



ROCHESTER
public transit

Transit Development Plan 2017-2021

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Prepared by



AECOM Technical Services
SRF Consulting Group
Pepin Hugunin
AJM Consulting



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1 Executive Summary

The Rochester Transit Development Plan (TDP) Update is a five-year plan for Rochester Public Transit (RPT) and the Zumbro Independent Passenger Service (ZIPS) paratransit program. This TDP proposes a major restructuring and revisioning of the RPT network which includes the creation of high frequency corridors, more frequent service to many parts of the city, later evening service, consistent and simple service patterns that do not vary by time of day, and the creation of crosstown service. This TDP will set the stage for the creation of a network that will support the proposals from the regional Long Range Plan and the Destination Medical Center (DMC) vision.

1.1 Goals and Objectives

The challenge of the TDP is to provide a plan that will maintain an efficient, convenient and reliable service for current users, that will attract new users through improvements to the existing network, and will put plans in place that support the growth that has already occurred since the 2006 TDP was completed and which takes into account projected growth in the immediate five years hence.

This challenge implies the need to review and modify as necessary the current bus network, to improve upon facilities throughout the city, and the need to use Intelligent Transportation Systems (ITS) and social media to deliver real-time information to the public. Furthermore, RPT does not exist in a vacuum, and this plan must continue the strong partnership of the bus system with other units of City and County government, and with the business community to promote transit use versus single occupant vehicle use so that this vibrant bus system, and this vibrant city, can continue to grow. Chapter 2 presents the goals and objectives for both RPT and ZIPS paratransit.

1.2 Community Assessment

The community assessment covers the following seven topics to understand social and economic trends in the communities served by RPT and ZIPS: demographics, socioeconomics, the combination of the two into a potential for transit success scoring system (a transit success score map is presented on Figure 1-1), employment, commuting patterns (job density is presented on Figure 1-2 and major employers are listed on Table 1-1), land use, future growth and development. Past, present and future population statistics are discussed in the demographics section, as are the concentrations of youth and senior populations in the region. In the socioeconomics section, income statistics, poverty, and households without vehicles are discussed. In the third section, demographic and socioeconomic characteristics that are generally considered to be correlated to higher rates of transit usage are evaluated for the region in order to produce a map of areas of potential transit success. Jobs, major employers, and unemployment are discussed in the employment section and means of transportation to work and place of employment are discussed in the commuting section. In the land use section, both land use and the location of major trip generators are described. Future growth is described based on projected land use changes through 2035.

Figure 1-1: Transit Success Score

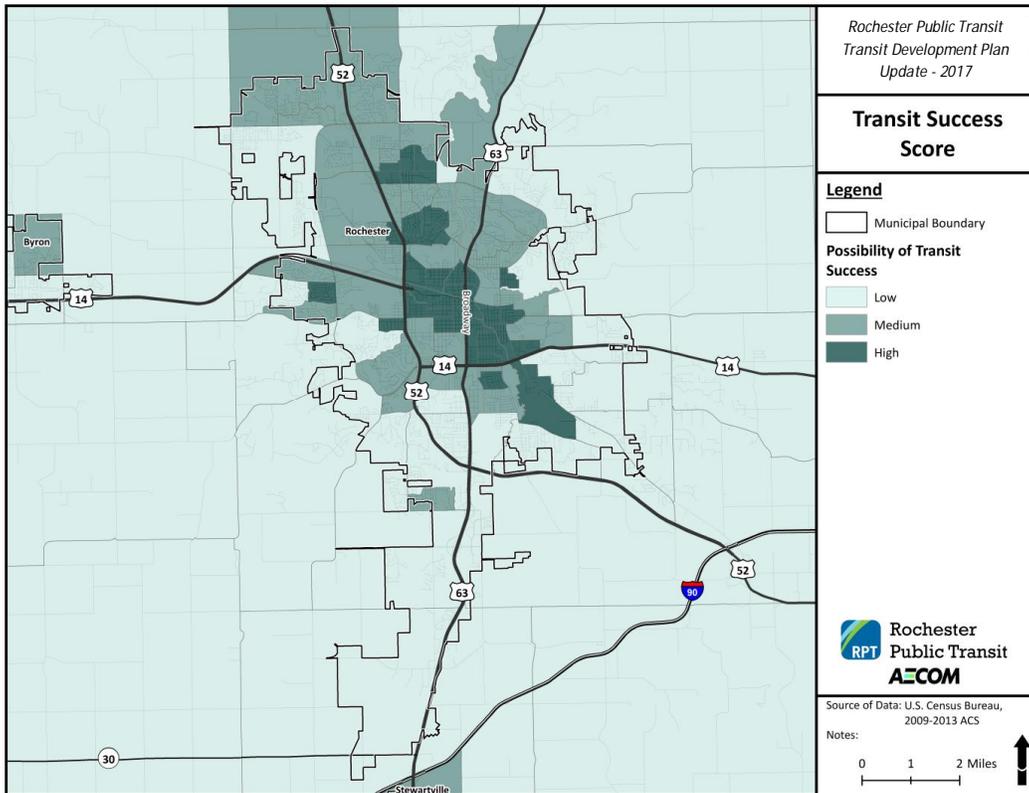


Figure 1-2: Job Density

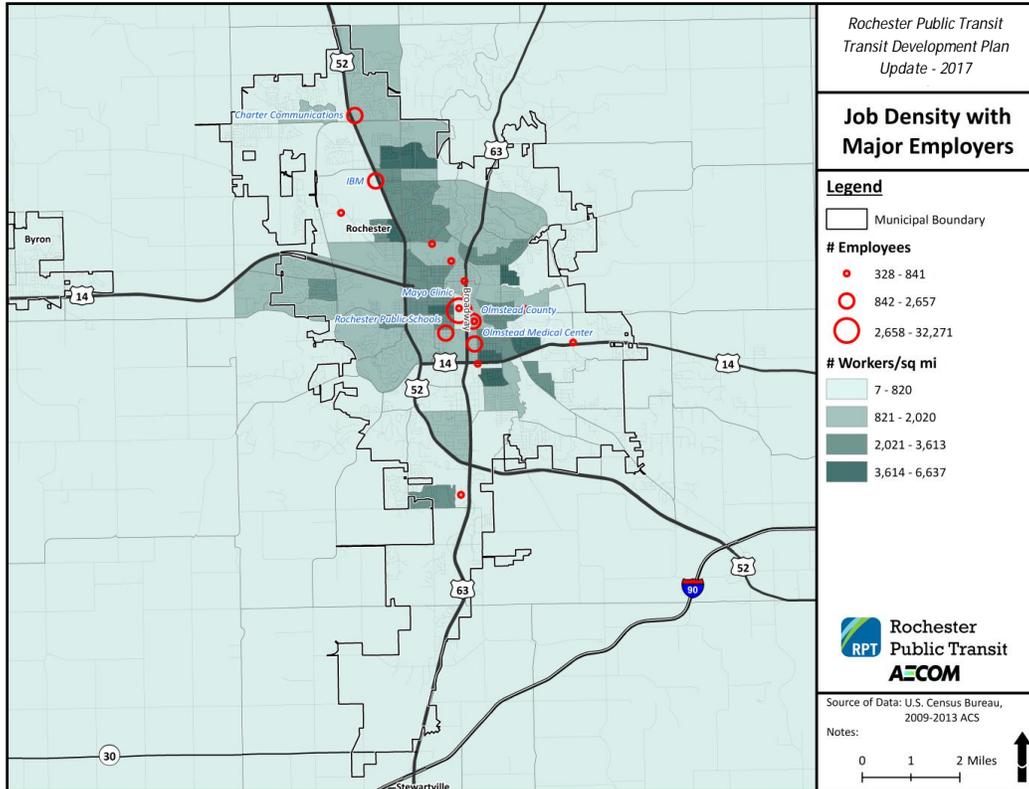


Table 1-1: Major Employers

Employer	Industry	# Employees
Mayo Clinic	Medical/Health Care	32,271
Rochester Public Schools	Education	2,657
IBM	Electronics	2,300
Olmsted Medical Center	Medical/Health Care	1,339
Olmsted County	Government	1,217
Charter Communications	Television/Internet	1,061
McNeilus Truck & Manufacturing	Manufacturing	1,050
City of Rochester	Government	841
Crenlo	Manufacturing	701
Kahler Hospitality Group	Hotel/Restaurant Services	680
RCTC	Post-Secondary Education	500
Federal Medical Center	Corrections/Medical	450
Reichel Foods	Food & Snacks	450
Samaritan Bethany	Health Care	440
Hiawatha Homes	Assisted Living	403
Seneca Foods	Food Processing	400 (seasonal)
Benchmark Electronics	Manufacturing	396
Kemps	Food Processing	344
McNeilus Steel	Steel Fabrication	328

Source: Rochester Area Economic Development Inc., 2015, Rochester Post-Bulletin

1.3 Transit Service Review

The transit service review chapter provides a review of existing transit service and a diagnostic of routes that informs recommendations for transit service in the Rochester metropolitan area. Figures 1-3 through 1-7 present the various RPT route networks and the extent of the ZIPS service area presented on Figure 1-8. The existing conditions section details the current operations at Rochester Public Transit (RPT), financial and operating data and trends, capital assets, and staffing and organization. Following the existing conditions section is information regarding route diagnostics and service standards, including a route-by-route analysis of performance metrics and a critical comparison of RPT's performance regarding each service standard.

