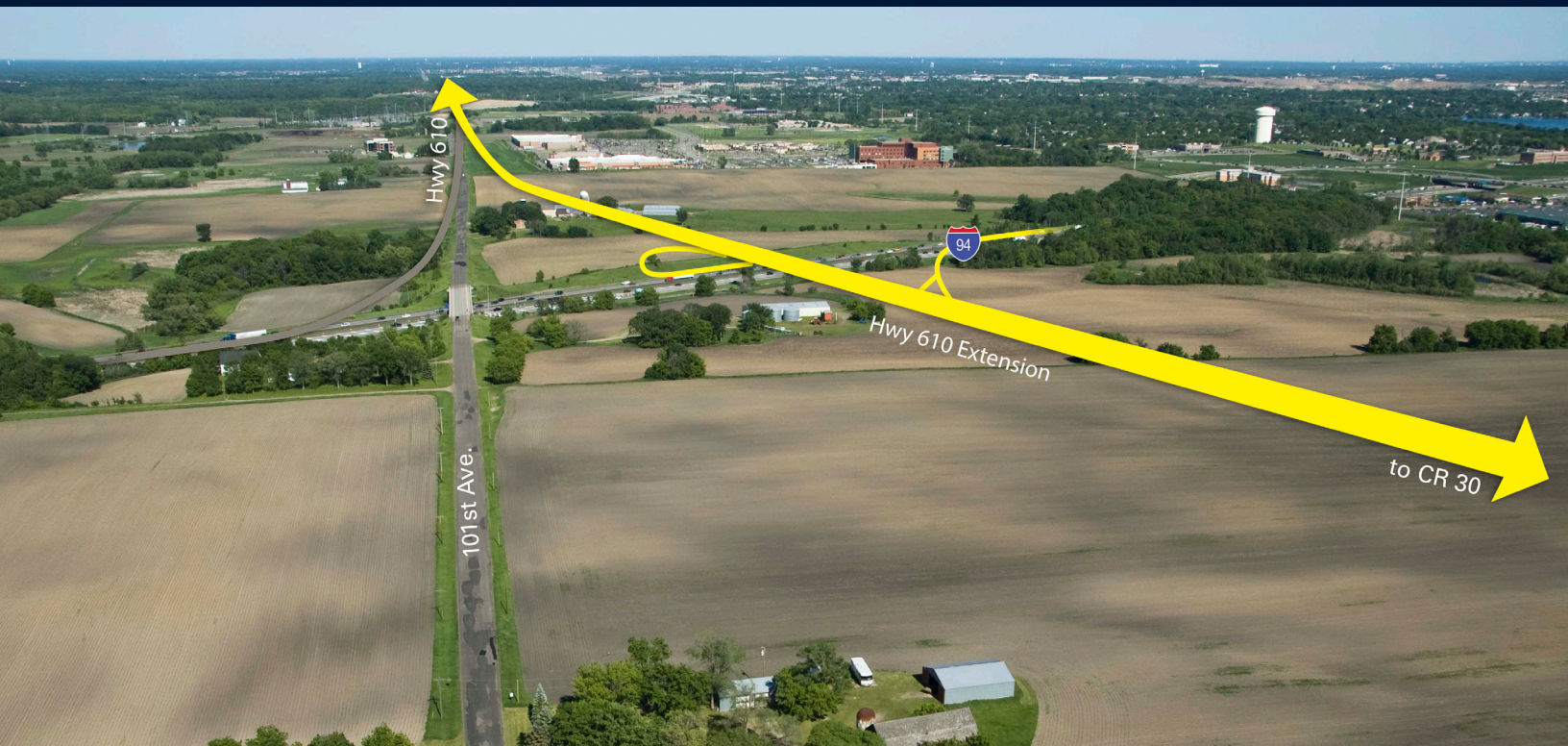




Highway 610 Completion Project

2022 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program



Project Name Highway 610 Completion Project

Project Type Rural Capital Project

Future Eligible Project Costs \$49.05 M

2022 RAISE Funds Requested \$21.825 M

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Supporting Information can be found at:

<https://www.srfconsulting.com/maple-grove-raise/>



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I. PROJECT DESCRIPTION

The City of Maple Grove, Minnesota, in partnership with the Minnesota Department of Transportation (MnDOT), is submitting this 2022 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program request for \$21,825,000 in funds. The City of Maple Grove (herein known as the City) and MnDOT will partner with the USDOT to address critical safety concerns in the city, accelerate economic development of the region, reduce inequity by providing multimodal access to educational, recreational, and commercial opportunities, tackle climate crisis through sustainable solutions, and partner responsibly with local stakeholders.

Maple Grove is a northwest suburb and one of the fastest growing cities in the Minneapolis-St. Paul metropolitan area based on the region's Metropolitan Planning Organization (MPO) Met Council's long-range forecast plan [Thrive 2040](#). [The Highway 610 Completion Project](#) (herein known as the Project) is a critical missing piece in the arterial network of highways in Maple Grove and in the region (Figure 1). The goals of the Project are to remedy the existing access gap to provide an improved transportation network in the region, improve safety by reducing the high crash rates in the parallel local roadway system, preserve infrastructure and increase sustainability by developing innovative infrastructure investments, and provide an improved and equitable multimodal experience for transit users, pedestrians, and bicyclists. Upon completion the Project improves regional connection between Interstate 94 (I-94) and Trunk Highway (TH) 610, addresses a 1.5-mile access gap in the arterial network in the region, fulfills local and regional plans for expansion, supports current infrastructure investments made in the area by MnDOT, and aligns with the purpose of the RAISE grant by delivering local, regional, and statewide economic benefits. This will create sustainable and equitable growth in the region as detailed in Section V below.

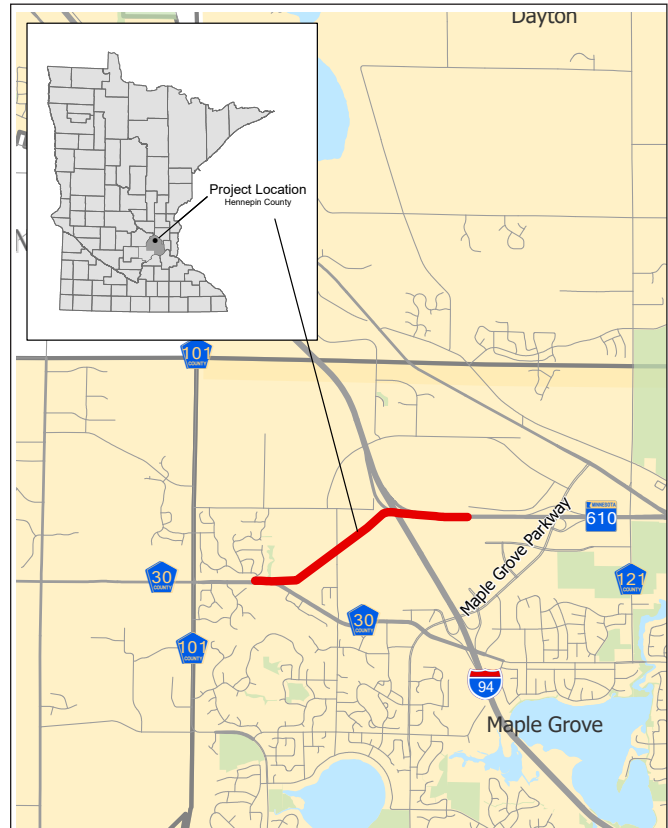


Figure 1 [Project Location in Regional Context](#)

The Project is located right at the convergence of two vital freight corridors in Maple Grove. Both I-94 and TH 610 are identified by MnDOT as Minnesota's Principal Freight Corridor on the designated National Highway System in the [Minnesota Statewide Freight System and Investment Plan](#). The first segment of TH 610 was built in 1986 with a Mississippi River crossing connecting TH 47 in Coon Rapids with TH 252 in Brooklyn Park. For nearly 40 years, TH 610 progressed east to west towards Maple Grove, in numerous phases.

With this Project, the City is seeking to finish the last missing connections at the I-94 interchange and to extend the heavily traveled road further west to Hennepin County State Aid Highway (CSAH) 30. The unfinished connection between existing TH 610 and I-94 in Maple Grove is emphasized as a high-priority strategic capacity enhancement project. This Project is identified in the Met Council's [2040 Transportation Policy Plan](#) as one the few remaining A-Minor Arterial Expander roadways that are planned, but not yet constructed.

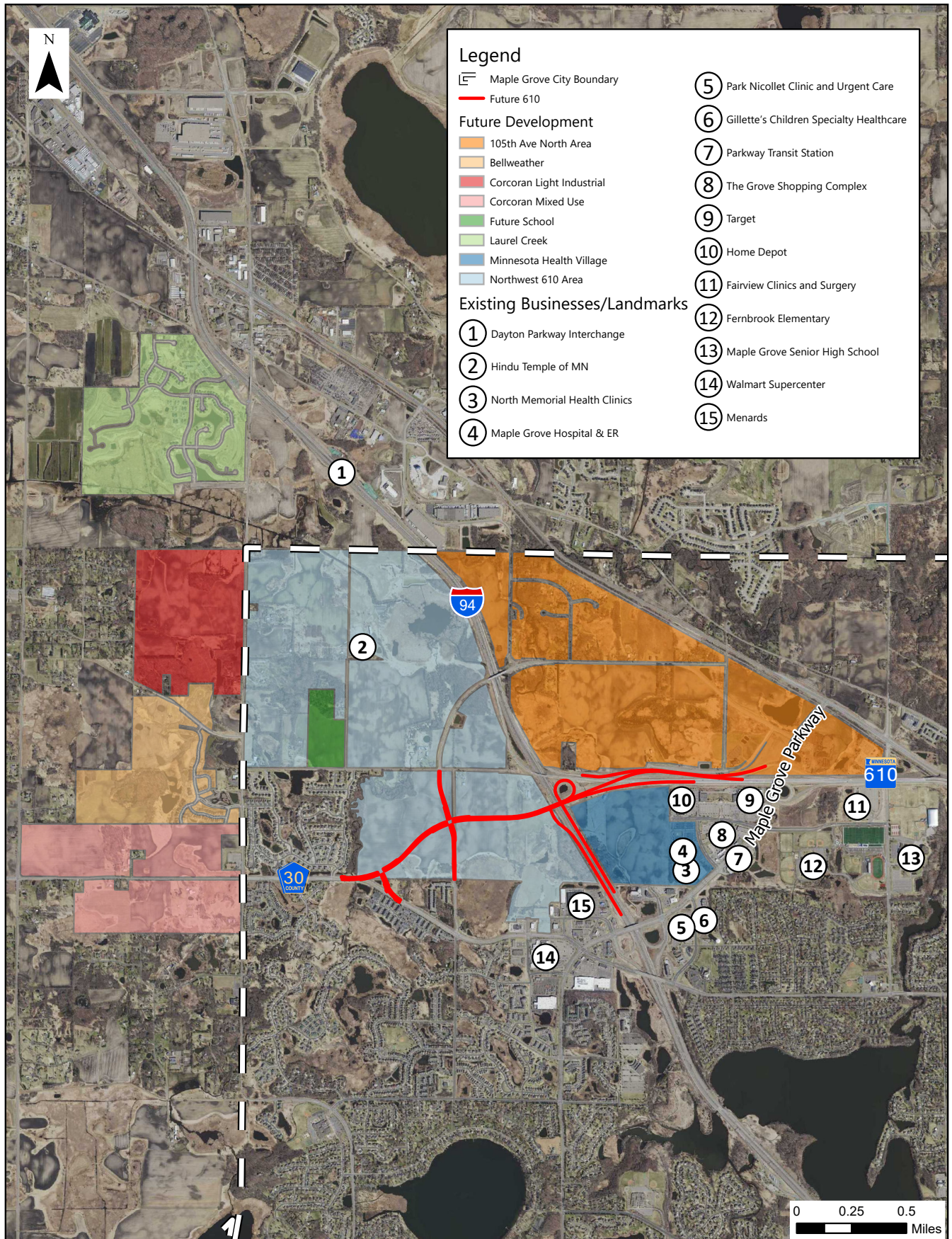


Figure 2 [Future Growth in the Region](#)

The Project will include a four-lane divided roadway, to be known as Highway 610 Extension, between I-94 and CSAH 30. It will also include new ramps, auxiliary lanes, two new bridges, traffic signals, two miles of new multiuse trails, Americans with Disability Act (ADA) compliant pedestrian upgrades, high visibility crosswalk markings, and environmentally sustainable stormwater infrastructure.

This will improve connections at the I-94/TH 610 interchange and provide a pivotal east-west movement between the western terminus of existing TH 610 and CSAH 30. The Project's total future eligible project cost is \$49.05 million and complies with the requirements of a rural capital project as 52 percent of the future eligible cost is invested in rural area. The Project provides efficient transportation networks to support future economic growth in Maple Grove as well as the neighboring rural cities of Corcoran, Rogers, Dayton and urban cities of Plymouth, Brooklyn Center, and Brooklyn Park. The planned developments east and west of I-94, adjacent to the Project, will collectively add thousands of new residential units, millions of square feet of office, light industrial, and tech-focused spaces, regional-serving commercial/retail nodes, expanded hospital and specialty healthcare clinics, community parks and trails, and a new elementary school (Figure 2).

The population and the employment levels in Maple Grove are expected to grow by 27 percent and 22 percent, respectively, in the next 20 years (Figure 3). This growth is not supported by the current transportation infrastructure. The Project will support the expanding population and employment through completion of the last remaining gap, a more than 40 years effort, to complete the TH 610 corridor in Minnesota.

