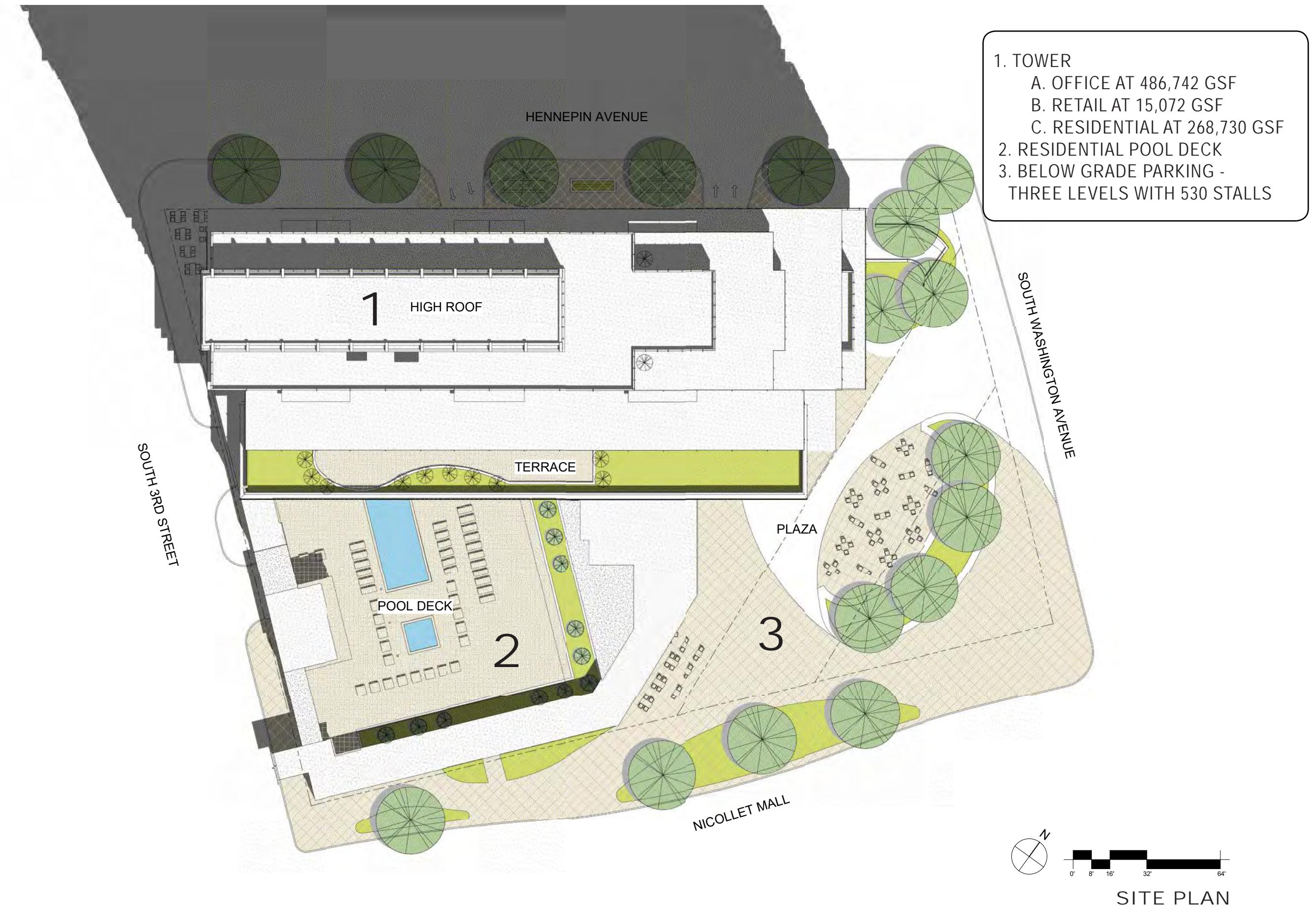
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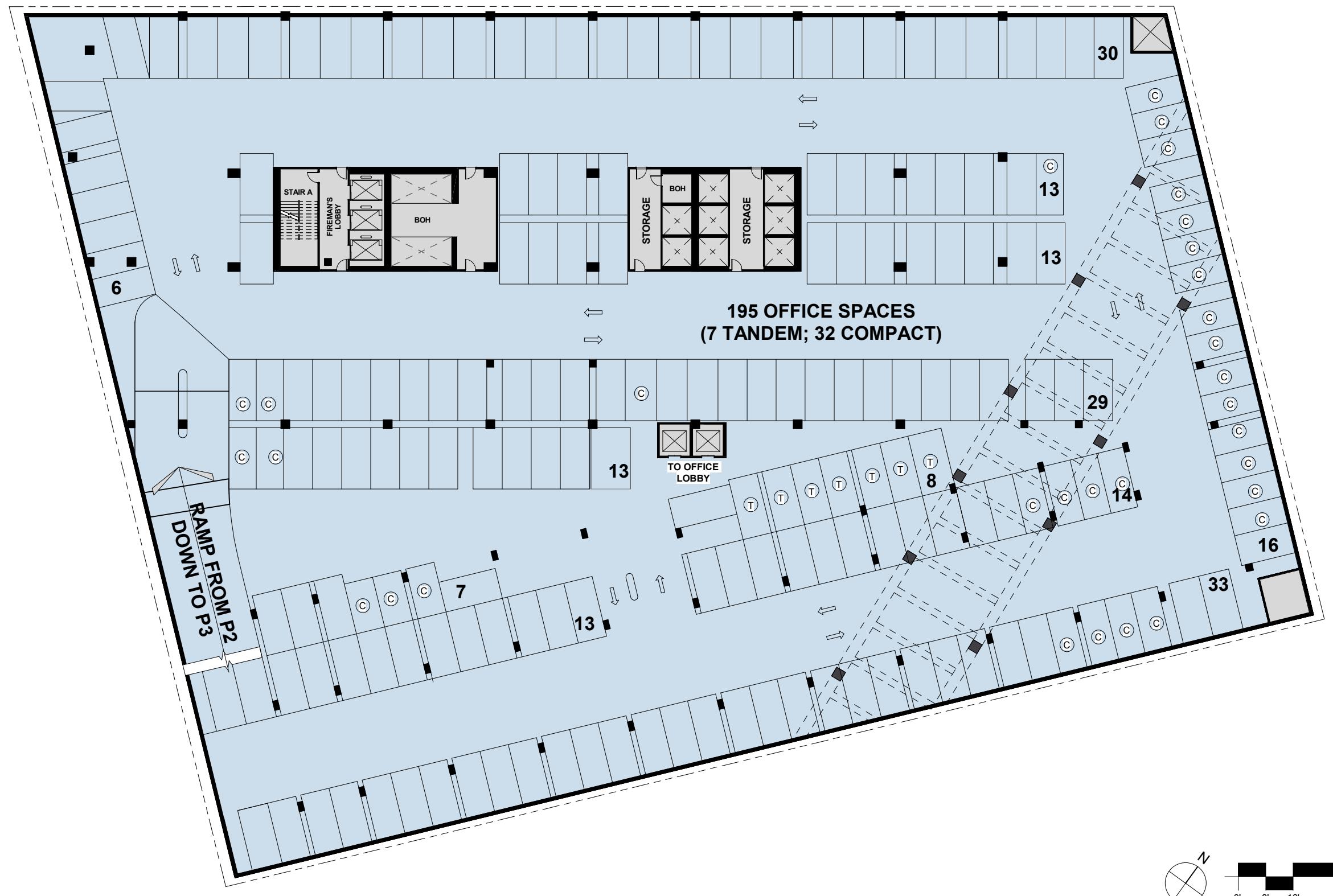
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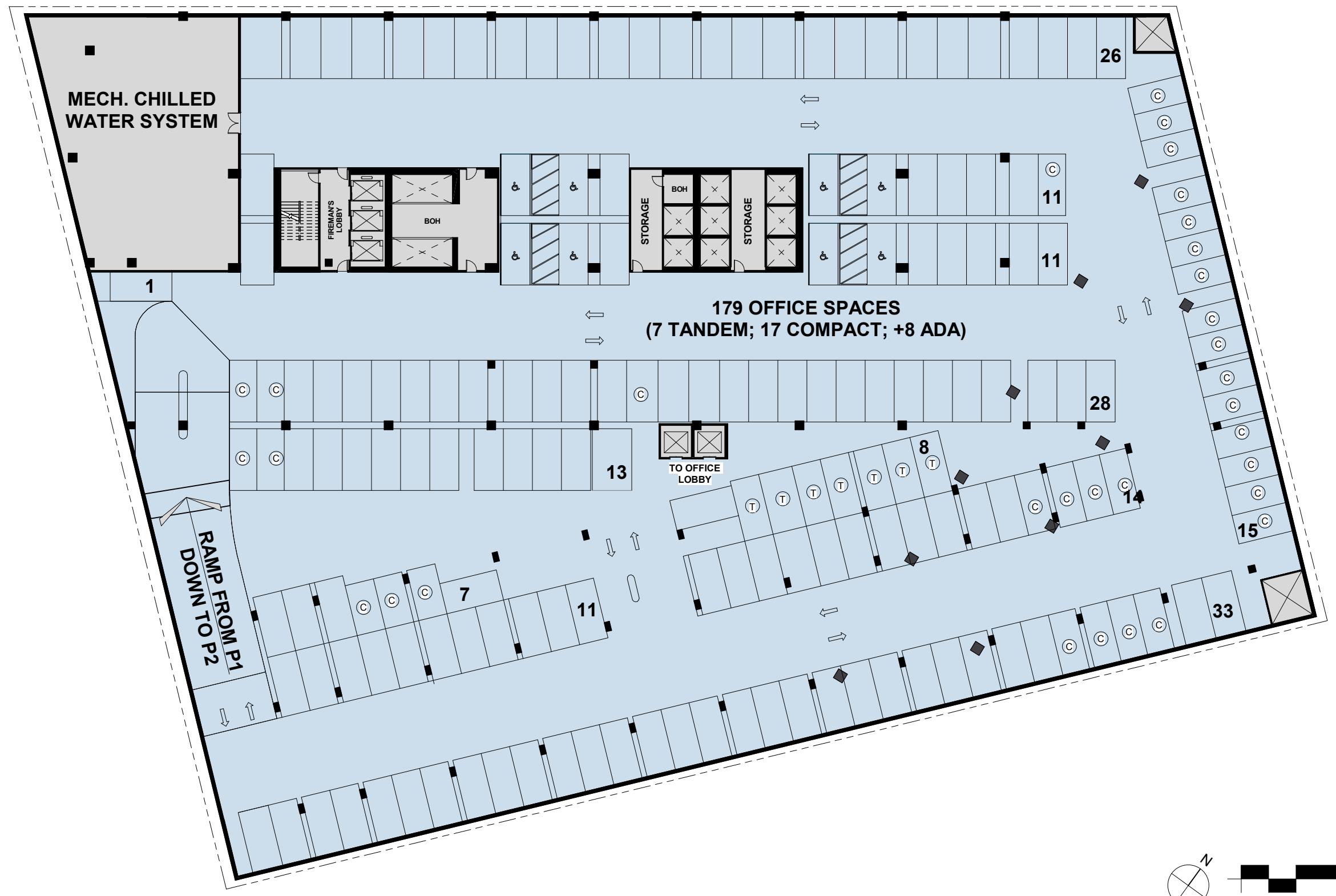
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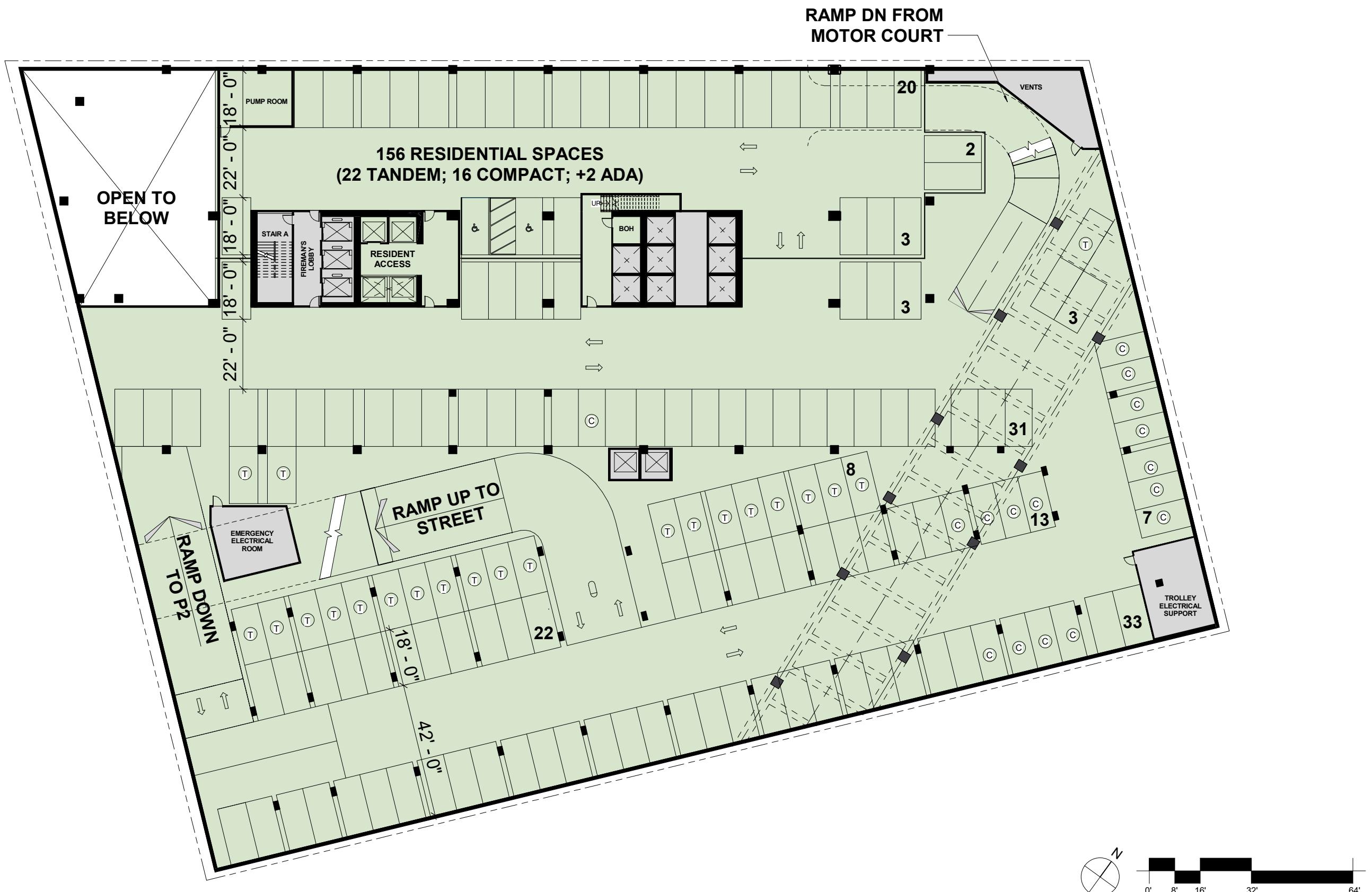
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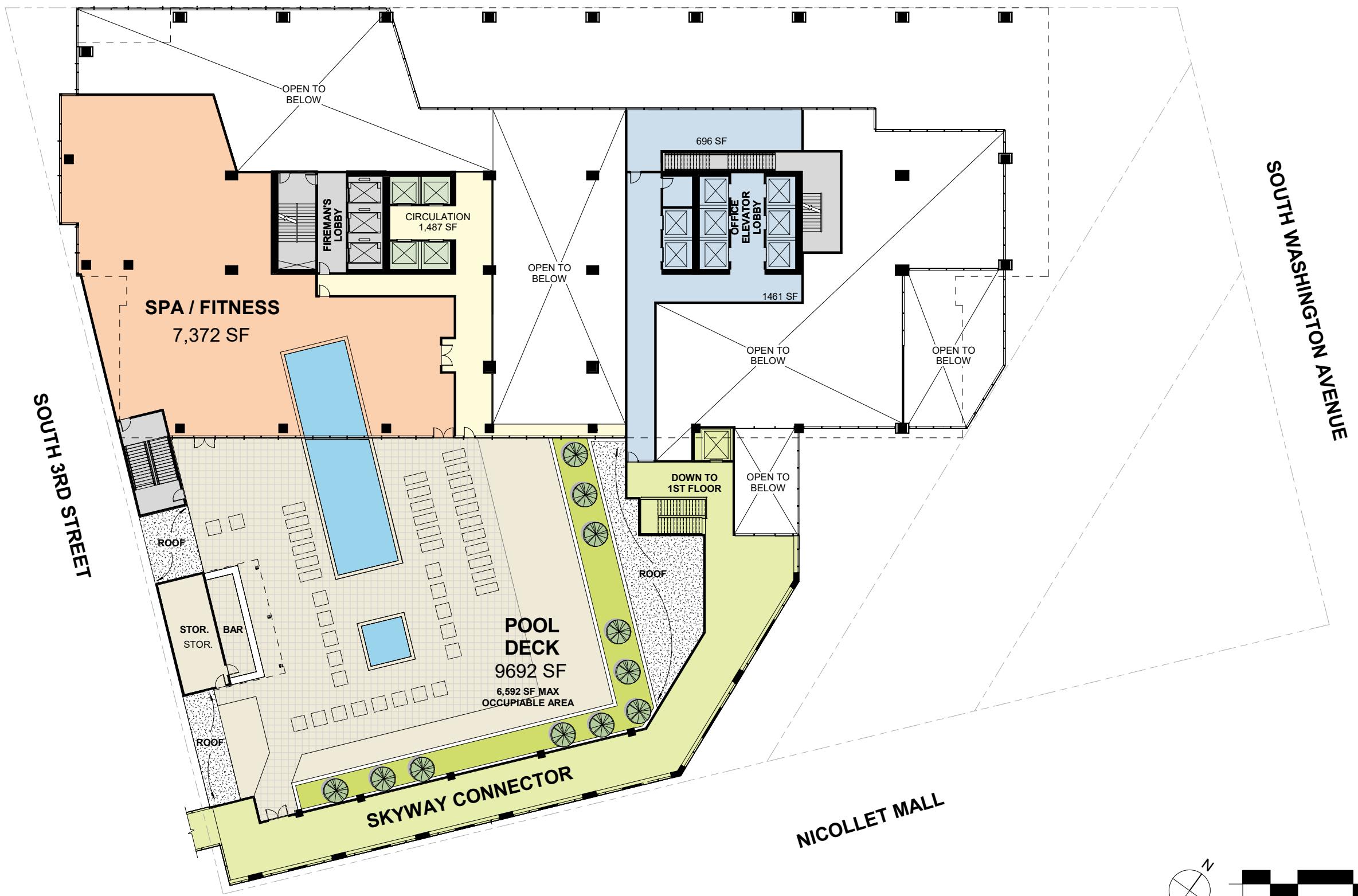
LEVEL P3 FLOOR PLAN - PARKING





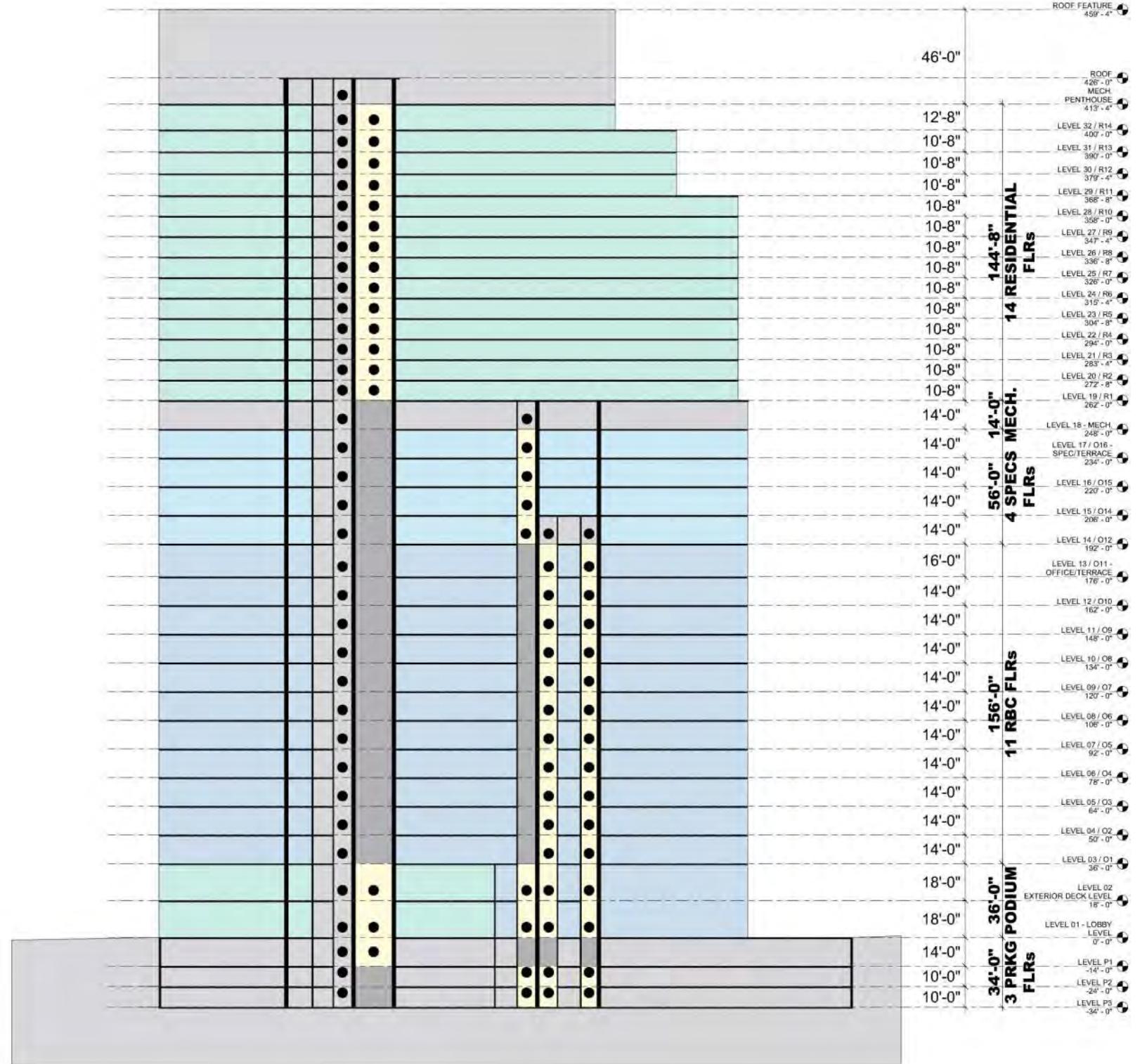


HENNEPIN AVENUE



LEVEL 2 FLOOR PLAN - EXTERIOR DECK

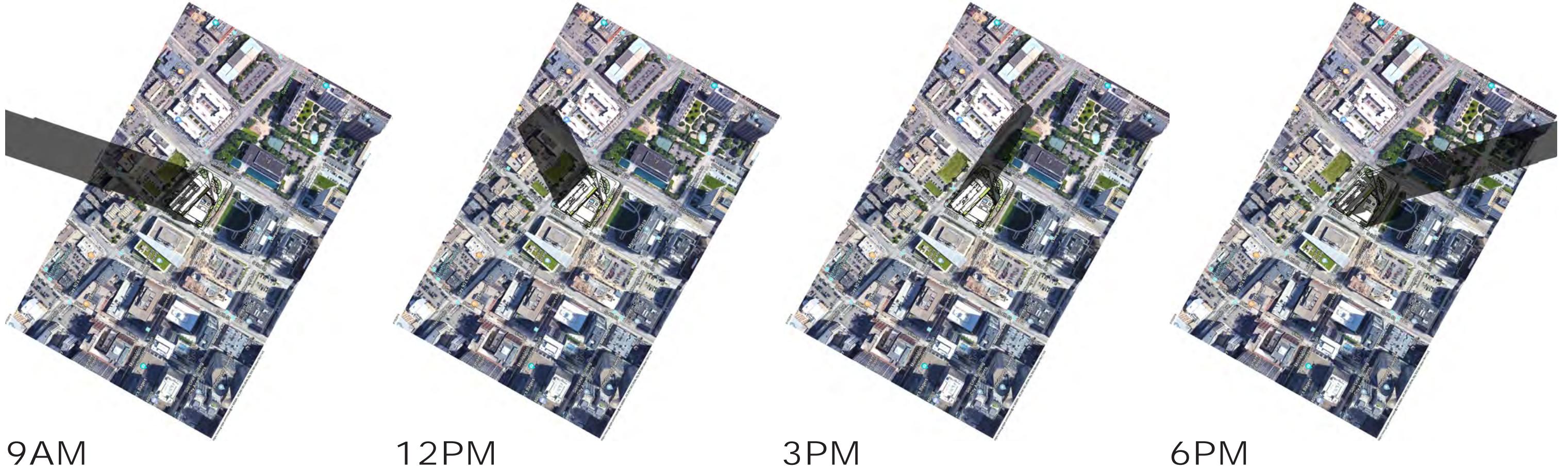




SECTION DIAGRAM

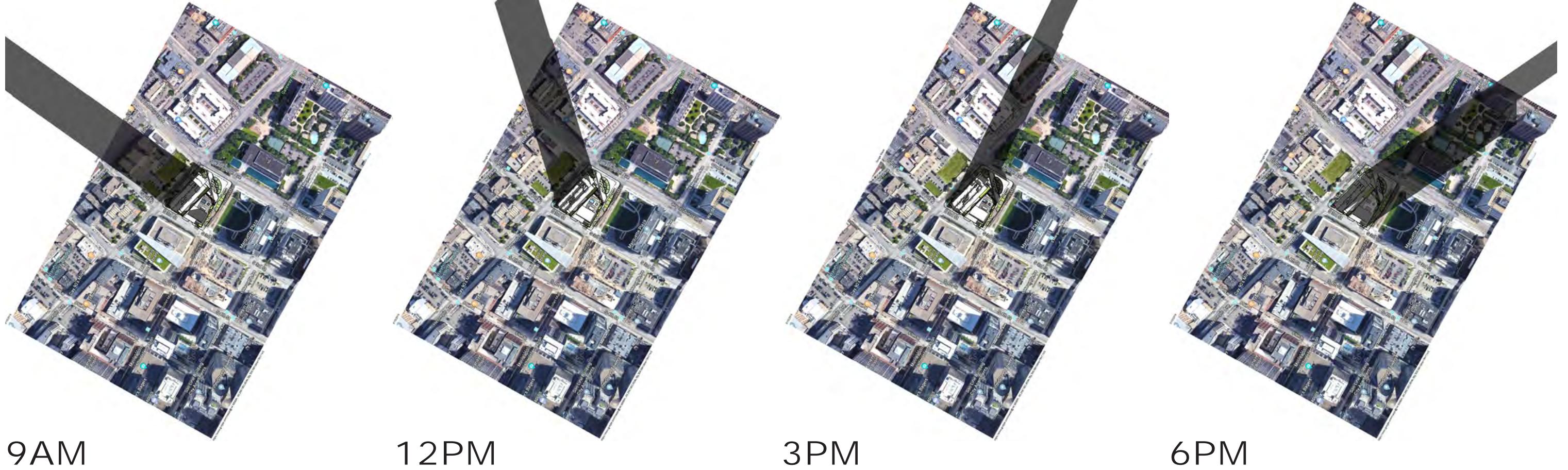
Attachment B

Shadow Studies



Note: The shadow study has only been completed for the proposed development and not the surrounding buildings.
The aerial imagery used is not representative of the times shown for the shadow study analysis.

SPRING EQUINOX



9AM

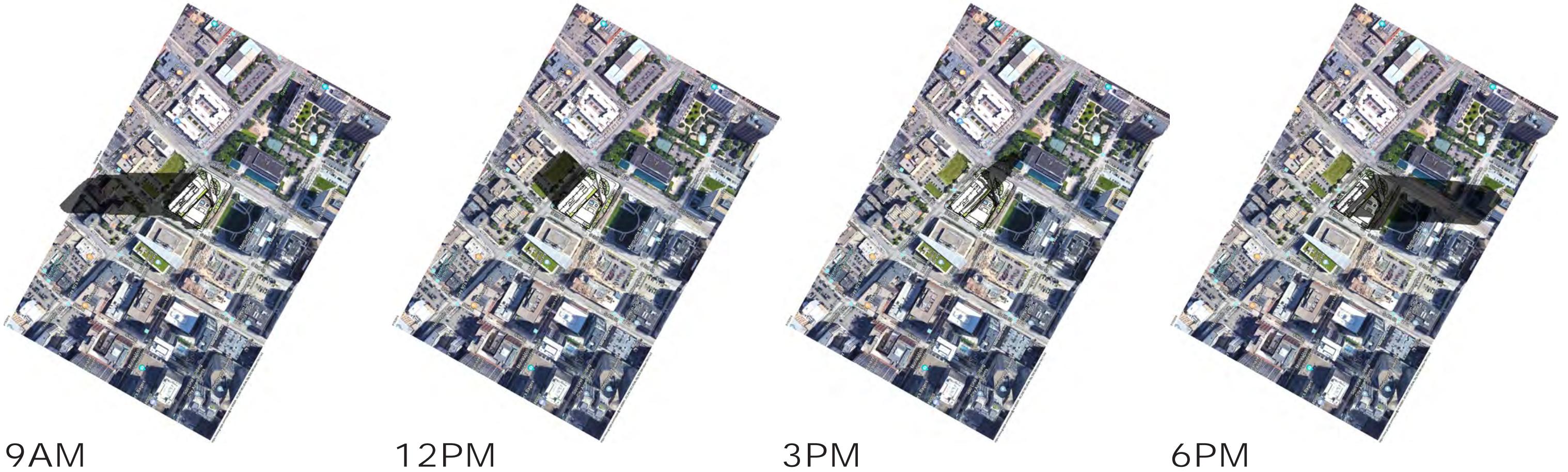
12PM

3PM

6PM

Note: The shadow study has only been completed for the proposed development and not the surrounding buildings.
The aerial imagery used is not representative of the times shown for the shadow study analysis.

WINTER SOLSTICE



Note: The shadow study has only been completed for the proposed development and not the surrounding buildings.
The aerial imagery used is not representative of the times shown for the shadow study analysis.

SUMMER SOLSTICE

GATEWAY MIXED-USE  **Smallwood, Reynolds, Stewart, Stewart & Associates, Inc.**

Plan A

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MAY 01, 2018 **(4)**

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Note: The shadow study has only been completed for the proposed development and not the surrounding buildings.
The aerial imagery used is not representative of the times shown for the shadow study analysis.

SPRING EQUINOX

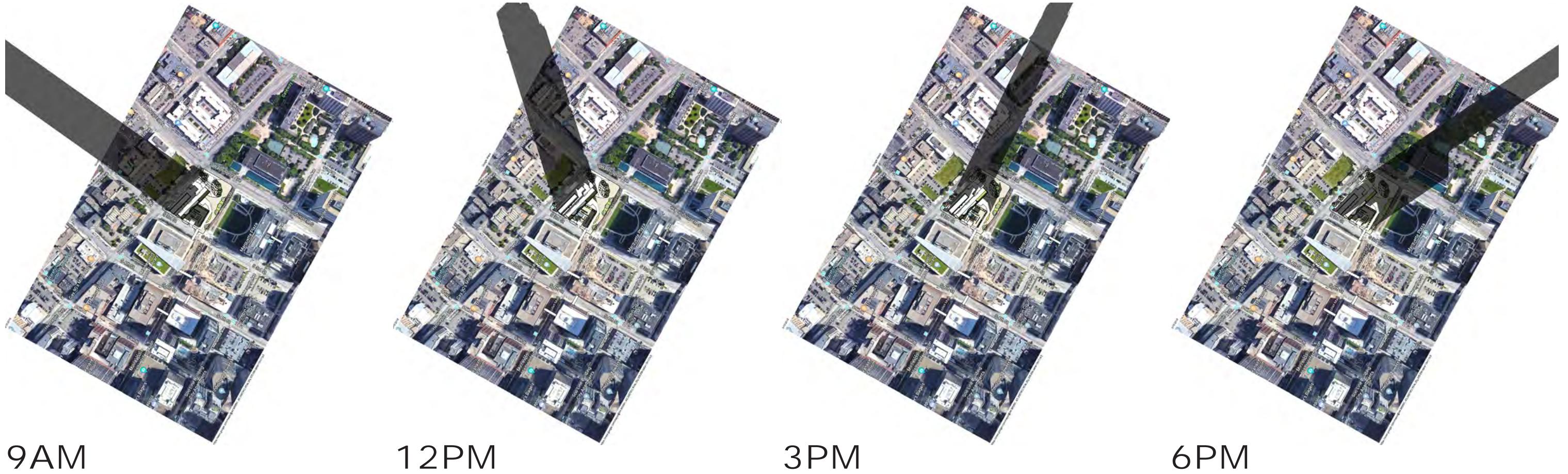
Plan B

GATEWAY MIXED-USE  Smallwood, Reynolds, Stewart, Stewart & Associates, Inc.

