



I-35 Connects

MIC and MnDOT

I-35 CORRIDOR PLAN

Future Conditions Report | November 2023



Duluth-Superior
Metropolitan Interstate Council
A Division of ARDC



**BOLTON
& MENK**



DEPARTMENT OF
TRANSPORTATION



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TRAFFIC FORECASTING VARIABLES

Forecasting traffic volumes is a complex exercise that must account for several factors. When forecasting traffic for an area as large as the I-35 Corridor, with dense development, heavy industrial traffic, and multiple interregional corridors, traffic forecasts must consider several tiers of estimated growth factors, including metropolitan area growth, regional growth, and area mode choice.

This first section of the report will discuss the key indicators that have historically correlate with traffic growth. This includes:

- Localized Population and Employment Growth
- Regional Traffic and Freight Growth
- Travel Patterns such as Mode Choice and Working from Home, and Technology Changes

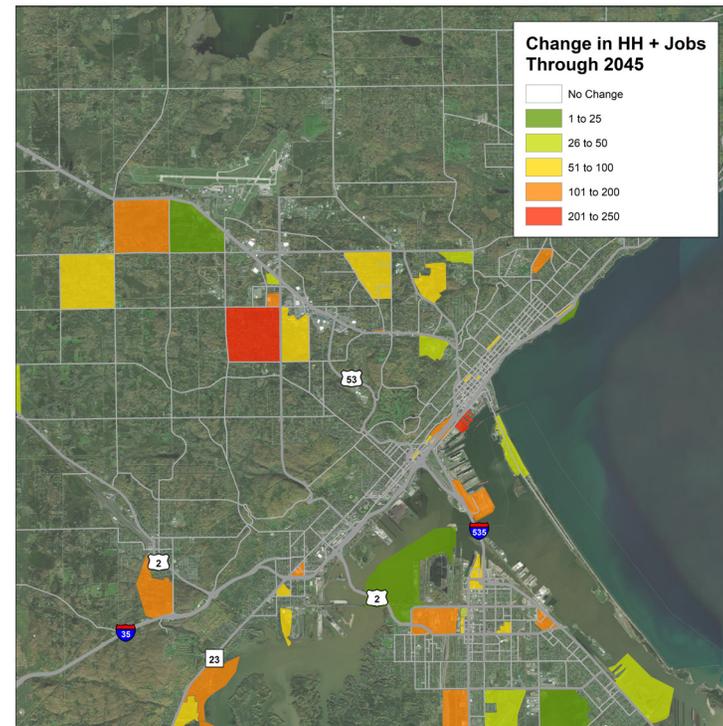
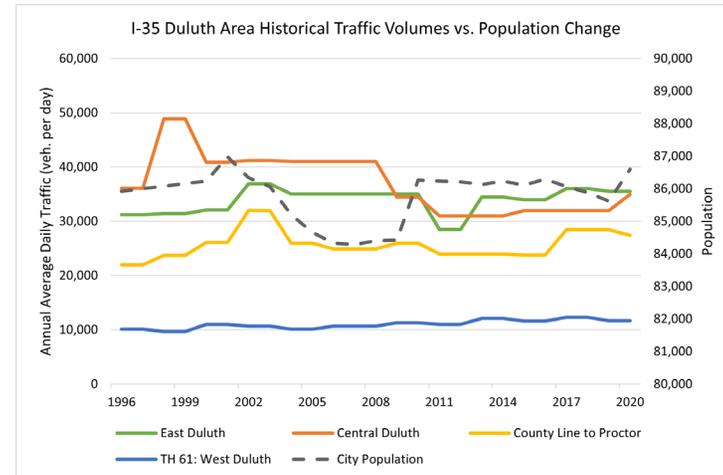
METROPOLITAN GROWTH

Over the next 20-30 years, the Duluth-Superior Metropolitan Area is anticipated to see a minimum amount of metropolitan area growth. The population of the city of Duluth which has remained essentially level since the 1990's. Historic traffic patterns mirror this trend, as MnDOT historic average annual traffic volumes on varying segments of I-35 show little change in traffic volumes over the last 15 years. Further, future projected households, families, owned households, and median household income growth rates are all lower than statewide and national averages.

Projections to 2045 do show growth, however as tourism, medical and other emerging fields backfill some of the more industrial stalwarts of the past. The Duluth-Superior Metropolitan Interstate Council's (MIC) Long Range Transportation Plan anticipates a 3.4% increase in households within the MIC planning area by the year 2045, and an increase in area employment by 2.7%. The growth shown in the travel demand model is reflective of the strategic redevelopment and growth areas within the City of Duluth, as identified in Imagine Duluth 2035, the city's comprehensive plan.

Further analysis of the Duluth-Superior Travel Demand model reveals where resulting traffic growth is expected by the year 2045. The highest forecasted traffic growth is expected in downtown, which could see a 15-20% increase. Elsewhere, forecasted growth is more moderate at an approximately 5% increase.

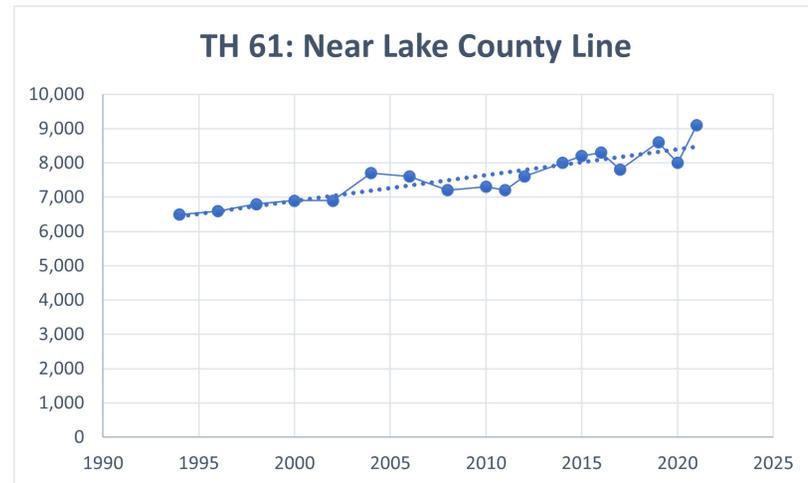
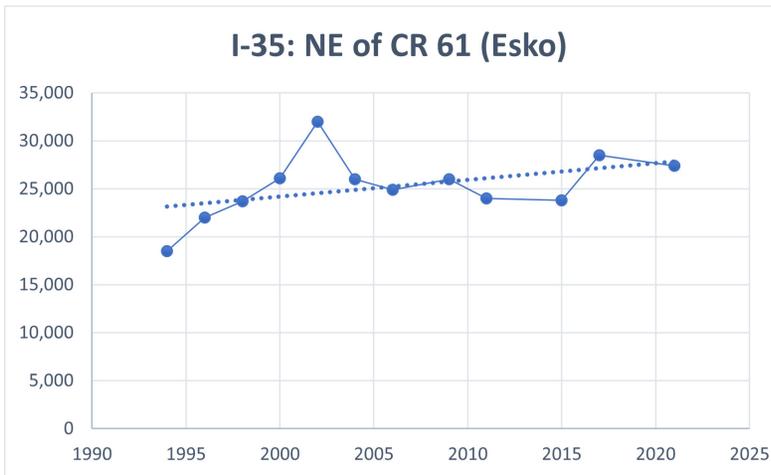
Some noted challenges to metropolitan development and growth include difficult site topography, limited stock of flat greenfield sites, and likely environmental cleanup needs on redevelopment sites.



REGIONAL GROWTH

Growth of the greater area must also be considered, due to the regionally centric role that the Duluth-Superior area plays and growing tourism market. Regional industry and development trends in northeast Minnesota and northwest Wisconsin are likely to impact traffic patterns in the study area, as well as background traffic growth outside of the study area.

Historical traffic growth analysis of I-35 at segments outside of the study area finds that traffic volumes have been steadily increasing in the region, approximately 1.4% annually, according to MnDOT collected traffic volumes, despite stagnant regional growth.



Freight Growth

The Federal Highway Administration's (FHWA) Freight Analysis Framework (FAF) combines freight and commodity data from a number of federal sources to illustrate the national freight network. FAF data was used to determine likely growth rates of freight traffic in the area and resulting forecast truck volumes at key points along the study area.

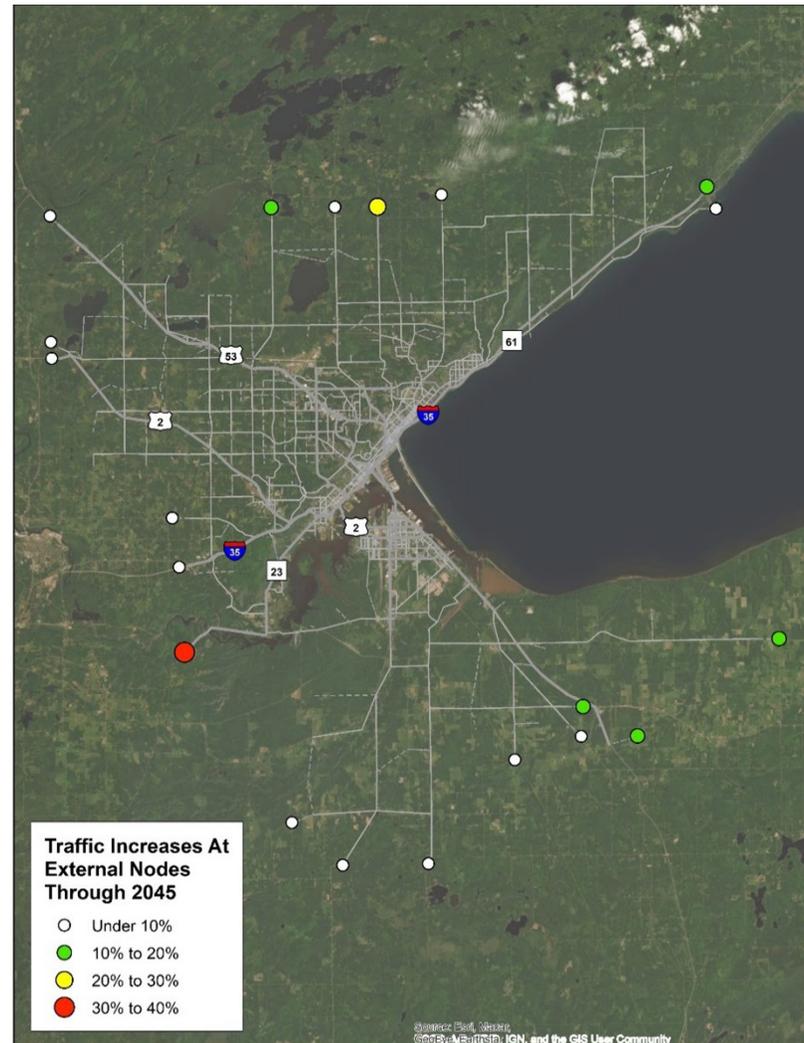
Many of the external nodes to the Duluth-Superior area are forecasted to show notable freight traffic growth, with approximately 17.8% growth projected on TH 61 along the North Shore. Conversely, only 1.4% growth in truck traffic is projected along I-35 near Esko. CSAH 4 and TH 23 show the most aggressive growth rates in the area at over 20% annual growth.

Nationally, the FAF predicts that the annual tonnage of commodities shipped via road-based freight will increase over 30% by the year 2050. Regionally, forestry and mining continue to stand out as important freight-dependent industries in the region and make up a significant portion of regional GDP and employment. The outlooks of these two industries according to the FAF, however, are quite different. The logging industry in Outstate Minnesota is projected to increase its annual tonnage produced over 50% by the year 2050, while the metallic ore production is projected to decrease by over 30%. Changes in these freight-reliant industries will contribute to changes in regional transportation patterns and needs.

