

ADDRESSING IMPACTS TO BUSINESSES DURING CONSTRUCTION

COMMON STRATEGIES

Construction Activities

- Meet with businesses to understand their needs well before construction begins – parking, deliveries, hours of operation, employee access, garbage pickup etc.
- Consider business needs and input before deciding on construction phasing:
 - Shorter period of impact, but more disruptive (i.e. full closure).
 - Longer period of impact, but less disruptive (phased closures)
- Business access management plan.
- Coordination/accommodation of special events.
- Coordinated intersection closures, time limits for certain types of closures.
- Provision of alternative parking for affected businesses.
- Coordinated timing of certain activities based on business needs.
- Easily accessible detours.

Communication Tools

- Timely communication about impacts (well in advance).
- Dedicated business liaison(s) from the agency.
- Business advisory council of local business owners.
- Project hotline.
- On-site signage “businesses open.”
- Advertising campaigns featuring affected businesses – coupons, organized events to encourage patronage during construction.
- Exploring grants or other methods of financial support to mitigate revenue loss or facilitate other improvements.
- Clear communication channels that can be flexible to accommodate business needs.
- Partnerships with local agencies and organizations like chambers of commerce, tourism.

Resources

[Mitigating Construction Impacts on Local Businesses](#), MnDOT, 2019

[Helping Small Businesses Survive Big Construction: Strategies from the Green Line LRT Project](#), Federal Reserve Bank of Minneapolis, July 2014

ADDITIONAL RIDERSHIP DATA

Total Project Trips

As a reminder, Streetcar Option 1 (center-running dedicated on W. 7th) and Streetcar Option 2 (shared side-running on W. 7th) have very similar ridership projections, with Streetcar Option 1 having a slight increase over Option 2. Option 2 has two additional stations and a slightly longer travel time, which causes a slight decline in ridership.

Table 1. Total Project Trips

Year	Streetcar Option 1	Streetcar Option 2
2019	7,300	7,300
2040	11,600	11,200

Riverview Share of Trips

Table 2 demonstrates the share of total trips (in percentage) by segment of the corridor. Streetcar Option 1 carries more trips that extend beyond the corridor. Option 1 also carries more trips to/from the airport. Option 2 (which has greater access to corridor locations) has more trips entirely within the corridor. Particularly, Option 2 shows a higher share of trips within the West 7th portion of the corridor where it has more stations than Option 1.

Table 2. Share of Riverview Trips Between Streetcar Options

	Option 1 Share of Trips	Option 2 Share of Trips
Trips from Bloomington (34 th and west) to Downtown Saint Paul (Xcel to Union Depot)	19%	19%
Trips within West 7 th Corridor (Grand to Davern)	5%	9%
Trips from Saint Paul (Union Depot to Davern) to the Airport	26%	23%

This is based on ridership estimates using 2019 data. The regional model is not yet updated, so the Riverview project has not updated ridership modeling with post-COVID data. Based on the recent Metro Transit On-Board survey,¹ the errands/shopping category of trips has tripled since the 2016 survey (8% to 23% of trips). Commute trips decreased from 48% to 35%. We would anticipate that trend would be replicated with updated regional modeling data, with Option 2 carrying more of those local trips on West 7th Street.

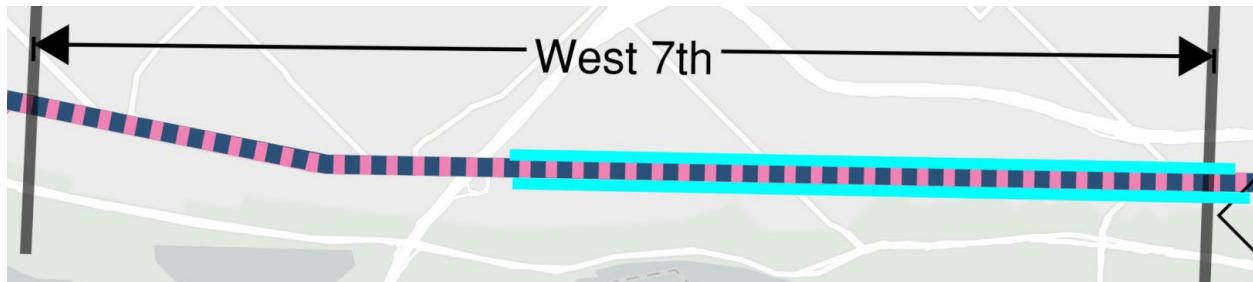
¹ 2022 Metro Transit On-Board Survey System-Wide Survey Results, as presented November 13, 2023 to Metropolitan Council.