Figure 1-3: Rochester Public Transit Peak Period Local Bus Route Network

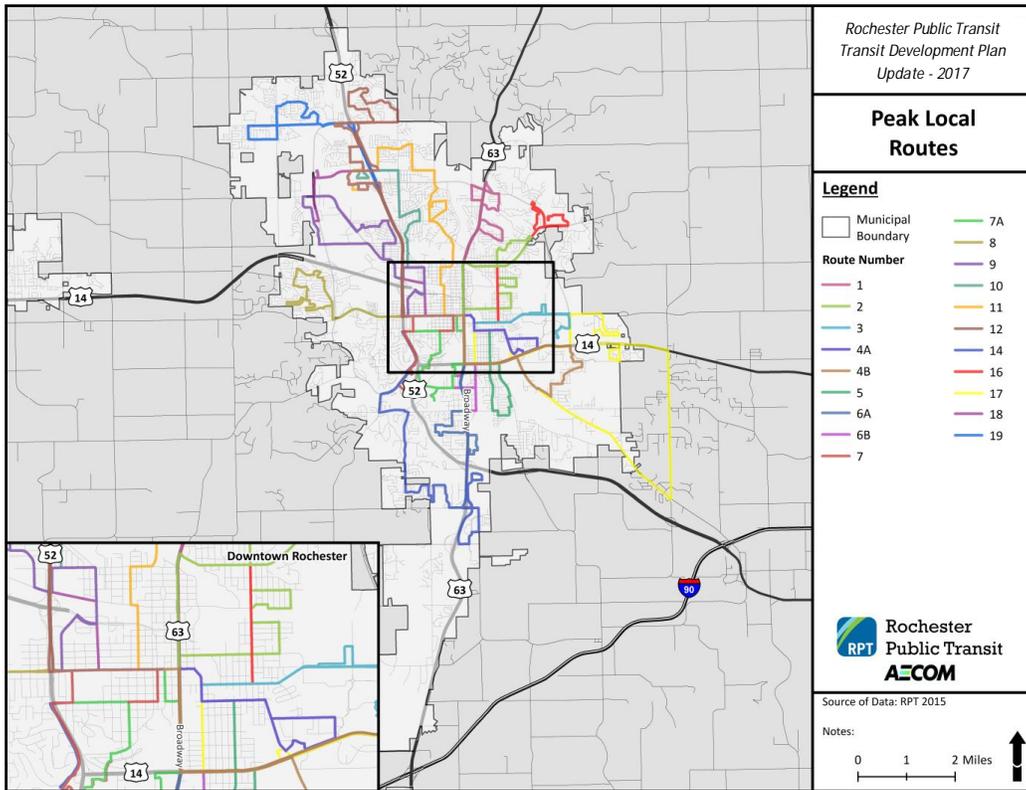


Figure 1-4: Rochester Public Transit Peak Period Direct Bus Route Network

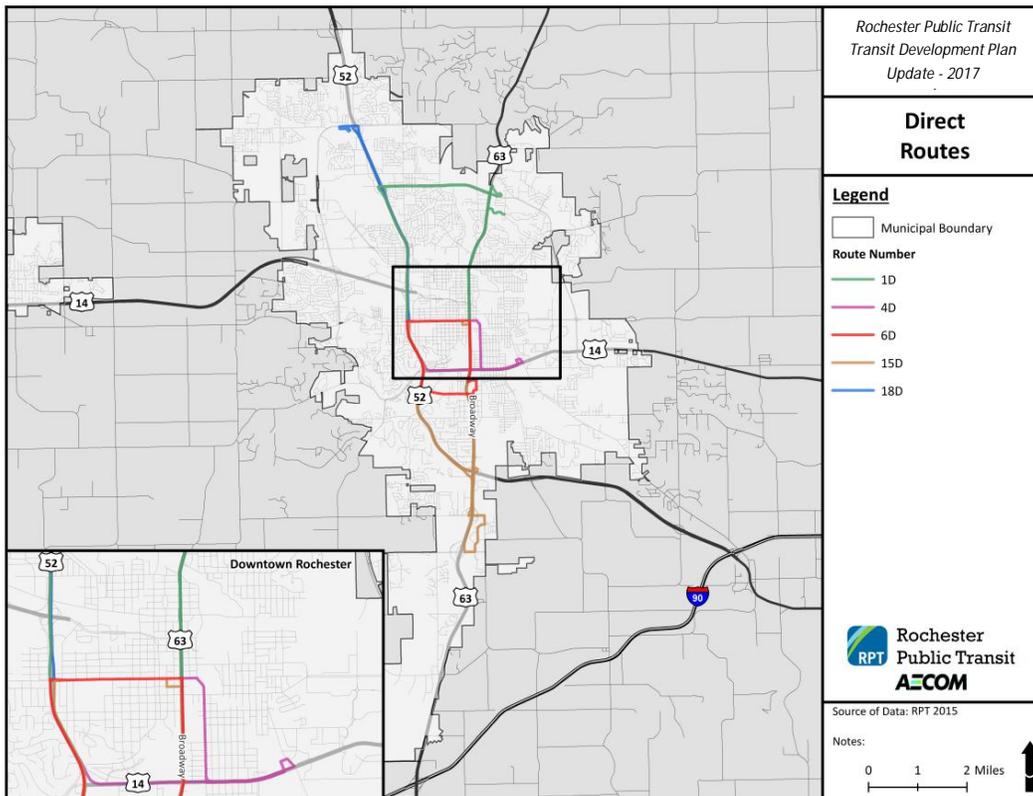


Figure 1-5: Rochester Public Transit Middy Bus Route Network

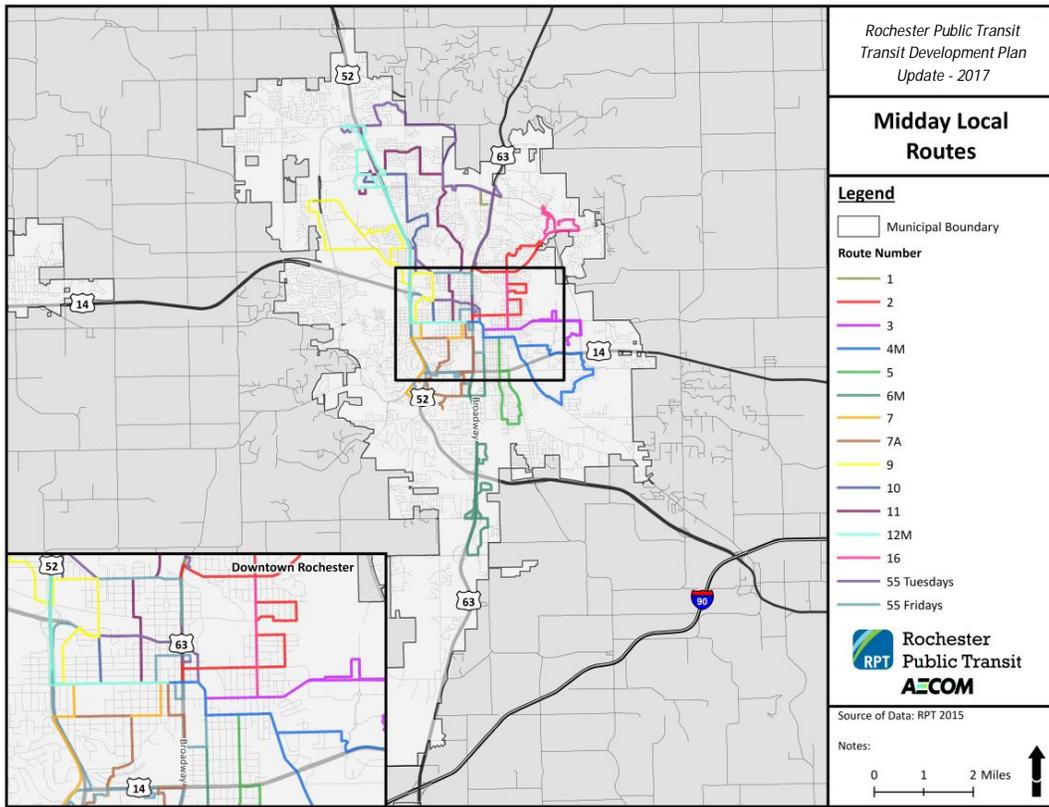


Figure 1-6: Rochester Public Transit Night Bus Route Network

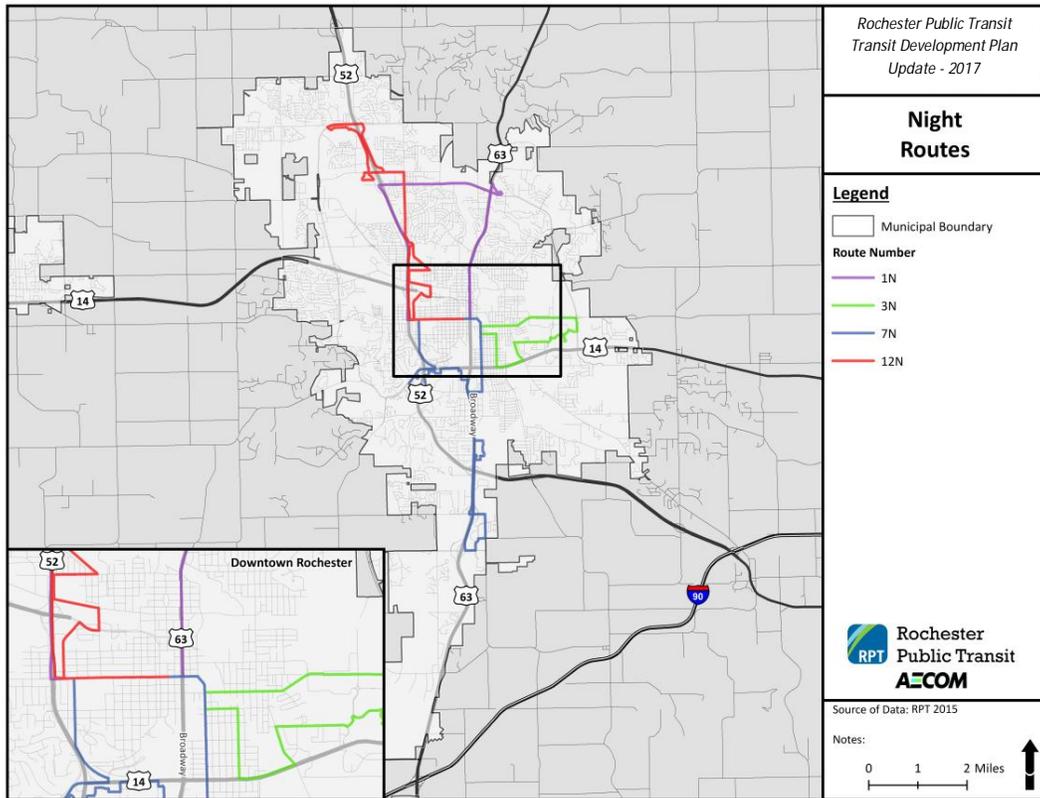


Figure 1-7: Rochester Public Transit Saturday Bus Route Network

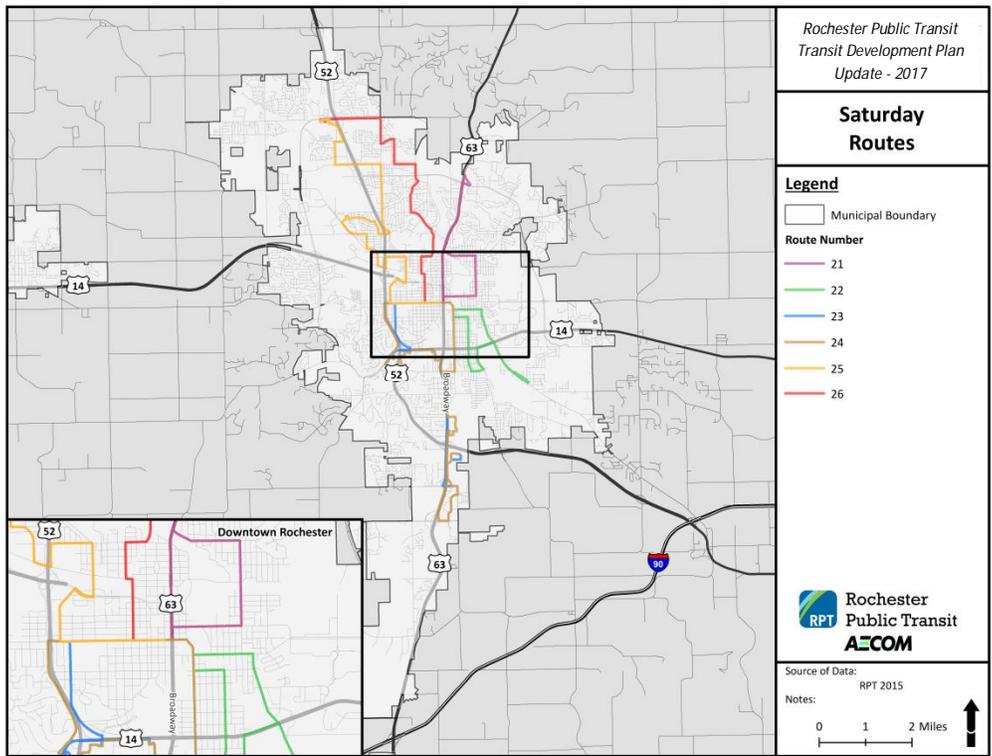
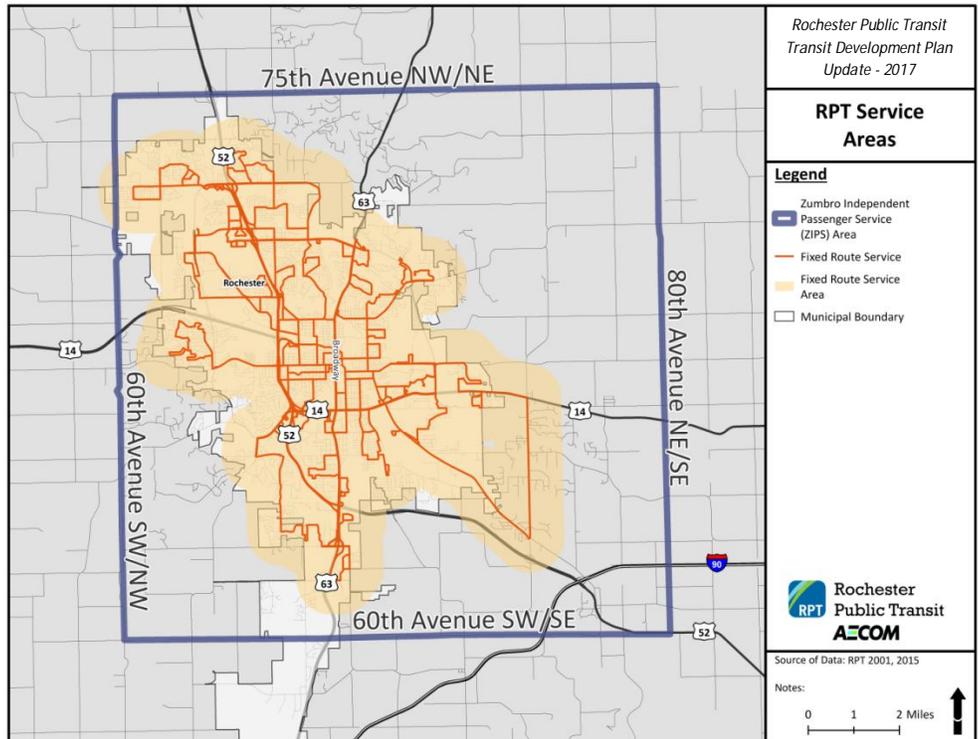


Figure 1-8: ZIPS Service Area Map



1.4 Service Guidelines

To assess the performance and adequacy of the current public transportation system and guide the formulation of route improvement proposals, it is necessary to establish a set of transit performance criteria.

Initially, these criteria are used in assessing the current bus service and indicating where areas of concern in terms of system performance may be. These criteria help shape the recommended guidelines that, in turn, help service planners determine the nature and extent of potential service improvements. These guidelines subsequently become the basis for formulating route improvement proposals to “bridge the gap” between actual and desired performance.

The recommended service guidelines for Rochester Public Transit’s fixed route service were developed by considering several key factors, including:

- Suitability to the characteristics of development and land uses in the Rochester Public Transit service area.
- Recognition of the cost implications that certain guidelines may entail and the availability of funding.
- Benchmarks set by existing service levels and performance.
- “Ease of use” in that the parameters defined in each guideline can be measured utilizing data that the Rochester Public Transit system can easily gather and track.
- Prevailing practice in the transit industry.
- The service guidelines prepared for the prior Transit Development Plan.
- Consultation with City of Rochester/Rochester Public Transit staff, as well as other stakeholders.

Several points should be made with respect to the development and subsequent application of the service guidelines:

- Reasonable judgment must be utilized in applying the service guidelines to assess current Rochester Public Transit service. In applying the guidelines, it should be kept in mind that although they are quantitative for the most part they nonetheless do not represent absolute conditions that must be met in all cases. For example, unusual situations may arise which warrant special consideration. Thus, the guidelines should be viewed as providing technical guidance for Rochester Public Transit’s service planners and should not be viewed as rigorous “standards” or “warrants”. The guidelines are designed to be used in combination with the best judgment and experience of Rochester Public Transit’s service planners and operations personnel.
- The recommended guidelines may sometimes appear to conflict with one another since some relate to the benefits derived from transit service while others relate to the costs. Nonetheless, the guidelines permit the tradeoffs to be delineated and an informed decision made to resolve differences.
- The guidelines have been developed to reflect the current Rochester Public Transit funding conditions. This does not preclude revisions to respond to new policy guidelines and prospective changes in operating and funding conditions.
- The comparison of actual performance with the guidelines should not be made on a strict “pass-fail” basis. Instead, results should be viewed in terms of the proportion of the time that the guideline is met or the level of attainment. Put simply, it should be recognized that there are times when the “intent of the guideline” is being satisfied.

- Finally, the service guidelines will be applied to Rochester Public Transit's bus operations as part of the current analyses. Consideration should be given to adopting a set of service guidelines as part of a continuing monitoring program.

The proposed set of service guidelines appropriate for Rochester Public Transit includes four major aspects of service – Service Attributes, Operational Attributes, Passenger Comfort and Convenience, and Fiscal Condition. More than a dozen separate service guidelines within the four broad categories are presented in Chapter 5.

1.5 Initial Public Outreach

The initial round of public outreach included the following activities; a decision maker survey, community surveys, a “My Sidewalk” page, a passenger onboard survey, pop-up meetings at key destinations in Rochester, public meetings, and outreach to special populations. Chapter 6 presents the formats for each of these meetings and findings.

1.6 Peer Group Analysis

The peer group analysis evaluates the City of Rochester, Minnesota transit system in relation to peers selected from the National Transit Database. Conducting a peer group assessment helps determine how a particular system is performing by providing a side by side comparison to other systems that share similar characteristics. This type of analysis provides a framework to determine what elements of a system perform well, and what elements could use some improvement. Overall Rochester performs better than the peer group. The peer group analysis is presented in Chapter 7.

1.7 Issues and Opportunities

The issues and opportunities chapter, Chapter 8, provides an analysis of RPT services and study area characteristics and a description of the issues and opportunities for transit services in Rochester. Presented in this chapter are summaries of key findings from public outreach and the transit service baseline analysis, previously reported in earlier chapters. This chapter includes a detailed analysis of the RPT bus routes to highlight the strengths and weaknesses of each, and includes tables and charts ranking the routes for each service type. An analysis of coverage and congruency was conducted for this chapter to show areas where there are likely to be needs that are currently unserved.

These analyses taken together form the picture of transit issues and opportunities. This summary will be used to inform the route planning process and service plan that builds upon the strengths and addresses the weaknesses of the RPT network.

1.8 Service Alternatives

Chapter 8 presents a comprehensive redesign of the Rochester Public Transit (RPT) network. The development of the service alternatives took advantage of all the data that was collected for the study and presented in previous chapters. This includes data on the City of Rochester, public outreach, analyses of the public transit network and individual routes, and service guidelines.

The new network still focuses on Downtown Rochester but adds cross-town services to incrementally build a circumferential bus route. The proposed system creates high frequency corridors by having

multiple services on a single corridor with off-set schedules. Finally the service alternatives also include Bus Rapid Transit services that operate through downtown Rochester providing direct, high speed, and high frequency connections between various parts of the city. These are consistent, and developed in conjunction, with the Comprehensive Plan and Destination Medical Center plans.

The redesign of the Rochester Public Transit network included a new nomenclature system for routes. All routes will now have two digits, with no letter suffixes. The first digit will be a reference to the corridor or area of the city the route serves and the second digit will be the distinct route number. The route groups are as follows:

- 10 series: North Broadway corridor and northeast Rochester
- 20 series: East and southeast Rochester
- 30 series: South Broadway corridor
- 40 series: Southwest Rochester
- 50 series: West Rochester/Country Club area
- 60 series: Northwest Rochester west of TH 52
- 70 series: North Rochester/area between Broadway and TH 52
- 80 series: Bus Rapid Transit services
- 90 series: Crosstown services

The route number of the direct routes is based on the corridor or area served with the second digit being either 7 or 9. Since BRT routes will serve multiple areas in the city, the second digit will be the sum of the two primary areas/corridors served.

Figure 1-9 presents the weekday daytime network with all routes that operate. Figure 1-10 presents the high frequency network, which is service along major corridors that are served by multiple routes that combine to provide service every 15 minutes during peak periods and every 30 minutes during midday periods. Included in the high frequency is proposed BRT services (Routes 84 and 87). Figure 1-11 presents the routes that will operate during the night and weekend timeperiods. It is important to note that weekend and night services are not separate routes, rather they are an extension of the daytime route span which has been applied to specific high ridership routes. Individual route descriptions are presented below.

Figure 1-9: Weekday Daytime Network

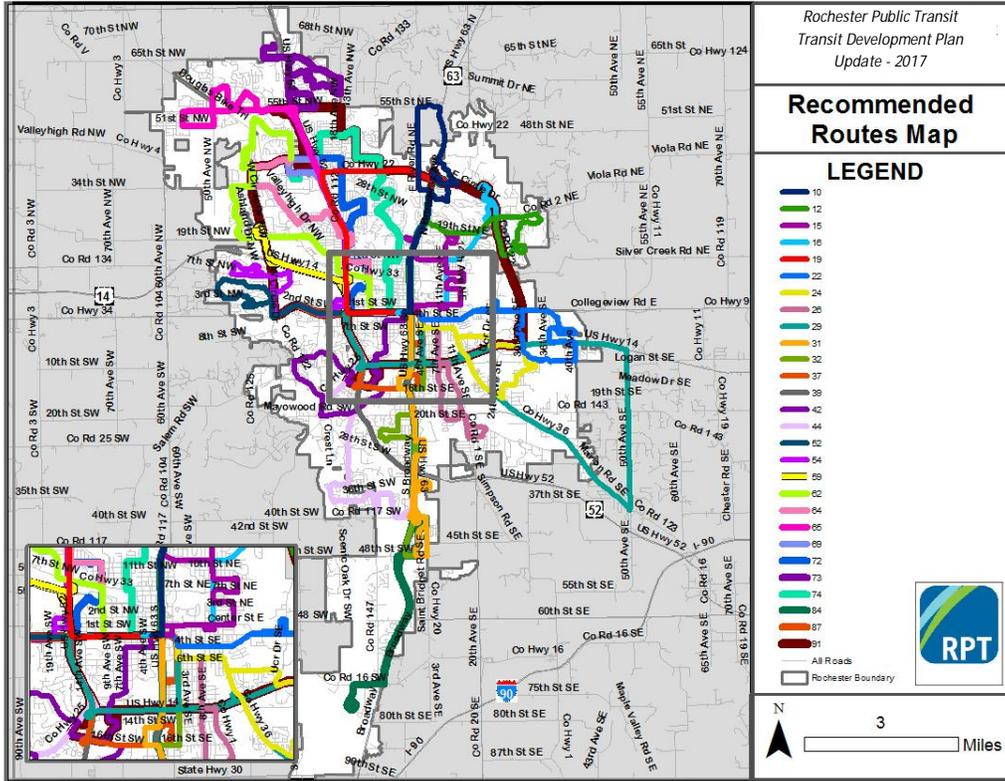


Figure 1-10: High Frequency Network

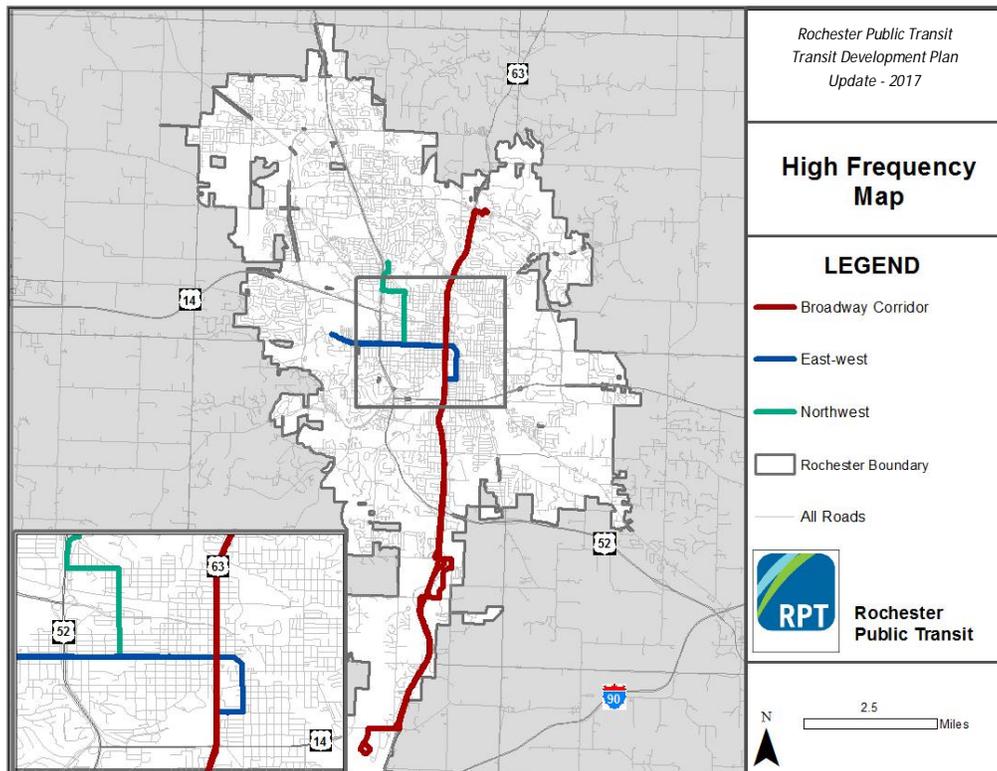
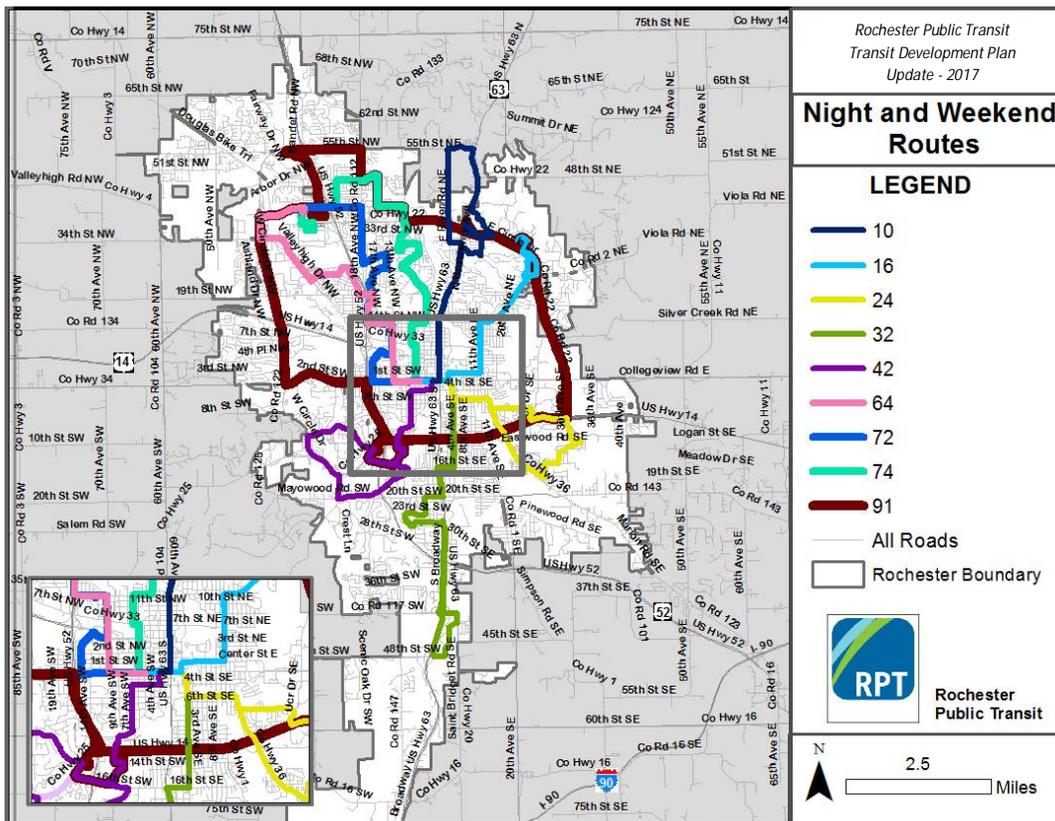


Figure 1-11: Night and Weekend Service



1.8.1.1 Service Parameters

The route alternatives create four route types. The route types are full-time local service routes, weekday only routes, direct routes, and bus rapid transit routes. The service parameters, which include span and frequency, are presented on Table 1-2 below.

