15 • Financial Assessment

Overview/Summary

Shortfalls in funding have been a fact of life for transportation agencies over the years, as receipts from traditional funding sources such as federal and state gas taxes have not kept pace with nationwide increases in construction and maintenance costs and the growth in travel demand. Other sources of funding often used for transportation, such as local property taxes, face many competing demands where the community's transportation needs must be balanced against other social and economic needs. This need is most acute for street and highway infrastructure, but transit and non-motorized modes also are faced with the same challenge.

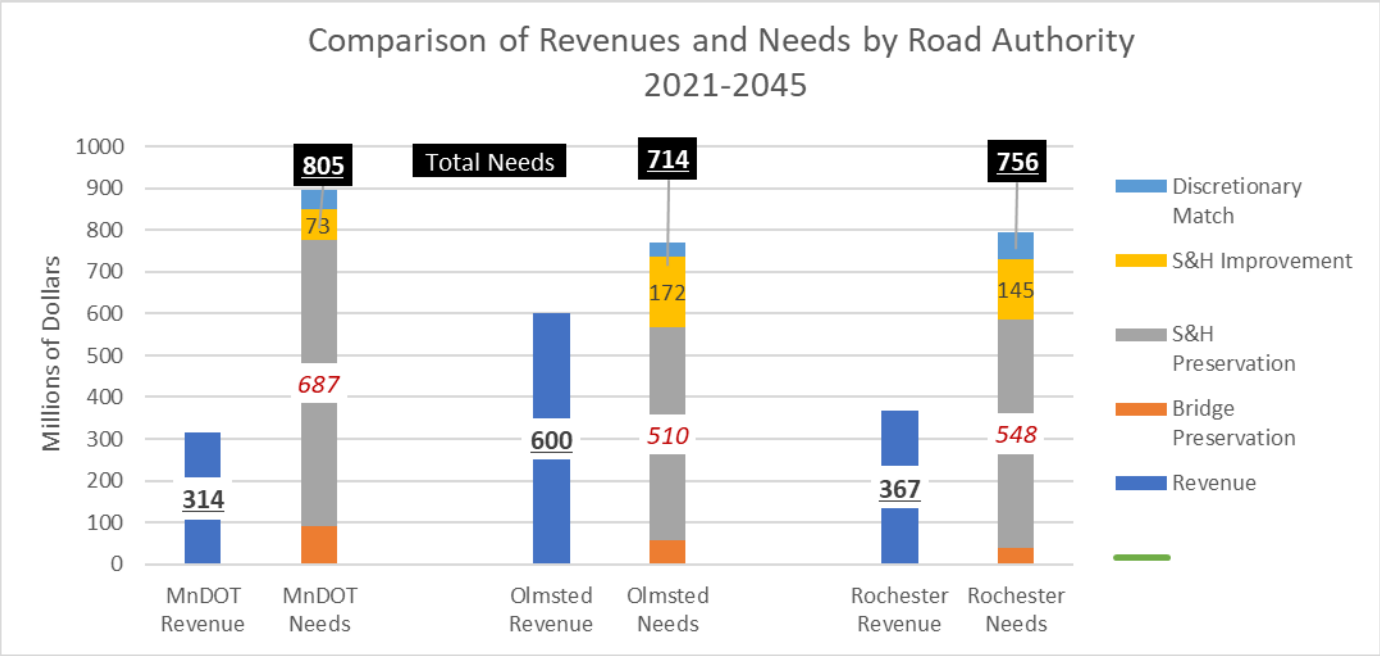
Under federal regulations, the LRTP is to include a financial plan that discusses system-level estimates of revenues anticipated to be available for investment and the cost of potential programs or projects. This information forms the basis of an analysis leading to a "fiscally constrained plan" that demonstrates the amount of investment that can be supported by historically available funding or potential new revenue sources for which there is high certainty of availability in the future.

In addition, the LRTP can discuss additional "illustrative projects" that are a priority for completion if additional funding can be secured.

Chapter 15 looks at the three major modes of highway travel, transit, and active transportation. From a cost perspective, the major system is the street and highway system, with MnDOT, Olmsted County, and the City of Rochester responsible for managing the major streets and highways network.

Figure 15-1 illustrates high-level results of the financial analysis completed for the street and highway network, showing for each agency the difference between estimated needs and revenues. MnDOT is expected to have approximately 40% of the funding that would be needed to fully fund all highway preservation and improvement work identified on state facilities. Olmsted County is estimated to have approximately 84% of the funding needed to fully fund all highway needs identified, and the City of Rochester is estimated to have about 50% of the funding needed to fully fund all highway needs identified. Olmsted County has fully phased in two new funding sources since the last ROCOG plan: a

Figure 15-1: Street and Highway System Comparison of Projected Revenues and Costs



Source: ROCOG

County wheelage tax and a ½ cent sales tax for transportation. A portion of the Olmsted County sales tax will be used to fund transit capital investment associated with the Destination Medical Center in downtown Rochester as part of the larger economic development package the State Legislature approved in 2014.

The County is directed to allocate approximately $48 million for transit purposes to support the DMC initiative. The City of Rochester was adversely affected in 2019 by a decision of the Minnesota Supreme Court which limits the fees that could be levied on development for off-site improvements. While the City of Rochester is working to fully understand the implications of this court ruling, it is exploring new avenues to raise revenue, including the levy of a utility right of way charge. The City is also considering instituting a sidewalk improvement district fee to fund preservation of non-motorized infrastructure.

Of the revenues illustrated in Figure 15-1, ROCOG has direct decision-making authority on the annual programming of only $2.3 million of federal Surface

Transportation Block Grant funds out of approximately $45 million in investment funded by the three road authorities. The local match for this federal funding, approximately $575,000 per year, represents about 1% of annually programmed funding and does not present a barrier to the City or County in terms of raising the necessary local match or diverting meaningful funding away from preservation work.

In light of demonstrated funding shortfalls, Chapter 15 includes a discussion of potential prioritization policies that could be considered when choices need to be made among major street projects, reflecting consideration of system, preservation, access, and mobility factors.

The financial environment for transit service has improved since the last ROCOG Plan update, as a result of meaningful changes the State Legislature made in 2016 to support transit through dedication of additional Motor Vehicle Sales revenue to transit operations throughout the state. The share of State operating funding for fixed route and paratransit service has allowed the City to keep fares relatively unchanged while service has expanded, since local revenue has needed to fill a smaller percentage share (though somewhat larger absolute share) of transit operating costs. Access to traditional FTA transit capital funding has allowed the City to expand its fleet and add transit infrastructure such as transit signal priority and new farebox control systems.

Looking forward, the City is moving into a new realm with proposed plans to provide BRT-type service under two different systems: one (Downtown Rapid Transit) focused on central area of Rochester and the other (the Primary Transit Network) envisioned to provide a network of high frequency, higher capacity BRT service in core travel corridors that serve many major city destinations and downtown. Development of Downtown Rapid Transit has been accepted into the federal Small Starts program as a candidate project as a means to fund the estimated $200 million cost. Operating costs for this system are expected to be funded through a new public/private partnership model Rochester is working on that would rely in part on traditional public sources but add to the mix significant private funding from the Mayo Medical Center and other potential users. The Primary Transit Network BRT service may also need to rely on Small Starts or other discretionary funding for capital and consider innovative funding models for operating costs.

Non-motorized travel (referred to as "active transportation" in this plan) has historically been challenged to fund major capital projects and that will likely remain the same in the future. Funding for capital projects requires creativity and flexibility, which is recognized in the analysis by the many different mechanisms assumed to support development of this infrastructure.

Introduction

Chapter 15 summarizes estimated revenues and costs associated with preserving and improving the network of transportation infrastructure and services throughout the ROCOG study area for a 25-year period. The following steps were completed in preparing this analysis for each mode of travel:

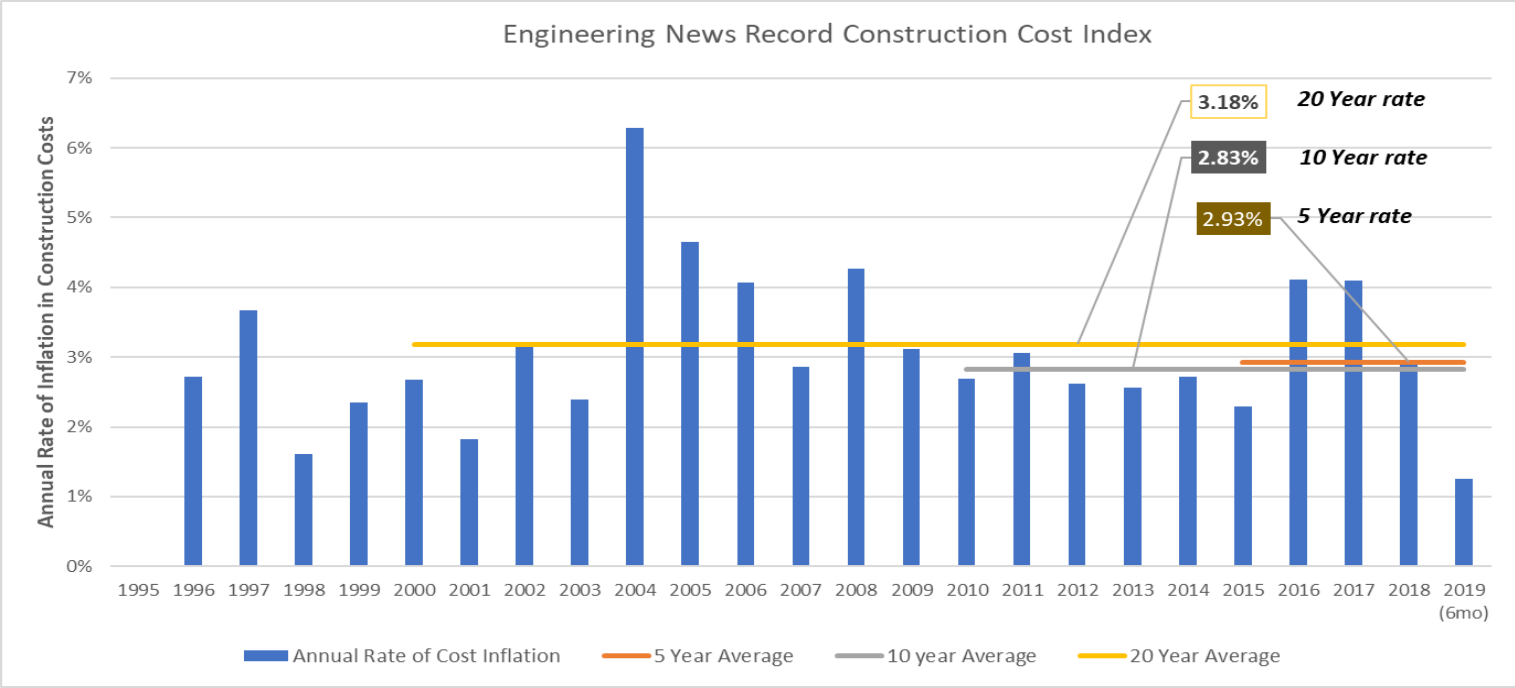
- A list of transportation needs was identified using input gathered from the public and community leaders, along with technical analysis completed by project staff.
- Typical costs for various types of system preservation and improvement activities were applied to identified needs. For preservation needs, a typical design life is assumed from which an aggregate annual average preservation cost could be calculated for the current networks or systems in place.

In terms of revenue, estimates of what would be available over a 25-year period from traditional funding sources were developed for each mode. For federal and state funds, this involved an analysis of information from various sources including past years of the State Transportation Improvement Program (STIP), the Statewide Highway Investment Plan 2018-2037 (SHIP), the MnDOT District 6 10-Year Capital Highway Investment Plan, and district level revenue forecasts generated by MnDOT Central Office. For Olmsted County and the City of Rochester, revenue estimation involved analysis of trends in federal aid, state aid, tax levy, other local sources, and private contribution revenues, which were then projected out for 25 years to match the horizon of the plan.

Current federal guidelines establish that the metropolitan transportation plan must use "Year of Expenditure (YOE) dollars", based on reasonable financial principles and information, to estimate future funding needs. For the purposes of this plan, ROCOG evaluated information from the Engineering News Record and MnDOT, reflecting local data tracked through the Minnesota Construction Cost Index in order to estimate an annual cost inflation rate. Figures 15-2 and Table 15-1 present trend data from these sources. While some fairly significant yearly swings in these indices were observed over time, an assumed 3% annual inflation rate was chosen as a representative annual value to reflect cost inflation.

On the revenue side, reasonable assumptions regarding the escalation of funding can be assumed for purposes of the Plan, but under federal guidelines, these assumptions must be based on a reasonable demonstration that such increases will be available. For the purposes of this analysis, federal and state aids to Olmsted County and Rochester have been estimated based on historical trends, while the tax levy share of local funding assumes that the historic % of tax levy funds devoted to transportation will remain constant but the tax base will

Figure 15-2: Trends in Engineering News Record Construction Cost Index



Source Data: Engineering News Record; Analysis: ROCOG

Table 15-1: Comparison of Historic Engineering News Record and Minnesota Construction Cost Index Percentage Growth Rates

Period	Engineering News Record CCI	Minnesota CCI (All Factor Composite)
5 Year Annual Average Change in Costs	2.93%	2.14%
10 Year Annual Average Change in Costs	2.83%	3.06%
20 Year Annual Average Change in Costs	3.18%	4.63%

Source Data: Engineering News Record; Analysis: ROCOG

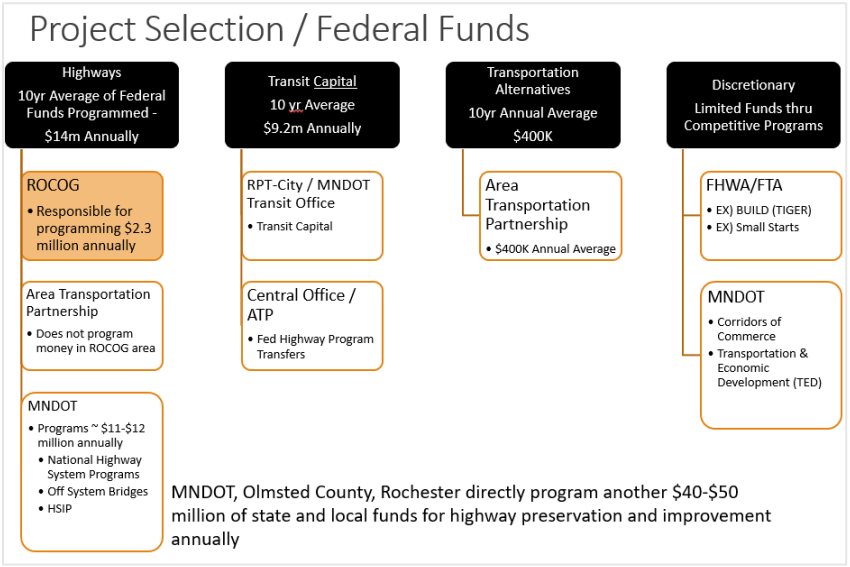
grow in line with historic trends, resulting in a moderate growth of local funds available for transportation. A similar approach was applied to sources such as wheelage taxes and sales taxes where the base against which the tax is levied is expected to continue to grow over time.

Figure 15-3 provides a high-level overview of the major federal funding categories that have historically been available for programming in the ROCOG area, along with information on the entity which programs the funds. ROCOG has a limited role in programming of federal dollars, responsible for $2.3 million in Surface Transportation Block Grant dollars. Most non-discretionary federal funds are programmed through MnDOT at the Central Office or District level.

Street and Highway System Financial Assessment

This section of Chapter 15 focuses on the financial assessment of the major street and highway network in the ROCOG Planning Area. Three entities, MnDOT, Olmsted County, and the City of Rochester, are responsible for managing about 99% of the 617 mile non-local Functional Class System in Olmsted County, with the cities of Byron and Stewartville combined having about 5 miles, or slightly less than 1%, of the system under their jurisdiction. Byron and Stewartville streets on the system are all classified as minor collectors, which have a low probability of receiving funding; thus, they are not analyzed in the assessment.

Figure 15-3: Federal Funding Programming Responsibility



Source: ROCOG

Jurisdictional Revenue Assessment

For each road authority, a table is provided that summarizes the primary sources of funding expected to be available for street and highway capital investment.

MnDOT 2021-2045 Revenue Assumption

Table 15-2 summarizes the revenues that MnDOT expects to have available for highway investment in the ROCOG Planning Area for the next 25 years. This

estimate relies on MnDOT source documents as noted in the table, with early periods using information found in the STIP and the 2018 District 6 Capital Highway Investment Plan (CHIP). For the out-years of the planning horizon, information from the MnDOT 20-Year State Highway Investment Plan (MnSHIP) is used to estimate available revenues that District 6 will have available for investment through 2045. ROCOG analyzed the program year from the last ten adopted STIPs (beginning with 2010-2014 through 2019-2023 reports) to assess the average percentage of districtwide STIP funding that has been programmed in the ROCOG area. From this analysis it was found on average that the ROCOG area received 12.85% of districtwide funding.

The out-year assumptions assume that federal funding to Minnesota will increase at a rate of 2.2% annually, and that formula funding from state revenue sources distributed through the State Highway Trust Fund will increase at a rate of 1.9% annually, based on technical information available from the MnDOT Central Office.

For the mid-term and long-term period, ROCOG adapted district-level revenue forecasts available from the MnSHIP and applied a share factor reflecting historic District 6 spending in the ROCOG area. The original analysis yielded an estimate of $283 million as the share of District 6 funding available for expenditure in the ROCOG area for the period 2029-2045.

Table 15-2: Estimate of Anticipated MnDOT Funding for Capital Improvements 2021-2045

Time Period	Estimated Revenue	Notes
Programmed in STIP	$22.9	STIP Figures adjusted to reflect only 2021-2023 ears. Since LRTP adoption occurs in 2020, 1st year of STIP is not part of "Plan"
Near Term (CHIP Projects for 2024-2028)	$63.2	This figure comes from the District 6 Ten Year Capital Highway Investment Plan (CHIP) for the five year period of 2024-2028
Mid Term	$116	This funding is based on information in the MNDOT 20 Year Statewide Transportation Plan which cover the period 2029 through 2037
Long Term	$111	This funding estimate is based on projecting revenue trends discussed in the Statewide 20 Year plan out to the Year 2045
TOTAL	$313.66	(Millions of dollars)
	$12.55	Annual Average (millions)

Figures shown are in millions of Dollars

Source: ROCOG Analysis of MnDOT Source Documents

MnDOT District 6 staff felt this estimate was too high and reflected the impact of one-time state bonding and special program dollars that had been directed into the district budget to complete ultra-high cost projects such

as new crossings of the Mississippi River near Winona and La Crosse, which inflated District 6 spending levels in recent years.

District staff felt that going forward, funding levels would be more reflective of formula program resources available through the Highway User Trust Fund (HUTF) distribution and federal funds MnDOT receives and distributes to the district. As a result, the final estimate of available revenues totals $227 million for the period 2029-2045, a reduction of $56 million from the original estimate.

Olmsted County 2021-2045 Revenue Projections

Table 15-3 summarizes the revenues that Olmsted County expects to have available for investment in Olmsted County for the next 25 years.

Olmsted County has benefited from the establishment of new county-specific revenue sources in the last five years. Figure 15-4 illustrates the financial revenue impact expected from a County Wheelage tax authorized by the State Legislature in 2014; with continued growth in vehicle ownership population, this funding source is expected to grow from $1.3 to $1.6 annually.

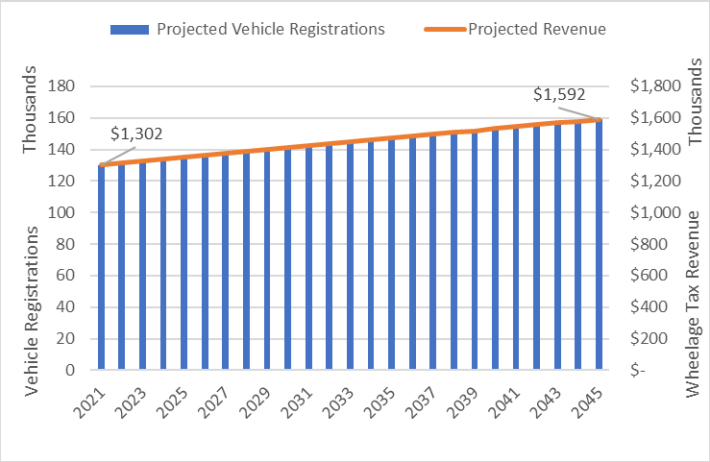
Figure 15-5 illustrates revenue that a ¼-cent sales tax will generate based on sales in Olmsted County. Olmsted County Commissioners approved two separate ¼-cent sale tax levies for transportation: one strictly for county transportation needs and a second to help fund transit investment spurred by the Destination Medical Center economic development initiative. The DMC transit sales tax will provide approximately $3 million per year for transit investment for 15-17 years, with remaining dollars available for other transportation purposes. Once Olmsted County has fulfilled its DMC transit contribution, the full revenue amount accrues to the County for highway use.

Table 15-3: Estimate of Olmsted County Funding for Capital Improvements 2021-2045

Revenue Source	Estimated Revenue	Notes
County State Aid Funding	$167.75	This figure represents 60% share of assumed state aid allotment; remaining 40% is dedicated to maintenance. Estimate reflects projected HUTF growth rate of 1.9% annual per SHIP.
Federal Aid for Highways	$40	Reflects actual 2021-2023 TIP funds programmed for Olmsted Count projects plus ½ of the annual ROCOG allocation, currently $2.3 million, adjusted for assumed growth rate in federal funding of 2.2% per year per SHIP.
State/Federal Bridge Bonding	$34.25	Bridge bonds are awarded through MNDOT Central Office; there is no annual allocation to District 6. Figure assumed is based on last 10 years of bridge bonding revenue realized.
2012 Rochester Sales Tax	$12	Remaining funding Olmsted County has from 2012 Rochester Sales Tax
County ¼ cent Sales Tax for Transportation	$175	Estimated based on application of ¼ cent tax rate to projected sales in Olmsted County through 2045. Assumes revenue will grow at 0.4% annually based on most recent 5-year growth trend in local sales (10-year trend of 2.55% not used due to surge in economic activity coming out of the Great Recession)
County ¼ cent DMC/Transit Sales Tax	$128	Partially will support DMC related Transit; amount shown remains after annual $3.1m contribution to DMC that will continue for 15 years.
County Wheelage Tax	$36.9	$10 per vehicle rate assumes continued growth in number of registered vehicle based on historic trends.
Other Local Funds	$6.25	Estimate of local City/Town contributions to County Road projects based on analysis of CIP revenues for 2015 through 2020
TOTAL	$600	(Millions of dollars)
	$24	Annual Average (millions)

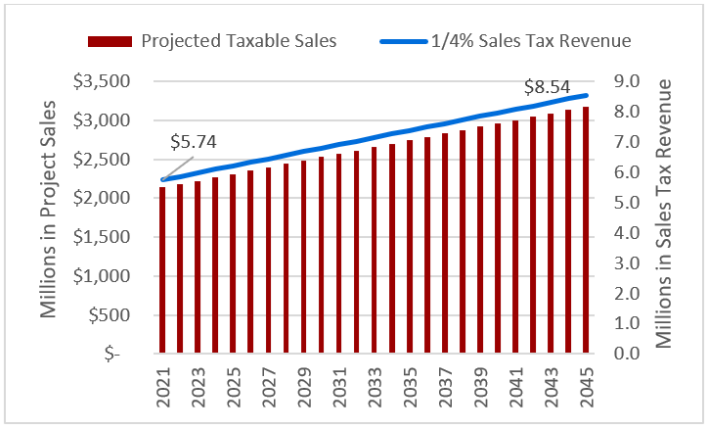
Source: ROCOG

Figure 15-4: County Wheelage Tax Revenue Impact



Source: Registration Data from MN Dept of Public Safety

Figure 15-5: Estimated Revenue from a ¼ cent Sales Tax Levy in Olmsted County



Source: Sales Data from MN Dept of Revenue

Rochester Future Revenue Profile

Table 15-4 summarizes the revenues the City of Rochester expects to have available for investment for the next 25 years.