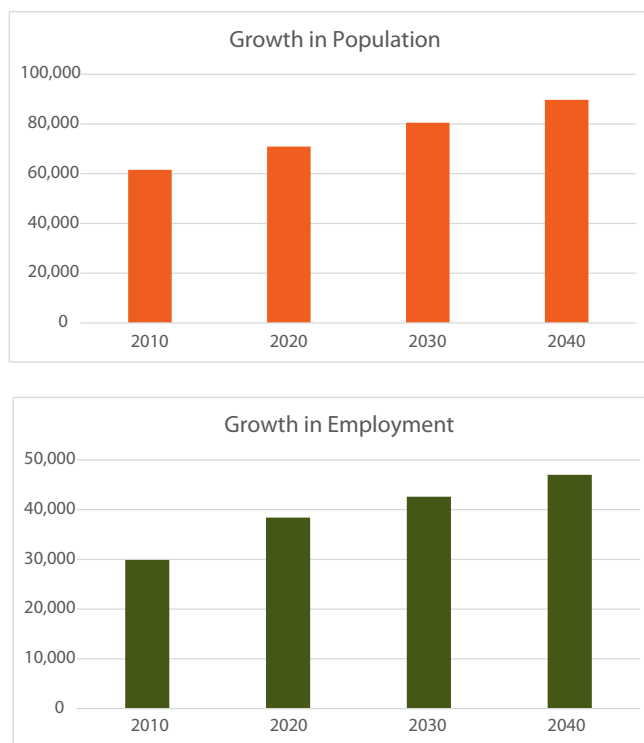


Figure 3 Population and employment growth for Maple

Source: Thrive 2040

PROPOSED IMPROVEMENTS

The Project is part of the [City of Maple Grove's Comprehensive Plan](#) and [Transportation Plan](#) and is the last major transportation improvement of the overall system to be put in place. The City evaluated constructibility, operations/safety, sustainability, equity, asset management, funding cost, and community support to design the Project. The enhancements will improve safety, decrease congestion, improve trip time reliability, provide regional roadway system access for economic generators, reduce localized stormwater flooding and runoff, enhance bicycle and pedestrian movement across the corridor, and provide a regional transit advantage. The proposed project improvements include:

- Constructing a new four-lane divided minor arterial, Highway 610 Extension, from existing TH 610 to CSAH 30,
- Providing three more movements to the I-94/TH 610 Interchange by constructing an on-ramp in the southwest quadrant of the interchange (that will accommodate the east- and westbound Highway 610 to eastbound I-94 movement), as well as a loop off-ramp in the northeast

- quadrant of the interchange (that will accommodate the westbound I-94 to westbound Highway 610 movement),
- Constructing auxiliary lanes on eastbound and westbound I-94 between the Highway 610 Extension and Maple Grove Parkway,
 - Installing traffic signals with dedicated turn lanes at Highway 610 Extension intersections with Lawndale Lane and CSAH 30,
 - Constructing a new four-lane bridge with pedestrian trail over I-94 and a new single lane bridge over TH 610,
 - Constructing two miles of new multimodal infrastructure, including sidewalk connections along adjacent local roadways and multiuse trail along both sides of Highway 610 Extension from CSAH 30 to the southeast quadrant of the I-94 and TH 610 interchange,

- Adding ADA-compliant curb ramps, accessible pedestrian signals and countdown timers, and high visibility crosswalk markings at all crossing locations, and
- Avoiding or minimizing environmental impacts, such as water quality, outlet rate control, and wetland impacts, through detaining and filtering storm water runoff and design iterations.

These improvements have been evaluated through the public engagement process that began in 2012. The connection would directly benefit numerous rural communities west of Maple Grove in Hennepin and Wright Counties who currently lack arterial network connections by providing safe and reliable access to quality-paying jobs, healthcare services, and other daily needs.

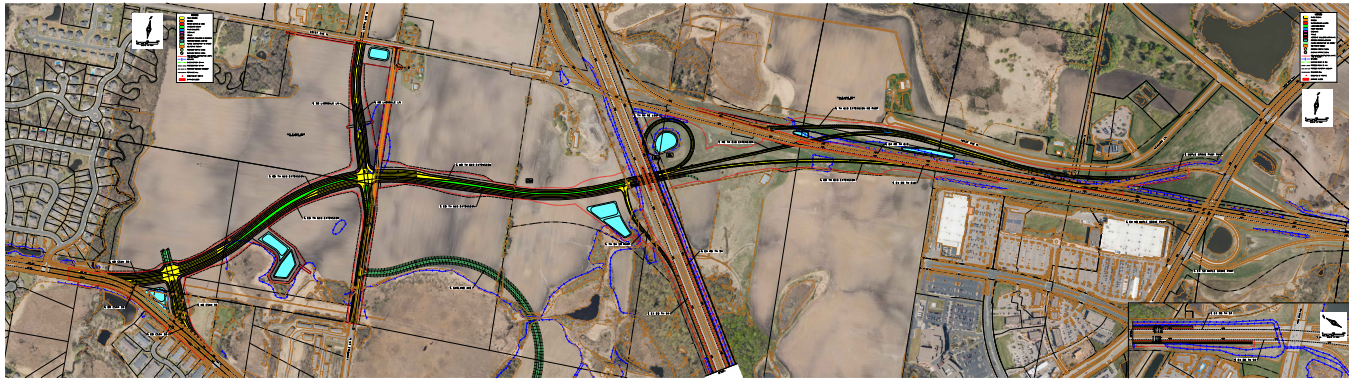


Figure 4 [Project Layout](#)



PROJECT HISTORY

The Project lies at the crossroads between I-94 and TH 610, both historically significant connections across north-northwest Minneapolis-St. Paul Metropolitan region. I-94 provides a nationally significant connection for major freight, commuter, and local traffic to Minneapolis and beyond to the south and St. Cloud MN, Fargo ND, and beyond to the north. TH 610 provides a regionally vital connection between the northeast and northwest suburbs of Minneapolis-St. Paul Metropolitan region and an important crossing over the Mississippi River. Along these two corridors exists headquarters of several major Fortune 500 employers as well as numerous other local and regional employment centers.

The investments by the City in the transportation network in Maple Grove began over 30 years ago and included planning the local roadway system consisting of the Maple Grove Parkway interchange, CSAH 30 overpass, and the Project. From 1973 to 2011, TH 610 progressed from northeast suburbs towards the northwest suburbs spanning two counties and three cities. After several planning studies, lobbying efforts, federal funding support, and multiple phases of construction, TH 610 finally reached the City boundary in 2011 (Figure 5). In the summer of 2017, TH 610 was extended 2.5 miles into Maple Grove at a cost of \$80.7 million, which was funded through the Minnesota State Legislature’s Corridor of Commerce funds. This Project bridges the final 1.5-mile segment of the long-sought vision for TH 610 and will conclude a 50-year effort by civic leaders in Minnesota that has cumulated in a \$250 million investment to-date. The Project is currently in final design stage and has secured 90 percent of the required right-of-way.

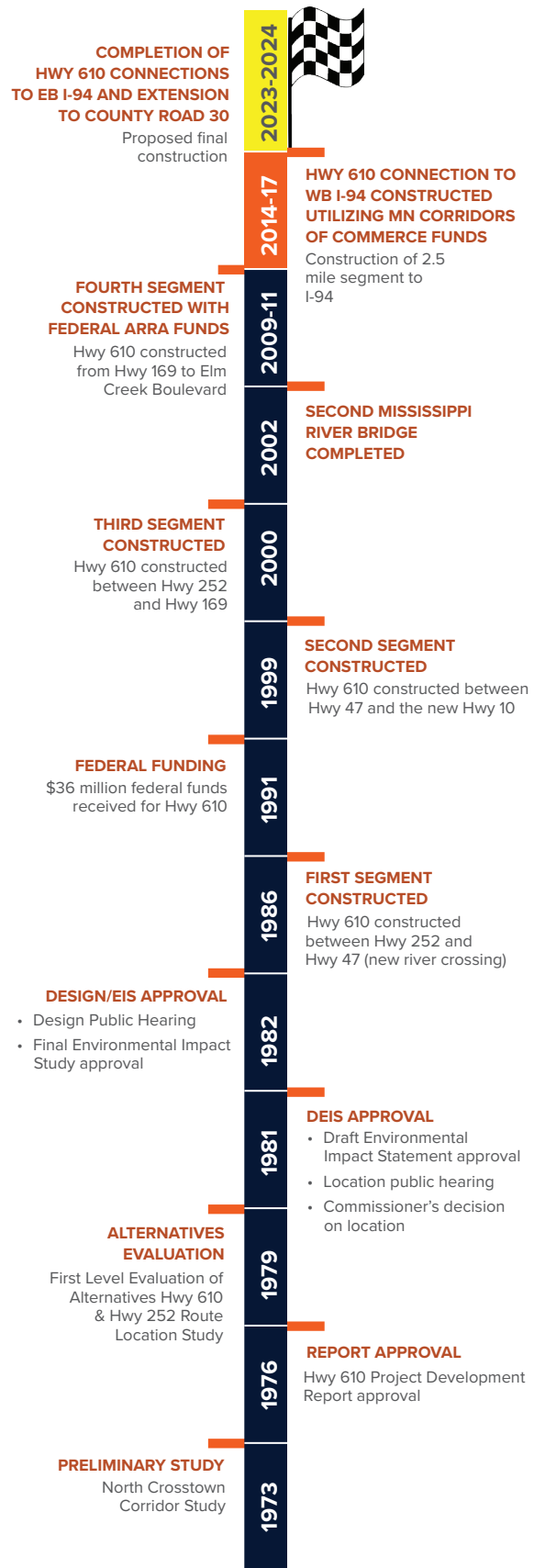


Figure 5 Project History

II. PROJECT LOCATION

The Project is in Maple Grove, Minnesota, approximately 16 miles northwest of Minneapolis in Hennepin County. Today, TH 610 spans 12 miles from I-94 in Hennepin County to US 10 in Anoka County. Approximately 52 percent of the total project cost is in a rural area and outside of the Minneapolis-St. Paul, MN-WI (Twin Cities) Urbanized Area boundary. Therefore, per guidance in the Notice of Funding Opportunity, the Project is designated as rural. The Project is not located within, or near, an Area of Persistent Poverty (APP) or Historically Disadvantaged Community (HDC). The Project's western terminus is located approximately 0.5 miles east of CSAH 101 on CSAH 30 (45.131° N, 93.511° W) and the eastern terminus is located approximately 0.75 miles east of I-94 at TH 610 (45.137° N, 93.484° W) as seen in Figure 6.

Maple Grove has an estimated population of nearly 71,000 as of 2020 and is expected to increase 27 percent by 2040. Employment growth is also projected to increase from 38,400 jobs that currently exist in the city to 47,000 jobs by 2040. Most of that population and employment growth will occur within the northwestern portion of the city, one of the last remaining undeveloped portions of Maple Grove, which surrounds the Project. The Project is also less than one mile east of the rural town of Corcoran (pop. 5,900) which would also be positively impacted by the east-west connection.

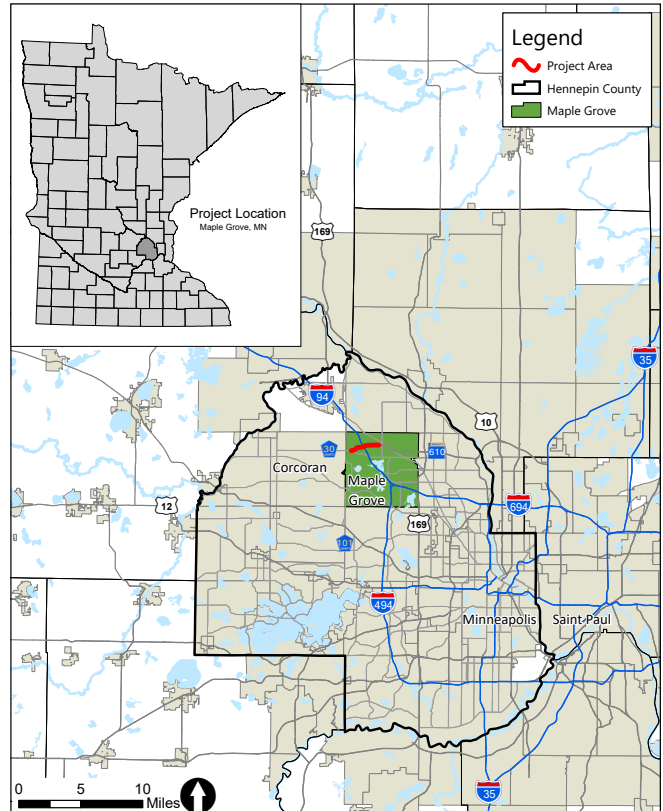


Figure 6 [Project Location](#)

III. GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

PROJECT COSTS

Total Project Cost: \$53.925 million

RAISE Grant Request Amount:

\$21.825 million (44 percent of future eligible project cost)

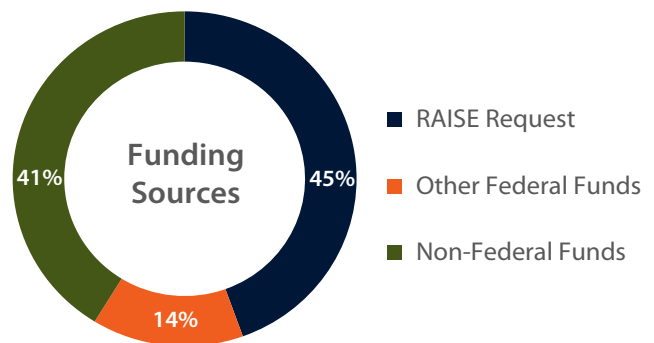


Figure 7 Project Funding Sources

Availability and commitment of funding sources: The total project cost is \$53,925,000 (Table 1) which includes construction, utilities, right-of-way, design, engineering, and construction administration. In the last 4 years, the City has secured \$25 million in [Regional Solicitation](#) funds, [Transportation Economic Development \(TED\)](#) funds, and [Local Road Improvement Program \(LRIP\)](#) funds. Of this secured money, \$18 million will be used towards the non-federal match. Additionally, the City has committed \$2.225 million in matching funds, which brings the total non-

federal match to 41 percent of the future eligible project cost. As of Spring 2022, the Project is included in the State of Minnesota's approved [2022- 2025 STIP](#) as Project No. 189-143-001. Additionally, \$4.875 million has already been spent by MnDOT and the City on design engineering, environmental review, and right-of-way acquisition. The award of this RAISE grant will close the gap needed to fully fund the Project and construct the ultimate vision for Highway 610 in the region.

