FORD SITE

ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR)

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WELCOME TO THE

FORD SITE AUAR TRANSPORTATION OPEN HOUSE

Tuesday, August 27, 2019

6:00 – 8:00 PM

*PRESENTATION AT 6:30 PM

FORD SITE ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR)

Ford Site AUAR Transportation Analysis

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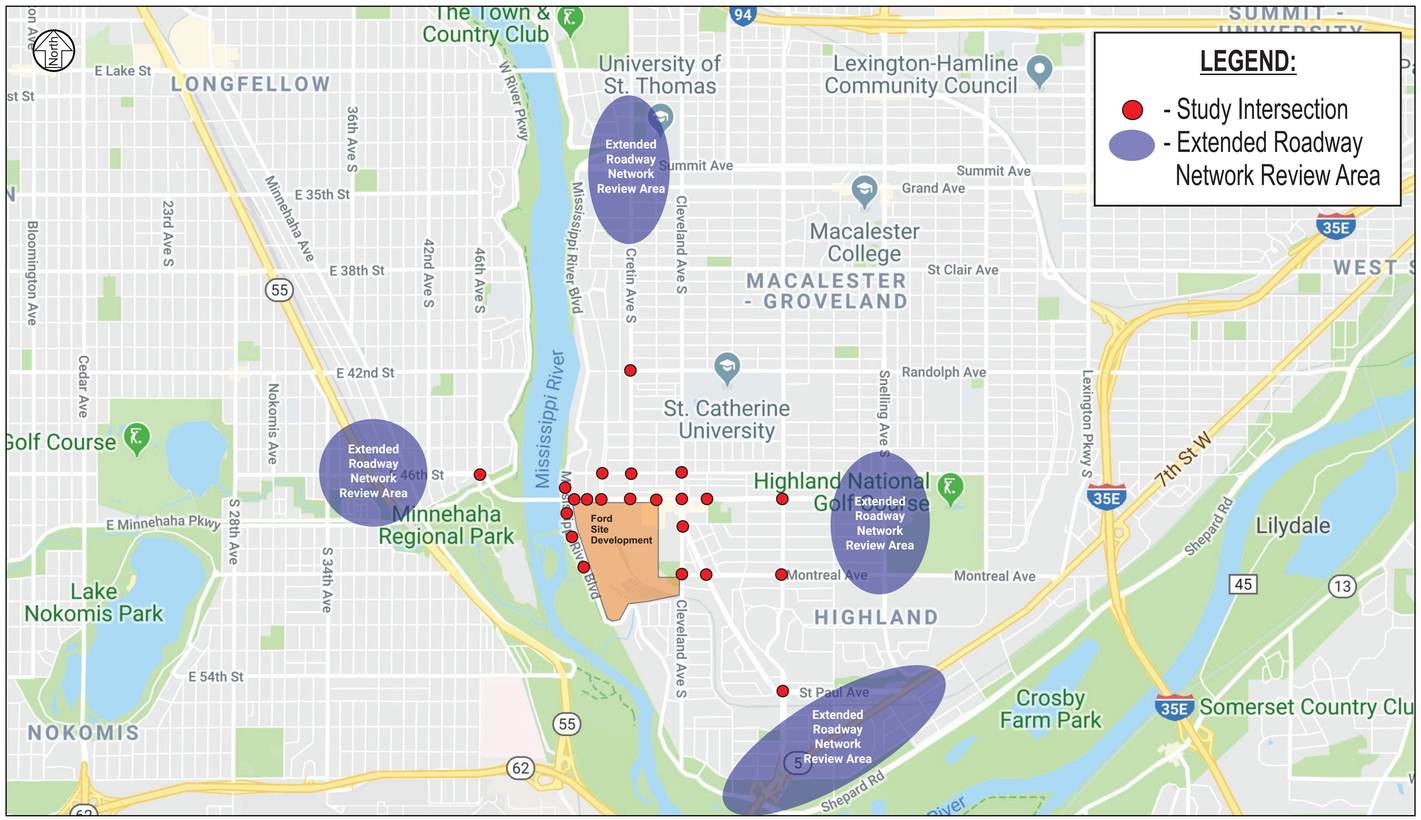
- The Transportation Analysis Report was an independent study completed for the Draft Ford Site AUAR and Mitigation Plan.
- The following agencies were strategic partners in this study:
  - City of Minneapolis
  - City of Saint Paul
  - Hennepin County
  - Metro Transit
  - MN Department of Transportation
  - Minneapolis Parks and Rec Board
  - Ramsey County
- The purpose of the study was to evaluate the impacts of the two development scenarios (the Ryan Development and the Master Plan Max Development) on the transportation system and to develop mitigation strategies for any identified issues.



STUDY AREA MAP

FORD SITE ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR)

Transportation Analysis Methodology

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1 Identify Existing Transportation Conditions

- Conduct vehicular, pedestrian, and bicycle counts
- Identify roadway (lanes, traffic controls), pedestrian and bicycle (facilities, gaps), and transit (routes, frequency) characteristics
- Evaluate intersection capacity (levels-of-service, queues)
- Identify issues and mitigation, if needed

2 Confirm Study Assumptions and Future Scenarios for Evaluation

- Land use, roadway connections, access, evaluation years

3 Develop Traffic Forecasts

- Review historical trends and regional model assumptions/forecasts
- Identify general background growth
- Evaluate transportation network assumption changes
- Identify development related trip generation estimates
- Review directional distribution

4 Evaluate Future Conditions

- Review roadway volumes and capacity (average daily traffic volumes)
- Evaluate intersection capacity (levels-of-service, queues) for all scenarios
- Identify issues and mitigation

5 Evaluate Potential Mode Conflicts

- Access and circulation of all transportation modes
- Identify issues and mitigation

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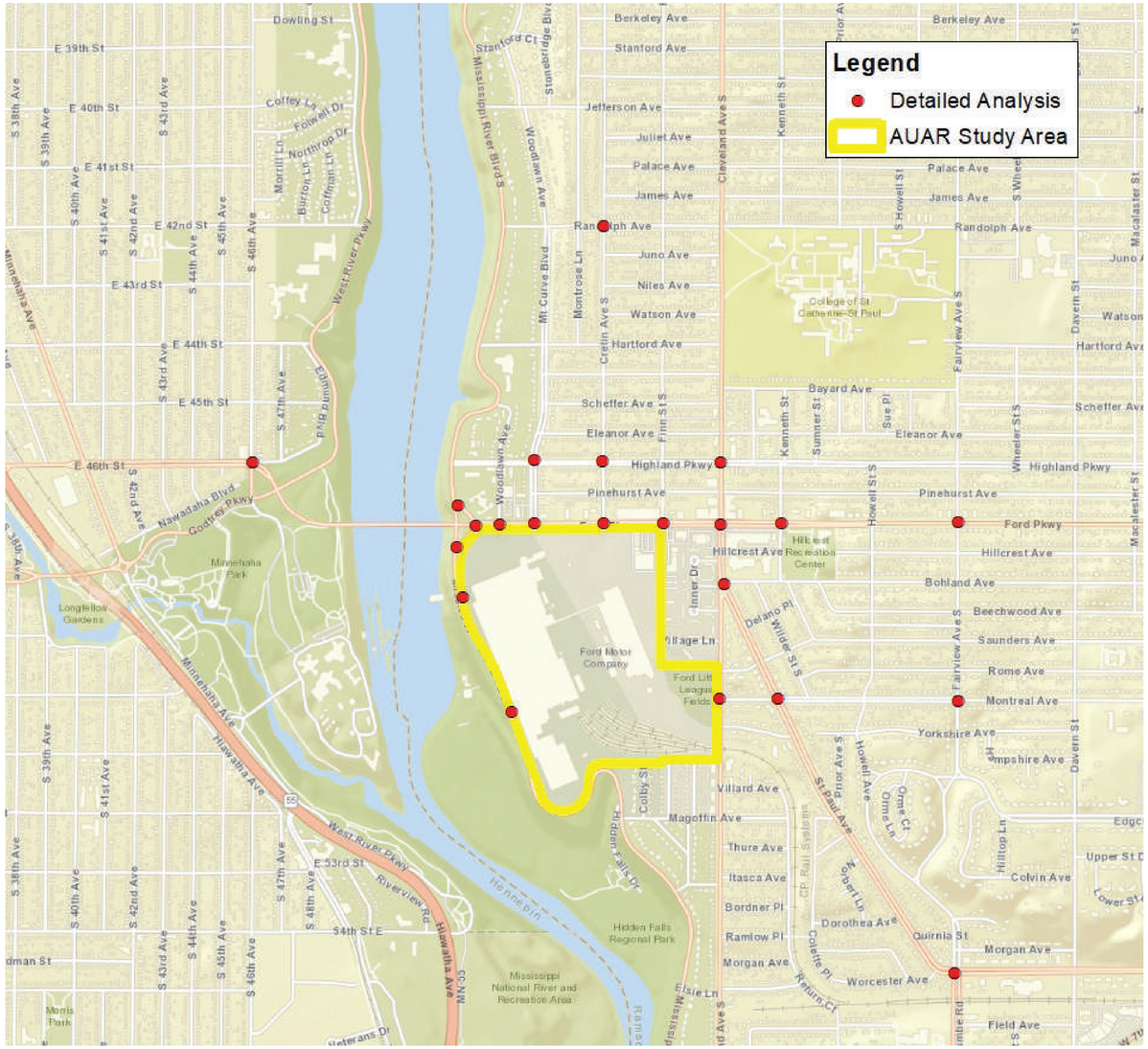
Data Collection