Table 1-2: Proposed Service Parameters

	Full-Time Service Local Route	Weekday Only Local Route	Direct Route	Bus Rapid Transit
Weekday Span	5:00AM to 11:00PM	5:00AM to 8:00PM	6:00AM to 8:45AM and 3:00PM to 6:00PM	5:00AM to 8:00PM
Saturday/Sunday Span	7:00AM to 7:00PM	Not Applicable	Not Applicable	Not Applicable
Peak Headway	30 minutes	30 minutes	Between 12 and 30 minutes	15 minutes
Off-Peak Headway	60 minutes	60 minutes	Not Applicable	Between 10 and 20 minutes

1.9 Implementation Plan

The Transit Development Plan will be implemented over a period of five years. This will allow for manageable growth of Rochester Public Transit (RPT) services. This will also manage capital costs and

the procurement process for obtaining vehicles. The year by year implementation schedule is presented in the following sections. Table 1-3 presents the overall impact, in terms of revenue hours and bus requirements. The spares ratio is expected to decline from about 26% today to approximately 18%. Below is a summary of the changes in each year.

Table 1-3: RPT Revenue Hours and Vehicles per Year Based on the Implementation Plan

Year	Revenue Hours	Peak Buses	Spare Buses	Total Buses	Spares Ratio
2016 (current)	71,289	38	8	46	21.05%
2017/Year 1	83,596	43	8	51	18.60%
2018/Year 2	87,330	61	12	73	19.67%
2019/Year 3	107,830	69	14	83	20.29%
2020/Year 4	126,330	71	14	85	19.72%
2021/Year 5	130,330	72	14	86	19.44%
5 Year Change	59,041	34	6	40	

- Year 1: The first year the focus of the service plan will be to improve the current system. Service will operate one hour earlier and one hour later on evenings (i.e. not night) and on Saturday. Sunday service will also be implemented utilizing the Saturday routes and schedules. Five additional vehicles will be added to the system to improve service reliability and reduce crowding.
- Year 2: The RPT network will be restructured in the second year with new route names, service spans, and frequencies. Crosstown service along Circle Drive will be implemented.
Year 3: In year 3 the service restructuring will be completed by changes to the Country Club area.
- Year 4: Year 4 will add a new Bus Rapid Transit (BRT) service operating between the Mayo Clinic West Parking Lot and Kmart near the intersection of 3rd Avenue SE and 9th Street SE operating primarily along 2nd Street SW.
- Year 5: In the fifth year enhancement will be the implementation of a second BRT service that would serve Broadway corridor between ShopKo North and the airport to the south.

The impact to ZIPS paratransit service is as follows

Table 1-4: ZIPS Revenue Hours and Vehicles per Year Based on the Implementation Plan

Year	Revenue Hours	Peak Buses	Spare Buses	Total Buses	Spares Ratio
Current	17,724	5	1	6	0.20
2017/Year 1	18,256	6	1	7	0.17
2018/Year 2	18,804	6	1	7	0.17
2019/Year 3	19,368	7	1	8	0.14
2020/Year 4	19,949	7	1	8	0.14
2021/Year 5	20,547	7	1	8	0.14
5 Year Change	2,823	2	0	2	

1.10 Park-and-Ride

RPT serves five park-and-ride lots. Based on recent data collected by RPT, the system, overall, is at capacity, with several of the lots exceeding capacity (demand in excess of the designated spaces) at shared-lot facilities. Land development plans, as currently being updated for the Rochester Comprehensive Plan, could decrease the amount of drive-access transit by providing more walk-accessible transit-oriented development. The implication is that there will be more local bus passengers with park-and-ride lots serving people who work in Rochester but live outside the city. Park-and-ride demand will be triggered by both the continued development of the Rochester area, as well as plans and policies to increase transit use in the region (increasing park-and-ride services is one of those strategies). Phased development of new park-and-ride capacity will be needed to respond to downtown growth and increasing transit market share. There is no park-and-ride lot in the western side of the city. An effort should be made to find opportunities to locate one in the U.S. 14 west corridor to serve near-term and long term demand.

1.11 Capital Plan

The capital program includes vehicles, expansion of the Public Works and Transit Operations Center, facilities, and enhancements to support RPT operations. The Capital Plan described in this section provides an overview of capital items needed to support RPT service through 2021. The RPT capital plan is funded through a combination of federal and state funding sources. The capital plan is described below. Many of the elements of the capital plan were supplied by City of Rochester staff. The vehicle purchase plan is presented on Table 1-5. The vehicle purchase plan includes different size vehicles to match vehicle capacity to ridership demand.

Table 1-5: Vehicle Replacement and Expansion Program

Bus Type		Current	2017	2018	2019	2020	2021
Replace	Standard Transit Bus	0	5	4	4	6	5
	ZIPs Bus	0	1	2	1	0	2
Expansion	Standard Transit Bus	0	5	22	1	2	1
	Articulated Transit Bus	0	0	0	9	0	0
	ZIPs Bus	0	1	0	1	0	0
Total	Standard Transit Bus	0	10	26	5	8	6
	Articulated Transit Bus	0	0	0	9	0	0
	ZIPs Bus	0	2	2	1	0	2

Note: the start date for each year is July of the calendar year

Park-and-ride lot recommendations are to expand current park-and-ride lots as well as establishing a new park-and-ride near Trunk Highway 14 on the western end of Rochester.

Transit centers are locations that are served by numerous bus routes. Often, routes are scheduled so they meet all other routes at the transit center. Currently, Rochester has one transit center in Downtown Rochester. The recommendations regarding transit centers are to continue to improve the current transit center and create satellite transit centers. Part of the improvements to the Downtown Transit Center is improvements to the stops near the St. Marys campus along with the current Downtown Transit Center location. Two new satellite transit centers are proposed, one in the vicinity of the IBM park-and-ride and the second near Target South.

Access to bus stops and the bus stop waiting environment is an important way to encourage transit ridership. Without a safe and accessible path to a bus stop, potential riders will not be able to access the RPT system. It is important for every bus stop to have sidewalk access that connects to locations that passengers are coming from or going to. The City of Rochester does have a requirement for new and improved sidewalks associated with property being developed or redeveloped which does enhance access to the transit system. It is important that any sidewalk be accessible not only to pedestrians but also to those who use mobility devices such as walkers and wheelchairs.

Technology improvements are vital to support growth in the transit network. AVL systems provide real-time bus location information both to transit managers as well as the public. Currently RPT has plans to improve the AVL system by installing bus stop annunciators which provide audible announcement of the next bus stop location onboard the bus. Transit Signal Priority (TSP) is proposed along two corridors in 2018, along 2nd Street SW between Trunk Highway 52 and Broadway, and the Broadway North corridor between 2nd Street SW and 19th Street NE. The investment in TSP should be expanded as part of the implementation of BRT and other corridors or intersections should be considered for the deployment of TSP.

1.12 Marketing Plan

Marketing is an important element of attracting riders to RPT services going forward and to this end RPT has already hired a marketing coordinator to lead the effort. The marketing effort should be multi-faceted to take advantage of both traditional methods – printed maps, guides, schedules -- and up to the minute social media and ITS applications. Additionally, person to person outreach should be a significant component of an overall marketing approach.

1.13 Organizational/Staffing Plan

Public Transportation service in Rochester is delivered through the City's Department of Public Works under the aegis of the Transit and Parking Department. Planning and administration is done by city staff, while operations and maintenance is provided by contractors, First Transit for the fixed route system (and all maintenance), and R & S Transport Inc. subcontracting to First Transit for the ZIPS paratransit service.

From observation, review of procedures and materials, and discussions it appears that the organization is in excellent shape, well-organized and managed, and that it covers all of the necessary bases to keep the program at its current level of excellence. Two more full-time administration positions have been approved to support RPT; a grants manager that will allow RPT to be in a better position to receive competitive grants and an operations/contract manager to supervise the contractors providing service.

1.14 Financial Plan

The financial plan presents the costs and revenues for Rochester Public Transit fixed route services, ZIPS paratransit service, and the capital program. The operating costs include contract cost for operating services RPT and ZIPS service along with costs incurred to administer the transit programs. Capital costs are based on projects identified in Chapter 12. Revenues present the expected funding from each revenue source including fares, federal sources, state sources, and local sources. Table 1-6 presents operating costs and revenues. Capital funding and total capital costs are presented on Table 1-7.

Table 1-6: Projected Operating Costs and Revenues

	Current ¹	2018	2019	2020	2021
<i>Operating Costs</i>					
Total Cost	\$9,304,388	\$9,954,891	\$12,117,251	\$13,302,850	\$14,001,646
<i>Operating Revenues</i>					
Cash and Pass Fares	\$2,577,617	\$2,937,010	\$3,791,639	\$3,892,283	\$4,397,333
Advertising	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
State Funding Sources	\$6,359,900	\$6,636,594	\$8,078,167	\$8,868,567	\$9,334,430
Federal Section 5307	\$302,678	\$298,647	\$363,518	\$399,085	\$420,049
Local Sources	-\$35,807	-\$17,360	-\$216,073	\$42,915	-\$250,167
Total Revenue	\$9,304,388	\$9,954,891	\$12,117,251	\$13,302,850	\$14,001,646

Source: Projected based on FY 17 budget

Table 1-7: Projected Capital Costs and Funding Sources

Project	Funding Source	2017	2018	2019	2020	2021
Total Capital	Federal	\$224,000	\$1,262,400	\$588,880	\$12,800,000	\$0
	Project reserves	\$78,000	\$70,000	\$50,000	\$0	\$0
	Retained earnings	\$0	\$200,000	\$0	\$3,200,000	\$0
	State	\$2,933,784	\$12,553,384	\$6,868,929	\$1,233,518	\$866,783
	Tax levy	\$2,237,561	\$4,625,478	\$3,937,834	\$2,107,490	\$2,042,493
	Project Total	\$5,473,345	\$18,711,262	\$11,445,643	\$19,341,008	\$2,909,276

Source: Projected based on FY 17 budget

1.15 Title VI Analysis

As part of the 2017-2021 Transit Development Plan (TDP), Rochester Public Transit has proposed service changes to a number of its existing and several new fixed bus routes. At full build-out, in year five of the TDP, there would be 28 routes operating weekdays, evenings, and weekends. These changes will be referred to herein as the 5-Year Service Plan. Such would represent an approximate doubling of Rochester Public Transit revenue hours and include adding service to and restructuring current routes, and introducing service to previously unserved areas. The 5-Year Service Plan would begin taking effect in 2017, with additional iterative service changes the four years following.

Federal funding recipients such as Rochester Public Transit are required to follow the guidance and requirements under FTA Circular 4702.1B to ensure an equitable distribution of benefits and burdens to protected and non-protected populations groups. While the completion of service equity analyses for major service changes are not strictly required for Rochester Public Transit, it was determined that it would be appropriate to conduct a service equity analysis for the proposed changes outlined in the 5-Year Service Plan. This review finds that the proposed service changes will not result in disparate impacts to minority populations or disproportionate burdens to low-income populations based on thresholds commonly used by other transit agencies.

¹ From 2017 Transit Budget

2 Goals and Objectives

The challenge of the TDP is to provide a plan that will maintain an efficient, convenient and reliable service for current users, that will attract new users through improvements to the existing network, and will put plans in place that supports the growth that has already occurred since the 2006 TDP was completed and which takes into account projected growth in the immediate five years hence.

This challenge implies the need to review and modify as necessary the current bus network, to improve upon facilities throughout the city, and the need to use Intelligent Transportation Systems (ITS) and social media to deliver real-time information to the public. Furthermore, RPT does not exist in a vacuum, and this plan must continue the strong partnership of the bus system with other units of City and County government, and with the business community to promote transit use versus single occupant vehicle use so that this vibrant bus system, and this vibrant city, can continue to grow.

This chapter presents a Mission Statement, Goals and Objectives to guide the development of the plan, as well as to provide a framework for the on-going development and evaluation of the system in succeeding years as the plan is rolled out. These elements were written based upon several inputs:

- The *2006 City of Rochester MN Transit Development Plan* (October 2006, Abrams-Cherwony & Associates, with Urbitran Associates, Inc.)
- Discussions with city and County staff and officials during workshops, stakeholder meetings, and informal input
- Public comment received from pop-up sessions, public meeting sessions, surveys and social media

The framework below retains that of the 2006 Transit Development Plan, which was comprehensive and based upon a great deal of discussion and consensus building at the time. It has been updated to reflect new conditions, issues, development plans, and technologies. Most importantly, there is an increased awareness of the importance of the link between transit and development that will be a part of the plan forthcoming from this effort. The major changes are highlighted in the following text by use of italics.

Mission Statement

To provide an efficient, accessible public transit system that is competitive with the private automobile in terms of cost, convenience and time; *and which supports the long range planning and development objectives of the City of Rochester*

Statements of Goals and Objectives

Goal I

To provide an improved public transit system that is well designed and competitive with the private automobile.

Objectives

Service design must take into account rider convenience and travel time to be competitive with the private automobile.

Span and headways should be consistent with time of day and demand, and coordinated with work and school schedules as necessary.

Boarding and alighting locations should be as close as possible to origins and destinations. (As will be seen in the service standards, a location will be considered "served" if it is within one-quarter mile of a bus route.

Service standards which will enhance the public perception of transit should be established. The maximum travel time by transit should be approximately 45 minutes between any two points in Rochester.

The ability to travel between points in the service area without necessarily requiring a passenger to transfer in downtown Rochester should be provided *if such a service meets performance standards/expectations*. These routes could expand the overall utility of the transit system.

The design of transit service should take into account new and future roadways. By the same token, when new roadways are being planned their ability to accommodate public transportation services should be a consideration.

Specifications for new buses should continue to include passenger comforts and amenities such as padded and upholstered seats; public address systems; front, side and rear destination signs and accessibility features.

The accessibility of buses should continue to be monitored, evaluated and improved as possible. Changes in wheelchair securement technology that will improve ease of use by passengers and ensure safety should continue to be monitored and applied as appropriate.

Goal II

To provide transportation services for those people who do not have or are unable to use a private automobile.

Objectives

Fixed-route transit service should be available to the majority of the population. Approximately 90 percent of the population of the City of Rochester should be within one-quarter mile of a bus route. The TDP recommendations 87.97 percent of the city's population² that reside within ¼ mile of a bus route, a percentage that should increase based on development plans near bus routes.

The minimum amount of service to be provided on all routes is two round trips per day.

Service hours should be extended at night and service should be provided on Sundays , in both cases dependent upon meeting reasonable ridership and efficiency expectations as defined in the Service Standards.

A comprehensive marketing and public information program should be developed that provides the public with an awareness of the services available emphasizing the convenience, speed, reliability and

² Based on 2010 population

safety of transit. *New forms of Social Media should be incorporated into the communication program including but not limited to real-time alerts via twitter, facebook, or other applications; and trip planning.*

Comparable service levels must be maintained per the ADA between the fixed route bus service and the demand responsive paratransit service.

Goal III

To increase ridership *as well as transit's travel share as part of the City's long range planning and development goals.*

Objectives

Maintain an ongoing marketing plan which promotes use of the transit system in the markets with the greatest potential. *Use Social Media to market the system and raise its profile.*

Maintain an ongoing education/information program tailored to various consumer groups (e.g., senior citizens, college students, etc.) which provide them with information directly related to their needs and their use of the transit system.

Operate a "user-friendly" system by simplifying the bus network/service design, developing a system map and individual route timetables, and other public information materials and equipment that makes people comfortable using the public transportation system.

The route names and/or numbers should be straightforward, simple and easy to comprehend so that new riders - as well as regular users of the system – can inherently understand where bus routes go and when they operate with a minimum of required "learning".

Develop high intensity corridors as demand develops that are coordinated with the long range planning efforts of the community and which are supported by facilities such as bus stops and stations, selected use of bus lanes and queue jumps, and ITS strategies

Integrate plans for secondary hubs and for integration of the bus system with downtown development plans and specifically the Destination Medical Center Plan

Evaluate and investigate - on an ongoing basis - the potential for new services and service types including new forms of demand transportation like Uber and Lyft throughout the service area.

Goal IV

To ensure that transit is a part of the City's decision-making process regarding all long range plans and policies affecting land use, *development* and transportation

Objectives

Maintain an educational and "outreach" program with local government bodies and departments, as well as the community in general regarding the importance and benefits of public transit as a strategy for dealing with parking and traffic congestion issues and as a way to conserve energy and preserve the environment.

Develop strategies to involve employers in the promotion of the use of transit.

The City should recognize the impacts that parking policies have on transit. Therefore, Rochester's parking policies should include the following:

The direct impact on transit patronage of the price, availability and proximity of parking should be considered, especially when approving those facilities which provide long-term parking for employees whose trips are most conducive to the use of transit.

Consideration of the amount by which the supply of parking downtown available to customers of downtown businesses would be increased by offering incentives to their employees to utilize the public transportation system.

Employers should provide preferential parking to vanpools and Carpool, as well as employer subsidized bus passes.

City Zoning requirements should require less parking if support for transit in the form of employer-sponsored or landlord-sponsored bus passes is provided.

Ensure that the development approval process takes into account the needs of public transit service regarding items such as street designs, bus stops, pedestrian access to bus routes and passenger waiting shelters

Streets on which buses operate should be designated as "Snow Emergency Routes" and given the highest priority for snow removal where feasible.

The City should continue to construct wheelchair ramps as part of its sidewalk program. Locations should be coordinated with the alignments of various bus routes.

Goal V

To continually evaluate service efficiency and effectiveness based upon selected performance indicators; and consider new services and innovative methods of service delivery to continually upgrade the system.

Objectives

Continually monitor and evaluate both overall system and individual route performance. This should be accomplished by the application of the "Service Standards" developed as part of this Transit Development Plan. Performance should be reviewed quarterly for evaluation on a trip, route and system basis.

The financial and productivity measures developed as part of the Service Standards for the City of Rochester's public transit system should be utilized to develop a ranking of individual bus routes in terms of these measures.

As per the service standards, the bus routes will fall into a tripartite ranking (i.e., “successful”, “acceptable” and “unacceptable”). The bus routes which are considered successful and those which are considered unacceptable in terms of the productivity measures will be reviewed annually to determine the activities which are most successful and those which must be improved.

The Citizen’s Advisory Committee on Transit should receive periodic reports to monitor transit performance and to develop policy and financing recommendations for the Common Council.

Use innovative methods, services, ITS, etc. Evaluate conversion to higher level services including BRT to meet anticipated development and increases in ridership. Evaluate new on-demand services for special circumstances including Uber, Lyft, and other similar services. Incorporate new software systems to consistently improve planning, operations, and service evaluation.

ZIPS Demand Responsive Service

Mission Statement

To provide an efficient, accessible demand responsive paratransit system for persons unable to use fixed route.

Statements of Goals and Objectives

Goal I

To provide a comprehensive demand responsive door-to-door paratransit system which meets the requirements of the Americans with Disabilities Act (ADA).

Objectives

Service design must provide the ability to meet the requirements of the ADA.

The requirements of the ADA will be utilized as a “base level” of service; where appropriate or necessary the ZIPS service will exceed the basic ADA minimum requirements.

Goal II

To continuously monitor the provision of ZIPS service by the private contractor.

Objectives

ZIPS service should be monitored by the City on an ongoing basis to ensure that all of the guidelines set forth in the “*Operating Policies and Guidelines*” booklet are adhered to as much as possible.

The City should recognize that the provision and monitoring of the ZIPS demand responsive service is critical for the eligible population who do not have any other method of transportation available to them; in many cases, this may include the inability to walk.

Goal III

To maximize the efficient and effective use of resources, as many passengers as possible should be encouraged to utilize the fixed route transit system whenever possible.

Objectives

Eligibility for use of the ZIPS demand responsive service must be monitored carefully. *The use of functional testing as part of the eligibility and certification process should be a part of the program.*

Whenever possible, people should be encouraged to utilize the fixed route transit system. This careful scrutiny of the eligibility requirements for ZIPS service will help ensure that those residents who require the service will be afforded the opportunity to do so in an efficient and effective manner.

Develop a travel training program to promote the use of the fixed route network by those who are able to do so and do not need to use the ZIPS system for all or some of their trips.