Table 1 [Highway 610 Completion Project Budget \(2023 Dollars\)](#)

Project Tasks	Project Funding											Total Cost Estimate		
	Federal Funding		Other Federal		Non-Federal Funding (Local Share)									
	RAISE		Regional Solicitation		TED Funds		State of Minnesota		MnDOT		City of Maple Grove			
	Dollars	Percent Total	Dollars	Percent Total	Dollars	Percent Total	Dollars	Percent Total	Dollars	Percent Total	Dollars		Percent Total	
Past Expenses	Design Engineering & Environmental Review	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$100,000	2%	\$775,000	16%	\$875,000
	Right-of-Way Acquisition (Trunk Highway)	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$1,000,000	21%	\$0	0%	\$1,000,000
	Right-of-Way Acquisition (Local Roads)	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$3,000,000	62%	\$3,000,000
	Total Past Expenses	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$1,100,000	23%	\$3,775,000	77%	\$4,875,000
Future Costs	Design Engineering & Environmental Review	\$1,150,000	2%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$2,225,000	5%	\$3,375,000
	Right-of-Way Acquisition (Local Roads)	\$0	0%	\$0	0%	\$0	0%	\$3,000,000	6%	\$0	0%	\$0	0%	\$3,000,000
	Construction Trunk Highway	\$10,825,000	22%	\$0	0%	\$5,000,000	10%	\$0	0%	\$0	0%	\$0	0%	\$15,825,000
	Construction Management Trunk Highway	\$1,250,000	3%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$1,250,000
	Construction Local Roads	\$5,800,000	12%	\$7,000,000	14%	\$0	0%	\$10,000,000	20%	\$0	0%	\$0	0%	\$22,800,000
	Construction Management Local Roads	\$1,800,000	4%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$1,800,000
	Contingency	\$1,000,000	2%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$1,000,000
	Total Future Costs	\$21,825,000	44%	\$7,000,000	14%	\$5,000,000	10%	\$13,000,000	27%	\$0	0%	\$2,225,000	5%	\$49,050,000
Funding Breakdown	RAISE Request \$21,825,000 44% Other Federal \$7,000,000 14% Non-Federal \$20,225,000 41% Total Future Project Cost \$ 49,050,000											Total Project Cost (Past + Future) \$53,925,000		

NON-FEDERAL FUNDING SOURCE

City of Maple Grove Funding

The City of Maple Grove has served as the champion of the Project for nearly 30 years and has invested \$6 million through previous expenses and future commitments. The Maple Grove City Council adopted [Resolution No. 22-055 on March 21, 2022](#) to approve the request for FY 2022 RAISE funding and commit to the non-federal match for the Project. Local funding from the City is dedicated to the Project and leverages other funding opportunities including the federal and state funds already secured for the Project as well as requested RAISE funds. Local roadway portions of the Project will be managed by the City through annual maintenance and operations of those areas.

MnDOT Funding

The City of Maple Grove has partnered with MnDOT over the last few decades to implement the Highway 610 vision and will continue to collaborate with them. MnDOT firmly supports the Project and has already invested \$1.1 million towards right of way acquisition associated with the trunk highway portions of the Project. The City will continue to work closely with MnDOT as the trunk highway portions of the Project will be managed by MnDOT through annual maintenance and operations.

State of Minnesota Funding

The Minnesota State Legislature passed bill HF 1 in October 2020 which was subsequently signed into law by Governor Tim Walz. The bill earmarks \$13 million of state bonding money explicitly for the Project to fund construction of, and thereby completion of the Highway 610 corridor. The City was notified of the funding in a letter dated November 2, 2020 from MnDOT. The state funds

will be distributed prior to the RAISE grant obligation deadline.

Transportation Economic Development (TED) Funds

The City secured \$5 million in Transportation Economic Development (TED) funds in December 2021. These funds are administered through a competitive process by MnDOT in partnership with the Minnesota Department of Employment and Economic Development for projects that support growing industry and businesses, leverage private funding, and improve the transportation system for all users. The obligation deadline for these funds is FY 2024, which the City will fulfill by securing the requested RAISE funds and authorizing construction of the Project.

OTHER FEDERAL FUNDING SOURCES

The City of Maple Grove has secured the following other federal funding for the Project.

Metropolitan Council Regional Solicitation

The Metropolitan Council, the Twin Cities regional metropolitan planning organization, administers the Regional Solicitation program which is a competitive process where federal funds are allocated to local governments, state agencies, and transit providers to fund regional transportation needs. In 2018, the City of Maple Grove was awarded \$7 million in federal Regional Solicitation funding to support the Project. The obligation deadline for these funds is FY 2023, which the City will

fulfill by securing requested RAISE funds and authorizing construction of the Project.

RAISE Funding Need

Since the 1990s, the City has planned land use and the local transportation networks with the understanding that the Project would be completed. If RAISE funding is not awarded, the Project would be significantly delayed. As a result, the connections between CSAH 30, I-94, and existing TH 610 would not be completed in the near-term due to funding constraints. This would lead to a significant increase in projected crash costs and frequency. Congestion would also continue to worsen which will mean the loss of economic development opportunities for Maple Grove. Significant impacts will occur to properties along the Maple Grove Parkway if the Project is not built. Parcel impacts adjacent to the I-94/TH 610 interchange are estimated at \$30 million dollars under a No-Build condition. Due to its high cost, these impacts are determined unsustainable by the City.

Most importantly, the City has secured other federal funding to leverage for implementation of this Project. The Met Council Regional Solicitation funds for the Project are programmed for FY 2023 and will be jeopardized if the Project is delayed beyond this date. Securing the requested RAISE funds would ensure that the City is able to fulfill its obligations and use the other federal and non-federal funds generously awarded to-date. Therefore, the Project is a very high priority for Maple Grove.

IV. MERIT CRITERIA

The long-sought completion of TH 610 and the surrounding transportation network was first regionally planned in the mid-1970s and has been part of the City's local transportation and land use plans for over 30 years. The first segment of TH 610 was constructed in 1986 and was most recently extended to I-94 in 2017. Today, it spans 12 miles from I-94 to United States Highway (US) 10 in Anoka County and across the northern suburbs of the Twin Cities Metropolitan Area facilitating regional east-west travel

The Project is the last piece of the overall transportation system to be put in place and addresses the current transportation challenges through the following solutions:

- Provides safety benefits by alleviating traffic on Maple Grove Parkway and CSAH 30 (top crash location in Maple Grove according to the [Maple Grove 2040 Transportation Plan Update](#)). The crash cost savings due to the Project are \$48 million, over the next 20 years.
- Improves environmental sustainability by reducing greenhouse gas emissions due to idling vehicles, avoiding adverse environmental impacts, and improving

disaster preparedness. Total GHG emission savings (NOX, SO2, PM 2.5) are \$5,000, over the next 20 years.

- Enhances quality of life for the residents of Maple Grove by reducing congestion and delays along the existing local roadway system, and by providing a multimodal network of transportation choices. The travel time cost savings due to the Project are \$59.5 million, over the next 20 years.
- Improves mobility and community connectivity by providing additional capacity to the existing local and county roadway system, eliminating the remaining 1.5-mile access gaps in the local transportation network, and improving multimodal connections in and around the City.
- Strengthens the region's economy by creating numerous high-paying jobs as well as developing infrastructure to support growing populations through workspaces, residential communities, schools, and recreational centers, which will lead to continued development in the area.
- Extends the life and value of investments in the infrastructure through efficient asset maintenance.
- Collaborates with key public and private stakeholders to come to mutually beneficial and universally acceptable solutions.
- Incorporates innovative technologies to build a framework for future Connected and Autonomous Vehicles (CAV) while employing innovative project delivery/financing practices to deliver benefits within a reasonable time frame.

1. SAFETY

The safety of all users using the transportation system is critically important towards achieving the goals of MnDOT's [Towards Zero Deaths program](#). The program, adopted in 2012, calls for elimination of traffic fatalities and serious injuries through the integrated application of education, engineering, enforcement, and emergency medical and trauma services.

\$35 MILLION IN 20-YEAR CRASH SAVINGS

Highway 610 Extension is classified as a proposed minor arterial in the City's [2040 Transportation Plan Update](#). This Project will improve safety by reducing the number of regional trips currently using the local arterial roadway system. Currently, in northwest Maple Grove and surrounding rural communities, no Principal Arterials exist that provide east-west access to regionally significant connectors such as I-94. Maple Grove Parkway and CSAH 30, both classified as minor arterials, are relied upon for such connectivity; however, both the roadways currently experience significant safety issues, and their intersection is the top crash location in Maple Grove. These issues are due to queuing and congestion caused by regional and commuting traffic, especially during the evening peak hours. Higher volumes on local roadways with limited access control, shoulders, and areas for accommodating pedestrians and bicyclists result in a higher frequency of crashes.

A traffic analysis was conducted for CSAH 30 and Maple Grove Parkway as these are the parallel routes that would benefit from the Project. The existing (2018) average annual daily traffic (AADT) volumes on Maple Grove Parkway is 31,000 and is projected to increase to 42,500 by 2040 under the No Build condition. These increased levels will lead to safety and mobility issues along Maple Grove Parkway in the very near future. However, if the Project is built, the projected AADT volumes on Maple Grove Parkway reduce to 28,000 due to traffic volume shift to the Project.

The traffic analysis reviewed pre-COVID pandemic crash data from 2015 to 2019. The total number of recorded crashes include 181 crashes (of which three resulted in serious injuries) along the one-mile section of Maple Grove Parkway from CSAH 30 to TH 610 and 91 crashes along the 1.5-mile section of CSAH 30 from Maple Grove Parkway to CSAH 101 (of which one resulted in a serious injury). A bigger dataset (2010 to 2019) was analyzed to identify crashes involving vulnerable road users (i.e., people walking, rolling, or biking). Three crashes involving pedestrians and seven crashes involving bicyclists were recorded along Maple Grove Parkway and CSAH 30, within the study area. Of those, two resulted in serious injuries. It was found that the higher frequency of crashes is due to the higher volumes on local roadways designed

with limited access control and numerous signal-controlled intersections. Moreover, significant congestion also produces unsafe conditions for decision-making by motorists, which in turn endangers vulnerable roadway users. Figure 8 shows the crashes that have occurred by severity from 2015 to 2019.

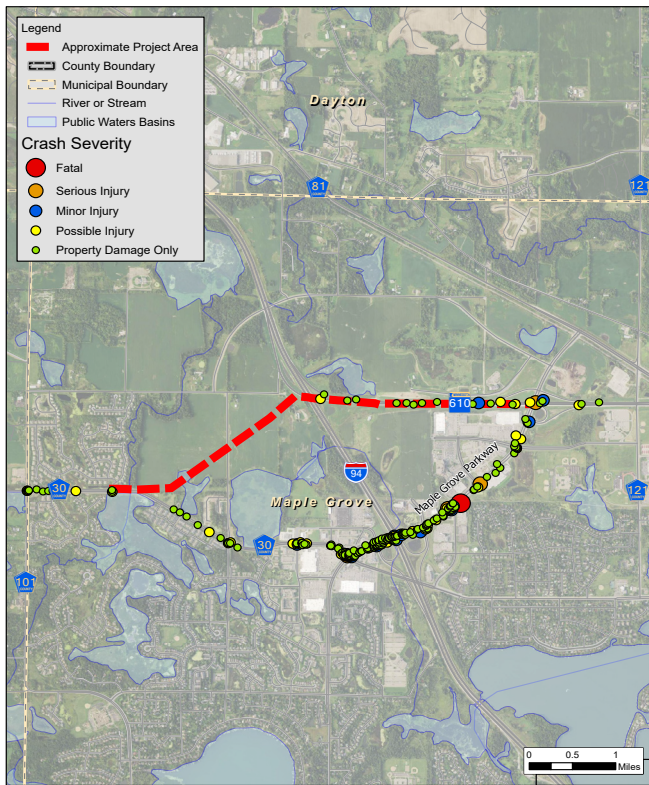


Figure 8 [Crash History \(2015-2019\)](#)

The Project benefits the two corridors by reducing the total number of crashes along both the roadways due to the expected shift in traffic volumes as shown in Table 2. The shift in AADT volumes coupled with the reduction in average crash rates directly corresponds to reduction in the overall number of crashes. The Project will reduce the future estimated number of total crashes along both corridors from 272 to 217 which equates to a 20 percent decrease (55 less crashes). The estimated reduction in crashes was produced using the calculated traffic volume shift to the Project from CSAH 30 and Maple Grove Parkway using the Metropolitan Council Regional Activities Based Model and engineering judgment.