- **Intersection data for vehicles and pedestrian and bicycle counts were collected in May 2019; majority occurred on:**
  - Thursday, May 9,
  - Wednesday, May 15
  - Thursday, May 16

- **All Universities and private and public schools were in session, including, but not limited to:**
  - University of St. Thomas
  - St. Catherine University
  - St. Paul Academy and Summit School
  - Highland Catholic School
  - Horace Mann School



STUDY INTERSECTIONS

Motor Vehicle Capacity Analysis

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Level of Service (LOS) Criteria for Signalized and Unsignalized Intersections

	LOS Designation	Signalized Intersection Average Delay/Vehicle (seconds)	Unsignalized Intersection Average Delay/Vehicle (seconds)
ACCEPTABLE	A	≤ 10	≤ 10
	B	> 10 – 20	> 10 – 15
	C	> 20 – 35	> 15 – 25
	D	> 35 – 55	> 25 – 35
MITIGATION NEEDED	E	> 55 – 80	> 35 – 50
	F	> 80	> 50

** Source: Federal Highway Administration's Highway Capacity Manual*

- An intersection capacity analysis was conducted to determine how traffic is currently operating at the study intersections during typical weekday AM and PM peak hour conditions.
- The LOS Capacity Analysis reviewed both AM and PM peak hour conditions. The analysis consistently showed that the PM peak hour represents the worst-case condition.

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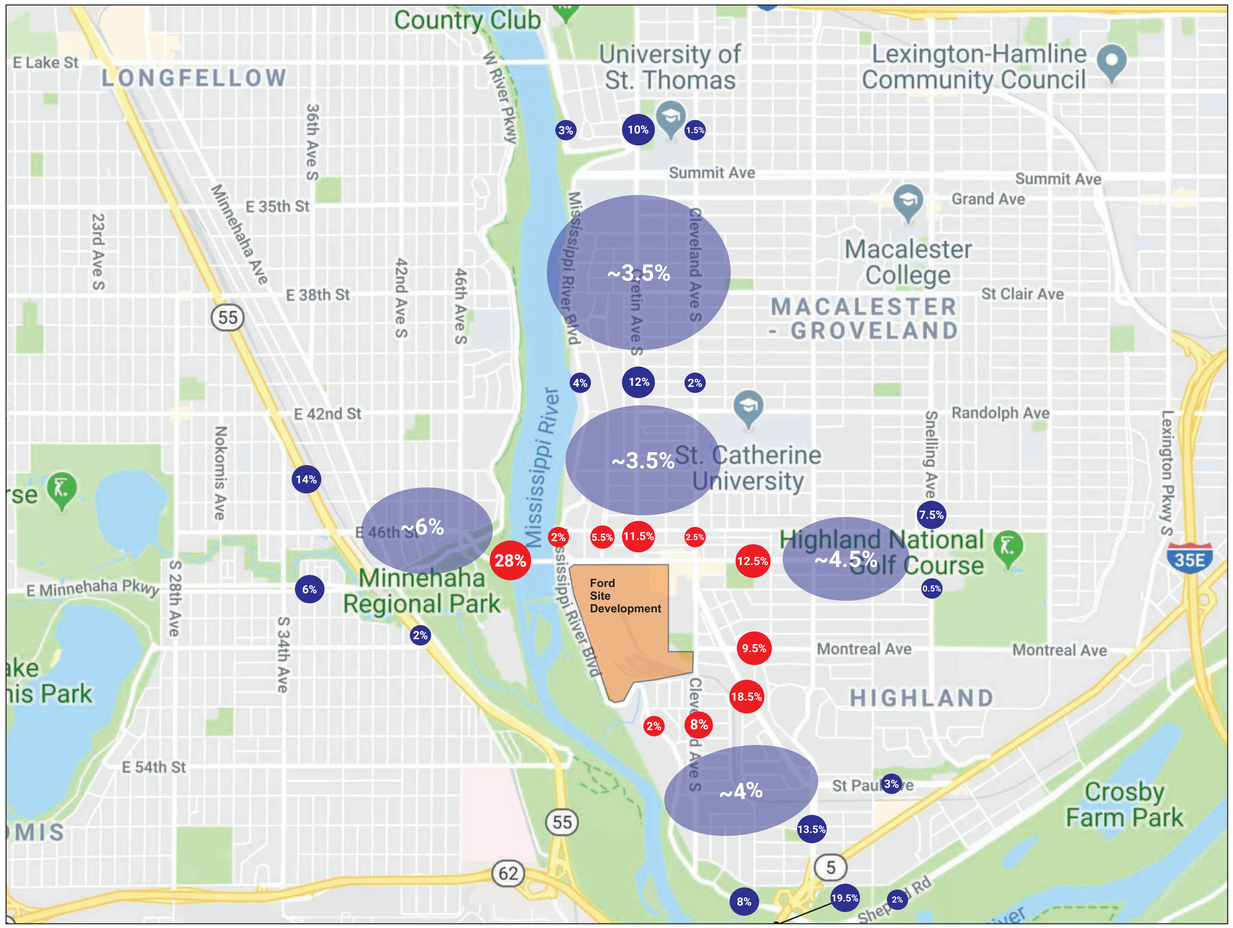
Trip Generation

Trips Entering and Exiting the Site by Transportation Mode

SCENARIO	AM Peak Hour External Trips	PM Peak Hour External Trips	Weekday Daily External Trips
Ryan Development			
Vehicular Trips	1,440	1,854	21,791
Transit Trips	296	382	4,486
Walk/Bike Trips	362	466	5,473
Master Plan			
Vehicular Trips	1,769	2,362	27,573
Transit Trips	380	508	5,928
Walk/Bike Trips	464	620	7,232

Trip Generation for the AUAR Scenarios was determined for the level of traffic, walk/bike, and transit. The Trip Generation estimates were developed using *ITE Trip Generation Handbook and the Traffic Generated by Mixed-Use Developments - Thirteen-Region Study Using Consistent Measures of Built Environment, (2015)* published by the Transportation Research Board (No. 2500).



DIRECTIONAL DISTRIBUTION

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Capacity Analysis for PM Peak Hour - Existing Conditions

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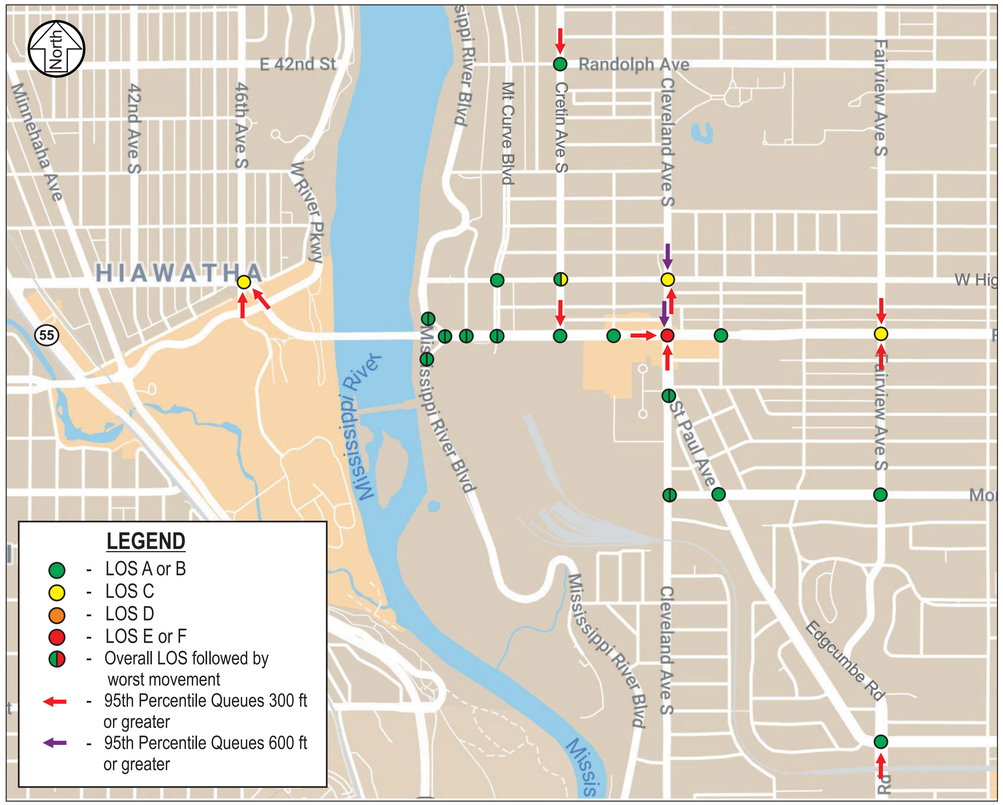
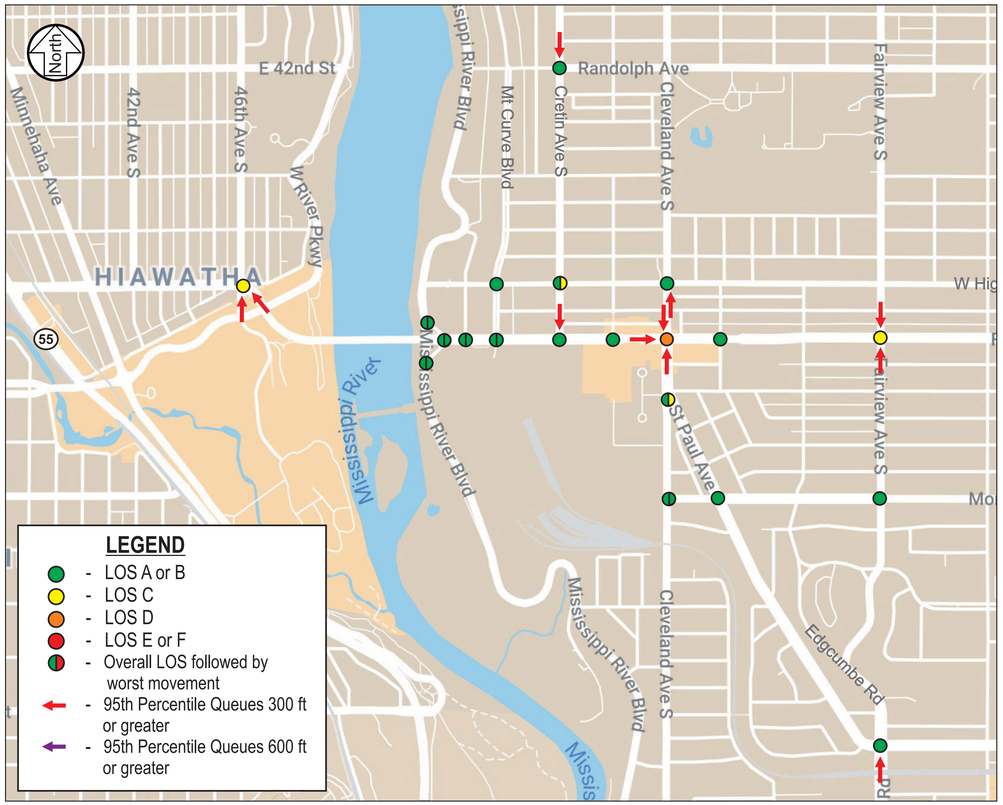