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MAY 01, 2018 **(2)**



Note: The shadow study has only been completed for the proposed development and not the surrounding buildings.
The aerial imagery used is not representative of the times shown for the shadow study analysis.

WINTER SOLSTICE

Plan B

GATEWAY MIXED-USE  Smallwood, Reynolds, Stewart, Stewart & Associates, Inc.

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MAY 01, 2018 **3**



Note: The shadow study has only been completed for the proposed development and not the surrounding buildings.
The aerial imagery used is not representative of the times shown for the shadow study analysis.

SUMMER SOLSTICE

Attachment C

Travel Demand Management Plan

TRAVEL DEMAND MANAGEMENT PLAN

GATEWAY MIXED-USED DEVELOPMENT

MINNEAPOLIS, MINNESOTA

Prepared for:

United Properties

651 Nicollet Mall, Suite 450
Minneapolis, MN 55402

Prepared By:

Kimley-Horn and Associates, Inc.

2550 University Avenue West, Suite 238N
St. Paul, MN 55114

JUNE 2018

UPDATED JUNE 28, 2018

Kimley»Horn

TRAVEL DEMAND MANAGEMENT PLAN

GATEWAY MIXED-USE DEVELOPMENT

MINNEAPOLIS, MINNESOTA

PLAN APPROVAL

United Properties

By: _____ Dated:_____

Minneapolis Community Planning and Economic Development Department

By: _____ Dated:_____

Minneapolis Public Works Department

By: _____ Dated:_____

TRAVEL DEMAND MANAGEMENT PLAN

GATEWAY MIXED-USE DEVELOPMENT

MINNEAPOLIS, MINNESOTA

REPORT CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas Arnold, P.E.

License No. 52721

Date

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1.0 BACKGROUND

United Properties is proposing to construct a multi-use development on the block bounded by 3rd Street South, Hennepin Avenue, Washington Avenue South, and Nicollet Mall in downtown Minneapolis, Minnesota. The site is located in the Downtown West Neighborhood and is adjacent to the North Loop Neighborhood, near several other mixed-use developments. **Figure 1-1 (Appendix A)** shows the project location.

The 1.71-acre site is currently a surface parking lot. The site consists of one tax parcel and is currently owned by the City of Minneapolis.

The current development plan (Development Plan A) includes a 40-story building with primarily residential, hotel, and office. The residential will include approximately 50 dwelling units and is proposed on Levels 34 through 40. The hotel will include approximately 280 rooms along with ancillary uses including food and beverage, ballroom and meeting space, pool, and spa fitness center, with the hotel rooms located on Levels 24 through 33. The remaining space will include approximately 598,707 square feet of office space. There is also planned to be street level restaurant and retail space. An alternative development plan (Development Plan B) is a 32-story building that replaces the hotel component with more residential, with a total of approximately 140 dwelling units and approximately 486,742 square feet of office space, in addition to the street level land uses. For both development plans, there will be a skyway connection as well as a public entrance lobby.

The project is proposed to include three levels of underground parking with vehicle access on 3rd Street South between Hennepin Avenue and Nicollet Mall and a porte-cochere on Hennepin Avenue for drop-off and valet operation for hotel and restaurants guests, and residential/office visitors. Plan A would provide up to 511 parking spaces and Plan B would provide up to 530 parking spaces. The development has an anticipated opening year of 2021.

CITY OF MINNEAPOLIS TRANSPORTATION GOALS

The following policies for transportation are included in Chapter 2 of the Minneapolis Plan for Sustainable Growth, adopted by the Minneapolis City Council on October 2, 2009:

- Policy 2.1: Encourage growth and reinvestment by sustaining the development of a multimodal transportation system.
- Policy 2.2: Support successful streets and communities by balancing the needs of all modes of transportation with land use policy.
- Policy 2.3: Encourage walking throughout the city by ensuring that routes are safe, comfortable, pleasant, and accessible.
- Policy 2.4: Make transit a more attractive option for both new and existing riders.
- Policy 2.5: Ensure that bicycling throughout the city is safe, comfortable and pleasant.
- Policy 2.6: Manage the role and impact of automobiles in a multimodal transportation system.
- Policy 2.7: Ensure that freight movement and facilities throughout the city meet the needs of the local and regional economy while remaining sensitive to impacts on surrounding land uses.
- Policy 2.8: Balance the demand for parking with objectives for improving the environment for transit, walking and bicycling, while supporting the city's business community.

Policy 2.9: Promote reliable funding and pricing strategies to manage transportation demand and improve alternative modes.

Policy 2.10: Support the development of a multimodal Downtown transportation system that encourages an increasingly dense and vibrant regional center.

Policy 2.11: Minneapolis recognizes the economic value of Minneapolis-St. Paul International Airport and encourages its healthy competition to reach global markets in an environmentally responsible manner.

Based on these goals and those of the Downtown 2025 Plan, previous TDMPs in the area, availability of transit and bicycle infrastructure and the location of the development, and the added skyway connection, the developer has identified the mode split goals for the project as provided in **Table 1-1**.

Table 1-1: Mode Split Goals

Mode Split	Residential	Hotel	Office
Auto	40%	50%	40%
Transit	40%	40%	40%
Bike/Walk	20%	10%	20%

TRAVEL DEMAND MANAGEMENT GOALS

In an effort to work toward these goals, the City of Minneapolis requires the preparation of a Travel Demand Management Plan (TDMP) for all non-residential development or additions over 100,000 square feet or more of gross floor area or any development or redevelopment projects deemed to have a potential for substantial traffic impact.

This TDMP details the proposed project, including the site's design, location, and proposed amenities that will foster the use of alternate transportation modes by residents, employees, guests and patrons. It also references the anticipated traffic and parking changes and any potential impacts of these changes. Finally, the plan outlines specific mitigation strategies that United Properties will sign on behalf of the future residential, office, and hotel tenants. These strategies are intended to reinforce the land use selected, site design, and amenities proposed to encourage use of alternate modes of travel, enhance pedestrian friendliness, and create a balance between all users of the local transportation system.

2.0 ZONING AND LAND USES

The existing primary zoning of the site is B4-1. The City of Minneapolis describes the B4-1 district as follows: *The B4-1 Downtown Business District is established to provide an environment for retail and office activities of citywide and regional significance. The district also allows entertainment, residential and public uses which complete the mixed-use character of the area. The B4 District allows the highest density office development within the downtown area.*

Parts of the site are within the Nicollet Mall Overlay District. The City of Minneapolis describes the Nicollet Mall Overlay District as follows: *The NM Nicollet Mall Overlay District is established to preserve and encourage the pedestrian character of the Nicollet Mall area and to promote street level activity by creating a pleasant and unique pedestrian environment.*

3.0 PEDESTRIAN, BICYCLE, AND TRANSIT

PEDESTRIAN

As noted, the site is located within the Downtown West Neighborhood and is adjacent to the North Loop Neighborhood, which are both walkable, mixed-use areas. The proximity to local businesses, restaurants, and high-density residential developments has the potential to decrease the number of vehicular trips entering and leaving the site.

The developer will reconstruct the sidewalks surrounding the site as needed based on condition and construction of associated structures and utilities. This will maintain the existing sidewalk network throughout the neighborhood. The proposed plaza will create a pleasurable pedestrian experience. There are many restaurants and amenities located near the site, which will decrease the need for residents and hotel guests to drive. All intersections surrounding the site are signalized with pedestrian indications.

A skyway connection is proposed as part of this project that spans across 3rd Avenue and connects to the library, and connected to the existing downtown skyway system. A public skyway lobby will provide a connection to the existing downtown skyway system. This will help in promoting non-automobile use for the building users.

BICYCLE

The site is well-situated to promote bicycling as a viable mode of transportation, due in large part to the bike lanes located on several of the surrounding roads. **Figure 3-1 (Appendix A)** shows the existing bicycle infrastructure accessible from the site, including bike lanes, paved trails, and Nice Ride stations. Washington Avenue currently has a sidewalk level cycle track. There is also plans for a cycle track along Hennepin Avenue, which is currently in the design phase and has not received layout approval from the City Council.

To promote bicycle use, the developer plans to integrate secure bicycle storage space into the parking garage. The developer will comply with the bicycle parking provisions as outlined in Chapters 541 and 549 of the Zoning Code and will provide at least one bicycle parking space per every two dwelling units for the residential uses, and a minimum of 30 bicycle parking spaces for the office use. In order to achieve the mode split goal and accommodate an estimated 2,500 employees and users of the other land uses, a total of 300 bicycle parking spaces will be provided for the development. Shower and locker facilities will be available for employees and located within the fitness center located on the third story of the building.

TRANSIT

Transit service in the project area is widely available, with numerous Metro Transit routes. **Figure 3-2 (Appendix A)** shows the project area with all current transit routes adjacent to the site. Details for each route are provided below.

LIGHT RAIL SERVICE

METRO Blue Line is a light rail transit line between downtown Minneapolis and the Mall of America in Bloomington. The line operates at a frequency between 10 and 15 minutes, depending on the time of day, from approximately 3:30 AM to 2:00 AM Sunday through Thursday, close to 24-hours Friday and Saturday.

METRO Green Line is a light rail transit line between downtown Minneapolis and downtown St. Paul via the University of Minnesota. The line operates at a frequency between 10 and 30 minutes, depending on the time of day, 24 hours a day, seven days a week.

BUS SERVICE

Route 3 is a local bus route between downtown Minneapolis and Union Depot in St. Paul via the University of Minnesota and Como Avenue. The route operates at a frequency between 5 and 60 minutes, depending on the time of day, from approximately 4:00 AM to 2:00 AM Sunday through Friday and 4:00 AM to 3:00 AM on Saturdays.

Route 4 is a local route between New Brighton and the Southtown Shopping Center in Bloomington, via Northeast Minneapolis, downtown Minneapolis, and Southwest Minneapolis. The route operates at a frequency between 7 and 30 minutes, depending on the time of day, from approximately 4:30 AM to 1:30 AM Monday through Friday and 4:30 AM to 2:00 AM on Saturdays and Sundays.

Route 6 is a local route between Stadium Village Green Line Station in Minneapolis and Southdale Shopping Center in Edina, via Hennepin Avenue and Southwest Minneapolis. The route operates at a frequency between 4 and 60 minutes, depending on the time of day, from approximately 4:30 AM to 2:30 AM Monday through Saturday and from 5:30 AM to 1:30 AM on Sundays.

Route 7 is a local route between Theodore Wirth Park in Minneapolis and 34th Avenue & Highway 62, via downtown Minneapolis. The route operates at a frequency between 15 and 60 minutes, depending on the time of day, from approximately 5:00 AM to 1:00 AM, seven days a week.

Route 10 is a high frequency local route between Northtown in Blaine and downtown Minneapolis, via Central Avenue. The route operates at a frequency between 7 and 60 minutes, depending on the time of day, 24 hours a day, seven days a week.

Route 11 is a high frequency local route from Columbia Heights Transit Center to South Minneapolis, via downtown Minneapolis. The route operates at a frequency between 15 and 60 minutes, depending on the time of the day, from approximately 4:30 AM to 1:30 AM, seven days a week.

Route 12 is a limited stop route between downtown Minneapolis/Uptown Minneapolis (peak hour/off-peak) and the Opus II Business Park/downtown Hopkins (peak hour/off-peak). The route operates at a frequency between 15 and 60 minutes, depending on the time of day, from approximately 5:00 AM to 12:30 AM, weekdays (6:00 AM to 9:00 AM and 3:30 PM to 6:30 PM weekdays in downtown Minneapolis), 5:00 AM to 12:00 AM on Saturdays, and 6:00 AM to 12:00 AM on Sundays.

Route 14 is a local bus route between Robbinsdale Transit Center and Cedar Point Commons in Richfield, via West Broadway Avenue and Bloomington Avenue. The route operates at a frequency between 10 and 30 minutes, depending on the time of day, from approximately 4:30am to 1:30am Monday through Saturday, and from 5:30 AM to 12:30 PM on Sunday.

Route 17 is a local bus route between Hopkins/St. Louis Park and NE Minneapolis via downtown Minneapolis. The route operates at a frequency between 5 and 30 minutes, depending on the time of day, from approximately 5:00 AM to 2:00 AM, seven days a week.

Route 18 is a high frequency local route between downtown Minneapolis and South Bloomington Transit Center via Nicollet Avenue. The route operates at a frequency between 5 and 60 minutes, depending on the time of the day, 24 hours a day, seven days a week.

Route 25 is limited stop route between Northtown Mall in Blaine and downtown Minneapolis or Loring Park and Kenwood. The route operates at a frequency between 20 and 60 minutes, depending on the time of the day, from 5:30 AM to 7:00 PM Monday through Friday and at a frequency of 90 minutes from 8:00 AM to 6:00 PM on Saturday.

Route 59 is a local bus route between Coon Rapids and downtown Minneapolis via Blaine, Spring Lake Park and Fridley. The route operates at a frequency between 10 and 30 minutes, Monday through Friday, during the peak period in the peak direction.

Route 61 is a local bus route between downtown St. Paul and downtown Minneapolis, via Hennepin Avenue, Larpenteur Avenue, Arlington Avenue, and Arcade Street. The route operates at a frequency between 15 and 60 minutes, depending on the time of day, from approximately 5:00 AM to 11:30 PM Monday through Friday and from 6:30 AM to 7:30 PM on Saturdays.

Route 141 is a limited stop route between New Brighton and downtown Minneapolis, via St. Anthony and Northeast Minneapolis. The route operates at a frequency between 20 and 30 minutes, Monday through Friday, during the peak period in the peak direction.

Route 552 is an express route between Old Shakopee Road & 10th Avenue in Bloomington and downtown Minneapolis. The route operates three trips in the peak period in the peak direction.

Route 553 is an express route between 12th Avenue & 82nd Street in Bloomington and downtown Minneapolis. The route operates five to six trips in the peak period in the peak direction.

Route 667 is an express route between Minnetonka and St Louis Park and downtown Minneapolis. The route operates at a frequency between 10 and 60 minutes in the peak period and in the peak direction.

Route 668 is an express route between Hopkins and downtown Minneapolis. The route operates at a frequency of 30 minutes in the peak period and in the peak direction.

Route 671 is an express route between Orono and Excelsior and downtown Minneapolis. The route operates three trips in the peak period in the peak direction.

Route 672 is an express route between Wayzata and St Louis Park and downtown Minneapolis. The route operates at a frequency between 15 and 60 minutes in the peak period and in the peak direction.

Route 674 is an express route between Maple Plain and downtown Minneapolis. The route operates three trips in the peak period in the peak direction.

Route 760 is an express route between Brooklyn Park and downtown Minneapolis via Zane Avenue. The route operates at a frequency between 15 and 30 minutes in the peak period and in the peak direction.

Route 761 is an express route between Brooklyn Park and Brooklyn Center and downtown Minneapolis. The route operates five trips in the peak period in the peak direction.

Route 762 is a limited stop route between Brooklyn Center Transit Center and downtown Minneapolis. The route operates two trips in the peak period in the peak direction.

Route 763 is an express route between Brooklyn Park and downtown Minneapolis via Humboldt Avenue and I-94. The route operates at a frequency of 30 minutes in the peak period and in the peak direction.

Route 765 is an express route between Target North Campus and downtown Minneapolis via Hwy 252. The route operates five trips in the peak period in the peak direction.

Route 766 is an express route between Anoka or Champlin and downtown Minneapolis via West River Road and Highway 252. The route operates at a frequency between 10 and 30 minutes during the peak period in the peak direction, and operates seven trips in the daytime during off-peak hours.

Route 767 is an express route between Maple Grove and Brooklyn Park and downtown Minneapolis. The route operates at a frequency between 30 and 60 minutes in the peak period and in the peak direction.

Route 768 is an express route between Brooklyn Park and downtown Minneapolis. The route operates at a frequency between 5 and 60 minutes from approximately 5:30 AM to 10:00 AM and 1:00 PM to 8:00 PM in the peak direction.

Route 780 is an express route between Maple Grove and downtown Minneapolis. The route operates four trips in the peak period in the peak direction.

Route 781 is an express route between Maple Grove and downtown Minneapolis. The route operates at a frequency between 10 and 20 minutes in the peak period and in the peak direction, with two midday trips.

Route 782 is an express route between Maple Grove and downtown Minneapolis. The route operates five trips in the peak period in the peak direction.

Route 783 is an express route between Maple Grove and downtown Minneapolis. The route operates five to six trips in the peak period in the peak direction.

Route 785 is an express route between Maple Grove and downtown Minneapolis. The route operates at a frequency between 10 and 30 minutes in the peak period and in the peak direction.

Route 850 is an express route between Anoka or Coon Rapids and downtown Minneapolis. The route operates in the peak period and in the peak direction.

Route 852 is an express route between Anoka or Coon Rapids and downtown Minneapolis. The route operates at a frequency between 30 and 75 minutes, depending on the time of day, from approximately 5:30 AM to 11:00 PM Monday through Friday and 7:00 AM to 7:00 PM on Saturday.

Route 854 is an express route between Blaine and Coon Rapids and downtown Minneapolis. The route operates at a frequency between 10 and 30 minutes in the peak period and in the peak direction.

Route 865 is an express route between East Bethel, Ham Lake, or Blaine and downtown Minneapolis. The route operates at a frequency between 10 and 40 minutes in the peak period and in the peak direction.

FUTURE STREETCAR

In previous years, the Nicollet-Central streetcar concept has been discussed that would run along Hennepin Avenue and transition to Nicollet Mall at the proposed development site. The building has been designed to accommodate the future alignment of the streetcar guideway through the northeast portion of the site.

4.0 PARKING

EXISTING SITE

The site currently consists of a surface parking lot with 180 stalls. On-street parking is also currently available on 3rd Street South.

REDEVELOPED SITE

Development Plan A is proposed to include approximately 511 parking stalls, with office/residential access via 3rd Street South, and hotel parking managed entirely through valet operations. Development Plan B is proposed to include approximately 530 parking stalls, with office/residential access via 3rd Street South.

The site is located in the B4-1 Downtown Business District, as well as the Downtown Parking Overlay District. **Table 4-1** provides a summary of minimum and maximum parking requirements for each of the land uses included in the proposed development:

Table 4-1: Parking Requirements

Use	B4-1 Downtown Business District Parking Rates		Maximum Parking Allowed by City Code	
	Minimum	Maximum	Plan A	Plan B
Residential	None except for multi-family dwellings with equal to or greater than 50 units that provide parking for residents, 1 space per 50 dwelling units shall be designated for visitors	1.5 spaces per dwelling unit	75	210
Office	None	1 space per 1,000 sq.ft. of GFA	598	486
Hotel	None	1 space per guest room + parking equal to 30% of the capacity of persons for affiliated uses such as dining or meeting rooms.	490 (280 for guest rooms and 210 for affiliated uses)	--

RESIDENTIAL

For Development Plan A, the proposed parking ramp will provide 71 parking spaces for the residential component of the site on Level 1. This is equivalent to 1.42 spaces per unit, which is below the City's maximum parking standards. For Development Plan B, the proposed parking ramp will provide 156 parking spaces for the residential component of the site. This is equivalent to 1.1 spaces per unit, which does not exceed the City's maximum parking standards. For both development plans, access to the private parking will be via 3rd Street South. Access to the parking will be available either by self-parking or valet.

OFFICE

For Development Plan A, there are anticipated to be 370 parking spaces available for the office component of the site, which is equivalent to 0.6 spaces per 1,000 square feet and does not exceed the City's maximum parking standards. For Development Plan B, there are anticipated to be 374 parking spaces available for the office component of the site, which is equivalent to 0.8 spaces per 1,000 square feet and does not exceed the City's maximum parking standards.

For both development plans, the allocated parking may be available for public use outside of normal weekday business hours and during the weekends.

HOTEL

Development Plan A is proposing to provide 70 parking spaces for the hotel. The maximum number of spaces is based on the number of rooms as well as the meeting/ballroom space. Based on the standards, the maximum number of spaces allowed is 290; 280 parking spaces based on the number of rooms and an additional 210 parking spaces based on the meeting/ballroom space assuming a maximum capacity of 700 persons (10,311 square feet for ballrooms at 15 square feet per person). Therefore, the number of parking spaces proposed for the hotel does not exceed the City's maximum parking standards.

Hotel patrons will use the porte-cochere when arriving on site, where valet operators will access the parking ramp from the porte-cochere. Upon leaving, valet operators will bring the vehicles to the porte-cochere via the 3rd Street access.

During events taking place at the hotel's ballrooms and/or meeting spaces, a second valet station will be provided on the first parking level to relieve any congestion at the porte-cochere.

RETAIL/RESTAURANT

No parking will be allocated to the street level retail and restaurant uses included as part of the proposed development. Customers that drive to downtown will be expected to use nearby public parking facilities or use the hotel valet service.

LOADING

All loading and deliveries will take place at the loading dock located next to the parking garage entrance and exit on 3rd Street South. The current site plan calls for three service locations with enough space to allow for vehicles to pull into the service area and back into the spaces. Based on the site plan, delivery trucks should not impact 3rd Street South operations. Loading vehicles will not be allowed during the peak hours and will not be able to park on the sidewalks or the streetcar tracks. Loading vehicles will be discouraged from using the street for any maneuvering to get into the loading zone.

Based on the City Zoning Ordinance, office uses with greater than 100,000 square feet are required to have two (2) large loading spaces plus one (1) additional loading space per 300,000 square feet. For hotels (medium rating), two (2) large loading spaces are required for building square footage over 100,000 square feet. For the residential, multi-family dwellings of 100 to 250 units require one (1) small parking space within the loading area. Based on this information, Plan A requires four (4) loading spaces for the office use and two (2) large spaces for the hotel use. For Plan B, four (4) large spaces are required for the office use and one small parking space is required for the residential use. The project will be submitting a variance to reduce the required number of loading spaces to three (3) spaces.

5.0 TRAFFIC OPERATIONS

An analysis of the potential traffic impacts associated with the proposed development site was completed. The assumptions, methodology, results, and recommended improvements are detailed in this section. The following intersections were analyzed for traffic impacts: Washington Avenue North & 1st Avenue North, Washington Avenue South & Hennepin Avenue, Washington Avenue South & Nicollet Mall, Hennepin Avenue & 2nd Street South, Hennepin Avenue & 3rd Street South, Hennepin Avenue & 4th Street South, Nicollet Mall & 3rd Street South, and Marquette Avenue South & 3rd Street South. In addition, the development access on Hennepin Avenue and 3rd Street South will be included.

For the purposes of this project, Hennepin Avenue, Nicollet Mall, Marquette Avenue South, and 2nd Avenue South are all considered to have north-south orientation. Washington Avenue South and 3rd Street South are considered to have east-west orientation.

The traffic conditions at these intersections were analyzed for Development Plan A and Development Plan B under three scenarios during the morning and evening peak hours of traffic using Synchro and SimTraffic: Existing Year (2017), Future Year (2021) No Build, Future Year (2021) Build (Development Plan A), and Future Year (2021) Build (Development Plan B)

EXISTING TRAFFIC CONDITIONS

Hennepin Avenue is a two-way east-west undivided minor arterial street that extends from I-94 in Minneapolis to TH 280 in Saint Paul. It serves as a gateway to downtown Minneapolis for the Northeast Minneapolis and University of Minnesota neighborhoods. In the vicinity of the site, Hennepin Avenue runs north-south and has four lanes (two in each direction) with a posted speed limit of 30 mph. The 2010 AADT volume (most recent available data) on Hennepin Avenue was 18,900 vehicles per day adjacent to the site according to data provided on the City of Minneapolis Transportation Data Management System. Shared bike lanes exist in both directions and on-street parking is not permitted along Hennepin Avenue adjacent to the site. There is one driveway along Hennepin Avenue between the signalized intersections at Washington Avenue South and 3rd Street South. Hennepin Avenue will be reconstructed in 2020 and 2021 adjacent to the site, including bicycle facilities.

Nicollet Mall is a two-lane transit way running north-south through downtown Minneapolis. Nicollet Mall extends from the Washington Avenue South on the north to the Loring Greenway to the south. No automobile traffic except emergency vehicles, taxis, limos, and buses are allowed to utilize Nicollet Mall.

Marquette Avenue South is a two-way north-south undivided urban collector that extends from 1st Street South to 2nd Avenue South. It serves as a northbound local street through downtown Minneapolis with southbound transit lanes. In the vicinity of the site, Marquette Avenue South runs north-south and has four lanes (two northbound vehicular lanes and two southbound transit lanes) with a posted speed limit of 30 mph. The 2010 AADT volume on Marquette Avenue South was 6,600 vehicles per day adjacent to the site according to data provided on the City of Minneapolis Transportation Data Management System. Currently there are no bike lanes on Marquette Avenue South adjacent to the site. There is parking on the northbound side with peak hour parking restrictions. There is one driveway entrance to a parking garage between Washington Avenue South and 3rd Street South.

2nd Avenue South is a two-way north-south undivided urban collector that extends from 1st Street South to 1st Avenue South. It serves as a southbound local street through downtown Minneapolis with northbound transit lanes. In the vicinity of the site, 2nd Avenue South runs north-south and has four lanes (two southbound vehicular lanes and two northbound transit lanes) with a posted speed limit of 30 mph. The 2014 AADT volume on 2nd Avenue South was 4,600 vehicles per day adjacent to the site according to data provided on the City of Minneapolis Transportation Data Management System. Currently there are no bike lanes on 2nd Avenue South adjacent to the site, however there is parking on the southbound side with peak hour parking restrictions. There are no driveways on 2nd Avenue South between Washington Avenue South and 3rd Street South.

Washington Avenue South is a two-way east-west divided urban minor arterial that extends from Hennepin Avenue (Washington Avenue extends beyond Hennepin Avenue) to the I-35W interchange. It serves as an east-west downtown arterial that serves traffic coming from and going to I-35W and I-94. In the vicinity of the site, Washington Avenue South runs east-west and has four lanes (two in each direction) with a posted speed limit of 30 mph. The 2011 AADT adjacent to the site was 11,350 vehicles per day. The 2014 AADT on Washington Avenue North to the west of the site was 16,500 vehicles per day according to data provided on the City of Minneapolis Transportation Data Management System. A cycle track is provided on both sides of Washington Avenue South. There is currently one driveway on Washington Avenue South between Hennepin Avenue and Nicollet Mall adjacent to the site.

3rd Street South is a one-way westbound urban minor arterial that extends from I-35W to 2nd Avenue North. It serves as a downtown arterial connection from Washington Avenue South on the east side of Minneapolis to I-94 WB on the west side of Minneapolis, and provides a direct connection to I-394 westbound and I-94 westbound. In the vicinity of the site, 3rd Street South runs west and has three lanes with a posted speed limit of 30 mph. The 2015 AADT was 11,100 vehicles per day according to data provided on the City of Minneapolis Transportation Data Management System. Currently there is a westbound bike lane on the northern side of the street with parking allowed on the southern side of the street. There is one driveway on 3rd Street South between Hennepin Avenue and Nicollet Mall adjacent to the site.

The existing geometry of these roadways within the study area is illustrated in **Figure 5-1 (Appendix A)**.

EXISTING TRAFFIC VOLUMES

To analyze traffic operations at the eight study intersections, turning movement counts from 2017 were obtained from the City of Minneapolis. The network AM and PM peak hour of the eight intersections was determined from the counts. The network AM peak hour was determined to occur from 7:45 AM to 8:45 AM and the network PM peak hour was determined to occur from 4:30 PM to 5:30 PM. The average AM and PM peak hour factors for all eight intersections was calculated to be 0.95 for the AM peak and 0.98 for the PM peak. The observed turning movement volumes for 2017 Existing Conditions are provided in **Figure 5-2 (Appendix A)**.

FUTURE TRAFFIC CONDITIONS

By the 2021 Build Year, improvements along Hennepin Avenue are anticipated to be constructed. This includes a reduced cross section adjacent to the proposed development and bike lanes, with geometric improvements proposed at the study intersections along Hennepin Avenue. At Washington Avenue and 3rd Street South, the northbound left-turn lanes will have a shorter storage area. At 4th Street South, the dedicated southbound left-turn lane will be eliminated and the inside through lane will accommodate both the southbound through movement and southbound left-turn movement. The prosed Build intersection geometry is provided in **Figure 5-3 (Appendix A)**.

BACKGROUND GROWTH

No Build background traffic was determined by applying a 0.5% annual growth rate from 2017 to 2021. The future volumes assumed the same peak hour and peak hour factors. The forecasted No Build (2021) turning movement volumes are provided in **Figure 5-4(Appendix A)**.

TRIP GENERATION

Currently there is a surface lot on site with 180 parking stalls, which will be removed for the Build Condition. Using an average rate of 0.3 trips per stall during the peak hours, which is consistent with the assumptions used for the 2005 EA completed for the site, it was determined that the existing parking lot generates 55 inbound trips during the AM peak hour and 55 trip out during the PM peak hour. These trips were subtracted out of the 2021 background volumes to account for the removal of the existing parking lot use. Similar to the existing parking lot, Metro Transit buses currently use the surface lot for bus layovers. The layover location will no longer exist on the site in the proposed conditions.

The trip-generating potential of the proposed development was calculated using equations contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, Tenth Edition. Standard ITE trip rates were used to develop the gross new trips generated by the site. Reductions were then applied to the trips generated to account for multimodal utilization. A 60 percent reduction was applied to the residential trips, a 50 percent reduction was applied to hotel trips, and a 60 percent reduction was applied to the office trips to account for multimodal utilization, consistent with the mode split goals identified within **Section 1**. All values for trip generation provided in the following sections include this assumed multimodal reduction.

The “Multi-Family Mid-Rise” land use (ITE code 221) was assumed for the proposed residential units. The average rate was used for calculation of trips generated by the multi-family land use. The proposed residential development is set to have 50 dwelling units for Development Plan A and 140 dwelling units for Development Plan B. After applying the 40 percent automobile mode split, this equates to 2 entering and 6 exiting trips during the AM peak for Development Plan A and 5 entering and 16 existing trips for Development Plan B. Using the same automobile mode split for the PM peak, this equates to 5 entering and 4 exiting trips for Development Plan A and 15 entering and 10 exiting trips for Development Plan B.

The “Hotel” land use (code 310) was assumed for the proposed hotel portion of the site for Development Plan A, which includes trips associated with the hotel restaurant and meeting spaces. The average rate was used for calculation of trips generated by the hotel land use. The hotel is proposed to have 280 rooms. After applying the 50 percent automobile mode split, this equates to 39 entering trips and 27 exiting trips during the AM peak (0.24 vehicle trips per room). Using the same automobile mode split for the PM peak equates to 50 entering trips and 34 exiting trips (0.30 vehicle trips per room).

The “Office” land use (code 710) was assumed for the proposed office portion of the development. The average rate was used for calculation of trips generated by the office land use. Development Plan A is proposed to include 598,707 square feet of office and Development Plan B is proposed to include 486,742 square feet. After applying the 40 percent automobile mode split, this equates to 239 entering and 39 exiting trips for Development Plan A and 194 entering and 32 exiting trips for Development Plan B during the AM peak hour. Using the same automobile mode split for the PM peak equates to 44 entering and 232 existing trips for Development Plan A and 36 entering and 188 exiting trips for Development Plan B.