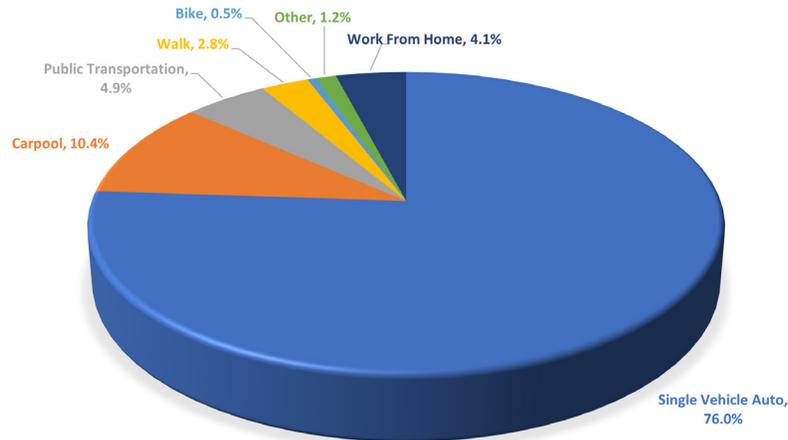
National Freight Outlook (All Commodities)



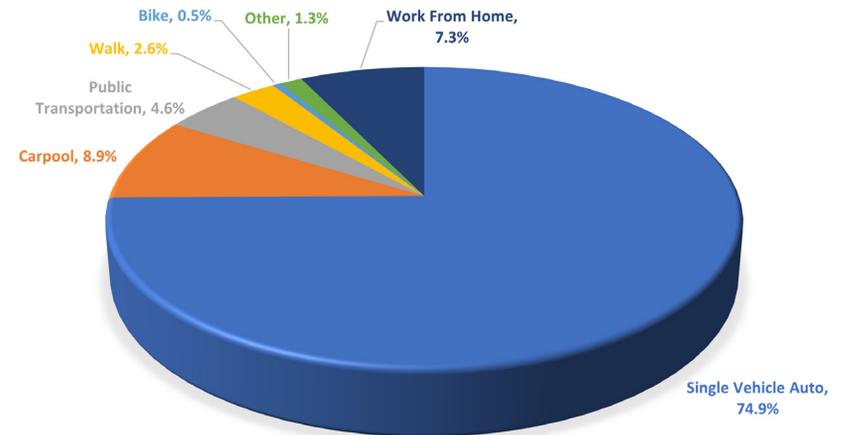
Reliance on the global supply chain infrastructure has never before been more visible, as the effects of the COVID-19 pandemic and its interruptions on global networks continue being felt by consumers and across all industries. At present, expectations are exponential growth of freight traffic throughout the region and globe due to increased consumerism, population, economic growth, and an increasingly connected global supply chain. This freight growth is not currently captured by the regional travel demand model as shown below. Many key boundary nodes show minimal traffic growth in the travel demand model. Those nodes that do predict notable growth are largely due to forecasted residential growth and not industrial center growth or change in activity levels.



2010 MEANS OF TRANSPORTATION TO WORK - NATIONAL



2020 MEANS OF TRANSPORTATION TO WORK - NATIONAL

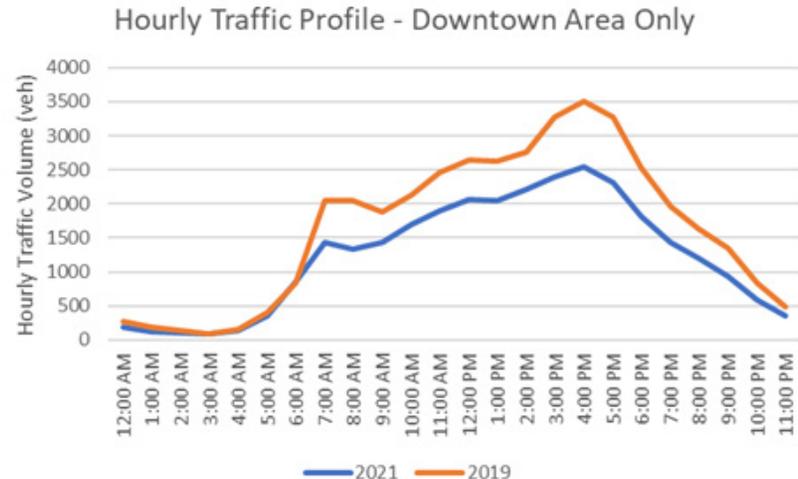
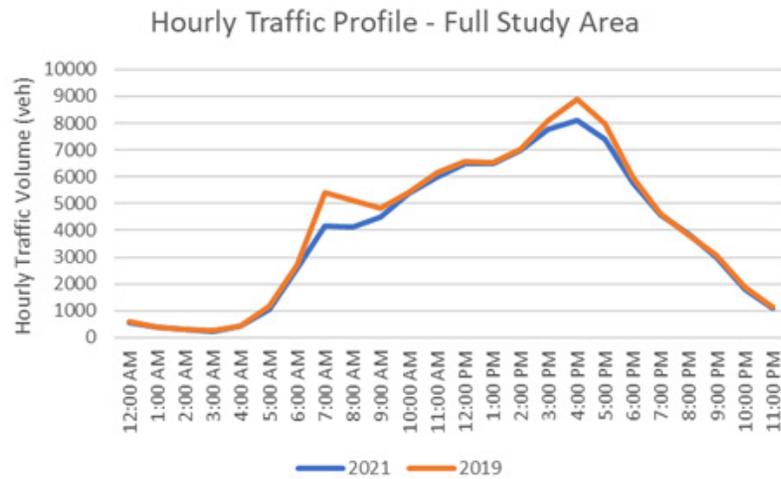


MODE CHOICE

Small changes in mode choice can have dramatic impacts on travel patterns, especially in urban areas. Local, regional, and statewide efforts to increase multi-modal travel availability and convenience and setting VMT reduction goals are showing little impact in reducing single vehicle trips as shown in recent national survey data.

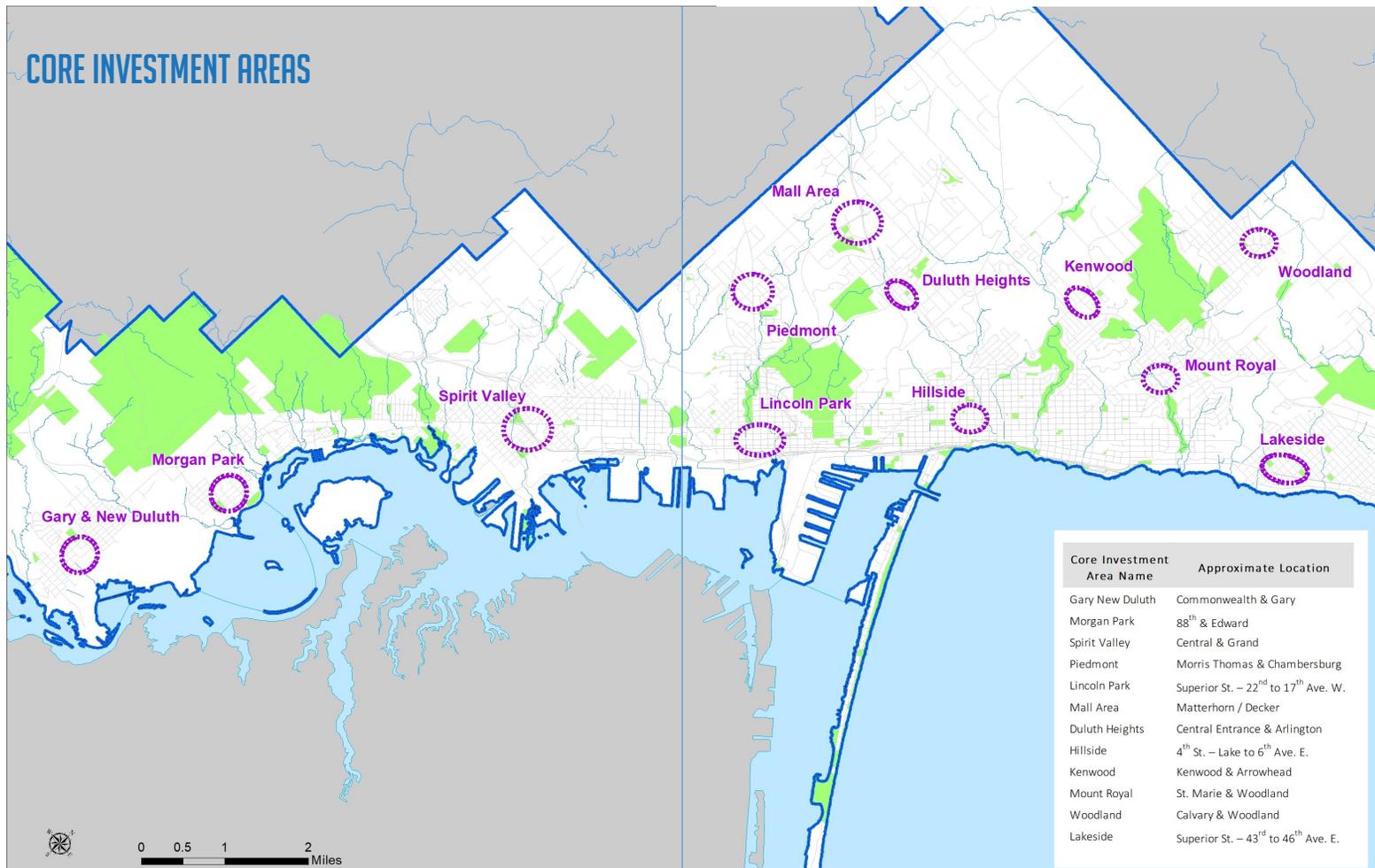
As shown, pedestrian and bike usage has increased over the past decade, albeit very slightly. The largest growth observed is telecommuting via the onset of the Work from Home option presented by the COVID-19 pandemic. It's important to note that increased Working from Home behaviors are not captured in the travel demand model as it was built before the COVID-19 pandemic which accelerated the onset of the Work from Home phenomenon. Conversely, transit usage has decreased over the same time period, likely due to the pandemic as well. While these findings may be underwhelming, continued attention to new and improved infrastructure, paired with supportive land use policies which support more multimodal travel, is the most likely course to meet national, statewide, and local transportation goals. Policies and goals put forth in local and regional planning documents such as the MIC Pedestrian Plan and MIC Bikeways Plan are the foundations to achieving the desired mode choice aggregation in the region.

Additionally, the societal impacts of the COVID-19 pandemic have dramatically shifted these trends. Working from home has exponentially increased in popularity, with traffic volumes in dense urban areas decreasing as a result. This is especially apparent in downtown Duluth as there is up to a 29% decrease in peak hourly traffic volumes on a typical day when comparing pre-pandemic (2019) volumes to 2021 volumes. However, a great unknown with these trends is if they will continue to decrease, or if a regression to "normal" traffic patterns may eventually be seen.



Land Use and Multi-Modal Transportation

The density and proximities of land uses has a direct impact on a person's mode choice. Typically, denser and more mixed-use areas promote higher rates of multi-modal usage, particularly walking and biking, or transit where available. The Imagine Duluth 2035 Comprehensive Plan identifies 12 Core Investment Areas which "present the opportunity to create vibrant walkable, neighborhood-scale commercial centers", in which targeted reinvestment may foster community gathering hubs. Increased development density at these or other strategic locations, when paired with multi-modal facilities mixed land uses, may further change local travel patterns.