The City of Rochester revenue profile was significantly impacted by the anticipated impact of a 2017 State Supreme Court ruling in a case involving the City of Woodbury. The Court found that charging transportation fees for off-site traffic impacts expected as the result of new development is not allowable under state statute. Woodbury had been charging fees in the form of Transportation Impact District charges and Substandard Street fees for a number of years to help fund improvement of collector and arterial road improvements necessitated in part by new development, and to help fund the cost of other improvements such as interchange access to major highways.

As a result of this adverse finding, expected private sector development contributions to transportation improvements is expected to drop by approximately $200 million over 25 years when compared to the last ROCOG Plan update. The City is pursuing avenues to replace a portion of these revenues for maintenance and preservation purposes, including a Private Utility Franchise Fee reflecting the value of utility use of the public right-of-way, and a Sidewalk Improvement District program which is authorized under state law. The City has also prioritized the adoption of state legislation that

Table 15-4: Estimate of Anticipated Rochester Funding for Capital Improvements 2021-2045

Revenue Source	Estimated Revenue	Notes
Municipal State Aid	$167.10	Assumes allocation will growth by 1.9% per year per assumption in the SHIP for growth in the HUTF. *Final figure assumes $1.2m of state aid funds are dedicated to maintenance purposes annually*
Federal Aid for Highways	$46.40	Reflects actual 2021-2023 TIP funds plus ½ of annual ROCOG allocation of $2.3 million, growing at 2.2% per year per SHIP Federal Funds growth rate
Tax Levy	$50	Based on discussion with city staff, $2 million annually in tax levy for road purposes was assumed.
Highway Turnback	$19	Reflects remaining funds available from MNDOT turnback of Trunk Highway 63 (Broadway Ave) to the city
DMC Funds (Share of General State Aid of $327m)	$42	Estimate based on analysis of Financial Plan from the 2014 DMC Development Plan. Reflects a share of $327m in General State Aid estimated for use strictly on road improvements
TOTAL/ Public	$324.5	(Millions of dollars)
Private & Utility Fund Contributions	$42	Based on analysis of funding sources included in Year 1 of annual CIP's for 2014-2020.
Overall Total	$367	(Millions of dollars)
	$14.6	Annual Average (millions)
REVENUE ENHANCEMENTS BEING CONSIDERED		
Utility Franchise Fee	$50	See discussion below
Sidewalk Improvement District	n.a.	See discussion below

Source: ROCOG

would authorize municipalities to establish Street Improvement Districts to fund maintenance of existing roadways in designated districts that could be established under such a law. The use of funds from any of these programs, if enacted, would be for the primary purpose of maintaining and preserving existing infrastructure. The availability of new funds for those purposes may help to free up some capital dollars now spent on reconstruction or pavement preservation for future improvement projects.

Jurisdictional Needs Assessment

This section reports the estimated costs of anticipated capital preservation and system improvements needs for the period 2021-2045 for the MnDOT, Olmsted County, and City of Rochester roadway systems. Unit cost values for preparing the estimates were derived from review of local project data for the last 5-7 years, along with reference and research material published by the Minnesota Local Road Research Board, MnDOT, the Wisconsin DOT and the FHWA HPMS program in publications such as the MnDOT 2018 Transportation Asset Management Plan. The analysis focuses on MnDOT, Olmsted County, and Rochester since these jurisdictions historically have been the only recipients of federal highway funding in the ROCOG planning area and are responsible for 99%+ of the major road system.

The infrastructure components evaluated for this assessment included:

- The roadway systems managed respectively by MnDOT, Olmsted County, and Rochester
- The network of bridges managed by MnDOT, Olmsted County, and Rochester
- Improvement needs identified by ROCOG based on review of multiple sources of data including:
  - Corridor and Subarea Studies that have been completed by the respective jurisdictions or other local partners which have been adopted or endorsed by local jurisdictions
  - Jurisdictional capital improvement programs (generally covering 4-5 years) and longer-term Capital Investment Plans which generally cover a 10-20-year period
  - The transportation elements of local jurisdictional comprehensive plans
  - Analysis conducted by ROCOG using current and projected 2045 AADT data as well as safety and operations data
  - Review of economic development needs, such as current truck routes and 9/10-ton routes, master plans for facilities such the Rochester International Airport, and programs such as the Destination Medical Center initiative

The identified improvement projects were reviewed with ROCOG's Transportation Technical Advisory Committee (TTAC) and Policy Board to gain concurrence on use of the list as a basis for assessing investment needs and the adequacy of revenues.

This analysis does not account for day to day operations or reactive maintenance activities, which typically are not considered capital improvements. This work includes activities such as snow and ice removal, street sweeping, pothole repair, and other general unscheduled maintenance activities. At the local level, these types of activities are generally funded using local property tax dollars. Spending needs can vary greatly year to year in response to weather conditions; local governments will tap other funds as needed to address short term risk resulting from major incidents caused by weather or other unforeseen incidents.

Capital Preservation Costs

For purposes of the Plan, a life cycle cost analysis was prepared reflecting the work needed to maintain a road or bridge structure in working condition over an extended period of years, generally stretching 50 to 70 years for roadways, 75 to 90 years for bridge structures, and 90 to 110 years for bridge culverts. Life cycle preservation was assumed to include the following types of activities:

- Minor surface preservation work such as periodic sealcoats on bituminous pavements and joint repair on concrete pavements along with crack filling on all roadways

- Mill & overlay of bituminous pavements every 15-20 years or one minor and one major concrete pavement restoration project over a 50-year life cycle
- Re-rocking of gravel roads once every 3 years (this applies only to Olmsted County)
- For bridges, preventative maintenance is assumed to include one deck replacement and two deck overlays during the 75-90-year life of a bridge
- For bridge culverts, preventative maintenance is assumed to include one pipe relining during the life of a structure
- For all bridges, major work to respond to specific issues such as erosion/scour repair, replacing culvert ends, etc. is typically done on an as-needed basis; based on information in the 2018 MnDOT Transportation Asset Management Plan, this type of work was estimated at an annual cost of 8 cents per square foot of structure

Existing structures eventually require reconstruction, which for purposes of the Plan will occur based on the assumed design life for each type of asset. Unit costs for road reconstruction are based on review of recent information from Rochester, Olmsted County, and MnDOT, and costs will differ depending on the type of pavement, type of traffic load, and location (rural vs urban) of the asset. Bridge replacement is assumed to cost $300 per square foot of structure in 2019 dollars.

Costs for culvert replacement ranges from $2500 to $10,000 per linear foot of barrel length, depending on locations and roadway function.

A Note on Design Life Assumptions

In prior ROCOG long range plans, a standard design life of 50 years was assumed for all road structures. Based on analysis of road system data provided by MnDOT, Olmsted County, and Rochester, and review and discussion of the analysis results with the ROCOG Technical Advisory Committee, the assumptions on design life were adjusted to reflect the reality of preservation investment in an era of constrained resources. In place of a standard 50-year design life, roadways were grouped in one of three categories, reflecting a 50, 60, or 70-year design life. The schedule of preservation activities during the life span of roadways assumed to have a 60 or 70-year design life were then adjusted to incorporate additional preservation such as an additional cycle of crack filling/seal coating and mill and overlay work to maintain pavement surface conditions during the additional years of service. The criteria used for assigning roadways a 50, 60, or 70-year design life are described in Table 15-5.

Roadway Improvement Costs

Roadway improvement cost categories include both high cost and lower costs project types including:

- construction of new roadways

- upgrading of existing roadways to include new lanes
- paving existing aggregate surfaced roadways to provide better functional service
- construction/reconstruction of interchanges or overpasses
- installation of intersection improvements such as signals, roundabouts or turn lanes
- lower cost rural pavement strengthening or shoulder improvement projects

An estimate of right-of-way acquisition costs has been built into project cost estimates to reflect land costs (but not business and relocation costs).

Note on Estimating Year of Expenditure Costs

Applying a 3% cost inflation factor to preservation and improvement projects presents an analysis challenge, particularly with regard to improvement projects, in that it suggests a determination needs to be made as to when a project may realistically occur. Unlike preservation and maintenance, where activity generally occurs year after year on a network-wide basis and the amount of work in any given year is roughly the same as prior years (similar to a zero-based budgeting approach) or increases at a steady rate over time, improvement or expansion of a road or bridge is a one-time expenditure. Assuming a project will occur in the first five years of the planning horizon versus the 25th year, for example, makes a major difference in how many "inflation-adjusted" dollars are needed to complete the project.

Table 15-5: Roadway Design Life Assignment Criteria

Design Life	Criteria
MnDOT Roads	(Design Life based on Functional Classification)
50-year	Interstates, FC of Freeways or Other Expressways, Other Urban Principal Arterials
60-Year	FC of Urban Minor Arterial, Rural Principal Arterial
70-Year	FC of Rural Minor Arterial, all Rural Collectors
Olmsted County	(Design Life based on land use context (urban vs rural) and AADT level
50-Year	All Roads urban or rural > 6000 AADT
60-Year	All Roads urban or rural 1500-6000 AADT; urban roads 500-1500 AADT
70-Year	All Rural roads < 1500 AADT;
Rochester	(Design Life based on land use context factors and Functional Classification
50-Year	All streets in defined Central Business District; all streets with FC of Principal Arterial or Minor Arterial
60-Year	FC of Collector
70-Year	FC of Local Road

Source: ROCOG

For the purposes of completing the "Year of Expenditure" analysis in this plan, after estimating the program or project cost in base year 2019 dollars, an annual baseline cost was assigned to Year 1 of the cost analysis

representing 1/25th of the project cost, with 1/25th of the program or project cost also assigned to each subsequent year through Year 25 of the analysis period, inflated by the 3% inflation factor for the appropriate number years that would have passed since Year 1. For example, if 1/25th of the project cost in Year 1 was $1000, the impact to the overall cost analysis would be $1305 in Year 10 and $2032 by Year 25 for that particular project based on the assumed 3% inflation rate.

The effect of this is to essentially smooth out the aggregate program/project revenue need over the planning period to create an annual average budget need reflecting inflation. This permits a total 25-year inflation-adjusted dollar need to be estimated as well as provides annual budget estimates in inflation-adjusted dollars, reflecting the assumption that the total annual program cost will somewhat level out over the 25-year time horizon of the Plan. This permits the total or annual budget need to be compared to the bottom-line numbers found in Tables 15-2 through 15-4, showing estimated total revenues and annual average revenue for MnDOT, Olmsted County, and Rochester.

Note on Improvement Categories

For the analysis of roadway improvement costs, all projects were grouped into one of eight project categories or three program categories that were referenced in Chapter 10 and are referenced in summary cost tables 15-5 through 15-7 for MnDOT, Olmsted County, and Rochester. Categories group similar projects together based on factors such as cost magnitude, functional importance, and type of project.

The categories for street and highway improvements, (projects described in more detail in Chapter 10) include:

1. **National Highway System Interchange Access** – projects involving major upgrades to existing interchanges or construction of new interchanges on the National Highway System.
2. **Regional Highway Access Management** – projects involve lower cost safety and mobility improvements on the State Highway System (including the NHS), including interim safety projects at certain locations included Category 1 (NHS Interchange Access) where the ultimate interchange project is of unknown timing.
3. **Regional Arterial Safety & Mobility** - projects include safety and mobility upgrades on regional arterials (typically County State Aid Highways) serving suburban areas around Rochester due to changes in traffic levels, access, and multi-modal demand on facilities built to standards of 40-50 years ago, with limited shoulder width, lack of intersection auxiliary lanes, substandard off-road recovery areas and other deficiencies.
4. **Urban Major Arterial Capacity & Mobility** - projects on gateway corridors serving downtown

Rochester that carry the highest volumes of traffic entering downtown and are expected to see greater multi-modal demand due to the important transit connectivity they provide to downtown and the focus on transit oriented development being planned along these corridors.

5. **Support Rochester Growth Management Plan** – projects generally on corridors designated as future arterials and primary collectors that lie within areas identified on the Rochester Growth Management Plan as areas for urban expansion through 2040; these corridors are typically legacy township roads not constructed to urban standards, often with a gravel surface.
6. **Support Economic Development** – projects generally found in business or multi-use districts that will improve service to those districts by filling in the street grid or upgrading road standards.
7. **Corridor Reliability/Traffic Management** – low cost projects designed to provide safety and traffic management benefits on arterials corridors.
8. **Rail Crossing Safety** – illustrative projects representing a placeholder for future rail crossing grade separation on important arterials should future conditions warrant.

Spot Safety/Corridor Enhancement Programs include the following subcategories of improvements in:

1. **Intersection Improvement Program** – projects involving arterial and collector street intersections where upgrades spanning from low cost (improved lighting, signage, striping) to high cost (signals, roundabouts) are anticipated through 2045 based on projected traffic growth and/or land development needs over the next two decades.
2. **10-Ton Network Improvement Program** – projects involving pavement strengthening to support 10-ton heavy commercial vehicle traffic. Routes identified based on criteria including connectivity to 10-ton routes in surrounding counties and the State 10-ton network, business areas with poor access to the 10-ton network, and traffic volume levels. A total of 42 miles are targeted for improvement.
3. **Regional Shoulder Enhancement Program** – projects involving surface or width improvements to existing regional highway shoulders, based on consideration of traffic volumes, shoulder surface, coincidence with 10-ton network and coincidence with the recommended Shoulder Bikeway Network. A total of 51 miles are targeted for improvement.
4. **MnDOT Safety Upgrade Program** – lower cost projects identified in the 2016 MnDOT District 6 Safety Plan aimed at reducing fatalities or serious injury by mitigating design features that contribute to lane departure, right angle, rear end, or failure to yield right of way crashes based on systematic

analysis of design features that demonstrably contribute to crash risk.

Projects in existing developed areas were assumed to have a higher priority than projects in future development areas, and projects reflecting lower cost traffic management measures were given higher priority for the near term than new construction or major capacity improvements.

Summary of Estimated Street and Highway Costs for Long Range Planning Horizon

Tables 15-6 thru 15-8 summarize estimated costs for MnDOT, Olmsted County, and Rochester based on the preservation needs and improvement discussed in Chapter 10. Costs are shown both in current dollars and YOE dollars, along with Year 1/Year 25 estimated revenue needs. Each table includes four blocks of data:

- Block 1 summarizes preservation costs for the street and bridge networks of the road authority.
- Block 2 summarizes estimated improvement costs based on improvement needs identified in Chapter 11.
- Block 3 clarifies the dollar amount of improvement needs associated with illustrative projects where the need for discretionary funding has been identified.
- Block 4 summarizes the net position of the road authority in terms of assessing what shares of needs can be met given the 25-year revenues estimated in Tables 15-2 through 15-4.

Following each table is a discussion of fiscal feasibility/fiscal constraint for each road authority.

Discussion of MnDOT District 6 Preservation and Improvement Costs & Revenues: 2021-2045

Preservation and improvement needs shown in Table 15-6 for the MnDOT system in the ROCOG area are expected to approach $800 million in YOE dollars over the next 25 years. Preservation needs drive these costs, accounting for 86% of the total need estimated. Included in projected system preservation needs is over $200 million in estimated backlog needs, which are roadways that have exceeded the 50/60/70-year design life that was assigned for purposes of the analysis.

Estimated revenue available to District 6 over the next 25 years is $314 million, representing only 39% of projected need. This will significantly limit the amount of investment that MnDOT can support. Based on review of the current 2020-2029 Capital Highway Investment Program (CHIP) and CHIP documents of the last 5 years, the District targets a high proportion of available investment dollars on continued pavement and bridge preservation, as the average CHIP preservation target over the last 3-5 years has been approximately 70%. A 70% level of investment would result in about $220

Table 15-6: MnDOT Cost Summary and Net Revenue/Cost Position 2021-2045

MnDOT District 6 Cost Summary & Revenue Comparison	Total Need (2019 Dollars)	Year 1	Year 25	Total Need (YOE Dollars)	NOTES	
ALL FIGURES IN MILLIONS OF DOLLARS						
Preservation						
Bridge Preservation	$61.5	$2.5	$5.0	$89.6		
						This Block Summarizes Preservation Costs
Pavement Preservation					Estimate of Backlog	
Bituminous Pavements	$33.8	$1.4	$2.7	$49.3	$2.3	
Concrete Pavements	$375.9	$15.0	$30.6	$548.2	$201.3	
Total Road Preservation	$409.7	$16.4	$33.3	$597.5	$0.0	
Total System Preservation	$471.1	$18.8	$38.3	$687.1	$203.5	
Improvements					Illustrative	
NHS Interchange Access	$42.2	$1.7	$3.4	$61.5	60% Discretionary	
Regional Highway Access Management	$22.7	$0.9	$1.8	$33.1	20% Discretionary	
Regional Arterial Safety/Mobility	$0.0	$0.0	$0.0	$0.0		This Block Summarizes Improvement Costs
Urban Major Arterial Capacity/Mobility	$0.0	$0.0	$0.0	$0.0		
Support Growth Management Plan	$0.0	$0.0	$0.0	$0.0		
Support Economic Development	$0.3	$0.0	$0.0	$0.4	5% Discretionary	
Corridor Reliability / Traffic Management	$1.8	$0.1	$0.1	$2.6		
Spot Safety / Corridor Enhancement	$9.7	$0.4	$0.8	$14.1		
Rail Crossing Safety	$1.9	$0.1	$0.2	$2.8	90% Discretionary	
Total Improvement Costs	$78.5	$3.1	$6.4	$114.4		
INFORMATION ONLY: Improvement needs w/o match for Discretionary Projects	$50.4	$2.0	$4.1	$73.5		Improvement costs w/o Discretionary Projects
INFORMATION ONLY: Jurisdictional Match Identified for Discretionary Funded Projects				$41.0		
Total Cost: Preservation and Improvements	**$549.6**	**$22.0**	**$44.7**	**$801.5**	% of Needs	Summary Data
Estimated MnDOT 25 Yr Revenues				**$313.7**	**39%**	
Net Position				($487.9)	that can be met	

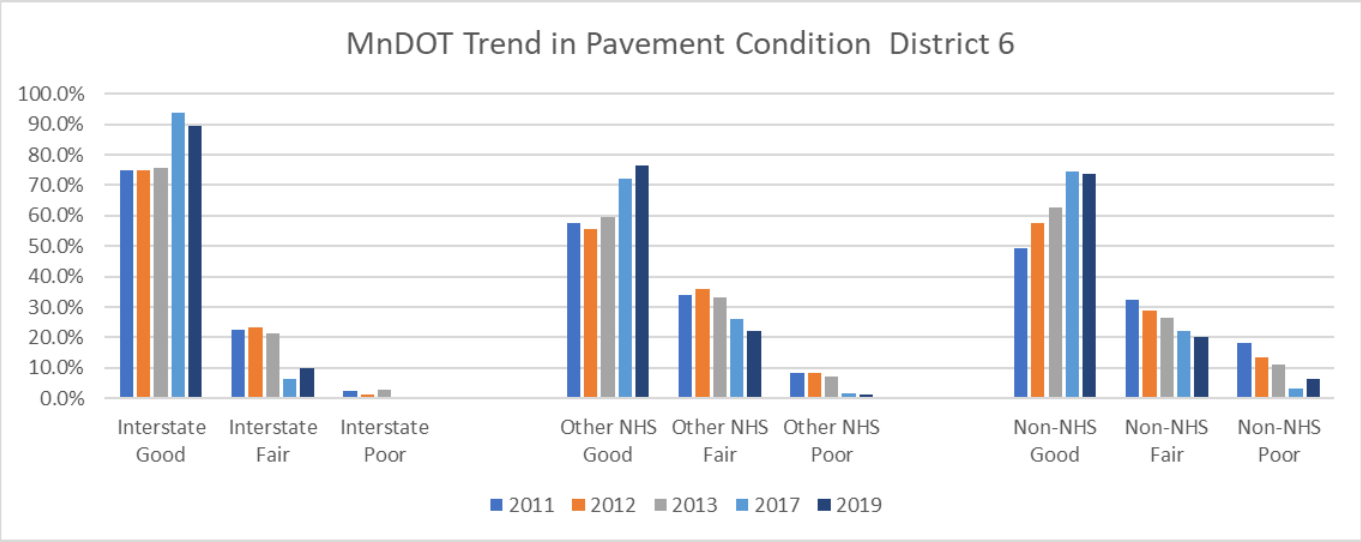
Source: ROCOG

million available for preservation, or about one-third of the identified need. As per the strategies listed in the 2020 Statewide CHIP, Interstate and other NHS pavements will be priorities, and in general the lowest cost preservation strategy that can effectively maintain pavement surface quality will be used. This approach has permitted District 6 to improve pavement quality over time on major road, as illustrated in Figure 15-6. Condition of pavements in the ROCOG area are typical of overall conditions found throughout District 6, as was shown in the discussion of performance outcomes in Chapter 9, Table 9-3.

While bridge investment needs represent only about 15% of the estimated system preservation needs, the charts in Figure 15-7 do identify an aging set of structures that will likely need attention during the time horizon of the plan. Structures rated as Fair or Worse are indicative of needs surfacing within a 10 to 20-year period, which is seen most noticeably with the bridge culvert inventory given the age profile of those structures.

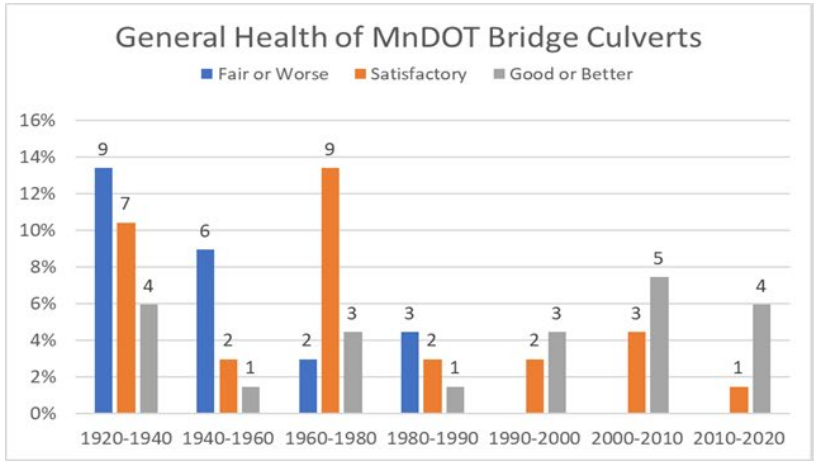
Looking at improvement needs, the largest share of costs included is in the NHS Interchange Access and Regional Highway Access Management categories. These categories are composed primarily of high cost ($20-$40

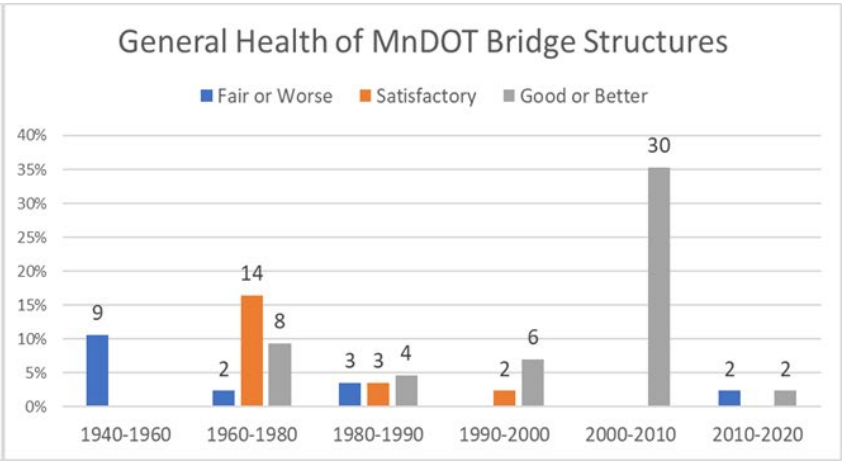
Figure 15-6: Trend in MnDOT Pavement Conditions since 2011



Source: MnDOT Office of Transportation System Management

Figure 15-7: Bridge Network on MNDOT System





Source: Data from MnDOT Bridge Office; Analysis by ROCOG

million) interchange or overpass projects on the NHS system. Given the revenue positions of all three road authorities, the expectation is that discretionary funding, such as from the Corridors of Commerce program, will be needed to complete these projects. A total of $131 million in supplemental funding is needed for a total of 9 projects. For these projects, a local share of 10-30% is reflected in the third block of the Cost Summary (Table 15-6). MnDOT District 6 is assigned $41 million in local share costs for these 9 projects, but that amount could be reduced if a higher level of grant funding is secured.