POTENTIAL PARKING IMPACTS

WEST 7TH STREET

Existing On-Street Parking

- ~640 parking spots from I-35E to Kellogg Boulevard ()



Approximate Parking Impacts¹

	Existing Spaces	Spaces Impacted	Spaces Remaining
Streetcar Option 1	640	605	35 Between Grand and Kellogg Boulevard
Streetcar Option 2	640	240	400 Between Victoria Street and Kellogg Boulevard
Arterial BRT	640	70	570 All remain except at station areas

¹Existing on-street parking was estimated by measuring the length of available parking areas, divided by parking spot length of 22 feet. Spaces remaining were estimated in the same way, measuring from the current set of Riverview streetcar and bus concept plans.

This is meant to give an order of magnitude glimpse of parking impacts between the various design options. Parking impacts would be discussed with property owners and businesses and final impacts are subject to change based on that input and the advancement of engineering design.

ADDITIONAL TRAFFIC DATA

HIGHWAY 5/MISSISSIPPI RIVER CROSSING ANALYSIS

The team evaluated potential impacts to traffic volumes when the number of auto travel lanes on the bridge is reduced to accommodate transit lanes. This was compared to a 2040 No-Build and Base Condition of improvements on West 7th Street.

2040 No-Build Condition

If the Riverview project did not occur and things stayed as they are today, in 2040 the average weekday (Tuesday-Thursday) traffic across the bridge would be about 70,000 trips. About 55% of these trips over the bridge are local trips with an origin or destination within the study area identified in red in Figure 1 below. About 10% of these trips are associated with the airport.