Northern Light Express Rail Corridor

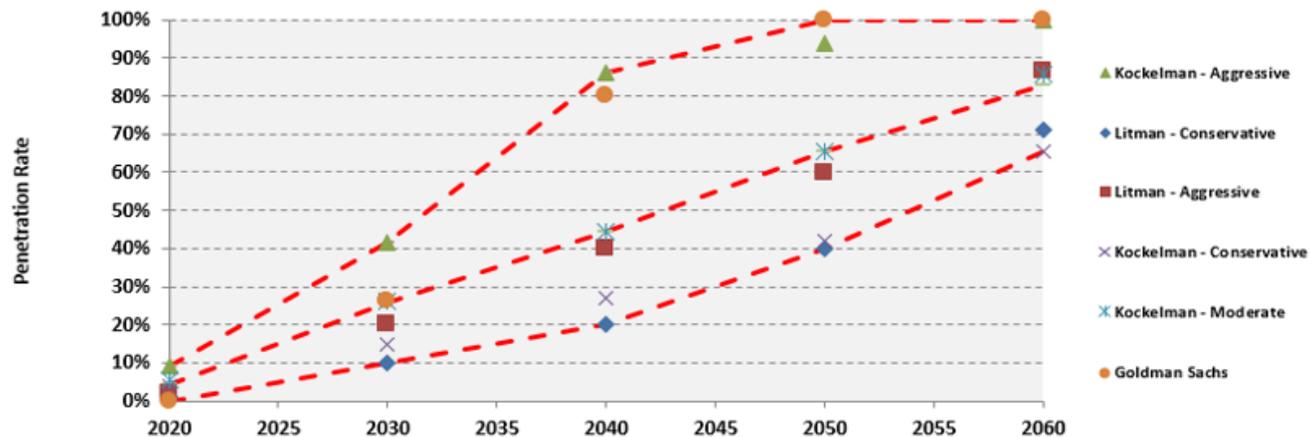
The Northern Lights Express (NLX) is a proposed high-speed rail corridor serving passenger travel between Minneapolis and Duluth using BNSF owned tracks. The project has completed an environmental review and is awaiting secured state and federal funding before construction begins. Current estimated construction costs are estimated at \$425 million. A one-way trip from Duluth to the Twin Cities is estimated to take about 2 ½ hours – a comparable time to driving. Once completed, current estimates place ridership as high as 700,000 people per year, with a future anticipated capacity of 1 million riders per year.

Offering rail-supported travel between Duluth and the Twin Cities may impact regional and local travel by reducing vehicle trips, particularly along the I-35 corridor. To fully realize potential benefits of such infrastructure, supporting first and last-mile trips to the railway will be crucial to its usage and success.

Connected and Automated Vehicles

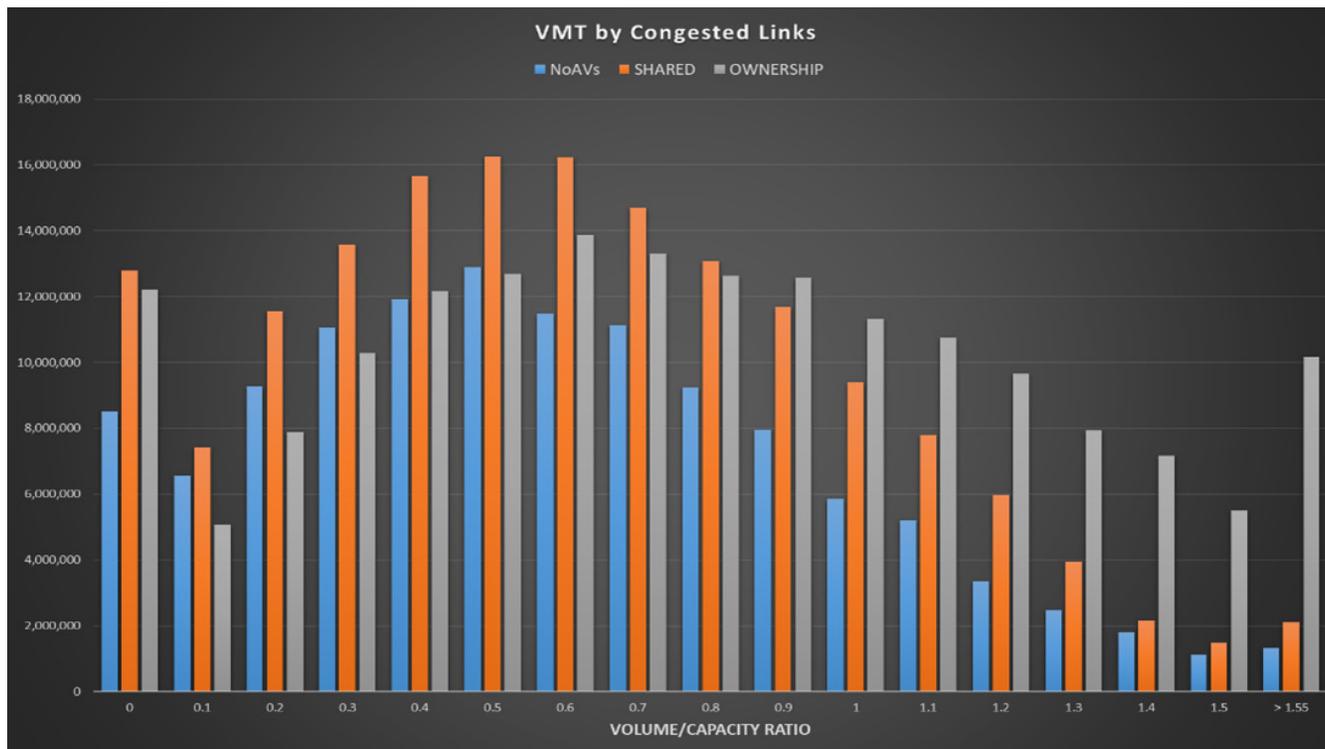
Many have deemed Connected and Automated Vehicles the “next big thing” in the world of transportation technology. While government agencies scramble to prepare for and regulate all that comes with data sharing, connected devices, infrastructure, and driverless vehicles, software developers and automakers continue to test and push the envelope. The potential impacts of this technology may cause seismic shifts in how society works, travels, and spends.

However, many of the benefits of this technology are dependent on local adoption rates, which remains a great unknown. Forecasts place this rate anywhere between 25% and 90% by 2045. Improved operations and potential increased roadway capacities may be the biggest draw to CAV adoption, with estimated capacity increases of 38% on local streets and 83% on freeways if high rates of adoption are achieved.



Complicating the issue, if driverless vehicles are on the roads, there is potential for a significant increase in VMT which may limit some benefits CAV may provide. The Met Council has previously performed high-level travel demand modeling of various scenarios related to CAV usage and ownership. The findings of their scenarios include:

- Vehicle fleet sizes are likely to reduce as CAV is adopted and sharing of vehicles becomes more common
- Vehicle trips will increase as automated vehicles become prevalent and empty vehicles are able to complete trips on their own
- VMT may increase the most if automated vehicles are shared amongst the general public while congestion may be highest if automated vehicles are privately owned.



TRAFFIC FORECASTING SCENARIOS

To account for a range of potential future transportation landscapes, three traffic forecasting scenarios were established through collaboration with the I-35 Corridor Study project Steering Committee. The Steering Committee was presented with the data earlier in this chapter and asked a series of questions about growth potential and feasibility of potential traffic pattern changes. This guidance shaped these three scenarios:

- 2045 Baseline Scenario
- 2045 Multimodal Scenario
- 2045 Auto Centric Scenario

2045 daily traffic estimates were prepared for these three scenarios using the Duluth-Superior regional travel demand model.



2045 BASELINE SCENARIO

The 2045 Baseline Scenario assumes that trends observed over the past 20 years continue over the next 20 to 25 years. This assumes that mode choices seen today generally remain the same through 2045.

Other key assumptions for this scenario are:

- Local growth matched previous land use and development assumptions developed by the MIC during the last Metropolitan Transportation Plan.
- Regional traffic growth (i.e. traffic with trip ends outside the Duluth urban area) in the travel demand model was edited to match trends observed in MnDOT traffic data. Key locations where edits were made are I-35 south of Duluth, TH 61 north of Duluth, and TH 53 southeast of Superior.
- Truck traffic growth in the travel demand model was edited to match FHWA freight forecasts.
- A slight reduction in area-wide trip generation (two percent reduction) was assumed to account for increased working-from-home

Key Takeaways

Travel demand model results show the following:

- On average, traffic on I-35 is expected to grow by around 7 percent
- South of US 2 (Proctor Junction) – Around 15 percent growth on I-35
- Between Proctor and Bong Bridge – Around 8 percent growth on I-35
- Between Bong Bridge and Blatnik Bridge – Around 3 percent growth on I-35
- Between Blatnik Bridge and Mesaba Avenue – Traffic remains generally flat
- Between Mesaba Avenue and Lake Avenue – Around 13 percent growth on I-35
- North of Lake Avenue – Around 5 percent growth on I-35



2045 MULTIMODAL SCENARIO

The 2045 multimodal scenario assumes an aggressive increase in mode shares for bikes, pedestrians, and transit.

Key assumptions for this scenario are:

- All assumptions from the 2045 Baseline Scenario
- Assumed changes that contribute to decrease automobile use include increased land use density and completion of the Northern Lights Express rail line
- A further 10 percent reduction in local trip generation was assumed in the travel demand model to account for increased walking, biking, transit use, and increased and sustained working from home.

Key Takeaways

Travel demand model results show the following:

- On average, traffic on I-35 is expected to grow by around 5 percent
- South of US 2 (Proctor Junction) – Around 14 percent growth on I-35
- Between Proctor and Bong Bridge – Around 6 percent growth on I-35
- Between Bong Bridge and Blatnik Bridge – Traffic remains generally flat
- Between Blatnik Bridge and Mesaba Avenue – Traffic remains generally flat
- Between Mesaba Avenue and Lake Avenue – Around 8 percent growth on I-35
- North of Lake Avenue – Traffic growth remains generally flat



TECHNOLOGY SCENARIO

The 2045 Technology Scenario is meant to be a conservative scenario where automobile use increases in the future.

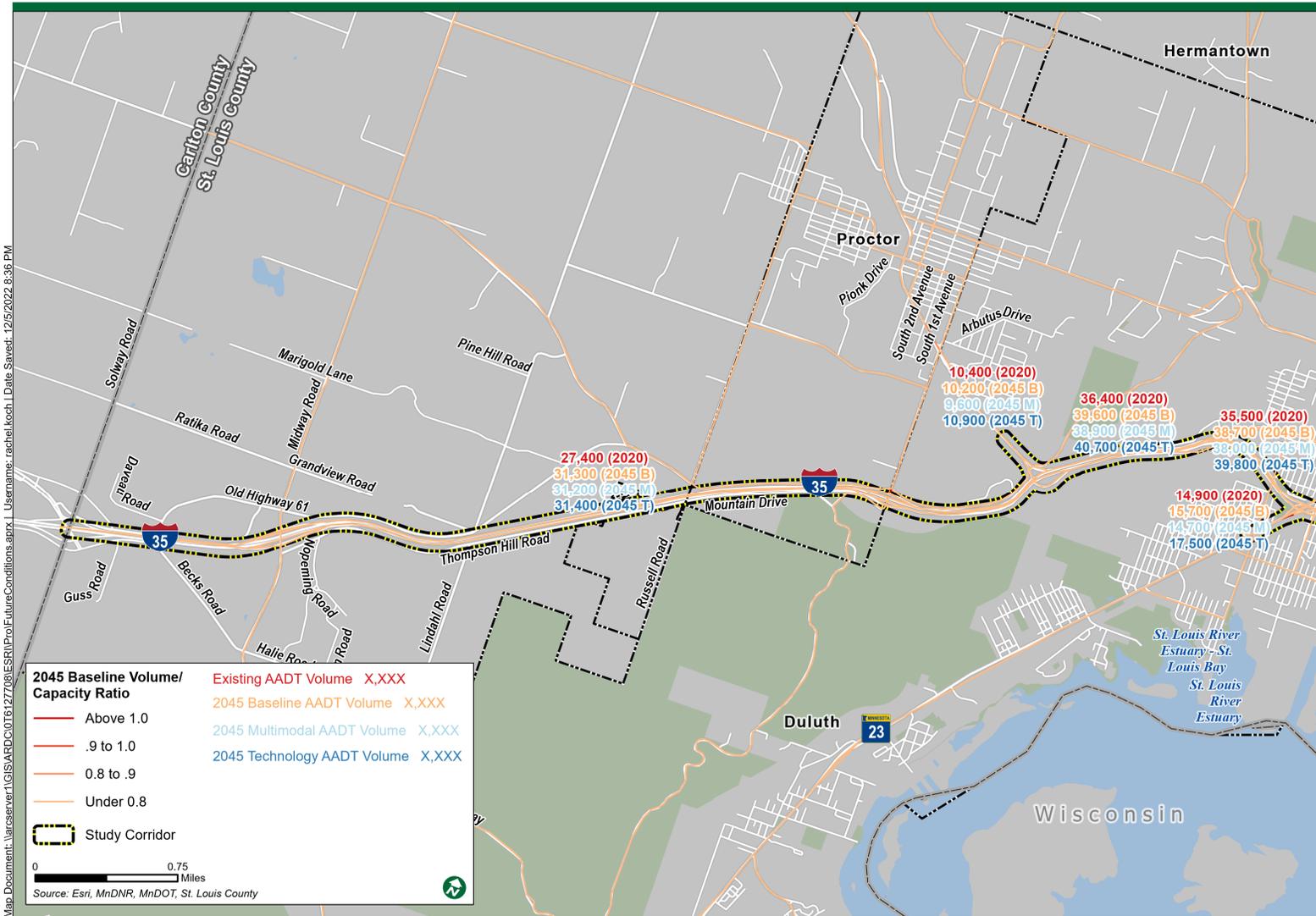
Key assumptions for this scenario are:

- All assumptions from the 2045 Baseline Scenario
- Assumed changes that contribute to increased automobile use include increasing urban sprawl and increased trip-making from increased autonomous vehicle presence and increasing freight demands
- A 15 percent increase in local trip generation was assumed in the travel demand model

Key Takeaways

Travel demand model results show the following:

- On average, traffic on I-35 is expected to grow by around 12 percent
- South of US 2 (Proctor Junction) – Around 15 percent growth on I-35
- Between Proctor and Bong Bridge – Around 12 percent growth on I-35
- Between Bong Bridge and Blatnik Bridge – Around 7 percent growth on I-35
- Between Blatnik Bridge and Mesaba Avenue – Around 3 percent growth on I-35
- Between Mesaba Avenue and Lake Avenue – Around 22 percent growth on I-35
- North of Lake Avenue – Around 11 percent growth on I-35



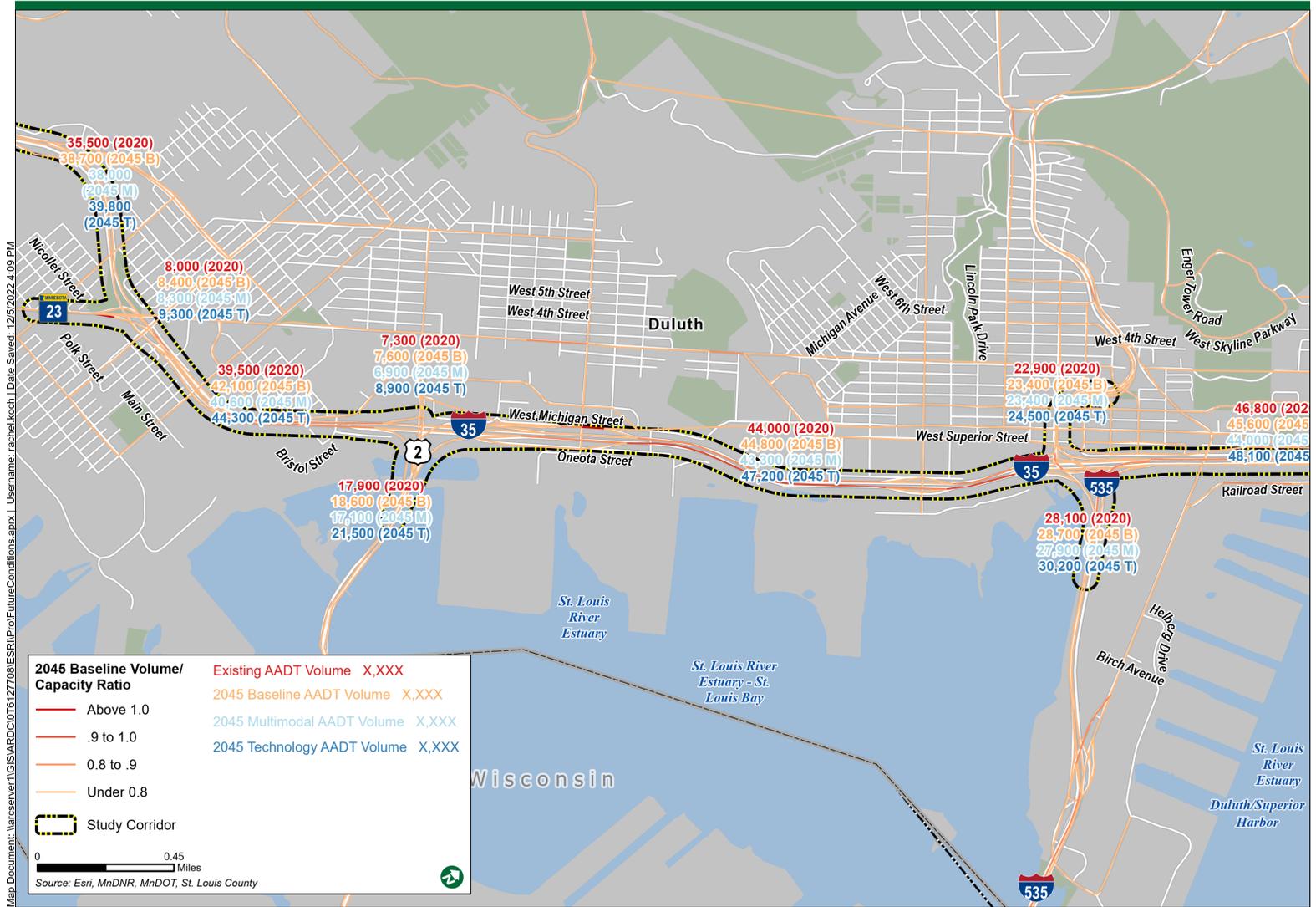


Duluth Area I-35 Corridor Plan

Duluth-Superior Metropolitan Interstate Council

Urban Area - Cody Street to Garfield Avenue

December 2022



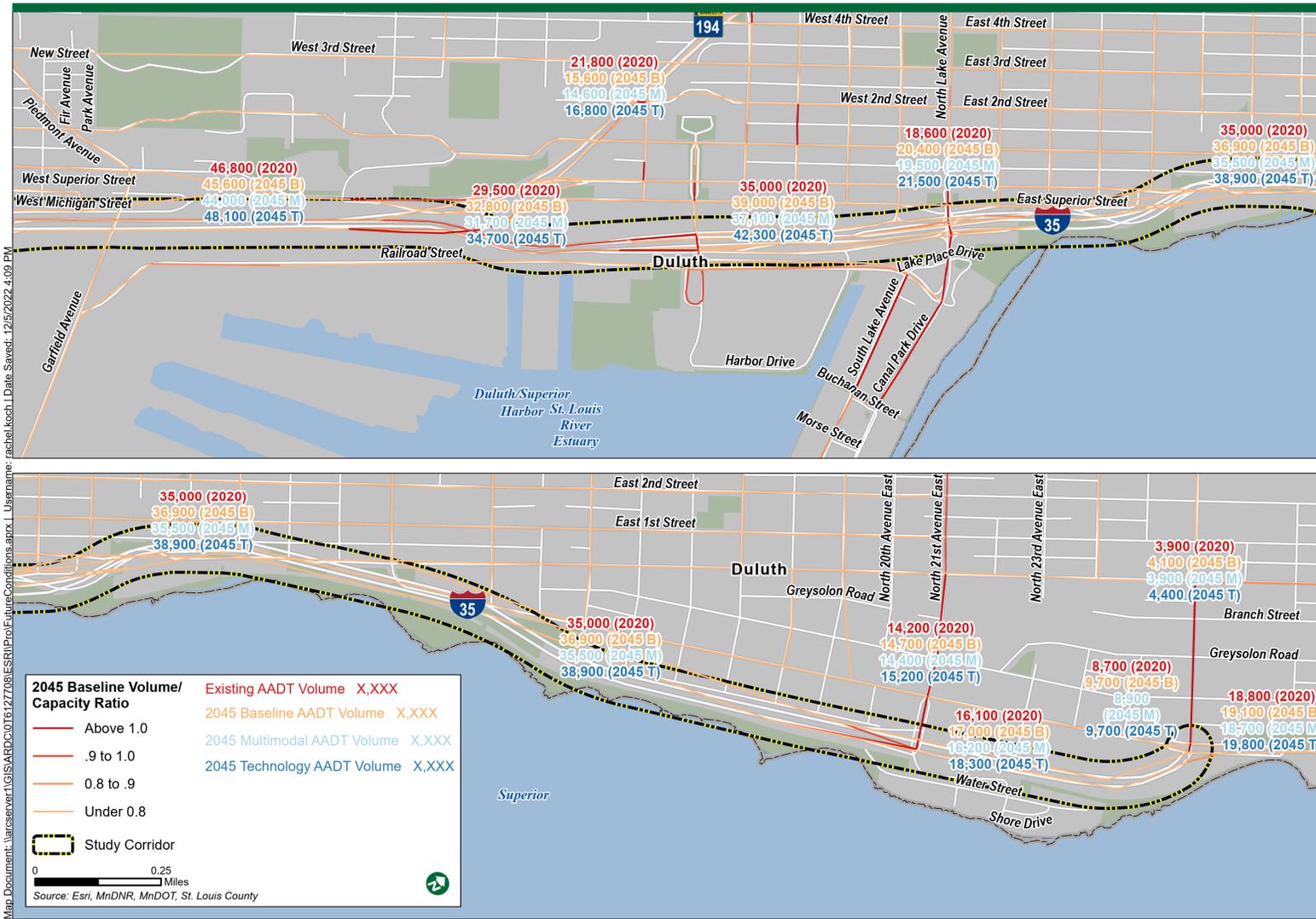


Duluth Area I-35 Corridor Plan

Duluth-Superior Metropolitan Interstate Council

Downtown Area - Garfield Avenue to London Road

December 2022



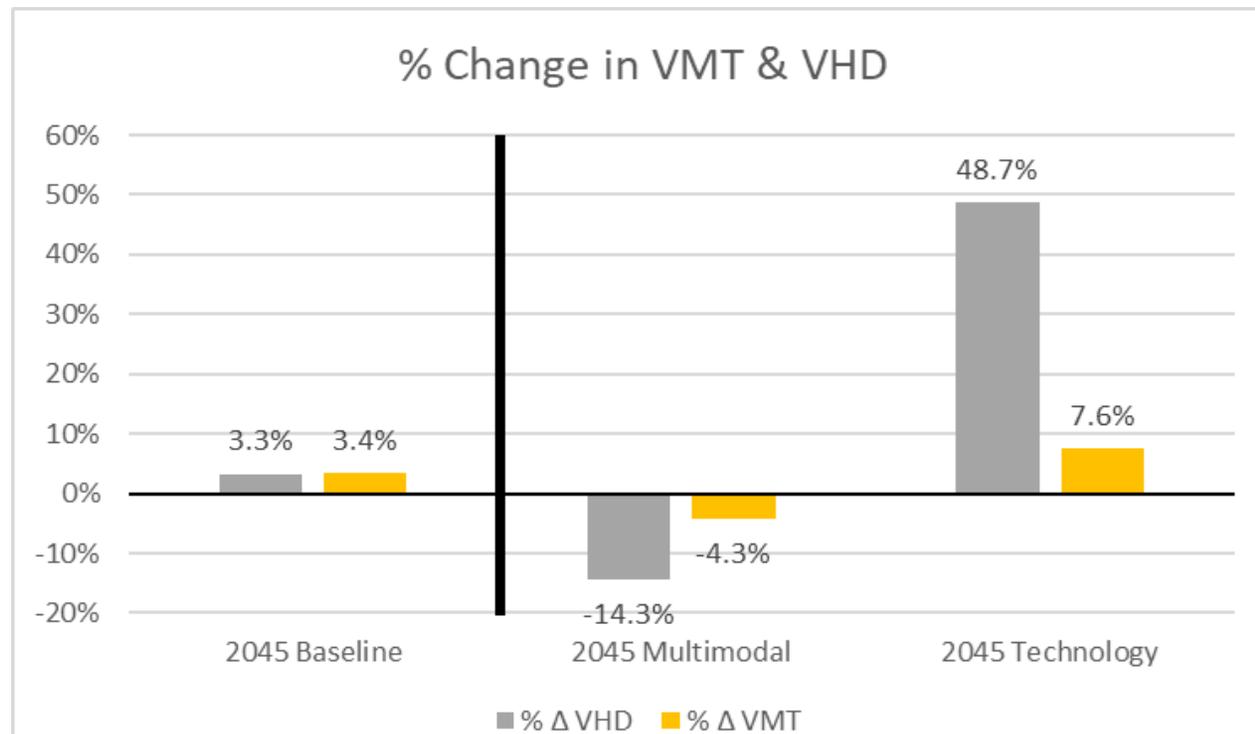
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SCENARIO COMPARISON

Comparing forecast daily traffic volumes throughout the study area via travel demand modeling shows a small amount of sensitivity to the adjusted inputs described above. Differences in daily volumes are generally less than a few thousand vehicles per day. The tested scenarios are intentionally on the limit of what may realistically come to fruition to test the sensitivity of traffic forecasting. The vast majority of the VHD changes are occurring on roadways that aren't I-35.