The remainder of improvement needs in Table 15-6 reflect costs for:

- Programmed interchanges such as I-90/TH 52
- Access management such as future frontage roads along TH 63 south of Rochester identified in the TH 63/Rochester Airport Corridor Study
- Low cost safety and traffic management projects, such as those identified in the 2016 District 6 Safety Plan; a total of $14 million in need is identified, and projects are likely candidates for funding through targets set in the CHIP for roadside infrastructure or traveler safety

Discussion of Olmsted County Preservation and Improvement Costs & Revenues: 2021-2045

Preservation and improvement needs shown in Table 15-7 on the Olmsted County roadway system are expected to approach $710 million ($YOE) over the next 25 years,

Table 15-7: Olmsted County Cost Summary and Net Revenue/Cost Position 2021-2045

Olmsted County District 6 Cost Summary & Revenue Comparison	Total Need (2019 Dollars)	Year 1	Year 25	Total Need (YOE Dollars)	NOTES	
ALL FIGURES IN MILLIONS OF DOLLARS						
Preservation						
Bridge Preservation	$38.4	$1.5	$3.1	$56.0		This Block Summarizes Preservation Costs
Pavement Preservation					Estimate of Backlog	
Bituminous Pavements	$172.3	$6.9	$14.0	$251.3	$67.2	
Concrete Pavements	$138.8	$5.6	$11.3	$202.4	$10.9	
Total Road Preservation	$311.1	$12.4	$25.3	$453.7	$78.1	
Total System Preservation	$349.5	$14.0	$28.4	$509.8	$78.1	
Improvements					Illustrative	
NHS Interchange Access	$26.7	$1.1	$2.2	$38.9	60% Discretionary	This Block Summarizes Improvement Costs
Regional Highway Access Management	$15.9	$0.6	$1.3	$23.2	20% Discretionary	
Regional Arterial Safety/Mobility	$39.7	$1.6	$3.2	$57.9		
Urban Major Arterial Capacity/Mobility	$0.4	$0.0	$0.0	$0.6		
Support Growth Management Plan	$35.7	$1.4	$2.9	$52.0		
Support Economic Development	$0.0	$0.0	$0.0	$0.0	5% Discretionary	
Corridor Reliability / Traffic Management	$0.3	$0.0	$0.0	$0.4		
Spot Safety / Corridor Enhancement	$17.0	$0.7	$1.4	$24.7		
Rail Crossing Safety	$1.5	$0.1	$0.1	$2.2	90% Discretionary	
Total Improvement Costs	$137.1	$5.5	$11.1	$200.0		
INFORMATION ONLY: Improvement needs w/o match for Discretionary Funded Projects	$115.1	$4.6	$9.4	$167.9		Improvement costs w/o Discretionary Projects
INFORMATION ONLY: Jurisdictional Match Identified for Discretionary Funded Projects				$32.1		
Total Cost: Preservation and Improvements	$486.7	$19.5	$39.6	$709.7	% of Needs	Summary Data
Estimated Olmsted Co 25 Yr Revenues				$600.0	85%	
Net Position				($109.7)	that can be met	

Source: ROCOG

with system preservation driving the majority of costs at approximately 72% of the total need estimated. Included in the estimated system preservation need is an estimated $78 million in backlog needs, which are roadways that have exceeded their 50/60/70-year design life that was assigned for purposes of the analysis.

The estimated revenue available to Olmsted County over the next 25 years is $600 million, representing about 84% of overall projected need. This level of revenue would permit the County to meet its preservation needs while having sufficient revenue available to meet about 45% of improvement needs over the planning horizon. Olmsted County will participate in some of the projects targeted for discretionary funding identified in Chapter 10, which have a total cost of $145 million and a local share of up to $32 million. As with MnDOT, this amount could be reduced if a higher level of grant funding is secured.

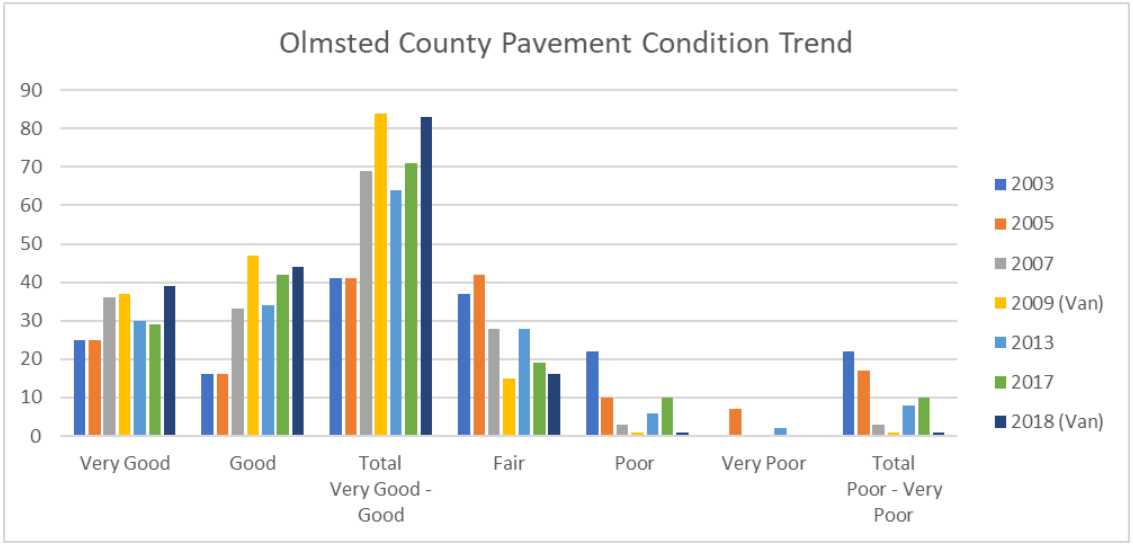
The level of revenue estimated to be available to Olmsted County should permit them to meet most of their preservation needs and maintain pavement quality at a similar level as today. As seen in Figure 15-8, Olmsted County has improved overall network pavement quality in the last 15-20 years, raising the share of miles in good or very good condition to over 70%. Of the roads not at this level, most are very low volume (<1500 AADT) rural roads serving very low-density rural areas.

Figure 15-9 illustrates that the County Bridge Network is likely to need only a moderate level of investment going forward. Most bridge and bridge culvert structures are rated in Good or Better condition and unlikely to need replacement over the next two decades. The chart for bridges in Figure 15-9 suggests there is a subset of bridges dating to the 1960-1980 period which, given their age, may need attention during the second half of the plan horizon. Structure ratings of Satisfactory or Fair, coupled with an age of 40 to 60 years, are indicative of potential bridge rehab needs surfacing in a 10 to 20-year period.

In terms of improvement needs, most of the projects in in the NHS Interchange Access and Regional Highway Access Management categories are tagged as illustrative projects in need of discretionary funding in order to move forward. The $32 million shown in Block 3 of Table 15-7 as jurisdictional match for discretionary projects could be reduced further if a higher level of grant funding is secured.

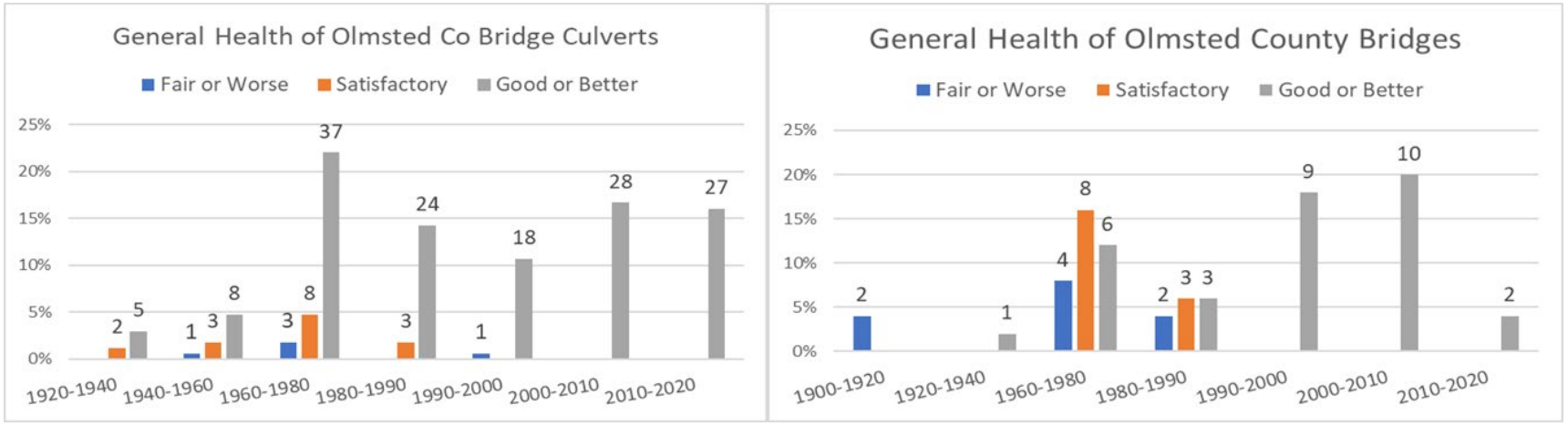
Other major improvement cost categories for Olmsted County include regional arterial safety/mobility, support for growth management plan and spot safety/corridor enhancement needs. History has shown that not all growth management or spot safety needs will likely be realized over the horizon of the plan, though specifying which individual projects will occur is difficult as it

Figure 15-8: Trend in MnDOT Pavement Conditions since 2011



Source: Olmsted County Public Works Department

Figure 15-9: Bridge Network on Olmsted County System



Source: Data from MnDOT Bridge Office, Analysis by ROCOG

depends on the scale and location of growth the city of Rochester experiences. Assuming that about 50% of improvement needs for regional arterials, spot safety and growth management are needed, along with a higher realized level of grant funding (reducing local share on discretionary projects) and some delay of preservation work on low volume roads suggests that Olmsted County is in a fiscally constrained position.

Discussion of Rochester Preservation and Improvement Costs & Revenues: 2021-2045

Preservation and improvement needs, as shown in Table 15-8 on the Rochester system, are expected to approach $756 million (YOE dollars) over the next 25 years, with system preservation driving the majority of costs at approximately 72% of the total need estimated. Included in the estimated system preservation need is over $139 million in estimated backlog needs, which are roadways that have exceeded their respective 50/60/70-year design life that was assigned for purposes of the analysis. Note that 71% of the lane miles in the Rochester street system are accounted for by local streets in neighborhoods or business areas, which experience low traffic volumes. These may be amenable, given a shortfall in funding, to extended maintenance and preservation program activities short of reconstruction after their 70-year design life has been exceeded, thus reducing the fiscal cost of street preservation.

The estimated revenue available to Rochester over the next 25 years is $367 million, representing approximately 50% of projected need. In the previous ROCOG Plan, city revenues were approximately $200 million higher due to the expectation of development fees related to off-site traffic operations and management improvement, such as signals and turn lanes, and substandard street fees to contribute to upgrading of local roads to arterial or collector function in areas of new development. A recent Minnesota Supreme Court case determined cities could not collect such fees for off-site improvements at the time of development. Other court cases tightened benefit determination rules applicable to special assessments, which has also limited the amount of revenue cities can collect from property owners abutting projects.

Despite the funding constraints, the City has been able to maintain pavement conditions at reasonable levels given current revenues. Figure 15-10 illustrates the trend in pavement conditions over the last 10 years. The City has been able to maintain 80-90% of streets at a pavement surface quality of Good or Very Good, with approximately 10% at a level of Fair and less than 2% Poor.

Rochester has only 47 bridges under its control, including 24 bridge culverts and 23 bridges. Bridge preservation needs are estimated at less than 7% of overall system preservation needs, so the impact of bridge costs is a relatively minor factor in the fiscal assessment.

Table 15-8: Rochester Cost Summary and Net Revenue/Cost Position 2021-2045

Rochester Cost Summary & Revenue Comparison	Total Need (2019 Dollars)	Year 1	Year 25	Total Need (YOE Dollars)	NOTES	
ALL FIGURES IN MILLIONS OF DOLLARS						
Preservation						
Bridge Preservation	$26.0	$1.0	$2.1	$37.9		
						This Block Summarizes Preservation Costs
Pavement Preservation					Estimate of Backlog	
Bituminous Pavements	$291.2	$11.6	$23.7	$424.7	$114.3	
Concrete Pavements	$58.9	$2.4	$4.8	$85.8	$25.2	
Total Road Preservation	$350.1	$14.0	$28.5	$510.6	$139.5	
Total System Preservation	$376.1	$15.0	$30.6	$548.5	$139.5	
Improvements					Illustrative	
NHS Interchange Access	$7.7	$0.3	$0.6	$11.2	70% Discretionary	
Regional Highway Access Management	$2.6	$0.1	$0.2	$3.7		
Regional Arterial Safety/Mobility	$0.4	$0.0	$0.0	$0.5		
Urban Major Arterial Capacity/Mobility	$42.0	$1.7	$3.4	$61.2	30% Discretionary	This Block Summarizes Improvement Costs
Support Growth Management Plan	$39.4	$1.6	$3.2	$57.4		
Support Economic Development	$41.5	$1.7	$3.4	$60.4	5% Discretionary	
Corridor Reliability / Traffic Management	$0.3	$0.0	$0.0	$0.4		
Spot Safety / Corridor Enhancement	$7.6	$0.3	$0.6	$11.0		
Rail Crossing Safety	$1.2	$0.0	$0.1	$1.8	80% Discretionary	
Total Improvement Costs	$142.4	$5.7	$11.6	$207.7		
INFORMATION ONLY: Improvement needs w/o match for Discretionary Funded Projects	$99.5	$4.0	$8.1	$145.1		Improvement costs w/o Discretionary Projects
INFORMATION ONLY: Jurisdictional Match Identified for Discretionary Funded Projects				$62.6		
Total Cost: Preservation and Improvements	$518.5	$20.7	$42.2	$756.1	% of Needs	Summary Data
Estimated Rochester 25 Yr Revenues				$367.0	**49%**	
Net Position				($389.1)	that can be met	

Source: ROCOG

To help address the shortfall in funding for road preservation, the City is exploring options for raising additional revenue. A utility charge for the use of right-of-way by private utilities is being considered, which could raise $2-$3 million annually for road preservation. The City is also working with likeminded communities at the State Legislature to advocate for the ability to establish Street Improvement Districts as an alternative mechanism to raise dollars for maintenance.

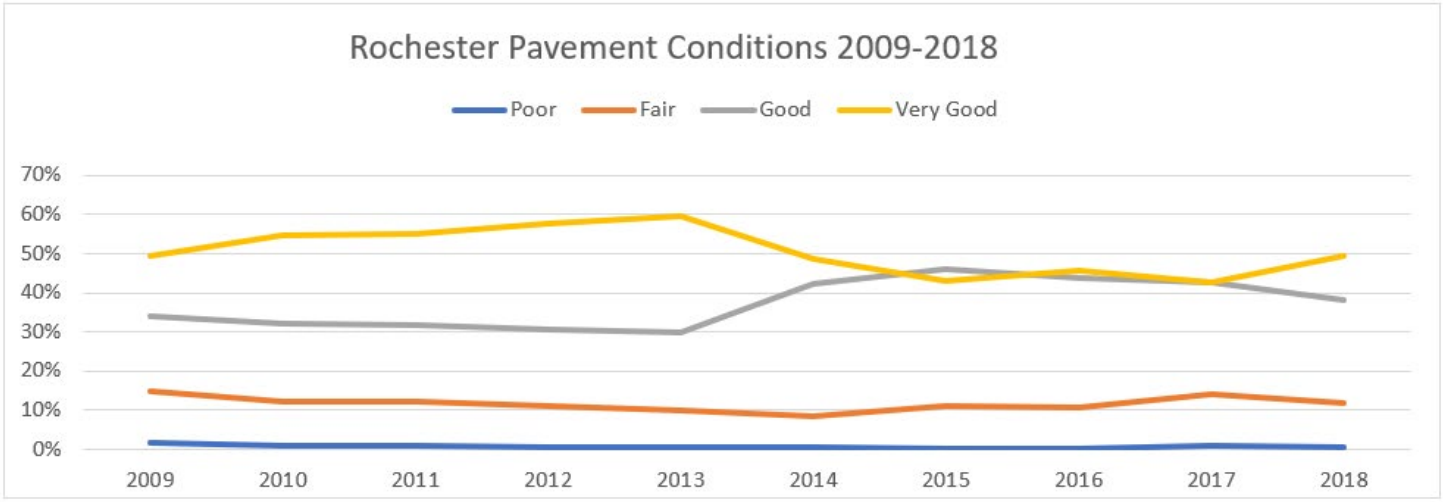
Turning to improvement needs, it is estimated that the City could potentially need up to $207 million for improvements over the horizon of the plan. About 30% of this amount is accounted for by assumptions regarding the local share the City would contribute towards future illustrative projects to be funded with discretionary grant dollars. The majority of the remaining dollar needs identified accrue in the categories of Supporting the Growth Management Plan, Supporting Economic Development, and capacity/mobility enhancement of the Major Urban Strategic Arterials that serve as the main gateways to downtown Rochester.

As with Olmsted County, not all growth management needs are expected to be necessarily during the horizon of the Plan and will be dependent on the scale and direction of urban growth over the next 25 years. Projects supporting economic development are a mix of improvements that would enhance connectiveness of the urban street grid in business areas and would be desirable projects but could be delayed if necessary if funding was not available.

Capacity and mobility enhancement on major urban arterials will be important to provide necessary travel capacity in and out of downtown; per the Destination Medical Center and Downtown Mobility Plans, these improvements are expected to benefit multi-modal travel, particularly transit, and accommodate shifts in traffic due to implementation of transit priority lanes. This work is expected to be supported partially by discretionary grant dollars, and also by dollars from the DMC Economic Development Authority. Grant and DMC dollars are expected to provide about 55% of needed funding, so it will be important for the city to be able to leverage these funds at about a 1:1 ratio with an estimated $41 million if all the major urban strategic arterials are implemented.

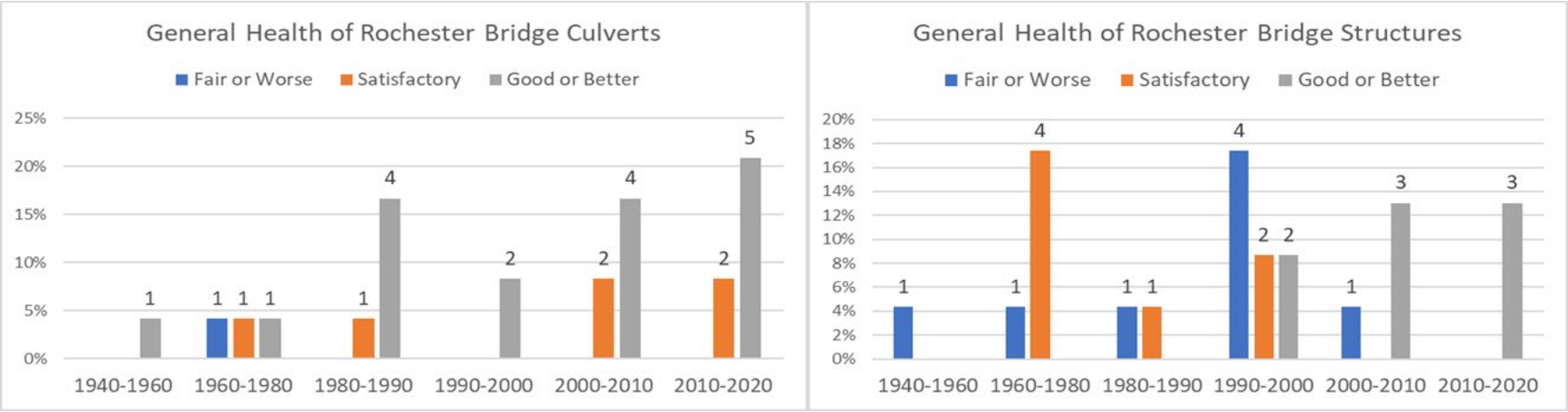
In terms of fiscal constraint, a likely scenario for the City is to devote approximately 75% of current revenues to preservation, which would fund about 50% of estimated preservation needs. 100% of major streets and bridge preservation needs could be funded under this scenario, with approximately 35-40% of local street preservation needs being met. Reconstruction of local streets at the end of their design life would be delayed in lieu of low-cost pavement surface maintenance, similar to what occurs now. Any additional revenue sources expand the preservation effort on local streets or could allow for some shifting of dollars to improvement needs.

Figure 15-10: Trend in Rochester Pavement Conditions Since 2011



Source: Rochester Public Works Department

Figure 15-11: Bridge Network on Rochester Street System



Source: Data from MnDOT Bridge Office; Analysis by ROCOG

In regard to improvement needs, under the 75% maintenance scenario, approximately 40-45% of improvement needs could be met. Most importantly, the local match on all projects flagged as illustrative and dependent on discretionary could be provided, but that would be at the expense of growth management and economic development needs. In the likely scenario that possibly 50% of discretionary funding is realized, about $60 million in improvements needs could be met, which would represent 40% of improvement needs. Approximately $42 million in dedicated DMC funds and $28 million in private funds are assumed, which would raise the overall level of improvement needs that could be funded to about 60-65%.

Operating Costs for Road Agencies

Operating costs for road agencies include a range of day-to-day activities necessary for keeping the road network functioning for daily travel. It includes activities such as snow and ice control, street sweeping, emergency repairs, and clean-up due to events such as flooding or spring pothole repairs. For the most part, these activities are conducted by in-house staff and are treated as a current expense (as opposed to a capital expense) for financial purposes. The following sections discuss operations for Rochester, Olmsted County, and MnDOT.

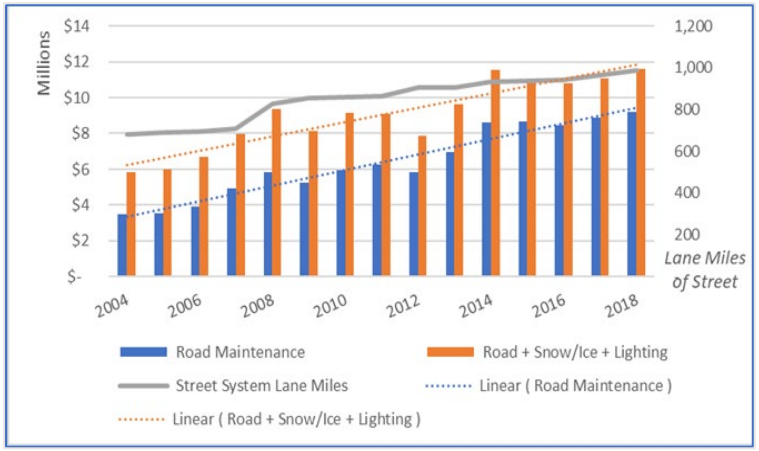
Rochester Street Operations

As shown in Figure 15-12, street operation costs for the City of Rochester have grown over the last 15 years from approximately $5.8 million in 2004 to $11.6 million in 2018, an annual increase of approximately 4%. This cost is composed of three elements, including street and highway maintenance, snow and ice control, and street lighting. Street and highway maintenance accounts for the largest share of expenses, growing from 60% of costs in 2004 to 80% of costs in 2018 as costs for lighting and snow/ice control have grown only nominally over the time period.

The increase in costs for street and highway maintenance are influenced by multiple factors, the most important being the growth in street mileage along with inflationary changes in prices and labor costs. As illustrated in Figure 15-12, during the 2004-2018 period the Rochester road system has grown by 2.9% annually, from 647 lane miles in 2004 to 988 lane miles in 2018.

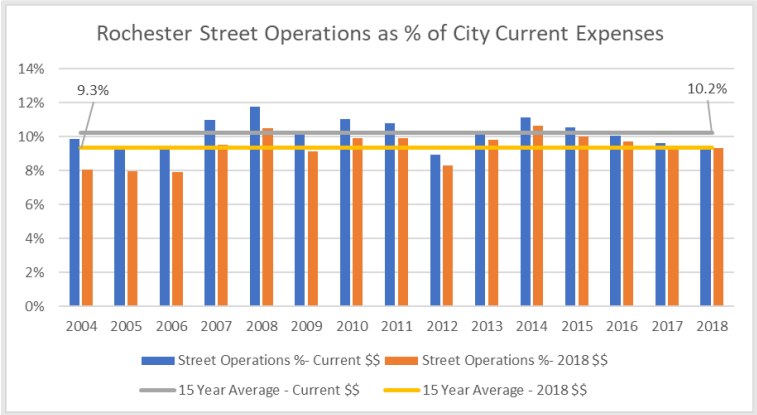
When viewed from the perspective of budgetary impact, street operations have been a fairly steady item in the City's current expense ledger as shown in Figure 15-13. The street operations share of current city operating expenses has varied from a low of 8.9% to a high of 11.7%, averaging 10.2% in current dollars and 9.3% inflation-adjusted dollars over the 2004-2018 period.