The Project will improve the overall operations due to wider roadways and intersection treatments that include dedicated turn lanes at Lawndale Lane and CSAH 30. The

redistribution of traffic along with improved operations will help remedy safety concerns and mobility issues on the local arterial and collector system which in turn will result in projected safety benefits. The crash cost savings due to the Project are \$48 million, over the next 20 years.

Table 2 Projected Crash and Volume Reductions

Segment	Total Number of Crashes		AADT	
	Existing	Future	Existing	Future
CSAH 30 from CSAH 101 to Maple Grove Parkway	91	54	15,550	9,330
Maple Grove Parkway from CSAH 30 to TH 610 S ramp	181	145	24,890	19,912
CSAH 610 volume from CSAH 30	n/a	18	n/a	n/a
Reduction in crashes	272	217	n/a	n/a

2. ENVIRONMENTAL SUSTAINABILITY

CUMULATIVE REDUCTION OF NEARLY 2.2 MILLION METRIC TONS OF CO2 OVER 20 YEARS

Climate Action Plan

In 2007, the State of Minnesota passed the bi-partisan Next Generation Energy Act (NGEA) that established goals for the state to reduce greenhouse gas (GHG) emissions by 15 percent below 2005 levels by 2015, 30 percent by 2025, and 80 percent by 2050 compared to a 2005 baseline. MnDOT was the first state agency to apply the [Next Generation Energy Act GHG reduction goals](#) to all agency operations. The Metropolitan Council identifies sustainability as the primary goal in the agency's long-range plan for the Twin Cities region, [THRIVE MSP 2040](#). It is actively implementing practices towards climate mitigation, adaption, and resiliency while currently working on developing a [Climate Action Plan](#). Hennepin County recently completed a [Climate Action Plan](#) in May 2021 that devises strategies to cut greenhouse gas emissions

and adapt to the changing climate in ways that reduce vulnerabilities and ensure a more equitable and resilient county. The City of Maple Grove supports the Climate Action Plans developed by all the governing agencies and is committed to ensure that the goals identified by these agencies are being fulfilled through the improvements resulting from the Project.

Reducing Greenhouse Gas Emissions

As outlined in MnDOT’s [Sustainability and Public Health Report](#), further work is needed towards achieving the goals of reducing greenhouse gas (GHG) emissions from transportation sector 30 percent by 2025. However, the agency did exceed its goals of reducing facility related GHG emissions by 39 percent, reducing water use by 27 percent, and converting all highway lighting to light-emitting diode (LED) by 97 percent, in 2020. MnDOT’s [Sustainable Transportation Advisory Council](#) (STAC) also recognizes the need to reduce vehicle miles traveled (VMT) to address climate change. The City supports MnDOT’s goals as they align with the environmental resilience plan included in the Maple Grove’s 2040 Comprehensive Plan. The City and its partners have invested in planning the transportation network and measuring performances through a lens focused on the unavoidable impacts of climate change. These goals are being achieved in the project corridor through adopting complete streets design and by creating pedestrian/bicycle infrastructure through sidewalks, multiuse trails, and crosswalk connections.

The Project provides specific GHG emission reduction benefits by providing additional capacity that improve traffic flow patterns along Maple Grove Parkway and CSAH 30 leading to reduced congestion, queuing, and idling, which in turns lowers operational GHG emissions. Table 3 shows the operational emissions analysis completed as a part of the CATEX process. The analysis concluded a reduction of more than 2 million metric tons over 20 years due to Project improvements.

Table 3 Operational Emission Analysis Results

Operational Emissions (Base Year and Design Year)	CO2e, Metric Tons per Year
Base year (2021)	1,974,103
No Action Alternative (2040)	1,941,002
Build Alternative (2040)	1,831,961
Difference Build vs. No Build	(109,041)
Cumulative difference over project lifetime (20 years)	CO2e Metric Tons (total)
	(2,180,820)

Source: Highway 610 Categorical Exclusion Determination. S.P. 189-143-001

Environmental Justice Analysis

As part of the Categorical Exclusion Determination (CATEX) process and in compliance with Executive Order (E.O.) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, the Project underwent an [Environmental Justice \(EJ\) Analysis](#). The data for the analysis was determined using the demographic data compiled using census data. It was found that the minority and low-income populations within the study area are less than or similar to the proportion of minority and low-income populations at the county level. Minority and low-income populations within the study area are not individually or cumulatively of a size and scope to constitute an environmental justice population. Therefore, in accordance with the provisions or Executive Order 12898 and FHWA Order 6640.23, it is not anticipated that this project will result in impacts to environmental justice populations. Table 4 and 5 show the analysis completed for the environmental justice process.

Table 4 Low Income Populations within 0.25 Miles of the Project

Census Tract, Block Group	Category	Low Income Selected Variable	Value
Census Tract 267.08, Block Group 1	ACS 2015-2019	Percent of households below poverty	15%
Census Tract 267.08, Block Group 5	ACS 2015-2019	Percent of households below poverty	0%
Census Tract 267.14, Block Group 1	ACS 2015-2019	Percent of households below poverty	7%
Census Tract 267.14, Block Group 3	ACS 2015-2019	Percent of households below poverty	6%

Source: American Community Survey Five-Year Estimates (2015-2019)

Table 5 Minority Populations within 0.25 Miles of the Project

Census Tract, Block Group	Category	Selected Variable	Value
Census Tract 267.08, Block Group 1	ACS 2015-2019	Minority population as a % of total population	33%
Census Tract 267.08, Block Group 5	ACS 2015-2019	Minority population as a % of total population	4%
Census Tract 267.14, Block Group 1	ACS 2015-2019	Minority population as a % of total population	17%
Census Tract 267.14, Block Group 3	ACS 2015-2019	Minority population as a % of total population	26%

Source: American Community Survey Five-Year Estimates (2015-2019)

Electrification Infrastructure/EV Charging Stations:

The City of Maple Grove's [2040 Comprehensive Plan](#) and Hennepin County's [Climate Action Plan](#) identifies promoting EV infrastructure as a key element of environmental resilience for the city as well as the region. The City is committed to implement charging vehicle technology at city-owned buildings, as well as encourages the private sector to develop charging stations within the city. The City's commitment to EV charging is illustrated by the implementation of four charging stations at the Maple Grove Transit Station, approximately 5 miles from the Project corridor, in 2021. The City is committed to installing additional charging stations near the Project to reduce barriers to EV adoption and allow EV travel throughout the state. Currently, two EV charging stations exist within one mile of the Project including a Tesla Level 3 Supercharger station that is under construction adjacent to the Project in Target parking lot that will provide eight spaces for vehicle charging via Tesla's program as well as four existing charging stations at the Park Nicollet Specialty Center. Maple Grove Hospital is planning to install 10 EV chargers in the next three years to support the growing needs of the employees. In addition, several key employers have expressed [strong support](#) for installing EV chargers as part of their expansion plans in the next five years.

The I-94 corridor was designated by the FHWA as an Alternative Fuels Corridor, one of 55 designated routes in the United States, to promote alternative fuels and help drivers find vehicle charging stations. This designation is important as it sets a vision for MnDOT and the cities along I-94 to promote adoption of electric vehicles (EVs) and maximize the benefits of EVs by supporting the build out of charging stations and other infrastructure. To support this vision, the City will encourage and support charging stations and zero-emission infrastructure as future development is implemented surrounding the Project.

Avoiding Adverse Environmental Impacts

The Project focuses on ensuring best management practices (BMPs) that positively and sustainably support nearby water bodies and wetlands. The Project fulfills all the stringent requirements by the Minnesota Pollution Control Agency (MPCA) and additional standards established by the Elm Creek Watershed Management Commission (ECWMC), which include regulations adopted in 2014 for development to not increase total phosphorus or total suspended solids. The ECWMC's oversight requires a higher level of pollutant removal than what is required by the National Pollutant Discharge Elimination System (NPDES) permit, particularly for the

construction of new roads. Therefore, proposed water quality infrastructure must meet already high standards produced by local agency partners.

The Project incorporates stormwater BMPs that reduce nutrient loading and runoff volume. Proposed improvements include sedimentation, filtration, plant uptake, and groundwater recharge methods. The Project also includes innovative technologies such as infiltration and/or filtration BMPs. The infiltration methods will allow runoff to recharge groundwater while the filtration methods will account for evaporation of the runoff. Both options will include large areas of native plantings to filter the water, which will also increase habitat for wildlife. Stormwater infrastructure would be built for a 100-year flood event and therefore would avoid straining existing downstream infrastructure. The cumulative treatment capacity along

the corridor will remove nutrients from more than 220,000 cubic-feet of runoff (generated by a one-inch storm). The new improvements will also capture and retain more than 140,000 cubic-feet of runoff (from a one-inch storm). Approximately 90 percent of the total phosphorus of this runoff will be removed through stormwater management design. An existing stormwater basin located north of CSAH 30 and east of Troy Lane North will be expanded. Stormwater basins will be constructed in the southeast quadrant of 101st Avenue and the proposed alignment of Lawndale Lane, south of the Project between CSAH 30 and Lawndale Lane, the southwest quadrant of I-94 and the Project, and the future ramps. Figure 9 shows the existing delineated bodies of water and associated impacts.

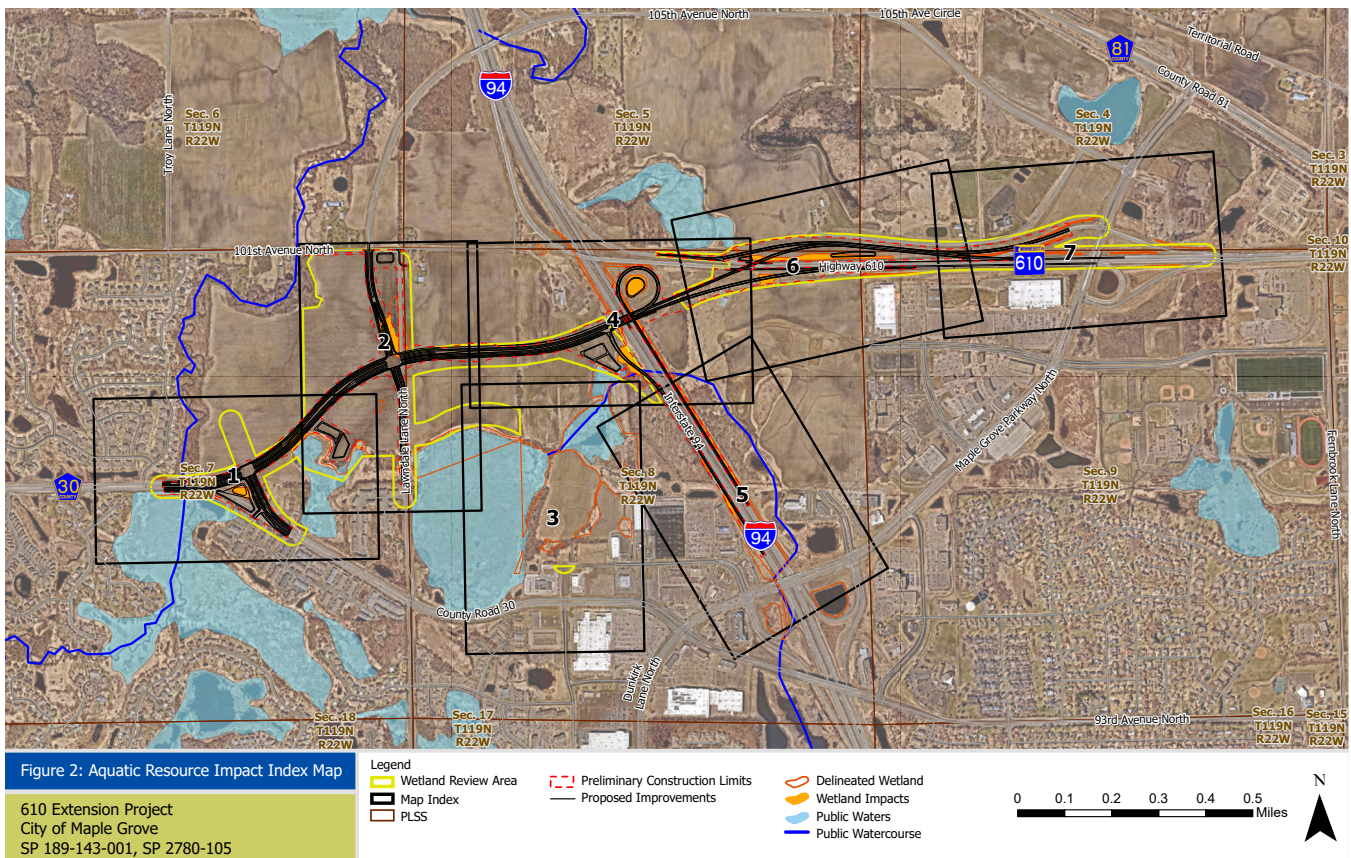


Figure 9 Existing Delineated bodies of water and associated impacts

A previous concept of the alignment was reviewed as part of the 2013 Environmental Assessment Worksheet (EAW). The 2013 concept alternative proposed a more direct route from TH 610 to CSAH 30 which would have resulted in greater impacts to DNR Public Water Wetland No. 27030900 as shown in Table 6. The proposed alignment was shifted towards the northwest to minimize impacts to this DNR Public Water Wetland. The roadway curve was adjusted to avoid this DNR Public Water to the extent possible while adhering the MnDOT design standards. All wetland impacts from the Project will be replaced at a 2:1 ratio. Extensive buffering around wetlands and streams using perennial native vegetation which filters out nutrients from stormwater runoff and stabilizes soils will also be implemented.