EXISTING CONDITIONS



EXISTING CONDITIONS WITH MITIGATION

Identified Mitigation for Ford Parkway/Cleveland Avenue:

- Remove parking on the west side of Cleveland Avenue from Ford Parkway to the alley and provide a southbound right-turn lane to reduce southbound queues and improve operations.
- Extend the eastbound left-turn lane approximately 75 feet by removing part of the center median along Ford Parkway to provide additional turn lane storage.

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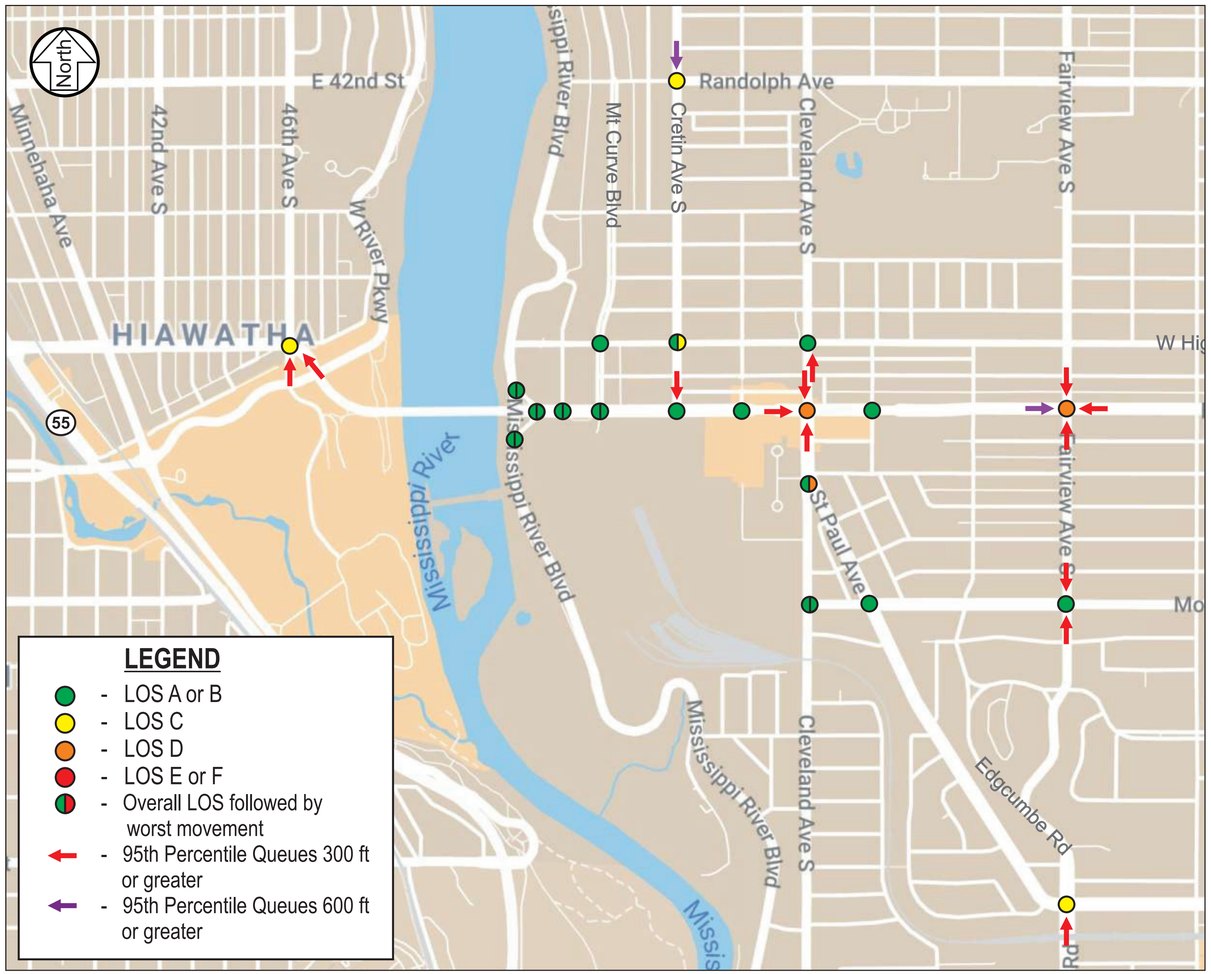
Capacity Analysis for Year 2040 - No Build Condition

- **Improvements assumed in the model:**
  - Ford Parkway/Cretin Ave:
    - Eastbound left turn lane extended
    - Addition of a southbound right turn lane



2040 NO BUILD

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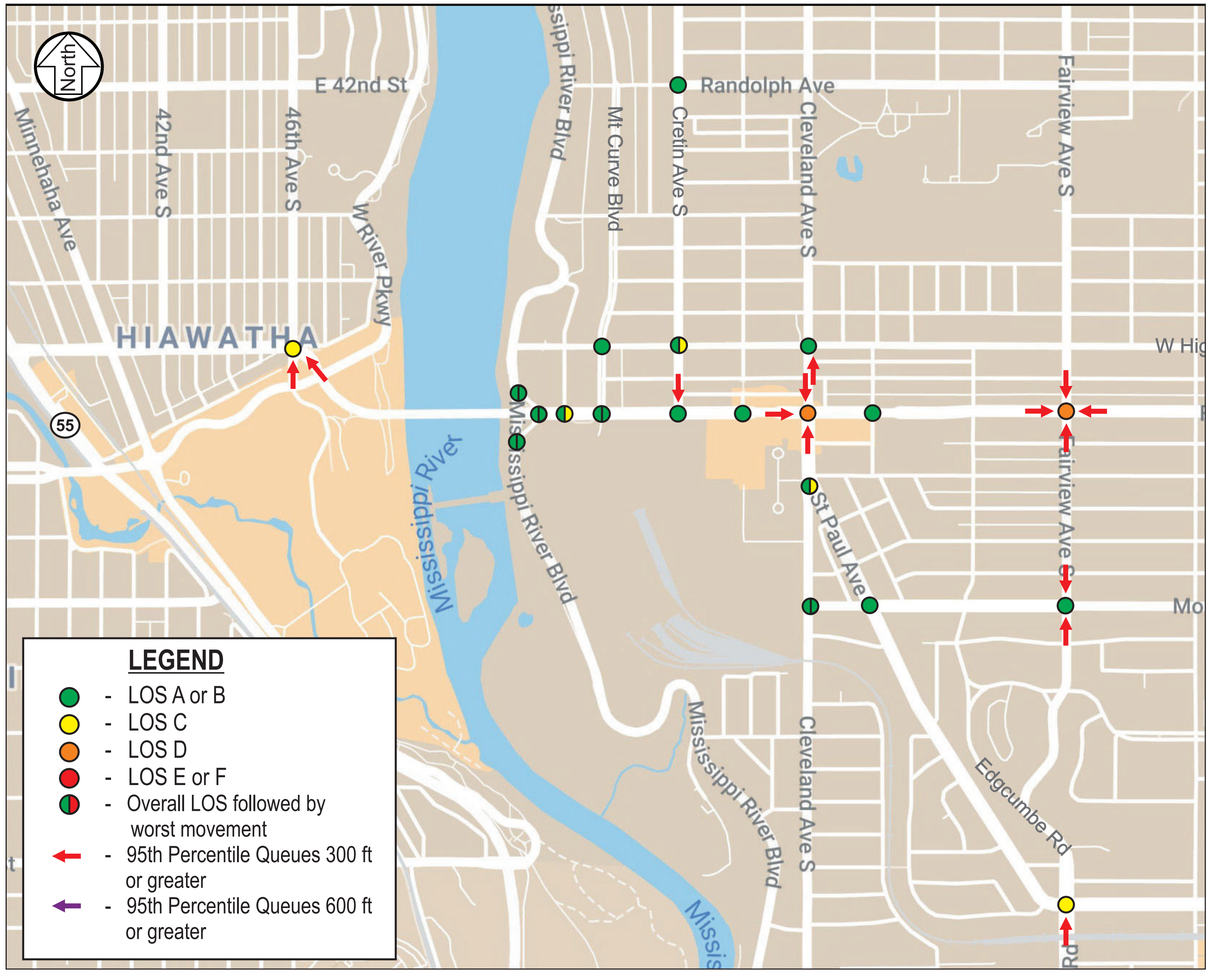
Capacity Analysis for Year 2040 - No Build with Mitigation