Figure 15-12: Cost of Street Operations – Rochester



Source: Data from Minnesota State Auditor Annual City Finances Reports

Figure 15-13: Budgetary Impact of Street Operations



Source: Data from Minnesota State Auditor Annual City Finances Reports

Figure 15-14 illustrates street operations cost per mile in both current dollars and inflation-adjusted dollars. Current dollar costs have risen from $8,527 to $11,768 per lane mile over the 15-year period, an annual increase of 2.2%.

Figure 15-14: Cost Per Mile for Street Operations

Source: ROCOG Analysis

Looking forward, ROCOG estimates that for the period of 2021 to 2045 Rochester will need approximately $438 million in revenue to pay for street operations based on projections of past cost trends. From a 2018 annual cost of $11.6 million, it is projected that annual costs in 2045 would be approximately $22 million. This represents a 2.3% annual increase in costs.

The City devotes a base share of $2 million annually in Municipal State Aid funding to street maintenance, which currently accounts for about 16% of costs. The

remainder of funding will come from local city tax revenue, as it has historically. Table 15-9 lists the primary sources of city tax revenue and the realized growth rate in these tax sources over the 2004-2018 period, along with the annual growth rate in taxable market value, which is the base on which property taxes are calculated.

Table 15-9: Rochester Tax Revenue Growth

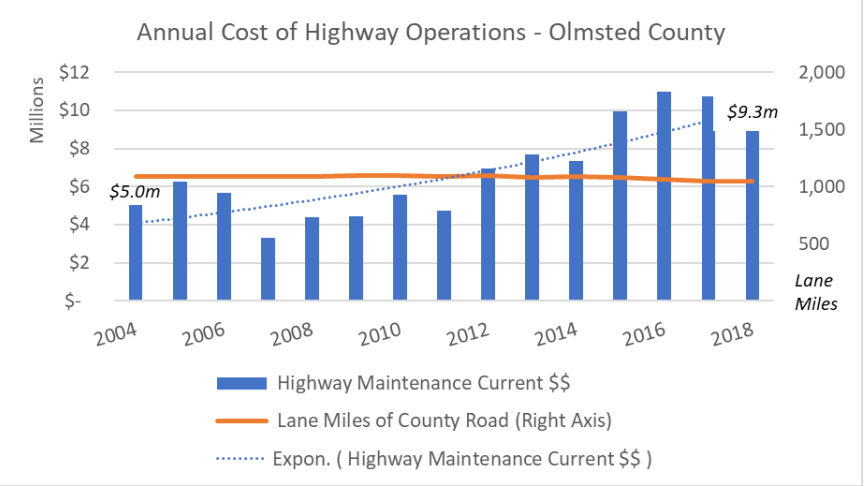
Tax Source	Annual Growth Rate 2004-2018
Property Tax	13.6%
Local Sales Tax	9.4%
Non-Property Tax	19.4%
*Taxable Market Value	6.9%

ROCOG has projected population and household growth of 40% for the period through 2045 for Rochester, slightly lower than growth seen in the last 25 years but still significant, along with continued growth in visitor traffic fueled by increases in Mayo Clinic patient numbers. As a result, ROCOG expects tax revenue and taxable market value for Rochester will continue to grow, and that adequate revenue will be available to fund street operations even accounting for the projected 2.3% annual increase in costs.

Olmsted County Operations

As shown in Figure 15-15, costs for highway operations for Olmsted County have grown from approximately $5 million in 2004 to $9.3 million in 2018, an annual increase of 5% in current dollar costs. The increase in costs for street and highway maintenance are influenced by multiple factors, the most important being inflationary changes in prices and labor costs. The size of the Olmsted County highway network has remained fairly constant, declining from 521 centerline miles to 500 miles between 2004 and 2018, although it is expected the system will grow back to its prior size as banked

Figure 15-15: Cost of Highway Operations

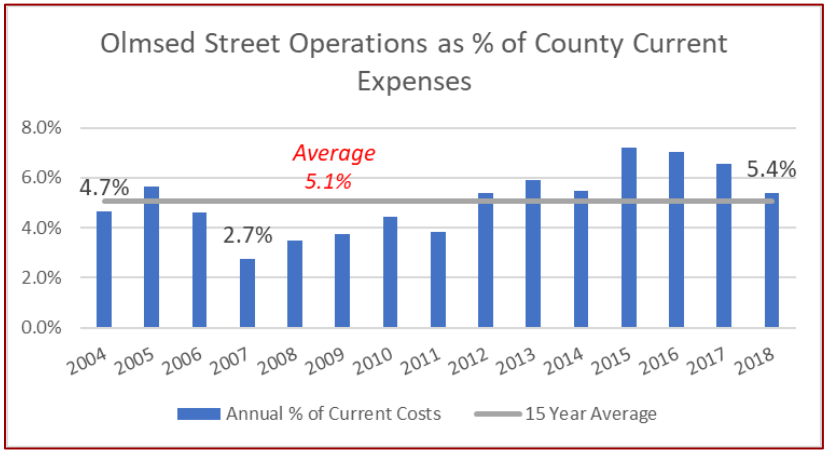


Source: Minnesota State Auditor Annual County Finances Report

County State Aid mileage from highway turnbacks is reassigned.

When viewed from the perspective of budgetary impact, highway operations have been a fairly steady item in the County's current expense ledger as shown in Figure 15-16. Highway operations have on average been 5.1% of the County's current city operating expenses, varying from a low of 2.7% to a high of 7.2%. During the period of the Great Recession, costs ran noticeably below average. But since 2012, the range of annual costs has been in a much narrower band, varying by only 1.8%.

Figure 15-16: County Budget Impact for Road Operations



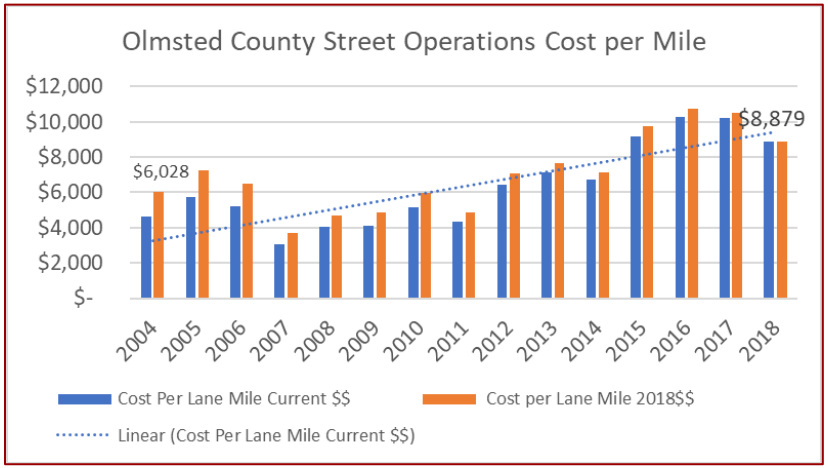
Source: Minnesota State Auditor Annual County Finances Report

Figure 15-17 illustrates street operations cost per mile in both current dollars and inflation-adjusted dollars.

Current dollar costs have risen from $4625 to $8900 per lane mile over the 15-year period, an annual increase of 4.8%, while in inflation adjusted terms costs have risen by 2.8% annually.

Looking forward, ROCOG estimates Olmsted County will need approximately $405 million in revenue to pay for operations based on past trends, with annual cost rising from $9.3 million $21 million in 2045, which represents a 2.7% annual increase in costs.

Figure 15-17: Highway Operations Cost per Mile – Olmsted County



Source: ROCOG Analysis

The County receives an annual maintenance allocation from the County State Aid Highway programs which in 2019 equaled approximately $3.4 million. This will typically fund a portion of operations costs. The

remainder of funding comes primarily from locally raised tax revenue.

Table 15-10 lists the primary sources of tax revenue Olmsted County collects and the realized growth rate in these tax sources over the 2004-2018 period, along with the annual growth rate in taxable market value, which is the base on which property taxes are calculated. Note that sales taxes for transportation and wheelage taxes were only collected beginning in 2014, and that sales tax collections were phased in—the 36% is not reflective of long-term growth prospects. ROCOG expects long term sales tax growth would mirror closely the rate reported for Rochester in Table 15-9, which was 9.4% annual growth

Table 15-10: Olmsted Tax Revenue Growth

Tax Source	Annual Growth Rate 2004-2018
Property Tax	8.1%
Transportation Sales Tax *(see narrative for explanation)*	36%
Wheelage Tax	3.5%
*Taxable Market Value	7.5%

*Taxable Market Value is not a tax revenue tool but the base on which property tax is calculated

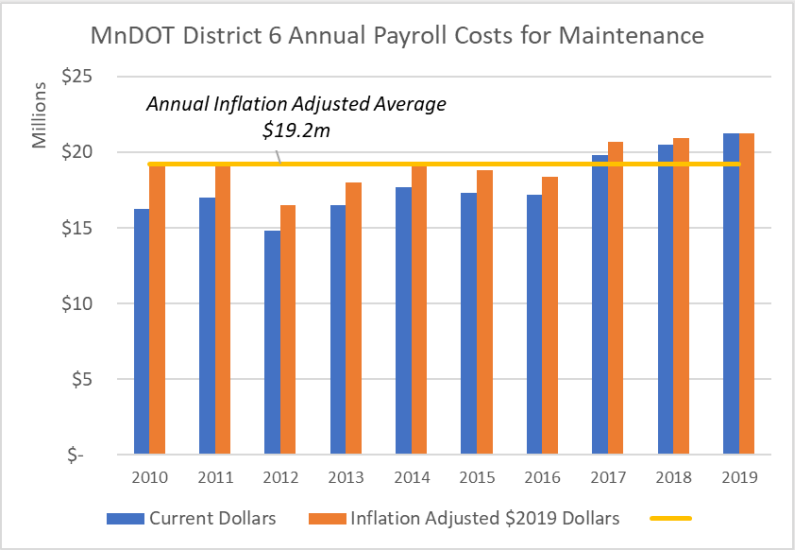
ROCOG has projected population and household growth of approximately 40% for the period through 2045 for Olmsted County, slightly lower than growth seen in the last 25 years but still significant. Transportation sales tax and wheelage tax collections are also expected to continue to grow, as discussed earlier in this chapter. As a result, ROCOG expects tax revenue and taxable market value for Olmsted County will continue to grow, and that adequate revenue will be available to fund street operations even accounting for the projected 2.7% annual increase in costs.

MnDOT Highway Operations

MnDOT District 6 maintains 825 miles of Interstate highway, 3670 lane miles of trunk highway, and 877 bridges in District 6. The district on average has spent $19.2 million on payroll (Figure 15-18) and $12.2 million on non-payroll items in inflation-adjusted dollars for maintenance over the period 2010-2019. Payroll costs have varied in a band from a low of $16 million to $21 million annually; non-payroll costs have varied more significantly from $7.7 million to $16.7 million annually.

Using linear projections based on historic data, ROCOG estimates MnDOT will need $735 million for payroll costs for the 2021-2045 period, reflecting 2.1% annual growth. To project non-payroll costs, given the wide variation in historic costs, ROCOG used the annual inflation-adjusted average cost of $12.2 million from Figure 15-19, adjusted

Figure 15-18: MnDOT Payroll Costs for Operations



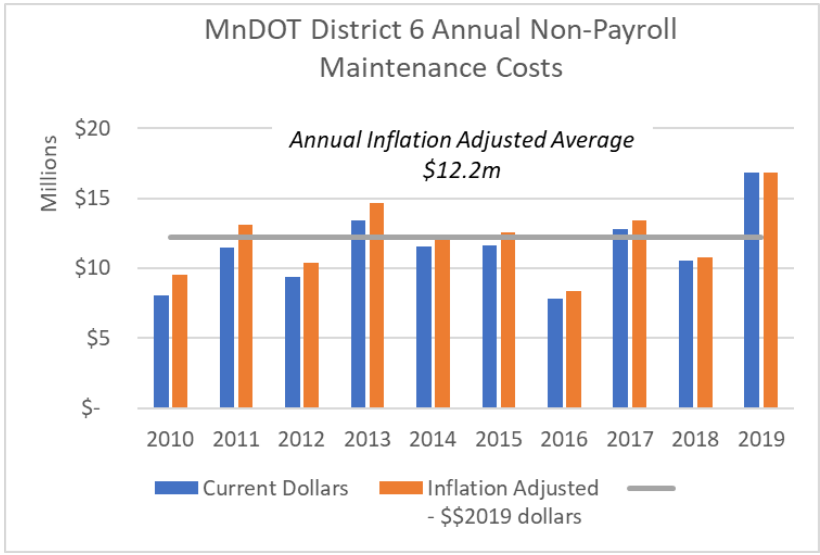
Source: Data from MnDOT Report on Dedicated Fund Expenditures, Various Years

for future inflation of 2.3%, to project District 6 will need $415 million in funding for non-payroll items. The annual growth rates are in line with latest MnSHIP assumptions, which assumes the Highway Trust Fund (HTF) will grow at 2.2% annually. Since the HTF funds 97-98% of maintenance costs, it is the best proxy for future funds.

ROCOG Programming of Federal Funding and Fiscal Constraint

ROCOG estimates that the ROCOG Planning Area receives on average approximately $16 million in federal highway investment annually. As shown in Table 15-9, ROCOG is responsible for programming only $2.3 million of Surface Transportation Block Grant dollars. With an assumed 20% local match, this provides $2.875 million in project funding on an annual basis. Over 25 years, the STBG will provide $57.5 million in funding at today's

Figure 15-19: MnDOT Non-Payroll Costs for Operations



Source: Data from MnDOT Report on Dedicated Fund Expenditures, Various Years

current allocation, and a total of $14.375 million in local share funding will be needed to leverage this federal funding. Assuming the 50/50 split in terms of allocating these federal to Rochester and Olmsted County, each jurisdiction will need to provide approximately $7.2

million over the life of the plan to match the STBG allocation. For Olmsted County, this represents 1.2% of estimated revenues over the plan horizon and for Rochester it represents 2% of available revenues. Rochester and Olmsted County are both able to provide adequate match for the funding ROCOG allocates.

Table 15-11: Flow of Federal Highway Funds into ROCOG Planning Area

Entity	Annual Ave $$	Who Submits / Identifies Projects	Who selects Projects
ROCOG			
Surface Transportation Block Grant Program	$2.3 M	Olmsted Co, Rochester, Byron, Stewartville	ROCOG
District 6 Area Transportation Partnership			
Transportation Alternatives	$400,000	Jurisdictions throughout District 6	ATP-6
MNDOT District 6			
State Trunk Highways on National Highway System (NHS)	$4.6 M (2010-2019 avg)	District 6 identifies projects	Central Office selects projects
State Trunk Highways on Non-NHS System	$7.4 M (2010-2019 avg)	District 6 identifies projects	District 6 selects projects
MNDOT Central Office			
Off-System Bridges	$2.4 M (2010-2019 avg)	District 6 provides input	Central Office selects projects
National Highway Freight Program	*$20 M Statewide	Solicited statewide by Central Office annually	MnDOT Senior Leadership selects projects with input from State Freight Investment Committee
Highway Safety Improvement Program	$8-$12 M Statewide	Solicited Statewide by Central Office annually	Central Office selects projects

Source: ROCOG

In 2018, the ROCOG Policy Board adopted a policy on programming of the $2.3 million allocation that includes creation and periodic updating of a list of projects from which a project(s) will be selected to receive the annual allocation of ROCOG-programmed federal funds. The ROCOG Policy Board will use this list as a starting point for selecting each year during development of the TIP. It is expected that this list will remain in good standing until the next Plan update occurs, at which time it will be updated. Table 15-10 represents the current list of candidate projects.

Table 15-12: Current ROCOG Candidate Project List for STBG Funding

Corridor	Lead Agency	Description	Construction Cost
ROCOG Short Term (2024-2029) Project Selection List for ATP Funding			
CR 101	Olmsted	Reconstruct Gravel Rd to 2 Lane Suburban Arterial from CSAH 20 to CSAH 1	$4,000,000
48 ST NE	Olmsted	Reconstruct Gravel Rd to 2 lane Suburban Arterial from CR 124 to CSAH 11	$4,500,000
65 ST NW	Rochester	Reconstruct 2 lane township road to urban arterial from 37 AV NW to 50 AV NW	$8,500,000
North Broadway	Rochester	Reconstruct from 14th St to Elton Hills Dr	$7,100,000
20 ST SW	Rochester	Reconstruct 2 lane township road to urban collector from South Broadway to CR 125	$8,000,000
50 AV NW	Rochester	Construct new urban arterial from CSAH 4 to 19 ST NW	$7,100,000
19 ST NW	Rochester	Reconstruct 2 lane township road to urban arterial from Ashland Dr to 50 AV NW	$4,000,000
19 ST NW	Rochester	Reconstruct 2 lane township road to urban arterial from 50 AV NW to CSAH 44	$8,000,000
ROCOG Flexible (Short or Long Term) Project Selection List for ATP Funding			
CSAH 44	Olmsted	Build 2 lanes of ultimate 4 lane expressway from 55 ST NW to 55 ST NW	$5,500,000
CSAH 44	Olmsted	Build 2 lanes of ultimate 4 lane expressway from 65 ST NW to 75 ST NW	$2,000,000
CSAH 44	Olmsted	Build 2 lanes of ultimate 4 lane expressway from 19 ST NW to CSAH 4	$2,000,000

Corridor	Lead Agency	Description	Construction Cost
ROCOG Long Term (2030-2045) Project Selection List for ATP Funding			
I-90 & TH 52 Interchange	MnDOT	Phase II of project to upgrade interchange / Ramp Rebuild	$7,930,000
CR 117	Olmsted	Reconstruct 2 lane County Road to suburban arterial standard from 60 AV SW to CSAH 8	$4,400,000
48th ST NE (CR 124)	Olmsted	Extend 4 lane section from CSAH 33 through Hadley Valley Rd intersection	$10,965,000
CSAH 8	Olmsted	Renovate CSAH 8 to adjust curves and extend 4 lanes if needed (dependent on future development) from Bamber Valley School to 40 ST SW	$5,300,000
CR 147	Olmsted	Reconstruct CR 147 as urban arterial from 40 ST SW to CSAH 125	$6,200,000
CSAH 22 / Bandel Rd Intersection	Olmsted / Roch	Relocate East Frontage Rd intersection east approximately 800' to improve interchange operations	$7,800,000
65 ST NW	Rochester	Reconstruct existing two-lane township road to urban arterial from 50 AV NW to 60 AV NW	$6,000,000
East River Road	Rochester	Reconstruct existing two-lane township road to urban industrial collector from 44 ST NE to CSAH 22	$6,700,000
Silver Creek Rd NE	Rochester	Reconstruct existing township gravel road to two lane urban collector from CSAH 22 East to approx. 40 AV NE	$8,800,000
Commercial Dr SW	Rochester	Construct new urban collector frontage road from 40 ST SW to existing north end of Commercial Dr SW	$6,000,000
IBM Campus Area	Rochester	Construct / Upgrade new urban arterial/collector along north side IBM Campus to connect 37th ST NW and Valleyhigh DR NW	$8,400,000
40 ST SW	Rochester	Reconstruct existing two-lane township road to urban arterial from CSAH 8 to 18 AV SW	$3,300,000

List of Illustrative Projects in Long Range Plan

The prior section of this chapter referred to illustrative projects for which the local road authorities (MnDOT, Olmsted County, Rochester) will be seeking discretionary funding. Table 15-11 lists these projects.

Table 15-13: Illustrative Project List

Primary Roadway	Endpoint 1	Endpoint 2	Project Type	Total Cost 2020	Discretionary Grant Target
Regional Highway Access Management				$176,815,000	**$120,882,000**
TH 52	TH 14 West		Improve Interchange	$37,500,000	$26,250,000
I-90	TH 52	Bridge/Ramps	Improve Interchange Phase 2	$14,000,000	$11,200,000
TH 14 W	CSAH 22		Improve Interchange	$44,600,000	$26,760,000
TH 14 W	CR 104		Construct Interchange	$41,215,000	$32,972,000
TH 14 West Corridor	East Core Area Grade Separation		Interchange A in Byron Area	$19,000,000	$11,400,000
TH 14 West Corridor	West Core Area Grade Separation		Interchange B in Byron Area	$20,500,000	$12,300,000
Regional Highway Access Management				$33,000,000	**$10,890,000**
TH 14 West Corridor	CSAH 3 / 10th Ave		Overpass / Interchange Construction	$16,000,000	$5,280,000
TH 14 West Corridor	CSAH 5 / CSAH 15		TH 14 Connectivity Improvements	$17,000,000	$5,610,000
Urban Major Network Development / Improve Safety & Mobility				$84,555,000	**$29,558,750**
North Broadway Av	Civic Center Dr	14th St North	Major Arterial Multi-Modal / Safety Modernization	$18,950,000	$7,580,000
N Broadway Av	14 St NE	Northern Heights Dr	Major Arterial Multi-Modal / Safety Modernization	$10,815,000	$2,163,000
S Broadway Av	14th St S	28 St S	Major Arterial Multi-Modal / Safety Modernization	$17,230,000	$5,599,750
N Broadway Av	Northern Heights	37 St NE	Major Arterial Multi-Modal / Safety Modernization	$16,160,000	$5,656,000
Civic Center Dr	N Broadway Av	16 Av NW	Urban Core Capacity Project	$21,400,000	$8,560,000
2nd St SW	TH 52 W Frntge	Broadway	Transit Mobility Corridor	$107 Milllion	Small Starts Program
DMC South Gateway	2nd St South	14th St South	Transit Mobility Corridor	$96 Million	Small Starts Program
Urban Network Development / Support Economic Development				$2,535,000	**$2,028,000**
CSAH 16 / Future MN 30	TH 63 S	Braatas Dr	Corridor Modernization	$2,535,000	$2,028,000
Rail Crossing Improvements				$46,605,000	**$40,722,000**
TH 14 E	CP Rail		New Rail Overpass	$19,100,000	$17,190,000
CSAH 22 E	CP Rail Crossing		Rail Crossing Safety	$15,280,000	$13,752,000
West Silver Lake Dr	CP Rail Crossing		Rail Crossing Safety	$12,225,000	$9,780,000

Transit Financing Overview

The ROCOG 2045 Long Range Plan reflects a new vision for the future of transit in the Rochester urban area as the range of services expands and transit no longer consists solely of traditional fixed route service and complementary paratransit service. The next 25 years are expected to see notable changes as a Downtown Rapid Transit Line is developed, the City of Rochester transitions from a Park and Ride program where parking capacity is leased from private businesses to one where Rochester establishes permanent park and ride hubs along major regional highways with significantly expanded capacity, and the initial phases of a BRT-based Primary Transit Network emerge.

At the same time, traditional fixed route community service will continue to expand as the city grows from a 2018 population of 117,500 to an expected 2045 population of over 160,000, downtown employment grows by 50% to over 60,000 workers, and the overall level of urban area employment reaches 150,000. Dial-A-Ride service, which has served a relatively stable number of riders for the last decade, will likely see increased demand as the number of persons over age 60 increases from 20% of the population to a projected 31% of the population by 2045.

These expanded and new services will likely expand the range of funding sources that need to be considered to support transit and may necessitate the consideration of different funding models for operating certain services, particularly those serving targeted markets such as commuters.

Federal financing of transit involves various programs which use different allocation models. Section 5307 funding is distributed directly to public transit authorities, while other FTA program dollars are allocated to the state and distributed through a collaborative process involving the MnDOT State Transit Office and the local transit authority. Funding recommendations from these entities are forwarded on to the Area Transportation Partnerships (ATP) and MPOs for inclusion in the TIP/STIP. A limited amount of federal highway dollars can also be flexed and used for transit capital investment; final decisions regarding use of these Surface Transportation Block Grant funds rest with the ATP (with MPO concurrence) as these bodies are responsible for final distribution of the MnDOT share of federal highways funds allocated to District 6. Rochester also enters an era where success in seeking discretionary federal funds through competitive grant programs will be important for capital investment associated with new services such as the Downtown Rapid Transit project, currently accepted into the Small Starts program, and the Primary Transit Network.