Table 6 Anticipated Impacts to Public Water Wetland No. 27030900

Alternative	Anticipated Impacts (acres)
2013 EAW Alignment	1.8 acres
2020 ENM Preliminary Alignment	1.2 acres
2021 Proposed Alignment	0.6 acres

Improving Resiliency and Disaster Preparedness

The Project remedies a major access gap in the current network of highways and local roadway in Maple Grove by constructing three on/off ramp movements to the I-94/TH 610 Interchange. The three proposed ramps will provide emergency responders the opportunity to access I-94 from additional access points in the event of a crash or inclement weather.

An additional improvement will be accounted in reduction of emergency response time due to the reduction of traffic volumes along Maple Grove Parkway by 40 percent and CSAH 30 by 20 percent. Maple Grove Parkway serves as the first/last mile connector for emergency responders accessing the Maple Grove Hospital (a Level IV trauma center), North Memorial Health Clinics, Gillette Children’s Specialty Healthcare, Park Nicollet Clinic and Urgent Care, and other medical facilities in the area, all of which relies upon access via Maple Grove Parkway, TH 610, and the I-94 interchange. Maple Grove Hospital is the only facility within 20 miles for rural communities west of the Project. Clear and accessible routes are critical for the health and

safety of the surrounding community as the Maple Grove Hospital and other medical facilities continue to expand through 2040.

3. QUALITY OF LIFE

Increasing Transportation Choices and Equity for Individuals

A key, and long desired, multiuse trail connection is planned as a part of the Project and would run along the south side of Highway 610 from CSAH 30, across I-94, to the Maple Grove Hospital and nearby destinations. This would provide a safe, convenient, and grade-separated pedestrian and bicycle crossing of I-94, which is currently a barrier for such travel and will improve pedestrian and bicycle safety and connectivity. The proposed improvements also include addition of ADA-compliant curb ramps, accessible pedestrian signals and countdown timers, and high visibility crosswalk markings at all crossing locations to accommodate users of all abilities.

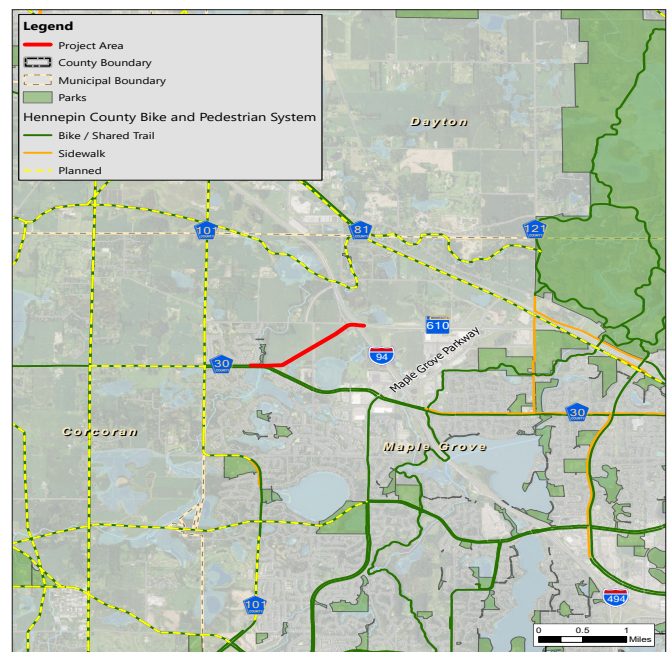


Figure 10 Existing and Future Trails

The proposed multiuse trail would tie into the existing Regional Bicycle Trail Network (RBTN) at CSAH 30 (Figure 10) the Medicine Lake Regional Trail at Maple Grove Parkway (Figure 10). The trail is maintained by the [Three Rivers Park District](#), a regional agency with over 200 miles of trail connections. By connecting to the regional system, one could access surrounding communities, employment

centers, destinations, and park facilities by walking or bicycling. The proposed improvement will make it easier and safer for residents to connect to the regional bicycle system. The completed trail network will provide regional connectivity to nearby schools, Fernbrook Elementary and Maple Grove Senior High.

Congestion and Delay

15,600 HOUR REDUCTION IN PEAK HOUR DELAY

A study of traffic delay, and potential reductions attributed to the Project, was completed using the 2040 Metropolitan Council Regional Activities Based Model and refined for the City's No Build Scenario. The Project will improve traffic flow on the local road system by reallocating traffic to the Project, thereby reducing delay an estimated 20 to 40 percent along CSAH 30 and Maple Grove Parkway, respectively. Delay at the Maple Grove Parkway and I-94 interchange, which serves over 30,000 daily vehicles cumulatively on the westbound off-ramp and eastbound on-ramp, would be reduced by approximately 30 hours per peak hour. Both movements would be included by the Project thereby lessening the pressure on the existing interchange. Furthermore, the Project results in approximately 100 hours of delay reduction in the peak hour across 12 key intersections which equates to 15,600 annual weekday peak hour savings. Moreover, it is [estimated](#) that thousands of vehicles would be shifted during the typical peak hour from intersections along these overburdened corridors which supports the travel time reduction, and include:

- CSAH 30/Lawndale: -1,200 vehicles
- CSAH 30/Maple Grove Parkway: -1,185 vehicles
- Maple Grove Parkway/I-94 interchange: -1,300 vehicles
- Maple Grove Parkway/TH 610 interchange: -1,040

Such a substantial time savings would directly benefit reliability along Maple Grove Parkway and CSAH 30 while significantly reducing congestion. Speeds would increase where the posted speed limits are 40 to 45 mph today along the 2.5-mile corridor, the off-peak free flow speeds are approximately 39 mph and decreases 25 percent to 29 mph during an average peak hour. Those travel time savings for all trips would positively impact and benefit travel along, and across, the corridors.

Figure 11 illustrates existing operational issues at the Maple Grove Parkway interchange. During peak travel periods, unbalanced lane utilization contributes to congestion at the interchange. Vehicles with origins and destinations west of this interchange use the outside ramp lanes in anticipation of their next turning movement. This results in queuing back to the I-94 mainline during the p.m. peak period. Poor lane utilization indicates that local capacity improvements (i.e., adding turn lanes) would not resolve capacity deficiencies. Figure 12 shows the projected operational deficiencies in 2040 with most intersections operating at an LOS F during the p.m. peak hour and queues stretching along nearly all of Maple Grove Parkway. Table 7 shows Quality of Life benefits due to the Project over 20 years.

Table 7 Quality of Life Benefits

Annual Quality of Life (QoL) Benefits					Total Benefits	
Mobility Cost Savings	Mortality Cost Savings	Recreation Cost Savings	Cycling Facility Improvement Cost Savings	Congestion Cost Savings	QoL Benefits	7% Discounted Value
\$222,014	\$351,867	\$664,945	\$170,347	\$5,046	\$1,414,219	\$557,553

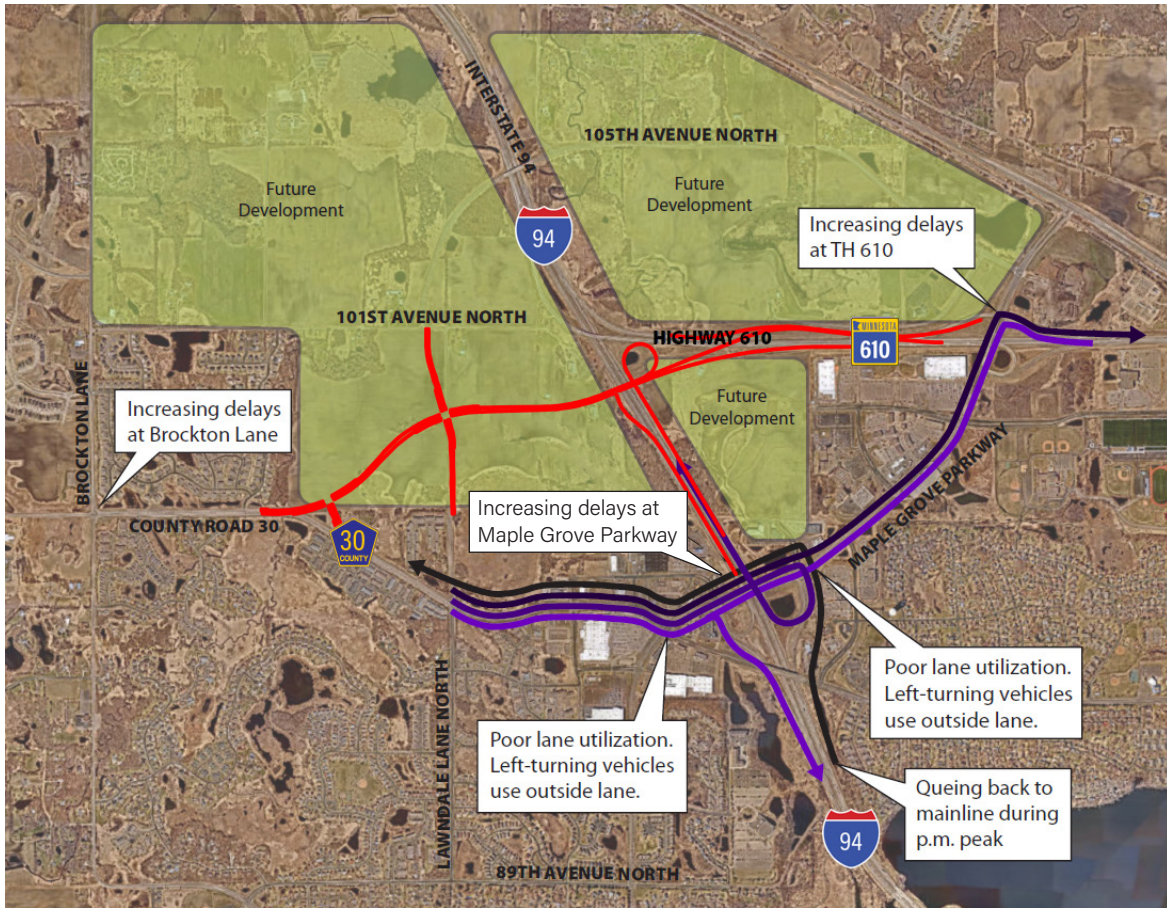


Figure 11 Existing Operational Deficiencies at Maple Grove Parkway Interchange



Figure 12 Estimated 2040 Operational Deficiencies: No Build Conditions

4. IMPROVES MOBILITY AND COMMUNITY CONNECTIVITY

The Project provides vital connections to both Tier 1 (I-94) and Tier 2 (TH 610) truck routes identified in the [Regional Truck Highway Corridor Study](#). It completes the missing movements at I-94, including the loop ramp connection from westbound I-94 to westbound Highway 610 Extension, a ramp connection from east- and westbound Highway 610 to eastbound I-94, and a bridge over I-94 to connect east- and westbound Highway 610 Extension to TH 610. Currently, all traffic moving east or west of I-94 surrounding the Maple Grove Parkway exit must travel along the four-lane divided Maple Grove Parkway to CSAH 30. The Project will improve mobility along the local roadway system by alleviating existing congestion and delays with fewer stops at signalized intersections, which will be further strained by future development in the area.

The Project will also enhance regional mobility in northwest Maple Grove by providing an east to west arterial link connecting residents, commuters and freight from other cities and Wright County from the west to employment centers to the east. In addition, the Project will provide a direct route from CSAH 30 over I-94 to TH 610, which will have a positive impact on economic conditions by providing a safer and more efficient roadway that will in turn help sustain the region's economic competitiveness.

Roadway mobility plays an important role in emergency vehicle response time. The proposed ramp and loop at the I-94 and Highway 610 Extension interchange provides an opportunity for motorists to exit the segment of I-94 between TH 101 and Maple Grove Parkway in the event of a crash or a closure of the freeway. It also provides an access point for emergency responders to access I-94 in the event of a traffic accident. As the Maple Grove Hospital and various healthcare facilities located along the Maple Grove Parkway continue to expand, clear and accessible routes are critical. The reduction of congestion and delays on Maple Grove Parkway and CSAH 30 will improve emergency vehicle response times to these facilities.

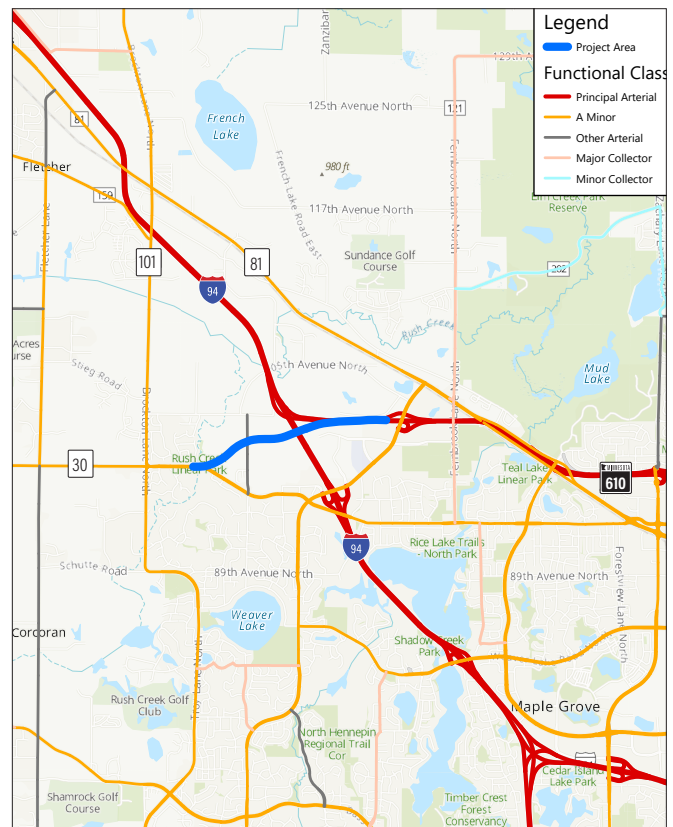


Figure 13 [Functional Classification](#)

Transit Access:

The Project will provide an efficient diversion for future peak hour feeder and express routes while also providing additional stop opportunities to serve future growth areas. Most importantly, by shifting congestion off Maple Grove Parkway, existing bus service will move faster and more efficiently to the nearby transit station and other stops along the corridor. The Parkway Transit Station, adjacent to the Project, has 800 parking spaces and serves the Maple Grove Transit (MGT) Route 785, an express bus that historically operated 28 daily roundtrips to downtown Minneapolis. Route 785 could use the Project as an alternative for outbound trips.