3 Community Assessment

The City of Rochester, situated along the Zumbro River in southeastern Minnesota, is the heart of Olmsted County and home to the Mayo Clinic, which is widely regarded as one of the world's leading medical research institutions. The city is located approximately 85 miles southeast of the Twin Cities, and it serves as the social and economic hub for the Rochester metropolitan statistical area (MSA), which consists of Dodge, Fillmore, Olmsted, and Wabasha Counties.

Within its 54.75 square mile area, the City of Rochester is largely comprised of urban and suburban land uses, surrounded by rural areas that are primarily used for agriculture. Regional transportation within the Rochester metro area is served by U.S. Highways 14, 52, and 63; Minnesota State Highway 30; and several Olmsted County highways, including Highway 22 (West Circle Drive). U.S. Highways 52 and 63 run concurrently through the city between South Broadway and 75th Street NW. U.S. Highway 14 runs concurrently with U.S. Highways 52/63 between the Apache Mall (near its crossing over the Zumbro River) and Civic Center Drive NW. Interstate 90 is located just south of Rochester with interchanges to both U.S. 52 and U.S. 63. These corridors provide the primary connections to the Twin Cities, northern and western Wisconsin and northern and eastern Iowa. Rochester is also located on the east-west freight railroad route connecting the Dakotas and Chicago.

Public transportation in the city is provided by Rochester Public Transit (RPT) under a contract with First Transit. The fixed route system consists of 40 weekday routes and eight Saturday routes, serving an area primarily within the Rochester corporate limits. No service is provided on Sundays. In addition to its fixed route service, RPT operates the complementary demand responsive paratransit Zumbro Independent Passenger Service (ZIPS) for individuals unable to use the fixed route system due to a disability, as mandated by the Americans with Disabilities Act (ADA).

This chapter covers the following seven topics to understand social and economic trends in the communities served by RPT:

- Demographics
- socioeconomics
- employment
- commuting patterns
- land use
- future growth and development

Past, present and future population statistics are discussed in the demographics section, as are the concentrations of:

- youth and senior populations in the region.
- income
- poverty
- households without vehicles

In the third section, demographic and socioeconomic characteristics that are generally considered to be correlated to higher rates of transit usage are evaluated for the region in order to produce a map of

areas of potential transit success. Jobs, major employers, and unemployment are discussed in the employment section and means of transportation to work and place of employment are discussed in the commuting section. In the land use section, both land use and the location of major trip generators are described. Future growth is described based on projected land use changes through 2035.

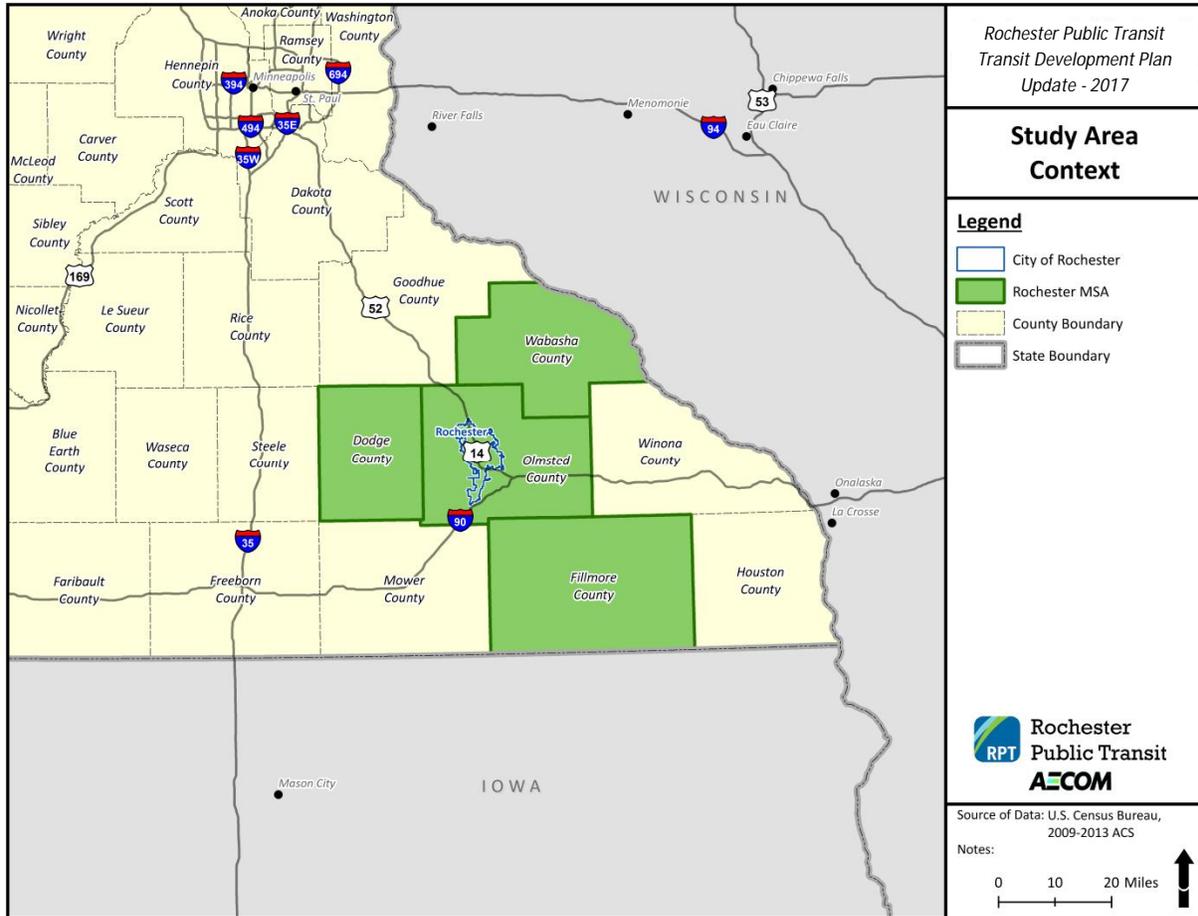
Generally, the most recent data available from multiple sources were used in this evaluation. The sources, noted in each figure and table, include the U.S. Census Bureau's American Community Survey (ACS), the U.S. Census Bureau's Longitudinal-Employer Household Dynamics Program (LEHD), the American Association of State Highway and Transportation Officials' (AASHTO's) Census Transportation Planning Products (CTPP), Rochester Area Economic Development Inc., and the State of Minnesota. Unless otherwise noted, maps present data at the Census block groups unit of analysis.

3.1 Socioeconomic and Land Use Characteristics

One of the key steps in the transit development planning process is assessing the socioeconomic characteristics of the study area to better understand population and development trends that may already be underway. To do this, it is advantageous to review past and projected conditions in an effort to explain historic changes to transit service as well as to justify adjustments to meet future transit needs. Data from the U.S. Census Bureau can provide valuable indications of which conditions are changing and where. Comparisons to the previous 2006 Transit Development Plan (TDP) are also provided for reference.

Figure 3-1 shows the study area, primarily comprised of the City of Rochester, its context within the MSA.

Figure 3-1: Study Area Context



3.1.1 Overall Population

According to the U.S. Census Bureau, the population of the City of Rochester increased by approximately 8% between 2009 and 2013, nearly double the statewide population growth rate of 4.4% over the same period. Furthermore, the Rochester Metropolitan Statistical Area (MSA), defined as Dodge, Fillmore, Olmsted, and Wabasha Counties³, grew by 3.3% during that time period, suggesting that the urban areas in the vicinity of Rochester are likely growing much faster than the outlying areas of the MSA.

The area's population growth is expected to continue over the next several decades, with Olmsted County projected to increase from a population of approximately 152,000 in 2015 to over 185,000 in 2045⁴, an increase of approximately 22%.

³ http://www2.census.gov/geo/maps/metroarea/stcbsa_pg/Feb2013/cbsa2013_MN.pdf

⁴ <http://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>

Table 3-1: Past, Present, and Projected Population

	2009 Population	2013 Population	% Change
City of Rochester	100,027	108,179	8.1%
Metropolitan Area*	201,886	208,641	3.3%

* Note: Fillmore County was added to the MSA in 2013 and is included in the 2009 value.

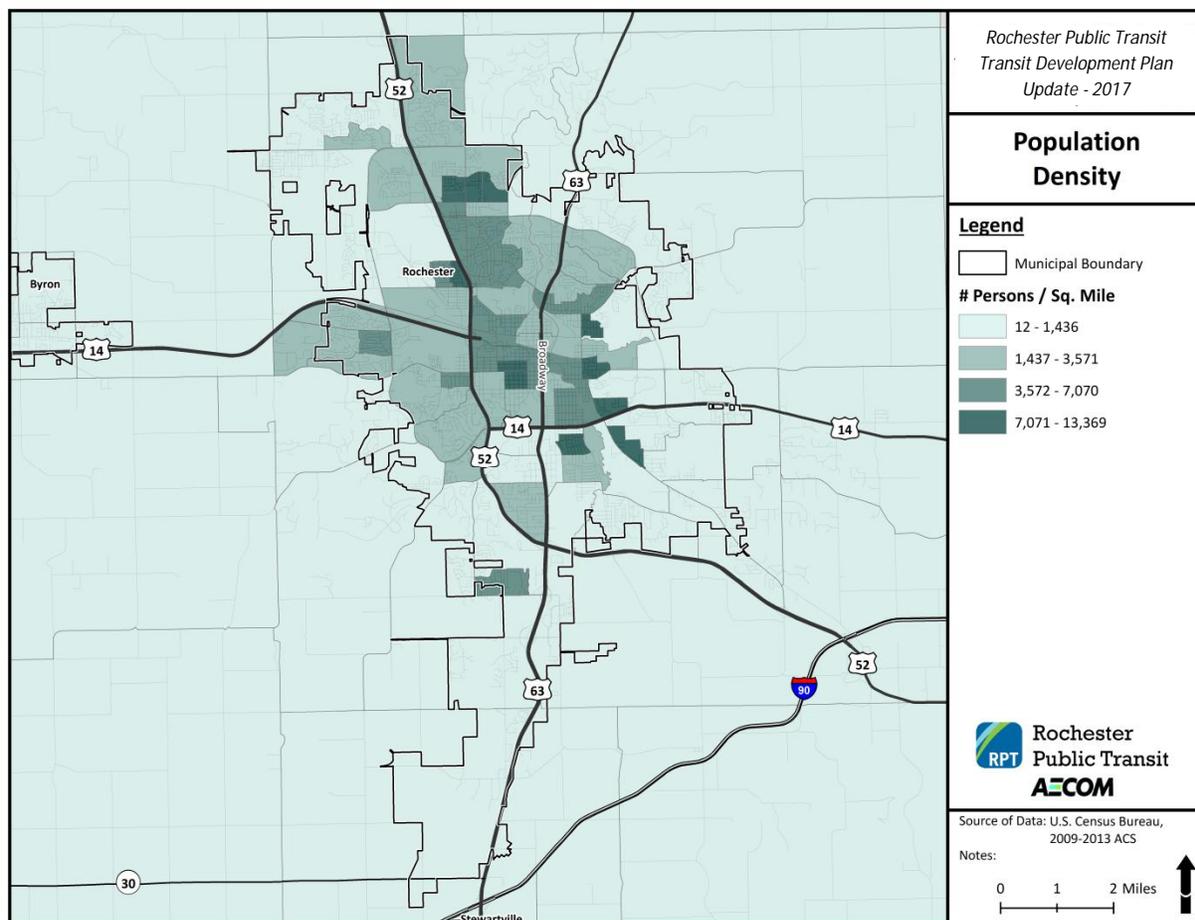
Source: U.S. Census Bureau, 2009-2013 / 2005-2009 5-Year American Community Surveys

3.1.2 Population Density

Observing the distribution of the population across a study area can also be particularly helpful in transit planning, allowing decision makers to consider how and where services can best meet the transportation needs of specific populations. Analyzing population density over time can often indicate areas of the community where populations may be growing or declining. While observing the distribution of the population in the community can be valuable, it is important to understand the limitations of such analyses. For example, population density can be misleading due to the composition of the landscape. People do not live in heavily forested areas; in wetlands or in lakes, but these areas are often not excluded when calculating the population density of a region. The figures presented in this chapter are general density figures because they use total land area per political designation, *not* only habitable land.

Since the previous study, the population density of Rochester has remained relatively constant at approximately 1,976 persons per square mile despite an increase in the city's land area. Figure 3-2 provides a picture of population density by Census block group for Census 2013 population figures. The population in the city is heavily concentrated between U.S. Highways 52/63 and Broadway and between Broadway and County Highway 22, along the eastern edge of the city. The block groups in these areas have experienced population growth since the previous study with the neighborhoods along County Highway 22 seeing the largest increase in density. Additionally, block groups along U.S. Highway 14 toward Byron increased in population density.

Figure 3-2: Population Density



Another key consideration in population distribution is age, which can directly impact mobility, especially for younger and older segments of the population. Senior community members often rely on transit for their transportation needs when driving may become difficult due to health concerns or income constraints. Additionally, youth under the age of 16 are ineligible to drive, making them dependent on others or on non-motorized modes, such as walking and biking, for their mobility. Once youth turn 16, limited incomes often restrict their ability to own and maintain a vehicle. Identifying where these populations are concentrated can indicate areas of potential transit demand.

3.1.3 Senior Citizen Population

Senior citizens are often one of the most reliable user groups of public transit, due to lower mobility than their younger counterparts. Table 3-2 notes the population of seniors in the City of Rochester, and how it has changed in recent years. Within the City of Rochester, senior citizens make up 13% of the population, an increase from the previous study. Since 2009, the number of seniors in the City has increased by approximately 16%. In fact, the senior population of Olmsted County is projected to increase from approximately 22,000 in 2015 to 47,000 in 2045, at which point they will make up

approximately 25% of the population⁵, suggesting this trend is likely to continue for the foreseeable future.

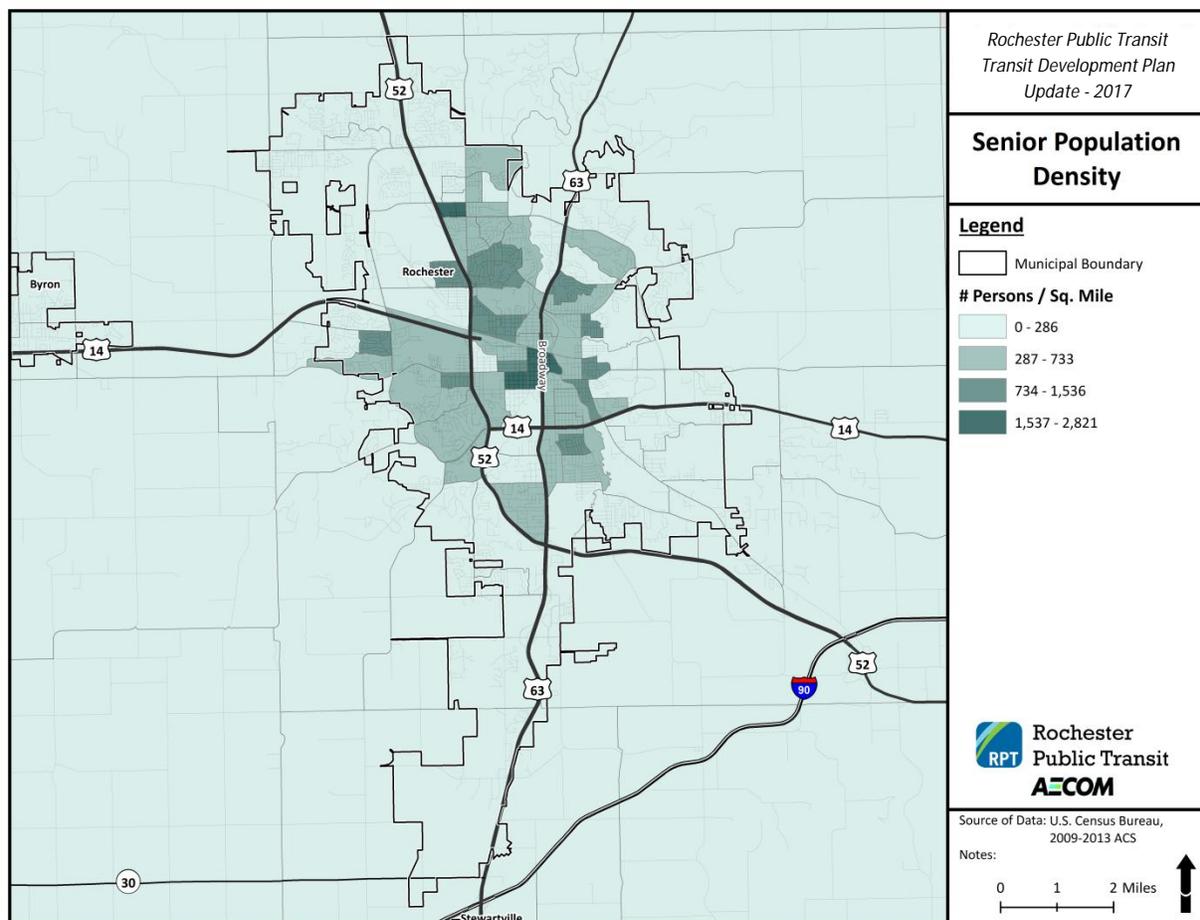
Table 3-2: Senior Citizen Population

Town	2013 Seniors (65 & Up)	% Seniors	2009 Seniors (65 & Up)	% Seniors
Rochester	14,169	13.1%	12,143	12.1%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Figure 3-3 indicates that the senior population density of Rochester largely mirrors that of the overall population, with a majority of seniors living slightly closer to the urban core around downtown and the Mayo Clinic. Similar to the overall changes in density, the areas that experienced growth in their overall populations also saw noticeable growth in the density of the population age 65 and older. However, the distribution of the senior population remains relatively unchanged since the previous study.

Figure 3-3: Senior Citizen Population Density



⁵ <http://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>

3.1.4 Youth Population

Persons under the age of 18 often represent heavy transit users, as most are unable to drive themselves, and those over age 16 may not own their own vehicles. Table 3-3 shows the total youth population in the City of Rochester. In 2013, the City of Rochester was home to approximately 29,000 youths, which represents 27% of its overall population. Though the youth population overall has grown, this percentage has remained relatively unchanged since the previous study (25.8%).