Figure 1. Bridge Traffic Study Area

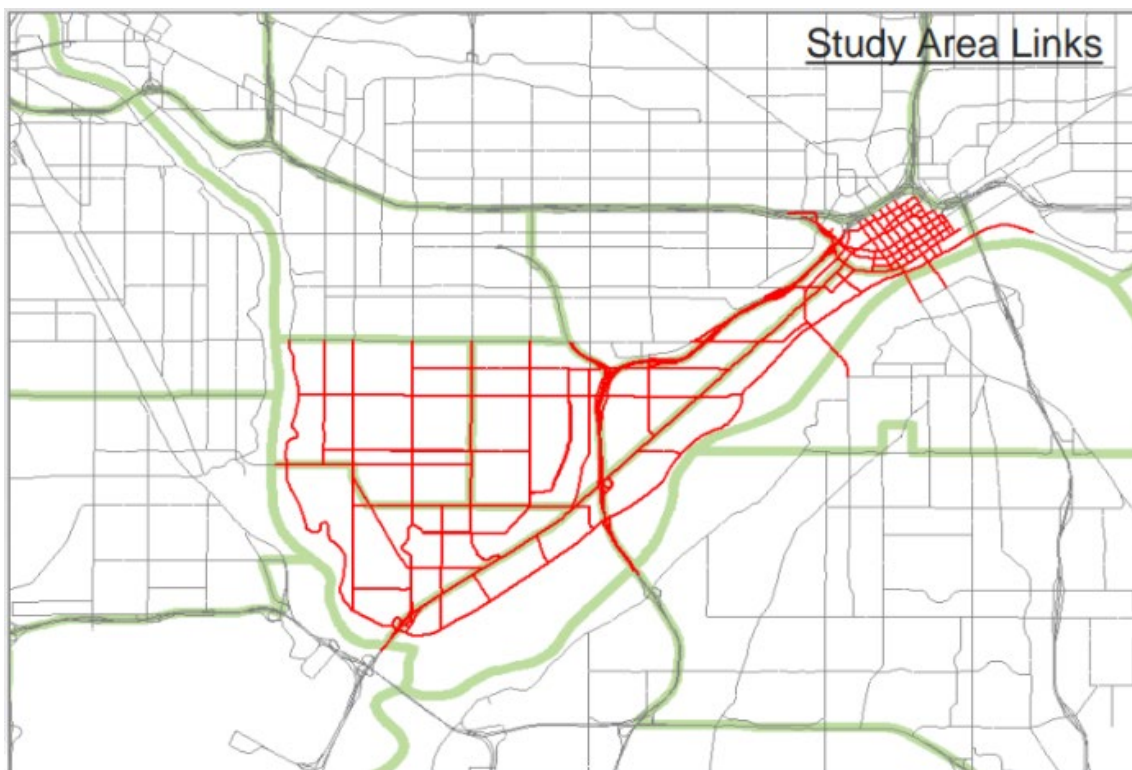
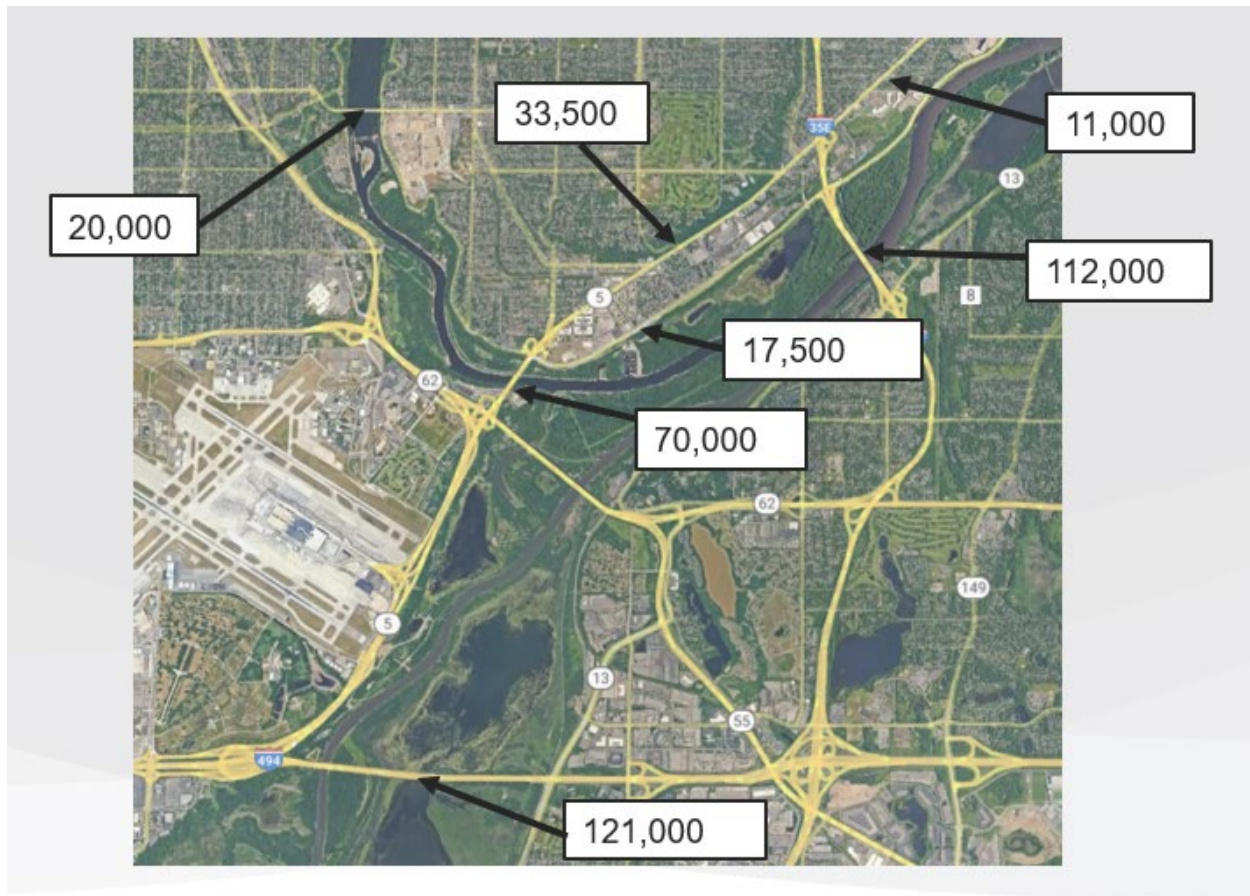