This section summarizes the financial implications of the continued provision of existing transit services in the

Rochester area along with development of new services including Downtown Rapid Transit (DRT), an expanded Park and Ride network and the Primary Transit Network (PTN). Table 15-12 summarizes the estimated costs for implementing and operating these services over the 25-year plan horizon, based on an implementation scenario reflecting recent community plans. The total estimated cost through the Year 2045 is $1.17 billion, including approximately $350 million to continue providing basic fixed route transit service and $310 million to develop and operate the proposed Downtown Rapid Transit service starting in 2025.

While $1.2 billion is a significant number, it represents year of expenditure costs reflecting a 2-3% annual inflation rate for goods and services. What this means is that infrastructure or service that costs $1 today will cost $2 ($1.97 to be exact) in the year 2045 at a 3% inflation rate. The assumption regarding rate of inflation is based on the trends observed in local transit metrics such as cost per mile and cost per hour, based on analysis of 10 to 15 years of historic cost data.

Summarizing each of the five major components of the future Rochester transit system finds the following:

- **ZIPS Dial-A-Ride Service:** This service serves elderly and handicapped individuals who have been determined to be eligible to use the service. Continued passenger growth is expected to occur at a slightly higher rate than the last 10 years (2% annually) given the changing demographics of the local population, which will see a significant growth in the number of persons age 65 and above. The Plan assumes the State will continue its commitment to funding basic transit services, which is important given the level of operating funding the State provides for paratransit service.
- **Neighborhood Fixed Route Service:** While Rochester Public Transit manages all types of fixed route service as a single system, for purposes of the Long Range Plan, the analysis was broken into two systems: one referred to as Neighborhood Fixed Route and the second reflecting the City's Park and Ride service. This was done to clearly illustrate the magnitude of change expected in the Park and Ride service, which serves about 2000 users today but is expected to grow to approximately 9000 users by the year 2045. A transition is being made from leased parking to City-owned parking on properties the City would acquire.

  Relative to "Neighborhood Fixed Route" service, the plan assumes a slightly higher growth rate in ridership and passenger miles (1.9% annually versus a historic rate of 1.5%), but does so with a slightly lower growth in vehicle miles and vehicle hours of service. This assumption is predicated on the growth management strategy adopted in 2018 as part of the City's updated comprehensive plan (P2S 2040), which

Table 15-14: Summary of Estimated Transit Costs 2021-2045

Transit Service Summary Sheet (all figures in Millions of Dollars)					
	Near Term 2021-2027	Mid Term 2028-2035	Long Term 2036-2045	Total Plan Costs	
OVERALL COSTS	$281.83	$386.09	$505.63	$1,173.55	
Dial A Ride	$10.48	$13.80	$21.49	$45.77	
Annual Operating Cost	$8.70	$11.86	$17.90	$38.46	4%
Vehicle Replacement	$1.53	$1.64	$3.20	$6.37	
Vehicle Fleet Expansion	$0.25	$0.30	$0.39	$0.94	
Neighborhood Fixed Route	$79.85	$114.77	$156.40	$351.02	
Annual Operating Cost	$51.50	$74.25	$90.10	$215.85	
Vehicle Replacement	$13.25	$18.92	$30.90	$63.07	30%
Vehicle Fleet Expansion	$2.60	$3.70	$6.10	$12.40	
Other Capital Investment	$12.50	$17.90	$29.30	$59.70	
Downtown Rapid Transit	$116.30	$130.92	$62.54	$309.76	
Phase 1 Project Development	$107.40			$107.40	
Phase 2 Project Development		$96.00		$96.00	26%
Operating Cost	$8.90	$33.30	$50.95	$93.15	
Vehicle Replacement		$1.62	$11.59	$13.21	
Park & Ride Facility Cost	$20.40	$22.70	$31.10	$74.20	
NE Sector	$8.90			$8.90	
E/SE Sector			$13.80	$13.80	
South Sector		$15.10		$15.10	
SW Sector		Done with Rapid Transit		$0.00	
West Sector	$7.60	$7.60		$15.20	
NW Sector	$3.90		$17.30	$21.20	22%
P&R Operating Cost	$12.00	$27.20	$58.30	$97.50	
Composite All Sectors	$12.00	$27.20	$58.30	$97.50	
P&R Vehicle Cost (EV)	$17.90	$16.40	$48.00	$82.30	
Replacement Vehicles		$5.70	$43.70	$49.40	
Vehicle Fleet Expansion	$17.90	$10.70	$4.30	$32.90	
Primary Transit Network	$24.90	$60.30	$127.80	$213.00	
Project Development	$15.30	$5.00	$12.60	$32.90	
Vehicle Fleet Expansion (EV)	$9.60	$7.00	$9.40	$26.00	18%
Operating Cost (Offset in Fxd Rt)	$0.00	$48.30	$105.80	$154.10	

Source: ROCOG

1) assumes a more centralized pattern of growth directed towards areas already served by public transit, and 2) assumes an expected shift towards higher density styles of housing development which should be more efficient to serve. As with dial-a-ride service, the plan assumes neighborhood fixed route service being part of the "basic" transit service provided to the community and that the State will continue its commitment to funding this service at a similar level as in the past.

- **Downtown Rapid Transit:** The City of Rochester has entered the FTA Small Starts program for the Downtown Rapid Transit project and is currently in Phase I project development. The Downtown Rapid Transit system is expected to provide 5-minute peak period service and 10-minute off peak service along a 3.7-mile corridor serving core employment and activity areas of downtown Rochester along the downtown's primary east/west corridor (2nd St South) and extending south from 2nd St along a corridor yet to be determined that will serve a potentially large area of future redevelopment in the southeast sector of downtown Rochester. Termini for the corridor will be "West" and "East" Transit Villages that are envisioned to be mixed use developments with housing along with significant amounts of commuter parking (2500 to 3000 spaces at the West Village and 1000-1500 spaces at an East Village) and mobility hub features. The project will be developed in two phases, with Phase I serving the 2nd St SW corridor. The design of the system will be based on the principles of Bus Rapid Transit running partially in mixed traffic partially in Business/Access Transit lanes ("BAT" lanes).
- **Commuter Parking Development and Express Park and Ride Bus Service:** The Plan describes a program for developing 7400 new spots for commuter parking over its horizon, located on the periphery of the city, along major regional highways that deliver over 25,000 commuters per day to Rochester from throughout southeastern Minnesota. These sites will be linked to downtown Rochester by a fleet of peak period express buses, a service which the City is interested in providing with the newest electric bus technology.
- **Primary Transit Network (PTN):** The final element of the proposed transit system is the proposed PTN that has been articulated in the City's comprehensive plan. Development of this core service would provide high frequency, high quality Bus Rapid Transit on a limited number of core corridors, including Broadway Ave north/south through the city, 2nd St South & 4th St SE east/west through the city, and a corridor on 7th St NW - Valleyhigh Drive NW connecting downtown with the major northwest concentration of business activity focused on a redeveloping IBM campus and nearby Mayo Clinic satellite facilities. Two

other corridors envisioned as part of the ultimate PTN, including part of the west side expressway corridor known as West Circle Dr, and a portion of 37th St North, are not assumed to occur during the 25-year horizon of the Plan.

The following pages provide added detail to the Transit Summary Cost Table information in Table 15-14, including discussion of the analysis or assumptions that drive the estimates of operating, vehicle, and capital costs. Summary charts following these overviews illustrate expected cash flow needs for operating and capital investment, based on an assumed phasing that reflects recommendations from various recent plans including P2S 2040, the 2018 DMC Integrated Transit Studies, and the 2014 DMC Development Plan.

Dial A Ride Service Summary

Table 15-15 summarizes the analysis estimating future operating and capital costs for the Rochester ZIPS Dial-a-Ride service thru the planning period of 2045. The upper half of this table reports historic results for selected years since 2003 for information and comparison purposes, while the lower half of the table reports projected results at five-year increments through 2045. Total operating costs in Summary Table 15-12 are derived from this work.

Table 15-16 compares historic and projected annual growth rates for the various metrics. Historic rates are based on the 10-year period of 2009-2018, while projected rates are for the planning horizon of 2021-2045. Growth rates are generally slow, though this in part is due to laws of large number where similar levels of historic and future growth will yield lower future growth rates as the underlying base from which the growth is calculated grows. Based on the projected growth of vehicles hours of service (and assumptions that a vehicle will provide 2000 hours of service per year and Class 300/400 vehicles have a service life of 150,000 miles) the plan estimates that the in-service fleet will need to expand by 1 vehicle every 7 years, and that a replacement vehicle will need to be scheduled for every 3-4 years. Vehicle costs are assumed to be $200,000 in 2019, rising to an inflation-adjusted cost of $406,500 by the year 2045, with a 20% local cost share.

The mix of funding that supports ZIPS service has changed significantly over the last 10 years. In 2016, the Minnesota State Legislature adopted a revised funding approach for transit in the state of Minnesota that both raised the level of revenue available to support transit operations and allowed more State dollars to flow into basic paratransit and fixed route service. Figure 15-20 illustrates the impacts of these changes on the funding of operations. The share of state dollars has risen from a low point in 2014 of supporting 70% of operating costs to meeting close to 95% of costs by 2019. This has

Table 15-15: Analysis of Dial-A-Ride Service Parameters for 2021-2045

Year	Rochester Population	Total Operating Cost	Passenger Trips	Passenger Miles	Vehicle Miles	Vehicle Hours	Trips per Capita	Rev Miles Per Capita	Passengers per hour	Passengers per veh mile	Cost per Hour	Cost per Passenger	Cost per Vehicle Mi	Cost per Passenger Mile
2003	*93,037*	*$ 441,035*	*48,256*	*298,564*	*159,735*	*11,784*	*0.52*	*1.72*	*4.10*	*0.30*	*37.43*	*$ 9.14*	*$ 2.76*	*$ 1.48*
2005	*97,191*	*$ 542,694*	*43,089*	*290,285*	*180,123*	*12,266*	*0.44*	*1.85*	*3.51*	*0.24*	*$ 44.24*	*$ 12.59*	*$ 3.01*	*$ 1.87*
2010	*106,769*	*$ 647,773*	*40,717*	*303,923*	*178,161*	*12,176*	*0.38*	*1.67*	*3.34*	*0.23*	*$ 53.20*	*$ 15.91*	*$ 3.64*	*$ 2.13*
2015	*111,907*	*$ 854,442*	*45,062*	*318,476*	*272,293*	*17,198*	*0.40*	*2.43*	*2.62*	*0.17*	*$ 49.7*	*$ 18.96*	*$ 3.14*	*$ 2.68*
2018	*117,444*	*$ 1,084,931*	*46,133*	*266,758*	*252,315*	*15,917*	*0.39*	*2.15*	*2.90*	*0.18*	*$ 68.2*	*$ 23.52*	*$ 4.30*	*$ 4.07*
2025	128,500	$ 1,271,277	52,006	306,933	288,259	17,546	0.40	2.24	2.96	0.18	$ 72.5	$ 24.45	$ 4.41	$ 4.14
2030	138,000	$ 1,430,691	56,868	335,633	315,213	18,536	0.41	2.28	3.07	0.18	$ 77.2	$ 25.16	$ 4.54	$ 4.26
2035	147,500	$ 1,605,260	61,883	365,228	343,007	19,509	0.42	2.33	3.17	0.18	$ 82.3	$ 25.94	$ 4.68	$ 4.40
2040	154,875	$ 1,772,451	66,144	390,378	366,627	20,190	0.43	2.37	3.28	0.18	$ 87.8	$ 26.80	$ 4.83	$ 4.54
2045	162,250	$ 1,955,988	70,530	416,264	390,938	20,866	0.43	2.41	3.38	0.18	$ 93.7	$ 27.73	$ 5.00	$ 4.70

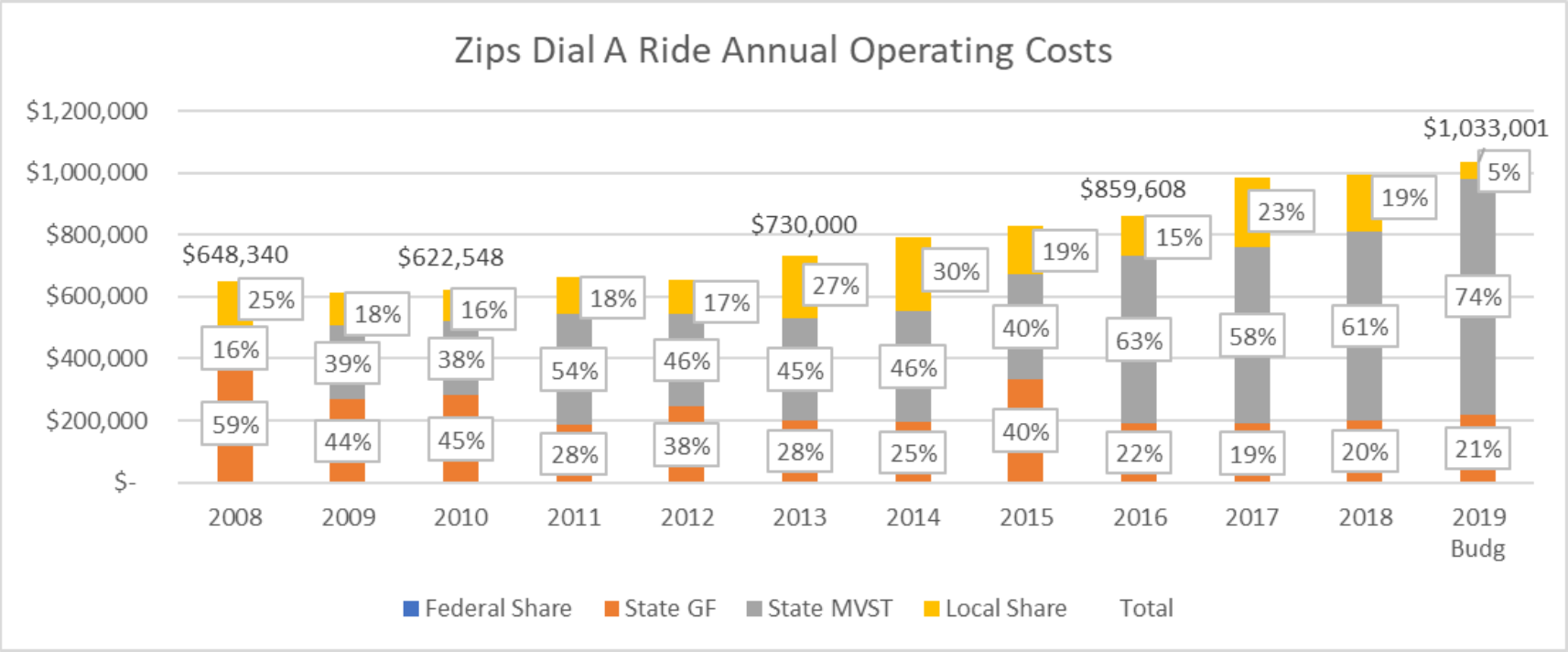
Source: Base data from National Transit Database; projection by ROCOG

Table 15-16: Historic and Projected Annual Growth Rates for Selected Paratransit Parameters

	Total Operating Cost	Passenger Trips	Passenger Miles	Vehicle Miles	Vehicle Hours	Trips per Capita	Passengers per hour	Passengers per veh mile	Cost per Hour
Ann Ave Growth 2009-2018	**8.0%**	**1.7%**	**-1.1%**	**4.2%**	**3.4%**	**0.3%**	**-1.3%**	**-1.8%**	**3.5%**
Ann Ave Growth 2021-2045	**2.8%**	**1.9%**	**1.9%**	**1.9%**	**1.0%**	**0.4%**	**0.7%**	**0.0%**	**1.5%**

Source: ROCOG Analysis

Figure 15-20: Funding of ZIPS Dial-a-Ride Annual Operating Costs

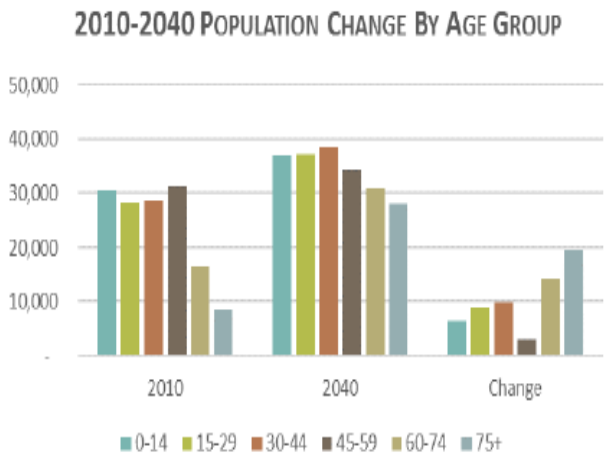


Source: Base data Minnesota State Transit Report

permitted the City of Rochester to hold the absolute local share of funding level even while service improvements including supplemental taxi service during periods of peak demand or for evening service, which is more efficient in terms of metrics such as passengers per hour and passengers per vehicle miles of service.

In summary, ROCOG expects to see demand for paratransit continue to growth, in large part driven by the changing demographics of the community as shown in Figure 15-21. We assume state funding will contribute a similar share of dollars for operating costs going forward but are aware that issues regarding the adequacy of the revenue flowing into the Greater Minnesota Transit Account may require changes in funding to support future growth in service.

Figure 15-21: Projected Population Growth by Age Cohort, Olmsted County



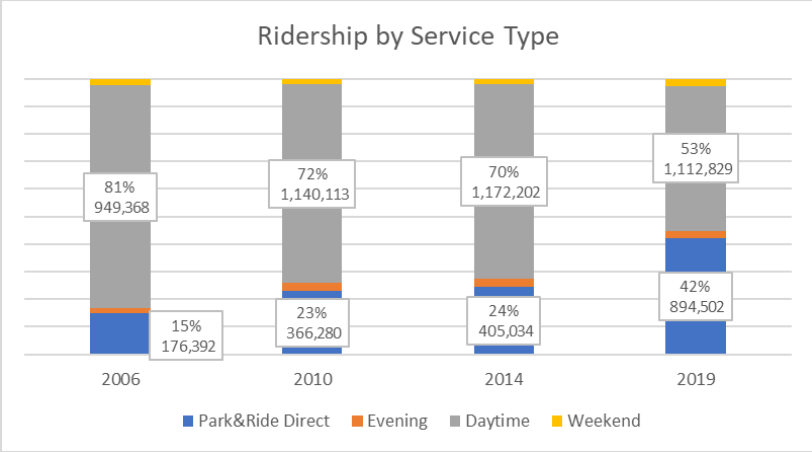
Source: Base data from U.S Census

Fixed Route Neighborhood Service Summary

As was noted in the transit introduction, Rochester Public Transit manages Fixed Route Service as a single system, with both neighborhood level service and express service between park and ride facilities and downtown Rochester accounted for within one accounting framework. For purposes of this Plan, these two service elements are analyzed as separate systems, due to the significant expansion in park and ride service planned to support the Destination Medical Center initiative which may result in 300-400% growth in the number of park and ride users.

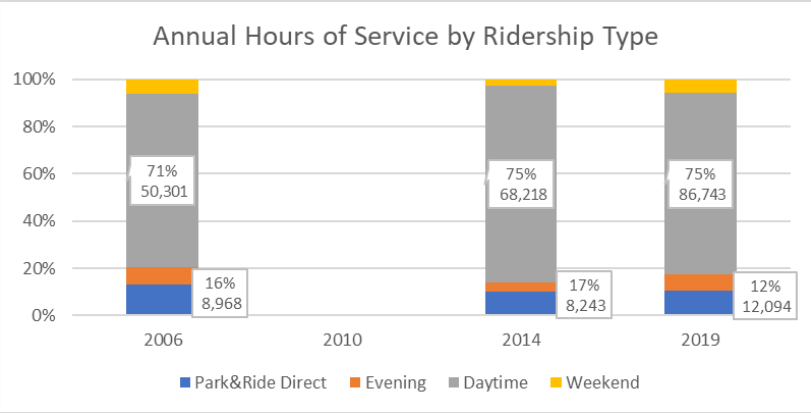
The following charts illustrate how the character of these two elements of Rochester fixed route service have been diverging recently. Figure 15-22 illustrates the significant growth in park and ride ridership, which has changed the mix of users by close to 20% recently. Figure 15-23 illustrates that even with this change in ridership mix, the percentage of service hours devoted to neighborhood service has remained relatively unchanged as both service components have grown from a service hour perspective. Finally, Figure 15-24 illustrates the divergence that has emerged in terms of cost per rider, as express buses operate closer to capacity which effectively has reduced the cost per rider to about one-third the level of neighborhood fixed route users.

Figure 15-22: Ridership by Service Type



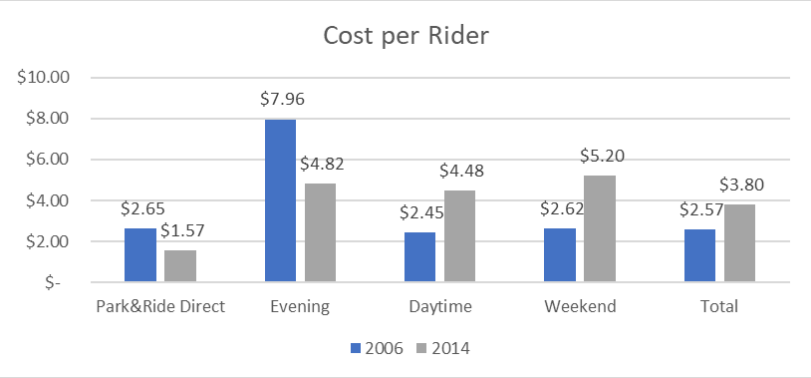
Source: Rochester Transit Development Plans

Figure 15-23: Hours of Service by Service Type



Source: Rochester Transit Development Plans

Figure 15-24: Cost Per Rider by Service Type



Source: Rochester Transit Development Plans

Based on the data in Figures 15-14/15/16, an estimate was made of the historic neighborhood system share of costs, passengers, and vehicle operations for fixed route service, reported in the upper half of Table 15-17. Using these estimates, projections of various metrics were completed for the period of 2021-2045. As a means to understand the implications, note the 2018 Operating costs of $6.4 million represent about 70% of the total fixed route operating costs of $9.2 million reported for 2018.

As with paratransit service, projected growth rates for factors such as operating costs, vehicles miles/hours of service miles per capita are expected to be similar or lower than historic rates. ROCOG policies and strategies adopted by the City of Rochester in its 2018 Growth Management Plan, which encourage a more centralized growth pattern emphasizing infill and redevelopment, and slower expansion in terms of outward expansion due to financial constraints that will limit expansion of municipal sewer infrastructure, will help moderate the need to expand transit service in the urban area compared to past decades.

Table 15-18 analyzes past capital investment in the Rochester transit system to establish a benchmark for comparing future needs. Over the ten-year period of 2011-2020, over $82 million in capital investment was programmed through the annual ATP-STIP process, or an average of approximately of $8.2 million annually. The lower part of the table shows the breakdown in funding, with approximately 28% of project costs funded with local dollars and the remainder with federal dollars.