Travel demand modeling of the existing and forecast scenarios estimates a 3.5% increase in VMT and 1.1% increase in annual VHD for the 2045 Baseline when comparing to the 2018 existing conditions. As might be expected, VMT and VHD decrease significantly with a more multimodal forecast where fewer cars are on the road and more travel is supported by transit and non-motorized modes. Conversely, an auto-centric future where urban sprawl and mixed CAV adoption is present may result in increases in VMT and VHD, with a nearly 50% increase in VHD shown. The vast majority of the VHD changes are

The primary takeaway from this analysis is that I-35 sees minimal operational changes in any of these scenarios. Similarly, the 2045 baseline shows minimal operational changes from existing conditions due to the excess capacity already present along the corridor and low amount of growth expected.



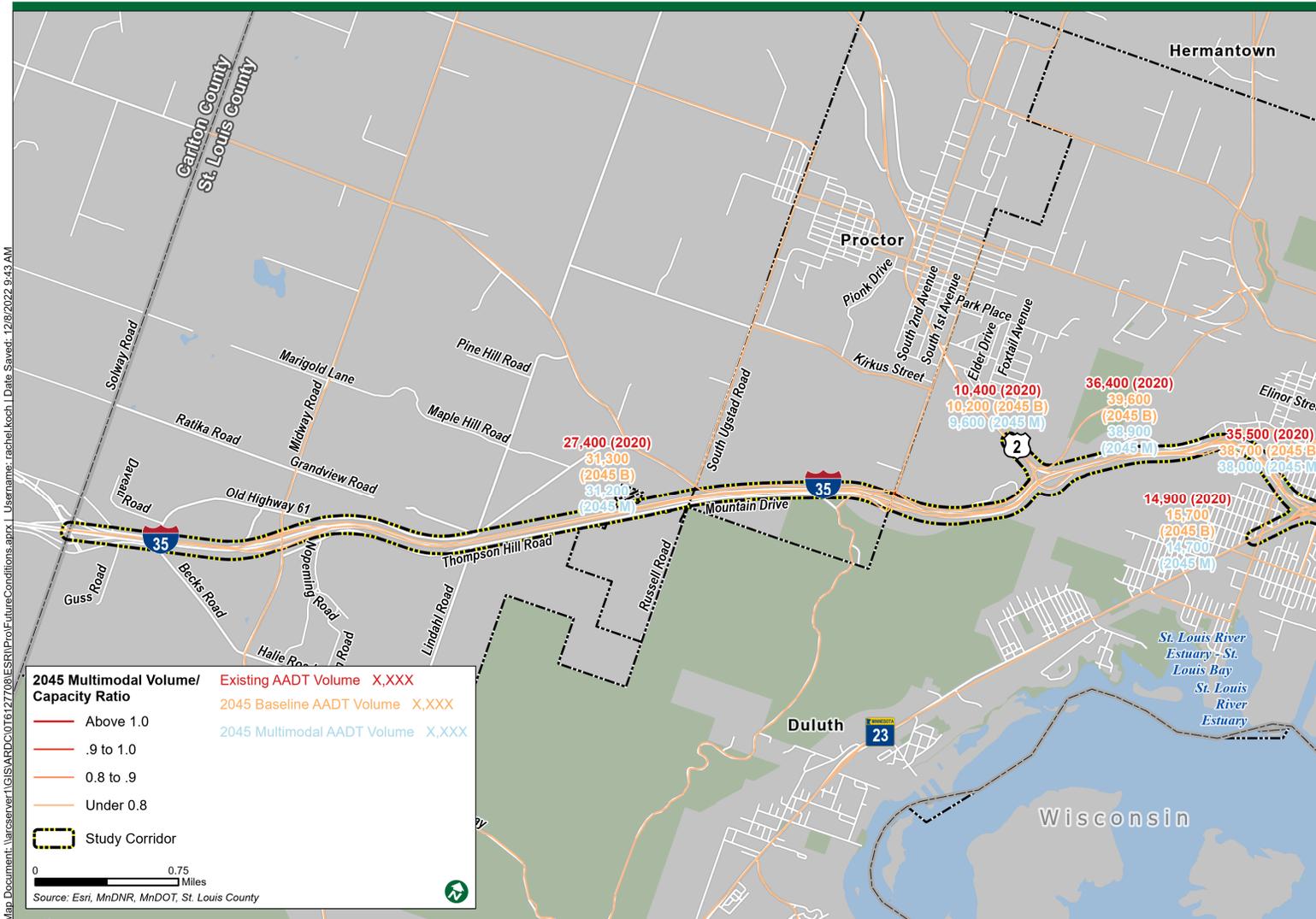


Duluth Area I-35 Corridor Plan

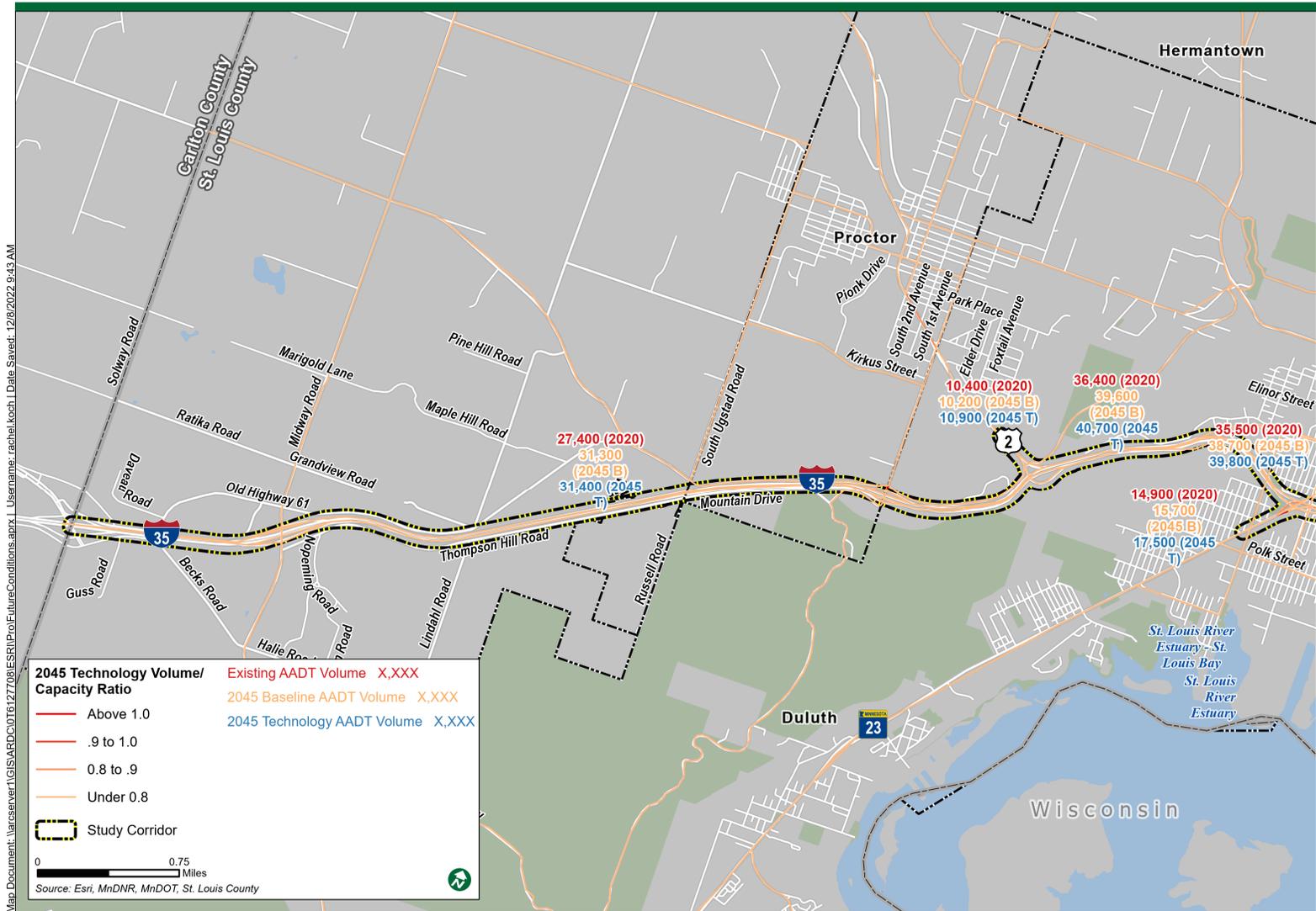
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Rural Area - Hwy 61 to Cody Street

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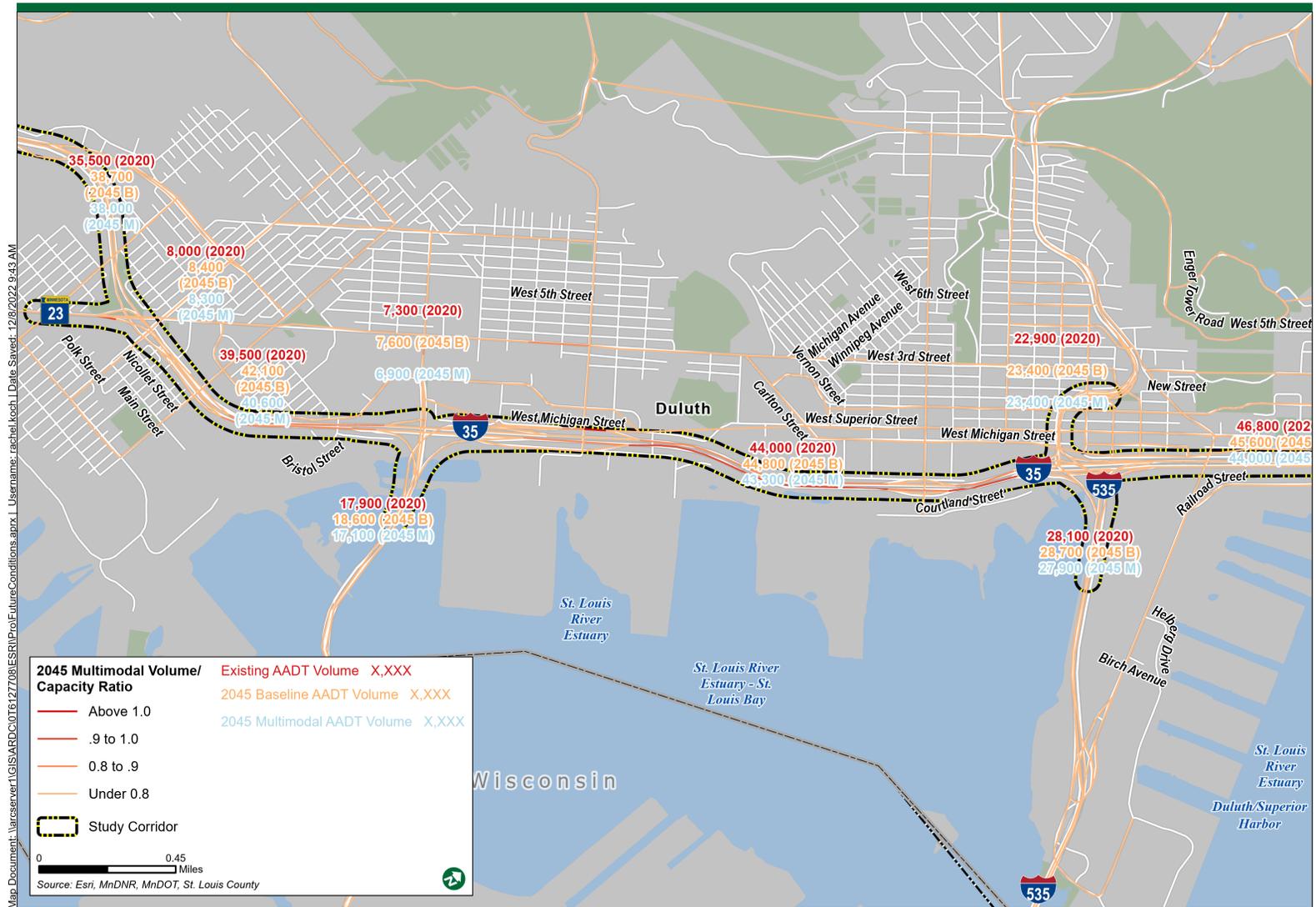