- **Potential mitigation based on the analysis:**
  - Ford Parkway/Fairview Ave:
    - Install left-turn signal phasing capability for all approaches to improve left turn operations and balance queues
  - Cretin Ave/Randolph Ave:
    - Restripe and/or widen to provide northbound and southbound left-turn lanes to reduce queues.



2040 NO BUILD WITH MITIGATION

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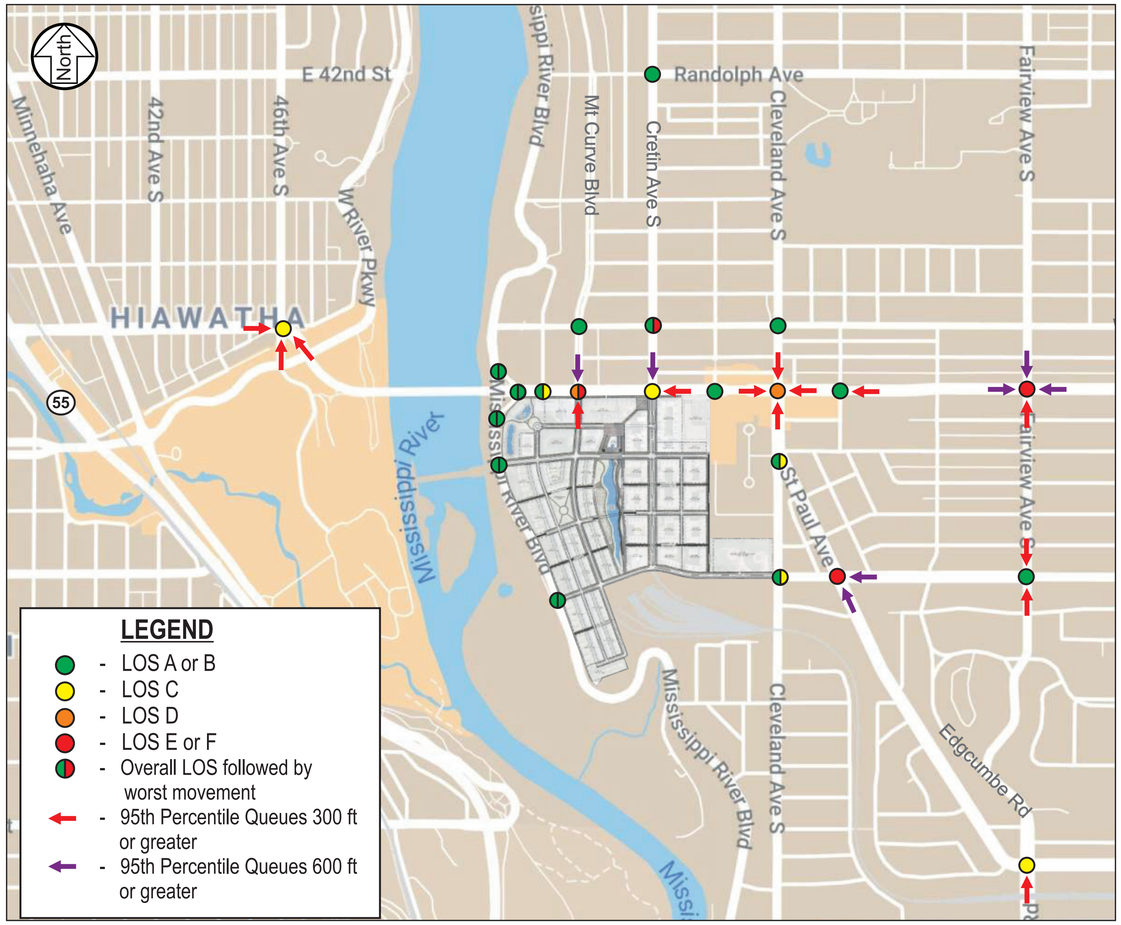
Capacity Analysis for Year 2040 - Ryan Development Scenario

Improvements Assumed in the Model:

- Cleveland Ave/ Montreal - Switch Side-Street Stop Control to NB/SB Approach
- Travel Pattern Changes with Build Out of Ford Site Network
- Ford Pkwy/Fairview Ave - Left Turn Phasing on All Approaches
- Cretin Ave/Randolph - NB/SB Left Turn Lanes Provided



2040 - RYAN DEVELOPMENT SCENARIO

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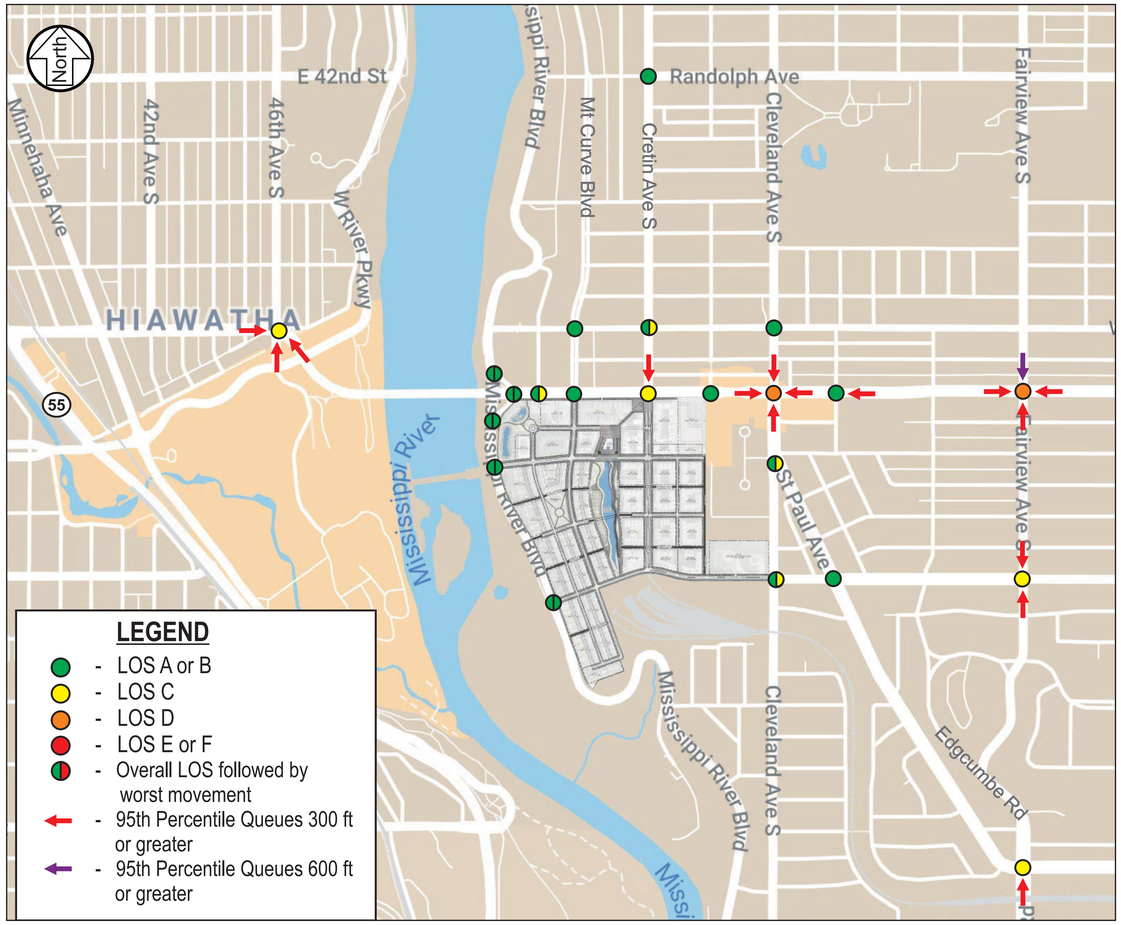
Capacity Analysis for Year 2040 - Ryan Development Scenario with Mitigation

Potential Mitigation based on the Analysis:

- Ford Parkway/Mount Curve Boulevard
  - Install a traffic signal and construct northbound and southbound left-turn lanes to accommodate the Ford Site approach.
  - Extend the eastbound left-turn lane about 50 feet to accommodate turn lane queues.
- Ford Parkway/ Cretin Avenue
  - Install northbound, southbound, and westbound left-turn signal phasing.
  - Extend the eastbound left-turn lane.
  - Extend the westbound left-turn lane about 75 feet to accommodate turn lane queues.
  - Restrict on-street parking along the west side of Cretin Avenue from Ford Parkway to Highland Parkway.
- Ford Parkway/Fairview Avenue
  - Construct a southbound right-turn lane to improve operations and reduce queues.
- Cleveland Avenue/Montreal Avenue
  - Switch the stop control from the Montreal Avenue approaches to stop control for the Cleveland Avenue approaches.
  - Construct the intersection such that a potential future traffic signal could be installed without having to reconstruct the intersection.
- St Paul Avenue/Montreal Avenue
  - Install a traffic signal or hybrid roundabout to improve operations.