The City offers rides on-demand without an advance ride reservation through its My Ride services. This system includes convenient features for the riders like a website portal and mobile app to schedule and manage their rides. The goal of this vital service is to focus on the first- and last-mile connections to and from transit routes as well as rides on a "now" basis, similar to Uber and Lyft type services. The Project will help facilitate quick and

efficient rides through the northwest portion of the City to the Maple Grove Parkway transit station.



Figure 14 Existing Transit Station Adjacent to the Project

Pedestrian and Bicycle Access:

The Project includes over two miles of multimodal connections including multiuse trails and sidewalks as illustrated in Figure 10 and discussed in Quality of Life section 3. The improvements due to this Project will connect into the existing Regional Bicycle Trail Network (RBTN), a 200-mile trail network and over 27,000 acres of parks across the Hennepin County.

Improved Freight Access:

CSAH 30 is a key freight corridor within Maple Grove and provides first- and last-mile connections to local customers and businesses. This corridor serves a large area between I-94 and TH 55 that is not currently served by an arterial roadway. Currently, freight can only travel westbound from TH 610 to I-94 or eastbound on TH 610 from I-94, both of which are a part of the Minnesota Twin Trailer Network and National Truck Network. The Project will improve truck efficiency by permitting freight traffic east and west from CSAH 30 to TH 610, completing missing TH 610 connections to I-94. This will also help reduce truck volumes from the existing congestion on Maple Grove Parkway and will enhance safety and travel time reliability. The Twin Trailer Network is a MnDOT-approved statewide network for twin trailer combinations in addition to the National Truck Network and implies that the highway can provide adequate geometrics for commercial truck drivers of such vehicle combinations. The proposed improvements would conform to this designation by ensuring intersection and

roadway geometrics can accommodate those truck types. Large freight industries along this corridor that will directly benefit from the Connection include Dayton Freight Lines, UPS Distribution Center, Rose Distribution Center, King Solutions, Inc., and CemStone Ready Mix. In addition, the Project links freight traffic to the existing National Highway Freight Network.

5. ECONOMIC COMPETITIVENESS AND OPPORTUNITY

Improvements in Regional and National Economic Ecosystem

The Project will lead to the creation of significant economic benefits as well as opportunities in the northern suburbs of the Twin Cities Metropolitan Area. The Project will improve access to hundreds of specialty healthcare, industrial, and commercial jobs and will increase travel time reliability to retain some of the most coveted health care jobs. The major areas of remaining developable land in Maple Grove are located east and west of I-94, around the Project site (Figure 15). The City's 2040 Comprehensive Plan includes the 105th Avenue North Growth Area Master Plan, Northwest-610 Master Plan, and Minnesota Health Village. These plans were developed to guide future development of nearly three-square miles surrounding the Project over the next 20 years. The planned developments collectively include thousands of new residential units, millions of square feet of office, light industrial, and tech-focused spaces, regional-serving commercial/retail nodes, expanded hospital and specialty healthcare clinics, community parks and trails, and a new elementary school. The City estimates that these developments, upon full build out, will combine to create 11,000 jobs in the area. The projected employment growth due to these planned developments is consistent with [Metropolitan Council's Thrive MSP 2040 Regional Forecast Data](#) for the Transportation Analysis Zones (TAZs) across the Project site.

The current strain on regional connectivity will continue to increase with population growth, business demand, freight operations, and employment growth in the surrounding corridor. This in turn will add to the congestion and travel delays on the existing overburdened local system on Maple Grove Parkway and CSAH 30. The

Project will alleviate these concerns by constructing an efficient transportation network to cater to this increase in growth. The existing businesses in the vicinity of the Project corridor, are expanding now that the recently completed Dayton Parkway Interchange, immediately northwest of the Project along I-94, is operational. The southeast quadrant of TH 610 and I-94 has successfully developed with a variety of healthcare and medical uses surrounding the Maple Grove Hospital, such as the North Memorial Health Clinics, Gillette’s Children Specialty Healthcare, TRIA Orthopedic, Park Nicollet Clinic, and Twin Cities Orthopedics. Once the Project improvements are in place, existing employees can expect to have safer and quicker commute times to and from work, which will help in employee retention. The [letters from existing and new businesses in support](#) of this Project reflect their commitment to private investment towards job creation and retention.

Supporting American Industry

The major employers in the City of Maple Grove benefiting from the Project are:

Key Employers:

Maple Grove Hospital is currently home to more than 1167 employees. The organization recently purchased land adjacent to the existing hospital for future expansion for \$9.3 million. The Hospital expects to increase their current staff level by about 30 percent (or 350 employees) in the next five years. It also plans on adding 10 electric vehicle (EV) charging stations as part of their expansion plans in the next three years. The Project will enhance improved access to quality medical care for the regional community.

Upsher-Smith Laboratories, a leading manufacturer of generic and branded medication, is currently expanding its Maple Grove headquarters to relocate employees from their Denver, CO and Plymouth, MN locations over the next two years. This will lead to the addition of several jobs which in turn will need an efficient transportation system to address the increase in capacity due to the planned growth. Currently, there are four existing EV charging stations at the Maple Grove headquarters and the organization plans to scale up and add more as employees start to migrate to the City of Maple Grove to address future demands.

Park Nicollet Health Services is currently home to 150 employees in Maple Grove and plans to add 20-25 new employees to the region if the Project is built. Currently, there are four existing EV charging stations at its location and the organization plans to add more in the future based on employee needs.

Boston Scientific, a manufacture of medical devices, is the largest employer in Maple Grove as well as the northwest suburbs of Minneapolis St. Paul Metropolitan Area. It employs 4,500 workers in various engineering and manufacturing roles in Maple Grove. It plans to expand its operation and construct a two-story, 76,000-square-foot facility, the fourth building on its Maple Grove campus. The expansion plans are currently under review by the City.

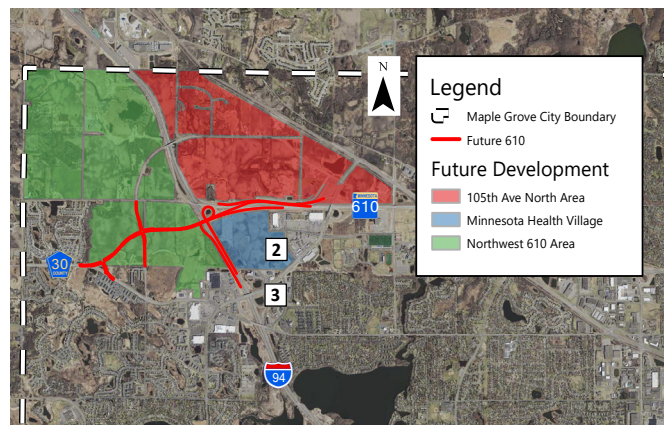


Figure 15 [Employment Opportunities near the Project](#)

Planned Employment Opportunities:

Northwest 610 Master Area Plan: Adopted in November 2019, the master plan proposes hundreds of acres of residential, commercial/retail, office, and light industrial space to be developed west of I-94 and surrounding the Project. The proposed development critically relies upon construction of the Project to justify development of higher-density residential as well as office and light industrial properties. Upon full buildout, the City estimates an addition of approximately 5,000 jobs of which nearly 1,000 will be focused in the proposed industrial park.

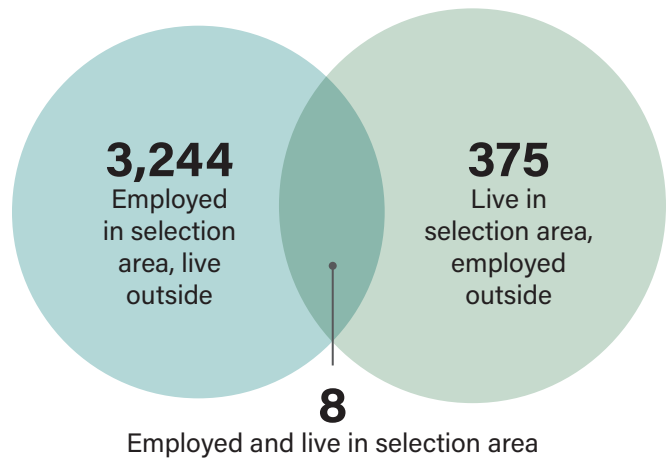
Minnesota Health Village: Developed by Ryan Companies, the 100-acre site immediately east of the Project broke ground in Spring 2020. The vision for the site includes nearly 650,000 square feet of medical and

medical office space, 450,000 square feet of office, and 550 multifamily dwelling units (some devoted to seniors) as well as parks and trail connections. All of the public improvements (streets, sewer, and water) are now completed, and construction has started on a 250-unit apartment building. Additionally, the City just approved a 165-unit senior living community. Upon full build out, the City estimates approximately 1,600 jobs created from this \$230 million investment.

105th Avenue North Master Area Plan: Adopted in June 2019, the master plan envisions nearly 1,000 residential units of varying densities and over 1.7 million square feet of office, commercial, and tech-focused development space. The greatest focus is on a future technology park that would attract specialized businesses to the area with specific building design and accommodations. The master planned area is immediately northeast of the Project. Upon full buildout, the City estimates a creation of approximately 4,440 jobs, many of which will be in tech-based industries.

The jobs listed above from the key employers are committed employment numbers based upon the completion of the Project. Whereas the jobs listed under planned employment opportunities are based on future projections developed by the City leaders therefore, are considered as speculative in nature.

Approximately 20 percent of the employees that commute into Maple Grove come from the neighboring suburbs of Brooklyn Park, Champlin, Coon Rapids, Blaine, Lino Lakes, Anoka, Ramsey, Andover, and Ham Lake by traveling on TH 10 and TH 610 (U.S. Census Bureau). With the extension of TH 610 to eastbound traffic on I-94, this makes travel patterns more efficient for commuters from the specific communities identified above, but also for other communities west of Maple Grove as they commute into the Twin Cities itself. Based on the City's level of understanding of employer's growth plans over the next three to five years, and the City's recently completed master planning efforts within the Project area, the City is confident that the jobs, as projected, will be created.



If the proposed project is delayed or rejected, there will be several opportunities lost. The most notable opportunity that would be lost is the access to approximately 600 acres of developable mixed-use land within the 105th Avenue and NW 610 Master Planning Areas in the City of Maple Grove.

THE PROJECT IS A CRITICAL ROADWAY FOR DEVELOPMENT IN THIS AREA.

Development has been planned and constructed with the Project in mind; significant impacts would occur to properties in the Maple Grove Parkway interchange area if the connections were not provided and a reconfiguration of the current interchange and the Maple Grove Parkway corridor would be needed. The movement of people and goods due to the proposed improvements of the Project benefit from direct access to CSAH 30, TH 610, and I-94, all which serves as a major freight route for the region and connects to regional transportation networks. This regional connection is vital to the growth of the freight industry in the City of Maple Grove and its neighboring communities.

Increased Access to Employment and Economic Development of Rural Economies

The Project will connect diverse local and regional populations to the over 3,250 jobs within one-mile of the Project (Source: U.S. Census' Longitudinal Economic - Household Dynamics (2018) data) as well as the 27,000+ jobs within one-mile of the TH 610 corridor. Many jobs near the Project and along TH 610 are in higher-paying industries such as manufacturing, healthcare, construction, and transportation logistics/warehousing. The Project will significantly improve travel time for both motorists as well as Maple Grove Transit which operates a historically well-used express bus route via the existing Maple Grove Parkway interchange east of I-94.

The results of StreetLight analysis indicate that currently more than 30,000 trips per day use the eastbound and westbound I-94 ramps at Maple Grove Parkway and approximately 10 percent of those trips originate or are destined to the rural communities in western Hennepin County, Wright County, and beyond. These 3,000 daily trips are traveling ten or more miles on the county (and local) roadway network to access I-94, and the many jobs, services, and recreational destinations that exist via that corridor. The Project will provide a more direct route for these rural communities to/from I-94.

6. STATE OF GOOD REPAIR

Maple Grove Parkway is already operating near capacity and will continue to deteriorate at a quickened pace as the corridor becomes more congested, most notably with freight traffic. The existing TH 610 network and interchange, as well as the local Maple Grove Parkway and CSAH 30 connections, were all constructed in their current configuration with the foresight to ultimately complete the Project. Therefore, the Project is a sound investment as it maximizes previous investments and the long-term value of Maple Grove Parkway and CSAH 30 by sustaining their long-term performance under growing traffic volumes.