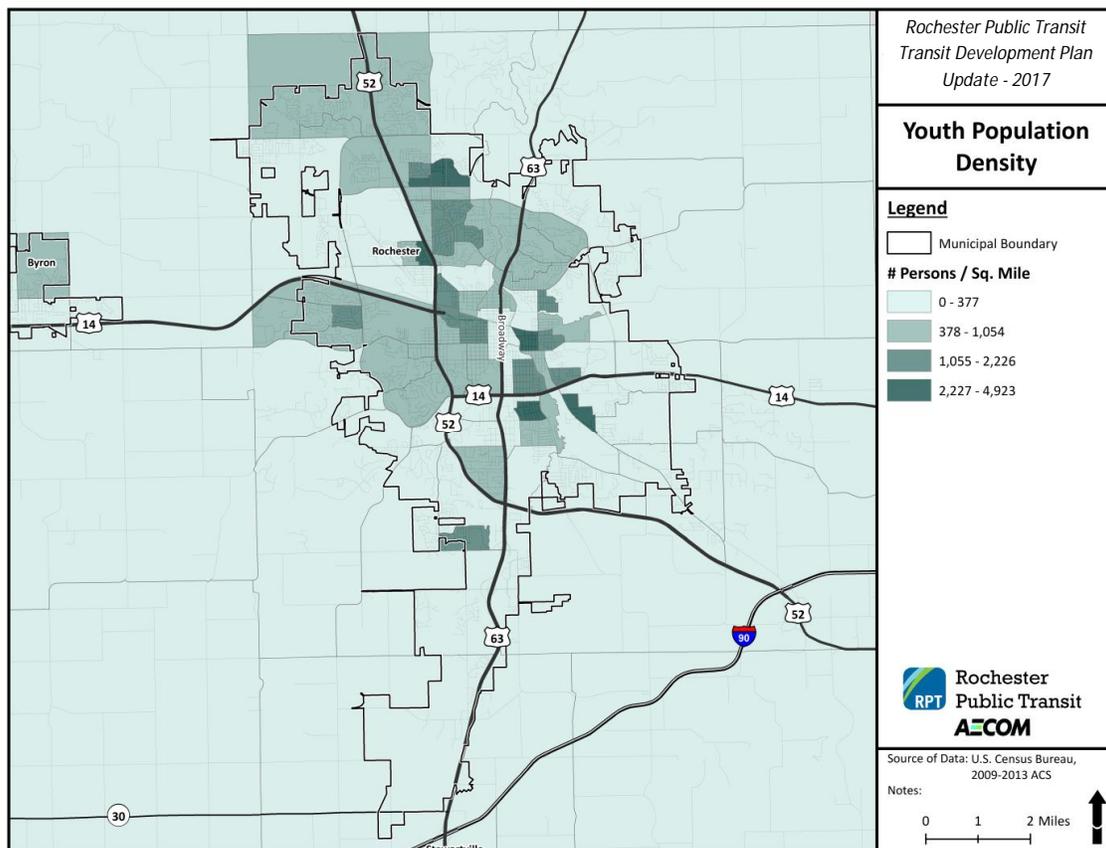
Table 3-3: Youth Population

	2009 Youths (under 18)	% Youths	2013 Youths (under 18)	% Youths
Rochester	26,692	24.7%	28,991	26.8%

Source: U.S. Census Bureau,
2009-2013 5-Year American Community Survey

As seen in Figure 3-4, the density of the area's youth population differs somewhat from the overall population density, with fewer youth residing in areas along Broadway and in the vicinity of the Mayo Clinic. However, a higher percentage of youth now live in urban areas of the city, whereas in 2003, the highest concentrations of youth were located in suburban neighborhoods.

Figure 3-4: Youth Population Density



3.1.5 Population with Disabilities

Another segment of the population with unique transportation needs and patterns includes persons with limited mobility due to a disability. Whether commuting to work, traveling to medical appointments, or accessing social services, people with disabilities have many transportation needs. Also, as a whole, fewer disabled persons possess drivers' licenses than the general population.

As seen in Table 3-4, the City of Rochester is home to approximately 9,100 people with disabilities, which represents 8.6% of the total population. These individuals may experience cognitive, hearing or vision impairments, or the inability to live independently. Of these persons with disabilities, approximately 4,500 (50%) were of working age and 48% were employed, leaving them with a significant need for reliable, regular transportation.

Of the 9,100 persons with disabilities, approximately 3,800 people in Rochester experience "ambulatory difficulties," which represents about 3.5% of the overall population. These individuals may experience difficulty in getting around on their own, and may rely heavily on alternative transportation services.

Table 3-4: Disabled Population (2009-2013)

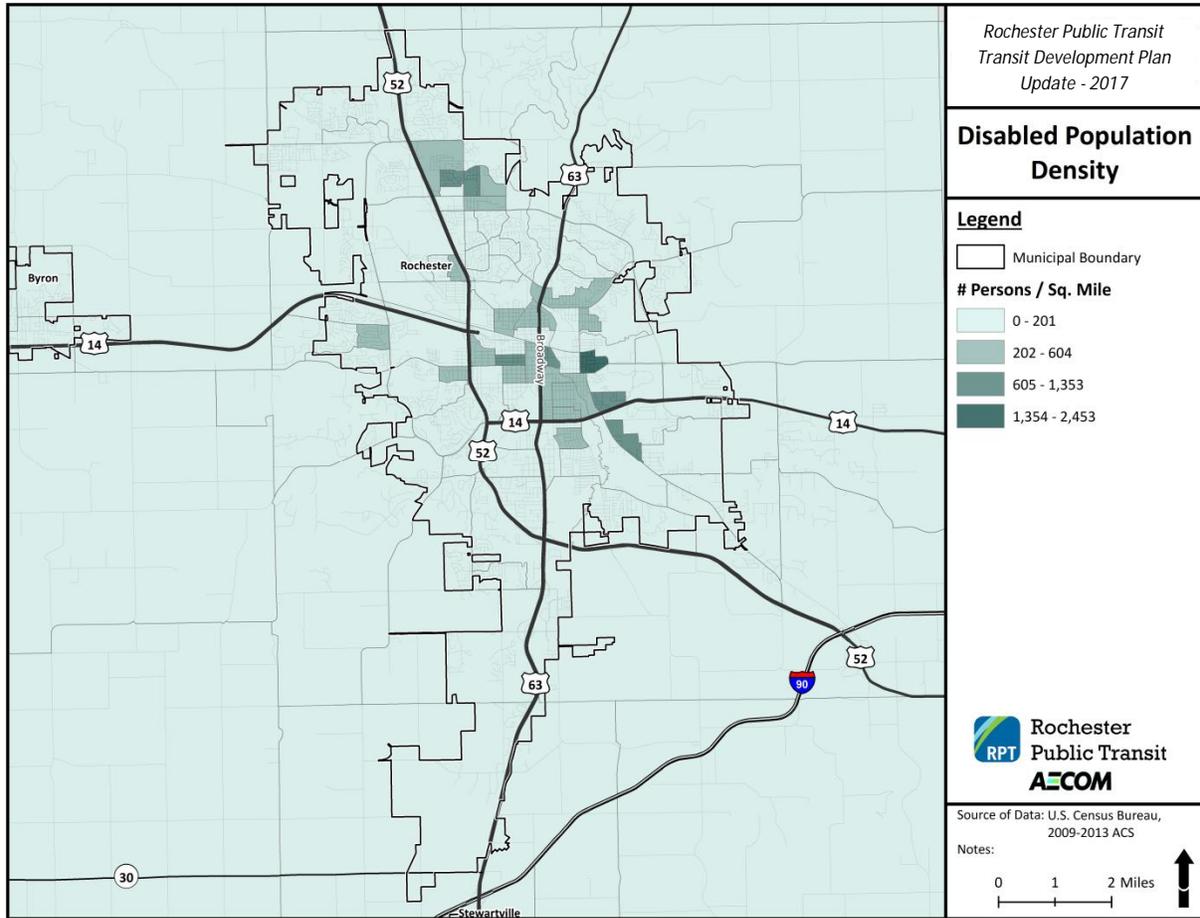
	Total Disabled	% Disabled	Work Age Disabled (18-64)	% Disabled Employed	Mobility Impaired	% Mobility Impaired
Rochester	9,114	8.6%	4,561	48.8%	3,770	3.5%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Figure 3-5 shows the geographic distribution of persons with disabilities. Persons with disabilities are concentrated in the areas east of Broadway and north of U.S. Highway 14. Census data suggest that a large percentage of the disabled population resides in institutional settings including the Rochester Adult Detention Center and FMC Rochester, an administrative security federal medical center⁶. An additional concentration of persons with disabilities includes the Oak Terrace mobile home park, located along County Highway 36 (Marion Road SE).

⁶ <http://www.bop.gov/locations/institutions/rch/>

Figure 3-5: Disabled Population Density



3.1.6 Income

Income is often a key determinant in the type of transportation used to commute. People with lower incomes are often more likely to use public transportation than people with higher incomes who can often afford private transportation options, such as a personal vehicle.

Median household income describes the average income of households within the study area. Table 3-5 shows the median household income for residents of the City of Rochester, which was \$62,575 in 2013. This is a slight decrease from the 2000 census, which reported a median household income of \$66,410.33 in 2013 inflation-adjusted dollars.

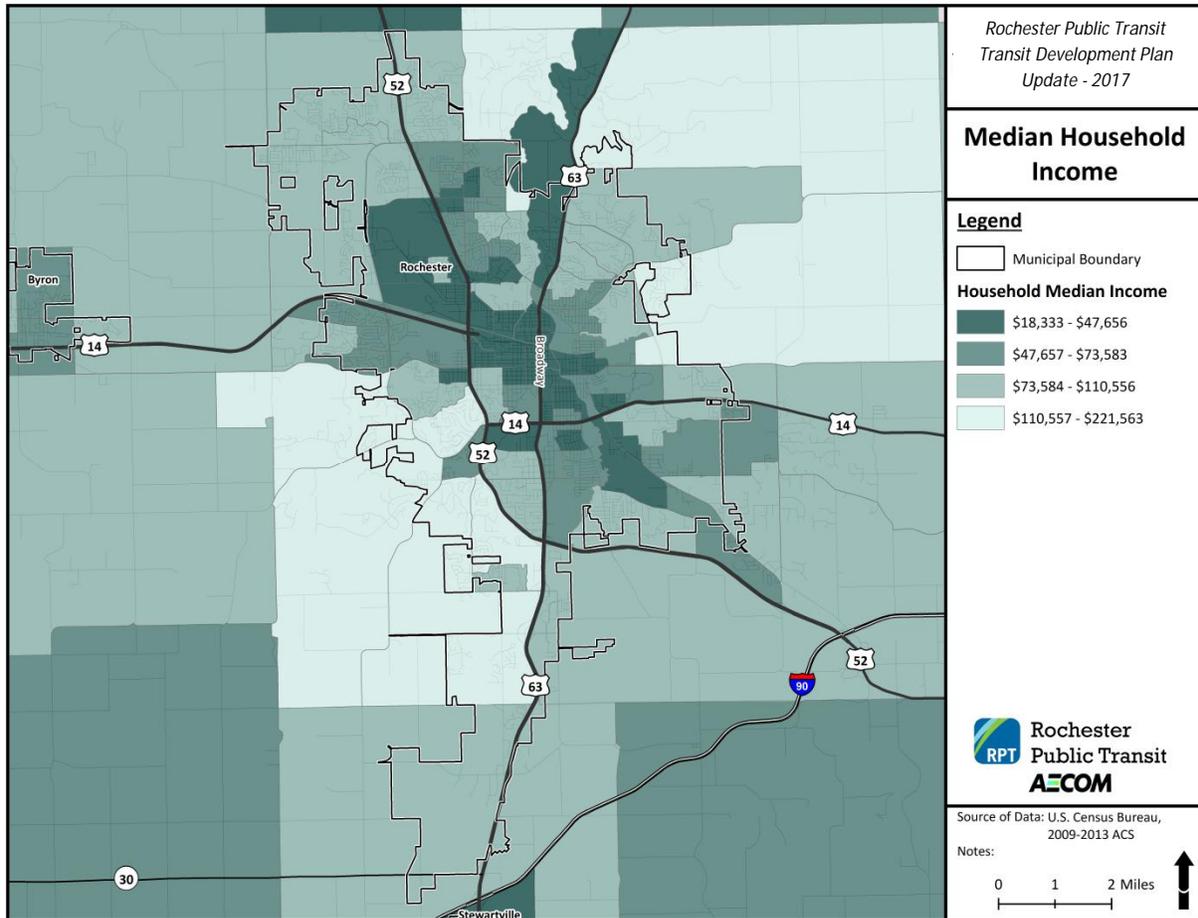
Table 3-5: Median Income (2009-2013)

	Median Household Income
Rochester	\$62,575

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Figure 3-6 shows median household incomes around Rochester and surrounding areas. Low household incomes are concentrated heavily in block groups around downtown Rochester and along virtually every major corridor. Since the previous study, it appears that household incomes have decreased in areas southwest of downtown and northeast of downtown, along U.S. Highway 63.

Figure 3-6: Median Household Income



Per capita income describes the average income of an individual living in the study area by dividing the total income of the population by the total population. Table 3-6 shows the estimated average per capita income for the City of Rochester, which was approximately \$33,000.

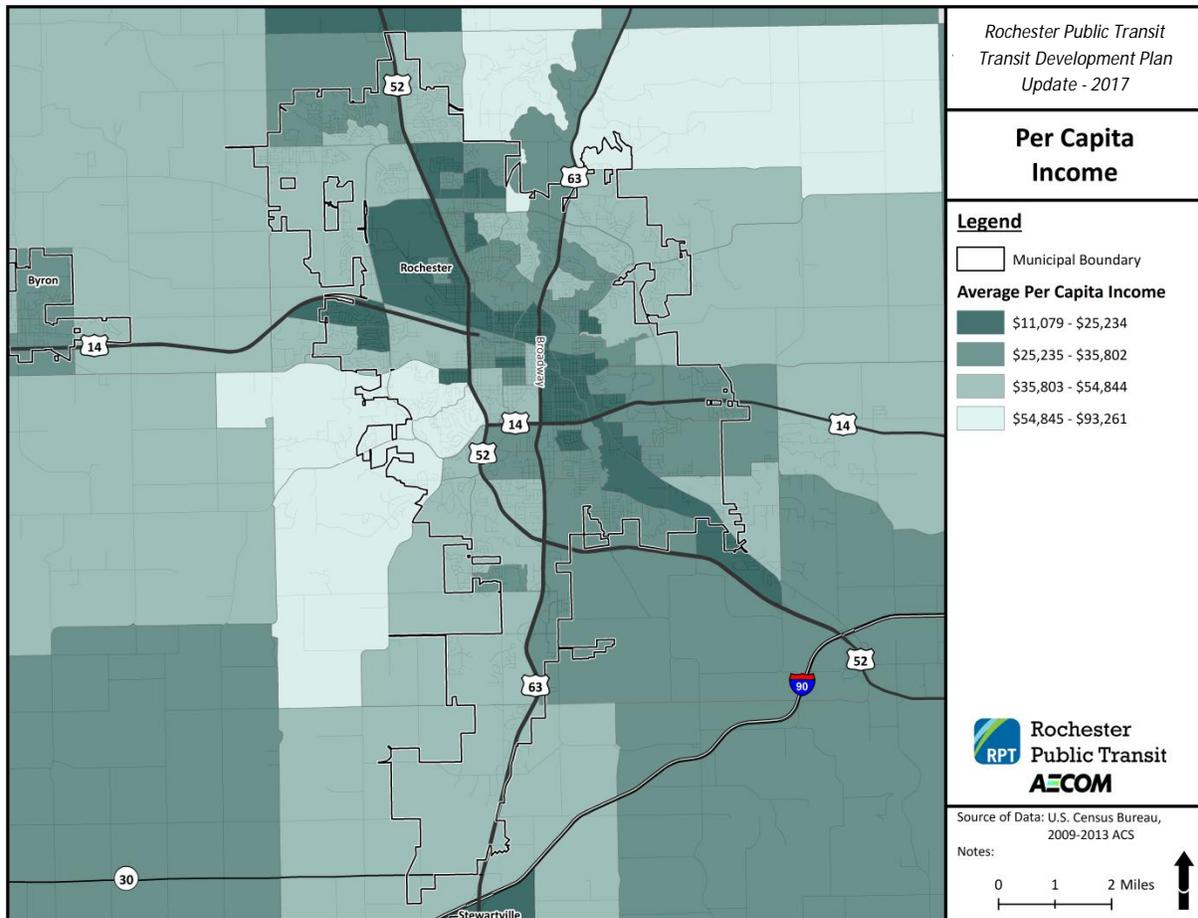
Table 3-6: Per Capita Income (2009-2013)

	Per Capita Income
Rochester	\$32,887

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Figure 3-7 maps per capita incomes throughout the region. The distribution of per capita income largely mirrors that of median household income. The figure provides additional nuance that may indicate areas where individuals and/or households may have considerable income constraints.

Figure 3-7: Per Capita Income



3.1.7 Population Living Below the Poverty Level

Poverty is defined as a certain income for individuals and families below which people are considered to be living in poverty. People living below the poverty level tend to rely more heavily on public transportation, as they may be unable to afford their own vehicle. Table 3-7 describes the U.S. Census Bureau poverty thresholds from 2013, to correlate with the 2013 estimated income figures. For an individual, persons with annual income lower than \$11,888 are considered to be living in poverty. For an average 4-person family with two kids, the poverty bar is set at \$23,624 for 2013.

Table 3-7: U.S. Census Bureau Poverty Thresholds (2013)

Size of family unit	Weighted Average Threshold	Related Children under 18 Years								
		None	One	Two	Three	Four	Five	Six	Seven	Eight or more
One person	\$11,888									
Under 65 years	\$12,119	\$12,119								
65 years and over	\$11,173	\$11,173								
Two persons	\$15,142									
Householder < 65	\$15,679	\$15,600	\$16,057							
Householder > 65	\$14,095	\$14,081	\$15,996							
Three persons	\$18,552	\$18,222	\$18,751	\$18,769						
Four persons	\$23,834	\$24,028	\$24,421	\$23,624	\$23,707					
Five persons	\$28,265	\$28,977	\$29,398	\$28,498	\$27,801	\$27,376				
Six persons	\$31,925	\$33,329	\$33,461	\$32,771	\$32,110	\$31,128	\$30,545			
Seven persons	\$36,384	\$38,349	\$38,588	\$37,763	\$37,187	\$36,115	\$34,865	\$33,493		
Eight persons	\$40,484	\$42,890	\$43,269	\$42,490	\$41,807	\$40,839	\$39,610	\$38,331	\$38,006	
Nine persons or more	\$48,065	\$51,594	\$51,844	\$51,154	\$50,575	\$49,625	\$48,317	\$47,134	\$46,842	\$45,037

Source: U.S. Census Bureau, 2013

Table 3-8 lists the number of people living below the poverty level in the City of Rochester in 2013 based on these thresholds, as well as the percentage of the population that these persons comprise. In 2013, there were an estimated 9,796 people living below the poverty level, or an estimated 9% of the population. This level has remained relatively steady since 2009, when 9% of the population was below the poverty level.

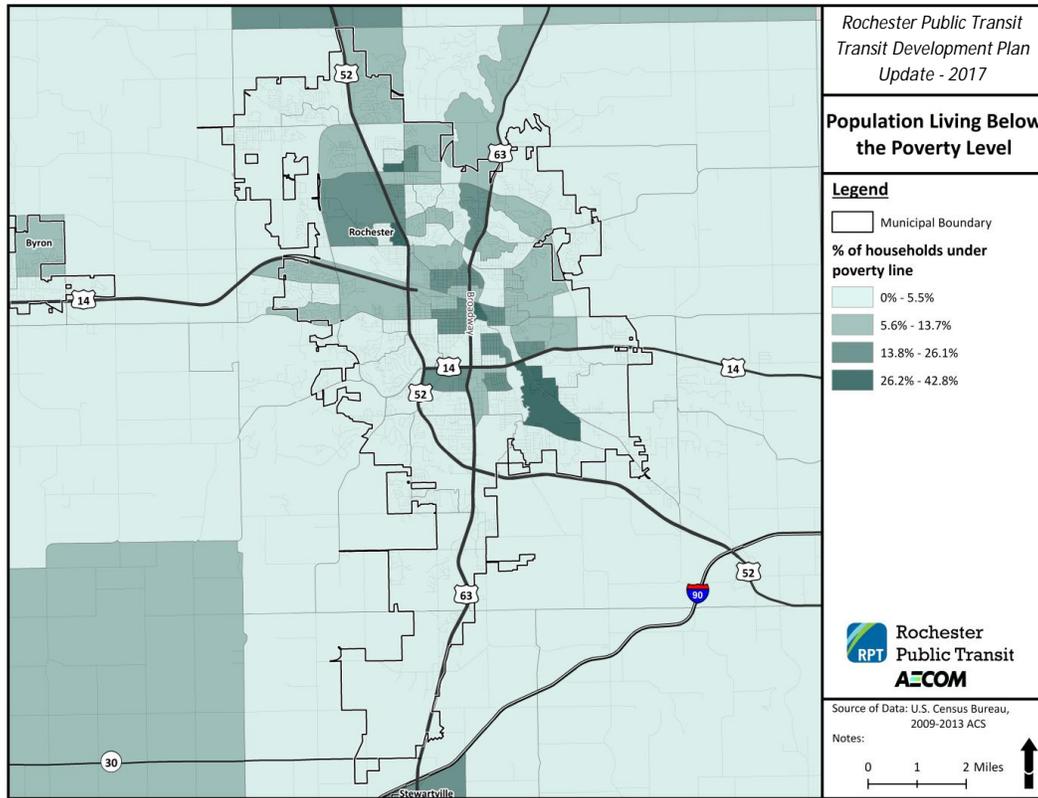
Table 3-8: Persons Living Below the Poverty Level (2009-2013)

	Below Poverty - Individuals	% Below Poverty Level
Rochester	9,796	9.3%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Figure 3-8 shows the percentage of the population living below the poverty level within Rochester. The largest concentrations of persons living below the poverty level can be found along County Highway 36 (Marion Road SE) and northward along U.S. Highway 63. An additional concentration of persons living in poverty resides between U.S. Highways 52/63 and County Highway 4 (Valleyhigh Drive NW).