2040 - RYAN DEVELOPMENT SCENARIO WITH MITIGATION

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Capacity Analysis for Year 2040 - Master Plan Max Density Scenario

Improvements Assumed in the Model:

- Ford Pkwy/Mt Curve Blvd - Signalize - Turn Lane Improvements
- Ford Pkwy/Cretin Ave - Left Turn Signal Phasing, Turn Lane
- Ford Pkwy/Fairview Ave - Southbound Right Turn Lane
- St. Paul Ave/Montreal Ave - Signalize - Norhtbound Left Turn Lane
- Previous 2040 Build Ryan Proposal Improvement Assumptions
- Improvements, and Restrict on Street Parking and Restripe to Highland Pkwy

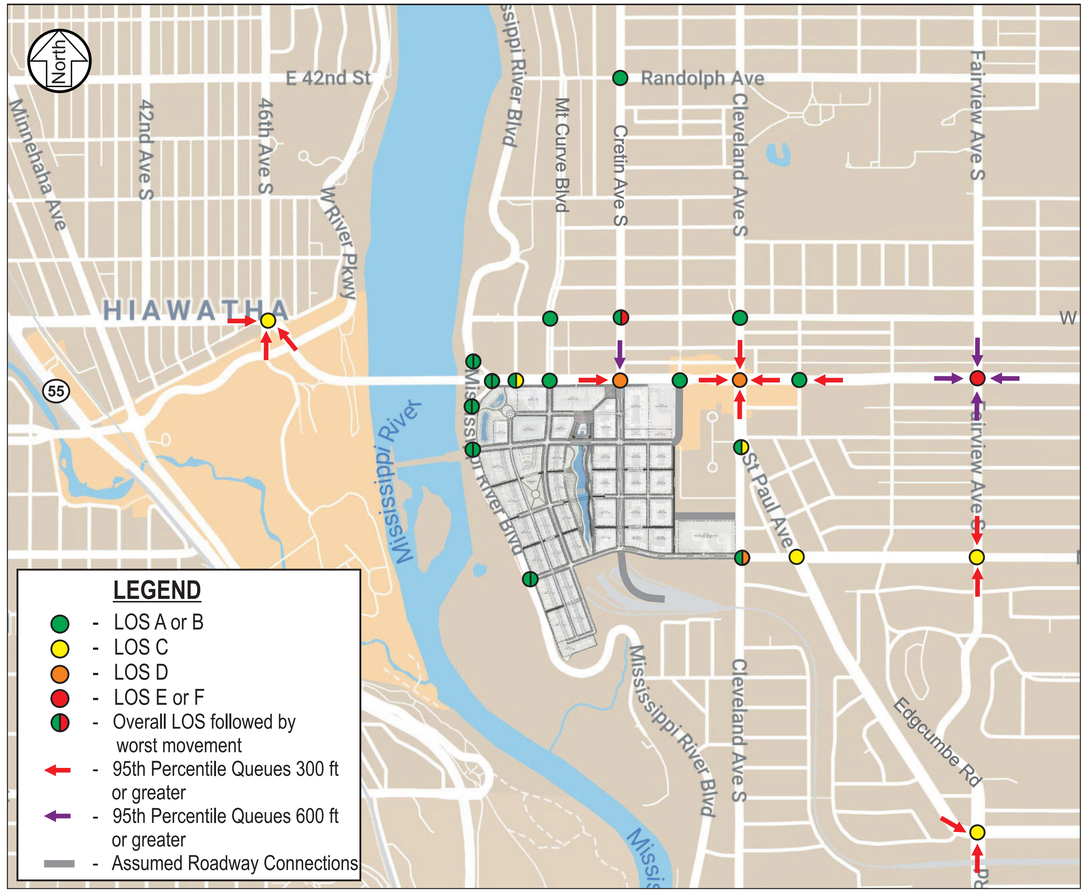
Potential Mitigation based on the Analysis:

Ford Parkway/Cretin Avenue

- Construct a southbound right-turn lane that is approximately 150 feet to reduce southbound queues.

Ford Parkway/Fairview Avenue

- Implement Travel Demand Management (TDM) strategies to reduce vehicular trips; example strategies include:
  a. Provide indoor secure bike parking for commercial, office, and residential land uses.
  b. Require residents, employees, and customers to pay for parking.
  c. Provide a Free Transit Pass Program to residents and employees.
  d. Provide a ride/carpooling/vanpooling and/or guaranteed ride home program.
- Refine land use guidance/assumptions to move more density to the southern and southeastern portions of the site to better balance traffic volumes throughout the area.



CAPACITY ANALYSIS FOR YEAR 2040 - MASTER PLAN MAX DENSITY SCENARIO

FORD SITE ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR)

Extended Roadway Network Review

- A planning-level review was completed to understand potential impacts associated with a wider geographic area.
- This review focused on existing and development related traffic volume impacts for various roadway segments surrounding the Ford Site during the AM and PM peak hours.
- The planning-level review found that the roadway volumes in both scenarios are within the estimated roadway capacity (see table).

Extended Roadway Network Traffic Volume Changes

Roadway	Average Daily Traffic Volume (vehicles per day)			
	Existing*	Year 2040 Ryan Development	Year 2040 Master Plan	Estimated Roadway Capacity
TH 55 (Hiawatha Avenue) North of 46th Avenue	17,400	21,400	22,250	30,000 to 36,000
TH 5 (7th Street) at MN River Bridge	56,000	63,400	64,500	55,000 to 70,000
TH 51 (Snelling Avenue) North of Ford Parkway	15,600	18,100	18,600	18,000 to 22,000
TH 51 (Montreal Avenue) East of Snelling Avenue	11,800	14,500	15,100	12,000 to 17,000
Cretin Avenue North of Summit Avenue	15,100	18,100	18,700	18,000 to 22,000
St. Paul Avenue East of Edgcumbe Road	3,600	4,450	4,600	30,000 to 36,000
Edgcumbe Road South of St. Paul Avenue	16,600	20,500	21,300	30,000 to 36,000

** Source: MnDOT Traffic Mapping Application; Data represents the most recent ADT information available as of June 19, 2019.*