For porte-cochere operations, it was assumed that all entering passenger vehicle trips will enter the porte-cochere from Hennepin Avenue, including taxis and ride-share vehicles. Once guests exit their vehicles, taxis and ride-share vehicles exit onto Hennepin Avenue and valeted vehicles are driven directly into the parking ramp from the porte-cochere. For outbound trips, it was assumed that a valet driver would exit onto 3rd Street South, turn right onto Hennepin Avenue and then into the porte-cochere. The owner would then depart via Hennepin Avenue. Due to these assumptions, all hotel trips (inbound and outbound) would enter the porte-cochere, and only outbound trips would exit the porte-cochere. It should be noted that some percentage of vehicle trips could be assumed to be taxi trips, and to be conservative, all trips were assumed to be valet.

Tables 5-1 and **Table 5-2** summarize the total AM peak hour trip generation for Development Plan A and Development Plan B, respectively.

Table 5-1: AM Trip Generation (Development Plan A)

Code	Land Use Description	Units	No.	Avg. Rate	Mode Split Factor	AM Peak Hour				
						Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips
220	Multi-Family Mid-Rise	DU	50	0.36	0.40	26%	74%	2	6	8
310	Hotel	Rooms	280	0.47	0.50	59%	41%	39	27	66
710	General Office	SF	598.707	1.16	0.40	86%	14%	239	39	278
								280	72	352

Table 5-2: AM Trip Generation (Development Plan B)

Code	Land Use Description	Units	No.	Avg. Rate	Mode Split Factor	AM Peak Hour				
						Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips
220	Multi-Family Mid-Rise	DU	140	0.36	0.40	26%	74%	5	16	21
710	General Office	SF	486.742	1.16	0.40	86%	14%	194	32	226
								199	48	247

Tables 5-3 and **Table 5-4** summarize the total AM peak hour trip generation for Development Plan A and Development Plan B, respectively.

Table 5-3: PM Trip Generation (Development Plan A)

Code	Land Use Description	Units	No.	Avg. Rate	Mode Split Factor	PM Peak Hour				
						Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips
220	Multi-Family Mid-Rise	DU	50	0.36	0.40	26%	74%	5	4	9
310	Hotel	Rooms	280	0.60	0.50	59%	41%	50	34	84
710	General Office	SF	598.707	1.16	0.40	86%	14%	44	232	276
								99	270	369

Table 5-4: PM Trip Generation (Development Plan B)

Code	Land Use Description	Units	No.	Avg. Rate	Mode Split Factor	PM Peak Hour				
						Trips Enter (%)	Trips Exit (%)	Trips Enter	Trips Exit	Total Trips
220	Multi-Family Mid-Rise	DU	140	0.36	0.40	26%	74%	15	10	25
710	General Office	SF	486.742	1.16	0.40	86%	14%	36	188	224
								51	198	249

TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution for the site-generated traffic is shown in **Figure 5-5 (Appendix A)** and **Figure 5-6 (Appendix A)** for the residential/office land uses and hotel land use, respectively. This distribution is based on the current traffic patterns in the area and a general assessment of major regional roadways outside of the study area.

A map displaying the Development Plan A site generated trip assignment is provided in **Figure 5-7** and **Figure 5-8 (Appendix A)** for residential/office and hotel trips, respectively. Figure 5-8 accounts for the local assignment of hotel vehicle trips (entering trips use the porte-cochere, and outbound trips exit onto 3rd Street South, enter the porte-cochere, and depart via Hennepin Avenue). A map displaying the Development Plan B site generated trip assignment is provided in **Figure 5-9 (Appendix A)** for residential/office.

BUILD TRAFFIC

Figure 5-10 (Appendix A) provides the Build peak hour traffic volumes for Development Plan A and **Figure 5-11 (Appendix A)** provides the Build peak hour traffic volumes for Development Plan B. This is a combination of the No Build traffic volumes and the site generated traffic volumes for each of the development plans.

ANALYSIS RESULTS

Models of each scenario were developed using Synchro, and then delay and queueing were evaluated for each scenario using an average of five simulation runs using SimTraffic.

The existing year (2017) scenario was first analyzed to provide an understanding of the existing delay and queueing issues within the study area.

The No Build (2021) model was analyzed second to provide an understanding of any potential delay or queueing issues within the project year without the development traffic.

Third, the Build (2021) model was analyzed to identify any locations within the network in which the site traffic impacted traffic operations.

INTERSECTION CAPACITY ANALYSIS

Existing Conditions

Under existing conditions, signal timings were assumed to be the same as those implemented in the 2011 downtown signal retiming. The SimTraffic intersection delay results for existing conditions are shown in **Tables 5-5** below.

Under existing conditions all intersections are operating at LOS C or better in both the AM and PM peaks. During the AM peak all movements are operating at LOS D or better with the exception of the westbound left turn at Hennepin Avenue & Washington Avenue South, which is operating at LOS F. During the PM peak all movements are operating at LOS D or better. Additional tables summarizing individual movement delay and LOS are provided in **Appendix B**. The SimTraffic reports are provided in **Appendix C**.

Table 5-5: Existing AM and PM Peak Operations

Intersection	Control	Overall Intersection	
		Delay (sec/veh)	LOS
		AM / PM	AM / PM
Washington Avenue & 1 st Avenue North	Signal	18.2 / 15.1	B / B
Hennepin Avenue & 2 nd Street North	Signal	9.1 / 13.3	A / B
Hennepin Avenue & Washington Avenue	Signal	26.6 / 23.4	C / C
Hennepin Avenue & 3 rd Street South	Signal	8.8 / 12.9	A / B
Hennepin Avenue & 4 th Street South	Signal	18.6 / 23.9	B / C
Nicollet Mall & Washington Avenue	Signal	8.3 / 10.1	A / B
Nicollet Mall & 3 rd Street South	Signal	11.3 / 9.2	B / A
Marquette Avenue & 3 rd Street South	Signal	23.1 / 26.3	C / C

2021 No Build Conditions

Under 2021 No Build conditions, signal timings were assumed to be optimized by split and offset. All cycle lengths remained the same as existing. The intersection delay SimTraffic results for the No Build conditions are shown in **Tables 5-6** below.

Under 2021 No Build Conditions, all intersections are anticipated to operate at LOS C or better in both the AM and PM peaks. During the AM peak all movements are anticipated to operate at LOS D or better with the exception of the westbound left turn at Hennepin Avenue & Washington Avenue South, which is operating at LOS F. During the PM peak all movements are anticipated to operate at LOS D or better. Additional tables summarizing individual movement delay and LOS are provided in **Appendix B**. The SimTraffic reports are provided in **Appendix C**.

Table 5-6: 2021 No Build AM and PM Peak Operations

Intersection	Control	Overall Intersection	
		Delay (sec/veh) AM / PM	LOS AM / PM
Washington Avenue & 1 st Avenue North	Signal	17.6 / 15.5	B / B
Hennepin Avenue & 2 nd Street North	Signal	7.8 / 13.5	A / B
Hennepin Avenue & Washington Avenue	Signal	27.3 / 23.7	C / C
Hennepin Avenue & 3 rd Street South	Signal	9.4 / 11.7	A / B
Hennepin Avenue & 4 th Street South	Signal	18.7 / 21.8	B / C
Nicollet Mall & Washington Avenue	Signal	9.3 / 9.3	A / A
Nicollet Mall & 3 rd Street South	Signal	12.3 / 9.0	B / A
Marquette Avenue & 3 rd Street South	Signal	23.5 / 25.0	C / C

2021 Build Conditions

Under 2021 Build conditions, signal timings were assumed to be optimized by split and offset. All cycle lengths remained the same as existing. The intersection delay SimTraffic results for existing conditions are shown in **Tables 5-7** and **5-8** for Development Plan A and Development Plan B, respectively. Two additional intersections were added as part of the Build conditions, the intersection of Hennepin Avenue and the porte-cochere (for Development Plan A only) and the intersection of 3rd Street South and the parking garage.

For both Development Plan A and Development Plan B, all intersections are anticipated to operate at LOS D or better during the AM and PM peak hours. During the AM peak hour, all intersection movements are anticipated to operate at LOS D or better. During the PM peak hour, all intersection movements are anticipated to operate at LOS D or better, with the exception of the southbound exit onto 3rd Street South from the proposed underground parking, which is anticipated to operate at LOS E under Plan A. Similar to other large developments within downtown Minneapolis, a mitigation measure may be considered to add a traffic control officer during the PM peak hour if operations show the need for one. Additional tables summarizing individual movement delay and LOS are provided in **Appendix B**. The SimTraffic reports are provided in **Appendix C**.

Table 5-7: 2021 Build AM and PM Peak Operations (Development Plan A)

Intersection	Control	Overall Intersection	
		Delay (sec/veh) AM / PM	LOS AM / PM
Washington Avenue & 1 st Avenue North	Signal	17.6 / 15.7	B / B
Hennepin Avenue & 2 nd Street North	Signal	8.9 / 13.3	A / B
Hennepin Avenue & Washington Avenue	Signal	27.0 / 28.9	C / C
Hennepin Avenue & 3 rd Street South	Signal	10.6 / 16.8	B / B
Hennepin Avenue & 4 th Street South	Signal	19.4 / 21.2	B / C
Nicollet Mall & Washington Avenue	Signal	8.3 / 35.3	A / D
Nicollet Mall & 3 rd Street South	Signal	13.6 / 12.7	B / B
Marquette Avenue & 3 rd Street South	Signal	24.0 / 22.8	C / C
Hennepin Avenue & Site Driveway	Unsignalized	1.5 / 3.7	A / A
3 rd Street South & Site Driveway	Unsignalized	2.0 / 9.2	A / A

Table 5-8: 2021 Build AM and PM Peak Operations (Development Plan B)

Intersection	Control	Overall Intersection	
		Delay (sec/veh) AM / PM	LOS AM / PM
Washington Avenue & 1 st Avenue North	Signal	18.2 / 15.3	B / B
Hennepin Avenue & 2 nd Street North	Signal	9.00 / 13.3	A / B
Hennepin Avenue & Washington Avenue	Signal	28.1 / 25.7	C / C
Hennepin Avenue & 3 rd Street South	Signal	10.4 / 15.3	B / B
Hennepin Avenue & 4 th Street South	Signal	19.1 / 23.8	B / C
Nicollet Mall & Washington Avenue	Signal	7.8 / 9.5	A / A
Nicollet Mall & 3 rd Street South	Signal	12.6 / 10.0	B / A
Marquette Avenue & 3 rd Street South	Signal	23.5 / 26.6	C / C
3 rd Street South & Site Driveway	Unsignalized	1.5 / 5.1	A / A

PORTE-COCHERE OPERATIONS

A porte-cochere is proposed along Hennepin Avenue to serve valet operations. Valet will serve all hotel users, in addition to restaurant users and residential/office guests that choose to utilize valet service. It has been designed to accommodate four vehicle parking positions along the curbside.

A secondary valet station is proposed on the first level of the parking to help relieve valet operations at the porte-cochere during specific pre-defined events. The secondary valet station would be activated for instances such as:

- Scheduled/Predictable busy event that would utilize all of the ballroom space. In this instance, the hotel will advertise and sign, as part of the event, that both valet stations at the 3rd Street and Hennepin Avenue access will be in operation. When congestion is first identified at the porte-cochere, customers will be directed by valet staff to enter the parking ramp via the valet ramp to the secondary valet station.
- For instances of unscheduled congestion at the porte-cochere, valet staff will direct customers to the secondary valet station via the valet ramp.

Figure 5-12 (Appendix A) shows the circulation of the porte-cochere and **Figure 5-13 (Appendix A)** shows the circulation of the secondary valet station.

A queueing analysis was performed for the porte-cochere operations to determine the anticipated number of vehicles waiting in queue for valet operations for normal weekday hotel operations. The analysis assumed four service positions and an average service time of two (2) minutes. This time accounts for patrons to park, gather their bags, valet staff to drive the vehicle to the parking area, and back to the valet station to process the next vehicle in line. Assuming 50 vehicles during the peak hour, which represents the forecasted peak hour entering traffic during the PM peak hour, the 85th percentile queue is expected to be 2.67 vehicles and a 95th percentile queue is expected to be 3.88 vehicles. Therefore, queueing at the porte-cochere is not anticipated to impact operations on Hennepin Avenue, including the bicycle and pedestrian facilities along Hennepin Avenue.

A queueing analysis was also performed for the porte-cochere operations to determine the anticipated number of vehicles waiting in queue for valet operations for evening events that utilize the ballroom and meeting spaces. The analysis assumed four service positions and an average service time of 45 seconds, with additional staff added to ensure quick turnaround times. This time accounts for patrons to park, valet staff to drive the vehicle to the parking area, and back to the valet station to process the next vehicle in line. Based on the practical capacity of 15 SF per person and a total square footage of 10,311 for the ballroom space, there are anticipated to be +/- 700 guests at peak capacity. Assuming a mode split of 50% automobiles, and a vehicle occupancy of 1.5 persons per vehicle, it was assumed that there would be 230 vehicles utilizing the porte-cochere at its peak. Based on these assumptions, the 85th percentile queue is expected to be 6.82 vehicles and a 95th percentile queue is expected to be over 9.74 vehicles. The secondary valet station will help reduce this anticipated queue.

The valet plan is predicated on a 45 second service time. The applicant commits to publishing a formal valet operations plan and to providing sufficient staff to ensure a 45 second service time for every sized event that will be held at the hotel. Furthermore, the applicant will monitor valet operations and, after two months of operations, provide a written report to Minneapolis Public Works documenting valet operations, noting any problems that have occurred and describing how those issues have been mitigated. Based on these reported issues and mitigations, the applicant will revise the valet operations plan and resubmit that to the City. After one year of operations the applicant will submit a final valet operations plan fully documenting how operations are accomplished and any changes that have been implemented to the valet

plan. The valet operations plan shall also include a description of the size of event that will trigger use of the secondary valet station. Use of the secondary valet station shall also be documented and included in the one year operations report.

Based on the information provided above, the porte-cochere is anticipated to operate without impacting vehicle, bicycle, or pedestrian operations along Hennepin Avenue. During specific events and unscheduled congestion, the secondary valet drop-off/pick-up area is proposed along 3rd Street South to help alleviate any issues at the porte-cochere. Supporting information for the queueing analysis is provided in **Appendix D**. In all cases, the future valet operator on the site will need to manage the available parking space within the porte-cochere and provide sufficient staff to ensure efficient processing times in order to provide enough space to accommodate the peak valet operations.

A valet operation plan will be developed for the project that will detail the operations of both the primary valet station and the secondary valet station, and provide thresholds for when the secondary valet station is needed. This plan will be shared with the City and will be continuously updated to provide the most accurate representation of valet operations.

6.0 TRAVEL DEMAND MANAGEMENT STRATEGIES

The purpose of this TDMP is to assist the City of Minneapolis to achieve their overall transportation goals as they relate specifically to the Gateway Mixed-Use Development site, by managing and minimizing the vehicle trips generated by the development.

This section outlines specific travel demand management strategies to be implemented by the developer. The strategies detail the duties of the developer in addressing the transportation issues cited in this document.

The property owners, by accepting the responsibility of implementing the items below for the proposed development, desires to help the City of Minneapolis achieve their goal of enhancing the local transportation system by lowering peak hour demand, helping to achieve a balance in the needs of all users of the transportation system.

STRATEGY COMMITMENTS

The developer specifically commits to the implementation of the following measures for the project:

1. Designate a TDM liaison for the proposed site that will maintain, monitor, and coordinate the various TDM strategies that require ongoing attention.
2. Conduct baseline surveys to assess employee and residential commuting habits within six months of building occupancy. Conduct a follow-up survey within two years of building occupancy, and annually until mode split goals are achieved (up to 5 years).
3. Provide information in at least one highly visible or otherwise frequently traveled corridor on site designed to share transit, bicycle, Nice Ride, and Commuter Connection information.
4. Provide a small packet of multi-modal information (either printed, digital, or both) to each new resident upon signing a lease and moving in.
5. Provide a small packet of multi-modal information (either printed, digital, or both) upon check-in for hotel guests. Provide a flyer in each new employee's paperwork outlining the multi-modal options around the site.

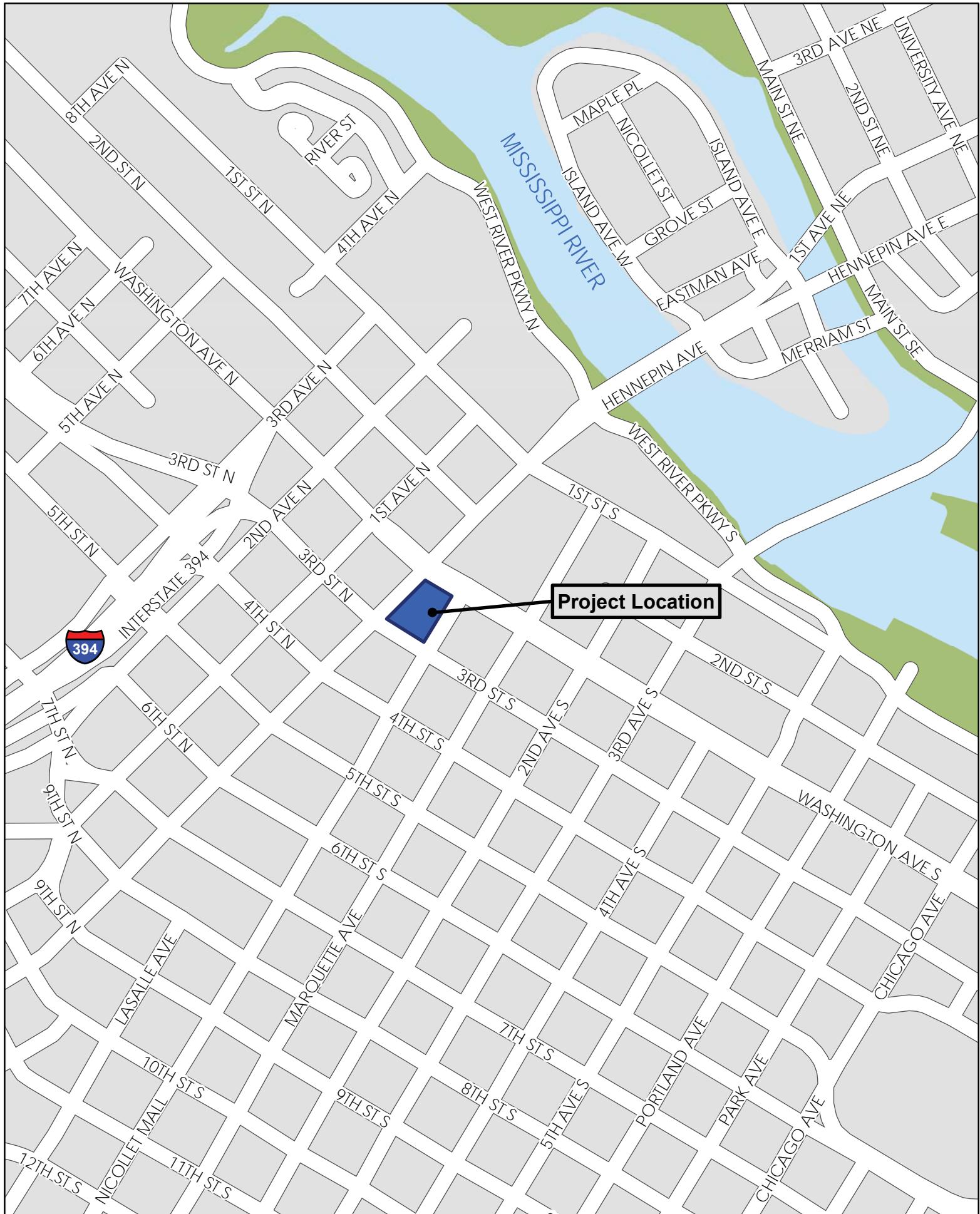
6. Maintain clear sidewalks around the perimeter of the site.
7. Provide secured bicycle parking that meets the Zoning Code requirements of at least one bicycle parking space per every two dwelling units for the residential uses, and a minimum of 30 bicycle parking spaces for the office use. In order to achieve the mode split goal and accommodate an estimated 2,500 employees and users of the other land uses, a total of 300 bicycle parking spaces will be provided for the development.
8. Inform employees of the on-site employee bike parking facility, and have available on-site locker and shower facilities located within the fitness center.
9. Post a map and/or other current information pertaining to the Regional Trail systems in at least one highly visible or otherwise frequently traveled corridor on site
10. Set up and maintain a display of real-time transit information in each of the hotel, residential, and office lobbies.
11. Develop and maintain a policy to encourage service deliveries to take place outside of peak travel times (with the exception of mail and courier deliveries).
12. Valet service will be provided for the building at the porte-cochere, and additional valet service will be provided during pre-defined special events and will be located on Parking Level 1.
13. The valet plan is predicated on a 45 second service time. The applicant commits to publishing a formal valet operations plan and to providing sufficient staff to ensure a 45 second service time for every sized event that will be held at the hotel. Furthermore, the applicant will monitor valet operations and, after two months of operations, provide a written report to Minneapolis Public Works documenting valet operations, noting any problems that have occurred and describing how those issues have been mitigated. Based on these reported issues and mitigations, the applicant will revise the valet operations plan and resubmit that to the City. After one year of operations the applicant will submit a final valet operations plan fully documenting how operations are accomplished and any changes that have been implemented to the valet plan. The valet operations plan shall also include a description of the size of event that will trigger use of the secondary valet station. Use of the secondary valet station shall also be documented and included in the one year operations report.
14. If on-site operations of the 3rd Avenue exit raise safety or mobility concerns, particularly during the weekday PM peak hour, a traffic control officer will be utilized.

7.0 APPENDIX

- A. Exhibits
- B. Detailed Intersection Delay and LOS Summary Tables
- C. SimTraffic Reports
- D. Porte-Cochere Queueing Information

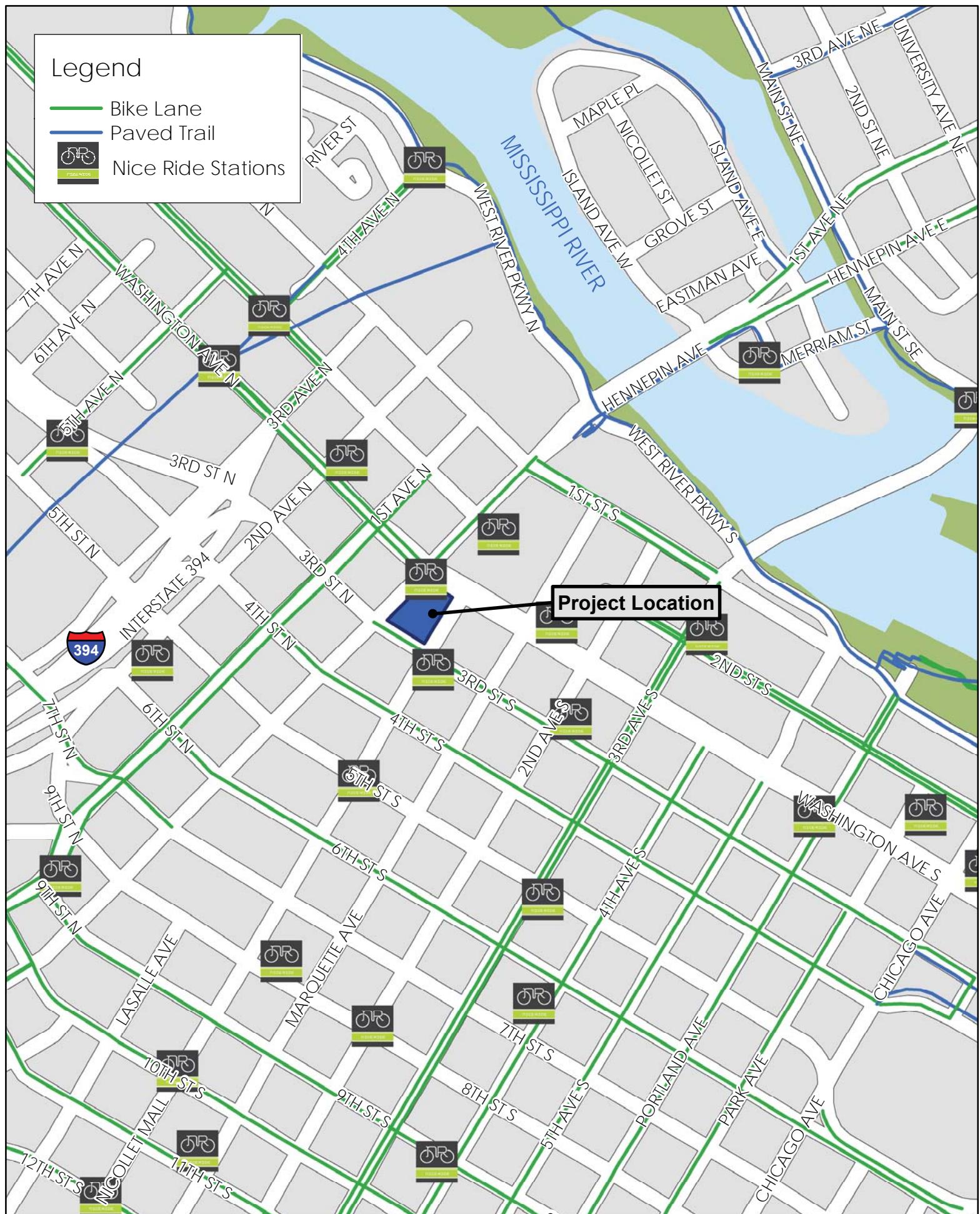
Appendix A: Exhibits





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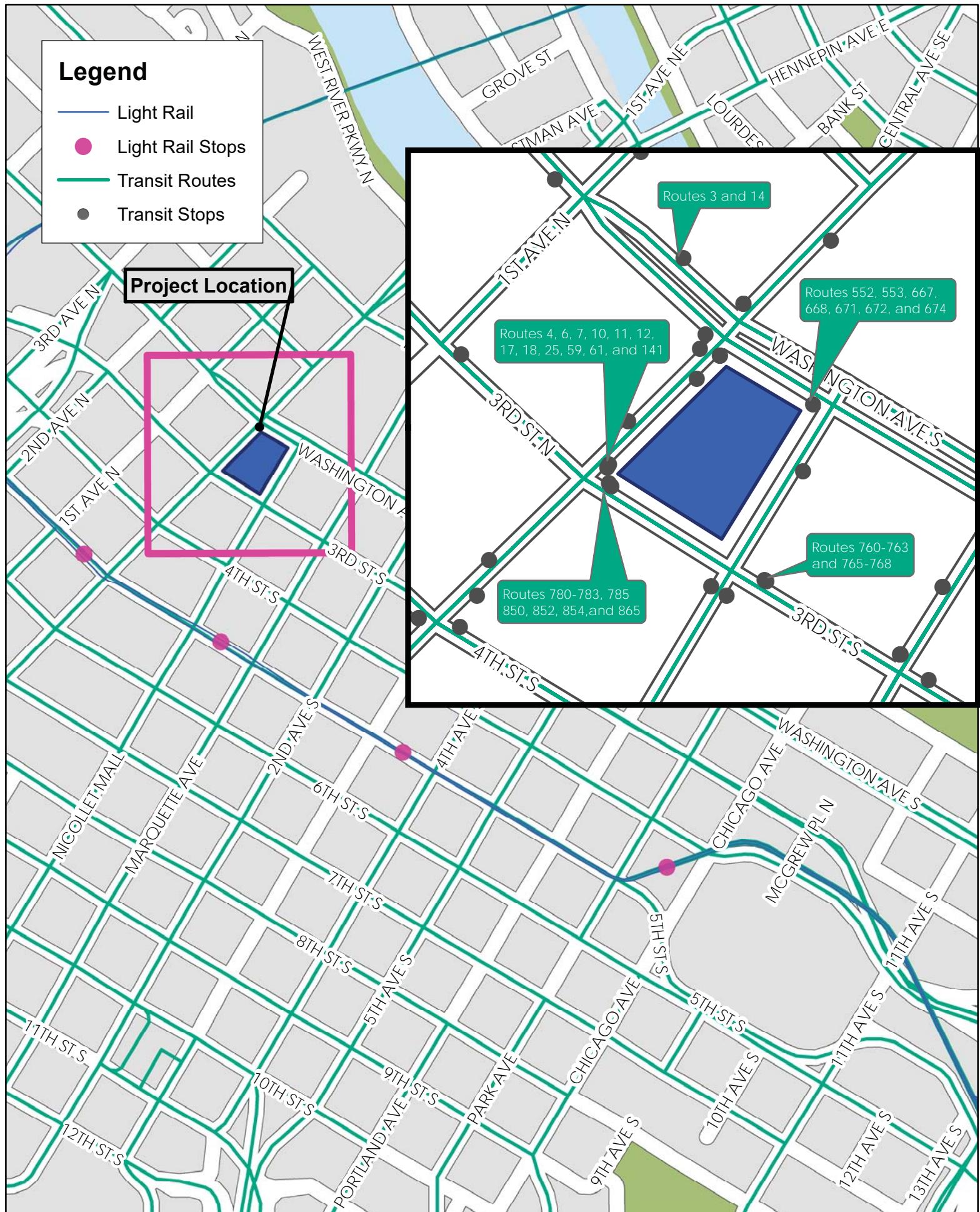
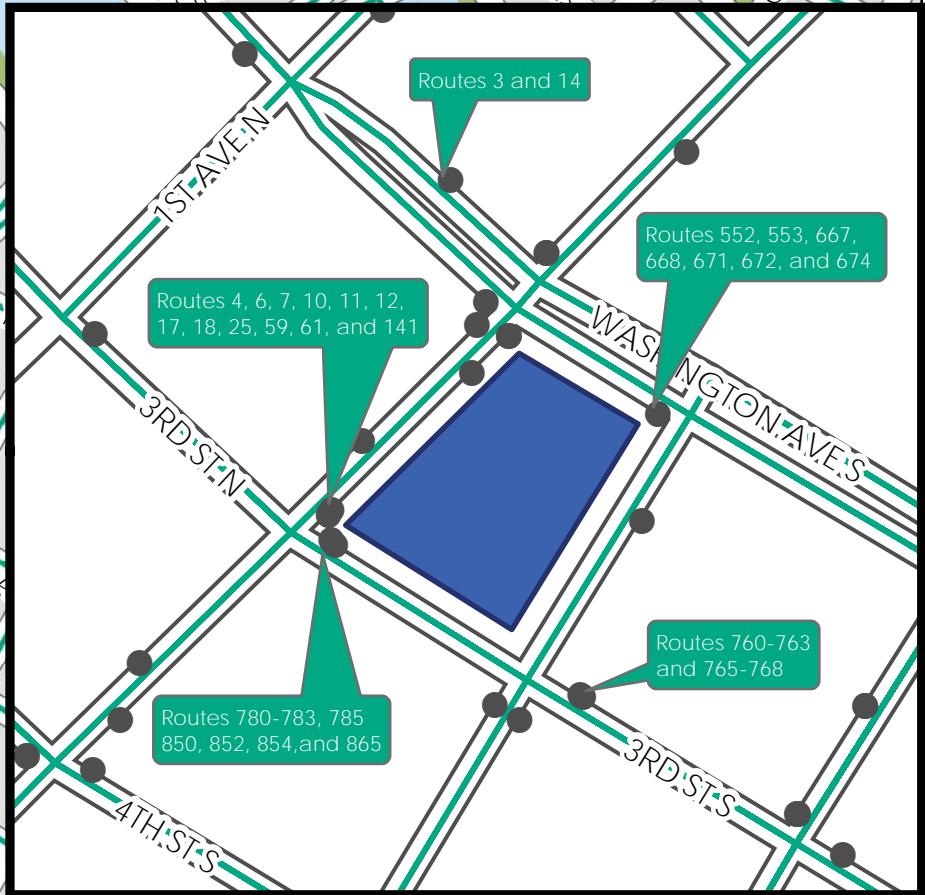
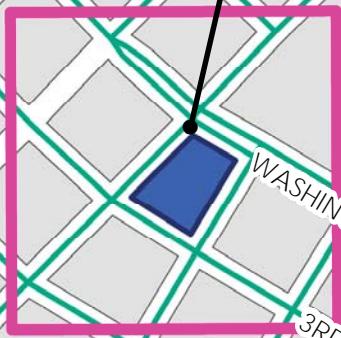
- Bike Lane
- Paved Trail
- Nice Ride Stations