Duluth Area I-35 Corridor Plan

Duluth-Superior Metropolitan Interstate Council

Urban Area - Cody Street to Garfield Avenue

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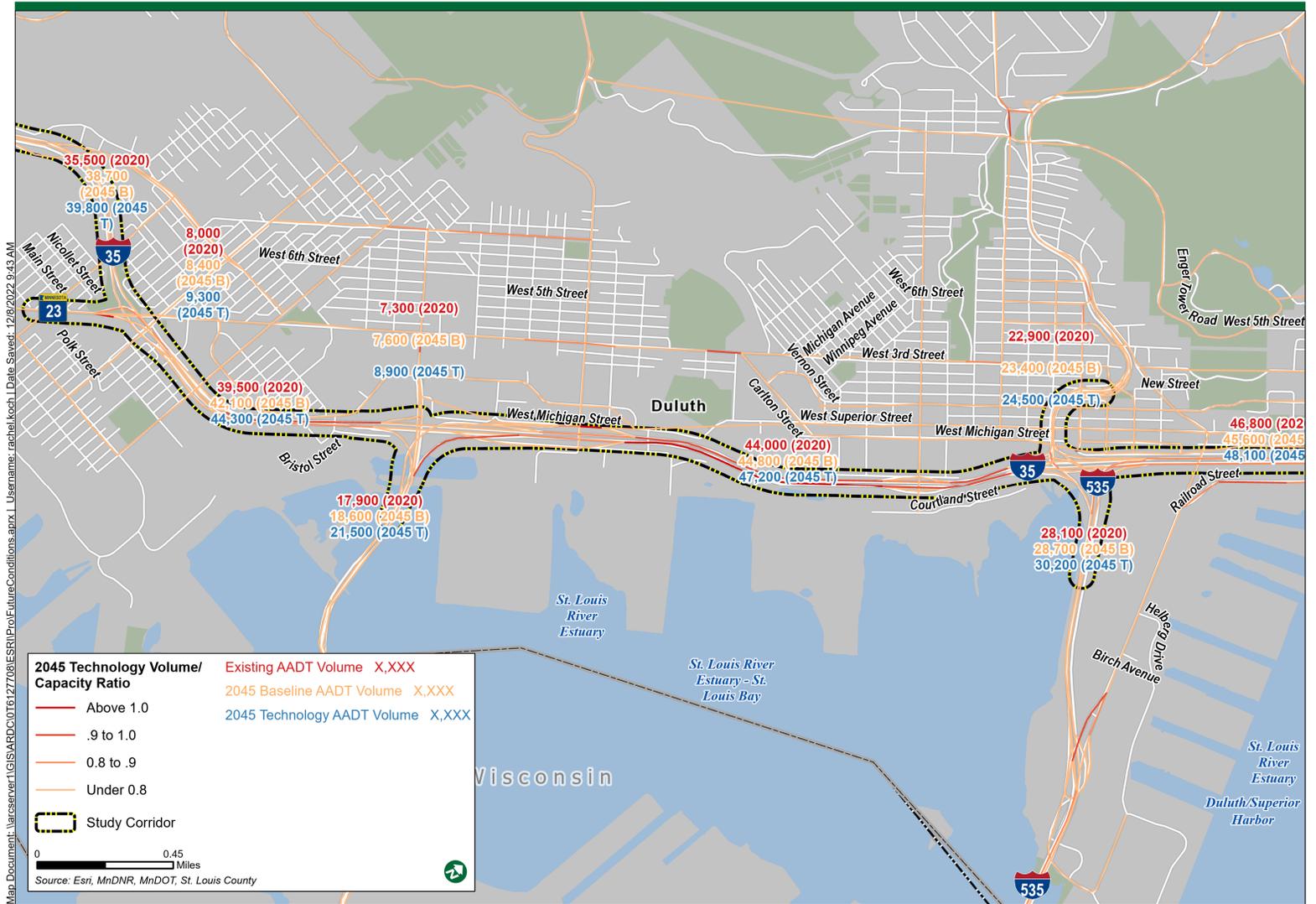


Duluth Area I-35 Corridor Plan

Duluth-Superior Metropolitan Interstate Council

Urban Area - Cody Street to Garfield Avenue

December 2022



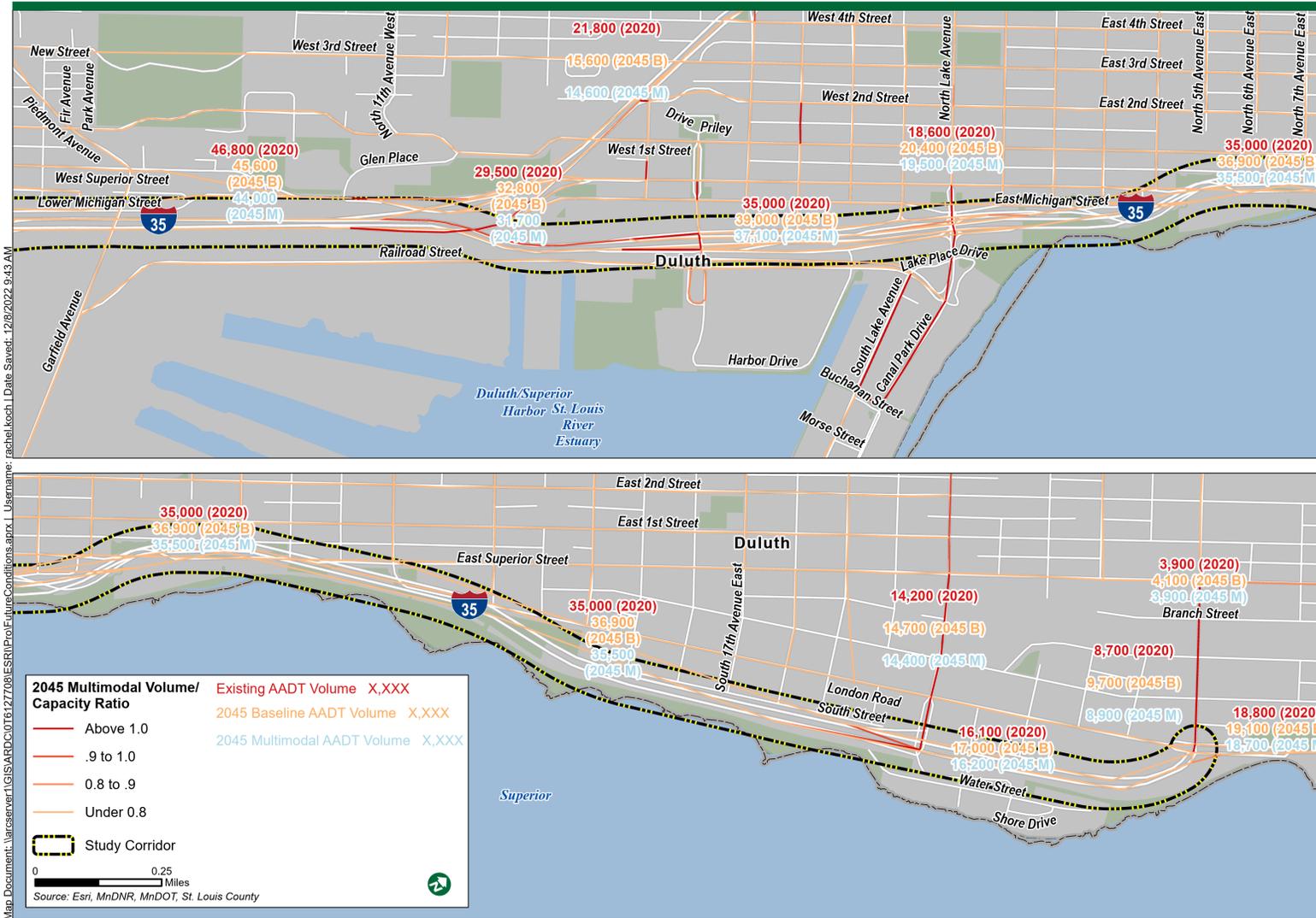


Duluth Area I-35 Corridor Plan

Duluth-Superior Metropolitan Interstate Council

Downtown Area - Garfield Avenue to London Road

December 2022



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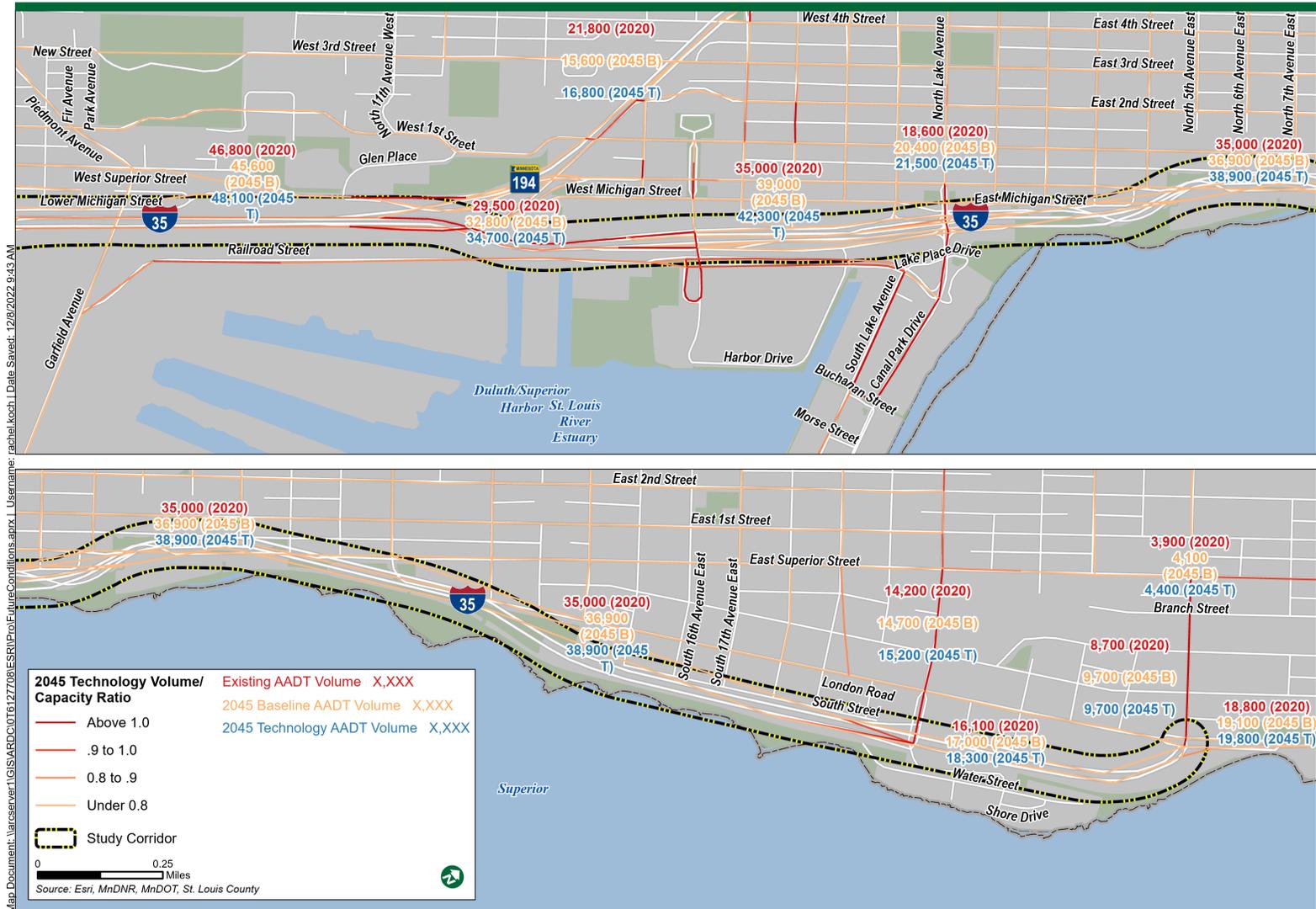


Duluth Area I-35 Corridor Plan

Duluth-Superior Metropolitan Interstate Council

Downtown Area - Garfield Avenue to London Road

December 2022



REGIONAL INFRASTRUCTURE SCENARIOS

Two major infrastructure improvements have been documented in by regional planning efforts or have been developed via grassroots organizations such as the Duluth Waterfront Collective. These scenarios are considered for Travel Demand Modeling to understand their impacts on local and regional traffic flows.