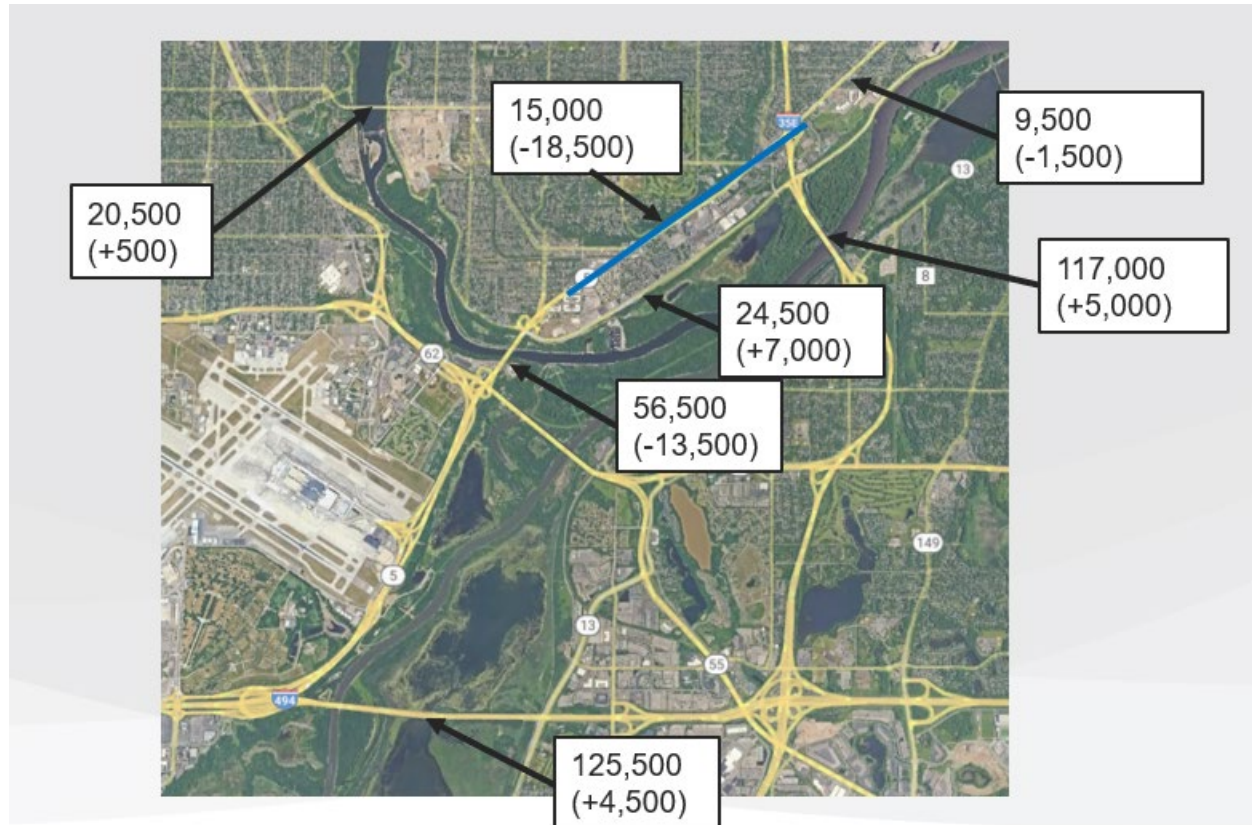
Figure 2 shows the 70,000 average weekday vehicle trips, along with average trips in other nearby roadway segments. This reflects traffic volumes as they are today, with a growth factor applied to reflect the year 2040.

Figure 2. 2040 No-Build: Average Weekday Trips Per Day by Roadway Segment

Base Condition: 4-Lane Highway 5 Bridge and 3-Lane Concept on West 7th from I-35E to Davern Street

Each of the streetcar scenarios assumes a 3-Lane dedicated streetcar concept on West 7th Street between I-35E and Davern Street (Figure 3). This is a different roadway cross section than exists today. Figure 3 shows what happens to traffic volumes if this change was made, but streetcar was not implemented. Traffic decreases on West 7th Street and across the Highway 5 bridge, and increases on I-35E, Shepard Road, I-94, and I-494. Of the 33,500 trips that are diverted off of West 7th Street or the Highway 5 bridge, approximately half (17,000) are picked up by those roadways. The remaining half are absorbed into the local network and support the notion that many trips on West 7th Street in Saint Paul are more local, neighborhood trips.