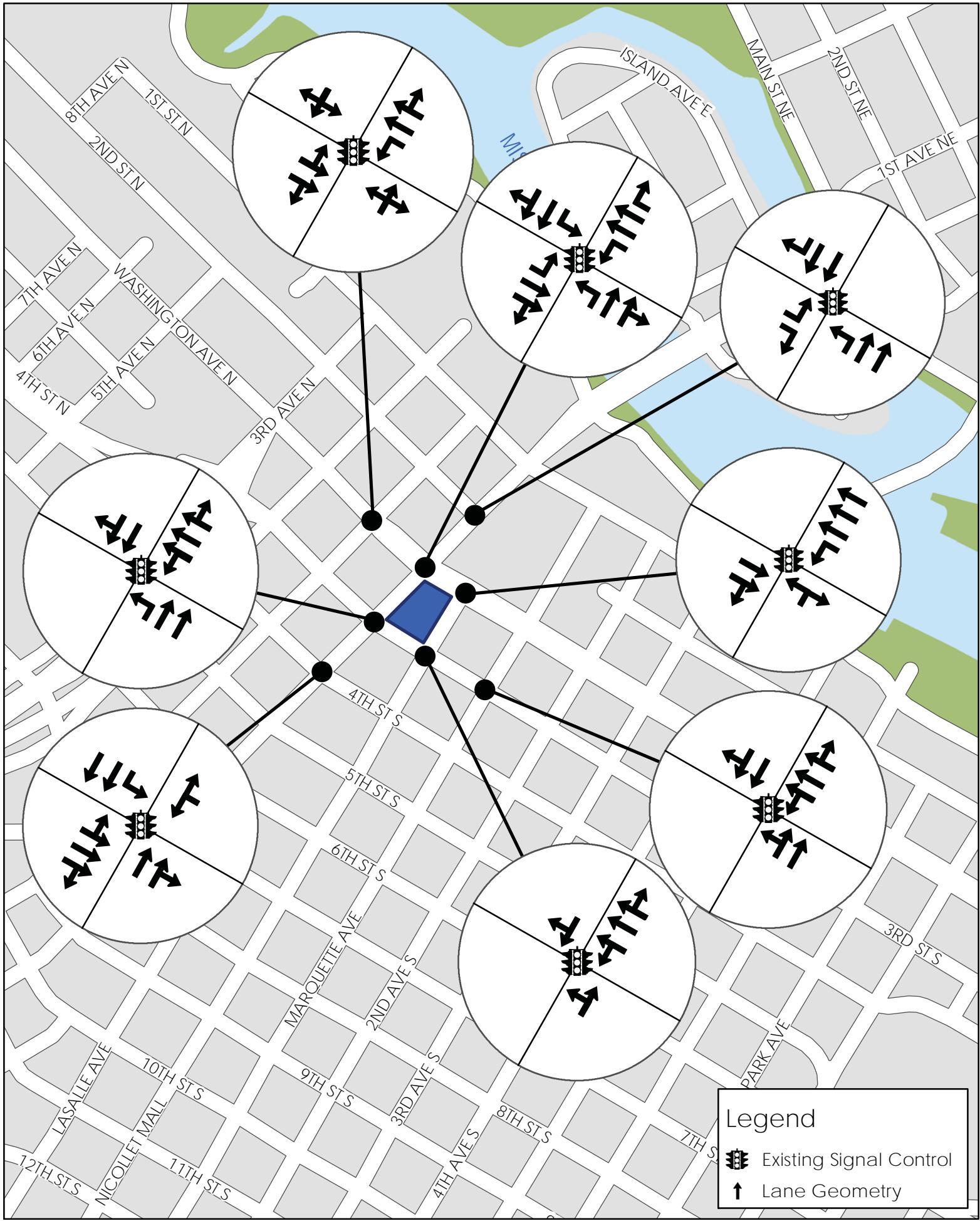


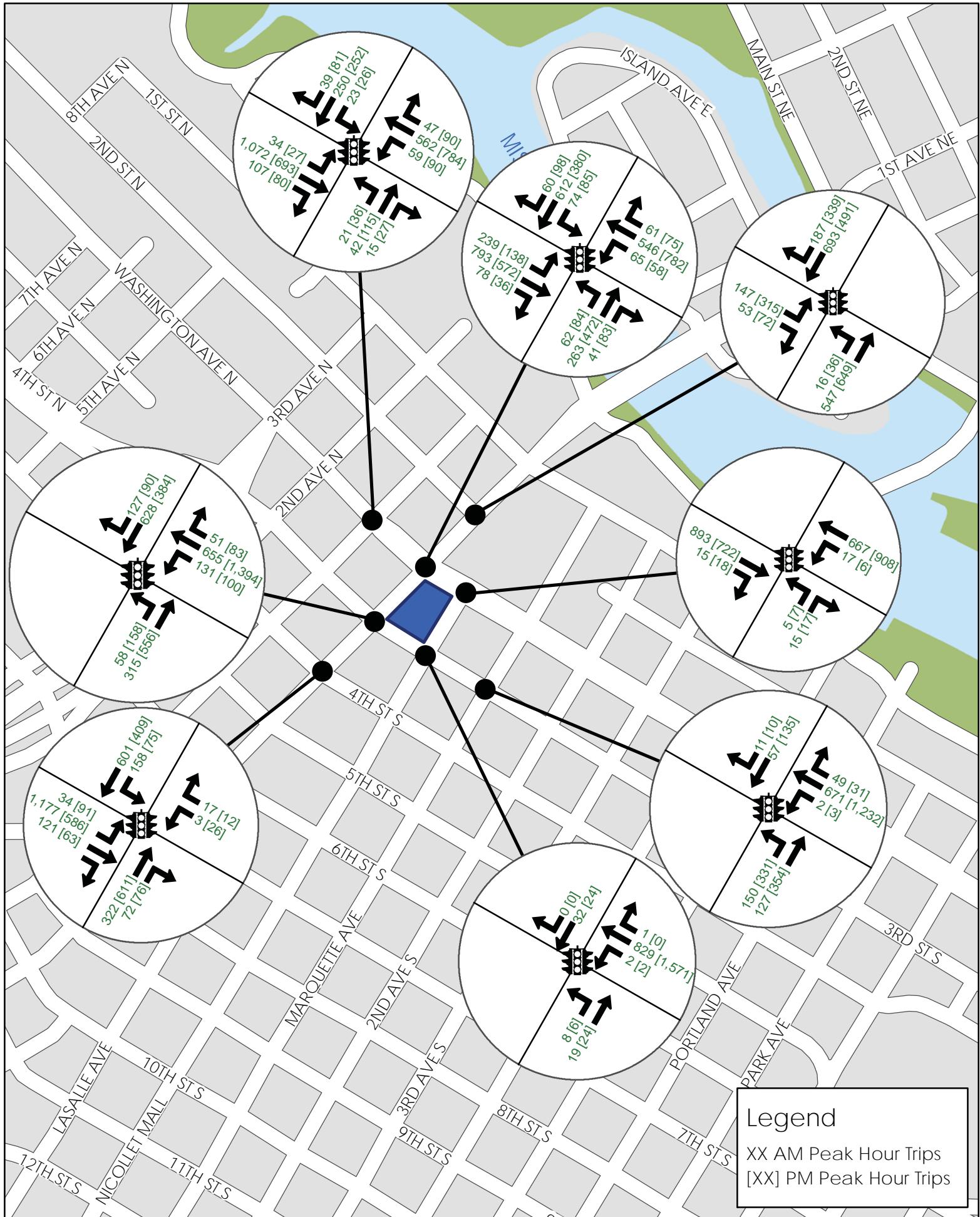
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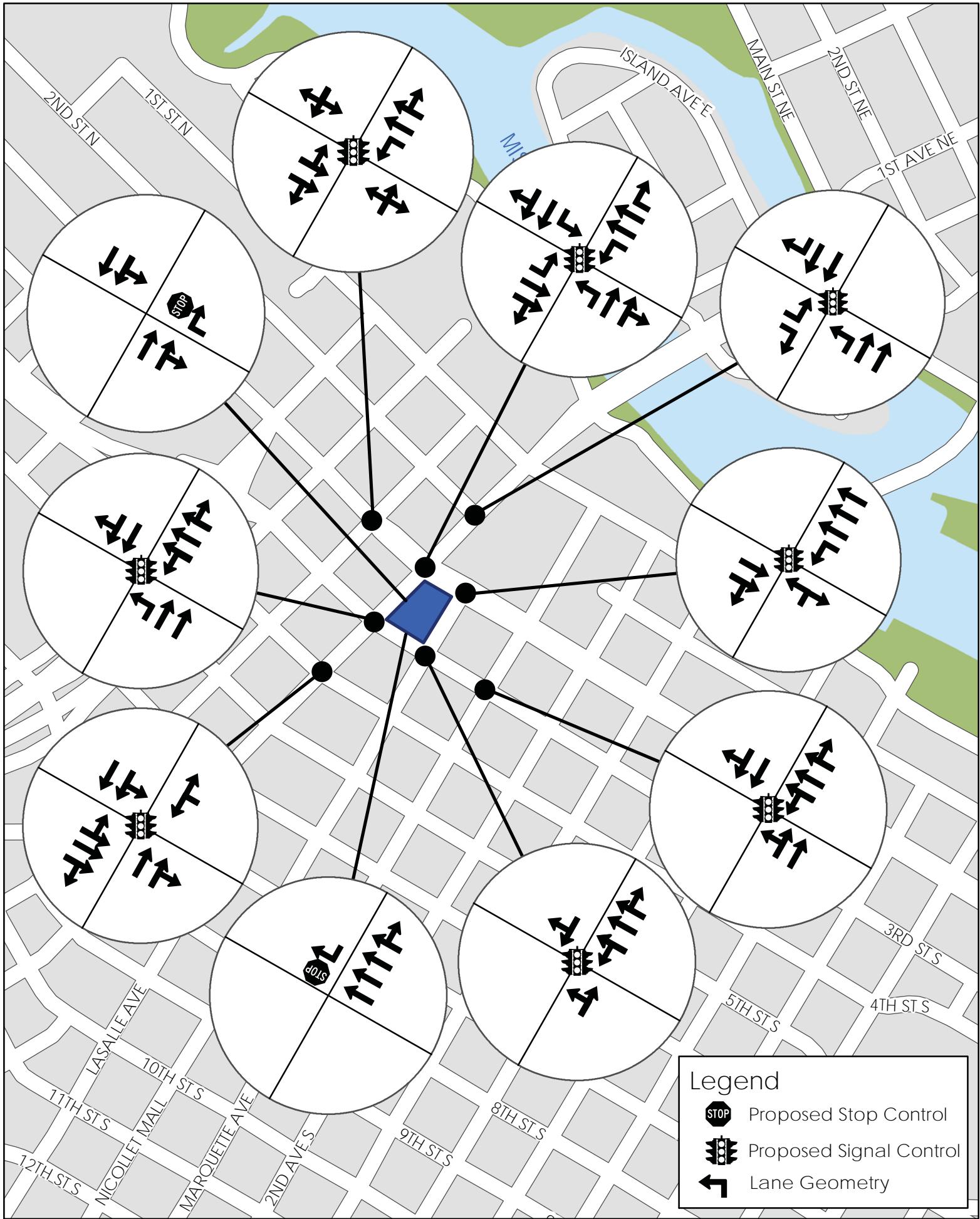
- Light Rail
- Light Rail Stops
- Transit Routes
- Transit Stops

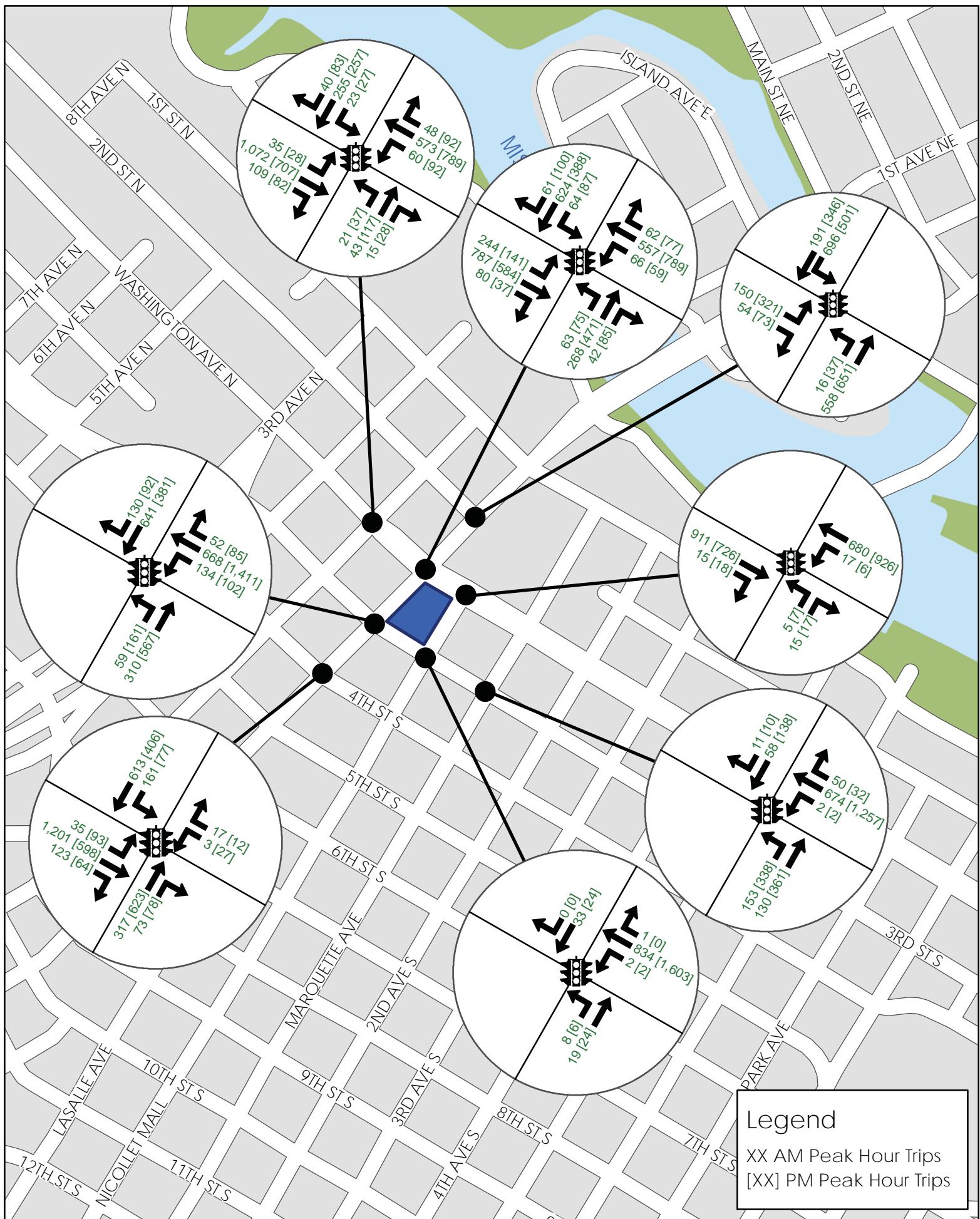
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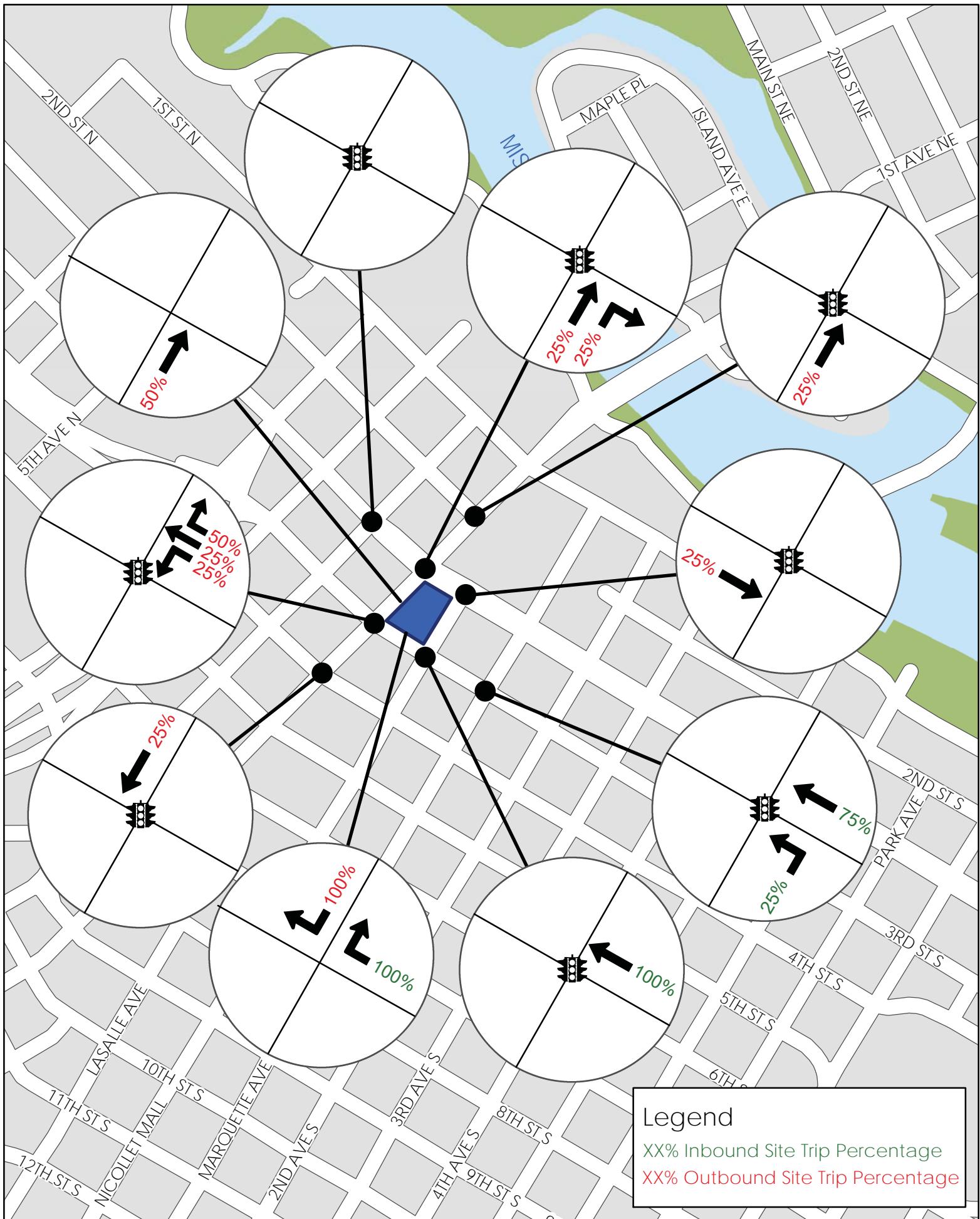












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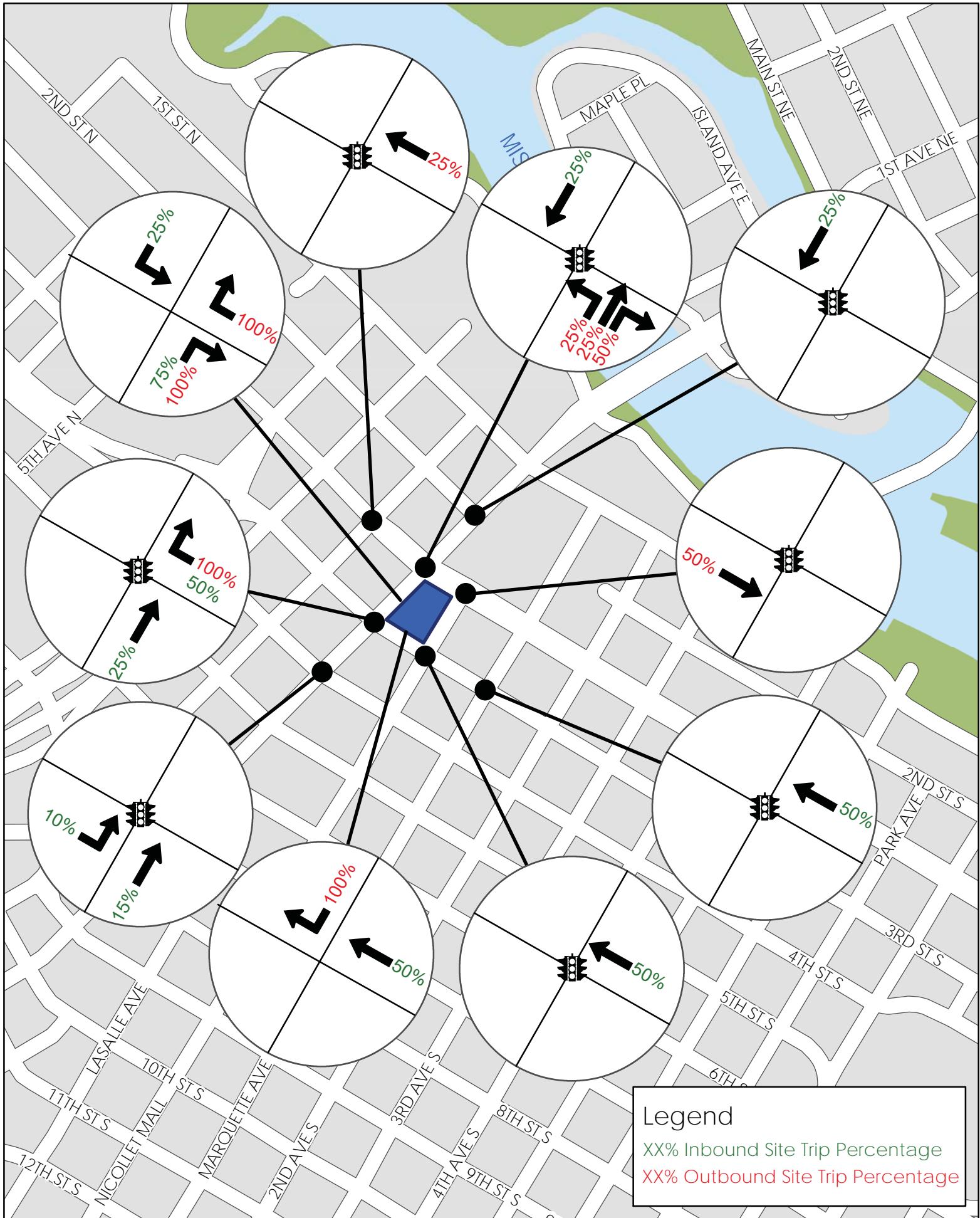
XX% Inbound Site Trip Percentage

XX% Outbound Site Trip Percentage



0 350 700 Feet

Figure 5-5: Site Trip Distribution, Residential/Office
Gateway Mixed-Use Development



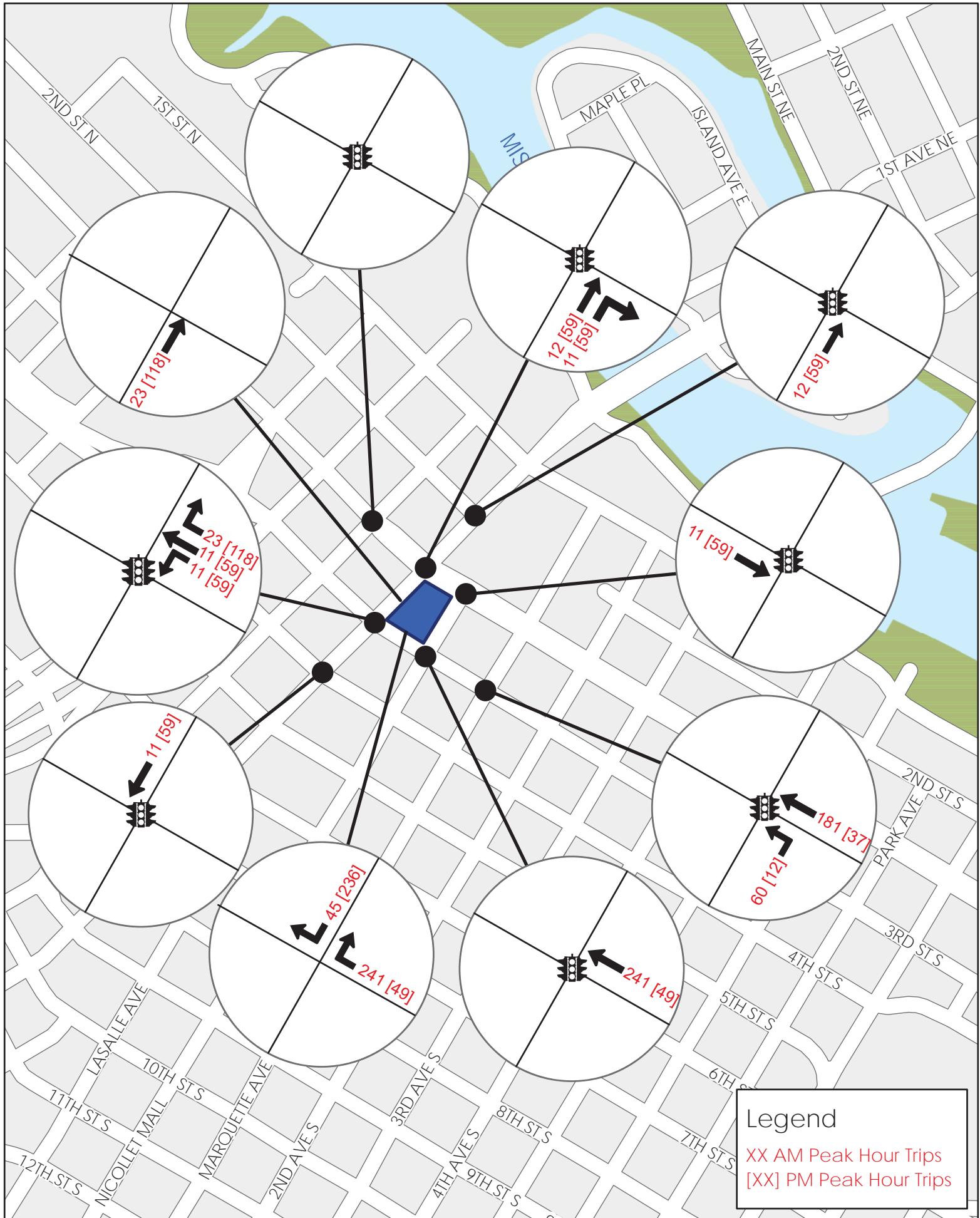
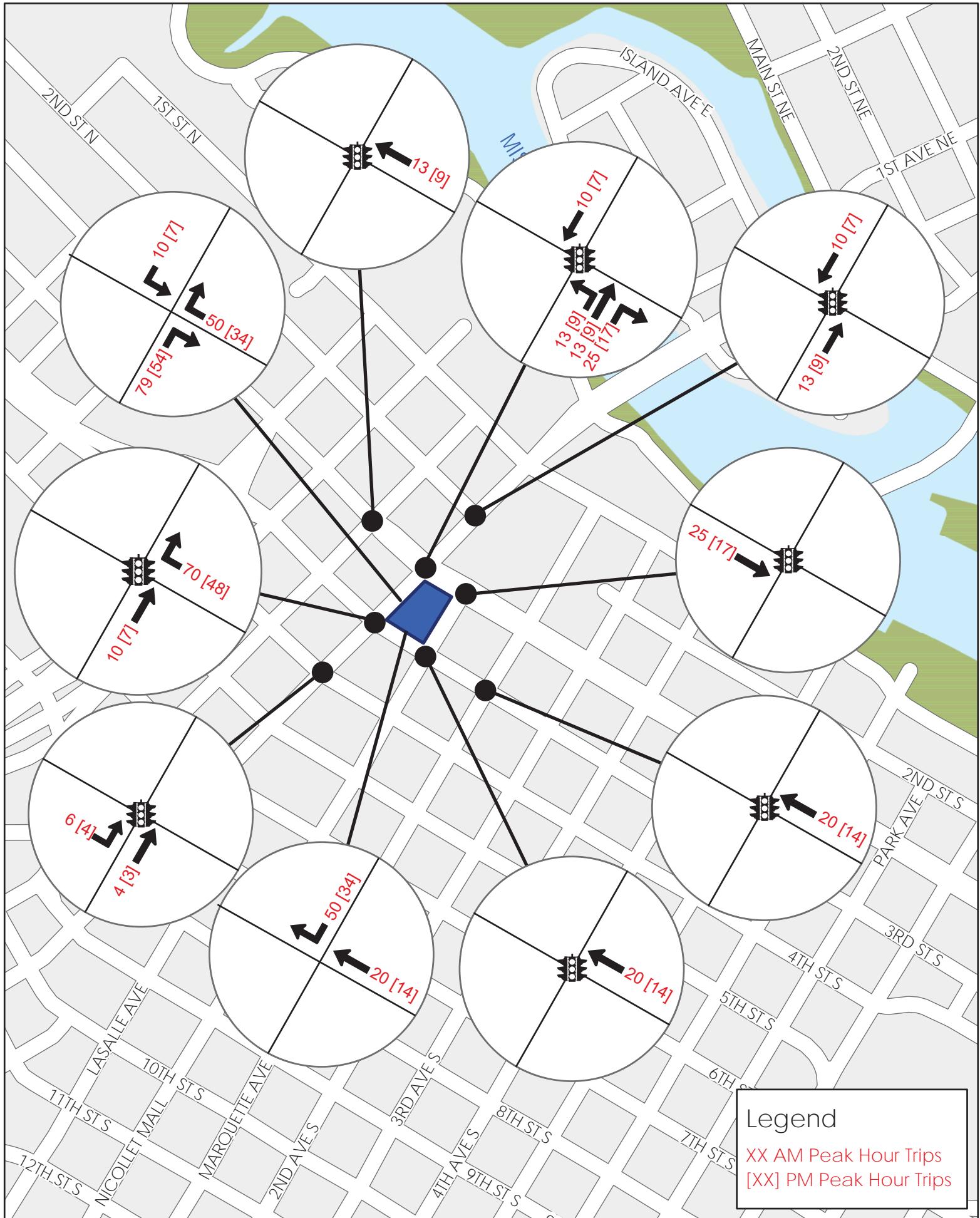


Figure 5-7: Site Trip Assignment, Residential/Office (Plan A)
Gateway Mixed-Use Development