Table 15-17: Fixed Route Neighborhood Transit Service – Historic and Projected Metrics

Year	Rochester Population	Total Operating Cost	Passenger Trips	Passenger Miles	Vehicle Miles	Vehicle Hours	Trips per Capita	Rev Miles Per Capita	Passengers per hour	Passengers per veh mile	Cost Per Hour
2005	*97,191*	$2,573,697	964,381	3,823,278	609,367	59,794	9.92	6.27	16.13	1.58	$43.04
2009	*104,578*	$3,423,776	1,094,976	4,341,020	695,007	46,850	10.47	6.65	23.37	1.58	$73.08
2010	*106,769*	$3,700,226	1,127,625	4,470,456	695,678	47,535	10.56	6.52	23.72	1.62	$77.84
2015	*111,907*	$4,687,922	1,253,443	4,969,258	769,598	52,554	11.20	6.88	23.85	1.63	$89.20
2018	*117,444*	$6,423,438	1,239,110	4,912,437	1,002,825	72,119	10.55	8.54	17.18	1.24	$89.07
Ann Ave Growth 2009-2018	**1.4%**	**9.7%**	**1.5%**	**1.5%**	**4.9%**	**6.0%**	**0.1%**	**3.2%**	**-2.9%**	**-2.4%**	**2.4%**
2025	128,500	$7,616,338	1,473,965	5,276,794	1,023,455	69,039	11.47	7.96	21.35	1.44	$110.32
2030	138,000	$8,897,626	1,601,673	5,733,989	1,167,413	75,737	11.61	8.46	21.15	1.37	$117.48
2035	147,500	$10,178,915	1,729,381	6,191,184	1,331,189	82,435	11.72	9.03	20.98	1.30	$123.48
2040	154,875	$11,460,204	1,857,089	6,648,379	1,517,452	89,134	11.99	9.80	20.83	1.22	$128.57
2045	162,250	$12,741,492	1,984,797	7,105,575	1,729,223	95,832	12.23	10.66	20.71	1.15	$132.96
Ann Ave Growth 2021-2045	**1.4%**	**3.9%**	**1.9%**	**1.9%**	**3.7%**	**2.1%**	**0.4%**	**1.7%**	**-0.2%**	**-1.0%**	**1.2%**

Table 15-18: Capital Expenditures for Transit 2011-2020

	Bus Garage	Shelters	Downtown Hub	EV Charging	NW Hub	Park & Ride	St. Mary's Hub	Technology	Vehicles	Total
2011	$15,000,000								$ 1,331,000	$16,331,000
2012	$12,300,000						$ 200,000		$ 2,280,000	$14,780,000
2013					$150,000	$ 150,000			$ 1,938,000	$ 2,238,000
2014			$ 500,000					$1,500,000	$ 1,648,000	$ 3,648,000
2015							$ 300,000		$ 2,120,000	$ 2,420,000
2016									$ 1,978,231	$ 1,978,231
2017							$ 120,000			$ 120,000
2018						$1,000,000	$ 250,000	$ 420,000	$ 5,330,000	$ 7,000,000
2019	$ 6,125,000	$40,000	$ 50,000	$1,000,000	$150,000		$ 250,000	$ 150,000	$11,028,000	$18,793,000
2020		$24,000		$1,237,500		$2,000,000	$ 500,000	$ 200,000	$11,000,000	$14,961,500
Grand Total	$33,425,000	$64,000	$ 550,000	$2,237,500	$300,000	$3,150,000	$1,620,000	$2,270,000	$38,653,231	$82,269,731

Capital expenditures during this period were largely directed towards vehicle acquisition and construction of the Rochester Transit Operations Center. Looking forward, while some expansion of the RTOC is expected, vehicle acquisition will remain a major expenditure with Park and Ride development expected to draw more funds as described in the next section.

Similar to paratransit service, the funding mix that supports fixed route operations has changed in the last five years with the infusion of additional State funds to support the service (Table 15-19). As illustrated in Figure 15-25, changes adopted by the State Legislature in 2016 have increased the share of State funding to close to 80% and reduced local share needs from 40% to approximately 10%. While the Plan assumes a similar level of support will be retained going forward, ROCOG as noted in the paratransit discussion, is aware of risks relative to the funding that may be available from the Greater Minnesota Transit Fund and that a shifting mix of funds may be required again in the future, with more reliance on local funding to support this service.

Express Park and Ride Service Summary

The scale of Express Park and Ride service for downtown workers Rochester provides is expected to undergo a significant change over the course of the next 20 years. Figure 15-26 illustrates the current system which has six sites providing approximately 2000 spaces for commuters; the system envisioned will have 6 sites with approximately 7400 spaces, with the City owning and operating the sites instead of the current arrangement where they lease parking spaces from landowners.

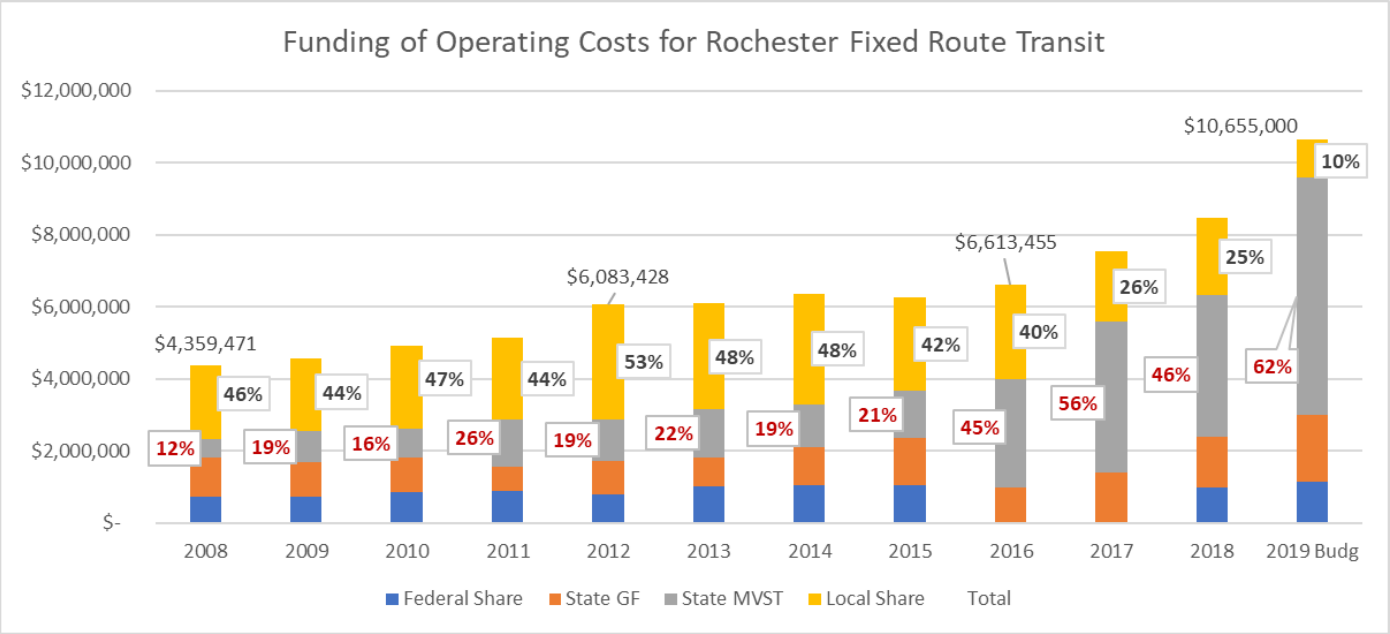
Development of the sites is estimated to cost $95 million. It is expected to be phased in over time, with new capacity being strategically added every 3 or 4 years as demand for commuter parking in different corridors grows.

Table 15-20 summarizes expected development costs for the future park and ride network. Most sites are expected to be developed as surface lots, although possible ramp facilities are envisioned in two areas where land cost are

Table 15-19: Sources of Capital Funds 2011-2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
FTA	$12,586,000	$11,381,600	$1,155,200	$2,188,800	$1,936,000	$1,371,084	$ 96,000	$1,600,000	$ 9,302,400	$ 9,166,152	$50,783,236
FHWA	$ 479,200	$ 442,400	$ 468,000	$ 297,000	$ -	$ 211,500	$ -	$3,360,000	$ -	$ 2,783,848	$ 8,041,948
Local	$ 3,265,800	$ 2,956,000	$ 614,800	$ 662,200	$ 484,000	$ 395,647	$ 24,000	$2,040,000	$ 9,440,600	$ 3,011,500	$22,894,547
Total	$16,331,000	$14,780,000	$2,238,000	$3,148,000	$2,420,000	$1,978,231	$120,000	$7,000,000	$18,743,000	$14,961,500	$81,719,731

Figure 15-25: Sources of Operating Cost Revenues – Fixed Route Transit

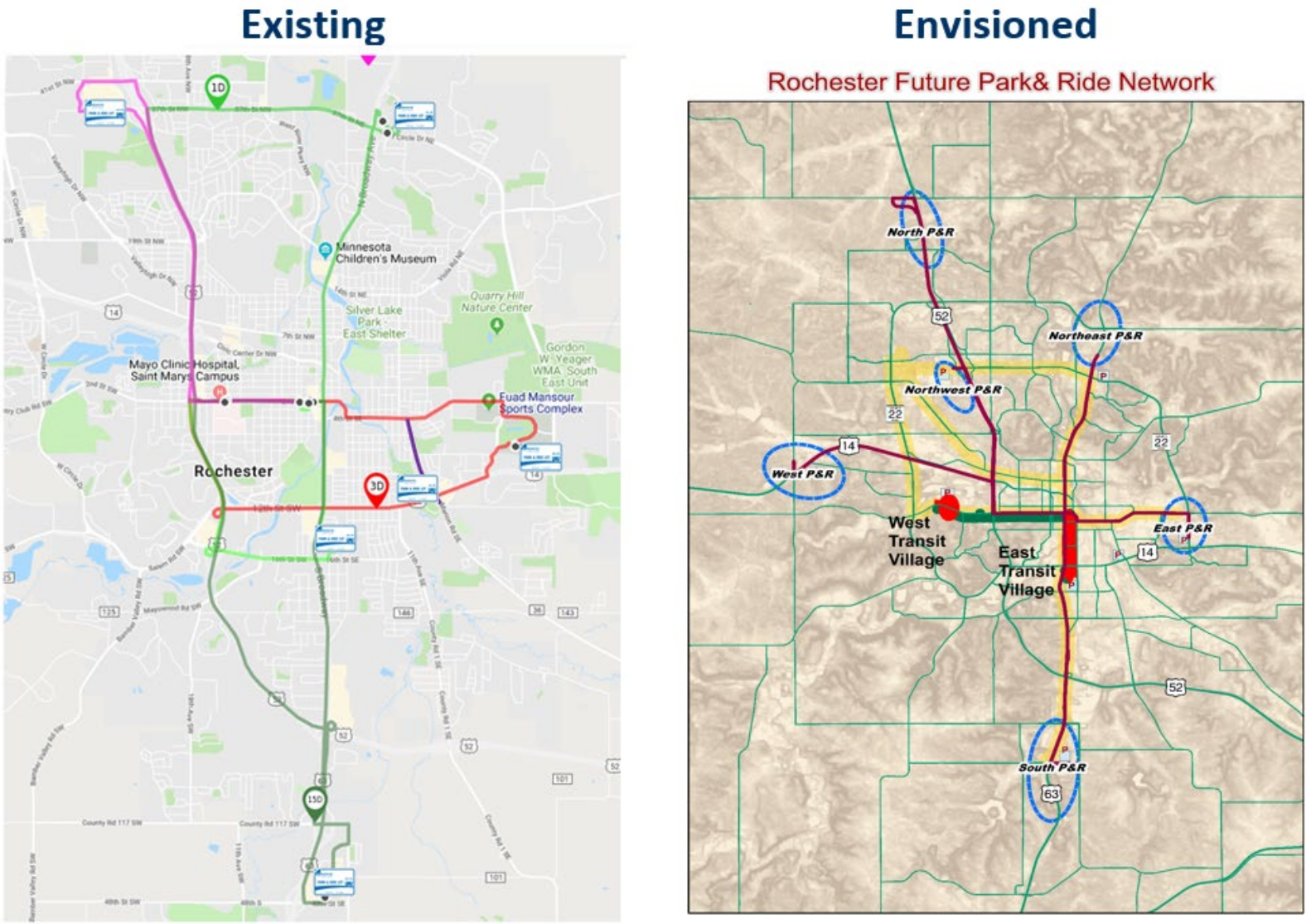


expected to be higher or land availability more limited. Funding for the park and ride facilities is expected to come from a number of sources, including standard FTA capital investment programs, DMC capital investment funds raised through state and county transit sales taxes, and general-purpose DMC sales tax funds contributed by the City. The City of Rochester may also choose to use revenue from its parking utility fund to help fund these facilities.

Table 15-21 summarizes projected operating costs for the Express Bus network that will serve the Park and Ride network and compares those costs with the current system. The second and third columns in the table report costs for current Express Bus service, which is $1.1 million annually, serving about 1700 users at an average annual cost of $655 per user. The proposed system, described in the remaining columns, is estimated to have an annual operating cost of $4.2 million at full capacity of 7,400 users, at an annual average cost of $573 per user.

Park and Ride users at most sites will also have access to service provided by the Primary Transit Network, which will help to limit the number of dedicated vehicles for express service that need to be running. A large share the costs of the current system are covered by the Mayo

Figure 15-26 Existing and Proposed Rochester Park and Ride Network



Source: ROCOG

Table 15-20: Development Costs for Permanent City Park and Ride Sites

Sector	Long Term P&R Area	Spaces	Type	Land Cost	Access & Amenity Cost	Design / Construction	Total Cost
NE	Transit Operations Center (TOC)	900	Lot ~ 7 Acres	$1,200,000	$450,000	$5,625,000	$8,900,000
E/SE	East Side in RCTC area	1600	Lot 12 Acres	$1,200,000	$700,000	$10,000,000	$13,800,000
SE/S	Maine Street Area	1600	Lot 12 Acres	$2,100,000	$450,000	$10,000,000	$15,100,000
SW	South Broadway	500	Ramp 1 Acre	$500,000	$500,000	$18,750,000	$20,800,000
W	TH 14 West Area	1800	Lot 13 Acres	$1,300,000	$650,000	$11,250,000	$15,200,000
NW	IBM Area	500	Ramp 1 Acre	$300,000	$500,000	$15,625,000	$17,300,000
NW	75th St Area	500	Lot 4 Acres	$40,000	$350,000	$3,125,000	$ 3,900,000
Source: ROCOG						TOTAL	$95,000,000

Medical Center, whose employees account for about 90% of usage. This model will be continued going forward, with non-Mayo users contributing operating funds as well as traditional operating sources such as state funding.

Downtown Rapid Transit Service Summary

The Locally Preferred Alternative for the proposed Downtown Rapid Transit system is illustrated in Figure 15-27, running from a proposed West Transit Village on west 2nd St to a proposed East Transit Village along South Broadway Ave. A limited number of stations to serve the corridor would be developed, and commuter parking would be located at each end of the route as part of a mixed-use transit village development.

Development of the Rapid Transit Route is proposed in two phases. The first phase would focus on the 2nd St SW corridor, running from the proposed West Transit Village location to east end of the Central Business District, as illustrated in Figure 15-21. Total development

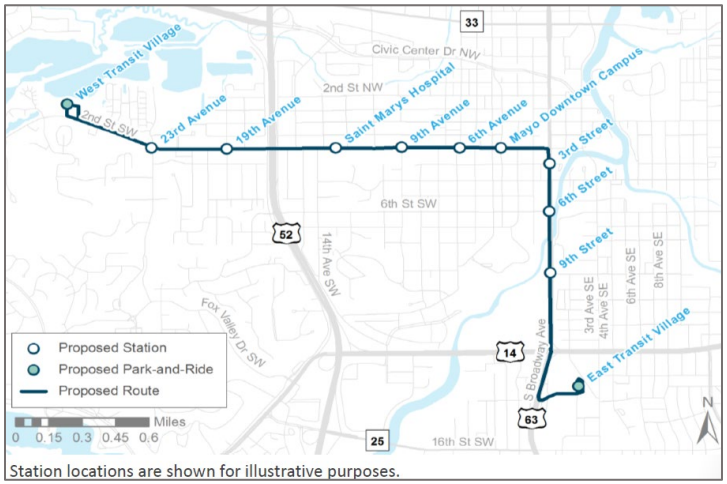
Table 15-21: Park & Ride Express Bus Annual Operating Costs

Sector	Current Site	Annual Operating $$ (2019)	Long Term P&R Site	Spaces	PTN?	Annual Operating Cost (2019)	Interlined With
NE	Shopko 250 Users	$182,250	Transit Operations Center Area	900	Yes	$ 1,211,000	75th St
E/SE	RCTC 140 Users	$75,716	RCTC area	1600	Yes	$ 1,211,000	IBM
	Cub Food 50 Users	$60,350					
SE/S	Maine Street 260 Users	$234,500	Maine Street Area	1600	Yes	$ 1,816,500	TH 14 West
SW	Graham Park 300 Users	$250,425	South Broadway	500	Yes	Served by Rapid Transit	
W	-		TH 14 West Area	1800	No		Maine Street
NW	IBM 745 Users	$310,400	IBM Area	500	Beyond Plan Horizon		RCTC
NW			75th St Area	500	No		NE
TOTALS	1,700 USERS	$1,113,641 COST	$655 COST/USER	7,400 USERS		$4,238,500 COST	$573 COST / USER

cost is estimated at $203 million, with Phase 1 having an estimated cost of $107 million. The breakdown of the major development cost components is shown in Table 15-20.

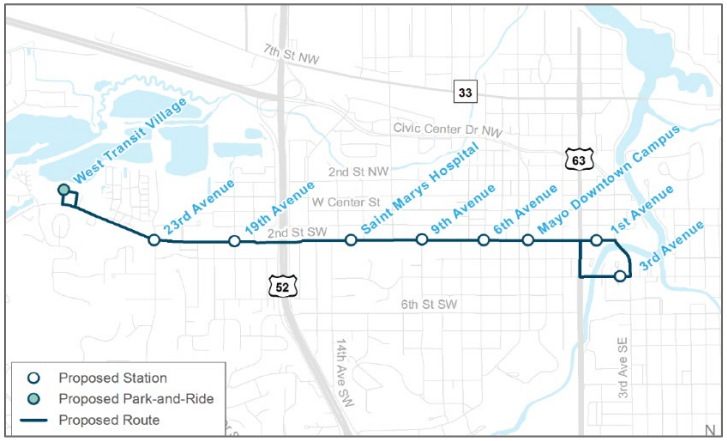
Development Costs for the two phases of the projects are shown in Table 15-22. Costs include purchase of vehicles in Phase 2, development of BRT Guideway, development of the St Mary's Hospital Transit Center and 2nd St reconstruction, along with construction of an East Transit Village in Phase 2. Service on the Phase 1 alignment is expected to start in 2025, with Phase 2 tentatively scheduled to follow with 3-5 years.

Figure 15-27: Locally Preferred Alternative – Rochester Downtown Rapid Transit



Source: City of Rochester

Figure 15-28: Phase 1 of Proposed Downtown Rapid Transit Network



Source: City of Rochester

Table 15-23 illustrates the anticipated funding program for development of Phase I and Phase II of the Downtown Rapid Transit Line. Approximately half of the funding is expected to come through a Small Starts grant, with the bulk of the local share coming from dedicated funding streams associated with the Destination Medical Center economic development program. These DMC revenues are funded by sales tax (Olmsted County) and the return of an increment of additional income and sales taxed collected by the State of Minnesota. These taxes have been collected since 2016 and will continue through 2034 to provide $128 million for transit purposes.

Table 15-24 illustrates projected annual operating costs for the Rapid Transit System for selected years along with total operating costs through the year 2045.

Funding for Rapid Transit operations is expected to come from a variety of revenue mechanisms. Table 15-25 illustrates the sources that have been identified in the preliminary financing plan and the expected amounts each source would yield for selected years through 2045 as well as for the entire 2025-2045 period of operations. Reallocation of service refers to cost savings Rochester expects to realize through redesign and/or elimination of certain neighborhood transit routes with implementation of the Rapid Transit service, with service on those routes provided by the Rapid Transit line.

Table 15-22: Development Costs for Downtown Rapid Transit

Phase 1 Development Costs

Project Element	Base Year (2019)	Contingency Amount	Professional Services	Total Base Cost	YOE (2024) Cost
Vehicles / Electric Bus / 60' Articulated	$16,800,000	$1,600,000	$100,000	$ 18,500,000	$21,400,000
BRT Guideway Development, Stations. Systems Operations Technology, etc.	$21,400,000	$3,200,000	$10,700,000	$ 35,300,000	$40,900,000
2nd Street Reconstruction and Streetscape	$5,500,000	$800,000	$1,900,000	$ 8,200,000	$9,500,000
Saint Marys Transit Center and Subway connection	$8,700,000	$1,100,000	$3,100,000	$ 12,900,000	$15,000,000
Unallocated Contingency	*Unallocated Contingency reflects the risk of scoping changes to*			$ 17,800,000	$20,600,000
Totals	$98,700,000	$12,100,000	$34,400,000	$ 92,700,000	$107,400,000

Phase 2 Development Costs

Project Element	Base Year (2019)	Contingency Amount	Professional Services	Total Base Cost	YOE (2029) Cost
BRT Guideway Development, Stations. Systems Operations Technology, etc.	$18,000,000	$2,600,000	$9,000,000	$29,600,000	$36,400,000
East Parking Structure and Transit Hub	$28,300,000	$2,800,000	$10,600,000	$41,700,000	$51,300,000
Unallocated Contingency	*Unallocated Contingency reflects the risk of scoping changes to*			$ 6,750,000	$8,300,000
Totals	$98,700,000	$12,100,000	$34,400,000	$ 78,050,000	$96,000,000

Table 15-23: Revenues for Development of Downtown Rapid Transit

Rapid Transit Capital Revenue Sources	Federal Funding	Local Funding
FTA Small Starts Grant	$99,800,000	
Destination Medical Center / Olmsted County Transit Aid		$27,200,000
Destination Medical Center / State of Minnesota Transit Aid		$41,000,000
Destination Medical Center / State of Minnesota General State Aid for Infrastructure		$32,400,000
Other Funds		$3,000,000
Total Revenue	$99,800,0000	$103,600,000

Table 15-24: Operating Costs for Downtown Rapid Transit

Year	Hourly Operating Cost	Annual Operating Cost
Year 1 - Phase 1 - 2025	$118.33	$2,940,000
Year 5 - Phases 1&2 - 2030	$127.47	$4,353,000
2035	$137.32	$4,690,000
2040	$147.94	$5,052,000
2045	$159.37	$5,443,000
Operating Cost Total through Year 2045		$93,210,000

Table 15-25: Rapid Transit Funding for Operations

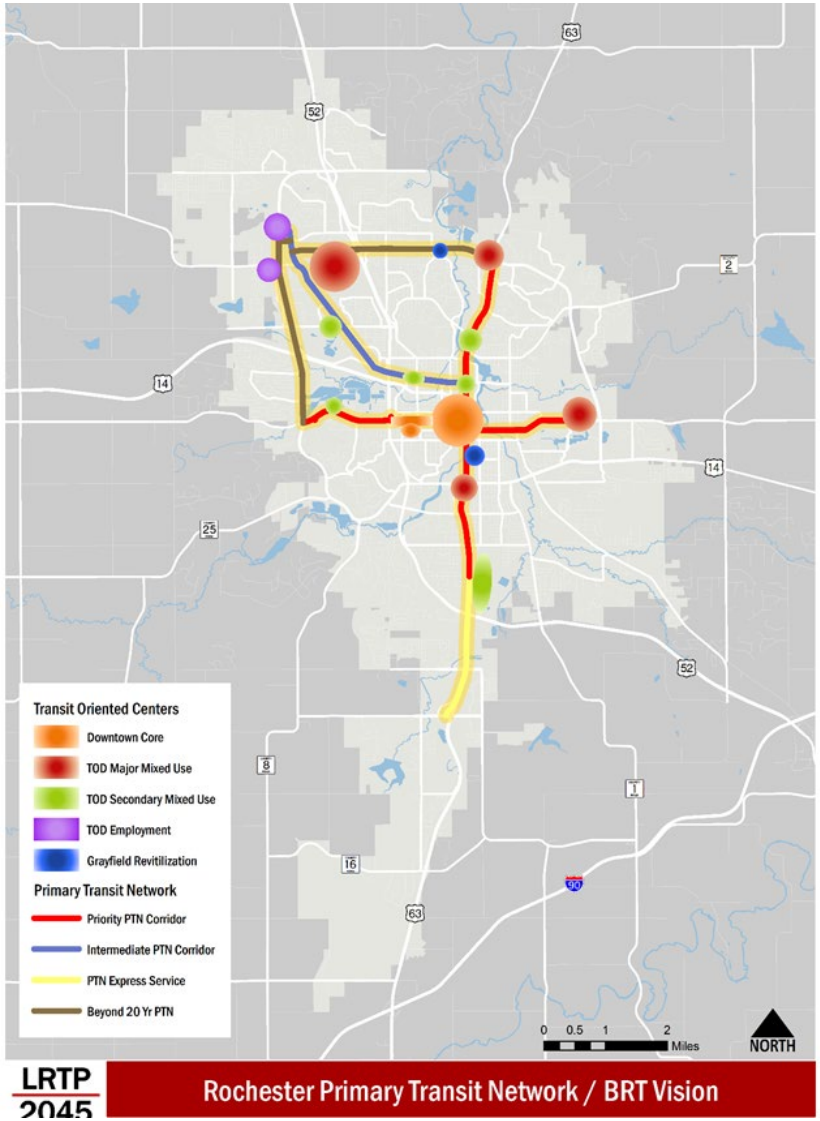
	Operating Cost Revenue Assessment						
Year	Fares / Employer Contribution	Reallocation of Service	State Transit Operating Assistance	Federal	City Local Share	Advertising	Total
% Share	25%	25%	40%	2.5%	2.5%	5%	100%
2025	$735,000	$735,000	$1,176,000	$73,500	$73,500	$147,000	$2,940,000
2030	$1,088,250	$1,088,250	$1,741,200	$108,825	$108,825	$217,650	$4,353,000
2035	$1,172,500	$1,172,500	$1,876,000	$117,250	$117,250	$234,500	$4,690,000
2040	$1,263,000	$1,263,000	$2,020,800	$126,300	$126,300	$252,600	$5,052,000
2045	$1,360,750	$1,360,750	$2,177,200	$136,075	$136,075	$272,150	$5,443,000
TOTAL	$23,302,500	$23,302,500	$37,284,000	$2,330,250	$2,330,250	$4,660,500	$93,210,000

Primary Transit Network Service Summary

The Primary Transit Network (PTN) is a proposed transit network centered on downtown Rochester that will feature high quality, high frequency transit service with modern amenities that connect major centers of activity (downtown, employment centers, higher education, shopping) along a select set of corridors planned for mixed-use, transit oriented development. The corridors will also connect to a number of proposed long-term park and ride lots (see Express Park and Ride Service Summary), supplementing the capacity on that system provided by dedicated Express Buses while also providing off-peak service to the park and ride lots. The PTN corridors are envisioned ultimately to be served by Bus Rapid Transit (BRT). Figure 15-29 highlights the corridors; only those corridors shown as Priority or Intermediate PTN Corridors are anticipated to be developed during the planning horizon of the Plan.