Figure 3. 2040 Base Condition 3-Lane Section on West 7th: Average Weekday Trips Per Day by Roadway Segment



2040 Condition – Reduced Traffic Lanes on Highway 5 River Bridge

Two scenarios were evaluated for lane configurations across the river bridge:

- **Scenario 1:** Two Saint Paul-bound vehicle lanes + one airport-bound vehicle lane + one lane of dedicated transit in each direction
- **Scenario 2:** One Saint Paul-bound vehicle lane + two airport-bound vehicle lanes + one lane of dedicated transit in each direction

The difference in scenarios is the directional use of the “extra” lane, which would be directed toward Saint Paul or toward the airport. Both of these scenarios include the Base Condition 3-Lane section on West 7th Street, as well as the removal of the westbound Highway 62 to southbound Highway 5 ramp near Bdote/Fort Snelling.

Scenario 1 utilizes two traffic lanes toward Saint Paul and one toward the airport. Figure 4 shows how trips would be affected as compared to the 2040 No-Build condition. Traffic across the bridge is reduced by about 20,000 trips. This is the biggest area of difference from the Base Condition as well. The trips in this scenario are diverted more to I-35E and I-494, with less going to Shepard Road than was experienced with the Base Condition.

Figure 4. 2040 Scenario 1 (2 lanes Saint Paul-bound): Average Weekday Trips Per Day by Roadway Segment



Scenario 2 utilizes two traffic lanes toward the airport and one toward Saint Paul. Under this scenario there is less of a decrease in traffic trips across the bridge and along West 7th, and the diverted traffic is more evenly split between I-35E and I-494 as shown in Figure 5.

Figure 5. 2040 Scenario 2 (2 lanes airport-bound): Average Weekday Trips Per Day by Roadway Segment



Highway 5 River Bridge Traffic Analysis Summary

Based on this high-level traffic diversion analysis, the difference in traffic patterns between the two scenarios is minimal. Table 1 summarizes the differences, with a percentage comparing the change to the 2040 No-Build. The biggest area of change is the section of West 7th Street west of I-35E, which has a larger diversion reduction in Scenario 2 (two airport-bound lanes) compared to Scenario 1 (two Saint Paul-bound lanes). Traffic on Shepard Road also has a more modest increase under Scenario 2 compared to Scenario 1. With the volumes present here, the changes between the two are not enough to dictate whether Scenario 1 or Scenario 2 is more favorable. More detailed regional operational modeling would be needed in the next phase to fully understand the change in traffic conditions across the regional system.

Table 1. Traffic Analysis Summary

Location	No Build	“Base”	#1 (2 lanes to Saint Paul)	#2 (2 lanes to airport)
Hwy 5 River Bridge	70,000	56,500 (-19%)	50,000 (-29%)	53,500 (-24%)
W 7th (west of I-35E)	33,500	15,000 (-55%)	14,500 (-57%)	17,000 (-49%)
W 7th (east of I-35E)	11,000	9,500 (-14%)	9,500 (-14%)	9,500 (-14%)
Shepard Rd	17,500	24,500 (40%)	21,500 (23%)	19,000 (9%)
I-35E Bridge	112,000	117,000 (4%)	119,000 (6%)	117,500 (5%)
I-494 Bridge	121,000	125,500 (4%)	127,000 (5%)	126,000 (4%)
Ford Pkwy Bridge	20,000	20,500 (3%)	21,500 (8%)	21,000 (5%)

Since the difference in traffic patterns was minimal between the scenarios, the team conducted a more detailed review of the roadway and lane geometries. This was reviewed in conjunction with MnDOT traffic and geometric staff.

Scenario 2 (two airport-bound lanes) presents some distinct challenges to roadway geometry and driver safety. Because the width of the roadway is constrained by the existing tunnel, there is limited space and the two lanes toward the airport are directly adjacent to the one lane toward Saint Paul with no room for a barrier in between. A vehicle entering northbound Highway 5 from eastbound Highway 62 would have a very difficult merge condition, as would a vehicle entering northbound Highway 5 from westbound Highway 62, which would require merging into a single lane of traffic (Figure 6). Under either scenario, speeds on Highway 5 would need to be reduced to ensure safe and efficient operations.

Conclusion

For the geometric and safety reasons mentioned above, the project proposes Scenario 1 with two vehicle lanes toward Saint Paul and one toward the airport, in addition to two dedicated transit lanes across the bridge.

Figure 6. Scenario 2 Highway Merges