Operations and Maintenance Plan

A joint operations and maintenance partnership will be accomplished between the City and MnDOT for their respective jurisdictional portions. The City continues to discuss jurisdictional oversight with other agencies in the long-term; however, is fully committed to operate and maintain non-trunk highway portions of the Project. MnDOT operates and maintains the 12,000-mile state highway system, and the addition of lane miles due to the Project (via ramps and auxiliary lanes on I-94) represents a very minor increase to their system. Long-term maintenance operations will be performed in

partnership based upon the typical maintenance schedule for bituminous roadways. Table 8 presents key maintenance improvements that would be required during the lifecycle of the Project based upon guidance from MnDOT's Metro District Materials and Pavements Engineer for the estimated 8.1 lane miles constructed.



Figure 16 Origin Destination Analysis for Rural Connectivity to I-94

Table 8 Operations and Maintenance Schedule

Activity	Year	Cost (per lane-mile)	Total Cost
Annual routine Maintenance	Annual	\$8,100	\$65,610
Thin (2-inch) Bituminous Mill and Overlay	20	\$250,000	\$2,025,000
Medium (4-inch) Bituminous Mill and Overlay	35	\$350,000	\$2,835,000

Operations and Maintenance Funding

City of Maple Grove

The City will operate and maintain the non-trunk highway portions of the Project. The City applies varying pavement preservation techniques to its roadway system to maintain it in a state of good repair. Generally, this includes applying three different pavement treatment types which are routine maintenance, pavement preservation, and rehabilitation/reconstruction for maintaining roadways within the city. The City typically funds annual routine maintenance and mill and overlay (pavement preservation) activities through a combination of a portion of the annual property tax that is dedicated to routine street maintenance and municipal state aid maintenance allocation funds. Major roadway rehabilitation and reconstruction is funded by a combination of special assessments (where applicable), general fund levy, municipal state aid construction allocations, and long-term development funds. All sources of the City’s funding are stable or growing based upon continued residential and commercial growth.

MnDOT

MnDOT will operate and maintain the trunk highway portions of the Project. Financial trends indicate that operation and maintenance revenues have slowed compared to previous decades. Consequently, MnDOT is committed to timely investments in capital and preventative maintenance treatments to extend the service life of assets while reducing life cycle costs. Ongoing operating and maintenance costs on the state highway system are funded by taxes and fees from four main revenue sources:

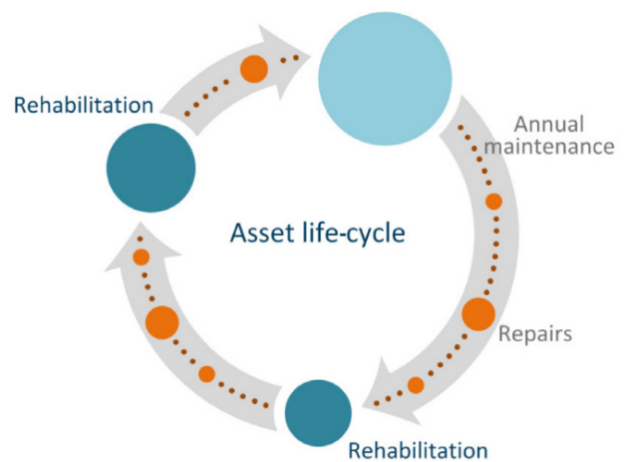
- State gas tax (motor fuel excise tax)
- State tab fees (motor vehicle registration tax)
- State motor vehicle sales tax

- Federal highway funds (highway user tax distributions, flexible highway account, and County State Aid Highway Fund)

MnDOT Transportation Asset Management Plan (TAMP)

MnDOT has a demonstrated history of fully funding maintenance improvements and has established the agency as a leader in asset management. MnDOT developed its first [Transportation Asset Management Plan \(TAMP\)](#) in accordance with the 2012 Moving Ahead for Progress in the 21st Century Act (MAP-21) which was updated to its current form in June 2019. MnDOT’s TAMP expanded beyond minimum requirements per MAP-21 to include the entire state highway system as well as other infrastructure within the right-of-way corridor. MnDOT’s TAMP was a national pilot project and serves as a guide for other states.

MnDOT applies the TAMP as a guide to analyze life-cycle costs, evaluate risks and develop mitigation strategies, establish asset condition performance measures and targets, and develop investment strategies. The TAMP will serve as a guide to ensure all necessary Project operation and maintenance is implemented.



Graphic Source: MnDOT TAMP

Figure 17 Annual Life-Cycle

7. PARTNERSHIP AND COLLABORATION

Grant Recipient

The City of Maple Grove is the project sponsor of this RAISE grant application. The City led the Project's planning, public outreach, and design with support and partnership from MnDOT, the FHWA, Hennepin County, and Wright County. The City has extensive experience with procuring and developing transportation improvement projects including several state and federally funded projects. The City also has experienced staff to procure, oversee, and manage the implementation of the Project. In the past, the City utilized federal funding on many highway, transit, and enhancement projects and is well versed with federal guidelines. Each year, the City adopts an [Annual Budget](#) along with meeting all financial reporting and audit requirements. The City is in a secure financial position, with a good track record for implementing large infrastructure projects in a timely manner, as demonstrated by the City's

AAA credit rating – the highest possible rating (evaluated by Standard and Poor's in September 2021). The City owns and operates 305 miles of road and the [Maple Grove 2040 Transportation Plan](#) highlights the Project as a critical investment toward the City's future.

Project Partners

The City of Maple Grove continues to work closely with several key project partners including MnDOT, Hennepin County, the Metropolitan Council, adjacent private businesses, and community stakeholders. These project partners have worked together in the past to complete previous sections of TH 610 and they are all committed to completing the Project, and therefore the broader Highway 610 corridor after nearly 50 years of hard work and collaboration. Over \$250 million has been invested to-date for implementing the Highway 610 corridor. Figure 23 shows the project team invested in the Project.

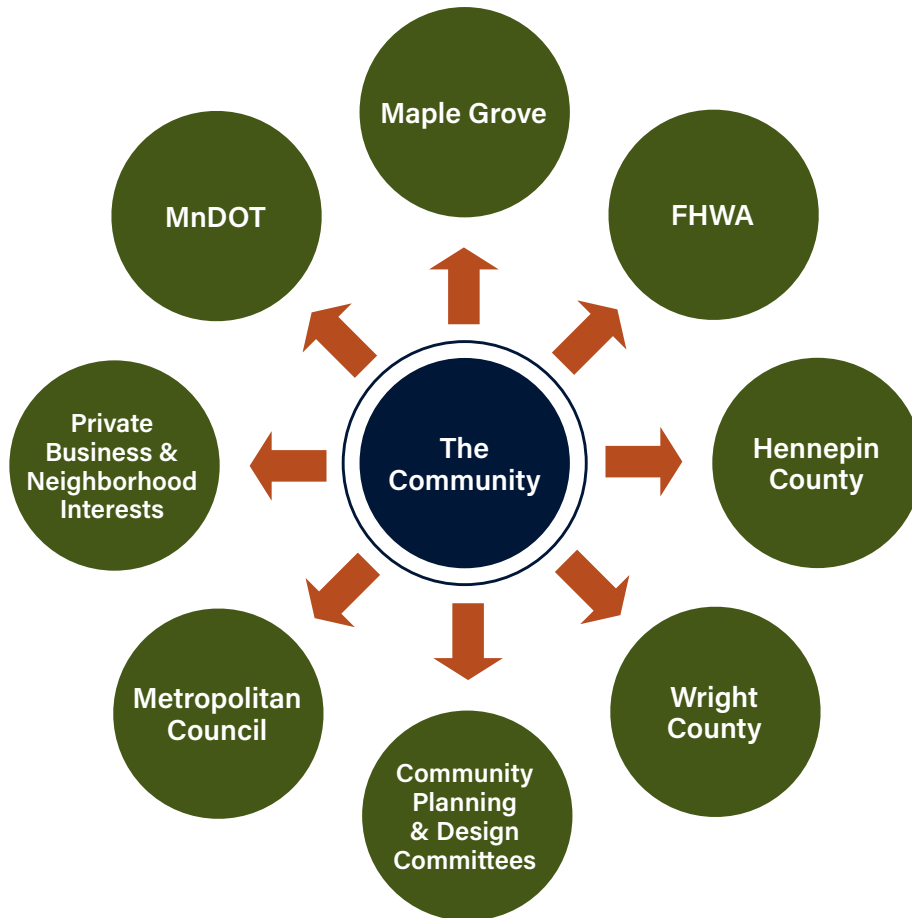


Figure 18 Project Partners

Elected Officials Providing Document Project Support

- Senator, Amy Klobuchar
- Senator, Tina Smith
- Congressman, Tom Emmer
- Congressman, Dean Phillips
- State Senator, Warren Limmer
- State Senator, Mary Kiffmeyer
- State Senator, Bruce Anderson
- State Representative, Kristin Robbins
- State Representative, Eric Lucero
- State Representative, Marion O'Neill
- State Representative, Kristin Bahne
- Commissioner, Margaret Anderson Kelliher (MnDOT)

Other Agencies, Chambers of Commerce and Business Coalitions, and Private Companies providing Documented Project Support

- Hennepin County
- Wright County
- City of St. Michael
- I-94 Corridor Coalition
- I-94 West Chamber of Commerce
- Twin West Chamber of Commerce
- Greater St. Cloud Development Corporation
- St. Cloud Area Chamber of Commerce
- Monticello Chamber of Commerce & Industry
- Maple Grove Hospital
- Park Nicollet Health
- Medical Alley Association
- Dahlheimer Beverage
- City of Maple Grove Transit

See [Link](#) for all documented letters of support.

8. INNOVATION

Innovative Technology

Conduit Deployment

The City adopts a practice of deploying fiber optic conduits and additional lines for City projects. Similarly for this Project, the City in partnership with Hennepin County and MnDOT will install conduits for fiber optics. Conduits may be used for communications/Broadband, Intelligent Transportation Systems (ITS), and/or to assist future Connected and Automated Vehicles (CAV). In today's age of remote/hybrid workplaces, Broadband vastly improves the speed and reliability of internet service, which would in-turn benefit future businesses, employees, and residents who will work and live near the Project. This includes the planned Technology Park immediately northeast of the Project, a unique development opportunity and area of job growth. Fiber optic networks will guarantee quality internet speeds along the corridor and serve as a reliable communication method for transportation applications such as traditional ITS as well as CAV applications. Existing utilities along the Project include communication fiber optic and buried telephone and cable TV lines (AT&T, Centurylink, and Comcast).

Intelligent Transportation Systems (ITS)

The Project reviewed and identified inclusion of Intelligent Transportation Systems (ITS) elements. ITS technologies advance transportation safety, mobility, and efficiency by integrating advanced technologies into transportation infrastructure or vehicles. ITS encompasses a broad range of electronic communication and sensing technologies but traditionally includes elements such as dynamic message signs, CCTV cameras, and vehicle detection. By deploying these ITS elements along TH 610, the City and MnDOT can provide traveler information such as travel times, alternate routes, and incident notifications. These enhance driver awareness and allow drivers to make informed decisions while traveling. These deployments can also be used for incident management purposes such as identifying crashes, detecting queued traffic, and emergency response.

The Project will also install wireless dynamic message signs that provide real-time traffic advisory and route

guidance information to road users. By providing information to road users in advance, ITS elements help to improve safety and reduce congestion when an incident occurs or in the event of poor road or weather conditions (especially frequent in Minnesota during the winter months).

Connected and Automated Vehicles (CAV) Infrastructure

The Project is creating an infrastructure that facilitates and supports Connected and Automated Vehicles. MnDOT's Office of Connected and Automated Vehicles (CAV-X) is actively researching pavement markings designed for CAVs. These pavement markings may use different technology or geometry/stripping patterns that works better with vision sensors. MnDOT is piloting these new six-inch markings on I-94 and the research results will be published sometime this year. The City is committed to implement these guidelines, when issued by MnDOT CAV-X Office, as part of the Project design.

Innovative Project Delivery

MnDOT Construction Management Resources

MnDOT provides construction management services in-kind at times to projects that intersect their roadways. Previous examples of this partnership between MnDOT and the City include interchange projects at I-94/Weaver Lake Road and I-694/Hemlock Lane. MnDOT also partnered with the City of Dayton for the recently completed Dayton Parkway Interchange project immediately northwest of this Project, along I-94. This unique partnership and the supportive service provided by MnDOT helps to streamline construction management and reduced project cost through innovative project delivery.

Civil Information Management Software/3D & 4D Modeling

During the Project's public engagement phase, project designers used innovative Civil Information Management (CIM) software for preliminary modeling and visualization of the Project to understand and mitigate impacts. This allowed stakeholders and partners to make decisions through visuals in real-time. The Project will continue to utilize CIM software to model and visualize the project, as well as increase transparency of the project. Transparency enables owners, consultants, contractors, and

stakeholders to easily work together. The CIM software enables designers to make constant adjustments to the design to ensure the best alternatives. The software also uses embedded 3D visualization as part of the process which enables effective conflict detection, rapid design review, and validation. These efforts will reduce the project schedule and overall cost. Moreover, 3D or 4D modeling could be used to develop the Project Execution Plan (PxP), which will document the process operations addressing software requirements; define the Level of Detail (LOD), file formats necessary for deliverables, and file naming conventions; and detail the data-sharing requirements for information exchanges (interoperability requirements). Once 3D models are developed, at any level of detail, there are several BIM-use cases that can be applied during design and construction that will have a greater impact on reducing the risks identified regarding cost and traffic control. There is also a possibility to use 4D/MOT modeling which is primarily beneficial to identify alternatives that minimize construction costs and maximize vehicular mobility for MOT.