At this time, the PTN Network is included in the Long Range Plan as an illustrative project, as additional early project development work needs to be completed to identify future capital and operating revenues for the network. The following tables summarize the magnitude of costs anticipated to support the system. It is anticipated that some station development and pedestrian oriented features to support the future PTN will be incorporated into highway preservation projects as the opportunity arises. For example, a proposed

Figure 15-29: Primary Transit Network System



reconstruction of North Broadway Ave between downtown Rochester and the Zumbro River Bridge, scheduled for 2021, will incorporate features to accommodate a future station at 7th St NW as well as enhanced pedestrian features throughout the corridor.

Table 15-26 illustrates the estimated development costs for each corridor shown in the PTN Network Plan. These costs are estimated at $1.4 million per mile and are intended to reflect costs associated with infrastructure to support the service such as station development, improved station access for pedestrians, cyclists and scooters, handicapped accommodations, and technology-related systems. In Table 15-27, the reduced cost for the 2nd St SW/4th St SE corridor is reflective of having this infrastructure developed as part of the Downtown Rapid Transit project in advance of the future PTN service. Table 15-27 illustrates anticipated operating costs for each route, reported in base year dollars.

Table 15-26: Development Costs for Primary Transit Network

PTN Route	Length (mi)	Stations	Project Costs (millions)	Timing	Escalated Cost (millions)
Broadway Ave Corridor	9		$12.6	Near Term	$15.3
2nd St SW / 4th St SE Corridor	5		$3.5	Mid Term	$5.0
7th St NW / Valleyhigh Corridor	5		$7.0	Long Term	$12.6
Totals	19	miles	$23.1	million	$32.9

Source: ROCOG

Table 15-27: Estimated Annual Operating Costs for PTN Routes

PTN Route	Peak Vehicles	Off Peak Vehicles	Travel Time	Annual Hours	Annual Operating Cost
Broadway Ave Corridor	6	4	35 min	33,700	$3,835,000
2nd St SW / 4th St SE Corridor	4	4	22 min	24,520	$2,790,000
7th St NW / Valleyhigh Corridor	4	4	24 min	24,520	$2,790,000
Totals	20	18		119,520	$ 13,605,000

Source: ROCOG

Summary of Aggregate Transit Funding Needs

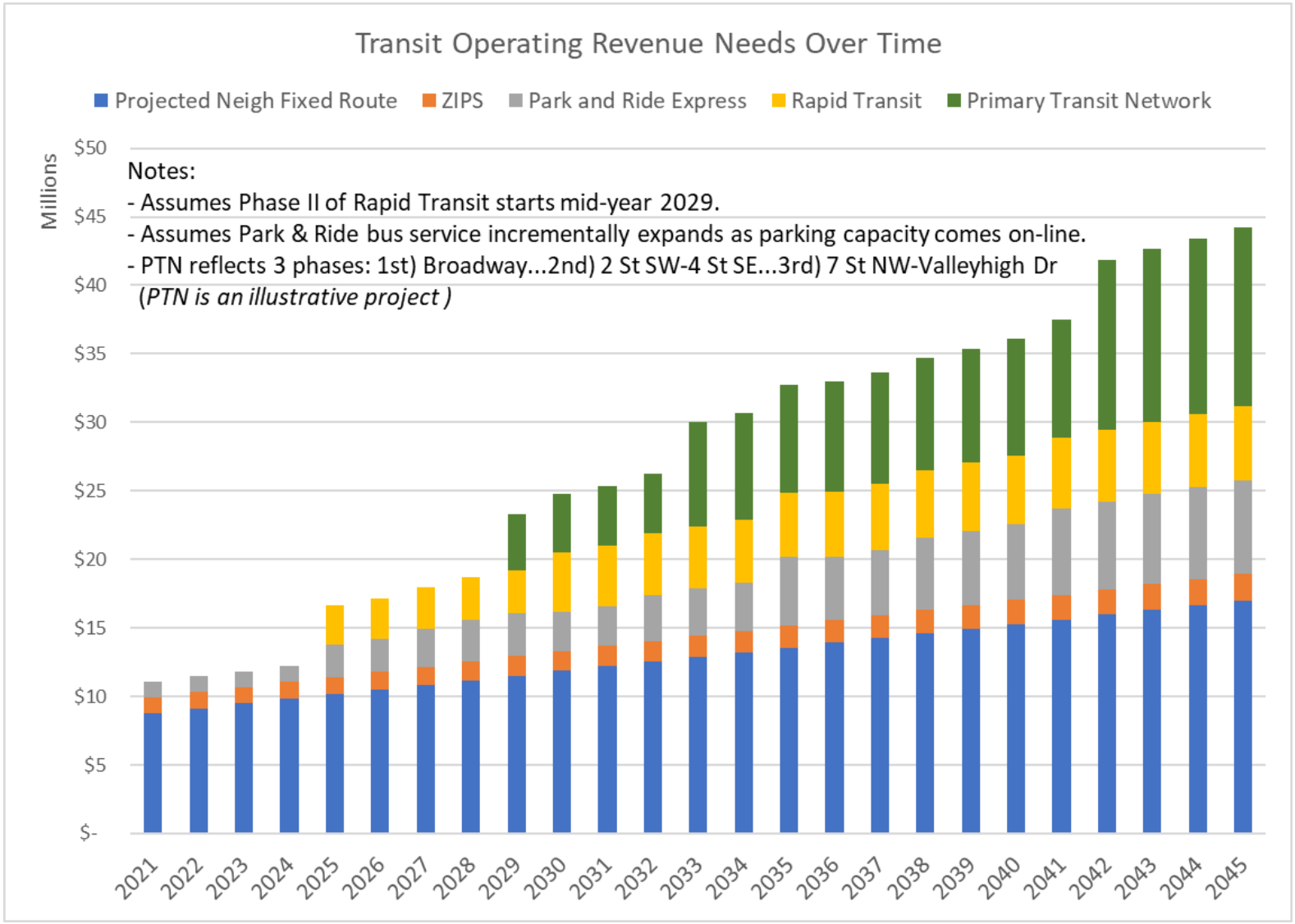
Figures 15-30 through 15-32 highlight the revenue needs over time for capital investment and operating purposes that various elements of the transit and commuter parking system plan will require in order to maintain, expand or initiate the services that have been identified.

Figure 15-30 illustrates transit operating revenue needs over time. From a current level of approximately $12 million a year, projected operating needs would rise to approximately $44 million annually by 2045 in YOE costs. The Plan assumes neighborhood fixed route and paratransit services will continue to receive similar levels of state support through the planning horizon. Downtown Rapid Transit and Park and Ride Express service will have funding plans for operations that rely more heavily on user fees to support these services, with support of programmatic transit operating funds limited to 40% of service costs. The Primary Transit Network at this time is included as an illustrative project to highlight potential future need for additional operating funds. It is possible that the City may pursue a larger system redesign effort in advance of PTN deployment to explore options for reallocating transit revenues more effectively across the range of services proposed.

Figure 15-31 summarizes vehicle acquisition needs across time for the different services. Fixed route neighborhood service will see a steady need for vehicle replacement purchases over time, with limited expansion needs. Rapid Transit sees an early acquisition phase in the 2020s followed by vehicle replacement needs in 2040s. Express Bus Park and Ride service will see a steady need for acquisition as parking capacity is phased in (Figure 15-32) and early vehicle acquisition in the 2020s generate a need for vehicle replacements starting in late 2030s. PTN vehicle needs are illustrative at this time.

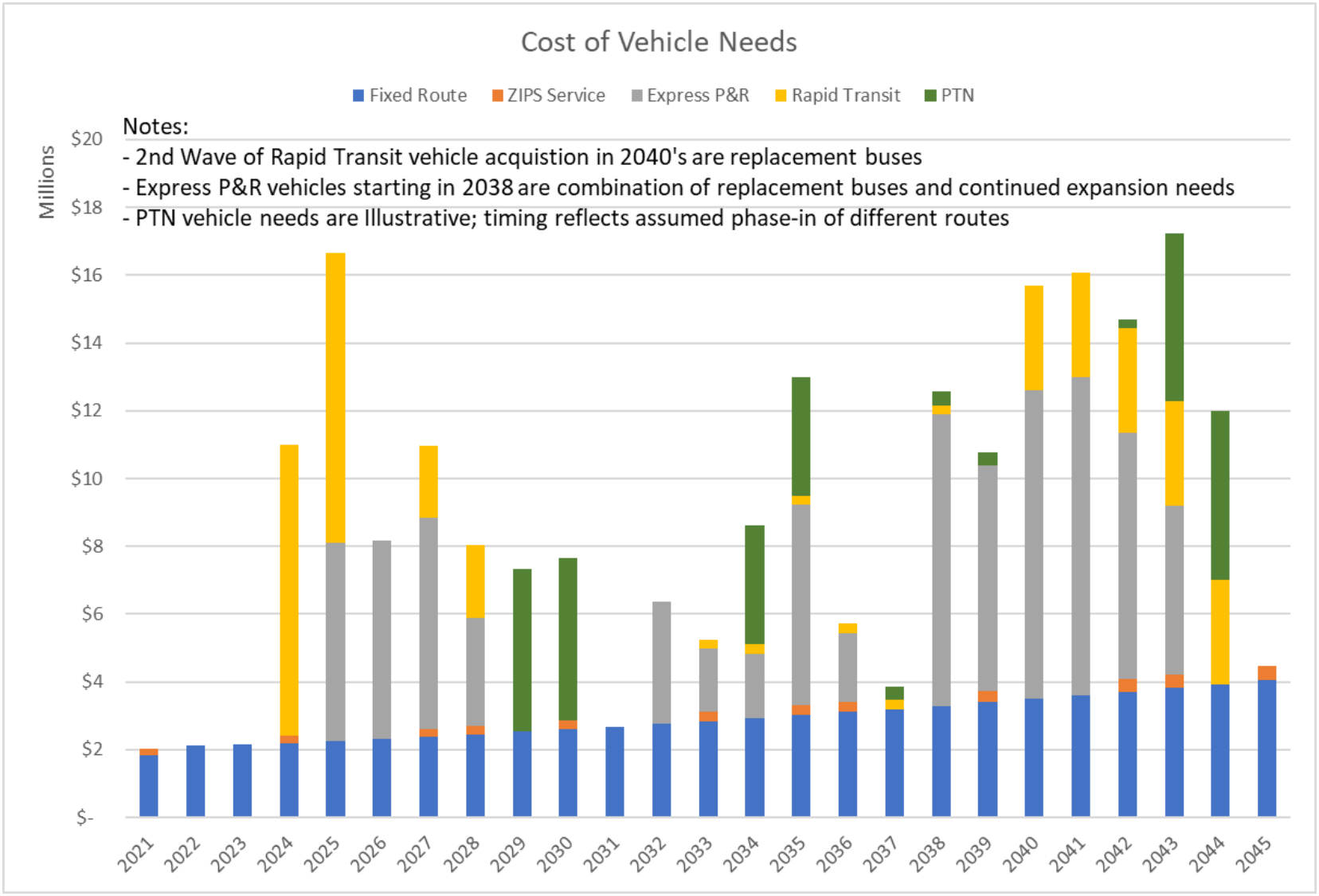
Figure 15-32 summarizes other capital investment needs. The largest share of investment is associated with development of Downtown Rapid Transit in the 2020's, assumed to be funded with Small Starts and dedicated DMC dollars. Development of Park and Ride capacity is phased in over time as new high capacity (1000-2000 space) facilities are brought on-line. Costs with the phase-in of PTN corridors are shown, though these costs are illustrative at this time. A steady volume of fixed route and dial-a-ride enhancements, on the order of $1-$2 million a year, in keeping with historic expenditures, are also assumed. The plan assumes that aside from Rapid Transit, most of these costs will qualify for FTA capital funding.

Figure 15-30: Estimated Transit Operating Needs



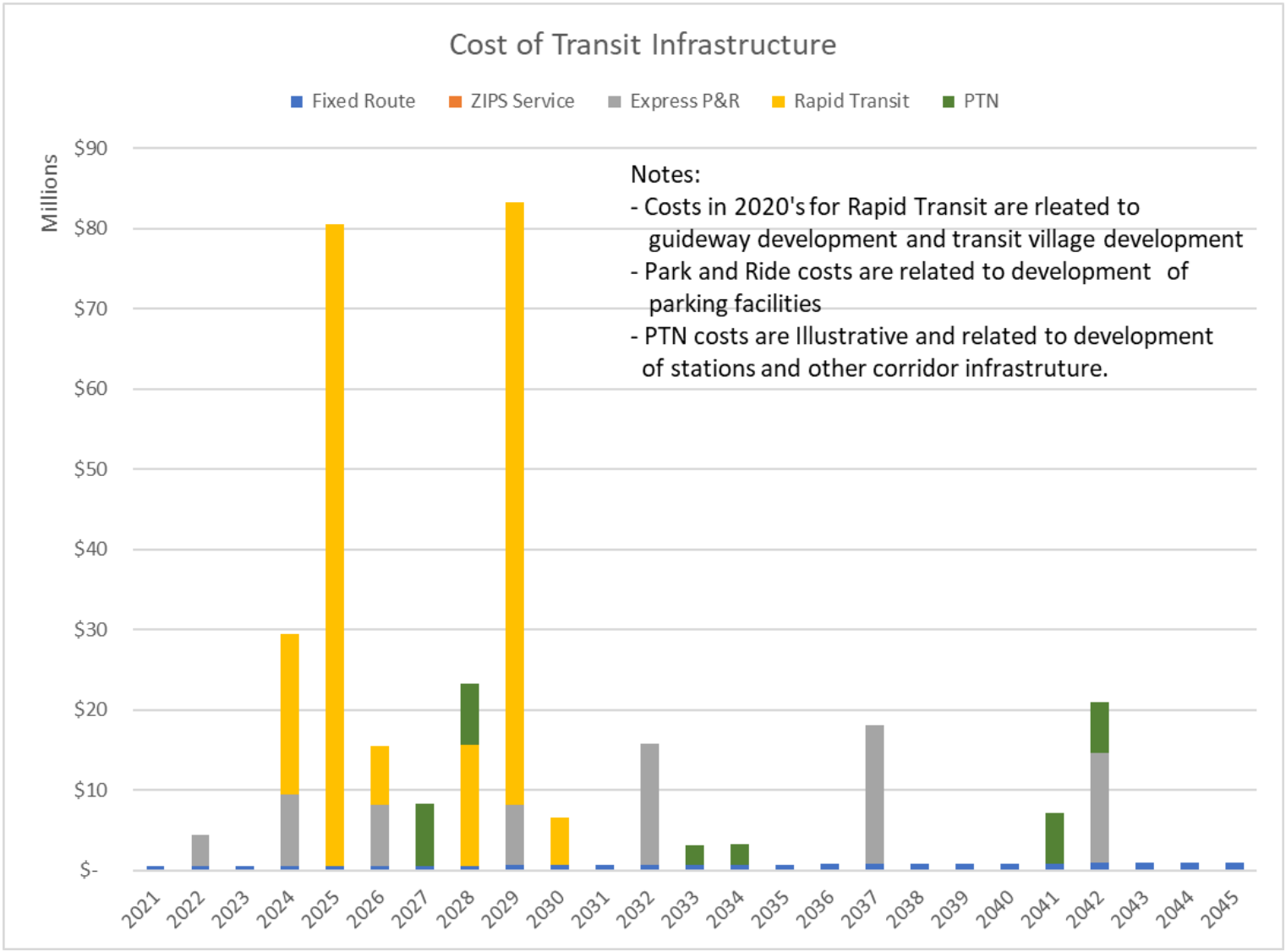
Source: ROCOG

Figure 15-31: Vehicle Acquisition and Replacement Needs



Source: ROCOG

Figure 15-32: Investment Needs for Non-Vehicle Transit Infrastructure



Source: ROCOG

Active Transportation Financial Assessment

Development of active transportation infrastructure in the ROCOG area is supported by a broad mix of federal, state, local, and private funds. Federal funding includes the Transportation Alternatives (TA) program which represents a share of the federal Surface Transportation Block Grant (STBG) program, the core federal highway program. Funds are distributed by the U.S.DOT through a formula to each state, and MnDOT subsequently sets a programming target for each district office.

In the current solicitation for Transportation Alternatives projects, MnDOT District 6 was given a TA target of $1.2 million for distribution across the eleven counties in the district. At the district level the program is managed as a competitive grant program, with candidate projects solicited and awards selected by the District 6 Area Transportation Partnership. To assess what level of TA funding ROCOG could realize over the 25-year horizon of the plan, an analysis of TA (and predecessor programs) dollars awarded to ROCOG area jurisdictions was completed. Based on this analysis, the ROCOG area received on average $470,750 per year (current dollars) in federal TA funding. Awards typically represented 49% of project costs and required a 51% of project costs to be covered by local dollars.

Using this as the basis to estimate future revenues, Table 15-28 reports the estimated 2021-2045 dollars the ROCOG area could expect to realize from the TA program, applying MnDOT's assumption of a 2.2% annual growth in realized federal revenues.

Table 15-28: Expected Federal Funding

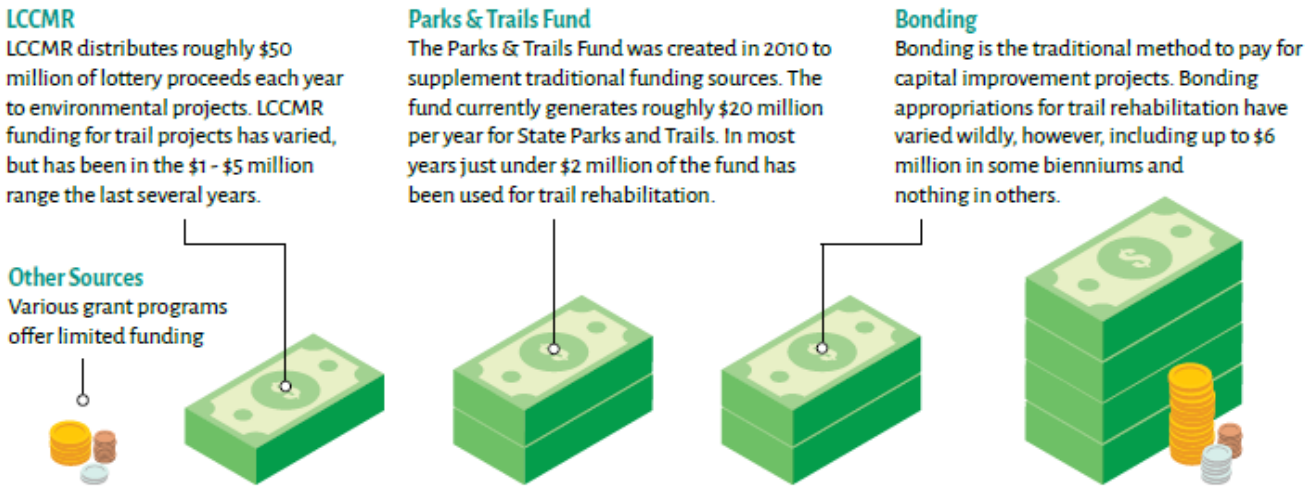
Historic Annual Average TA Funding	Annual Rate of Program Growth	2021-2045 Realized TA Revenue
$470,475	2.2%	$15.46 million

Source: ROCOG

It should be noted that standard federal highway funds and federal transit funds for capital investment can also be used to build or improve active transportation infrastructure when incorporated as a supporting element in a highway or transit infrastructure project. This will be further explored later in this assessment in the section discussing future implementation feasibility.

State funding for active transportation is made available to counties, cities, towns, and organizations through a series of competitive grant programs funded by Minnesota State Lottery proceeds or state bonding dollars. Figure 15-25 summarizes available state funding programs. Note that in addition to local projects supported by these programs, the Minnesota Department of Natural Resources (MnDNR) leads development of state trails, such as the Douglas Trail, for which it uses department funding as well as competing for lottery

Figure 15-33: State Active Transportation Funding Programs



Source: State of the Trails 2018/2019 Report, Parks & Trails Council of Minnesota

and bonding funds.

At the local level, the City of Rochester has been the primary ROCOG recipient of state funds from these programs for projects beyond the state trail network. An analysis of state funding awards for the last 10 years indicates the City has received on average $182,500 annually (in current dollars). Table 15-27 summarizes what this level of funding would translate to over the 2021-2045 period, assuming a 1% annual increase in lottery and bonding dollars.

As with federal highway funds, state highway funds such as County and Municipal State Aid can also be used to fund active transportation infrastructure included as an element of a primary road construction project.

Table 15-29: Expected State Funding

Historic Annual Average TA Funding	Annual Rate of Program Growth	2021-2045 Realized State Funding
$182,500	1%	$5.15 million

Source: ROCOG

Local funding for active transportation in the ROCOG area is primarily provided by Rochester to support system development and, more importantly, to provide the local match needed for federal or state dollars that are secured for project development. ROCOG analysis of local funding focuses on the City of Rochester, since it is the

jurisdiction providing the most sustained funding for development and maintenance of facilities serving active transportation users within the ROCOG area.

Table 15-30 provides a look at historic funding for City pedestrian and trail/path projects for the 10-year period of 2011-2020 based on projects programmed in the Budget Year of the City Capital Improvement Program.

Funding is highlighted in 3 project groupings:

- Maintenance
- System Development
- Destination Medical Center (DMC)

Items to note relative to Table 15-30 include:

- Special assessment bonds are included as maintenance funding since they are used primarily for infrastructure replacement
- The DMC group is broken out separately due to projects within the DMC District relying heavily on DMC funding sources eligible only to be used in the DMC District

Under System Development, federal and state funds are highlighted since these represent outside funds for which local matching funds must be provided. Note the 10-year federal total of $4.8 million matches up well with the historic annual average of $470,000 in federal

Table 15-30: Analysis of Rochester Funding

Rochester Funding for Active Transportation	2011-2020 Totals
Maintenance	
Flood Control trail system Preservation	$150,000
Trail overlay program (Non-flood control corridors).	$55,000
Special Assessment Bonds	$3,955,000
System Development	
Federal	$4,868,550
Local Government Aid	$115,000
Municipal State Aid for Streets	$3,905,500
Private Funds	$50,000
Project reserves	$1,359,500
Sales Tax	$1,950,000
Sales Tax 2013	$50,000
State	$1,425,000
Tax Levy	$2,575,500
Destination Medical Center Projects	
Bike Lanes on Center and 4th Ave	$500,000
Dedicated Bike Lanes on 3rd/4th Av and Center St	$1,100,000
Discovery Walk	$3,200,000
Grand Total	$25,259,050

Source: Adapted from data in Rochester Capital Improvements Program

Transportation Alternatives funding reported in Table 15-28.