Figure 3-8: Poverty Status



Demographic and socioeconomic characteristics of the local population, such as age and income, are important in determining the location and level of service for bus routes, but other behavioral characteristics, such as employment and commuting characteristics, are also essential to create a successful system. The next sections deal with the material and behavior characteristics of the people living in Rochester as well as a measure called the cumulative transit success score.

3.1.8 Zero Car Households

Another common measure of transit dependence and demand is the number of cars per household. Zero-car households are considered to be entirely dependent upon alternate transportation sources. Table 3-9 lists the number of households without vehicles available within the City of Rochester. In 2013, Rochester was home to 3,048 households that had no vehicle available to them, approximately 7% of all households in the city. This represents a slight increase from the same measure in 2010, when 6.6% of the city's households did not own vehicles.

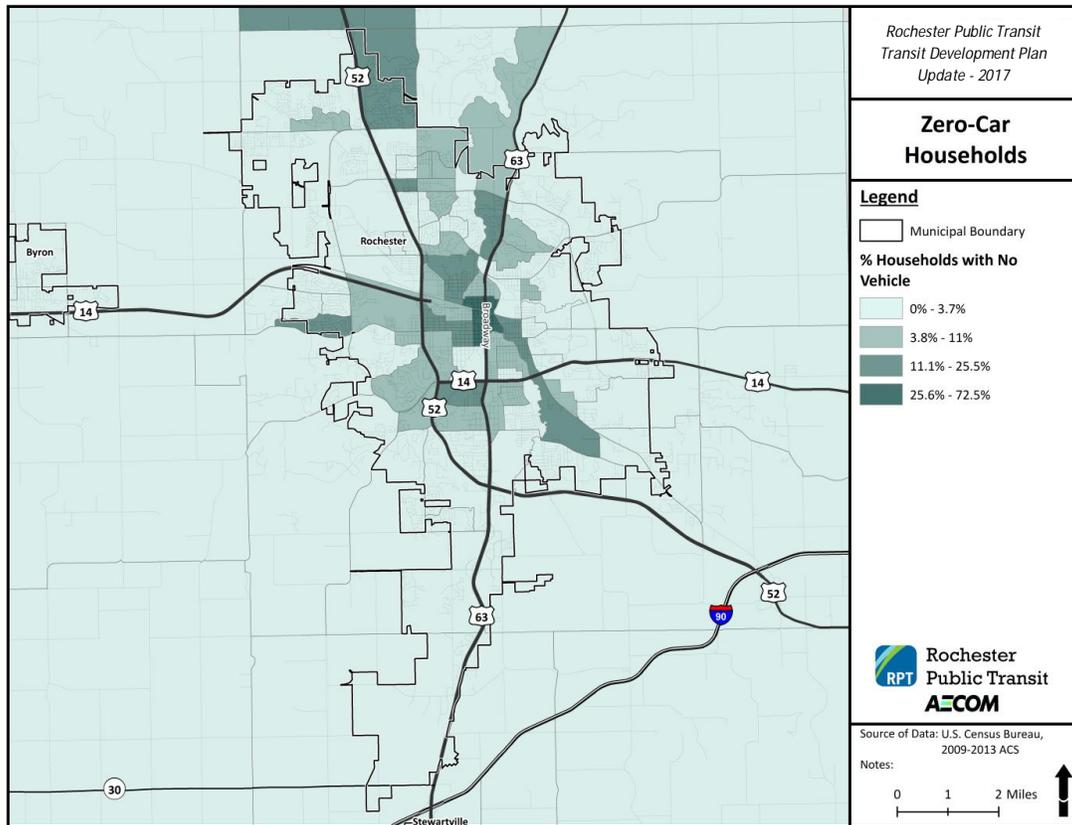
Table 3-9: Zero Car Households (2009-2013)

Town	Total # Households	Zero-Car Households	% Zero-Car Households
Rochester	43,226	3,048	7.1%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

As seen in Figure 3-9, the distribution of households without access to a personal vehicle mirrors that of persons living in poverty, with the exception of the neighborhoods located between U.S. Highways 52/63 and County Highway 4 (Valleyhigh Drive NW).

Figure 3-9: Zero-Car Households



3.1.9 Transit Success Score

The ‘transit score’ map is created in order to spatially analyze several transit-oriented demographic and socioeconomic characteristics at the same time (the characteristics previously discussed individually in this chapter). The transit score is a relative measure of how successful a fixed route transit system is expected to be in a particular area. Used in conjunction with a congruency analysis of major transit generators, the transit score can be used to evaluate existing service as well as to identify areas of potential demand.

Demographic and socioeconomic information is collected from the U.S. Census Bureau for a region divided into smaller geographic units such as tracts, block groups, or blocks. Block groups were used for this analysis. Transit-oriented variables used for the analysis include:

- Overall Population Density
- Density of the Population under the age of 18
- Density of the Population over the age of 65
- Density of Persons with Disabilities
- Median Household Income
- Per Capita Income

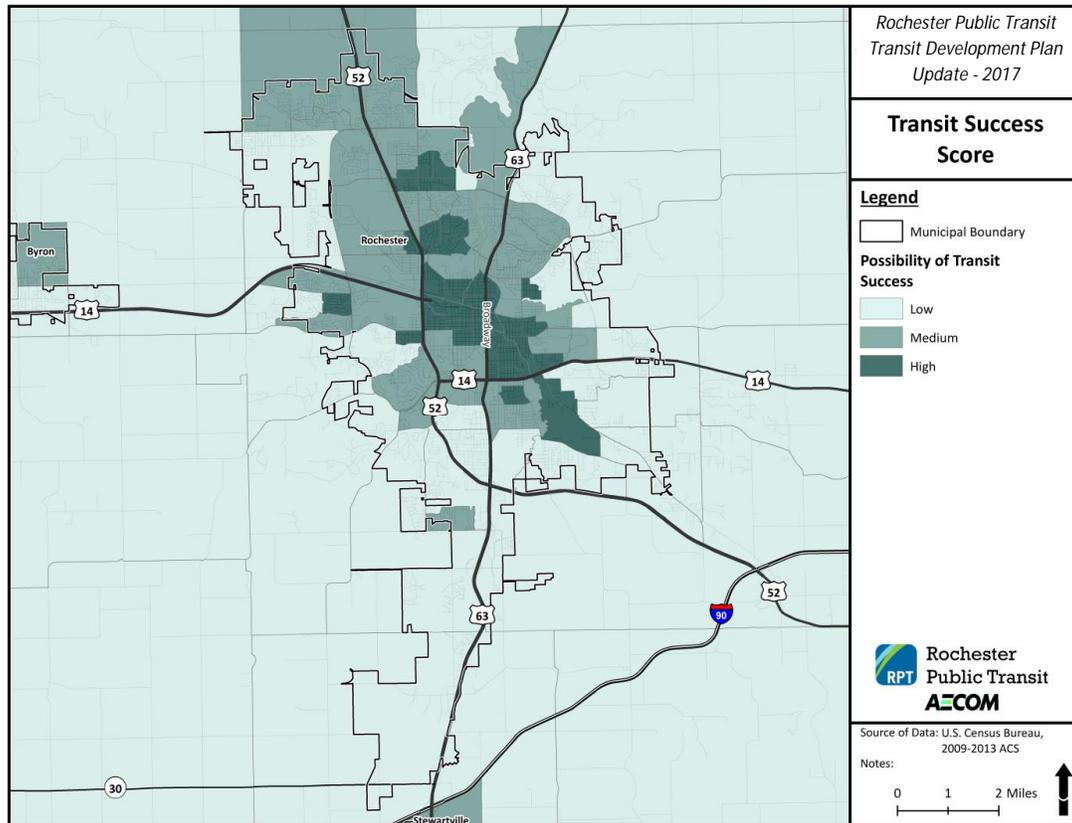
- Percentage of the Population Living Below the Poverty Level
- Percentage of Zero-Car Households

Each of these variables has a strong correlation with transit success. Transit is most often successful in areas of high population density and in areas with high youth and senior populations. Transit is also traditionally successful in areas with low household and per capita income, high percentages of people living below the poverty level, and high percentages of households without vehicles available.

For a given region, the values for each of these variables are organized by geographic unit. For each variable, the values are arranged into categories of values using the quantile classification method of GIS analysis. For this analysis, all variables are divided into three classes. All of the values in each category (class) are then given a 'score' between 1 and 3, where 1 is low expectation of success and 3 is high expectation of success. Then, all of the scores are added up for each variable inside a geographic unit to give a total transit score. Eight variables are evaluated, so a score close to 24 means that a geographic unit has a high expectation for transit success; a score close to 8 means that there is low expectation for transit success. Transit scores are then mapped by geographic unit and quantile classification to show where demographic and socioeconomic variables lend themselves to potential transit success.

Figure 3-10 maps the probability of transit success for the City of Rochester and its surrounding areas. The highest probabilities of transit success exist in the urban core extending eastward from U.S. Highways 52/63 and along County Highway 36 (Marion Road SE). Since the previous study, additional areas of medium to high transit success may include neighborhoods north of downtown along and between U.S. Highways 52 and 63. Population growth and increased population densities since the previous study also indicate that the areas near and outside Rochester's city limits are becoming more urban in nature. As these areas urbanize, residents may require additional transportation options, such as public transit, to access employment centers downtown. These major employers and other trip generators are discussed in the following sections.

Figure 3-10: Transit Success Score



3.2 Employment

The trip to work is often the most frequent trip taken by many people. Therefore, employment characteristics are important factors in transportation and transit discussions. Large employers are commonly destinations for significant numbers of people, which make them important to transit service. This section looks both at workers residing in the Rochester area (i.e., labor force) and workers employed in the Rochester area (i.e., employees/jobs). In a subsequent section, both of these groups are compared with regard to means of transportation to work.

The following sections use data from three primary sources: the U.S. Census Bureau’s American Community Survey (ACS) (2009-2013 5-year estimate), the U.S. Census Bureau’s Longitudinal-Employer Household Dynamics Program (LEHD) (2011), and the AASHTO’s Census Transportation Planning Products (CTPP) (2006-2010). It is important to note that each of these datasets come with certain caveats and limitations. For example, while the ACS data are available at the smaller block group geography, they have a relatively high margin of error and cover topics as reported by residents (i.e., by where people live). Conversely, LEHD uses administrative records from employers; however, it excludes some employment categories (e.g., self-employed, military, et cetera). The CTPP dataset is a specially-designed database based on ACS data to analyze work-residence transportation flows, but it is updated less frequently than the annual ACS data and its smallest available geography is census tract or zip code.

Workers

Table 3-10 shows the number of workers in the City of Rochester’s labor force. Just over 84,000 of the city’s working age (16 years and over) residents were employed in 2013. Since 2010, the number of workers in the city has grown overall by 3.6%.

Table 3-10: Workers and Unemployment Rate

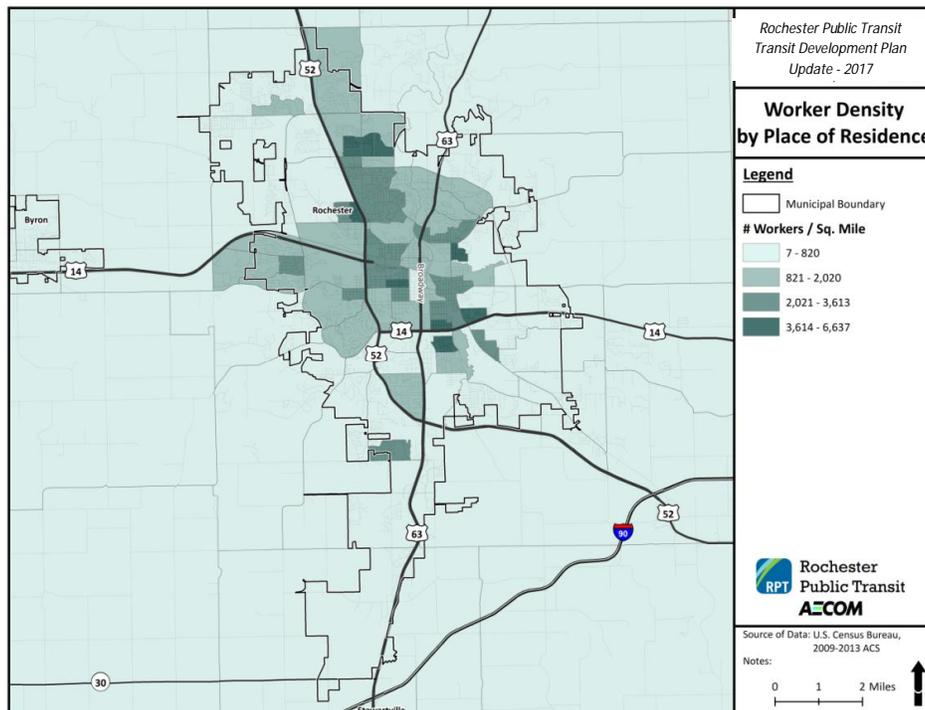
	# Workers (labor force)	% Unemployed
Rochester	57,606	4.4%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

In addition to those employed in the labor force, it is also important to consider those who are unemployed. People who are compensated for being unemployed by the federal government have to make an active attempt to find employment. In order to go on job interviews and to the unemployment office on very low incomes, they often have to rely on public transportation. Table 3-10 lists the unemployment rate of resident workers in 2013. In Rochester, the unemployment rate was 4.4%, which has remained steady since 2010. This rate is comparable with that of Olmsted County (4.3% unemployed).

Figure 3-11 is a map of the distribution of where the labor force resides across the city. The distribution of the labor force mirrors that of the overall population with a majority of workers living between U.S. Highways 52/63 and Broadway and east of Broadway along U.S. Highway 14.

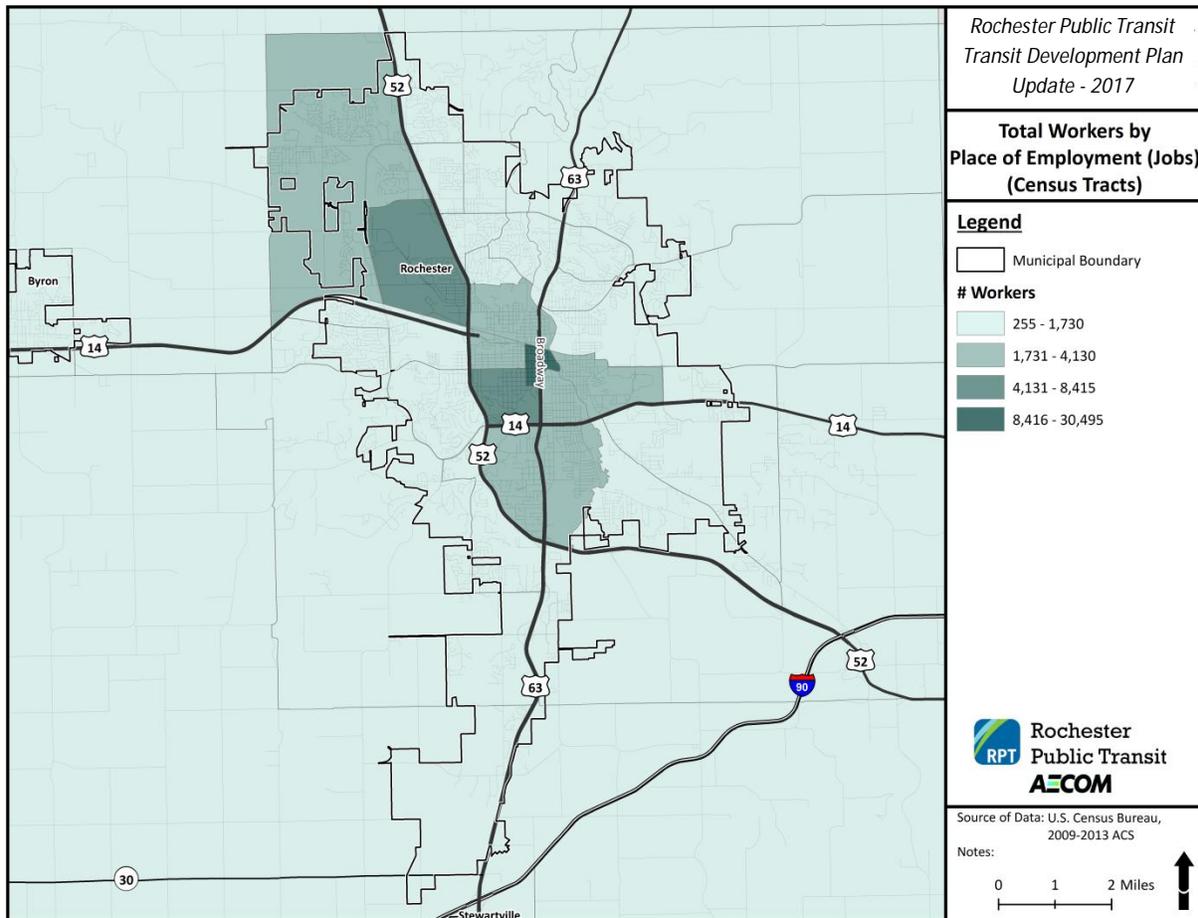
Figure 3-11: Worker Density by Place of Residence



Jobs

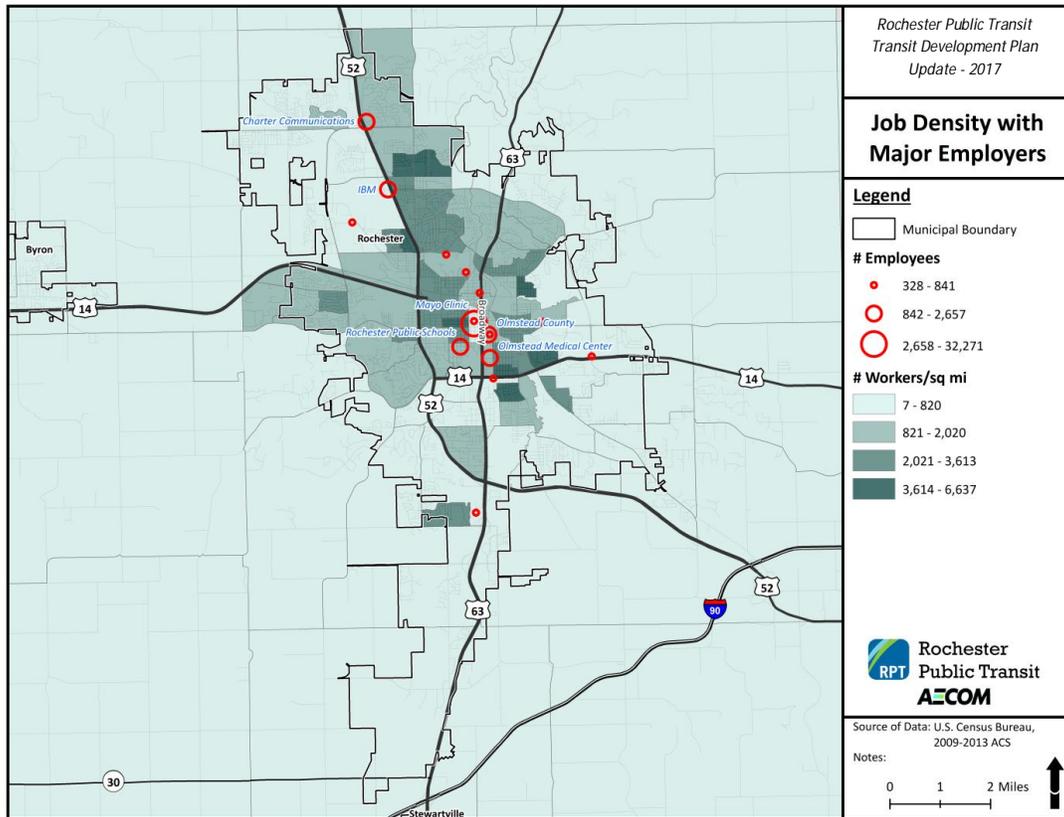
Figure 3-12 shows the distribution of workers in the area by place of employment (i.e., where workers are employed). The map depicts the total number of jobs located in each census tract, regardless of the size of the tract. While the figure shows that a large number of jobs are located in downtown Rochester, it also indicates a large number of jobs are located in the northwestern part of the city as well as immediately south of downtown.