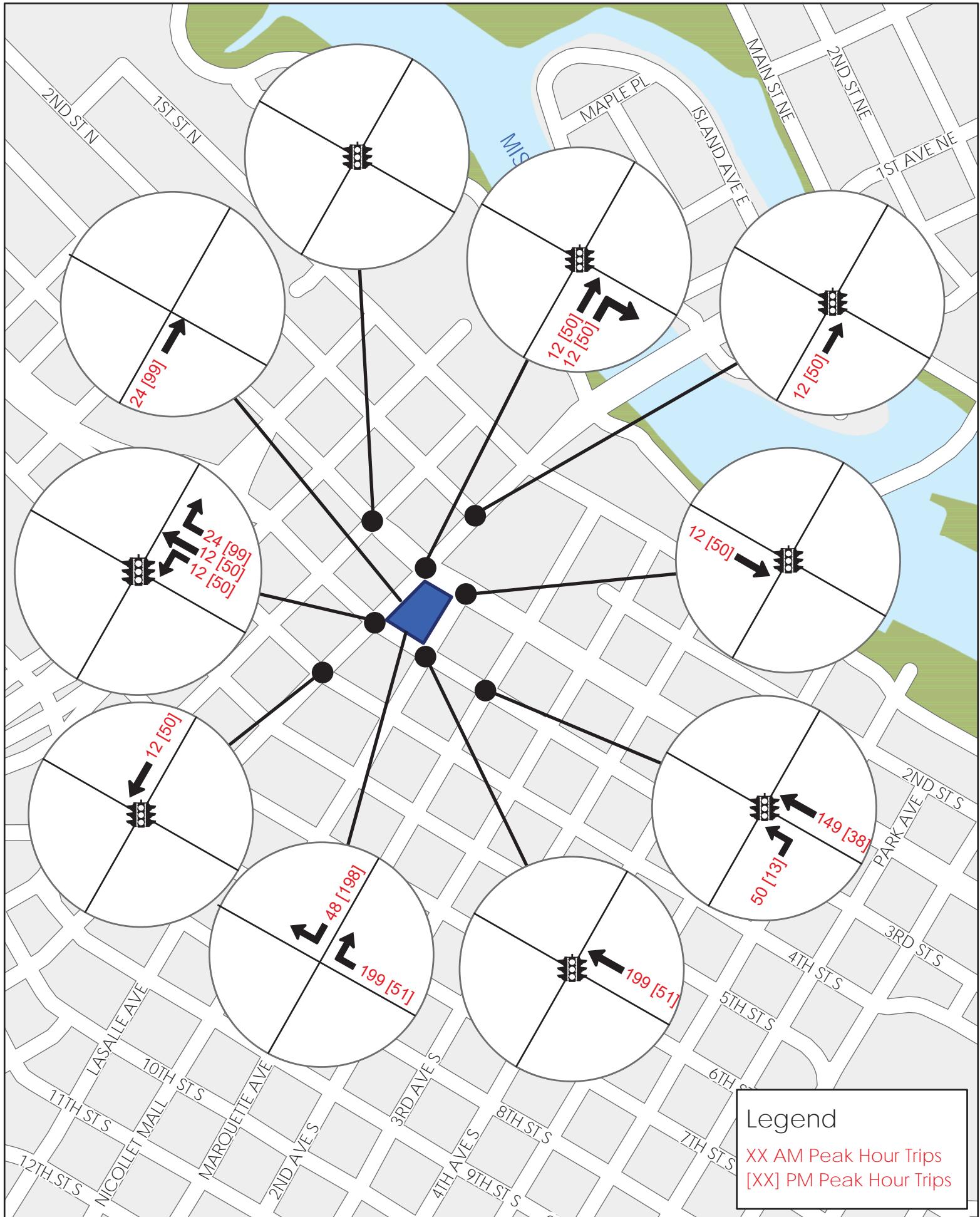
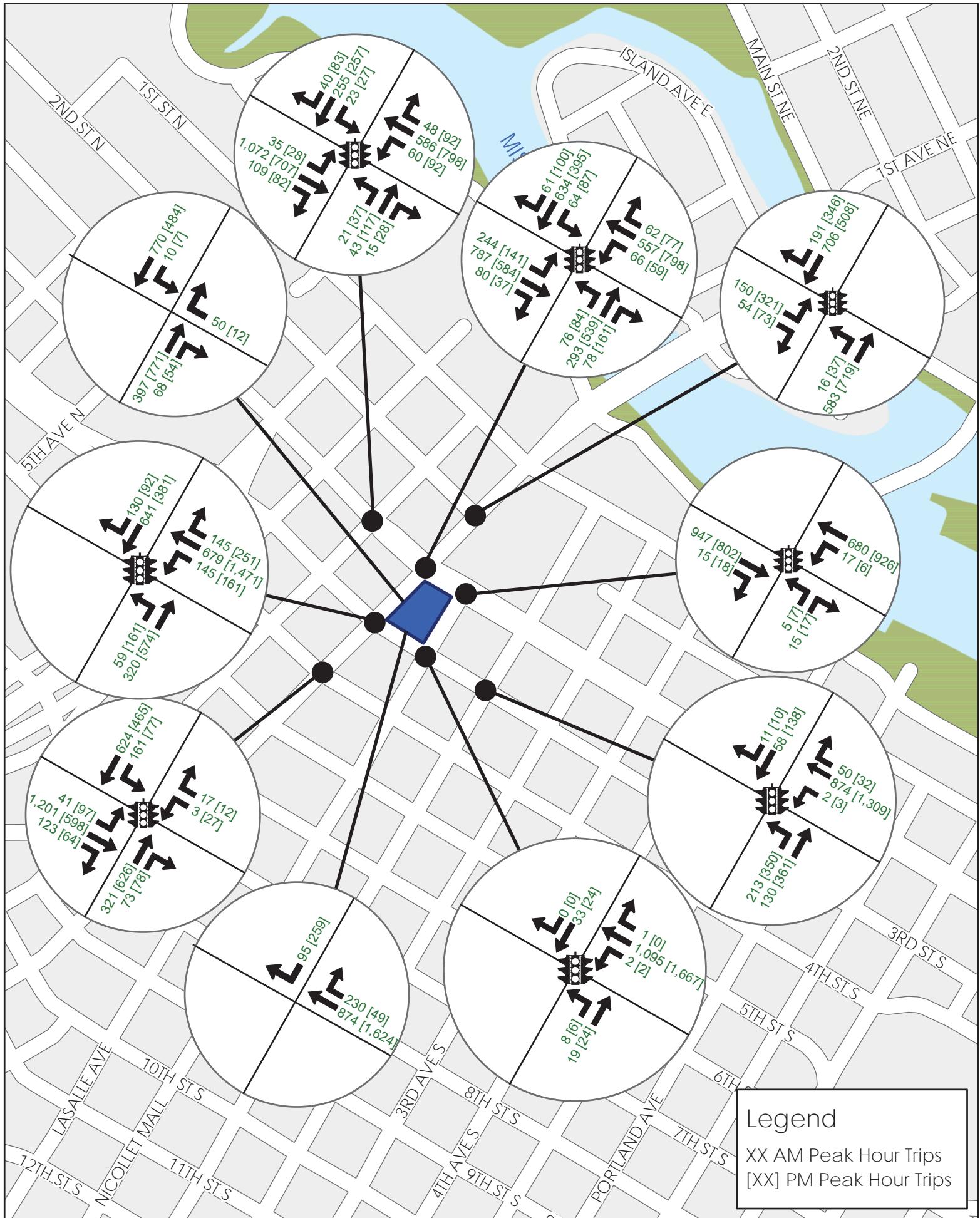
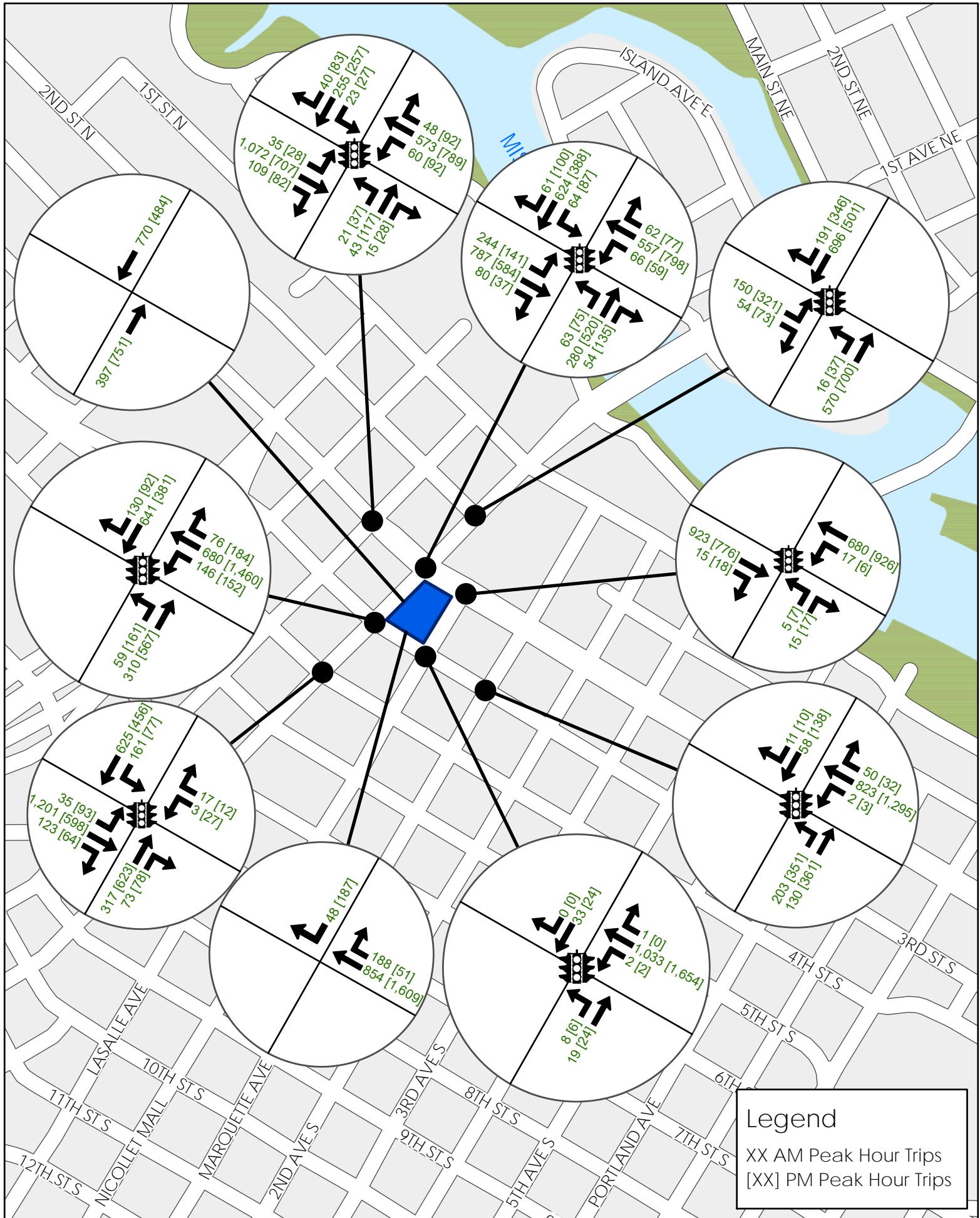


Figure 5-9: Site Trip Assignment, Residential/Office (Plan B)
Gateway Mixed-Use Development



Legend

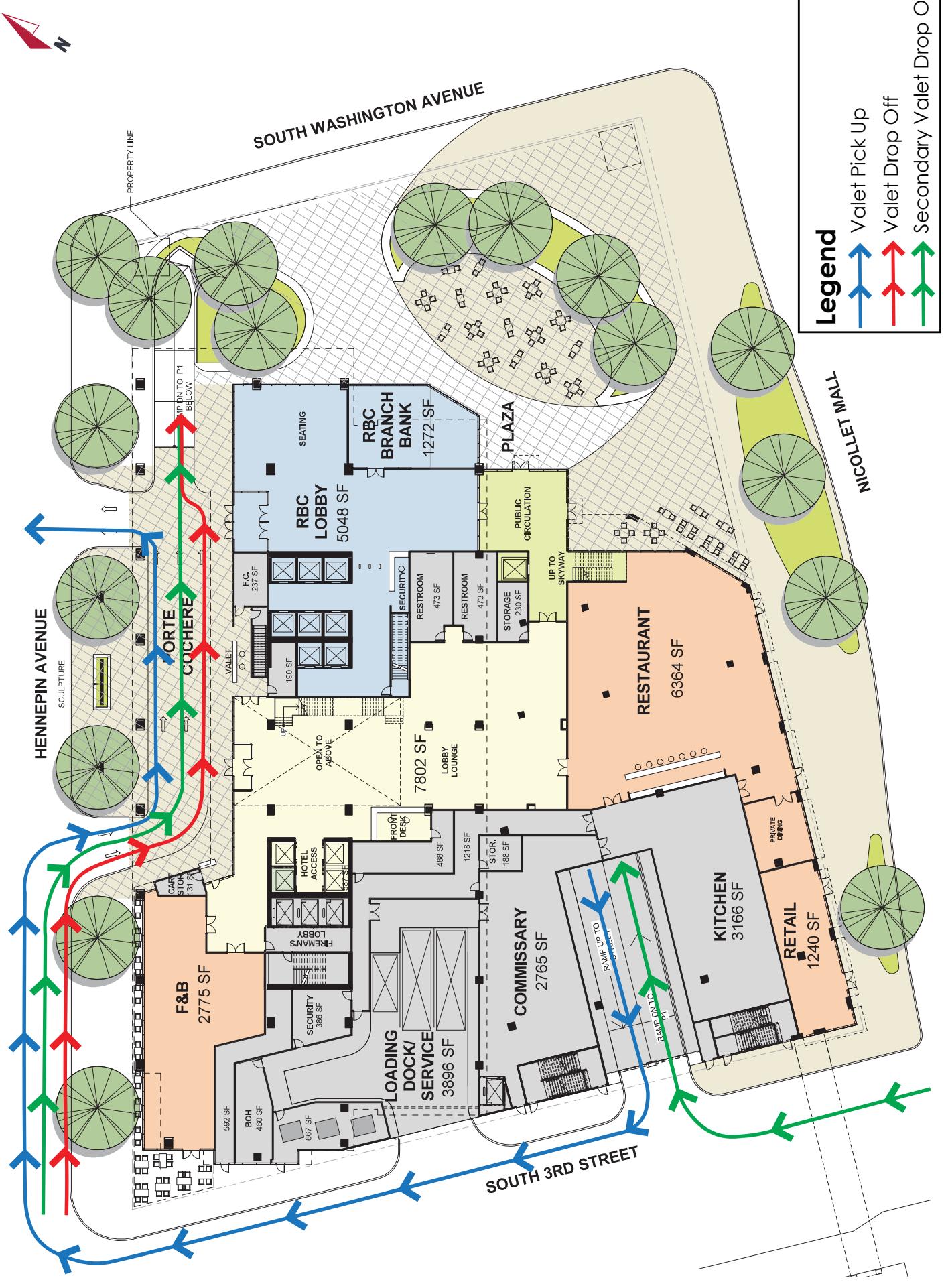
XX AM Peak Hour Trips
[XX] PM Peak Hour Trips



Legend

XX AM Peak Hour Trips
[XX] PM Peak Hour Trips

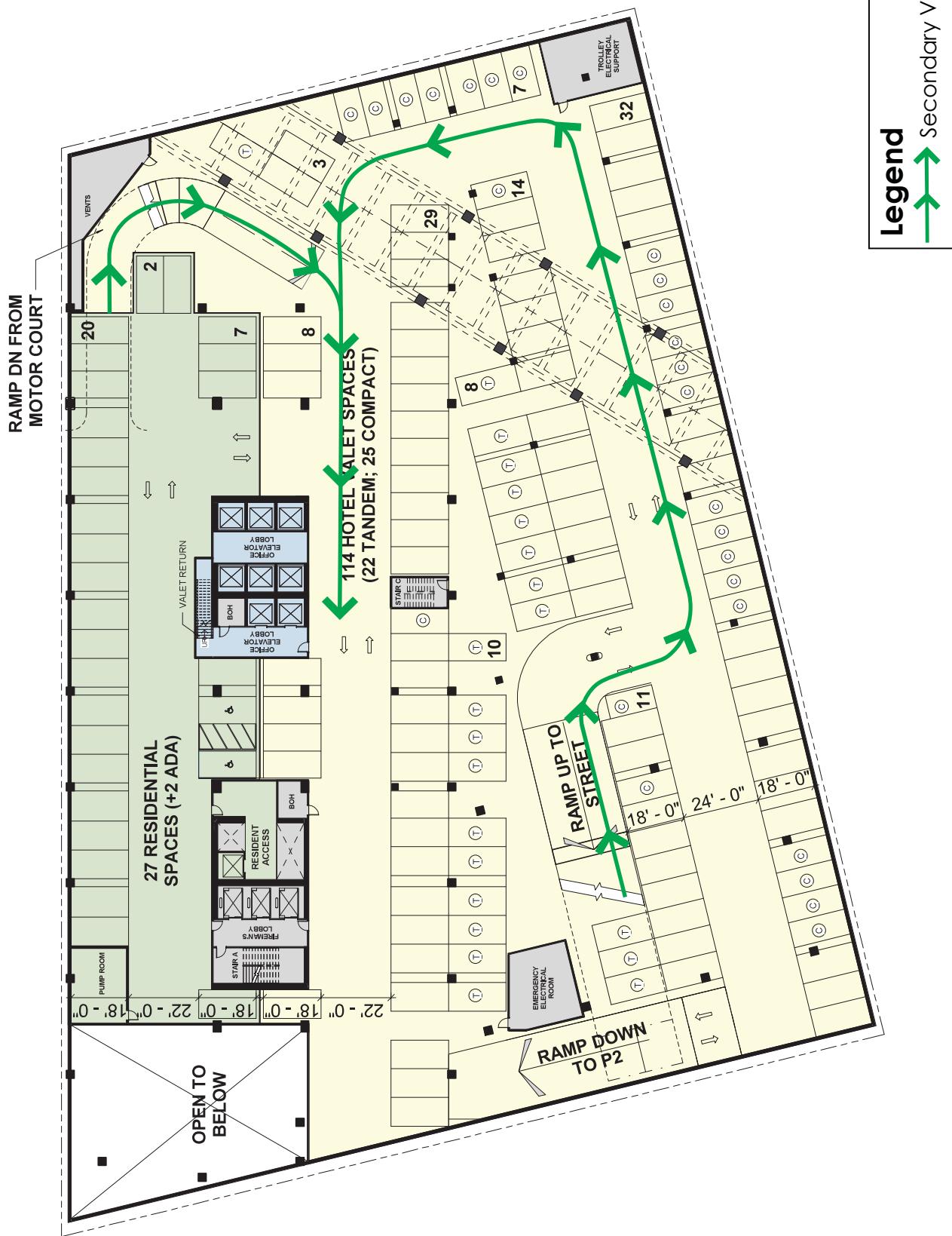
Figure 5-12: Porte-Cochere Circulation
Gateway Mixed-Use Development



Legend

- ↑↑ Valet Pick Up
- ↑↓ Valet Drop Off
- ↓↑ Secondary Valet Drop Off

Figure 5-13: Secondary Valet Circulation
Gateway Mixed-Use Development



Appendix B: Detailed Intersection Delay and LOS Summary Tables

Existing AM Peak Hour

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	28.2	C	18.8	B	10.6	B	18.2	B
		WB	52.2	D	7.3	A	4.7	A		
		NB	41.0	D	29.3	C	20.3	C		
		SB	38.9	D	31.8	C	1.2	A		
Hennepin Avenue & 2nd Street N	Signalized	EB	39.8	D	--	--	9.3	A	9.1	A
		NB	22.9	C	5.4	A	--	--		
		SB	--	--	7.0	A	2.3	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	43.7	D	15.0	B	11.2	B	26.6	C
		WB	96.2	F	28.3	C	6.3	A		
		NB	36.2	D	34.8	C	25.8	C		
		SB	22.3	C	27.3	C	21.5	C		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	12.3	B	10.5	B	1.4	A	8.8	A
		NB	19.9	B	9.3	A	--	--		
		SB	--	--	1.2	A	0.2	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	28.6	C	24.7	C	9.3	A	18.6	B
		WB	35.1	D	--	--	5.4	A		
		NB	--	--	24.6	C	26.2	C		
		SB	16.7	B	4.9	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	3.6	A	3.2	A	8.3	A
		WB	19.6	B	14.4	B	--	--		
		NB	44.4	D	--	--	10.9	B		
Nicollet Mall & 3rd Street S	Signalized	WB	3.7	A	10.9	B	1.7	A	11.3	B
		NB	18.1	B	11.1	B	--	--		
		SB	--	--	20.6	C	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	16.9	B	30.4	C	4.3	A	23.1	C
		NB	13.1	B	10.0	A	--	--		
		SB	--	--	14.5	B	3.0	A		

Existing PM Peak Hour

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	35.3	D	15.3	B	7.7	A	15.1	B
		WB	19.3	B	5.4	A	4.5	A		
		NB	39.4	D	31.9	C	22.7	C		
		SB	34.8	C	31.8	C	15.8	B		
Hennepin Avenue & 2nd Street N	Signalized	EB	40.6	D	--	--	12.7	B	13.3	B
		NB	17.0	B	7.9	A	--	--		
		SB	--	--	9.3	A	3.4	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	31.1	C	17.9	B	13.8	B	23.4	C
		WB	33.3	C	22.2	C	5.6	A		
		NB	34.7	C	29.1	C	24.8	C		
		SB	31.6	C	24.1	C	16.1	B		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	7.6	A	7.6	A	6.1	A	12.9	B
		NB	28.1	C	26.8	C	--	--		
		SB	--	--	10.5	B	7.5	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	58.4	E	48.8	D	6.3	A	23.9	C
		WB	56.6	E	--	--	25.0	C		
		NB	--	--	11.7	B	14.1	B		
		SB	14.5	B	3.1	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	4.2	A	2.7	A	10.1	B
		WB	16.8	B	14.8	B	--	--		
		NB	17.2	B	--	--	6.1	A		
Nicollet Mall & 3rd Street S	Signalized	WB	8.9	A	8.8	A	--	--	9.2	A
		NB	27.7	C	25.0	C	--	--		
		SB	--	--	14.2	B	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	31.0	C	28.1	C	7.3	A	26.3	C
		NB	26.8	C	18.4	B	--	--		
		SB	--	--	34.3	C	6.7	A		

2021 No Build AM Peak Hour

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	22.7	C	17.5	B	13.6	B	17.6	B
		WB	47.0	D	7.5	A	4.9	A		
		NB	38.6	D	33.9	C	8.2	A		
		SB	32.2	C	32.9	C	11.0	B		
Hennepin Avenue & 2nd Street N	Signalized	EB	34.0	C	--	--	9.5	A	7.8	A
		NB	17.5	B	3.9	A	--	--		
		SB	--	--	6.6	A	2.2	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	47.3	D	15.4	B	19.1	B	27.3	C
		WB	89.9	F	31.0	C	5.7	A		
		NB	34.7	C	34.4	C	33.5	C		
		SB	22.4	C	25.1	C	19.3	B		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	15.8	B	13.6	B	4.3	A	9.4	A
		NB	20.9	C	6.1	A	--	--		
		SB	--	--	6.2	A	4.2	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	37.4	D	24.7	C	18.5	B	18.7	B
		WB	--	--	--	--	--	--		
		NB	--	--	18.5	B	16.9	B		
		SB	15.6	B	8.2	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	3.8	A	3.3	A	9.3	A
		WB	33.9	C	15.8	B	--	--		
		NB	0.0	A	--	--	13.1	B		
Nicollet Mall & 3rd Street S	Signalized	WB	--	--	12.1	B	--	--	12.3	B
		NB	14.7	B	9.2	A	--	--		
		SB	--	--	17.2	B	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	0.0	A	30.7	C	5.4	A	23.5	C
		NB	13.9	B	11.2	B	--	--		
		SB	--	--	8.7	A	2.4	A		

2021 No Build PM Peak Hour

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	32.0	C	15.9	B	7.8	A	15.5	B
		WB	17.3	B	5.2	A	4.8	A		
		NB	40.9	D	23.0	C	16.2	B		
		SB	31.3	C	32.3	C	15.3	B		
Hennepin Avenue & 2nd Street N	Signalized	EB	39.8	D	--	--	11.8	B	13.5	B
		NB	13.8	B	6.8	A	--	--		
		SB	--	--	10.2	B	3.5	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	27.3	C	18.4	B	12.6	B	23.7	C
		WB	32.0	C	21.8	C	4.5	A		
		NB	26.3	C	30.9	C	34.6	C		
		SB	30.1	C	23.1	C	18.6	B		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	8.1	A	9.0	A	11.5	B	11.7	B
		NB	32.2	C	17.1	B	--	--		
		SB	--	--	7.9	A	6.5	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	47.6	D	45.7	D	13.7	B	21.8	C
		WB	--	--	--	--	--	--		
		NB	--	--	9.4	A	10.7	B		
		SB	16.0	B	3.5	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	4.1	A	4.7	A	9.3	A
		WB	0.0	A	13.5	B	--	--		
		NB	16.2	B	--	--	5.0	A		
Nicollet Mall & 3rd Street S	Signalized	WB	0.0	A	8.8	A	--	--	9.0	A
		NB	8.3	A	23.0	C	--	--		
		SB	--	--	10.5	B	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	20.5	C	27.5	C	4.6	A	25.0	C
		NB	23.5	C	18.5	B	--	--		
		SB	--	--	27.3	C	6.0	A		

2021 Build AM Peak Hour (Plan A)

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	30.2	C	18.4	B	11.3	B	17.6	B
		WB	45.5	D	7.3	A	5.2	A		
		NB	38.8	D	28.8	C	16.4	B		
		SB	31.1	C	31.1	C	11.8	B		
Hennepin Avenue & 2nd Street N	Signalized	EB	38.8	D	--	--	8.3	A	8.9	A
		NB	12.3	B	5.6	A	--	--		
		SB	--	--	6.6	A	2.1	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	46.1	D	15.3	B	11.0	B	27.0	C
		WB	93.7	F	28.9	C	6.8	A		
		NB	38.0	D	34.9	C	28.9	C		
		SB	21.6	C	26.4	C	20.7	C		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	19.8	B	16.1	B	13.3	B	10.6	B
		NB	18.6	B	6.7	A	--	--		
		SB	--	--	4.7	A	3.7	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	30.4	C	25.0	C	15.8	B	19.4	B
		WB	--	--	--	--	--	--		
		NB	--	--	18.5	B	18.8	B		
		SB	19.7	B	9.1	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	4.4	A	4.4	A	8.3	A
		WB	21.4	C	13.1	B	--	--		
		NB	23.9	C	--	--	11.6	B		
Nicollet Mall & 3rd Street S	Signalized	WB	11.3	B	13.5	B	--	--	13.6	B
		NB	15.9	B	12.0	B	--	--		
		SB	--	--	17.7	B	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	38.1	D	30.0	C	7.0	A	24.0	C
		NB	14.3	B	11.0	B	--	--		
		SB	--	--	17.0	B	4.5	A		
Hennepin Avenue S & Site Driveway	Stop Controlled	WB	--	--	--	--	4.5	A	1.5	A
		NB	--	--	0.8	A	0.6	A		
		SB	7.3	A	1.6	A	--	--		
3rd Street & Site Driveway	Stop Controlled	WB	--	--	1.4	A	2.0	A	2.0	A
		SB	--	--	--	--	7.4	A		

2021 Build PM Peak Hour (Plan A)

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	34.9	C	15.8	B	7.3	A	15.7	B
		WB	17.7	B	5.8	A	5.2	A		
		NB	47.1	D	31.9	C	19.5	B		
		SB	38.6	D	32.8	C	13.3	B		
Hennepin Avenue & 2nd Street N	Signalized	EB	39.9	D	--	--	12.8	B	13.3	B
		NB	19.3	B	8.5	A	--	--		
		SB	--	--	9.7	A	3.6	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	28.0	C	18.9	B	12.5	B	28.9	C
		WB	48.5	D	34.4	C	8.5	A		
		NB	33.1	C	35.2	D	33.8	C		
		SB	37.8	D	26.6	C	18.6	B		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	14.9	B	16.8	B	19.3	B	16.8	B
		NB	29.6	C	19.2	B	--	--		
		SB	--	--	9.8	A	7.0	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	50.4	D	43.9	D	14.3	B	21.2	C
		WB	--	--	--	--	--	--		
		NB	--	--	8.3	A	9.5	A		
		SB	16.3	B	5.4	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	10.5	B	8.6	A	35.3	D
		WB	44.1	D	59.0	E	--	--		
		NB	53.0	D	--	--	11.4	B		
Nicollet Mall & 3rd Street S	Signalized	WB	29.8	C	12.4	B	--	--	12.7	B
		NB	21.4	C	25.4	C	--	--		
		SB	--	--	17.9	B	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	27.8	C	23.4	C	7.1	A	22.8	C
		NB	23.1	C	17.2	B	--	--		
		SB	--	--	35.3	D	10.9	B		
Hennepin Avenue S & Site Driveway	Stop Controlled	WB	--	--	--	--	20.7	C	3.7	A
		NB	--	--	4.0	A	5.2	A		
		SB	36.3	E	2.3	A	--	--		
3rd Street & Site Driveway	Stop Controlled	WB	--	--	5.1	A	6.1	A	9.2	A
		SB	--	--	--	--	35.6	E		

2021 Build AM Peak Hour (Plan B)

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	28.0	C	18.8	B	11.0	B	18.2	B
		WB	52.6	D	7.3	A	6.2	A		
		NB	35.4	D	29.0	C	17.0	B		
		SB	37.3	D	33.2	C	10.4	B		
Hennepin Avenue & 2nd Street N	Signalized	EB	39.7	D	--	--	8.6	A	9.0	A
		NB	15.2	B	4.8	A	--	--		
		SB	--	--	7.2	A	2.2	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	44.5	D	15.9	B	12.4	B	28.1	C
		WB	108.9	F	28.3	C	6.5	A		
		NB	37.6	D	38.6	D	34.6	C		
		SB	24.8	C	27.9	C	22.0	C		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	16.4	B	14.6	B	12.4	B	10.4	B
		NB	22.4	C	6.3	A	--	--		
		SB	--	--	6.6	A	4.9	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	26.6	C	24.4	C	16.6	B	19.1	B
		WB	--	--	--	--	--	--		
		NB	--	--	20.0	B	18.4	B		
		SB	17.2	B	9.0	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	4.0	A	3.3	A	7.8	A
		WB	21.3	C	12.7	B	--	--		
		NB	25.1	C	--	--	9.9	A		
Nicollet Mall & 3rd Street S	Signalized	WB	5.5	A	12.3	B	2.3	A	12.6	B
		NB	16.9	B	14.8	B	--	--		
		SB	--	--	22.3	C	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	17.3	B	30.1	C	5.3	A	23.5	C
		NB	13.4	B	11.3	B	--	--		
		SB	--	--	14.5	B	3.8	A		
3rd Street & Site Driveway	Stop Controlled	WB	--	--	1.2	A	1.7	A	1.5	A
		SB	--	--	--	--	5.5	A		

2021 Build PM Peak Hour (Plan B)

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1st Avenue N & Washington Avenue N	Signalized	EB	32.2	C	16.2	B	8.2	A	15.3	B
		WB	16.7	B	5.3	A	4.5	A		
		NB	44.0	D	31.1	C	19.1	B		
		SB	36.5	D	33.3	C	14.5	B		
Hennepin Avenue & 2nd Street N	Signalized	EB	38.1	D	--	--	11.4	B	13.3	B
		NB	16.5	B	8.7	A	--	--		
		SB	--	--	10.0	A	3.6	A		
Hennepin Avenue & Washington Avenue S	Signalized	EB	29.5	C	17.4	B	12.6	B	25.7	C
		WB	33.0	C	21.2	C	5.5	A		
		NB	34.3	C	37.6	D	38.4	D		
		SB	43.8	D	24.6	C	17.0	B		
Hennepin Avenue S & 3rd Street N/3rd Street S	Signalized	WB	14.2	B	13.9	B	16.2	B	15.3	B
		NB	27.8	C	20.5	C	--	--		
		SB	--	--	9.6	A	6.6	A		
Hennepin Avenue S & 4th Street S	Signalized	EB	58.6	E	48.9	D	16.3	B	23.8	C
		WB	--	--	--	--	--	--		
		NB	--	--	9.6	A	10.6	B		
		SB	15.4	B	5.3	A	--	--		
Nicollet Mall & Washington Avenue S	Signalized	EB	--	--	4.4	A	3.4	A	9.5	A
		WB	17.1	B	14.0	B	--	--		
		NB	15.6	B	--	--	4.5	A		
Nicollet Mall & 3rd Street S	Signalized	WB	5.1	A	9.7	A	--	--	10.0	A
		NB	29.7	C	20.2	C	--	--		
		SB	--	--	14.7	B	--	--		
Marquette Avenue & 3rd Street S	Signalized	WB	39.1	D	28.5	C	8.4	A	26.6	C
		NB	26.3	C	19.1	B	--	--		
		SB	--	--	34.0	C	11.2	B		
3rd Street & Site Driveway	Stop Controlled	WB	--	--	3.0	A	3.2	A	5.1	A
		SB	--	--	--	--	22.5	C		