1. New interchange at Ugstad Road
2. Conversion of I-35 to an at-grade arterial between Mesaba Avenue and Lake Drive
3. Northwest Truck Reliever Route

Analysis of the construction of a new interchange at Ugstad Road, between Boundary Avenue and Midway Road, shows that the improvement will have minimal impact on regional traffic patterns. Further, a modest amount of local traffic is modeled to shift from the nearby (approximately 1 mile) Boundary Avenue interchange to the proposed Ugstad Road interchange with I-35. Due to a lack of substantial development in southwest Proctor and supporting roadways providing direct routes to the proposed interchange, traffic pattern changes are contained to Old Highway 61 and I-35 between Ugstad Road and Boundary Avenue. Negligible differences (less than 0.5%) in Vehicle Miles Traveled (VMT) and Vehicle Hours of Delay (VHD) are expected proposed interchange. Lack of supporting arterial connections on Ugstad Road both north and south of the interstate are likely causes for the small amount of traffic pulled away from the Boundary Avenue interchange.

Challenges will also be faced in terms of the existing land use which is low density residential. In addition to likely impacts to private property, existing homes may be unacceptably close to the interchange footprint. Furthermore, Ugstad Road is currently classified as a Major Collector roadway and is not constructed to handle significant volumes that are typically seen at interstate interchanges. Major investment in upgrading the local system would be required in addition to interchange construction.

Reconstructing the interstate to an urban arterial roadway with three lanes in each direction, a 35-mph speed limit and signalized intersections every quarter mile has a much more drastic impact on local and regional travel. Due to decreased roadway capacity and travel speeds on I-35, a significant reduction in traffic volumes is expected between Mesaba Avenue and London Road. Traffic is likely to divert to parallel routes through the downtown area, with significant increases in traffic volumes on 1st Street, 3rd Street, Mesaba Avenue, 8th Street, 9th Street, Superior Street, and London Road. The resulting redistribution in traffic may cause several links to become overcapacity before traffic is able to filter through the surface street grid through this area.

Travel demand model analysis finds a 10% increase in lane miles of deficient operations when converting I-35 to a conventional arterial roadway in the downtown area comparison to the 2045 baseline. This is due to an estimated diversion of 30% of interstate through traffic to local roadways in attempt to avoid delays caused by decreased capacity along I-35.

Network Operations with Downtown Conversion



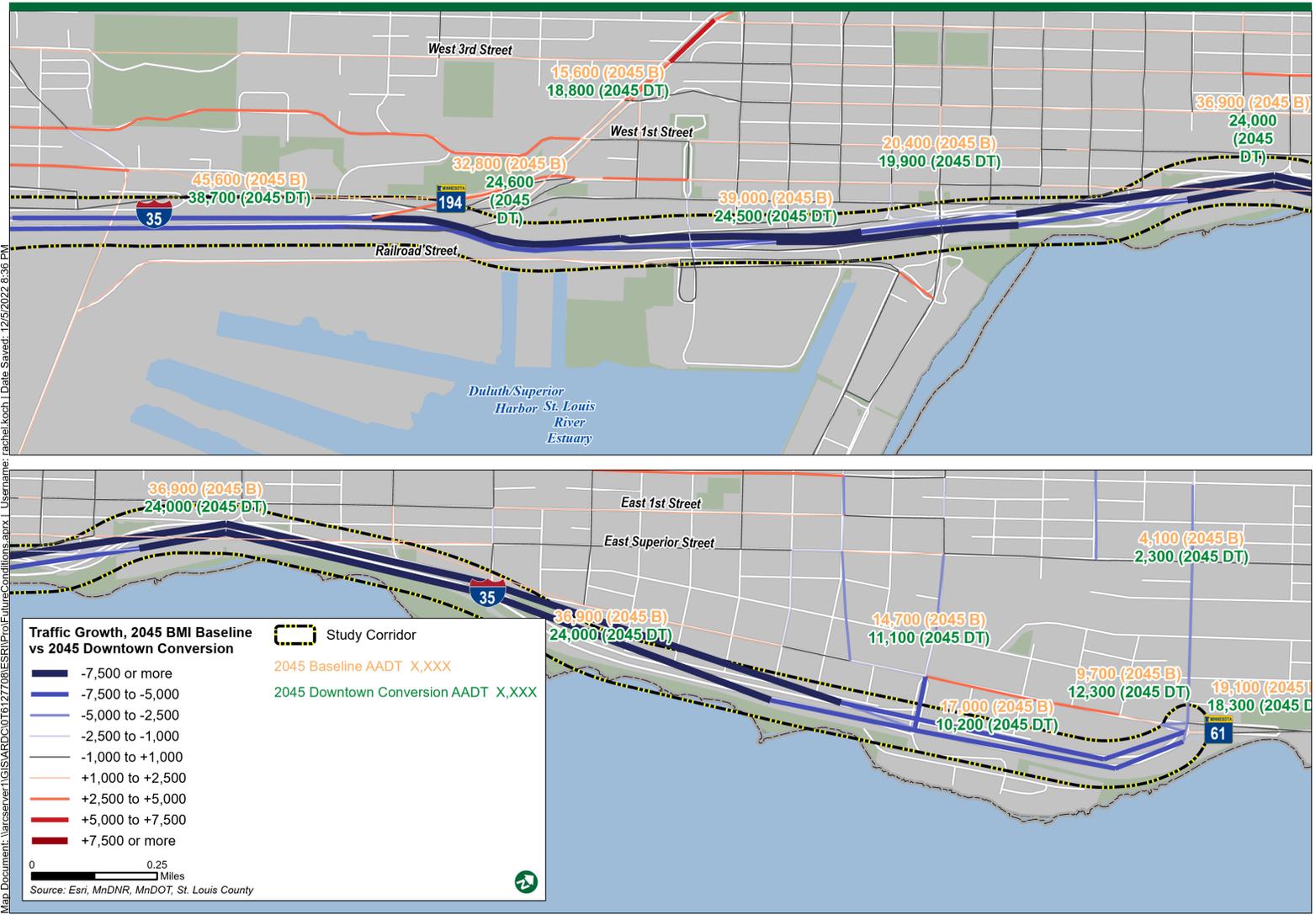


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Downtown Area - Garfield Avenue to London Road

December 2022



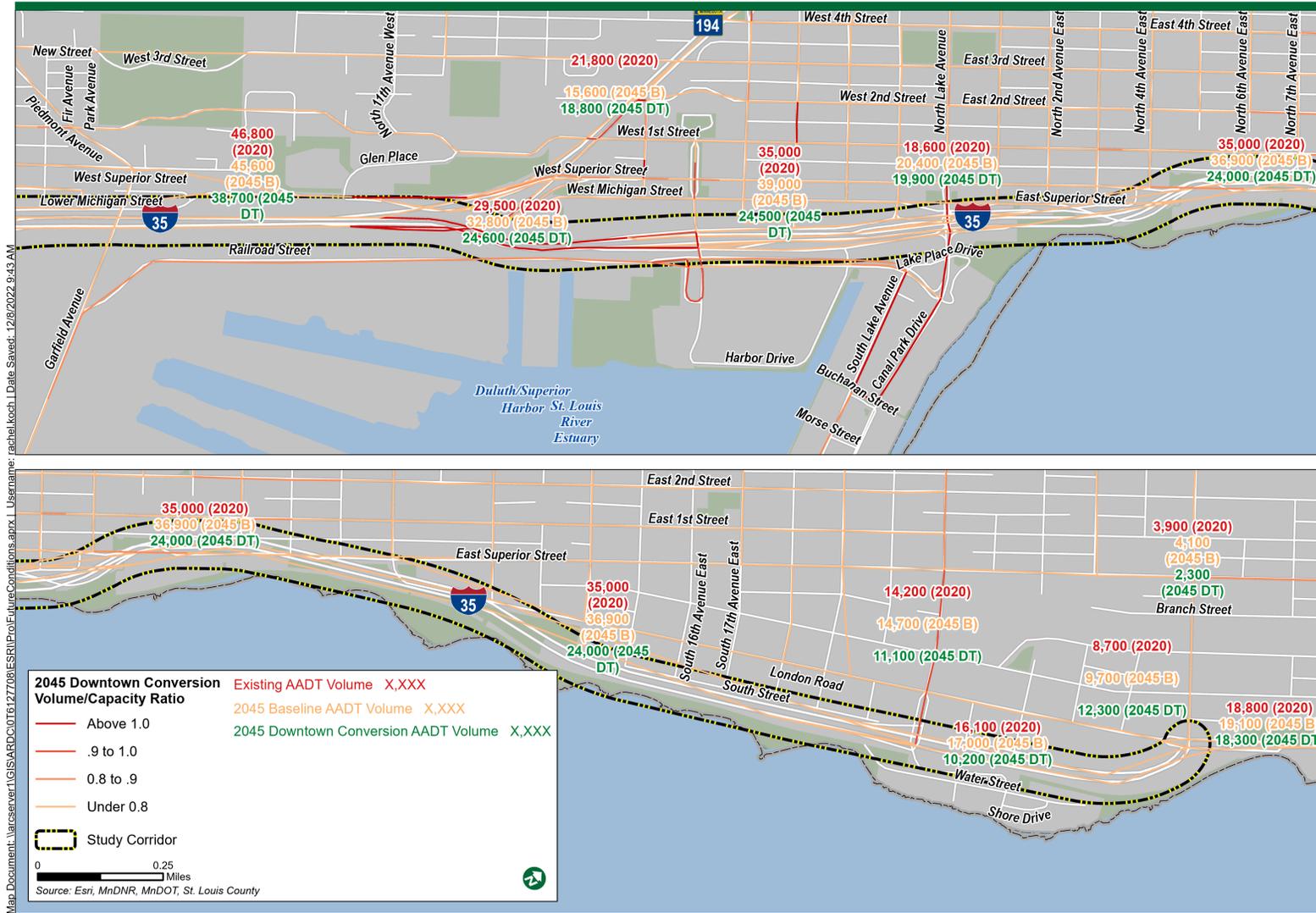


Duluth Area I-35 Corridor Plan

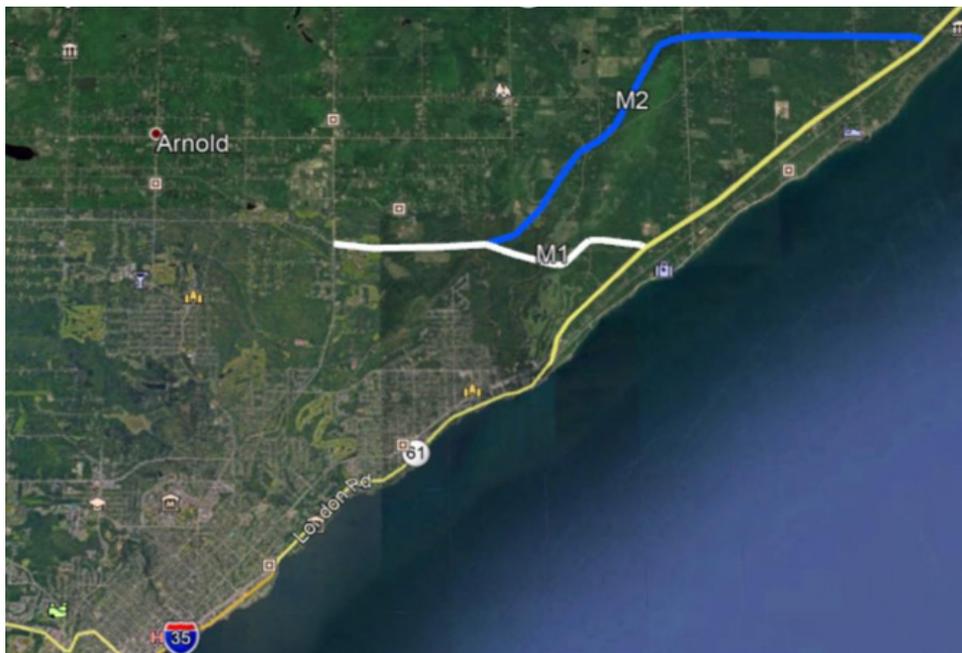
Duluth-Superior Metropolitan Interstate Council