Figure 3-12: Total Workers by Place of Employment



In order to view the distribution of jobs across the region, Figure 3-13 is a map of job density by block group. Figure 3-13 also includes the locations and sizes of the major employers in the region, which are discussed in greater detail subsequently. Jobs are concentrated in downtown Rochester in the vicinity of the medical centers and government institutions. An additional cluster continues northward along U.S. Highways 52/63, including a number of large employment centers such as IBM and Charter Communications.

Figure 3-13: Job Density



In addition to ACS data, the Census Bureau’s LEHD dataset, produced through the Local Employment Dynamics Partnership, provides more detailed information on workers and work locations based on employer administrative records. Figures 3-14 and 3-15 were created using the *OnTheMap* tool available on the Census Bureau’s website, with the City of Rochester as the area of analysis. Figure 3-14 shows the location of jobs (where workers are employed), and Figure 3-15 depicts where workers live (labor force). The data shown are from 2013.

According to the LEHD dataset, there were 84,694 workers in the study area in 2013. Of these, 44,012 (52%) also lived within the study area. For the total of the jobs in the study area, most workers were between the ages of 30 and 54 (56%). Earnings were relatively high within the area, with 54% of the workforce earning more than \$3,333 per month, 25% earning between \$1,251 and \$3,333 per month, and 21% earning less than \$1,250 monthly. The industry sectors (based on the North American Industry Classification System) with the highest percentage of workforce employed in the area included: Healthcare and Social Assistance (45%), Retail Trade (10%), and Manufacturing (10%). Of the 57,993 workers that reside in Rochester, but may work outside of the city, these trends also remain the same. The only noticeable difference is the industries with the highest percentage of workforce employed in the area included: Healthcare and Social Assistance (38%), Manufacturing (11%), and Retail Trade (10%).

Figure 3-14: Total Jobs by Place of Work

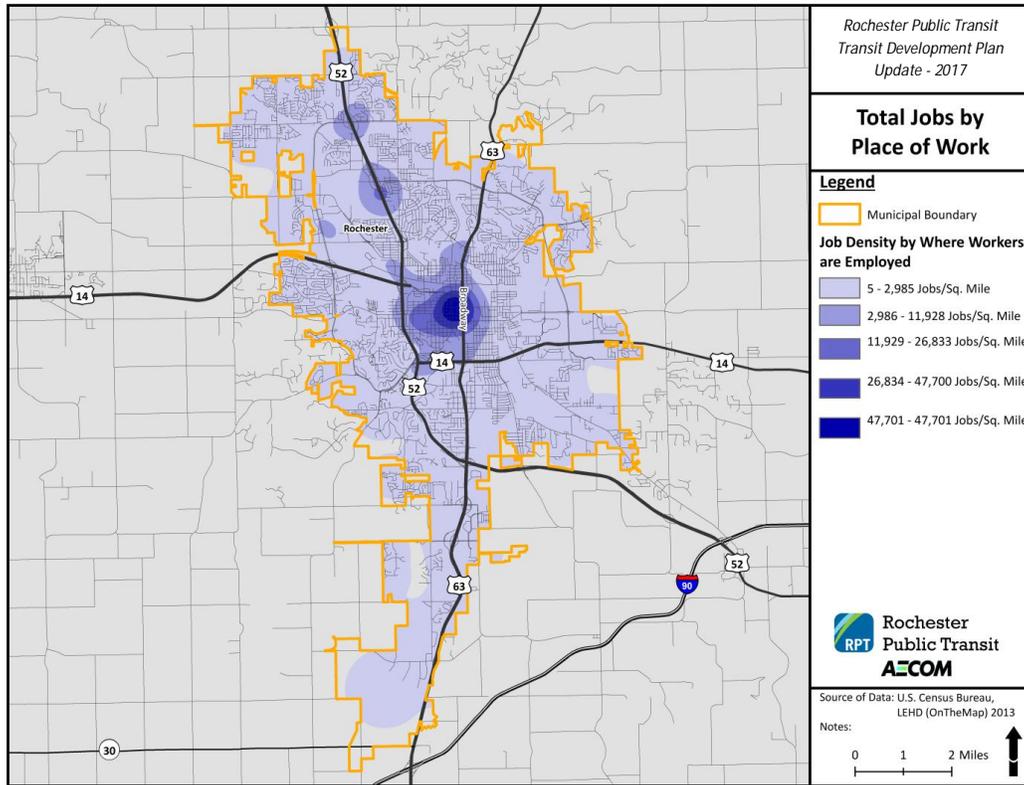
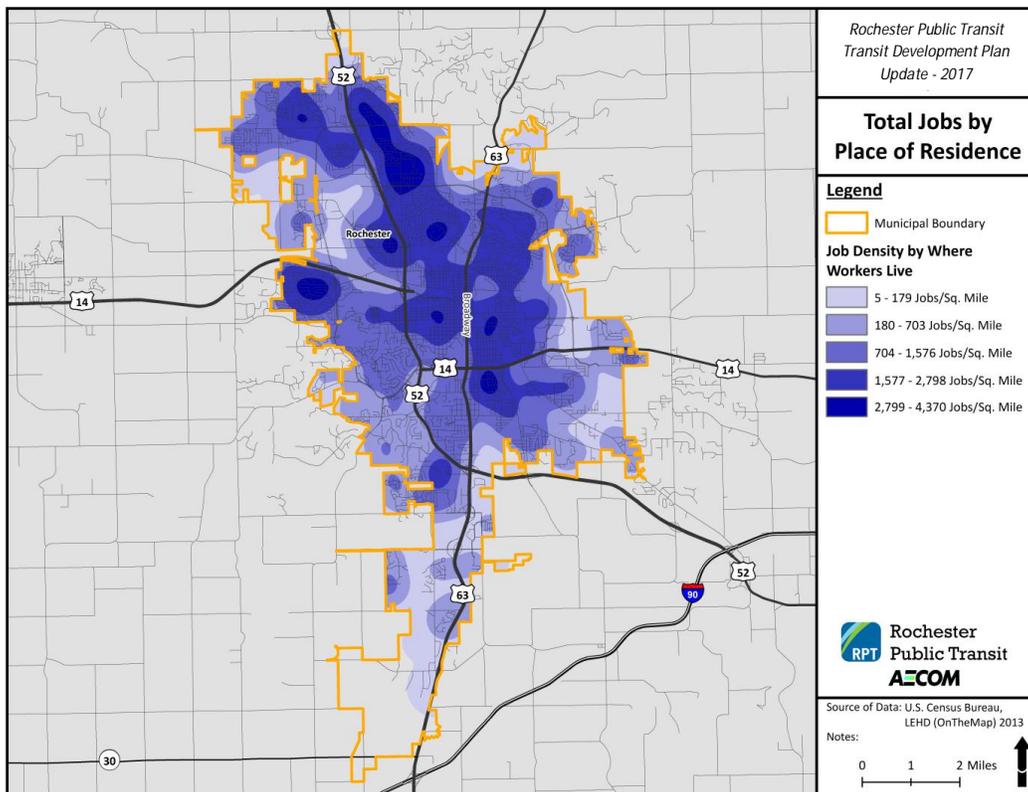


Figure 3-15: Total Jobs by Place of Residence



Inherently, many large employers are also major destinations for a significant number of people in the Rochester area, and in many cases a large number of people arrive and depart from these locations on a set schedule. According to the U.S. Bureau of Labor Statistics, at the beginning of fourth quarter in 2014, there were 111,226 employees in the Rochester MSA with 92,572 (83%) in Olmsted County alone.⁷ Table 3-11 includes a list of the largest of these employers in the area by industry and number of employees. The Mayo Clinic is by far the largest employer in the region, employing over 32,000 people, over ten times the number of any other single employer. As a result, much of the local economy revolves around this institution and its supporting services, with the single largest geographic cluster of jobs in the downtown Rochester area.

Table 3-11: Major Employers

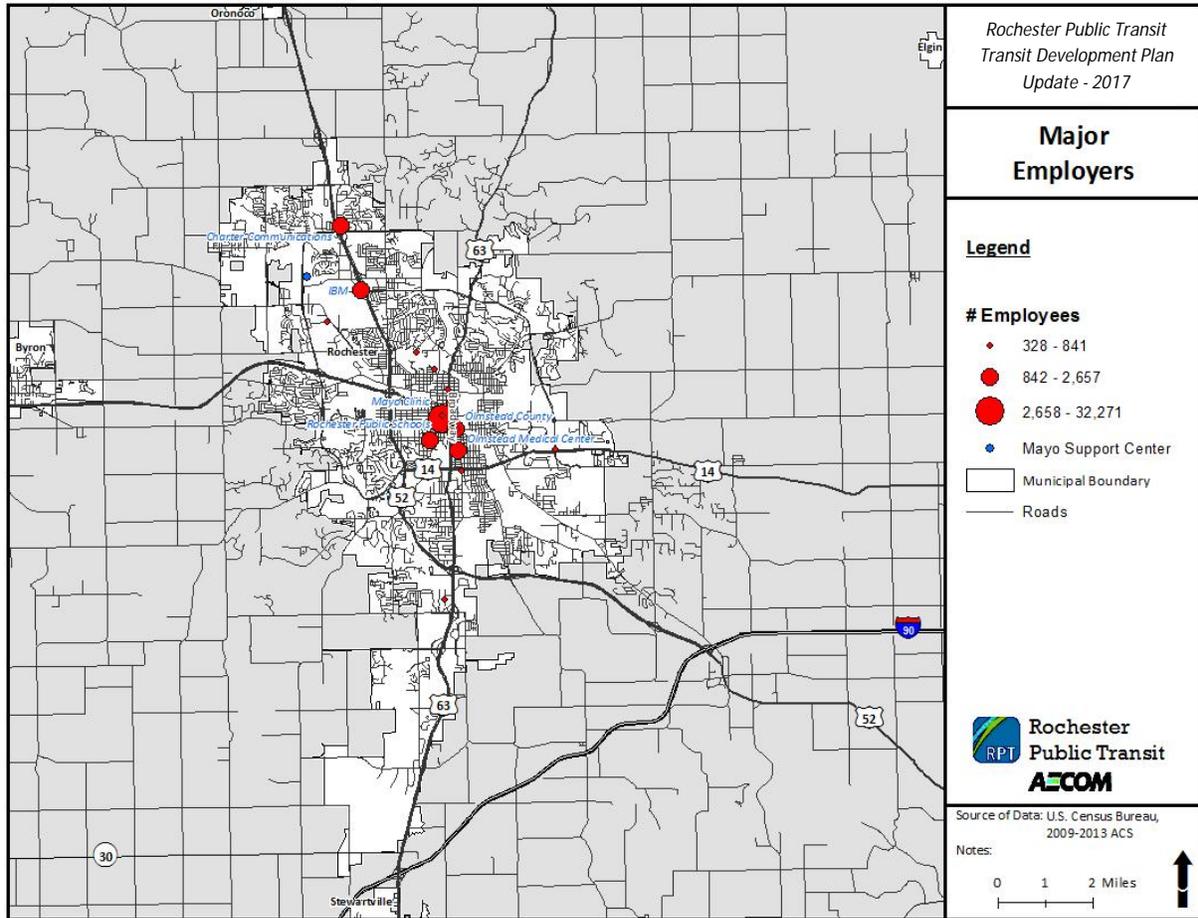
Employer	Industry	# Employees
Mayo Clinic	Medical/Health Care	32,271
Rochester Public Schools	Education	2,657
IBM	Electronics	2,300
Olmsted Medical Center	Medical/Health Care	1,339
Olmsted County	Government	1,217
Charter Communications	Television/Internet	1,061
McNeilus Truck & Manufacturing	Manufacturing	1,050
City of Rochester	Government	841
Crenlo	Manufacturing	701
Kahler Hospitality Group	Hotel/Restaurant Services	680
RCTC	Post-Secondary Education	500
Federal Medical Center	Corrections/Medical	450
Reichel Foods	Food & Snacks	450
Samaritan Bethany	Health Care	440
Hiawatha Homes	Assisted Living	403
Seneca Foods	Food Processing	400 (seasonal)
Benchmark Electronics	Manufacturing	396
Kemps	Food Processing	344
McNeilus Steel	Steel Fabrication	328

Source: Rochester Area Economic Development Inc., 2015, Rochester Post-Bulletin

Figure 3-16 shows the location of these major employers within the study area. A majority of these employers are concentrated in downtown Rochester and most are located along major transportation corridors.

⁷ http://www.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

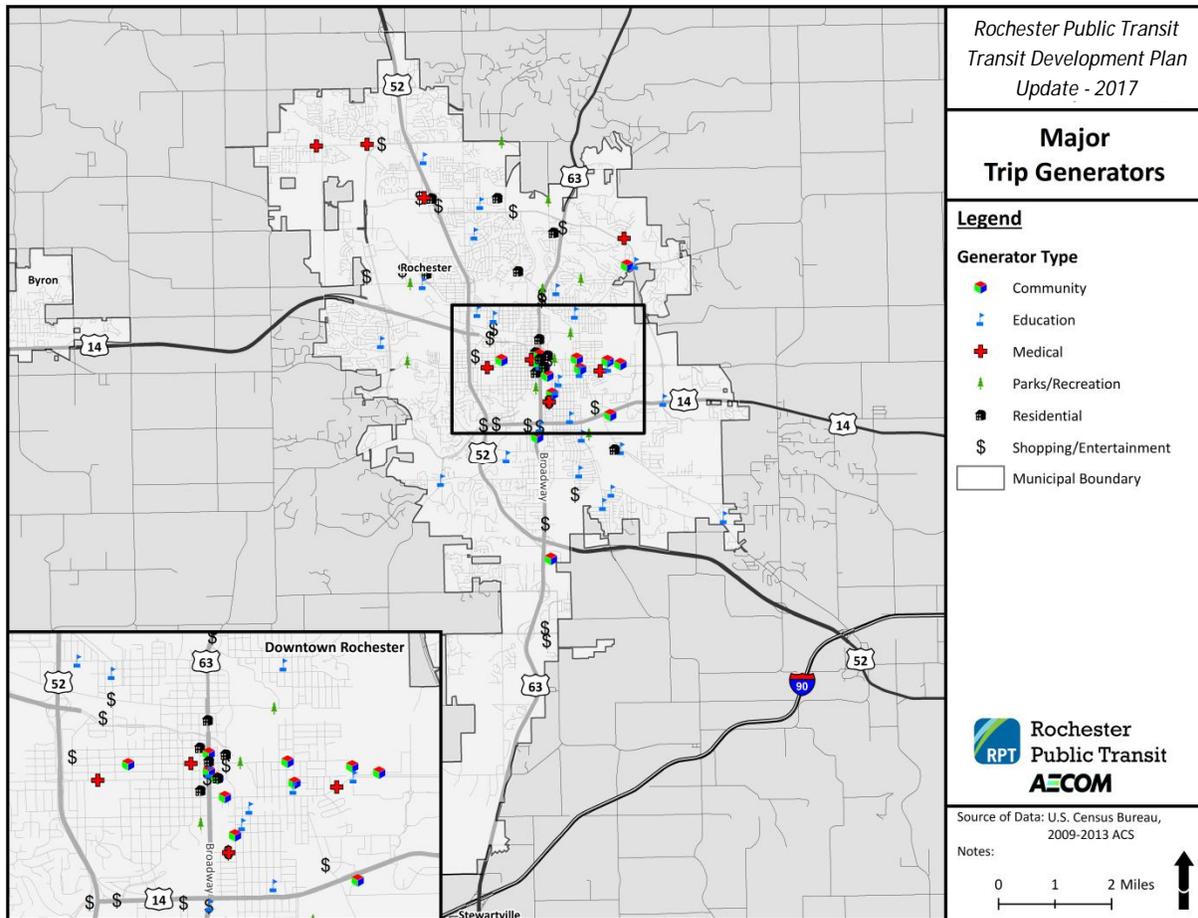
Figure 3-16: Major Employers



3.3 Major Trip Generators

In addition to employment centers, major trip generators are destinations visited frequently by large numbers of people travelling by a variety of modes. Common generators for transit include: healthcare facilities, schools and universities, shopping centers, and recreational areas (e.g., parks). Other generators include community centers and large residential communities (e.g., apartments, condominiums, and senior living centers). Figure 3-17 shows major trip generators in the City of Rochester. As seen in the figure, a majority of trip generators are located along primary highway corridors. As discussed later in this plan, it is important to consider these community resources when considering the transportation needs of the community and planning future transit development.

Figure 3-17: Major Trip Generators



Source: RPT

3.4 Commuting

The most frequent trips people typically make are those to and from work. How people make these trips is of great interest to transit service providers. As seen in Table 3-12 a majority of residents (employed in the labor force) in the City of Rochester commuted to and from work by driving alone in 2013, as they do in most of Minnesota and the rest of the country. Since the previous study, the percentage of workers using public transportation in the area has increased slightly, from 4.2% to 5%. This change may or may not be significant, but the slight increase, coupled with a slight reduction in the number of people driving alone to work (from 76.1% to 75.3%) could represent car commuters switching to public transportation.

These numbers were collected by the U.S. Census Bureau from employed Rochester residents, aged 16 and older. A slight discrepancy in the number of total workers between Table 2-10 and Table 2-12 may be due to the self-reported nature of the data (i.e. some residents who do not commute may not have answered the question.)

Table 3-12: Means of Transportation to Work

	# Workers (labor force)	Drove Alone	% Drove Alone	Carpool	% Carpool	Used Public Transportation	% Used Public Transportation
Rochester	56,616	42,608	75.3%	5,939	10.5%	2,839	5.0%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Figure 3-18 is a map of the percentage of resident workers who use public transportation as their means of transportation to work by residence block group. In Rochester, the percentage of Rochester residents commuting by bus is relatively evenly distributed with higher concentrations near downtown and along the U.S. Highway 14 and Broadway corridors. Some neighborhoods within walking distance of downtown Rochester show a lower percentage of residents commuting by bus, while areas further from downtown have higher percentages of bus commuters. Since the previous study, the percentage of residents commuting by bus has sharply increased particularly in long-established areas near downtown, but bus commuting appears to have increased in many outlying neighborhoods, as well— in some cases by more than double the percentage in 2000. This may be due to the implementation and restructuring of certain routes such as 4, 16, and 19.