Appendix C: SimTraffic Reports



1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.1	0.6	0.6	0.0	0.0	0.0	4.0	0.2	0.3	0.3	0.1	0.1
Total Delay (hr)	0.3	5.7	0.3	0.9	1.1	0.1	0.2	0.3	0.1	0.2	2.2	0.1
Total Del/Veh (s)	28.2	18.8	10.6	52.2	7.3	4.7	41.0	29.3	20.3	38.9	31.8	12.4
Vehicles Entered	35	1085	101	59	565	49	19	41	16	23	251	39
Vehicles Exited	35	1092	102	59	563	50	19	41	16	23	249	39
Hourly Exit Rate	35	1092	102	59	563	50	19	41	16	23	249	39
Input Volume	34	1072	107	59	562	47	21	42	15	23	250	39
% of Volume	102	102	96	100	100	106	90	97	107	100	100	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	11.6
Total Del/Veh (s)	18.2
Vehicles Entered	2283
Vehicles Exited	2288
Hourly Exit Rate	2288
Input Volume	2272
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.4	3.9	0.0	0.0	0.3	0.2	0.3
Total Delay (hr)	1.7	0.1	0.1	0.8	1.4	0.1	4.2
Total Del/Veh (s)	39.8	9.3	22.9	5.4	7.0	2.3	9.1
Vehicles Entered	148	50	13	545	718	191	1665
Vehicles Exited	149	50	13	548	718	190	1668
Hourly Exit Rate	149	50	13	548	718	190	1668
Input Volume	147	53	16	547	693	187	1643
% of Volume	101	94	81	100	104	101	102
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	2.9	3.4	0.2	1.7	4.2	0.1	0.7	2.6	0.3	0.5	4.8	0.4
Total Del/Veh (s)	43.7	15.0	11.2	96.2	28.3	6.3	36.2	34.8	25.8	22.3	27.3	21.5
Vehicles Entered	237	818	76	63	536	64	67	266	42	75	625	69
Vehicles Exited	233	817	76	62	538	64	66	263	41	74	623	69
Hourly Exit Rate	233	817	76	62	538	64	66	263	41	74	623	69
Input Volume	239	794	78	65	546	61	62	264	41	74	612	60
% of Volume	98	103	98	95	99	104	106	100	99	100	102	115
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	21.8
Total Del/Veh (s)	26.6
Vehicles Entered	2938
Vehicles Exited	2926
Hourly Exit Rate	2926
Input Volume	2896
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	1.9	0.0	0.3	0.8	1.2	0.2	4.9
Total Del/Veh (s)	12.3	10.5	1.4	19.9	9.3	6.6	5.0	8.8
Vehicles Entered	134	647	54	61	323	637	125	1981
Vehicles Exited	133	644	53	61	322	641	126	1980
Hourly Exit Rate	133	644	53	61	322	641	126	1980
Input Volume	131	655	51	58	316	628	127	1967
% of Volume	102	98	103	105	102	102	99	101
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	0.6	0.2	2.4	0.1	0.1	0.3	0.3	0.0	0.0	0.3
Total Delay (hr)	0.2	8.0	0.3	0.0	0.0	2.3	0.5	0.7	0.9	13.0
Total Del/Veh (s)	28.6	24.7	9.3	35.1	5.4	24.6	26.2	16.7	4.9	18.6
Vehicles Entered	30	1163	123	3	18	332	66	159	616	2510
Vehicles Exited	29	1159	123	3	18	336	66	159	620	2513
Hourly Exit Rate	29	1159	123	3	18	336	66	159	620	2513
Input Volume	34	1177	121	3	17	322	72	158	601	2506
% of Volume	85	98	102	100	106	104	91	101	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	3.1	0.2	0.0	0.0	0.1
Total Delay (hr)	0.9	0.0	0.1	2.6	0.0	0.0	3.8
Total Del/Veh (s)	3.6	3.2	19.6	14.4	44.4	10.9	8.3
Vehicles Entered	915	17	19	659	3	15	1628
Vehicles Exited	911	17	19	659	3	15	1624
Hourly Exit Rate	911	17	19	659	3	15	1624
Input Volume	893	15	17	667	5	15	1612
% of Volume	102	113	112	99	60	100	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.0	0.0
Total Delay (hr)	0.0	2.5	0.0	0.0	0.1	0.2	2.8
Total Del/Veh (s)	3.7	10.9	1.7	18.1	11.1	20.6	11.3
Vehicles Entered	2	833	1	7	18	37	898
Vehicles Exited	2	828	1	7	17	37	892
Hourly Exit Rate	2	828	1	7	17	37	892
Input Volume	2	829	1	8	19	32	891
% of Volume	100	100	100	88	89	115	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.3
Denied Del/Veh (s)	10.9	1.1	3.4	0.3	0.1	0.1	0.1	0.9
Total Delay (hr)	0.0	5.8	0.1	0.5	0.4	0.2	0.0	6.9
Total Del/Veh (s)	16.9	30.4	4.3	13.1	10.0	14.5	3.0	23.1
Vehicles Entered	1	679	55	141	131	56	14	1077
Vehicles Exited	1	681	55	140	130	56	14	1077
Hourly Exit Rate	1	681	55	140	130	56	14	1077
Input Volume	2	671	49	150	127	57	11	1067
% of Volume	50	102	112	93	102	98	127	101
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.9
Denied Del/Veh (s)	0.5
Total Delay (hr)	70.6
Total Del/Veh (s)	40.0
Vehicles Entered	6237
Vehicles Exited	6208
Hourly Exit Rate	6208
Input Volume	21063
% of Volume	29
Denied Entry Before	0
Denied Entry After	0

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Existing

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	430	407	129	115	130	65	114	223	182
Average Queue (ft)	295	222	45	43	57	17	36	128	70
95th Queue (ft)	451	380	100	85	105	47	86	202	154
Link Distance (ft)	394	394		335	335		335	336	336
Upstream Blk Time (%)	4	0							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			2	0		0	2		
Queuing Penalty (veh)			4	0		0	1		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	256	159	51	134	131	241	193	74
Average Queue (ft)	101	29	12	51	56	109	79	35
95th Queue (ft)	194	91	40	109	124	202	167	72
Link Distance (ft)	327			309	309	453	453	453
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		100	150					
Storage Blk Time (%)	11	0		0				
Queuing Penalty (veh)	6	0		0				

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Existing

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (ft)	159	312	298	120	209	208	81	109	174	172	180	326
Average Queue (ft)	116	122	108	74	160	140	33	45	86	100	61	193
95th Queue (ft)	180	265	228	144	218	203	68	89	142	155	165	309
Link Distance (ft)		335	335		168	168	168	322	322	322		309
Upstream Blk Time (%)		0	0		10	3						1
Queuing Penalty (veh)		1	1		22	7						3
Storage Bay Dist (ft)	100			70						120		
Storage Blk Time (%)	29	9		21	42					0	18	
Queuing Penalty (veh)	114	21		57	27					1	13	

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	304
Average Queue (ft)	182
95th Queue (ft)	288
Link Distance (ft)	309
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	T	R	L	T	T	T	TR
Maximum Queue (ft)	111	99	69	46	78	73	155	90	88
Average Queue (ft)	54	33	10	6	33	13	57	33	38
95th Queue (ft)	99	83	42	27	67	47	125	73	80
Link Distance (ft)	265	265	265	265		355	355	322	322
Upstream Blk Time (%)									
Queuing Penalty (veh)					150				
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Existing

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	T	T	R	LTR	T	TR	L	T	T
Maximum Queue (ft)	415	376	274	135	59	203	261	157	72	105
Average Queue (ft)	320	246	134	57	12	75	133	59	32	37
95th Queue (ft)	430	344	243	123	40	170	232	126	62	78
Link Distance (ft)	390	390	390		390	442	442		355	355
Upstream Blk Time (%)	2	0								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)					75			150		
Storage Blk Time (%)					11	2		1		
Queuing Penalty (veh)					13	9		3		

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	T	LR
Maximum Queue (ft)	167	167	122	314	234	86	65
Average Queue (ft)	43	49	19	156	82	20	13
95th Queue (ft)	115	121	74	287	207	59	47
Link Distance (ft)	168	168		396	396	396	315
Upstream Blk Time (%)	0	0		0			
Queuing Penalty (veh)	1	1		0			
Storage Bay Dist (ft)				100			
Storage Blk Time (%)				22			
Queuing Penalty (veh)				4			

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	NB	SB
Directions Served	LT	T	T	LT	TR
Maximum Queue (ft)	136	116	94	72	83
Average Queue (ft)	75	42	30	14	28
95th Queue (ft)	123	88	75	51	69
Link Distance (ft)	345	345	345	337	315
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)			1		
Queuing Penalty (veh)			0		

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	201	196	186	95	189	76	87	39
Average Queue (ft)	176	153	76	27	89	11	22	6
95th Queue (ft)	195	211	163	71	161	49	61	23
Link Distance (ft)	162	162	162		189	189	300	300
Upstream Blk Time (%)	33	7	1		0			
Queuing Penalty (veh)	0	0	0		0			
Storage Bay Dist (ft)				80				
Storage Blk Time (%)				5	0			
Queuing Penalty (veh)				2	0			

Network Summary

Network wide Queuing Penalty: 314

1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.3	0.4	0.0	0.0	0.0	3.8	0.4	0.5	0.4	0.1	0.2
Total Delay (hr)	0.2	3.0	0.2	0.5	1.2	0.1	0.4	1.1	0.2	0.3	2.4	0.4
Total Del/Veh (s)	35.3	15.3	7.7	19.3	5.4	4.5	39.4	31.9	22.7	34.8	31.8	15.8
Vehicles Entered	25	695	78	91	794	95	35	121	26	27	262	79
Vehicles Exited	24	694	78	89	787	94	35	122	27	28	266	79
Hourly Exit Rate	24	694	78	89	787	94	35	122	27	28	266	79
Input Volume	27	693	80	90	785	90	36	115	27	26	252	81
% of Volume	89	100	98	99	100	104	97	106	100	108	106	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	9.8
Total Del/Veh (s)	15.1
Vehicles Entered	2328
Vehicles Exited	2323
Hourly Exit Rate	2323
Input Volume	2302
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	1.0	3.7	0.0	0.0	0.3	0.4	0.4
Total Delay (hr)	3.7	0.3	0.2	1.4	1.3	0.3	7.1
Total Del/Veh (s)	40.6	12.7	17.0	7.9	9.3	3.4	13.3
Vehicles Entered	320	71	37	644	488	349	1909
Vehicles Exited	324	72	37	645	483	349	1910
Hourly Exit Rate	324	72	37	645	483	349	1910
Input Volume	315	72	36	650	491	339	1903
% of Volume	103	100	103	99	98	103	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.2	2.9	0.1	0.5	5.0	0.1	0.8	3.8	0.6	0.8	2.5	0.4
Total Del/Veh (s)	31.1	17.9	13.8	33.3	22.2	5.6	34.7	29.1	24.8	31.6	24.1	16.1
Vehicles Entered	142	570	38	56	801	71	84	466	85	86	378	92
Vehicles Exited	140	573	38	55	802	71	85	468	86	84	378	93
Hourly Exit Rate	140	573	38	55	802	71	85	468	86	84	378	93
Input Volume	138	573	36	58	783	75	84	472	83	85	381	98
% of Volume	101	100	106	95	102	95	101	99	104	99	99	95
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	18.8
Total Del/Veh (s)	23.4
Vehicles Entered	2869
Vehicles Exited	2873
Hourly Exit Rate	2873
Input Volume	2866
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	3.0	0.1	1.2	4.2	1.1	0.2	10.0
Total Del/Veh (s)	7.6	7.6	6.1	28.1	26.8	10.5	7.5	12.9
Vehicles Entered	98	1420	87	153	558	384	86	2786
Vehicles Exited	98	1418	86	151	550	388	87	2778
Hourly Exit Rate	98	1418	86	151	550	388	87	2778
Input Volume	100	1394	83	158	557	384	90	2766
% of Volume	98	102	104	96	99	101	97	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	0.6	0.1	2.8	0.1	0.2	0.4	0.4	0.0	0.0	0.3
Total Delay (hr)	1.5	8.0	0.1	0.4	0.1	2.0	0.3	0.3	0.4	13.1
Total Del/Veh (s)	58.4	48.8	6.3	56.6	25.0	11.7	14.1	14.5	3.1	23.9
Vehicles Entered	91	587	60	25	15	602	83	75	411	1949
Vehicles Exited	89	574	60	25	15	606	84	75	412	1940
Hourly Exit Rate	89	574	60	25	15	606	84	75	412	1940
Input Volume	91	586	63	26	12	611	76	75	409	1949
% of Volume	98	98	95	96	125	99	111	100	101	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	2.6	0.2	0.0	0.0	0.1
Total Delay (hr)	0.8	0.0	0.0	3.8	0.0	0.0	4.7
Total Del/Veh (s)	4.2	2.7	16.8	14.8	17.2	6.1	10.1
Vehicles Entered	720	22	7	920	6	18	1693
Vehicles Exited	718	22	7	922	6	18	1693
Hourly Exit Rate	718	22	7	922	6	18	1693
Input Volume	722	18	6	908	7	17	1678
% of Volume	99	122	117	102	86	106	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBL	WBT	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0	0.0
Total Delay (hr)	0.0	3.9	0.0	0.2	0.1	4.3
Total Del/Veh (s)	8.9	8.8	27.7	25.0	14.2	9.2
Vehicles Entered	2	1598	5	24	29	1658
Vehicles Exited	2	1601	4	24	28	1659
Hourly Exit Rate	2	1601	4	24	28	1659
Input Volume	2	1572	6	24	24	1628
% of Volume	100	102	67	100	117	102
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.6	0.2	2.3	0.4	0.2	0.1	0.1	0.2
Total Delay (hr)	0.0	9.8	0.1	2.6	1.8	1.3	0.0	15.6
Total Del/Veh (s)	31.0	28.1	7.3	26.8	18.4	34.3	6.7	26.3
Vehicles Entered	2	1231	29	353	352	138	11	2116
Vehicles Exited	2	1238	29	350	351	135	11	2116
Hourly Exit Rate	2	1238	29	350	351	135	11	2116
Input Volume	3	1232	31	331	354	135	10	2096
% of Volume	67	100	94	106	99	100	110	101
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.7
Denied Del/Veh (s)	0.4
Total Delay (hr)	85.4
Total Del/Veh (s)	42.3
Vehicles Entered	7115
Vehicles Exited	7092
Hourly Exit Rate	7092
Input Volume	24247
% of Volume	29
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	356	304	113	129	115	93	171	227	184
Average Queue (ft)	189	118	47	36	51	27	81	131	83
95th Queue (ft)	301	236	98	85	92	68	151	205	164
Link Distance (ft)	415	415		337	337		333	457	457
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			1	0		1	15		
Queuing Penalty (veh)			6	0		2	5		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	338	160	68	127	131	208	156	116
Average Queue (ft)	214	64	24	61	72	92	61	55
95th Queue (ft)	350	172	56	115	121	166	125	96
Link Distance (ft)	315			307	307	486	486	486
Upstream Blk Time (%)	4							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		100	150					
Storage Blk Time (%)	36	0		0				
Queuing Penalty (veh)	26	0		0				

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Existing

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (ft)	160	259	251	119	188	200	96	122	187	221	165	209
Average Queue (ft)	87	129	122	53	173	167	33	52	92	117	52	107
95th Queue (ft)	153	218	204	129	197	201	72	98	162	192	116	192
Link Distance (ft)		337	337		168	168	168	322	322	322		307
Upstream Blk Time (%)					12	8						
Queuing Penalty (veh)					37	25						
Storage Bay Dist (ft)	100			70						120		
Storage Blk Time (%)	8	17		2	37					1	5	
Queuing Penalty (veh)	22	23		6	21					1	4	

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	239
Average Queue (ft)	118
95th Queue (ft)	207
Link Distance (ft)	307
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	T	R	L	T	T	T	TR
Maximum Queue (ft)	218	250	240	133	186	313	359	83	93
Average Queue (ft)	108	121	116	40	87	68	211	30	33
95th Queue (ft)	187	203	197	91	153	196	324	65	76
Link Distance (ft)	265	265	265	265		354	354	322	322
Upstream Blk Time (%)	0	0	0			0	1		
Queuing Penalty (veh)	0	0	0			1	3		
Storage Bay Dist (ft)				150					
Storage Blk Time (%)					2	1			
Queuing Penalty (veh)					4	2			

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Existing

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	T	T	R	LTR	T	TR	L	T	T
Maximum Queue (ft)	387	333	204	102	102	202	270	119	63	71
Average Queue (ft)	279	225	104	31	36	77	135	37	13	9
95th Queue (ft)	360	297	214	65	81	165	234	89	38	34
Link Distance (ft)	431	431	431		355	523	523		354	354
Upstream Blk Time (%)					75			150		
Queuing Penalty (veh)										
Storage Bay Dist (ft)										150
Storage Blk Time (%)					4	0				0
Queuing Penalty (veh)					2	0				0

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	T	LR
Maximum Queue (ft)	83	102	82	312	268	93	67
Average Queue (ft)	35	49	9	174	127	21	12
95th Queue (ft)	71	95	50	272	228	64	46
Link Distance (ft)	168	168		593	593	593	314
Upstream Blk Time (%)				100			
Queuing Penalty (veh)							
Storage Bay Dist (ft)							100
Storage Blk Time (%)					29		
Queuing Penalty (veh)					2		

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	NB	SB
Directions Served	LT	T	T	LT	TR
Maximum Queue (ft)	151	138	155	75	77
Average Queue (ft)	82	80	78	22	21
95th Queue (ft)	131	130	134	60	58
Link Distance (ft)	345	345	345	381	314
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)			12		
Queuing Penalty (veh)			0		

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	429	395	274	139	392	335	142	134
Average Queue (ft)	314	262	157	22	241	157	79	18
95th Queue (ft)	413	361	261	87	358	292	131	69
Link Distance (ft)	575	575	575		900	900	342	342
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				80				
Storage Blk Time (%)			17	0				
Queuing Penalty (veh)			5	0				

Network Summary

Network wide Queuing Penalty: 200

1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.9	0.5	0.5	0.0	0.0	0.0	3.8	0.2	0.2	0.2	0.1	0.1
Total Delay (hr)	0.0	1.0	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.4	0.0
Total Del/Veh (s)	22.7	17.5	13.6	47.0	7.5	4.9	38.6	33.9	8.2	32.2	32.9	11.0
Vehicles Entered	6	183	19	9	95	8	5	4	2	2	44	6
Vehicles Exited	6	187	19	9	96	8	5	4	2	2	42	5
Hourly Exit Rate	36	1122	114	54	576	48	30	24	12	12	252	30
Input Volume	35	1072	109	60	573	48	21	43	15	23	255	40
% of Volume	103	105	105	90	101	100	143	56	80	52	99	75
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	2.0
Total Del/Veh (s)	17.6
Vehicles Entered	383
Vehicles Exited	385
Hourly Exit Rate	2310
Input Volume	2294
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	3.8	0.0	0.0	0.2	0.2	0.3
Total Delay (hr)	0.2	0.0	0.0	0.1	0.2	0.0	0.6
Total Del/Veh (s)	34.0	9.5	17.5	3.9	6.6	2.2	7.8
Vehicles Entered	20	11	3	88	121	28	271
Vehicles Exited	23	11	3	91	121	28	277
Hourly Exit Rate	138	66	18	546	726	168	1662
Input Volume	150	54	16	558	696	191	1665
% of Volume	92	122	112	98	104	88	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.6	0.6	0.1	0.3	0.9	0.0	0.1	0.4	0.1	0.1	0.8	0.1
Total Del/Veh (s)	47.3	15.4	19.1	89.9	31.0	5.7	34.7	34.4	33.5	22.4	25.1	19.3
Vehicles Entered	41	135	15	11	93	9	12	46	7	12	107	13
Vehicles Exited	41	135	15	9	89	9	11	41	7	12	110	13
Hourly Exit Rate	246	810	90	54	534	54	66	246	42	72	660	78
Input Volume	244	787	80	66	557	62	63	268	42	64	625	61
% of Volume	101	103	112	82	96	87	105	92	100	112	106	128
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	4.0
Total Del/Veh (s)	27.3
Vehicles Entered	501
Vehicles Exited	492
Hourly Exit Rate	2952
Input Volume	2919
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.4	0.0	0.1	0.1	0.2	0.0	0.9
Total Del/Veh (s)	15.8	13.6	4.3	20.9	6.1	6.2	4.2	9.4
Vehicles Entered	24	102	8	11	57	111	23	336
Vehicles Exited	23	103	8	12	56	117	25	344
Hourly Exit Rate	138	618	48	72	336	702	150	2064
Input Volume	134	668	52	59	311	642	130	1996
% of Volume	103	93	92	122	108	109	115	103
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.1	0.3		0.1	0.2	0.2	0.0	0.0	0.1
Total Delay (hr)	0.1	1.4	0.1	0.0	0.0	0.3	0.1	0.1	0.3	2.4
Total Del/Veh (s)	37.4	24.7	18.5		4.0	18.5	16.9	15.6	8.2	18.7
Vehicles Entered	6	204	19	0	3	56	12	30	110	440
Vehicles Exited	6	189	19	0	3	59	13	30	113	432
Hourly Exit Rate	36	1134	114	0	18	354	78	180	678	2592
Input Volume	35	1201	123	3	17	317	73	161	614	2544
% of Volume	103	94	93	0	106	112	107	112	110	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	3.5	0.3		0.0	0.2
Total Delay (hr)	0.2	0.0	0.0	0.5	0.0	0.0	0.7
Total Del/Veh (s)	3.8	3.3	33.9	15.8		13.1	9.3
Vehicles Entered	158	2	2	115	0	4	281
Vehicles Exited	152	2	2	113	0	4	273
Hourly Exit Rate	912	12	12	678	0	24	1638
Input Volume	911	15	17	680	5	15	1643
% of Volume	100	80	71	100	0	160	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBT	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.0
Total Delay (hr)	0.5	0.0	0.0	0.0	0.5
Total Del/Veh (s)	12.1	14.7	9.2	17.2	12.3
Vehicles Entered	132	1	4	4	141
Vehicles Exited	130	1	4	5	140
Hourly Exit Rate	780	6	24	30	840
Input Volume	835	8	19	33	898
% of Volume	93	75	126	91	94
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.9	4.1	0.4	0.1	0.1	0.1	0.1	0.8
Total Delay (hr)	0.0	1.0	0.0	0.1	0.1	0.0	0.0	1.2
Total Del/Veh (s)	30.7	5.4	13.9	11.2	8.7	2.4	23.5	
Vehicles Entered	0	113	7	27	20	10	1	178
Vehicles Exited	0	103	7	27	20	11	1	169
Hourly Exit Rate	0	618	42	162	120	66	6	1014
Input Volume	2	674	50	153	130	58	11	1078
% of Volume	0	92	84	106	92	114	55	94
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	12.5
Total Del/Veh (s)	38.1
Vehicles Entered	1060
Vehicles Exited	1038
Hourly Exit Rate	6228
Input Volume	21368
% of Volume	29
Denied Entry Before	0
Denied Entry After	0

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Background

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	384	313	94	85	90	34	55	186	120
Average Queue (ft)	320	216	49	48	58	20	25	129	67
95th Queue (ft)	426	337	107	109	108	51	62	208	158
Link Distance (ft)	394	394		335	335		335	336	336
Upstream Blk Time (%)	1								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			0	2			2		
Queuing Penalty (veh)			1	1			0		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	152	70	29	80	91	174	138	59
Average Queue (ft)	99	29	15	30	38	105	78	34
95th Queue (ft)	193	81	44	92	104	211	161	69
Link Distance (ft)	327			309	309	453	453	453
Upstream Blk Time (%)			100	150				
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)	9			0				
Queuing Penalty (veh)	5			0				

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Background

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (ft)	150	240	237	117	178	169	47	85	129	139	156	274
Average Queue (ft)	120	159	143	74	162	152	33	46	78	95	62	193
95th Queue (ft)	187	305	257	147	218	200	56	89	145	149	167	290
Link Distance (ft)		335	335		168	168	168		336	336		309
Upstream Blk Time (%)		0	0		16	5						1
Queuing Penalty (veh)		0	0		36	11						3
Storage Bay Dist (ft)	100			70			100			120		
Storage Blk Time (%)	34	13		25	56			2	8			18
Queuing Penalty (veh)	133	32		69	37			2	5			12

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	259
Average Queue (ft)	188
95th Queue (ft)	269
Link Distance (ft)	309
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	TR	L	T	T	T	TR
Maximum Queue (ft)	102	86	51	84	62	47	62	75
Average Queue (ft)	78	55	24	46	33	20	38	46
95th Queue (ft)	113	98	63	88	68	57	76	91
Link Distance (ft)	279	279	279		355	355	336	336
Upstream Blk Time (%)				70				
Queuing Penalty (veh)					2	3		
Storage Bay Dist (ft)					3	2		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Background

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	T	TR	LTR	T	TR	LT	T
Maximum Queue (ft)	380	312	247	29	184	141	128	127
Average Queue (ft)	323	255	167	13	122	81	91	71
95th Queue (ft)	416	342	286	35	194	151	146	133
Link Distance (ft)	390	390	390	390	455	455	355	355
Upstream Blk Time (%)	3	0	0					
Queuing Penalty (veh)	0	0	0					
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	T	LR
Maximum Queue (ft)	105	130	33	240	168	42	50
Average Queue (ft)	47	58	12	162	106	20	16
95th Queue (ft)	114	145	44	292	205	52	50
Link Distance (ft)	168	168		396	396	396	313
Upstream Blk Time (%)	0	0		1			
Queuing Penalty (veh)	1	2		0			
Storage Bay Dist (ft)			100				
Storage Blk Time (%)			25				
Queuing Penalty (veh)			4				

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	NB	SB
Directions Served	LT	T	T	LTR	TR
Maximum Queue (ft)	127	81	76	47	40
Average Queue (ft)	84	50	39	16	16
95th Queue (ft)	142	113	83	51	48
Link Distance (ft)	345	345	345	337	313
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)		1			
Queuing Penalty (veh)		0			

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	182	172	136	72	180	54	36	12
Average Queue (ft)	174	144	83	30	97	12	15	3
95th Queue (ft)	203	213	168	87	185	61	41	15
Link Distance (ft)	162	162	162		189	189	300	300
Upstream Blk Time (%)	33	9	3		1			
Queuing Penalty (veh)	0	0	0		0			
Storage Bay Dist (ft)				80				
Storage Blk Time (%)				5				
Queuing Penalty (veh)				3				

Network Summary

Network wide Queuing Penalty: 361

1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.3	0.4	0.0	0.0	0.0	4.0	0.3	0.5	0.3	0.1	0.2
Total Delay (hr)	0.0	0.5	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.5	0.1
Total Del/Veh (s)	32.0	15.9	7.8	17.3	5.2	4.8	40.9	23.0	16.2	31.3	32.3	15.3
Vehicles Entered	5	110	14	14	121	15	6	20	3	6	45	12
Vehicles Exited	4	102	12	15	118	14	6	22	3	7	49	13
Hourly Exit Rate	24	612	72	90	708	84	36	132	18	42	294	78
Input Volume	28	707	82	92	789	92	37	117	28	27	257	83
% of Volume	86	87	88	98	90	91	97	113	64	156	114	94
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.6
Total Del/Veh (s)	15.5
Vehicles Entered	371
Vehicles Exited	365
Hourly Exit Rate	2190
Input Volume	2339
% of Volume	94
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.9	3.3	0.0	0.0	0.2	0.3	0.4
Total Delay (hr)	0.7	0.0	0.0	0.2	0.2	0.1	1.3
Total Del/Veh (s)	39.8	11.8	13.8	6.8	10.2	3.5	13.5
Vehicles Entered	56	13	5	106	85	56	321
Vehicles Exited	55	13	6	108	83	55	320
Hourly Exit Rate	330	78	36	648	498	330	1920
Input Volume	321	73	37	652	501	346	1930
% of Volume	103	107	97	99	99	95	99
Denied Entry Before	1	0	0	0	0	0	1
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.5	0.0	0.1	0.8	0.0	0.1	0.8	0.1	0.1	0.5	0.1
Total Del/Veh (s)	27.3	18.4	12.6	32.0	21.8	4.5	26.3	30.9	34.6	30.1	23.1	18.6
Vehicles Entered	19	88	5	8	130	12	13	81	13	12	71	13
Vehicles Exited	21	96	5	7	122	11	13	83	15	13	73	13
Hourly Exit Rate	126	576	30	42	732	66	78	498	90	78	438	78
Input Volume	141	585	37	59	798	77	75	492	85	87	389	100
% of Volume	89	98	81	71	92	86	104	101	106	90	113	78
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	3.3
Total Del/Veh (s)	23.7
Vehicles Entered	465
Vehicles Exited	472
Hourly Exit Rate	2832
Input Volume	2925
% of Volume	97
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.6	0.0	0.3	0.5	0.2	0.0	1.6
Total Del/Veh (s)	8.1	9.0	11.5	32.2	17.1	7.9	6.5	11.7
Vehicles Entered	18	254	15	28	97	67	18	497
Vehicles Exited	17	235	14	27	94	70	19	476
Hourly Exit Rate	102	1410	84	162	564	420	114	2856
Input Volume	102	1422	85	161	568	392	92	2822
% of Volume	100	99	99	101	99	107	124	101
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.6	0.1	0.2	0.1	0.1	0.3	0.2	0.0	0.0	0.2
Total Delay (hr)	0.2	1.4	0.0	0.1	0.0	0.3	0.0	0.1	0.1	2.1
Total Del/Veh (s)	47.6	45.7	13.7	48.6	84.4	9.4	10.7	16.0	3.5	21.8
Vehicles Entered	11	103	11	4	1	102	14	13	73	332
Vehicles Exited	12	95	10	4	1	111	14	13	75	335
Hourly Exit Rate	72	570	60	24	6	666	84	78	450	2010
Input Volume	93	598	64	27	12	623	78	77	406	1978
% of Volume	77	95	94	89	50	107	108	101	111	102
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0		0.2	0.0	0.0	0.1
Total Delay (hr)	0.1	0.0	0.0	0.6	0.0	0.0	0.7
Total Del/Veh (s)	4.1	4.7		13.5	16.2	5.0	9.3
Vehicles Entered	120	4	0	149	1	2	276
Vehicles Exited	119	4	0	149	1	2	275
Hourly Exit Rate	714	24	0	894	6	12	1650
Input Volume	738	18	6	926	7	17	1712
% of Volume	97	133	0	97	86	71	96
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBL	WBT	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	0.1	0.0	0.0
Total Delay (hr)	0.0	0.7	0.0	0.0	0.0	0.8
Total Del/Veh (s)	8.8	8.3	23.0	10.5	9.0	
Vehicles Entered	0	289	1	3	4	297
Vehicles Exited	0	287	0	3	3	293
Hourly Exit Rate	0	1722	0	18	18	1758
Input Volume	2	1604	6	24	24	1660
% of Volume	0	107	0	75	75	106
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.6	0.2	1.8	0.5	0.2	0.1	0.1	0.2
Total Delay (hr)	0.0	1.8	0.0	0.4	0.3	0.2	0.0	2.8
Total Del/Veh (s)	20.5	27.5	4.6	23.5	18.5	27.3	6.0	25.0
Vehicles Entered	1	212	5	57	63	22	2	362
Vehicles Exited	1	235	5	53	58	20	2	374
Hourly Exit Rate	6	1410	30	318	348	120	12	2244
Input Volume	3	1257	32	338	361	138	10	2139
% of Volume	200	112	94	94	96	87	120	105
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	14.5
Total Del/Veh (s)	38.4
Vehicles Entered	1193
Vehicles Exited	1181
Hourly Exit Rate	7086
Input Volume	24654
% of Volume	29
Denied Entry Before	1
Denied Entry After	0

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	241	182	78	53	69	54	99	207	174
Average Queue (ft)	159	115	41	28	43	34	78	157	104
95th Queue (ft)	263	204	80	65	83	64	131	232	198
Link Distance (ft)	415	415		337	337		333	457	457
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			0	0		0	10		
Queuing Penalty (veh)			1	0		1	4		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	309	134	50	78	82	158	123	89
Average Queue (ft)	235	53	24	50	58	97	66	53
95th Queue (ft)	348	143	58	89	100	192	134	103
Link Distance (ft)	315			307	307	486	486	486
Upstream Blk Time (%)	3							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		100	150					
Storage Blk Time (%)	40							
Queuing Penalty (veh)	29							