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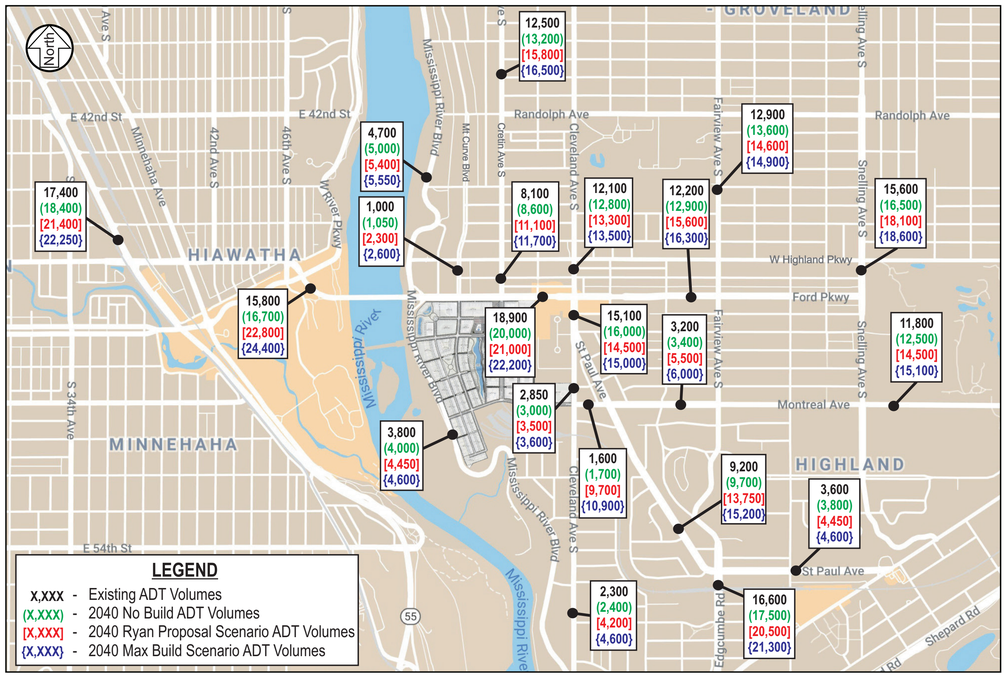
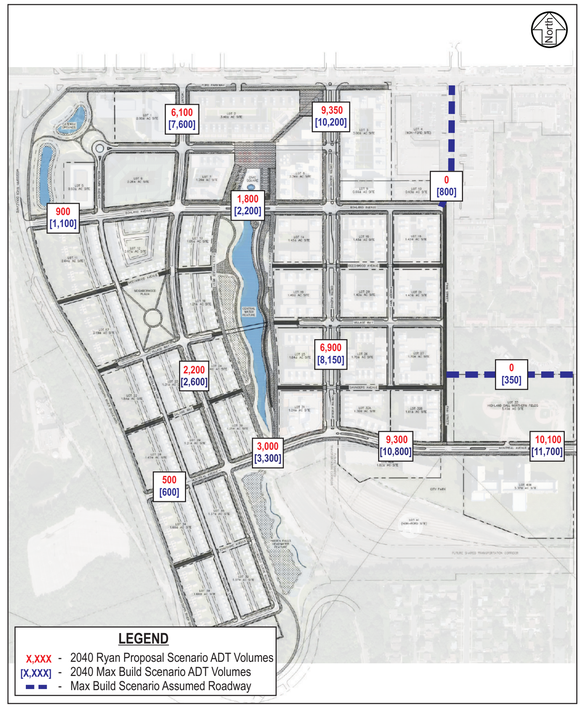
Existing (2018) and Projected (2040) Traffic Volumes

Average Daily Traffic Volume Summary





- Traffic volumes are expected to gradually increase as development occurs, which is expected to take approximately 10 to 15 years.
- In general, an increase in 1,000 vehicles per day equates to an additional two (2) vehicles per minute during peak times.
- Although traffic volumes on area roadways are expected to increase, they are within the estimated capacity of their respective roadway type.

Transportation System Study Area Roadway Network Traffic Volume Changes

Roadway	Average Daily Traffic Volume (vehicles per day)			
	Existing*	Year 2040 Ryan Development	Year 2040 Master Plan	Estimated Roadway Capacity
Mississippi River Boulevard North of Ford Parkway	4,700	5,400	5,550	8,000 to 10,000
Mount Curve Boulevard North of Ford Parkway	1,000	2,300	2,600	8,000 to 10,000
Cleveland Avenue South of Montreal Avenue	2,300	4,200	4,600	8,000 to 10,000
Montreal Avenue East of St. Paul Avenue	3,200	5,500	6,000	8,000 to 10,000

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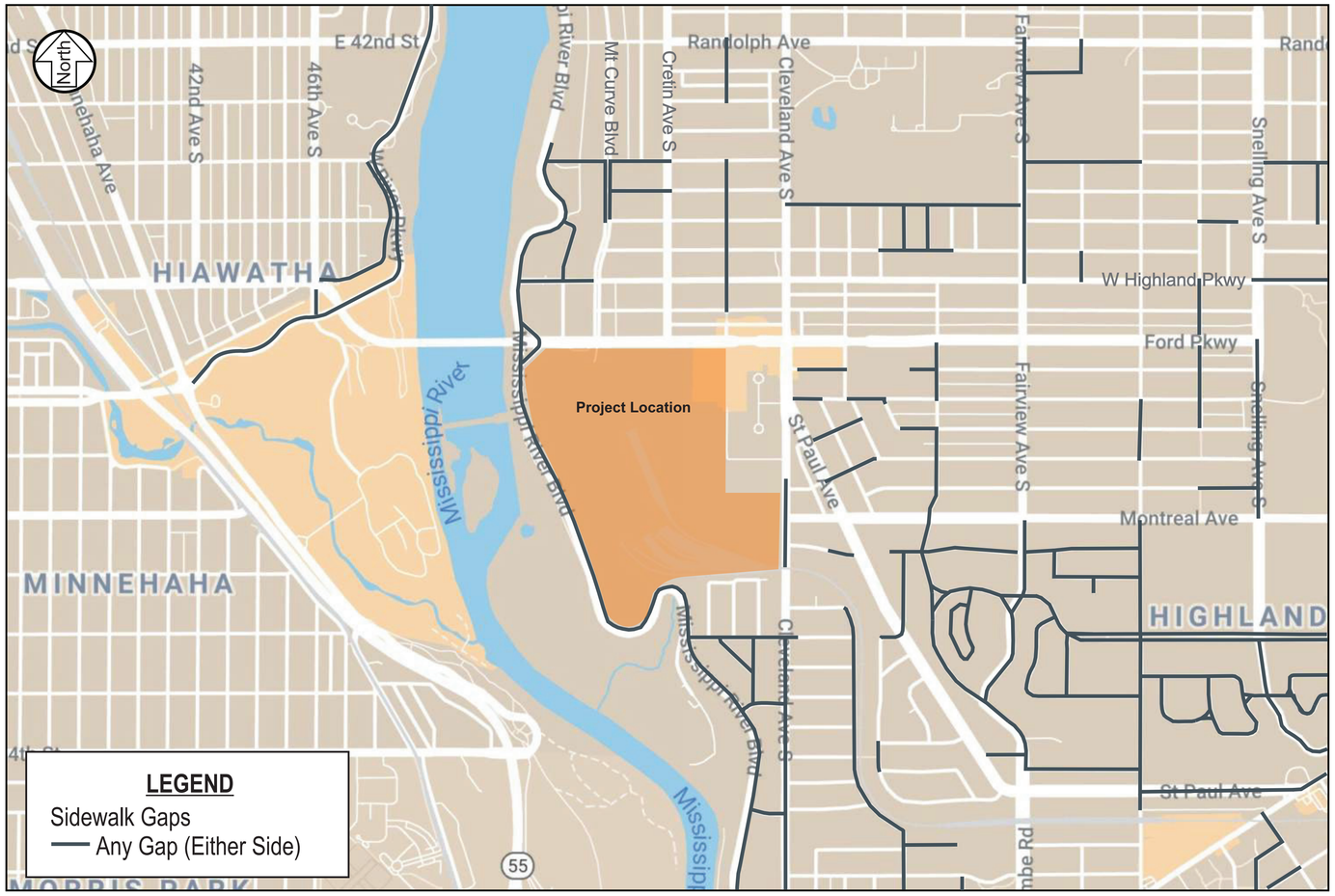
Pedestrian

- **Sidewalks will be constructed within the Ford Site on both sides of new street network**
- **Future pedestrian facility improvements (fill gaps):**
  - Cleveland Avenue
  - Mount Curve Boulevard (from Hartford Avenue to Scheffer Avenue)
  - Mississippi River Boulevard (from 175 feet north of Hartford Avenue to the South)
  - Hartford Avenue (from Mississippi River Boulevard to Mount Curve Boulevard)
  - Magoffin Avenue (from Mississippi River Boulevard to Colby Avenue)
  - Traffic Signal Enhancements

These are not planned as part of Ford project. Sidewalks and biketrails are subject to independent City plans and policies to make improvements over time.