Using this information as a starting point, 25-year estimates of expected Rochester funding were prepared as shown in Table 15-31. Note in this table DMC funding was re-analyzed using only a four-year timeframe, since programming DMC projects began in earnest only in 2017. The $28.8 million level of projected funds shown for the DMC area matches up well with the programming for active transportation projects shown in the original DMC Development Plan.

Table 15-31: Estimated Rochester Funding for Active Transportation

City of Rochester Projected Active Transportation Funding	25 Year Funding (Based on 10 Year History)	25 Year Funding (Based on 4 Year History)
Maintenance	$10,400,000	
System Development	$25,010,000	
DMC		$28,800,000

Source: ROCOG

Evaluation of Costs Associated with Preservation of Existing System

Active transportation preservation needs focus on three main elements of the active transportation infrastructure:

- Regional state trails
- Rochester urban area trails and paths
- Rochester Urban Area active transportation bridge structures

Regional State Trails

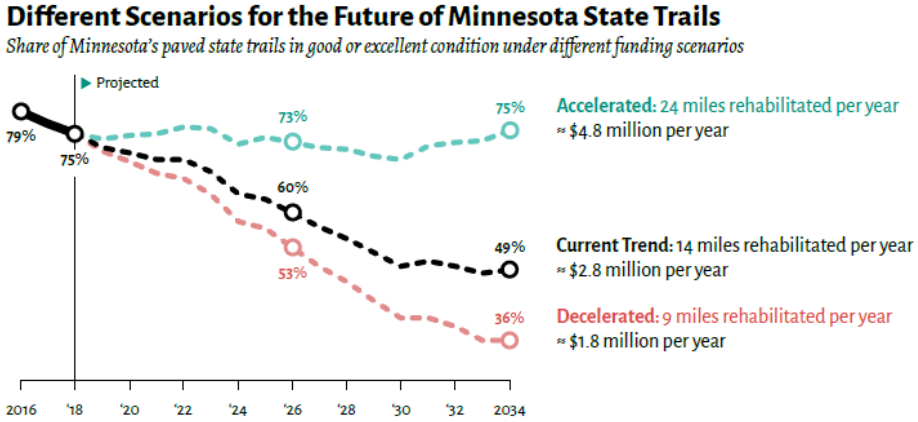
Regional trails are a high visibility/high impact component of the active transportation network in terms of serving recreational and tourism-related travel in the planning area. With MnDNR having the responsibility for the state trail network, maintenance and preservation falls outside of the direct purview of ROCOG consideration. To the extent that a state trail may in the future need significant repair or reconstruction, it may compete for the same federal or state funds as local jurisdictions do.

In 2018, the State Parks and Trails Council completed an analysis of the state trail network and is urging the State Legislature to fund state trail rehabilitation at a level of $4.8 million annually—50% higher than current levels. Figure 15-34 illustrates expected future conditions on Minnesota's state trails under current funding and the recommended level of funding. Routes generally can remain serviceable for 15-20 years with minimal preservation work, but as routes approach 30 years or more in age (such as the Douglas Trail), more significant work needs to be considered.

Rochester Urban Area Trails and Paths

Similar to roadways, paths and trails need a certain level of periodic preservation work to resist the impact of use, age, and environment. Periodic seal coating for bituminous trails and crack repair on concrete paths, along with bituminous overlays and concrete surface rehab, can extend the life of facilities until a point where reclamation or reconstruction may be required. Table 15-32 summarizes data provided by the City of Rochester that was used to estimate preservation costs for the urban area trail and path system.

Figure 15-34: Future State Trail Condition Under Different Scenarios



Source: State of the Trails 2018/2019 Report, Parks & Trails Council of Minnesota

Table 15-32: Rochester Urban Area Trail and Path Network Statistics

Measure	Total	Bituminous Surface	Concrete Surface
System Miles	110 miles	94.5 m	15.5 mil
Paths and Trail Dimensions	10 feet or greater	8 feet	Less than 8 feet
% of System	60% of system	28% of system	12% of system
Quantity of Path & Trails	Total	Bituminous Surface	Concrete Surface
Square Feet	5,300,000	4,670,000	630,000
When Trail / Path was built	Since Year 2000	1980-2000	Before 1980 or Unknown
Bituminous Facilities	68%	31%	1%
Concrete Facilities	52%	44%	4%

Source: Data from Rochester Public Works Department; Data Analysis by ROCOG

Table 15-33 documents the life cycle assumptions used to estimate the funding needed for preservation of the Rochester trail and path network. Using standard square footage costs provided by the City of Rochester, estimates of total costs for the preservation or reconstruction needs shown in the Table 15-33 are reported in Table 15-34.

Table 15-33: Life Cycle Treatment Assumptions

Trail or Path Surface	Minor Preservation	Major Preservation	Reconstruction
Bituminous	Seal Coat twice during 25-year plan horizon	Overlay once during 25-year plan horizon	Reclaim or reconstruct any trail built before 1990
Concrete	Crack Seal twice during 25 horizon of plan	Microsurface once during 25 horizon of plan	Reconstruct any trail built before 1980

Source: ROCOG

Table 15-34: Estimated Costs of Trail & Path Network Preservation

Surface Type	Minor Preservation	Major Preservation	Reconstruction	Total
Bituminous	$550,000	$4,485,000	$1,705,000	$6,740,000
Concrete	$445,000	$2,000,000	$860,000	$3,305,000

Source: ROCOG

Comparing the total costs shown in the last column of Table 15-34 with estimated revenues that the City of Rochester has available for trail and path maintenance in Table 15-31 indicates that funding for maintenance is currently well aligned with anticipate maintenance needs, with expected 25-year costs of approximately $10 million.

Rochester Urban Area Active Transportation Bridges

There are a number of bridge structures that have been built specifically to serve the non-motorized travel network in the Rochester area, along with many standard roadway bridges that incorporate pedestrian or bicycle accommodations. These include the following facilities:

- 5 major trail or pedestrian bridges spanning major multi-lane divided highways such as TH 52 or TH 14
- 35 low cost pedestrian bridges serving the trail and path system spanning rivers, streams, and local streets
- 69 standard roadway bridges serving the trail and path system which have incorporated wider crossing areas to accommodate paths or trails
- A total of 30 skyway bridges in downtown Rochester, 13 of which cross public streets

In general, the non-motorized bridge network currently is anticipated to need minimum maintenance over the plan horizon. Most facilities have been built in the last 30 years; thus, they are not expected to need major repair within the horizon of the Plan given their expected life span of more than 50 years.

Funding Future Active Transportation Improvements

During development of the Plan, a list of candidate active transportation projects was developed and taken to the public for review and comment. Project concepts were drawn from existing plans and programs along with ideas submitted by the public. Early iterations of the project list were reviewed with the ROCOG Transportation Technical Advisory Committee and the ROCOG Policy Board.

Estimated costs for the final list of project needs were prepared by project staff. The amount of funding needed to implement these projects far exceeds the dedicated active transportation dollars available from federal, state, and local sources. However, local history has shown that projects such as trails or paths often are constructed through other avenues, such as being integrated into larger roadway construction or transit development projects, or as part of private development.

Based on this, the list of future projects was further analyzed to develop an implementation scenario that recognized the different project development paths available to construct active transportation infrastructure. Projects were assigned to logical development paths in an effort to identify that subset of projects most likely to be candidates for the $15.5 million in federal funds that would be available over the course of the planning horizon through the Transportation Alternatives program.

A total of 10 project development/project delivery paths were identified, including:

- Project developed as a free-standing trail/path project
- Project developed as integral part of a street construction/reconstruction project
- Project developed as an integral part of a transit capital project
- Project developed as part of a Complete Streets project (generally involves reallocation of pavement)
- Project developed as part of safety improvement
- Project required as part of private development
- Safe Routes to School funds used to construct project
- City sidewalk program funds used to construct or improve pedestrian facilities
- Project developed as part of a Destination Medical Center infrastructure project
- Project developed as a MnDNR State Trail Project

Following assignment of projects to a likely project delivery path, the projects were further classified as to likely timing of development. For this classification, five categories were used:

- Projects are programmed in first 3 years of a capital improvements program
- Projects are considered a priority for near term development (years 1-10 of Plan)

- Projects are considered a priority for long term development (years 11-25 of Plan);
- Projects a considered illustrative/higher priority;
- Projects are considered illustrative/lower priority.

This timing classification is particularly important relative to fiscal constraint since the list of projects most likely to rely on federal funds needs to be constrained to reflect a level of cost consistent with the anticipated level of federal funds available.

Table 15-33 provides a summary of anticipated costs grouped by anticipated project delivery path and the five timing classes. Implementing all candidate projects is estimated to cost approximately $135 million, as shown at the bottom of Table 15-35. The categories of projects considered prime candidates for federal funding, reflected in the third and fourth columns of Table 15-35, include:

- Group 1: Federal funds as primary funding source for free standing trail/path projects;
- Group 2: Federal funds used to supplement street reconstruction funds on selected projects
- Federal Funds are identified as a secondary funding source in the following project development groups:
  - Transit capital projects
  - Complete Streets projects
  - Safe Routes projects
  - State trail projects

The estimate of federal funds that would be used in these categories is $15.9 million, assuming primary source funding provides 70% of project costs and secondary source funding provides 30% of project costs. With anticipated federal revenues of $15.5 million, there is good correspondence between anticipated project funding levels and available federal revenues.

Preliminary Fiscal Constraint Finding

From a fiscal constraint standpoint, the costs associated with project delivery groups that have been targeted as candidates for federal funding is consistent with the estimated level of federal revenue available as shown in Table 15-28, with Rochester having adequate local dollars available to match federal funding. In addition, the level of maintenance need identified in Table 15-34 (approximately $10 million) is generally consistent with the maintenance funding shown in Table 15-31 that the City of Rochester has available from historic funding sources.

Table 15-35: Summary of Program Costs by Primary Implementation Category

COST SUMMARY BY PRIMARY IMPLEMENTATION GROUP	Total Project Costs	Federal Dollars as Primary Funding (70% of Cost)	Federal Dollars as Secondary Funding (30% of Cost)
Active Transportation Projects	$ 32,254,800	$ 8,766,660	$ -
Programmed / Committed	$ 4,665,800	$ 3,266,060	$ -
25 Yr Horizon / Near Term	$ 3,886,750	$ 2,720,725	$ -
25 Year Horizon / Long Term	$ 3,971,250	$ 2,779,875	$ -
Illustrative - Higher Priority	$ 13,611,000	$ -	$ -
Illustrative - Lower Priority	$ 6,120,000	$ -	$ -
Street Construction Projects	$ 32,447,250	$ 2,733,500	$ 946,500
Programmed / Committed	$ 8,039,000	$ -	$ 217,500
25 Yr Horizon / Near Term	$ 2,472,000	$ -	$ -
25 Year Horizon / Long Term	$ 12,847,250	$ -	$ 729,000
Illustrative - Higher Priority	$ 5,184,000	$ -	$ -
Illustrative - Lower Priority	$ 3,905,000	$ 2,733,500	$ -
Transit Capital Projects	$ 1,236,950	$ -	$ 234,000
Programmed / Committed	$ -	$ -	$ -
25 Yr Horizon / Near Term	$ 456,950	$ -	$ -
25 Year Horizon / Long Term	$ 780,000	$ -	$ 234,000
Illustrative - Higher Priority	$ -	$ -	$ -
Illustrative - Lower Priority	$ -	$ -	$ -
Complete Corridor Projects	$ 5,809,300	$ -	$ 1,026,000
Programmed / Committed	$ -	$ -	$ -
25 Yr Horizon / Near Term	$ 3,157,500	$ -	$ 792,000
25 Year Horizon / Long Term	$ 1,931,500	$ -	$ 234,000
Illustrative - Higher Priority	$ 459,000	$ -	$ -
Illustrative - Lower Priority	$ 261,300	$ -	$ -

COST SUMMARY BY PRIMARY IMPLEMENTATION GROUP	Total Project Costs	Federal Dollars as Primary Funding (70% of Cost)	Federal Dollars as Secondary Funding (30% of Cost)
Private Participation / Facilitation	$ 8,091,250	$ -	$ 420,825
Programmed / Committed	$ -	$ -	$ -
25 Yr Horizon / Near Term	$ 7,251,250	$ -	$ 420,825
25 Year Horizon / Long Term	$ 840,000	$ -	$ -
Illustrative - Higher Priority	$ -	$ -	$ -
Illustrative - Lower Priority	$ -	$ -	$ -
Safe Routes projects	$ 4,441,750	$ -	$ 776,025
Programmed / Committed	$ -	$ -	$ -
25 Yr Horizon / Near Term	$ 900,000	$ -	$ -
25 Year Horizon / Long Term	$ 2,611,750	$ -	$ 776,025
Illustrative - Higher Priority	$ -	$ -	$ -
Illustrative - Lower Priority	$ 930,000	$ -	$ -
Sidewalk Program / Local Street Project	$ 2,053,100	$ -	$ -
Programmed / Committed	$ -	$ -	$ -
25 Yr Horizon / Near Term	$ 746,100	$ -	$ -
25 Year Horizon / Long Term	$ 938,500	$ -	$ -
Illustrative - Higher Priority	$ -	$ -	$ -
Illustrative - Lower Priority	$ 368,500	$ -	$ -
DMC Projects	$ 30,982,000	$ -	$ -
Programmed / Committed	$ 16,800,000	$ -	$ -
25 Yr Horizon / Near Term	$ 7,280,000	$ -	$ -
25 Year Horizon / Long Term	$ 6,902,000	$ -	$ -
Illustrative - Higher Priority	$ -	$ -	$ -
Illustrative - Lower Priority	$ -	$ -	$ -

COST SUMMARY BY PRIMARY IMPLEMENTATION GROUP	Total Project Costs	Federal Dollars as Primary Funding (70% of Cost)	Federal Dollars as Secondary Funding (30% of Cost)
State Trail Projects	$ 17,908,450	$ -	$ 1,046,160
Programmed / Committed	$ -	$ -	$ -
25 Yr Horizon / Near Term	$ -	$ -	$ -
25 Year Horizon / Long Term	$ 4,892,200	$ -	$ 633,660
Illustrative - Higher Priority	$ 13,016,250	$ -	$ 412,500
Illustrative - Lower Priority	$ -	$ -	$ -
Category Totals	**$ 135,224,850**	**$ 11,500,160**	**$ 4,449,510**
Federal Transportation Alternatives Funding Estimate			**$ 15,949,670**

Source: ROCOG

Principles for Managing Investment Under Constrained Revenue Scenario

Given the long history of all levels of government being unable to craft solutions to raise the revenue needed to meet transportation funding needs, consideration needs to be given to how to manage the gap between current revenues and needs. As a true planning agency with programming authority only over a limited share of federal funding (and no authority over programming state or local transportation revenue), ROCOG's role and influence in managing how transportation dollars are investment is limited largely to facilitating strategic discussions among partners regarding priorities and project selection processes. Strategies that could be considered help determine how to allocate resources include:

- Establishing programming priorities to aid in weighing competing needs
- Establishing selection criteria to guide the programming and prioritization process

The following sections discuss features of these two approaches to fine tuning the programming process.

Management Strategy #1: Establishing Program Priorities

In an environment where funding levels cannot address the full range of improvements needed, it becomes necessary for decision makers to weigh competing needs and decide where resources should be directed. In this situation, decision makers typically will want to see emphasis placed on preserving what is already in place and doing as much as possible to ensure the system operates safely and efficiently. Federal planning regulations require that state and metropolitan transportation plans discuss how, given a constrained revenue environment, resources will be targeted. Typical priorities found in a review of selected MPO plans included the following guidance:

- The most common priority is to direct adequate funding to system preservation in order to maintain existing service levels.
- Another common priority calls for investing in low and moderate cost strategies to improve the efficiency or management of the highway system, including projects such as turn lane additions, correction of geometric deficiencies, access modifications, and enhanced traffic signal systems to optimize safety, capacity and operations.
- Travel reliability is gaining adherents as a high priority based on travelers' desire to be able to rely on a certain level of performance, such as travel time, for common trips such as the trip to work or school. Achieving travel reliability often relies on a mix of projects addressing safety or capacity bottlenecks and programs such as the coordinated response of public safety and maintenance teams to efficiently clear incidents or otherwise manage traffic flow to minimize disruptions.
- Many plans place the lowest priority on expansion of the highway system, including construction of new corridors or the addition of new lanes to existing corridors.

The vitality of the urban area in terms of whether it is growing (and at what rate), stable, or in decline, will affect these priorities, particularly when considering system expansion. With Rochester and the small cities in the ROCOG area experiencing growth similar to historic high growth levels, the need for selected capacity additions may be necessary.

To ensure a high level of system reliability and maintain an acceptable level of infrastructure quality, the following key principles can help to guide future capital programming decisions.

- **Network Preservation**
  - **Bridges:** Given the level of inspection data available for bridges, prioritizing structures with existing or emerging structural deficiencies that

pose a potential risk to network operations should be given priority. Structures that are highly important to network function and economic activity should be given the highest priority.

- **Roadways**
  - Utilize pavement management systems to supply the information needed to make cost-effective pavement preservation decisions and ensure necessary level of data collection is funded.
  - Prioritize preventative maintenance in the early years of a roadway's life cycle to ensure extended facility life, while pavement structures near the end of their useful life should be treated with low cost strategies to address safety concerns until dollars can be budgeted for significant restoration or reconstruction.

- **Management & Safety**
  - **Safety**
    - Prioritize safety expenditures on those locations where the greatest risk reduction relative to potential fatal or serious injury can be achieved.
    - Consider bundling of low-cost improvements that will improve high risk intersection or road segments locations which can be funded as a single project or a multi-year program.
  - **Management**
    - Implement access management improvements consistent with guidelines in local ordinances and the Plan.
    - Fund traffic signal management systems involving the coordination/synchronization of traffic signals on corridors where congestion or conflict stretching across multiple intersections is observed.

- **Travel Demand Management**
  - Fund actions or strategies that can transit as an alternative mode of travel, particularly the work trip, through projects that will
    - Increase the number and enhance the attraction of park and ride facilities
    - Expand the availability of transit subsidy programs
    - Price parking to reflect the market-based value of the service

- **Corridor Preservation**
  - Fund efforts to preserve lands expected to be needed for corridor management purposes. Where a corridor is at-risk for loss of critical right of way, consider completing early project work and

officially mapping corridors as a first level of protection for future improvements.

- Establish and fund a set-aside annually in local capital improvement programs to fund early right-of-way acquisition for interchanges and strategic arterials.

- **Network Improvement**
  - Fund priority intersection improvements
    - Fund lower cost improvement projects aimed at correcting geometric deficiencies that result in safety hazards.
    - Fund needed at-grade intersection capacity improvements that can be achieved through the installation of turn lanes or auxiliary lanes, on major or strategic arterials.
    - Given the high cost of interchange projects, give early attention to acquiring needed right of way for future construction or upgrades and develop a strategy to secure funding for projects.
- **Economic Development Needs**
  - Priority corridor improvements include
    - Fund improvements on planned regional freeway or expressway corridors where traffic volumes are expected to result in inadequate level of service within 10 years.
    - Fund improvement of existing gravel or deficient two-lane paved roadways planned as major arterials in urban expansion areas in advance of development when possible to avoid disruption to travel after the corridor area is developed.
    - Address basic deficiencies on major roadways including pavement strengthening and substandard shoulders when conducting preservation work, desirably as part of standing preservation program.
  - In all cases prioritize programming of local matching funds to leverage discretionary funding or programmatic federal funding to ensure that these outside funds do not lapse.
- **Planning**
  - Promote greater integration of transportation and land use planning through elimination of barriers to transit-supportive and pedestrian-friendly development in targeted transit corridors, coordination of transportation investments with land use through targeted corridor or subarea investment areas, and the development of guidelines to permit redevelopment of infill and

greyfield (i.e., underused commercial retail centers) sites.

Chapter 10 discusses the regionally significant and locally significant improvement projects that should have the highest priority for federal and/or state funding consideration should dollars become available for improvement work.

Management Strategy #2: Project Selection Screening Criteria

In a constrained funding environment, projects considered for state or federal funding should meet a minimum set of criteria to justify funding. The following project screens are suggested for use when ROCOG considers candidate projects for funding or when looking to recommend projects to the District 6 Area Transportation Partnership.

- **Readiness:** The project has been through initial project development process steps and no significant environmental flaws or concerns have been identified which would cast doubt on the ability of the project to proceed through final environmental clearances; local sources of matching funds have been identified.
- **System Importance:** The project is functionally classified as being either interstate or interregional roadway or a strategic and major arterial roadway.
- **System Development:** The project will contribute to maintaining or improving overall system continuity and is located on a corridor that serves regional as well as local area traffic needs or provides important service to a major development area.
- **Project Need:** The project addresses either a significant safety deficiency or substandard structural conditions, or addresses an existing capacity deficiency or one anticipated to materialize in a 1 to 10-year time frame.
- **Economic Development:** The project is needed to support the creation of new employment opportunities in industries or business sectors that generate income or sales primarily from the sale of products or services to areas outside of the local region. In economic terms, these businesses are referred to as basic industries.
- **Multi-Modal Travel:** The project will enhance opportunities for travel via modes other than single occupant vehicles by improving conditions for pedestrians and/or bicyclists or improving conditions for transit system users.

An example of a screening system incorporating some of these factors that was used when assessing projects to include in the candidate list of projects for ATP Funding discussed earlier in this chapter is shown in Figure 15-35.

Figure 15-35: Example Prioritization Matrix

Investment Objective	Weight	Relative Score	Factors used to Assess Consistency with Investment Objectives: High		Medium		Low	
Asset Management / state of good repair								
Upgrades structural condition and extends service life	2	0	Project will Improve road structure with existing Poor Condition Rating or bridge structure with	5	Project will improve road structure with Fair condition rating or bridge Structure with	3	Project involves road or bridge structure with existing good condition ratings	1
System Importance / Development / Benefit								
Function of road on ROCOG Functional Designation System	2	0	Project provides mobility, access or safety improvement that benefits	5	Project provides mobility, access or safety improvement that	3	Project provides mobility, access or safety improvement that	1
Safety/Risk Mitigation								
Crash rate Improve vehicular travel safety	2	0	Project provides improved safety at location with observed critical crash ratio over 1.5	5	Project provides improved safety at location with observed critical crash ratio over 1.0	3	Project provides improved safety at location with observed critical crash ratio below 1.0	1
Mobility / Congestion								
Improve Regional Mobility by addressing capacity bottleneck or deficiency	2	0	Addresses existing capacity bottleneck or congestion deficiency	5	Addresses projected capacity bottleneck or congestion deficiency	3	Project area not impacted by existing or future congestion	1
Improve Reliability of Community Area or Development SubArea Access	1	0	Will improve system access by addressing high risk access conflict	0	Will improve system by addressing moderate risk access conflict	0	Project is not in a location where high or moderate access present or projected	0
Support Community Vision								
Consistent with and supports Regional Growth Management Planning	2	0	Project will improve travel in an established urban area	5	Projects will support future travel needs in planned growth area	3	Project primarily serves travel needs in area of low demand	1
Supports Regional Economic Vision	1	0	Projects provides 9 or 10 Access or improves structural condition of a arterial truck route AND benefits commuter access to major	5	Project improves structural conditon of non-arterial 9 or 10 Ton truck route OR benefits commuter travel	3	Project provides minor benefit to truck route network or commuter travel	1
Multi-Modal Travel								
Project provides for expansion or upgrade the Active Transportation Bikeway Network	1	0	Project provides opportunity to improve significant Active Transportation Bikeway network gap	5	Project provides opportunity to improve existing Active Transportation Bikeway infrastructure	3	Project corridor plays minor role in regional Active Transportation Bikeway Network	1
Project provides for expansion or upgrade the Active Transportation Walkway Network	1	0	Project provides opportunity to improve significant Active Transportation Walkway network	5	Project provides opportunity to improve existing Active Transportation Walkway	3	Project corridor plays minor role in regional Active Transportation Walkway Network	1
Will advance the Regional Transit Vision	1	0	Project corridor is part of PTN or access to Park & Ride site	5	Project corridor serves multiple non-PTN transit routes	3	Project corridor plays minor role in regional transit vision	1