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Background

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (ft)	138	208	143	117	180	180	65	110	196	194	123	208
Average Queue (ft)	80	146	105	38	168	166	34	54	117	137	54	121
95th Queue (ft)	155	243	161	107	198	199	77	120	220	222	131	216
Link Distance (ft)		337	337		168	168	168		336	336		307
Upstream Blk Time (%)					10	7						
Queuing Penalty (veh)					32	21						
Storage Bay Dist (ft)	100			70			100			120		
Storage Blk Time (%)	2	21			32			12		1		7
Queuing Penalty (veh)	5	29			19			9		1		6

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	185
Average Queue (ft)	124
95th Queue (ft)	204
Link Distance (ft)	307
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	TR	L	T	T	T	TR
Maximum Queue (ft)	195	236	240	122	208	173	63	57
Average Queue (ft)	133	163	157	82	136	101	29	29
95th Queue (ft)	212	258	253	150	223	199	71	67
Link Distance (ft)	279	279	279		354	354	336	336
Upstream Blk Time (%)	0	0						
Queuing Penalty (veh)	1	1						
Storage Bay Dist (ft)			70					
Storage Blk Time (%)				21	25			
Queuing Penalty (veh)				61	41			

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Background

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	T	TR	LTR	T	TR	LT	T
Maximum Queue (ft)	315	282	154	54	215	137	78	48
Average Queue (ft)	267	235	97	30	139	87	44	21
95th Queue (ft)	346	309	195	76	226	150	91	73
Link Distance (ft)	432	432	432	355	535	535	354	354
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	T	T	T	LR
Maximum Queue (ft)	71	77	267	199	61	29
Average Queue (ft)	39	54	180	117	27	9
95th Queue (ft)	85	105	275	214	73	38
Link Distance (ft)	168	168	593	593	593	312
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)			25			
Queuing Penalty (veh)			2			

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	NB	SB
Directions Served	LT	T	T	LTR	TR
Maximum Queue (ft)	112	108	106	48	38
Average Queue (ft)	86	77	78	14	12
95th Queue (ft)	119	118	123	49	44
Link Distance (ft)	345	345	345	381	312
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)			12		
Queuing Penalty (veh)			0		

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	418	380	254	50	303	244	115	67
Average Queue (ft)	343	299	190	15	232	144	70	22
95th Queue (ft)	446	412	275	64	323	257	126	74
Link Distance (ft)	575	575	575		900	900	342	342
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				80				
Storage Blk Time (%)				22				
Queuing Penalty (veh)				7				

Network Summary

Network wide Queuing Penalty: 269

1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.0	0.6	0.7	0.0	0.0	0.0	3.9	0.2	0.2	0.3	0.1	0.1
Total Delay (hr)	0.3	5.5	0.3	0.9	1.2	0.1	0.2	0.3	0.1	0.2	2.1	0.1
Total Del/Veh (s)	30.2	18.4	11.3	45.5	7.3	5.2	38.8	28.8	16.4	31.1	31.1	11.8
Vehicles Entered	35	1061	104	67	591	50	20	40	19	23	243	45
Vehicles Exited	35	1070	104	66	592	49	20	40	19	23	240	45
Hourly Exit Rate	35	1070	104	66	592	49	20	40	19	23	240	45
Input Volume	35	1072	109	60	586	48	21	43	15	23	255	40
% of Volume	99	100	96	110	101	102	95	92	127	100	94	112
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	11.3
Total Del/Veh (s)	17.6
Vehicles Entered	2298
Vehicles Exited	2303
Hourly Exit Rate	2303
Input Volume	2308
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	3.8	0.0	0.0	0.2	0.2	0.3
Total Delay (hr)	1.7	0.1	0.1	0.9	1.3	0.1	4.2
Total Del/Veh (s)	38.8	8.3	12.3	5.6	6.6	2.1	8.9
Vehicles Entered	159	57	15	577	693	186	1687
Vehicles Exited	161	56	15	581	690	186	1689
Hourly Exit Rate	161	56	15	581	690	186	1689
Input Volume	150	54	16	584	706	191	1701
% of Volume	107	103	94	99	98	97	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	3.1	3.4	0.2	1.6	4.6	0.1	0.8	2.8	0.6	0.4	4.7	0.4
Total Del/Veh (s)	46.1	15.3	11.0	93.7	28.9	6.8	38.0	34.9	28.9	21.6	26.4	20.7
Vehicles Entered	243	789	80	60	566	69	77	288	72	60	627	60
Vehicles Exited	241	790	79	59	572	69	76	283	73	60	626	60
Hourly Exit Rate	241	790	79	59	572	69	76	283	73	60	626	60
Input Volume	244	788	80	66	557	62	76	294	78	64	635	61
% of Volume	99	100	99	89	103	111	100	96	94	93	99	98
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	22.7
Total Del/Veh (s)	27.0
Vehicles Entered	2991
Vehicles Exited	2988
Hourly Exit Rate	2988
Input Volume	3005
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.8	3.0	0.5	0.3	0.6	0.8	0.1	6.1
Total Del/Veh (s)	19.8	16.1	13.3	18.6	6.7	4.7	3.7	10.6
Vehicles Entered	138	662	138	59	320	632	126	2075
Vehicles Exited	138	660	140	59	320	633	126	2076
Hourly Exit Rate	138	660	140	59	320	633	126	2076
Input Volume	145	680	145	59	320	641	130	2120
% of Volume	95	97	97	100	100	99	97	98
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.6	0.2	0.3	0.1	0.1	0.2	0.2	0.0	0.0	0.1
Total Delay (hr)	0.3	8.4	0.5	0.0	0.0	1.7	0.4	0.9	1.6	13.8
Total Del/Veh (s)	30.4	25.0	15.8	64.2	5.5	18.5	18.8	19.7	9.1	19.4
Vehicles Entered	38	1206	115	2	19	319	76	156	614	2545
Vehicles Exited	37	1195	114	2	19	323	76	158	622	2546
Hourly Exit Rate	37	1195	114	2	19	323	76	158	622	2546
Input Volume	41	1201	123	3	17	321	73	161	625	2566
% of Volume	90	99	93	67	112	101	104	98	99	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.1	3.3	0.2	0.0	0.0	0.1
Total Delay (hr)	1.2	0.0	0.1	2.5	0.0	0.1	3.9
Total Del/Veh (s)	4.4	4.4	21.4	13.1	23.9	11.6	8.3
Vehicles Entered	935	18	15	686	7	18	1679
Vehicles Exited	933	18	15	687	7	18	1678
Hourly Exit Rate	933	18	15	687	7	18	1678
Input Volume	947	15	17	680	5	15	1679
% of Volume	98	120	88	101	140	120	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.0	0.0
Total Delay (hr)	0.0	4.1	0.0	0.0	0.1	0.2	4.3
Total Del/Veh (s)	11.3	13.5	3.1	15.9	12.0	17.7	13.6
Vehicles Entered	2	1079	3	8	22	35	1149
Vehicles Exited	2	1070	3	8	22	35	1140
Hourly Exit Rate	2	1070	3	8	22	35	1140
Input Volume	2	1096	1	8	19	33	1159
% of Volume	100	98	300	100	116	105	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.7
Denied Del/Veh (s)	1.5	2.6	4.9	0.4	0.2	0.1	0.1	2.0
Total Delay (hr)	0.0	7.2	0.1	0.9	0.4	0.2	0.0	8.8
Total Del/Veh (s)	38.1	30.0	7.0	14.3	11.0	17.0	4.5	24.0
Vehicles Entered	2	858	54	214	127	52	12	1319
Vehicles Exited	2	859	54	212	127	53	12	1319
Hourly Exit Rate	2	859	54	212	127	53	12	1319
Input Volume	2	874	50	213	130	58	11	1339
% of Volume	100	98	107	99	98	91	109	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

9: Hennepin Av S Performance by movement

Movement	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.0	0.0	0.3	0.5
Total Del/Veh (s)	4.5	0.8	0.6	7.3	1.6	1.5
Vehicles Entered	47	390	71	9	754	1271
Vehicles Exited	47	392	71	9	758	1277
Hourly Exit Rate	47	392	71	9	758	1277
Input Volume	50	398	68	10	770	1296
% of Volume	94	99	104	90	98	98
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

10: 3rd St S & Site Driveway Performance by movement

Movement	WBT	WBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.3	0.1	0.2	0.7
Total Del/Veh (s)	1.4	2.0	7.4	2.0
Vehicles Entered	844	233	98	1175
Vehicles Exited	841	232	98	1171
Hourly Exit Rate	841	232	98	1171
Input Volume	874	230	95	1199
% of Volume	96	101	103	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	1.3
Denied Del/Veh (s)	0.7
Total Delay (hr)	77.9
Total Del/Veh (s)	41.1
Vehicles Entered	6691
Vehicles Exited	6672
Hourly Exit Rate	6672
Input Volume	25111
% of Volume	27
Denied Entry Before	0
Denied Entry After	0

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Total - Plan A

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	426	392	119	112	121	72	104	219	162
Average Queue (ft)	287	213	48	42	59	15	37	131	64
95th Queue (ft)	431	337	96	89	111	46	85	201	145
Link Distance (ft)	394	394		334	334		335	336	336
Upstream Blk Time (%)	3	0							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			2	0		0	3		
Queuing Penalty (veh)			6	0		0	1		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	220	156	35	128	141	231	182	84
Average Queue (ft)	102	31	11	58	69	105	68	33
95th Queue (ft)	181	93	35	120	137	191	153	65
Link Distance (ft)	327			309	309	453	453	453
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		100	150					
Storage Blk Time (%)	12	0		0				
Queuing Penalty (veh)	7	0		0				

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Total - Plan A

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	160	325	320	120	197	208	88	123	170	186	180
Average Queue (ft)	120	136	122	65	160	145	34	55	87	110	54
95th Queue (ft)	183	281	249	137	212	207	72	110	152	176	155
Link Distance (ft)	334	334		168	168	168			124	124	309
Upstream Blk Time (%)	0	0		9	4		0	3	9		0
Queuing Penalty (veh)	1	0		22	8		0	6	19		1
Storage Bay Dist (ft)	100			70			100			120	
Storage Blk Time (%)	35	10		17	46		2	6		0	18
Queuing Penalty (veh)	139	24		47	30		2	4		0	11

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	308
Average Queue (ft)	178
95th Queue (ft)	279
Link Distance (ft)	309
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	TR	L	T	T	T	TR
Maximum Queue (ft)	140	145	162	96	80	75	109	119
Average Queue (ft)	71	64	89	34	30	28	36	50
95th Queue (ft)	130	137	154	75	66	62	77	97
Link Distance (ft)	151	151	151		355	355	148	148
Upstream Blk Time (%)	0	0	3				0	
Queuing Penalty (veh)	1	0	9				0	
Storage Bay Dist (ft)				70				
Storage Blk Time (%)				1	1			
Queuing Penalty (veh)				2	1			

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	T	TR	LTR	T	TR	LT	T
Maximum Queue (ft)	423	380	272	51	186	194	235	238
Average Queue (ft)	328	254	153	11	98	85	97	70
95th Queue (ft)	431	345	249	36	164	160	181	160
Link Distance (ft)	390	390	390	390	455	455	355	355
Upstream Blk Time (%)	2	0						
Queuing Penalty (veh)	0	0						
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	T	LR
Maximum Queue (ft)	169	174	138	296	230	83	52
Average Queue (ft)	56	64	18	149	81	22	15
95th Queue (ft)	130	136	75	259	199	61	45
Link Distance (ft)	168	168		396	396	396	314
Upstream Blk Time (%)	0	0		0			
Queuing Penalty (veh)	1	1		0			
Storage Bay Dist (ft)			100				
Storage Blk Time (%)			20				
Queuing Penalty (veh)			3				

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	T	R	LT	TR
Maximum Queue (ft)	142	135	176	6	66	85
Average Queue (ft)	79	50	85	0	16	21
95th Queue (ft)	128	108	151	4	50	59
Link Distance (ft)	345	345	345		339	314
Upstream Blk Time (%)				80		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)				17		
Storage Blk Time (%)				0		
Queuing Penalty (veh)						

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Total - Plan A

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	207	195	204	140	219	93	63	35
Average Queue (ft)	174	151	161	47	118	14	20	5
95th Queue (ft)	205	217	217	132	201	59	51	21
Link Distance (ft)	162	162	162		189	189	300	300
Upstream Blk Time (%)	25	8	18		1	0		
Queuing Penalty (veh)	0	0	0		0	0		
Storage Bay Dist (ft)				80				
Storage Blk Time (%)				37	0			
Queuing Penalty (veh)				19	0			

Intersection: 9: Hennepin Av S

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	LT	T
Maximum Queue (ft)	76	5	35	83	59
Average Queue (ft)	28	0	2	12	3
95th Queue (ft)	59	5	15	58	29
Link Distance (ft)	71	148	148	124	124
Upstream Blk Time (%)	0			0	
Queuing Penalty (veh)	0			1	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: 3rd St S & Site Driveway

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	10	103
Average Queue (ft)	0	42
95th Queue (ft)	5	79
Link Distance (ft)	71	175
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 367

1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.6	0.3	0.3	0.0	0.0	0.0	3.8	0.4	0.4	0.3	0.1	0.2
Total Delay (hr)	0.2	3.1	0.2	0.4	1.2	0.1	0.5	1.1	0.2	0.3	2.5	0.3
Total Del/Veh (s)	34.9	15.8	7.3	17.7	5.8	5.2	47.1	31.9	19.5	38.6	32.8	13.3
Vehicles Entered	24	702	79	82	746	88	35	117	32	25	264	73
Vehicles Exited	24	702	80	82	745	88	35	116	32	25	268	74
Hourly Exit Rate	24	702	80	82	745	88	35	116	32	25	268	74
Input Volume	28	707	82	92	799	92	37	117	28	27	257	83
% of Volume	85	99	98	89	93	96	94	99	113	92	104	89
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	9.9
Total Del/Veh (s)	15.7
Vehicles Entered	2267
Vehicles Exited	2271
Hourly Exit Rate	2271
Input Volume	2348
% of Volume	97
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	1.2	3.7	0.0	0.0	0.2	0.4	0.4
Total Delay (hr)	3.5	0.3	0.2	1.7	1.4	0.4	7.4
Total Del/Veh (s)	39.9	12.8	19.3	8.5	9.7	3.6	13.3
Vehicles Entered	315	78	37	699	514	353	1996
Vehicles Exited	318	79	37	700	513	352	1999
Hourly Exit Rate	318	79	37	700	513	352	1999
Input Volume	321	73	37	720	508	346	2006
% of Volume	99	108	99	97	101	102	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay (hr)	1.1	3.1	0.1	0.7	7.0	0.2	0.8	5.2	1.5	0.9	3.1	0.5
Total Del/Veh (s)	28.0	18.9	12.5	48.5	34.4	8.5	33.1	35.2	33.8	37.8	26.6	18.6
Vehicles Entered	135	584	41	53	727	75	83	525	156	82	411	98
Vehicles Exited	137	586	41	54	734	76	83	523	157	83	414	99
Hourly Exit Rate	137	586	41	54	734	76	83	523	157	83	414	99
Input Volume	141	585	37	59	798	77	84	540	161	87	396	100
% of Volume	97	100	110	91	92	99	99	97	98	96	105	99
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	24.2
Total Del/Veh (s)	28.9
Vehicles Entered	2970
Vehicles Exited	2987
Hourly Exit Rate	2987
Input Volume	3064
% of Volume	97
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.7	6.9	1.3	1.4	3.1	1.1	0.2	14.6
Total Del/Veh (s)	14.9	16.8	19.3	29.6	19.2	9.8	7.0	16.8
Vehicles Entered	165	1466	237	170	575	412	93	3118
Vehicles Exited	165	1466	237	168	567	411	93	3107
Hourly Exit Rate	165	1466	237	168	567	411	93	3107
Input Volume	161	1472	251	161	575	392	92	3104
% of Volume	102	100	95	104	99	105	101	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.1	0.2	0.1	0.1	0.3	0.3	0.0	0.0	0.2
Total Delay (hr)	1.3	7.2	0.3	0.6	0.1	1.5	0.2	0.4	0.7	12.2
Total Del/Veh (s)	50.4	43.9	14.3	64.5	28.7	8.3	9.5	16.3	5.4	21.2
Vehicles Entered	93	588	66	31	13	632	75	86	477	2061
Vehicles Exited	91	572	65	31	12	640	75	87	480	2053
Hourly Exit Rate	91	572	65	31	12	640	75	87	480	2053
Input Volume	97	598	64	27	12	626	78	77	465	2044
% of Volume	94	96	101	114	100	102	96	113	103	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	5.2	0.0	0.0	0.0	5.2
Denied Del/Veh (s)	0.0	0.0	32.6	21.0	0.0	0.0	0.0	10.8
Total Delay (hr)	2.4	0.0	0.0	14.4	0.1	0.0	0.1	17.0
Total Del/Veh (s)	10.5	8.6	44.1	59.0	53.0	1.5	11.4	35.3
Vehicles Entered	808	17	3	877	6	1	19	1731
Vehicles Exited	799	17	3	846	7	1	20	1693
Hourly Exit Rate	799	17	3	846	7	1	20	1693
Input Volume	814	18	6	926	7	1	17	1789
% of Volume	98	94	50	91	100	100	118	95
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	15	0	0	0	15

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBL	WBT	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.1	0.0
Total Delay (hr)	0.0	5.8	0.0	0.2	0.1	6.1
Total Del/Veh (s)	29.8	12.4	21.4	25.4	17.9	12.7
Vehicles Entered	1	1662	7	26	21	1717
Vehicles Exited	1	1665	7	26	21	1720
Hourly Exit Rate	1	1665	7	26	21	1720
Input Volume	2	1668	6	24	25	1724
% of Volume	50	100	117	108	84	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	1.5	0.1	0.4	0.2	0.0	0.0	2.2
Denied Del/Veh (s)	6.2	4.1	6.8	4.1	2.3	0.1	0.1	3.6
Total Delay (hr)	0.0	8.5	0.1	2.3	1.7	1.3	0.0	13.9
Total Del/Veh (s)	27.8	23.4	7.1	23.1	17.2	35.3	10.9	22.8
Vehicles Entered	4	1292	30	348	356	133	14	2177
Vehicles Exited	4	1302	30	348	356	131	14	2185
Hourly Exit Rate	4	1302	30	348	356	131	14	2185
Input Volume	3	1309	32	350	361	138	10	2204
% of Volume	133	99	93	99	99	95	140	99
Denied Entry Before	0	2	0	0	0	0	0	2
Denied Entry After	0	0	0	1	2	0	0	3

9: Hennepin Av S Performance by movement

Movement	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.8	0.1	0.1	0.3	1.4
Total Del/Veh (s)	20.7	4.0	5.2	36.3	2.3	3.7
Vehicles Entered	9	750	53	7	500	1319
Vehicles Exited	10	754	54	7	505	1330
Hourly Exit Rate	10	754	54	7	505	1330
Input Volume	12	771	54	7	484	1329
% of Volume	83	98	100	100	104	100
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

10: 3rd St S & Site Driveway Performance by movement

Movement	WBT	WBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.3	0.3
Denied Del/Veh (s)	0.0	0.0	3.6	0.5
Total Delay (hr)	2.3	0.1	2.6	5.0
Total Del/Veh (s)	5.1	6.1	35.6	9.2
Vehicles Entered	1616	56	261	1933
Vehicles Exited	1612	56	256	1924
Hourly Exit Rate	1612	56	256	1924
Input Volume	1624	49	259	1932
% of Volume	99	114	99	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	8.2
Denied Del/Veh (s)	3.9
Total Delay (hr)	113.8
Total Del/Veh (s)	53.6
Vehicles Entered	7478
Vehicles Exited	7445
Hourly Exit Rate	7445
Input Volume	29077
% of Volume	26
Denied Entry Before	2
Denied Entry After	18

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan A

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	367	304	105	109	119	126	188	247	183
Average Queue (ft)	188	134	41	37	58	34	86	138	81
95th Queue (ft)	305	254	86	82	101	90	163	224	174
Link Distance (ft)	394	394		334	334		335	336	336
Upstream Blk Time (%)	0	0							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			0	0		3	17		
Queuing Penalty (veh)			1	0		4	6		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	350	160	71	123	145	209	196	118
Average Queue (ft)	219	73	26	64	78	94	70	60
95th Queue (ft)	349	183	60	117	131	173	151	101
Link Distance (ft)	327			309	309	453	453	453
Upstream Blk Time (%)	2							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		100	150					
Storage Blk Time (%)	35	0		0				
Queuing Penalty (veh)	26	0		0				

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan A

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	159	226	220	120	206	192	112	123	224	229	161
Average Queue (ft)	91	133	121	59	174	168	39	68	159	185	62
95th Queue (ft)	166	207	195	137	200	206	82	136	234	239	138
Link Distance (ft)		334	334		168	168	168		124	124	309
Upstream Blk Time (%)					33	30		0	18	37	0
Queuing Penalty (veh)					104	94		0	72	144	0
Storage Bay Dist (ft)	100			70			100			120	
Storage Blk Time (%)	6	18		3	48		1	26		0	7
Queuing Penalty (veh)	18	25		13	29		3	22		0	6

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	264
Average Queue (ft)	133
95th Queue (ft)	227
Link Distance (ft)	309
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	TR	L	T	T	T	TR
Maximum Queue (ft)	250	249	259	204	246	238	108	120
Average Queue (ft)	190	203	225	94	129	120	41	49
95th Queue (ft)	269	264	252	168	201	194	90	102
Link Distance (ft)	151	151	151		355	355	148	148
Upstream Blk Time (%)	10	11	30				0	0
Queuing Penalty (veh)	62	71	189				0	0
Storage Bay Dist (ft)			150					
Storage Blk Time (%)			2		5			
Queuing Penalty (veh)			7		7			

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan A

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	T	TR	LTR	T	TR	LT	T
Maximum Queue (ft)	408	342	209	109	218	178	127	115
Average Queue (ft)	289	224	100	41	117	78	52	32
95th Queue (ft)	381	314	195	91	198	152	103	84
Link Distance (ft)	390	390	390	390	455	455	355	355
Upstream Blk Time (%)	1	0						
Queuing Penalty (veh)	0	0						
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	T	LR
Maximum Queue (ft)	199	210	70	442	442	421	80
Average Queue (ft)	116	126	5	302	263	150	20
95th Queue (ft)	205	215	43	495	491	445	58
Link Distance (ft)	168	168		396	396	396	314
Upstream Blk Time (%)	3	4		25	25	12	
Queuing Penalty (veh)	12	15		0	0	0	
Storage Bay Dist (ft)			100				
Storage Blk Time (%)				55			
Queuing Penalty (veh)				3			

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	NB	SB
Directions Served	LT	T	T	LTR	TR
Maximum Queue (ft)	287	302	322	87	50
Average Queue (ft)	107	104	133	24	12
95th Queue (ft)	190	211	257	67	38
Link Distance (ft)	345	345	345	339	314
Upstream Blk Time (%)	0	0	0		
Queuing Penalty (veh)	0	0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)			25		
Queuing Penalty (veh)			0		

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan A

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	216	206	218	123	236	199	165	132
Average Queue (ft)	182	173	167	24	201	100	77	23
95th Queue (ft)	203	208	219	94	238	201	145	80
Link Distance (ft)	162	162	162		189	189	300	300
Upstream Blk Time (%)	40	22	18		23	0		
Queuing Penalty (veh)	0	0	0		0	0		
Storage Bay Dist (ft)				80				
Storage Blk Time (%)				30				
Queuing Penalty (veh)				10				

Intersection: 9: Hennepin Av S

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	LT	T
Maximum Queue (ft)	56	161	218	117	103
Average Queue (ft)	11	41	63	17	9
95th Queue (ft)	38	137	174	77	59
Link Distance (ft)	71	148	148	124	124
Upstream Blk Time (%)	0	1	2	1	0
Queuing Penalty (veh)	0	2	6	3	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: 3rd St S & Site Driveway

Movement	WB	WB	WB	SB
Directions Served	T	T	TR	R
Maximum Queue (ft)	163	159	177	216
Average Queue (ft)	64	54	120	144
95th Queue (ft)	173	148	197	225
Link Distance (ft)	71	71	71	175
Upstream Blk Time (%)	6	5	17	14
Queuing Penalty (veh)	34	30	96	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 1117

1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.6	0.9	0.8	0.0	0.0	0.0	4.0	0.2	0.2	0.3	0.1	0.2
Total Delay (hr)	0.3	5.8	0.4	0.8	1.1	0.1	0.2	0.4	0.1	0.2	2.3	0.1
Total Del/Veh (s)	28.0	18.8	11.0	52.6	7.3	6.2	35.4	29.0	17.0	37.3	33.2	10.4
Vehicles Entered	34	1098	115	55	553	52	21	43	15	21	246	45
Vehicles Exited	35	1094	115	56	558	53	22	44	15	21	246	45
Hourly Exit Rate	35	1094	115	56	558	53	22	44	15	21	246	45
Input Volume	35	1072	109	60	573	48	21	43	15	23	255	40
% of Volume	99	102	106	93	97	110	105	102	100	91	97	112
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.5
Total Delay (hr)	11.7
Total Del/Veh (s)	18.2
Vehicles Entered	2298
Vehicles Exited	2304
Hourly Exit Rate	2304
Input Volume	2295
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	3.8	0.0	0.0	0.2	0.2	0.3
Total Delay (hr)	1.7	0.1	0.1	0.8	1.4	0.1	4.3
Total Del/Veh (s)	39.7	8.6	15.2	4.8	7.2	2.2	9.0
Vehicles Entered	157	60	14	573	715	191	1710
Vehicles Exited	158	60	14	568	711	190	1701
Hourly Exit Rate	158	60	14	568	711	190	1701
Input Volume	150	54	16	571	696	191	1678
% of Volume	105	111	88	99	102	99	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	3.0	3.6	0.3	2.0	4.3	0.1	0.6	3.1	0.5	0.4	5.1	0.4
Total Del/Veh (s)	44.5	15.9	12.4	108.9	28.3	6.5	37.6	38.6	34.6	24.8	27.9	22.0
Vehicles Entered	238	808	85	64	550	59	58	287	55	64	646	62
Vehicles Exited	239	805	84	62	541	58	57	288	56	65	654	62
Hourly Exit Rate	239	805	84	62	541	58	57	288	56	65	654	62
Input Volume	244	788	80	66	557	62	63	280	54	64	625	61
% of Volume	98	102	105	94	97	93	90	103	103	101	105	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	23.5
Total Del/Veh (s)	28.1
Vehicles Entered	2976
Vehicles Exited	2971
Hourly Exit Rate	2971
Input Volume	2945
% of Volume	101
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.7	2.8	0.3	0.3	0.6	1.2	0.2	6.0
Total Del/Veh (s)	16.4	14.6	12.4	22.4	6.3	6.6	4.9	10.4
Vehicles Entered	145	680	75	53	314	658	141	2066
Vehicles Exited	144	681	76	53	313	659	141	2067
Hourly Exit Rate	144	681	76	53	313	659	141	2067
Input Volume	146	680	76	59	311	642	130	2044
% of Volume	99	100	100	89	101	103	108	101
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.7	0.2	0.3	0.1	0.1	0.2	0.2	0.0	0.0	0.1
Total Delay (hr)	0.2	8.4	0.5	0.0	0.0	1.7	0.4	0.8	1.6	13.8
Total Del/Veh (s)	26.6	24.4	16.6	88.5	7.0	20.0	18.4	17.2	9.0	19.1
Vehicles Entered	33	1228	111	2	21	310	76	168	634	2583
Vehicles Exited	33	1225	111	2	21	312	76	167	634	2581
Hourly Exit Rate	33	1225	111	2	21	312	76	167	634	2581
Input Volume	35	1201	123	3	17	317	73	161	626	2557
% of Volume	94	102	90	67	124	98	104	104	101	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	3.2	0.2	0.0	0.0	0.1
Total Delay (hr)	1.1	0.0	0.1	2.4	0.0	0.0	3.6
Total Del/Veh (s)	4.0	3.3	21.3	12.7	25.1	9.9	7.8
Vehicles Entered	941	17	16	676	5	16	1671
Vehicles Exited	937	17	16	668	4	15	1657
Hourly Exit Rate	937	17	16	668	4	15	1657
Input Volume	923	15	17	680	5	15	1655
% of Volume	101	113	94	98	80	100	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total Delay (hr)	0.0	3.5	0.0	0.0	0.1	0.2	3.9
Total Del/Veh (s)	5.5	12.3	2.3	16.9	14.8	22.3	12.6
Vehicles Entered	1	1026	1	7	19	33	1087
Vehicles Exited	1	1028	1	7	19	34	1090
Hourly Exit Rate	1	1028	1	7	19	34	1090
Input Volume	2	1034	1	8	19	33	1097
% of Volume	50	99	100	88	100	102	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.5
Denied Del/Veh (s)	0.6	1.5	4.4	0.5	0.1	0.1	0.1	1.3
Total Delay (hr)	0.0	6.9	0.1	0.8	0.4	0.2	0.0	8.4
Total Del/Veh (s)	17.3	30.1	5.3	13.4	11.3	14.5	3.8	23.5
Vehicles Entered	1	824	52	205	136	56	11	1285
Vehicles Exited	1	811	52	206	137	57	11	1275
Hourly Exit Rate	1	811	52	206	137	57	11	1275
Input Volume	2	823	50	203	130	58	11	1278
% of Volume	50	99	103	101	105	98	100	100
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

10: 3rd St S & Site Driveway Performance by movement

Movement	WBT	WBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Delay (hr)	0.3	0.1	0.1	0.4
Total Del/Veh (s)	1.2	1.7	5.5	1.5
Vehicles Entered	853	184	44	1081
Vehicles Exited	859	184	44	1087
Hourly Exit Rate	859	184	44	1087
Input Volume	855	188	48	1091
% of Volume	100	98	91	100
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	1.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	77.2
Total Del/Veh (s)	40.9
Vehicles Entered	6645
Vehicles Exited	6636
Hourly Exit Rate	6636
Input Volume	23210
% of Volume	29
Denied Entry Before	0
Denied Entry After	0

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Total - Plan B

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	422	413	127	114	122	54	100	229	178
Average Queue (ft)	296	228	44	44	59	15	34	131	64
95th Queue (ft)	437	379	99	93	109	46	76	207	155
Link Distance (ft)	394	394		335	335		335	336	336
Upstream Blk Time (%)	4	1							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			3	1		0	2		
Queuing Penalty (veh)			9	0		0	0		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	245	137	48	104	142	231	198	79
Average Queue (ft)	107	32	11	46	54	105	75	34
95th Queue (ft)	195	96	36	98	120	202	167	69
Link Distance (ft)	327			309	309	453	453	453
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		100	150					
Storage Blk Time (%)	13	0		0				
Queuing Penalty (veh)	7	0		0				

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Total - Plan B

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (ft)	160	304	298	120	205	194	101	138	189	195	180	316
Average Queue (ft)	121	131	121	75	159	139	31	45	92	105	62	198
95th Queue (ft)	179	266	243	143	212	205	71	100	160	169	170	297
Link Distance (ft)		335	335		168	168	168		335	335		309
Upstream Blk Time (%)		0	0		8	3	0					1
Queuing Penalty (veh)		1	0		19	7	0					2
Storage Bay Dist (ft)	100			70			100			120		
Storage Blk Time (%)	31	12		23	44			1	11			20
Queuing Penalty (veh)	122	30		63	29			1	7			13

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	300
Average Queue (ft)	187
95th Queue (ft)	285
Link Distance (ft)	309
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	TR	L	T	T	T	TR
Maximum Queue (ft)	146	139	150	87	116	64	91	113
Average Queue (ft)	74	56	61	36	31	20	35	50
95th Queue (ft)	131	121	122	75	74	55	71	98
Link Distance (ft)	152	152	152		355	355	335	335
Upstream Blk Time (%)	1	0	1					
Queuing Penalty (veh)	2	0	2					
Storage Bay Dist (ft)			70					
Storage Blk Time (%)				2	2			
Queuing Penalty (veh)				3	1			