Downtown Area - Garfield Avenue to London Road

December 2022



Although past efforts analyzing the value of a northwest truck reliever route have been inconclusive, there has remained interest in this concept. The Bolton & Menk team completed an analysis to revisit the idea using StreetLight Data. This data showed the amount of truck traffic originating from the southern project limit on I-35 and traveling straight through to TH 61 and the North Shore. The previously performed O-D analysis for all vehicles found that only 10% of all traffic makes this movement northbound through the study corridor. A truck-specific analysis determined that only 5% of freight traffic, or approximately 75 trucks per day, make this movement. Further, most trucks originating from the southern limit exit I-35 at US 2 at the various accesses along I-35 in the study area where there are large concentrations of freight generating land-uses. These truck trips will likely not see the benefit of a truck bypass route. Issues are compounded by the high likelihood for unacceptable impacts by the new alignment, and a resulting construction cost that does not yield an equal amount of benefit to the trucking industry. For these reasons, as well as lack of support from the Steering Committee, this scenario was not further analyzed or considered for implementation.



Northwest truck reliever route concepts that were analyzed in the I-35 Corridor Plan process.

FUTURE TRAFFIC CONDITIONS

Simulation of the 2045 baseline forecast volumes was performed assuming no infrastructure improvements are made throughout the project area. Level of Service (LOS) results for overall intersections, intersection approaches, and segments are illustrated in figures on the following pages.

Due to the relatively low amount of forecasted growth in traffic volumes, operations are anticipated to remain widely acceptable in the rural subarea as all intersections and interstate segments are shown to operate at LOS C or better during peak traffic conditions. As was performed in the existing conditions analysis, rural area analysis was performed using Highway Capacity Manual (HCM) methodology.

The 2045 AM and PM peak hour No Build operations were analyzed in Vissim from Grand Avenue to London Road. Overall the changes were modest when considering 20 years of potential change. Notable changes in peak hour operations in comparison to the existing traffic volumes include:

- The intersection of 26th Avenue at I-35/London Road increases to LOS D overall during both the AM and PM peak hours (up from LOS C). The southbound approach at this intersection increases from LOS E to LOS F during the AM peak hour.
- The southbound approach of 63rd Avenue at Grand Avenue increases from LOS E to LOS F during the PM peak hour.
- The eastbound approach of Lake Avenue at Superior Street increases from LOS C to LOS D during the PM peak hour.
- The northbound approach of the I-35 exit ramp at 21st Avenue increases from LOS E to LOS F during the PM peak hour.
- The eastbound approach of London Road at I-35/26th Avenue increases from LOS D to LOS F during the PM peak hour.

Corridor segment analysis finds that most of the corridor continues to operate with LOS A-C showing free-flow or nearly free-flow operations. Congestion is shown to increase near the signalized intersection at TH 61/London Road/26th Avenue during both peaks. The northbound segments between Cody Street and Central Avenue, and I-535 to Mesaba Avenue operate with LOS E during the AM peak hour. The northbound segment between 26th Avenue to 15th Avenue operates at LOS E during the PM peak hour.

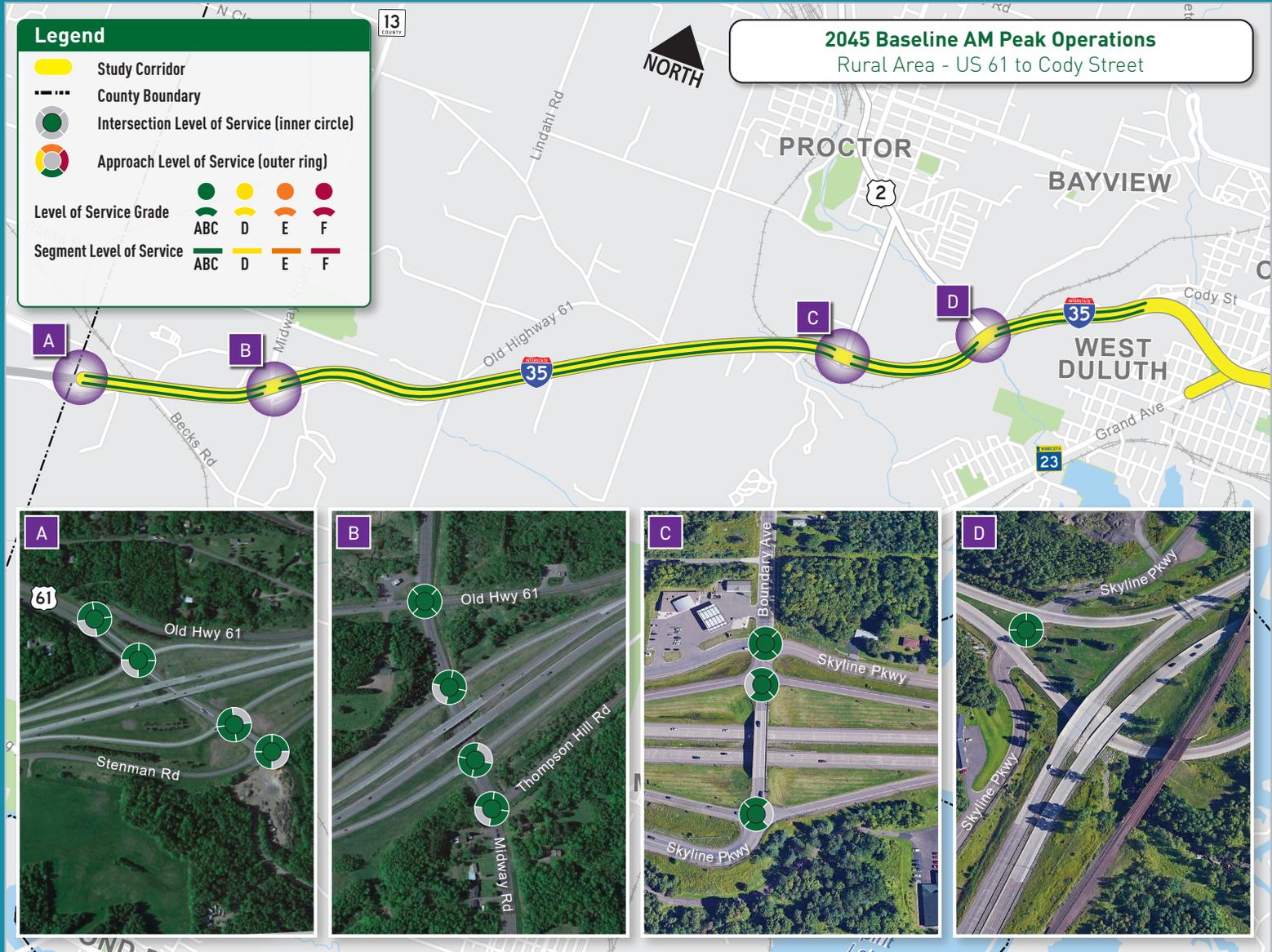
With 2045 volumes there are several maximum queues anticipated to exceed the provided storage and/or link length and back up into upstream intersections for short periods of the peak periods, similar to what was modeled under the 2022 traffic volumes. However, modeling finds that there are a number of average queues that may cause problems under the 2045 volume scenario. Average queues at the following locations may extend beyond a turn lane and/or upstream intersections during peak hours include:

2045 No Build AM Peak Hour

- Southbound 26th Avenue at I-35/London Road

2045 No Build PM Peak Hour

- Eastbound Superior Street at Lake Avenue
- Westbound Superior Street at Lake Avenue
- Eastbound London Road at 21st Avenue
- Eastbound London Road at I-35/TH 61/26th Avenue
- Southbound 26th Avenue at I-35/London Road











2045 Hourly No Build Analysis - Overall Intersection LOS

Intersection	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
5th Ave & Railroad St	B	A	A	A	A	A	A	B	B	B	B	A
Harbor Dr & 5th Ave	A	A	A	A	A	A	A	A	A	A	A	A
S I-35 & 5th Ave/Harbor Dr	B	B	B	B	B	B	B	B	B	B	B	B
N I-35 & 5th Ave/Harbor Dr	B	B	B	B	B	B	B	B	B	C	B	B
5th Ave & Michigan St	A	A	A	A	A	A	A	A	A	A	A	A
I-35 & Railroad St/Harbor Dr	A	A	A	A	A	A	A	A	A	A	A	A
Railroad St & Lake Pl Dr/Lake Ave	A	A	A	A	B	B	B	B	B	B	C	B
Railroad St & Lake Ave/Canal Park Dr	B	B	B	B	B	B	B	B	B	C	C	B
I-35 & Lake Ave	A	A	A	A	A	A	B	A	A	B	A	A
Lake Ave & Superior St	B	B	B	B	B	B	B	C	C	D	C	B

These results are nearly identical to the existing condition showing overall acceptable operations throughout the day. Most intersections operate with LOS A or B throughout the day which indicates that there is excess capacity throughout the project area, even during the peak travel times.

The worst movement LOS at each intersection was also analyzed throughout the day with 2045 volumes. This is shown in the table below which indicates that most movements operate with LOS D or better, but a few movements operate with LOS E or F.

2045 Hourly No Build Analysis - Limiting Movement LOS

Intersection	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
5th Ave & Railroad St	B	B	A	B	B	B	B	B	B	C	B	B
Harbor Dr & 5th Ave	B	A	B	B	B	B	B	B	B	B	B	B
S I-35 & 5th Ave/Harbor Dr	C	C	C	B	B	C	B	C	D	D	D	C
N I-35 & 5th Ave/Harbor Dr	C	C	C	C	C	C	C	C	C	D	D	C
5th Ave & Michigan St	B	B	A	B	B	B	B	B	B	B	B	B
I-35 & Railroad St/Harbor Dr	C	C	C	C	C	C	C	C	D	D	D	C
Railroad St & Lake Pl Dr/Lake Ave	D	D	C	D	D	F	D	E	D	D	D	E
Railroad St & Lake Ave/Canal Park Dr	D	D	D	D	D	D	D	D	D	D	D	D
I-35 & Lake Ave	C	C	C	C	C	C	C	C	D	D	D	C
Lake Ave & Superior St	C	C	C	C	C	C	C	C	D	F	D	C

Analysis of the full corridor area reveals that with 2045 volumes a few locations show increased capacity-related operational issues, but overall, throughout much of the corridor there is adequate capacity to accommodate the potential for traffic growth and fluctuations in traffic volumes due to local events. Similar to the existing condition, with 2045 volumes delays are most prevalent do exist in the Lake Avenue, Canal Park Drive, and Railroad Street area. The most notable traffic deficiencies remain at the terminus of the I-35 corridor at the TH 61/London Road/26th Avenue where the urban divided freeway transitions to a conventional roadway at a signalized intersection.