EXISTING SIDEWALK GAPS

Saint Paul Planned Bicycle Network Facilities

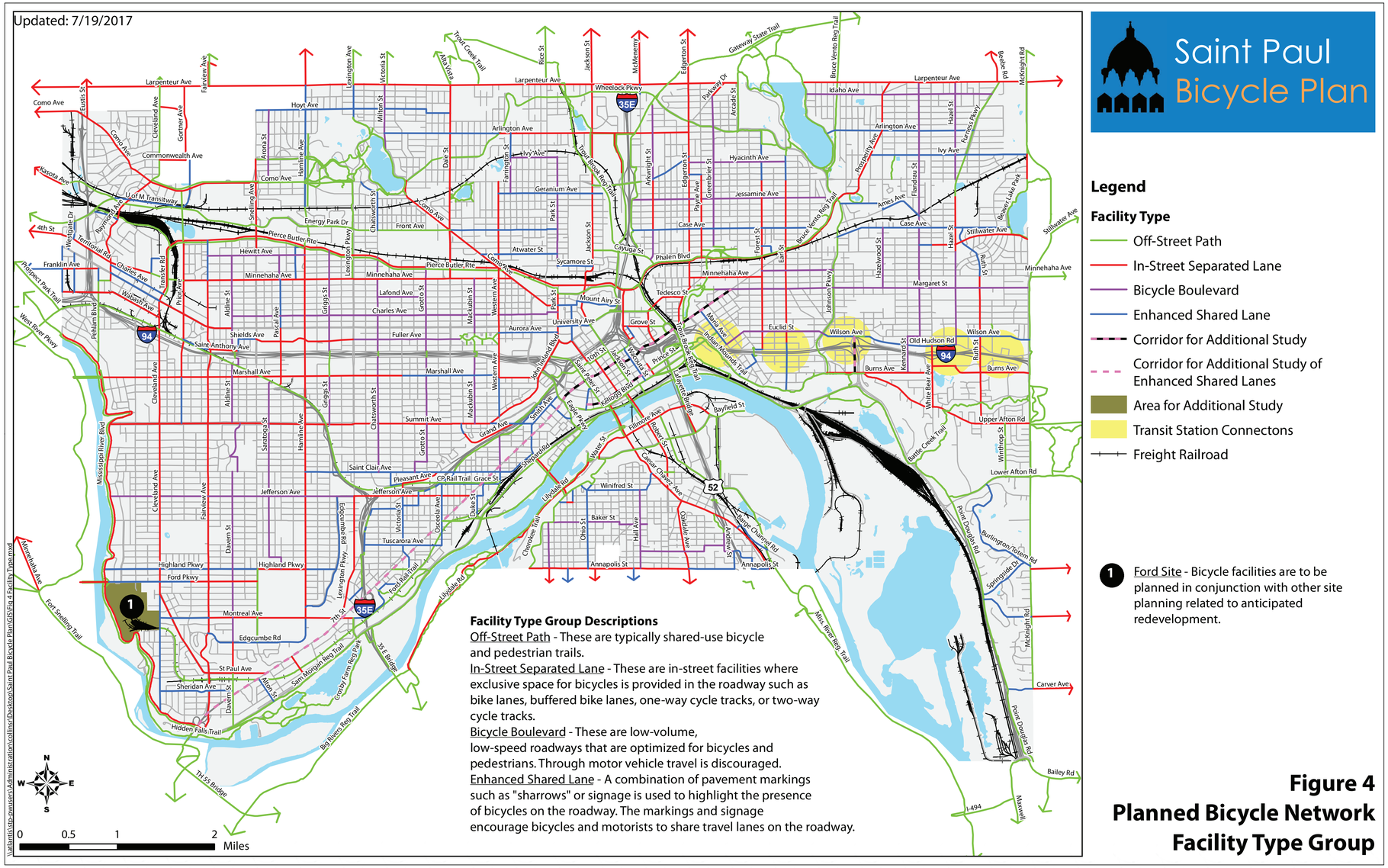


Figure 4
Planned Bicycle Network Facility Type Group

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Bicycle

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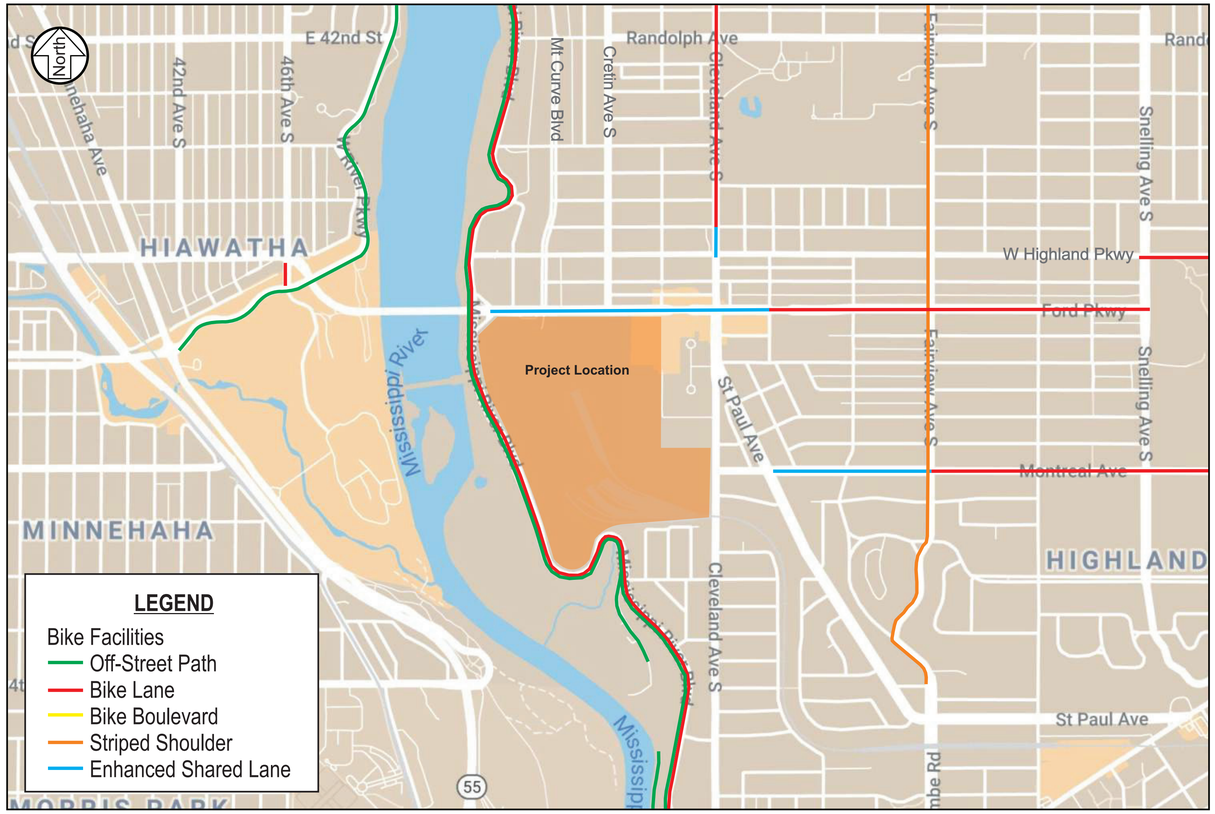
Existing and Future Bicycle Facilities adjacent to the Ford Site

Roadway	Existing Facility	Future Bike Facility (per St. Paul Bicycle Plan)
Ford Parkway	Bike Lanes (east of Kenneth/Howell)	Enhanced Shared/ In-Street Lanes
Cleveland Avenue	Bike Lanes (north of Eleanor Avenue)	Enhanced Shared/ In-Street Lanes
St. Paul Avenue	None	In-Street Lanes
Edgcumbe Road	None	In-Street Lanes
Highland Parkway	None	Enhanced Shared Lanes
Montreal Avenue	Bike Lanes (east of Fairview); Enhanced Shared Lanes (west of Fairview)	Enhanced Shared/ In-Street Lanes
Mississippi River Boulevard	Bike Lane (east of Kenneth/Howell)	Off-Street Path/ In-Street Lanes
Fairview Avenue	Bike Lanes (southbound); Shared Use Path	In-Street Lanes

These are not planned as part of the Ford Site project. Sidewalks and bike trails are subject to independent City plans and policies to make improvements over time.



EXISTING BICYCLE FACILITIES

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Transit

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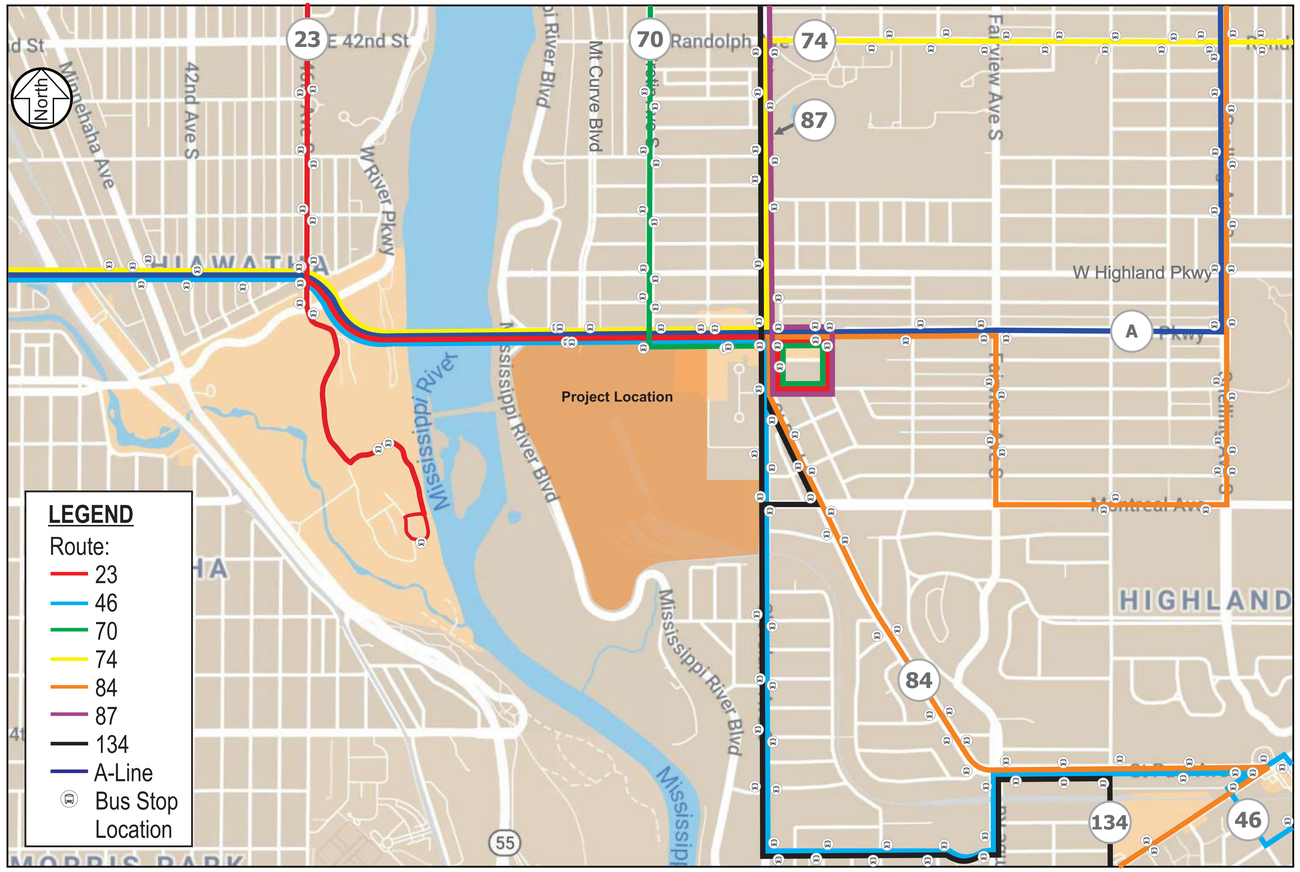
Transit