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Total - Plan B

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	T	TR	LTR	T	TR	LT	T
Maximum Queue (ft)	411	368	306	57	210	190	216	210
Average Queue (ft)	320	249	158	11	108	74	97	73
95th Queue (ft)	421	335	258	39	177	147	179	169
Link Distance (ft)	390	390	390	390	455	455	355	355
Upstream Blk Time (%)	2	0	0				0	
Queuing Penalty (veh)	0	0	0				0	
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	T	LR
Maximum Queue (ft)	164	175	137	274	220	79	54
Average Queue (ft)	54	57	17	146	85	18	12
95th Queue (ft)	130	129	69	246	191	58	40
Link Distance (ft)	168	168		396	396	396	314
Upstream Blk Time (%)	0	0					
Queuing Penalty (veh)	1	1					
Storage Bay Dist (ft)			100				
Storage Blk Time (%)				21			
Queuing Penalty (veh)					3		

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	T	R	LT	TR
Maximum Queue (ft)	147	122	161	6	86	69
Average Queue (ft)	79	51	64	0	16	20
95th Queue (ft)	125	102	127	4	52	53
Link Distance (ft)	345	345	345		339	314
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				80		
Storage Blk Time (%)				10		
Queuing Penalty (veh)					0	

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

AM - Build Out Total - Plan B

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	205	199	197	140	209	125	77	27
Average Queue (ft)	176	149	142	37	115	15	20	4
95th Queue (ft)	196	211	218	111	198	63	53	17
Link Distance (ft)	162	162	162		189	189	300	300
Upstream Blk Time (%)	29	8	9		1			
Queuing Penalty (veh)	0	0	0		0			
Storage Bay Dist (ft)				80				
Storage Blk Time (%)				26	0			
Queuing Penalty (veh)				13	0			

Intersection: 10: 3rd St S & Site Driveway

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	6	63
Average Queue (ft)	0	24
95th Queue (ft)	5	49
Link Distance (ft)	71	175
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 338

1: 1st Av N & Washington Av N Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.3	0.4	0.0	0.0	0.0	4.0	0.4	0.3	0.3	0.1	0.2
Total Delay (hr)	0.2	3.1	0.2	0.4	1.2	0.1	0.5	1.0	0.1	0.3	2.4	0.4
Total Del/Veh (s)	32.2	16.2	8.2	16.7	5.3	4.5	44.0	31.1	19.1	36.5	33.3	14.5
Vehicles Entered	25	692	83	85	773	97	36	113	26	27	256	90
Vehicles Exited	25	694	83	83	769	96	37	115	26	27	258	90
Hourly Exit Rate	25	694	83	83	769	96	37	115	26	27	258	90
Input Volume	28	707	82	92	789	92	37	117	28	27	257	83
% of Volume	88	98	102	90	97	105	99	99	92	99	100	109
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

1: 1st Av N & Washington Av N Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	9.9
Total Del/Veh (s)	15.3
Vehicles Entered	2303
Vehicles Exited	2303
Hourly Exit Rate	2303
Input Volume	2338
% of Volume	98
Denied Entry Before	0
Denied Entry After	0

2: Hennepin Av S & 2nd St N Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	1.0	4.0	0.0	0.0	0.2	0.3	0.4
Total Delay (hr)	3.5	0.2	0.2	1.7	1.4	0.4	7.4
Total Del/Veh (s)	38.1	11.4	16.5	8.7	10.0	3.6	13.3
Vehicles Entered	328	72	36	704	498	353	1991
Vehicles Exited	332	72	36	705	496	353	1994
Hourly Exit Rate	332	72	36	705	496	353	1994
Input Volume	321	73	37	700	501	346	1980
% of Volume	103	98	97	101	99	102	101
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	2.8	0.1	0.5	4.6	0.1	0.7	5.8	1.5	1.0	2.7	0.5
Total Del/Veh (s)	29.5	17.4	12.6	33.0	21.2	5.5	34.3	37.6	38.4	43.8	24.6	17.0
Vehicles Entered	138	574	36	59	780	80	75	544	137	84	385	99
Vehicles Exited	138	576	36	58	780	80	75	546	137	83	387	100
Hourly Exit Rate	138	576	36	58	780	80	75	546	137	83	387	100
Input Volume	141	585	37	59	798	77	75	542	135	87	389	100
% of Volume	98	98	97	98	98	104	100	101	101	96	100	100
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Hennepin Av S & Washington Av N/Washington Av S Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	21.6
Total Del/Veh (s)	25.7
Vehicles Entered	2991
Vehicles Exited	2996
Hourly Exit Rate	2996
Input Volume	3024
% of Volume	99
Denied Entry Before	0
Denied Entry After	0

4: Hennepin Av S & 3rd St N/3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.6	5.6	0.8	1.2	3.4	1.0	0.2	12.8
Total Del/Veh (s)	14.2	13.9	16.2	27.8	20.5	9.6	6.6	15.3
Vehicles Entered	147	1456	179	157	589	389	91	3008
Vehicles Exited	147	1452	178	154	581	391	91	2994
Hourly Exit Rate	147	1452	178	154	581	391	91	2994
Input Volume	152	1461	184	161	568	392	92	3010
% of Volume	97	99	97	96	102	100	99	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

5: Hennepin Av S & 4th St N/4th St S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.1	0.2	0.1	0.1	0.3	0.3	0.0	0.0	0.2
Total Delay (hr)	1.6	8.3	0.3	0.5	0.1	1.7	0.2	0.3	0.7	13.7
Total Del/Veh (s)	58.6	48.9	16.3	61.5	26.5	9.6	10.6	15.4	5.3	23.8
Vehicles Entered	97	609	65	27	9	633	79	75	452	2046
Vehicles Exited	95	597	66	26	10	640	80	75	454	2043
Hourly Exit Rate	95	597	66	26	10	640	80	75	454	2043
Input Volume	93	598	64	27	12	623	78	77	456	2028
% of Volume	102	100	103	95	83	103	103	98	100	101
Denied Entry Before	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0

6: Nicollet Mall & Washington Av S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	3.3	0.2	0.0	0.0	0.1
Total Delay (hr)	0.9	0.0	0.0	3.6	0.0	0.0	4.6
Total Del/Veh (s)	4.4	3.4	17.1	14.0	15.6	4.5	9.5
Vehicles Entered	779	16	8	907	7	19	1736
Vehicles Exited	778	17	9	911	7	20	1742
Hourly Exit Rate	778	17	9	911	7	20	1742
Input Volume	788	18	6	926	7	17	1762
% of Volume	99	94	150	98	100	118	99
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

7: Nicollet Mall & 3rd St S Performance by movement

Movement	WBL	WBT	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0	0.0
Total Delay (hr)	0.0	4.4	0.0	0.1	0.1	4.7
Total Del/Veh (s)	5.1	9.7	29.7	20.2	14.7	10.0
Vehicles Entered	2	1638	6	26	25	1697
Vehicles Exited	2	1641	5	26	26	1700
Hourly Exit Rate	2	1641	5	26	26	1700
Input Volume	2	1654	6	24	24	1710
% of Volume	100	99	83	108	108	99
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0

8: Marquette Av S & 3rd St S Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.7	0.2	2.2	0.4	0.2	0.1	0.1	0.2
Total Delay (hr)	0.0	10.3	0.1	2.5	1.9	1.4	0.0	16.2
Total Del/Veh (s)	39.1	28.5	8.4	26.3	19.1	34.0	11.2	26.6
Vehicles Entered	3	1273	31	342	359	143	11	2162
Vehicles Exited	3	1286	31	342	358	140	11	2171
Hourly Exit Rate	3	1286	31	342	358	140	11	2171
Input Volume	3	1295	32	351	361	138	10	2190
% of Volume	100	99	96	97	99	101	110	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

10: 3rd St S & Site Driveway Performance by movement

Movement	WBT	WBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.3	0.0
Total Delay (hr)	1.3	0.0	1.2	2.6
Total Del/Veh (s)	3.0	3.2	22.5	5.1
Vehicles Entered	1596	50	191	1837
Vehicles Exited	1595	50	188	1833
Hourly Exit Rate	1595	50	188	1833
Input Volume	1610	51	187	1848
% of Volume	99	98	100	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.7
Denied Del/Veh (s)	0.3
Total Delay (hr)	95.5
Total Del/Veh (s)	45.3
Vehicles Entered	7420
Vehicles Exited	7404
Hourly Exit Rate	7404
Input Volume	27290
% of Volume	27
Denied Entry Before	0
Denied Entry After	0

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan B

Intersection: 1: 1st Av N & Washington Av N

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	TR	L	TR	LT	TR
Maximum Queue (ft)	332	272	110	99	113	105	206	228	176
Average Queue (ft)	182	124	42	33	53	31	82	135	89
95th Queue (ft)	281	224	88	75	101	73	158	203	167
Link Distance (ft)	415	415		337	337		333	457	457
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)			100			75			
Storage Blk Time (%)			1	0		2	13		
Queuing Penalty (veh)			4	0		3	5		

Intersection: 2: Hennepin Av S & 2nd St N

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	349	160	57	149	154	207	177	137
Average Queue (ft)	213	63	23	68	79	97	72	58
95th Queue (ft)	336	170	55	129	136	180	149	104
Link Distance (ft)	315			307	307	486	486	486
Upstream Blk Time (%)	3							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		100	150					
Storage Blk Time (%)	35			0				
Queuing Penalty (veh)	26		0					

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan B

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	
Directions Served	L	T	TR	L	T	T	R	L	T	TR	L	T
Maximum Queue (ft)	160	241	210	120	190	196	110	149	324	334	168	242
Average Queue (ft)	87	127	119	51	172	165	36	64	172	201	56	110
95th Queue (ft)	152	208	190	123	196	203	82	147	306	324	131	201
Link Distance (ft)		337	337		168	168	168		335	335		307
Upstream Blk Time (%)					11	8	0		1	1		0
Queuing Penalty (veh)					33	25	0		2	5		0
Storage Bay Dist (ft)	100			70			100			120		
Storage Blk Time (%)	6	17		1	34			1	23		3	4
Queuing Penalty (veh)	17	24		6	20			1	18		5	4

Intersection: 3: Hennepin Av S & Washington Av N/Washington Av S

Movement	SB
Directions Served	TR
Maximum Queue (ft)	266
Average Queue (ft)	125
95th Queue (ft)	221
Link Distance (ft)	307
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Hennepin Av S & 3rd St N/3rd St S

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	T	TR	L	T	T	T	TR
Maximum Queue (ft)	260	256	265	188	214	202	78	94
Average Queue (ft)	178	189	213	83	128	114	33	42
95th Queue (ft)	270	256	279	152	195	181	68	82
Link Distance (ft)	160	160	160		354	354	335	335
Upstream Blk Time (%)	7	8	17					
Queuing Penalty (veh)	43	45	104					
Storage Bay Dist (ft)			150					
Storage Blk Time (%)				1	5			
Queuing Penalty (veh)				2	8			

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan B

Intersection: 5: Hennepin Av S & 4th St N/4th St S

Movement	EB	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	T	TR	LTR	T	TR	LT	T
Maximum Queue (ft)	408	350	214	106	238	201	116	109
Average Queue (ft)	289	233	119	32	124	84	46	27
95th Queue (ft)	389	326	214	76	202	166	91	73
Link Distance (ft)	432	432	432	355	535	535	354	354
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Nicollet Mall & Washington Av S

Movement	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	T	LR
Maximum Queue (ft)	117	130	86	279	238	95	65
Average Queue (ft)	43	65	11	167	119	25	12
95th Queue (ft)	91	116	53	252	217	71	44
Link Distance (ft)	168	168		593	593	593	313
Upstream Blk Time (%)	0	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)			100				
Storage Blk Time (%)				27			
Queuing Penalty (veh)				2			

Intersection: 7: Nicollet Mall & 3rd St S

Movement	WB	WB	WB	NB	SB
Directions Served	LT	T	T	LTR	TR
Maximum Queue (ft)	165	193	160	70	72
Average Queue (ft)	84	80	80	22	14
95th Queue (ft)	143	145	140	60	47
Link Distance (ft)	345	345	345	382	313
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)					
Storage Blk Time (%)			14		
Queuing Penalty (veh)			0		

Queuing and Blocking Report

Gateway-Nicollet Hotel Block

PM - Build Out Total - Plan B

Intersection: 8: Marquette Av S & 3rd St S

Movement	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	T	T	R	LT	T	T	TR
Maximum Queue (ft)	404	377	292	140	346	274	165	132
Average Queue (ft)	305	260	170	29	234	145	79	25
95th Queue (ft)	396	366	260	103	344	267	141	85
Link Distance (ft)	575	575	575		900	900	342	342
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				80				
Storage Blk Time (%)				26				
Queuing Penalty (veh)				8				

Intersection: 10: 3rd St S & Site Driveway

Movement	WB	WB	WB	SB
Directions Served	T	T	TR	R
Maximum Queue (ft)	133	114	138	188
Average Queue (ft)	31	21	56	89
95th Queue (ft)	112	88	145	158
Link Distance (ft)	59	59	59	195
Upstream Blk Time (%)	3	2	7	0
Queuing Penalty (veh)	17	12	37	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 479

Appendix D: Porte-Cochere



Gateway Nicollet Hotel Block Porte Cochere

CURBSIDE EVALUATION

4 Service Positions
Peak Hour Typical Day

Combined Site (Taxi + Valet)

Curbside PM Peak Hour (taxi + pick-up/drop-off)

Number of Curbside Positions

Average Time per Service

Service Rate (Customers per Hour)

Hotel (Valet)

Curbside PM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Residential Pick-Up

Curbside AM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Residential Drop-off

Curbside AM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Summary Measures

Mean time between arrivals

Traffic intensity

Average utilization rate of server/Percent of time curbside lane is being utilized

Average number of customers waiting in line (L_q)

Average number of customers in system (L)

Average time waiting in line (W_q)

Average time in system (W)

Probability of no customers in system (P_0)

Probability that all servers are busy/Percent of customers who wait in queue

Probability that at least one server is idle/Percent of customers who do not wait

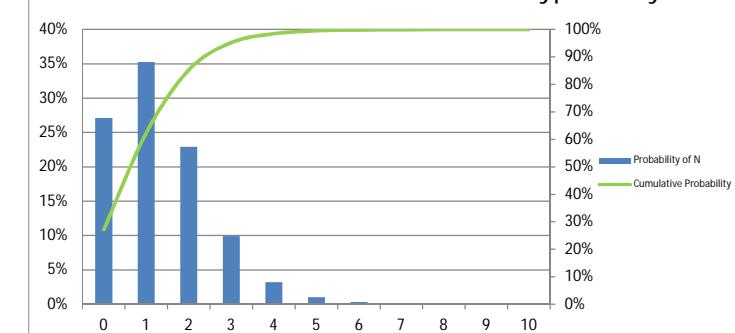
Scenario
4 Service Positions
Peak Hour - Typical Day

Duration 60 minutes

VALET	Σ	Service Rate
39	39	2.0 /min

Average Rate of Success Random Variable	1.3 Probability of N	vehicle queue Cumulative Probability	95%
0	27%	27%	-
1	35%	62%	-
2	23%	85%	2.98
3	10%	95%	-
4	3%	98%	-
5	1%	99%	-
6	0%	100%	-
7	0%	100%	-
8	0%	100%	-
9	0%	100%	-
10	0%	100%	-
Total	100%		

4 Curbside Position - Peak Hour - Typical Day



Gateway Nicollet Hotel Block Porte Cochere

CURBSIDE EVALUATION

4 Service Positions
Peak Hour Typical Day

Combined Site (Taxi + Valet)

Curbside PM Peak Hour (taxi + pick-up/drop-off)

Number of Curbside Positions

Average Time per Service

Service Rate (Customers per Hour)

Hotel (Valet)

Curbside PM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Residential

Curbside AM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Residential

Curbside AM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Summary Measures

Mean time between arrivals

Traffic intensity

Average utilization rate of server/Percent of time curbside lane is being utilized

Average number of customers waiting in line (L_q)

Average number of customers in system (L)

Average time waiting in line (W_q)

Average time in system (W)

Probability of no customers in system (P_0)

Probability that all servers are busy/Percent of customers who wait in queue

Probability that at least one server is idle/Percent of customers who do not wait

Scenario
4 Service Positions
Peak Hour - Typical Day

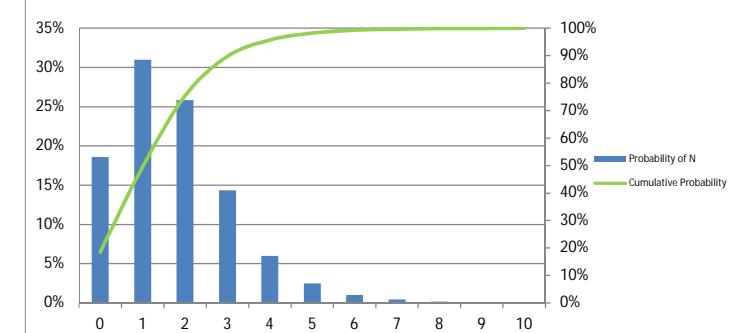
Duration 60 minutes

VALET	Σ	Service Rate
50	50	2.0 /min

Average Rate of Success Random Variable	1.7 Probability of N	vehicle queue Cumulative Probability	95% 3.88
0	19%	19%	-
1	31%	50%	-
2	26%	75%	-
3	14%	90%	-
4	6%	96%	-
5	2%	98%	-
6	1%	99%	-
7	0%	100%	-
8	0%	100%	-
9	0%	100%	-
10	0%	100%	-

Total 100%

4 Curbside Position - Peak Hour - Typical Day



Gateway Nicollet Hotel Block Porte Cochere

CURBSIDE EVALUATION

4 Service Positions
Peak Hour Typical Day

Combined Site (Taxi + Valet)

Curbside PM Peak Hour (taxi + pick-up/drop-off)

Number of Curbside Positions

Average Time per Service

Service Rate (Customers per Hour)

Hotel (Valet)

Curbside PM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Residential

Curbside AM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Residential

Curbside AM Peak Hour (taxi + pick-up/drop-off)

Average Time per Service

Summary Measures

Mean time between arrivals

Traffic intensity

Average utilization rate of server/Percent of time curbside lane is being utilized

Average number of customers waiting in line (L_q)

Average number of customers in system (L)

Average time waiting in line (W_q)

Average time in system (W)

Probability of no customers in system (P_0)

Probability that all servers are busy/Percent of customers who wait in queue

Probability that at least one server is idle/Percent of customers who do not wait

Scenario
4 Service Positions
Peak Hour - Typical Day

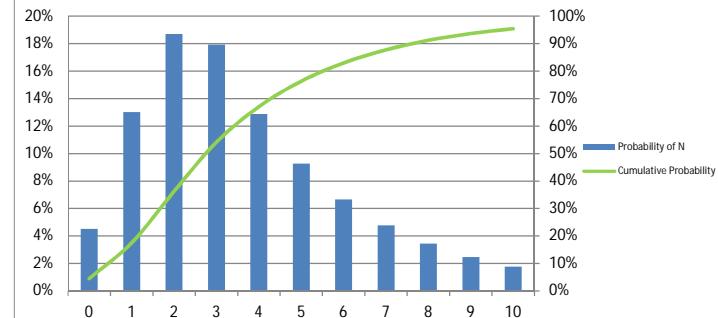
Duration 60 minutes

VALET	Σ	Service Rate
230	230	0.8 /min

Average Rate of Success Random Variable	4.0	vehicle queue	
	Probability of N	Cumulative Probability	95%
0	5%	5%	-
1	13%	18%	-
2	19%	36%	-
3	18%	54%	-
4	13%	67%	-
5	9%	76%	-
6	7%	83%	-
7	5%	88%	-
8	3%	91%	-
9	2%	94%	9.74
10	2%	95%	-

Total 95%

4 Curbside Position - Peak Hour - Typical Day



Attachment D

Land Use Maps

Map 1.1a: Existing Land Use

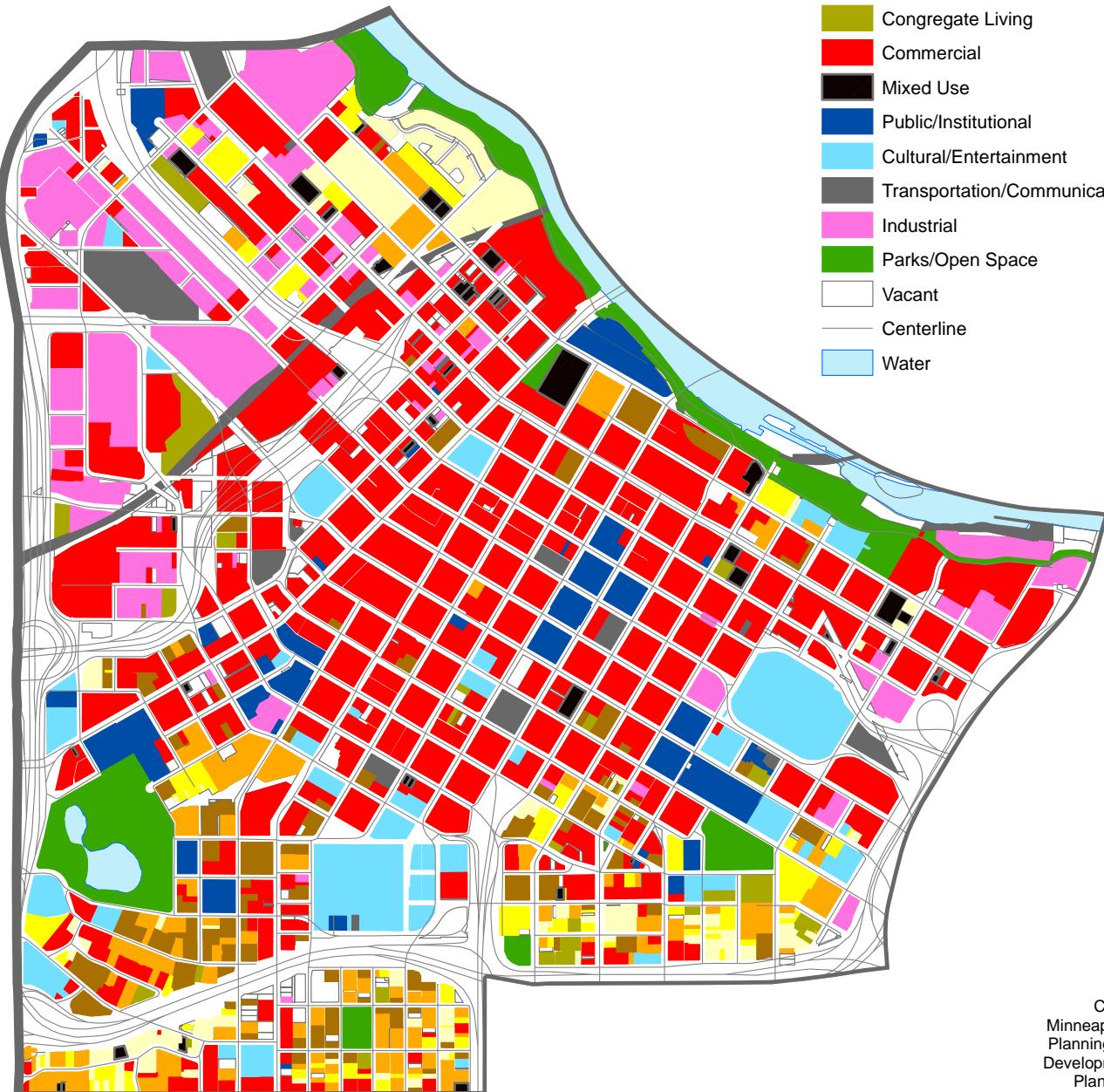
Downtown Sector



Legend

Existing Land Use

- [Yellow] Low-Density Housing (up to 20 DU/acre)
- [Yellow] Medium-Density Housing (20-50 DU/acre)
- [Orange] High-Density Housing (50-120 DU/acre)
- [Brown] Very High-Density Housing (>120 DU/acre)
- [Olive Green] Congregate Living
- [Red] Commercial
- [Black] Mixed Use
- [Dark Blue] Public/Institutional
- [Light Blue] Cultural/Entertainment
- [Grey] Transportation/Communication/Utilities
- [Pink] Industrial
- [Green] Parks/Open Space
- [White] Vacant
- [Grey line] Centerline
- [Light Blue box] Water



Source:
City of
Minneapolis

Created by:
Minneapolis Community
Planning and Economic
Development Department
Planning Division
Adopted by City Council
October 2, 2009

0 2,500 5,000
Feet

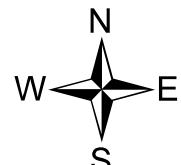
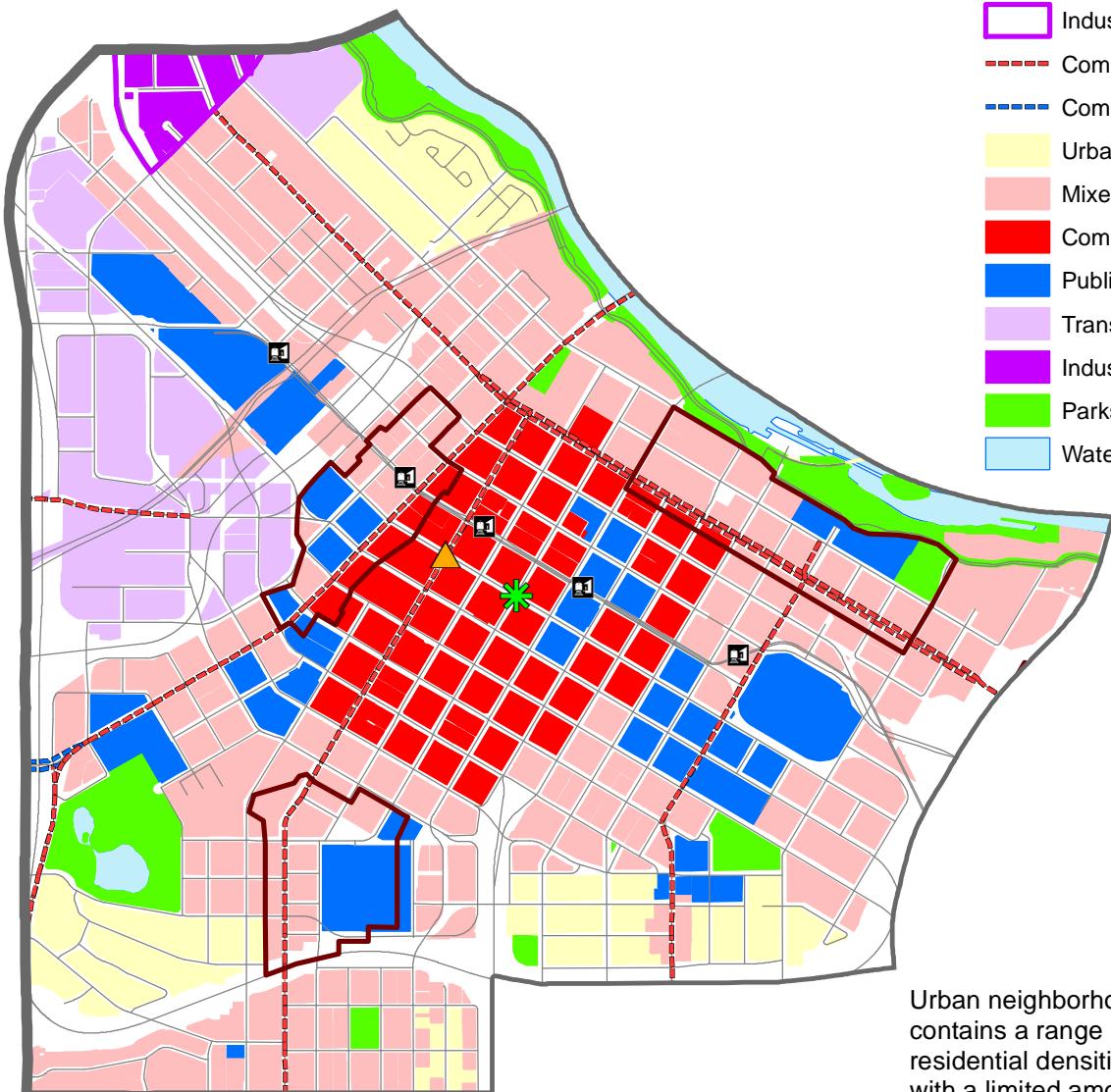
Map 1.2a: Future Land Use

Downtown Sector



Legend

- Transit Station
- Growth Center
- Major Retail Center
- Activity Center
- Neighborhood Commercial Node
- Industrial Employment District
- Commercial Corridor
- Community Corridor
- Urban Neighborhood
- Mixed Use
- Commercial
- Public and Institutional
- Transitional Industrial
- Industrial
- Parks and Open Space
- Water



Urban neighborhood contains a range of residential densities, with a limited amount of other uses appropriate in a residential setting.

For more details on categories, see narrative in land use chapter.

Source:
City of
Minneapolis

Created by:
Minneapolis Community
Planning and Economic
Development Department
Planning Division
Adopted by City Council
October 2, 2009
Last amended
June 28, 2016

0

2,500

5,000

10,000

Feet

1-40

Attachment E

SHPO Letter

May 11, 2018

Mr. Aaron Stolte
Kimley-Horn
2550 University Ave. W
St. Paul, MN 55114

RE: Gateway Development
 Construction of a 30-story mixed use tower
 30 3rd Street South
 Minneapolis, Hennepin County
 SHPO Number: 2018-1695

Dear Mr. Stolte:

Thank you for consulting with our office during the preparation of an Environmental Assessment Worksheet for the above referenced project.

Based upon information included in your submittal to our office dated April 12, 2018, it is our understanding that the proposed project involves new construction of a 30-story tower on a currently vacant surface parking lot.

Our records indicate that the proposed project is located directly adjacent to the following historic properties:

- the **Saint Anthony Falls Historic District** which is listed in the National Register of Historic Places (NRHP), the southern boundary, which extends along 2nd Street South between 10th Avenue North and 10th Avenue South, is one block north of the proposed project;
- the **Minneapolis Warehouse Historic District** which is listed in the NRHP, the eastern boundary of which is ½ to 1 block west of the proposed project; and
- the **Northwestern National Life Insurance Building**, which is eligible for listing in the NRHP and is located directly north of the project on Washington Avenue between Hennepin Avenue and Marquette Avenue.

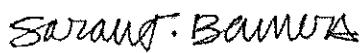
Due to the proximity of these adjacent historic properties as well as considering the fact that the proposed new building will be substantial in size, we recommend that an analysis be undertaken that will study and evaluate any potential adverse effects that this project may have on the adjacent historic properties. Adverse effects can include physical impacts, as well as visual, auditory, and atmospheric effects. Adverse effects can also include changes in access, use, and the setting of a historic property. Typically, our office recommends that, in order to avoid or minimize some adverse effects, new construction directly adjacent to a historic property boundary – whether it be a historic district or individual property - should be designed to be differentiated from the historic properties and also be compatible with the massing, size, scale, and architectural features of the adjacent historic properties.

Regarding archaeology, due to the nature and location of the proposed project, we recommend that a Phase I archaeological survey be completed. For this site, the survey should focus on historical archaeological properties and will need to meet the requirements of the Secretary of the Interior's *Standards for Identification*. The survey should include an evaluation of National Register eligibility for any properties that are identified. For a list of consultants who have expressed an interest in undertaking such surveys, please visit the website preservationdirectory.mnhs.org, and select "Archaeologists" in the "Search by Specialties" box.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800. If this project is considered for federal financial assistance, or requires a federal permit or license, then review and consultation with our office will need to be initiated by the lead federal agency. Be advised that comments and recommendations provided by our office for this state-level review may differ from findings and determinations made by the federal agency as part of review and consultation under Section 106.

Please contact me at (651) 201-3290 or sarah.beimers@state.mn.us if you have any questions regarding comments and recommendations included in this letter.

Sincerely,



Sarah J. Beimers
Environmental Review Program Manager