Transportation Management Plans for Mitigating Risks

A project-specific transportation management plan (TMP) will be designed and implemented to maintain acceptable levels of safety, accessibility, and mobility. The plan will minimize traffic congestion near the work zone because of temporary roadway closures and detour routes. The TMP will also identify a variety of management strategies to mitigate negative impacts on traffic. These strategies will include increased incident management and vehicle removal capabilities, intelligent transportation system (ITS) technologies to divert traffic and inform travelers of delays and encourage alternate routes, work zone traffic simulations to forecast impacts on traffic flow and congestion, alternative scheduling and phasing including nighttime construction, and scheduling work to minimize lane closures and delays during peak traffic hours.

Innovative Financing

The City of Maple Grove uses its special assessment authority, a power provided to local agencies by the State of Minnesota, to help fund existing and future transportation and utility improvements. This public/private partnership assigns trunk transportation and

utility rates based on individual parcel size, land use, and percentage of impervious surface. These special assessments are typically levied at the time a parcel develops or redevelops, or the property owner can defer with interest to a point in the future when the parcel is

developed. This financing opportunity could be utilized for the Project or adjacent supporting infrastructure to the Project such as connections via the local roadway network.

V. PROJECT READINESS

ENVIRONMENTAL RISK

Schedule

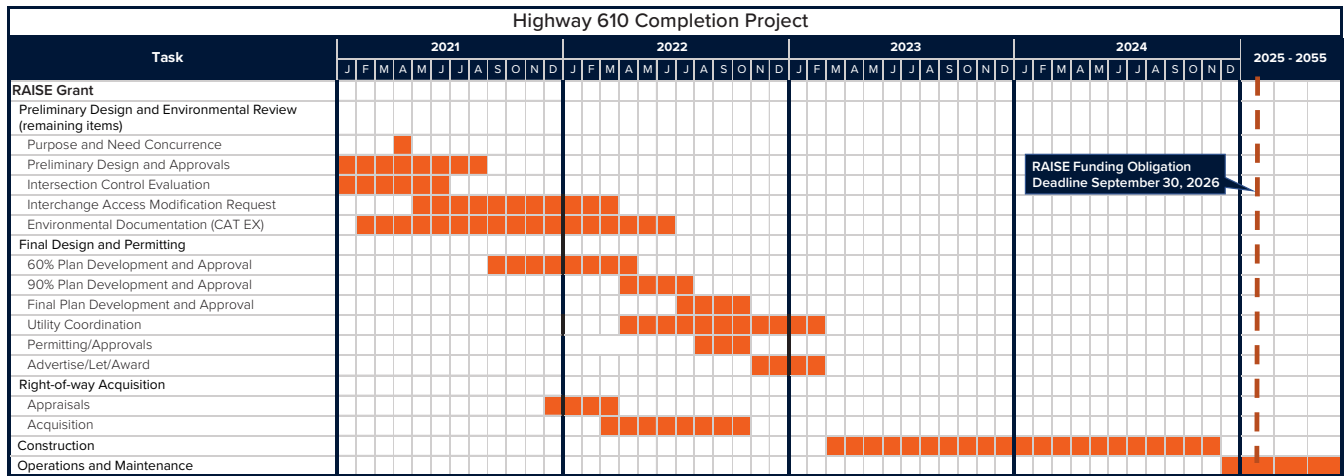


Figure 19 Project Schedule

The City is prepared to deliver the Project in accordance with the project schedule. Minimal project delivery risks exist for the following reasons:

- The City is substantially through the Project’s preliminary engineering phase. The design and environmental engineering work done to-date lowers uncertainty around scope, impact, and cost. The City anticipates having preliminary engineering and environmental documentation completed by mid-2022, which allows the right-of-way acquisition processes to be completed by Fall 2022 via the one single landowner remaining.
- The Project is noncontroversial and supported by project partners. The City has maintained ongoing coordination with MnDOT, the FHWA, Metropolitan Council, and Hennepin County. It has also collaborated with other local agencies impacted by the Project such as the City of Corcoran.

- All of the required right-of-way for the Trunk Highway portions of the Project, east of I-94, has been acquired. All remaining permanent right-of-way required for the local connections of the Project is associated with one landowner who has worked closely with the City and MnDOT for other recent projects.
- The City has secured funding sufficient to cover 56% of project costs, up from 49% secured in FY 2021.

The City is the lead agency on all planning and project development activities. It has delivered several federally funded projects and understands the rules and procedures to manage a federal grant. The City is meeting the planned schedule deadlines and has already completed traffic analysis. Moreover, preliminary design and cost estimation is in final submission stage and will be approved by Spring 2022. Environmental review began in early 2020 and will be completed by mid-2022. In Fall 2020, it was determined that the Project was able to proceed via a Categorical

Exclusion process. The final design engineering, right-of-way acquisition for the remaining parcels, and securing all necessary state and local permitting have recently started and will be completed by early-2023. The City has experienced right-of-way staff that have meticulously worked on previous TH 610 efforts and are involved in procuring the remaining parcels for the Project from a single landowner. The landowner has worked with the City and MnDOT in recent years for other infrastructure projects associated with TH 610, as well as expansion of the local roadway network and construction of nearby developments. The landowner's ongoing partnership with the City will expedite right-of-way acquisition and significantly reduce overall project risks.

The City guarantees that all necessary activities will be completed to allow RAISE funds to be obligated sufficiently in advance of the statutory deadline (September 30, 2026). Figure 19 shows the draft project schedule, and a detailed project schedule which can be found [here](#).

Required Approvals

The City has closely coordinated with federal, state, and local partners throughout the preliminary design phase of the Project. As a result of this coordination, the Project has achieved or is expected to achieve all approvals necessary to begin construction in March 2023.

The Project is proceeding through a CATEX process. Construction of the future interchange will require the approval of an Interstate Access Request (IAR) by the Federal Highway Administration (FHWA). An Environmental Assessment Worksheet (EAW) was completed in September 2013 in accordance with Minnesota Rules Chapter 4410. The Purpose and Need was prepared in Spring 2021 and will be included in the Categorical Exclusion which is expected for approval by late-2022. A Phase I Environmental Site Assessment (ESA) was completed in May 2021. The Phase I ESA identified no high-risk sites. Phase II drilling investigations were completed in August 2021. No further assessment of the project area is warranted. Additional planned permits are tracked in Table 9.

Table 9 Permits and Approvals

Permit of Approval	Agency	Action Required (Status)
Federal		
Categorical Exclusion Determination	FHWA	Approval (pending)
Interstate Access Modification Request (IAMR)	FHWA	Draft under review
Section 106 (Historic / Archaeological)	MnDOT CRU (on behalf of FHWA)	Determination Complete
Section 4(f)	MnDOT/FHWA	Section 4(f) De Minimis review and concurrence (complete)
Section 404, Clean Water Act	USACE	To be Acquired
Federal Threatened and Endangered Species Review	MnDOT OES and USFWS	Determination Complete
State		
Wetland Conservation Act (WCA)	MnDOT	To Be Acquired
Public Water Work Permit	DNR	To Be Acquired
State Endangered Species Review	DNR	Determination Complete
NPDES / SDS Construction Site Permit (Phase II)	MPCA	To Be Acquired
Section 401 Water Quality Certification	MPCA	To Be Acquired

Table 9 continued on next page.

Permit of Approval	Agency	Action Required (Status)
Local		
Controlled Access Approval	Metropolitan Council	To Be Acquired
Highway Interchange Request	Metropolitan Council	Complete
WCA (for work outside of MnDOT right of way)	City of Maple Grove	To Be Acquired
Stormwater Management	Elm Creek Watershed Management Commission	To Be Acquired
Erosion and Sediment Control	Elm Creek Watershed Management Commission	To Be Acquired

State and Local Approvals

The Project is consistent with the State, local, and regional plans:

- [2040 Hennepin County Transportation Systems Plan](#)
- [Met Council's 2040 Transportation Policy Plan](#)
- [City of Maple Grove's 2040 Transportation Plan](#)

The Project is included in the State of Minnesota's approved [2022-2025 STIP](#) as Project No. 189-143-001. All required State and Local approvals will be obtained prior to construction per Table 9.

Assessment of Project Risks and Mitigation Strategies

The City has worked closely with MnDOT, Hennepin County, and other local partners to ensure that early collaboration and proactive mitigation measures will minimize risk and manage impacts, if any. Previous collaborations, as recent as 2017, have been extremely effective in delivering prior TH 610 efforts. The City continues to maintain the relationships and is confident in a successful implementation of this final piece of the Highway 610 corridor.

To minimize traffic congestion near the work zone because of temporary roadway closures and detour routes, a project-specific transportation management plan (TMP) will be designed and implemented to maintain acceptable levels of safety, accessibility, and mobility. Noise originating from the construction of TH 610 is another potential risk to existing employment centers, schools, healthcare facilities, and residences. The City will identify noise sensitive locations within the adjacent community and will employ proper mitigation measures. Mitigation approaches include performing construction activities at the appropriate time of day, adhering to local noise control requirements, utilizing the FHWA Roadway Construction

Noise Model to predict noise levels during various stages of construction, and restricting equipment to locations where noise will be reduced.

Another potential risk includes stormwater runoff due to increased impervious surfaces resulting from the Project. Without proper mitigation measures, stormwater runoff can contaminate existing watersheds and erode existing support embankments and wetland barriers. Infiltration, filtration, and other Best Management Practices (BMPs) will be implemented to mitigate the impact of stormwater runoff. Other added protections for nearby wetlands will be implemented including substantial plantings of native species to buffer these sensitive waterways.

Right-of-way acquisition is a risk to cost and schedule. The estimate includes significant contingency for acquisition costs. As stated, only one landowner is involved with the remaining single parcel for the Project. This is a well-managed risk due to the narrow focus of acquisition required, however, could also be a detriment due to the sole power of the landowner to derail the process. The City understands the positive regional implications of the Project and the public benefit it produces. Therefore, the City will exercise eminent domain, if necessary, to gain access to the property to construct the Project within the required schedule constraints. This will be utilized as the final option, only if it is perceived that right-of-way acquisition will become a detriment to the Project's schedule.

The adequacy of local funding obligations will be determined by State and Local agencies and is a continued conversation between the City and those entities. Additional resources are needed for construction and the City continues to work very closely with MnDOT and Congressional Representatives to ensure that funding is in place following a grant award.

VI. BENEFIT COST ANALYSIS

The objective of a benefit-cost analysis (BCA) is to bring all the direct effects of a transportation investment into a common measure (dollars), and to account for the fact that benefits accrue over an extended period while costs are incurred primarily in the initial years. The primary elements that can be monetized are travel time, changes in vehicle operating costs, vehicle crashes, environmental impacts, remaining capital value, and maintenance costs. The results of the BCA are briefly summarized below. A detailed technical memorandum of the analysis is attached and available to view at the grant application website: <https://www.srfconsulting.com/maple-grove-raise/>

NO BUILD ALTERNATIVE

The No Build Alternative includes leaving the existing interchange geometry as is, with no modifications or restrictions to current access. High-level parcel impacts in and around the interchange are more than \$30 million without any roadway or interchange improvements. The city believes that these types of impacts are not feasible and would negatively impact the business community, economic development and growth opportunities, and vitality of the area.

BUILD ALTERNATIVE

The proposed project would realign CSAH 30 west of I-94 and extend Highway 610 east, across I-94 to the existing Highway 610 ramps via a four-lane, divided expressway. Ramp connections from eastbound Highway 610 to southbound I-94 and northbound I-94 to westbound Highway 610 are also proposed. Corresponding auxiliary lanes between the proposed ramps and Maple Grove Parkway along I-94 will also be included.

BCA METHODOLOGY

The primary cost and benefit components analyzed in the BCA included:

- Travel time/delay (vehicle hours traveled – VHT)
- Operating costs (vehicle miles traveled – VMT)
- Crashes by severity
- Environmental and air quality impacts
- Quality of life benefits
- Initial capital costs
- Remaining Capital Value: The remaining capital value (value of improvement beyond the analysis period) was considered a benefit and was added to other user benefits.
- Operating and maintenance costs
- Other analysis considerations included:
 - It was assumed that right-of-way acquisition for the Build Alternative would take place in year 2022, and construction would occur during years 2023 to 2024. Therefore, year 2025 was assumed to be the first full year that benefits will be accrued.
 - The present value of all benefits and costs was calculated using 2020 as the year of current dollars.
 - A benefit-cost analysis period of 20 years was used to determine net project costs and benefits.

PROJECT COSTS

Year 2022 project cost for the RAISE Transportation Discretionary Grant components of the overall Project is expected to be about \$53.9 million. The current 2020 project costs discounted at a rate of 7 percent is approximately \$35.5 million.

BCA RESULTS

The benefit-cost analysis provides an indication of the economic desirability of a scenario, but results must be weighed by decision-makers along with the assessment of other effects and impacts. Projects are considered cost-effective if the benefit-cost ratio is greater than 1.0. The larger the ratio number, the greater the benefits per unit cost. The results of the analysis demonstrate that the combined, large project is the most cost-effective approach, resulting in **benefit-cost ratio of 3.04**. Results of the benefit-cost analysis are included in Table 10.

Table 10 Total Project Results (7% Discount Rate)

	Initial Capital Cost (2020 Dollars)	Project Benefits (2020 Dollars)	Benefit-Cost Ratio	Net Present Value (2020 Dollars)
No Build vs. Build	\$35.5 million	\$107.8 million	3.04	\$72.3 million

VII. SUPPORTING DOCUMENTS

Links to supporting documents are included throughout this narrative. All supporting documents and the RAISE grant application narrative are available to view at the following webpage:

<https://www.srfconsulting.com/maple-grove-raise/>