- The Ford Site is expected to generate between 4,400 and 6,000 transit riders per day, depending on the AUAR build scenario.
- Metro Transit indicated the future potential to reroute some bus routes through the Ford Site, primarily along Cretin Avenue and Montreal Avenue.
- Space has been allocated on each side of Cretin Avenue to accommodate future enhanced transit service, including the potential for dedicated transit lanes.
- Potential for a multi-modal shared transportation corridor south of Montreal Avenue, connecting to Cretin Avenue through the Canadian Pacific Railway Property. There have been discussions regarding a future Riverview Corridor transit spur that could serve the Ford Site.



EXISTING TRANSIT ROUTES

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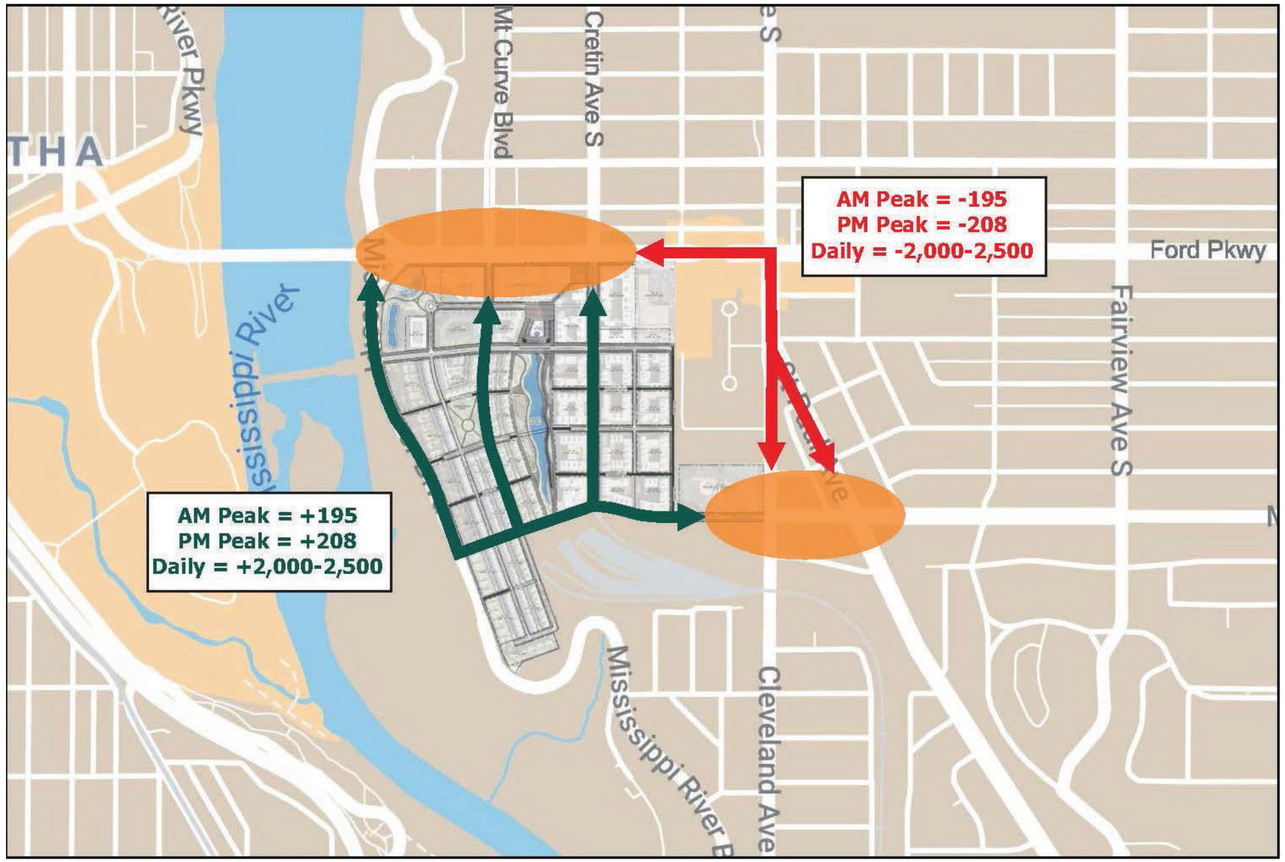
Travel Pattern Changes

- Under the future build conditions, travel patterns are expected to change as the roadway network is constructed through the Ford Site.
- The build out of the transportation network through the Ford Site is expected to reduce the traffic volume traveling through the Ford Parkway/ Cleveland Avenue intersection.
- Traffic volumes are expected to reduce by appropriately 2,000 to 2,500 vehicles per day at the Ford Parkway/Cleveland Avenue intersection.
  - Operations at the Ford Parkway/Cleveland Avenue intersection are expected to improve from LOS E to LOS D as a result of the travel pattern changes.



TRANSPORTATION NETWORK TRAVEL PATTERN CHANGES

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Ford Site Plan

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FORD SITE PLAN

Ford Site Typical Street Cross Sections

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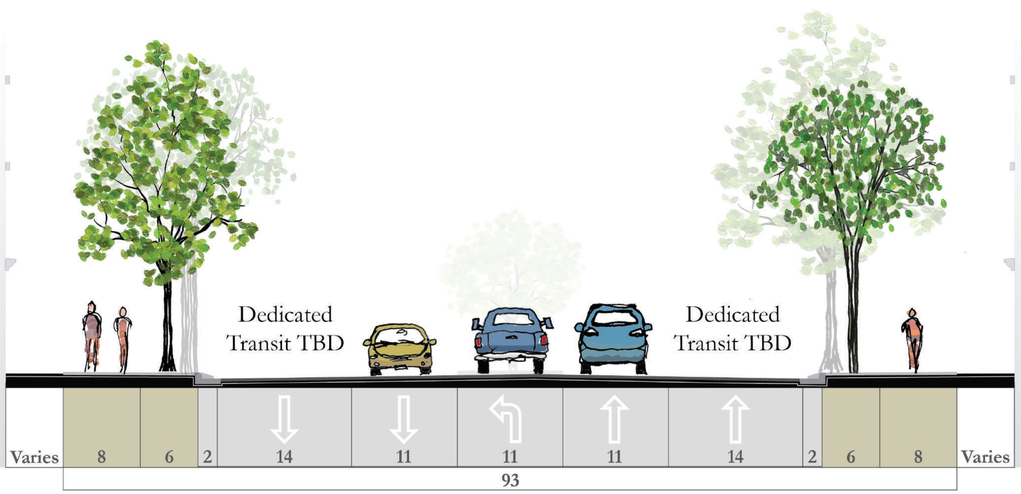
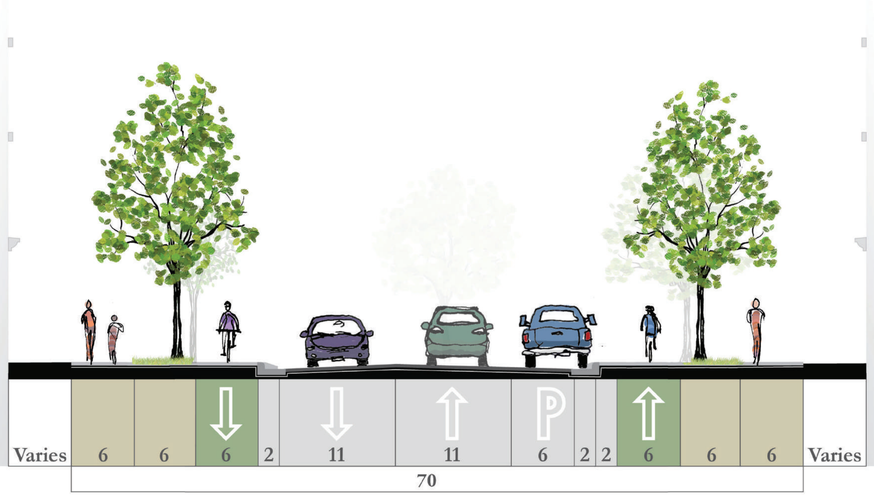
Cretin Avenue Ford to Montreal



Mount Curve Blvd
Bohland to Montreal



FORD SITE TYPICAL STREET CROSS SECTIONS