Figure 3-18: Use of Public Transportation for Commuting (Labor Force)

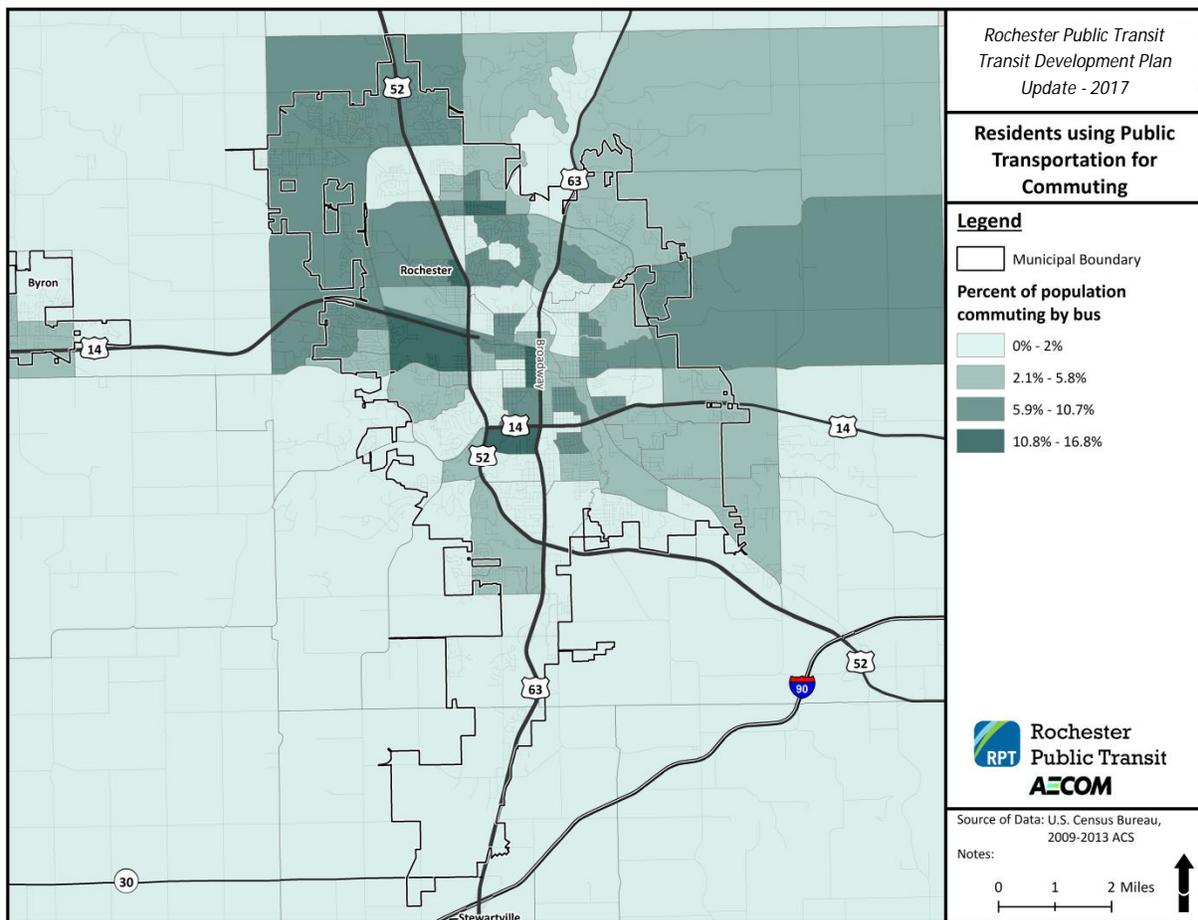
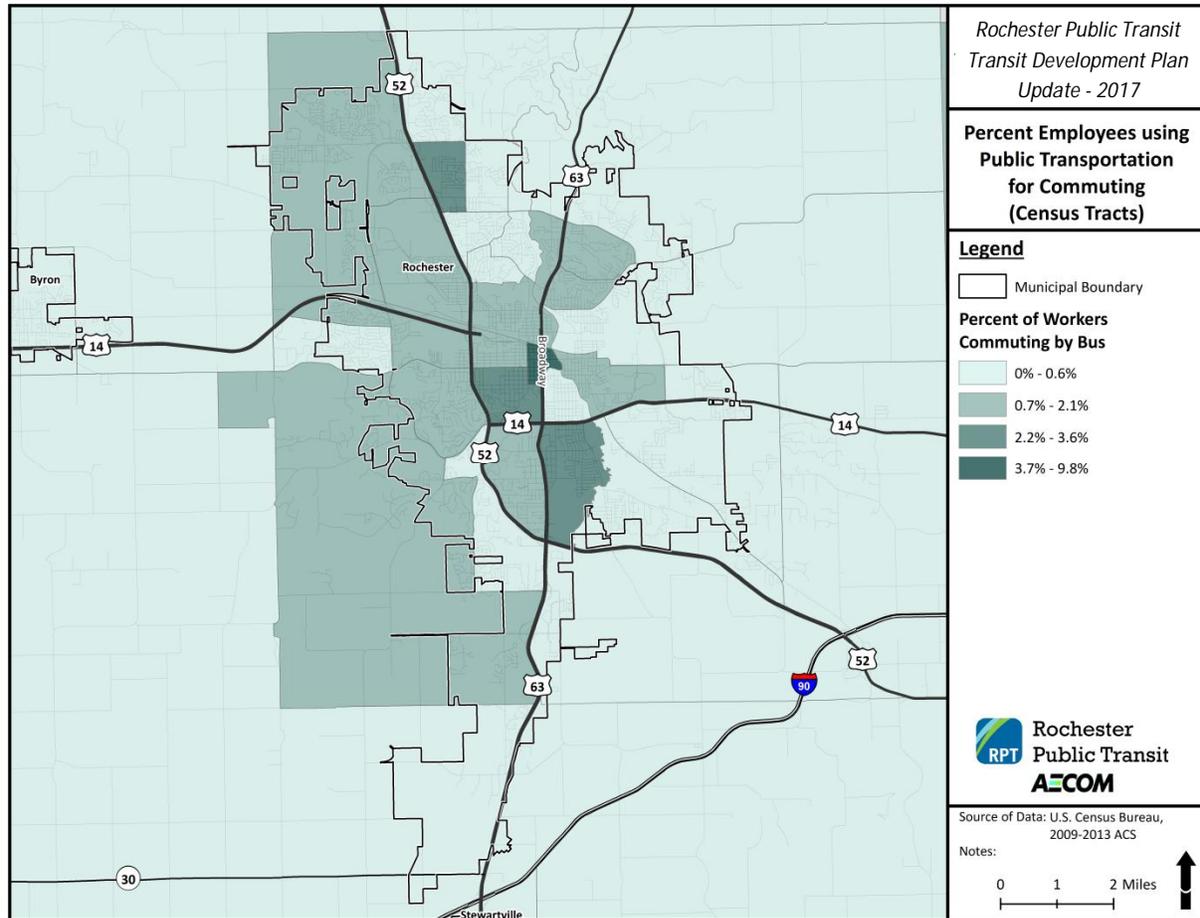


Figure 3-19 shows the percentage of employees (people working in Rochester) who use public transportation to commute by census tract. The highest percentages of employees commuting by bus appear to work in the Mayo Clinic area, followed by other areas of downtown Rochester and employment centers along U.S. Highway 52.

Figure 3-19: Use of Public Transportation for Commuting (Employees)



3.5 Land Use

Land use is used to describe where certain functions are performed throughout Rochester. Land use categories include: residential, recreational/open space, public, medical, commercial, central business district, and industrial. Single-family housing is the most prevalent land use. Rochester's urban core contains the central business district, various medical land uses, and a mix of single- and multi-family residential and commercial uses. Commercial uses can be found along the major highway corridors, as can several large industrial use areas, particularly northwest of downtown along U.S. Highways 52/63. There are also several parks spread throughout the region, including several along the Zumbro River. Office space and multi-family residences are also found in pockets, particularly around major highway interchange and intersections.

Future Growth and Development

In looking into the future of transit service in Rochester, it is important to understand where development will take place in order to plan for services, such as public transit, in new areas. The City of Rochester and Olmsted County have been working closely with one another and key stakeholders in developing the 2040 comprehensive plan update, which is currently under preparation. Current land use projections anticipate major growth in low-density residential in Rochester's suburban neighborhoods as well as several large-scale industrial and commercial developments along major highway corridors. Furthermore, plans such as the Downtown Rochester Master Plan and the Destination Medical Center (DMC) predict that substantial redevelopment opportunities will also present themselves in the near future.

Officially organized in 2013, the DMC represents a commitment made by the City of Rochester, State of Minnesota, the DMC Corporation, and other key partners to secure Rochester as a global medical center into the future. Through its economic development plan, the DMC aims to implement its vision in the following key development areas among 27 sites in the vicinity of Downtown Rochester:

- Livable City/Retail/Dining
- Sports, Recreation & Nature
- Hospitality/Convention
- Commercial Research and Technology
- Health and Wellness
- Learning environment
- Arts and Culture/Civic/Entertainment
- Transportation

Besides DMC Corporation plans, there are a number of other planned developments in Rochester. These include:

- A 62,000 square foot mixed-use development in the vicinity of Chateau Road NW between Villa Road NW and 55th Street NW
- 80 acres in the vicinity of Broadway South and 40th Street SW for a new Walmart Supercenter or Sam's Club
- A mixed use development near the intersection of 37th Street NW and East River Road
- A 60 acre mixed-use site near the intersection of 18th Avenue NW and 55th Street NW

3.6 Conclusion

More than a decade into the 21st Century, Rochester continues to be a regional economic hub and home to world-renowned medical research and innovation. As the Rochester area continues to prosper, population projections indicate that the city and its surrounding areas will become increasingly more urbanized, denser, and more socioeconomically diverse. Future growth in the region is projected for both population and for housing construction and commercial and industrial uses both within and surrounding Rochester. With historical data suggesting that public transportation use has substantially increased in the past decade, RPT will likely need to respond the growth patterns in the region and expand and change route structure as need dictates.

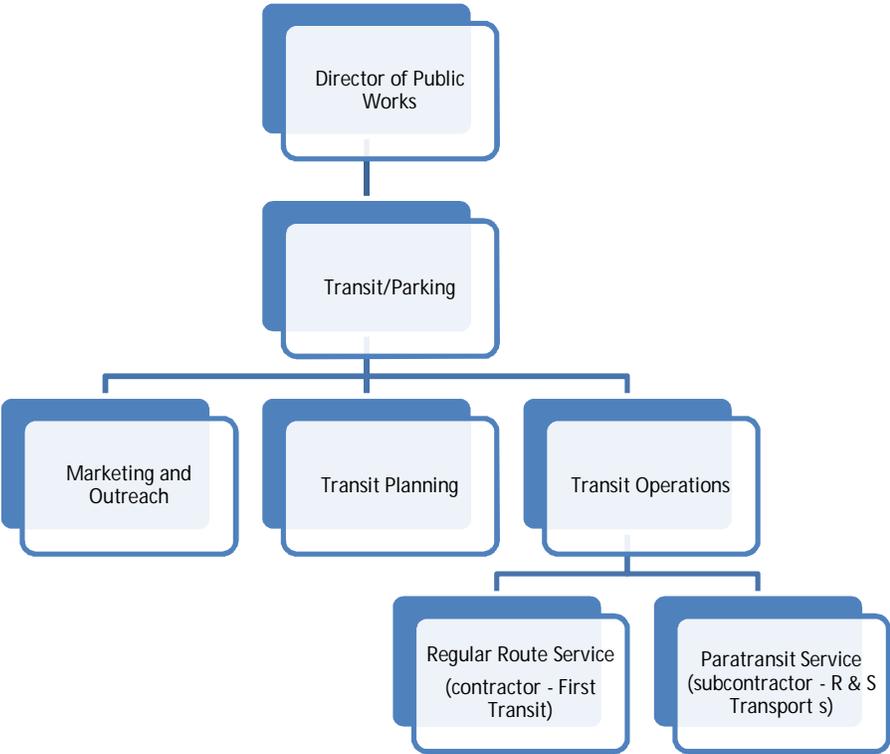
4 Transit Service Review

This chapter provides a review of existing transit service and a diagnostic of routes that informs recommendations for transit service in the Rochester metropolitan area. The existing conditions section details the current operations at Rochester Public Transit (RPT), financial and operating data and trends, capital assets, and staffing and organization. Following the existing conditions section is information regarding route diagnostics and service standards, including a route-by-route analysis of performance metrics and a critical comparison of RPT's performance regarding each service standard.

4.1 Rochester Public Transit Organizational Structure

Public Transportation service in Rochester is delivered through the City's Department of Public Works. Regular route service is provided by First Transit under contract to the City. For those unable to use the regular route service due to a disability, Zumbro Independent Passenger Service (ZIPS) has been established, and is operated, through subcontract, by R & S Transport Inc. The full organizational chart for Rochester Public Transit is presented in Figure 4-1. The organizational structure is analyzed in further detail in Chapter 14.

Figure 4-1: Organizational Chart



4.2 Service Description

The RPT service area includes the four quadrants of the City of Rochester; NW, NE, SW and SE. Generally, Broadway is the dividing line for east and west while Center Street is the dividing line for north and south. Within the region, RPT operates 40 fixed routes including 8 Saturday routes.

4.2.1 Fixed Route Service Description

Rochester Public Transit route service operates six days per week excluding major US holidays.

Figure 4-2 through 4-6 shows a map of the fixed routes. Figure 4-2 presents the peak period local bus network. Figure 4-3 presents the peak period "Direct" bus network that provides express service between park-and-ride lots and Downtown Rochester. Figure 4-4 presents the midday local bus network. The Saturday bus network is presented on Figure 4-5. Table 4-1 describes the operating characteristics for all routes within the Rochester route network. The system's main transit center is the Downtown Transit Center, which is served by every one of the 40 fixed routes.

Many routes operate at a greater frequency during peak periods than during the midday or evening periods.

Figure 4-2: Rochester Public Transit Peak Period Local Bus Route Network

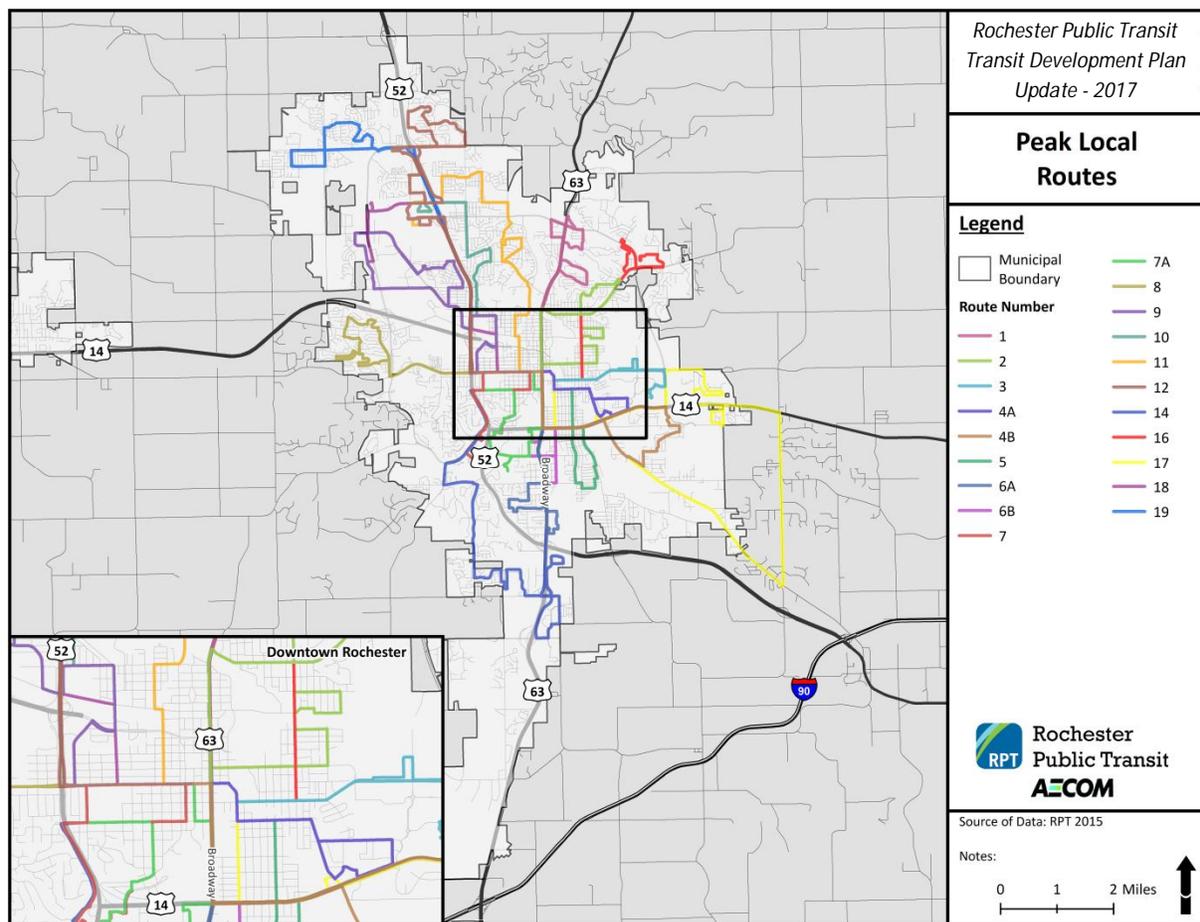


Figure 4-3: Rochester Public Transit Peak Period Direct Bus Route Network

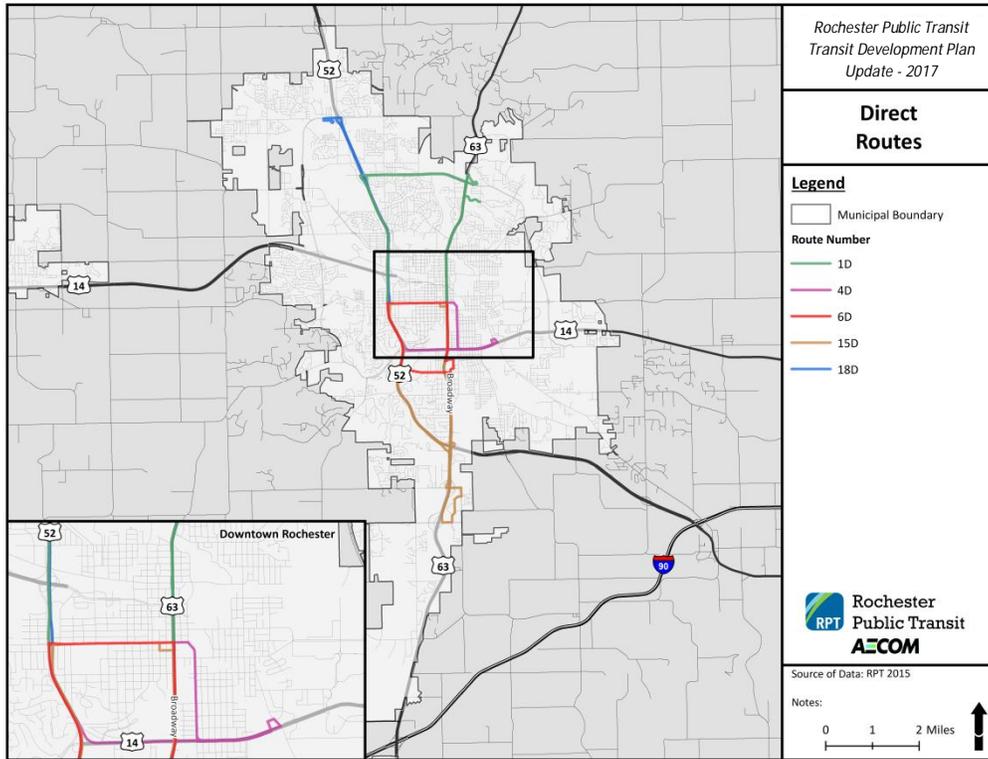


Figure 4-4: Rochester Public Transit Midday Bus Route Network

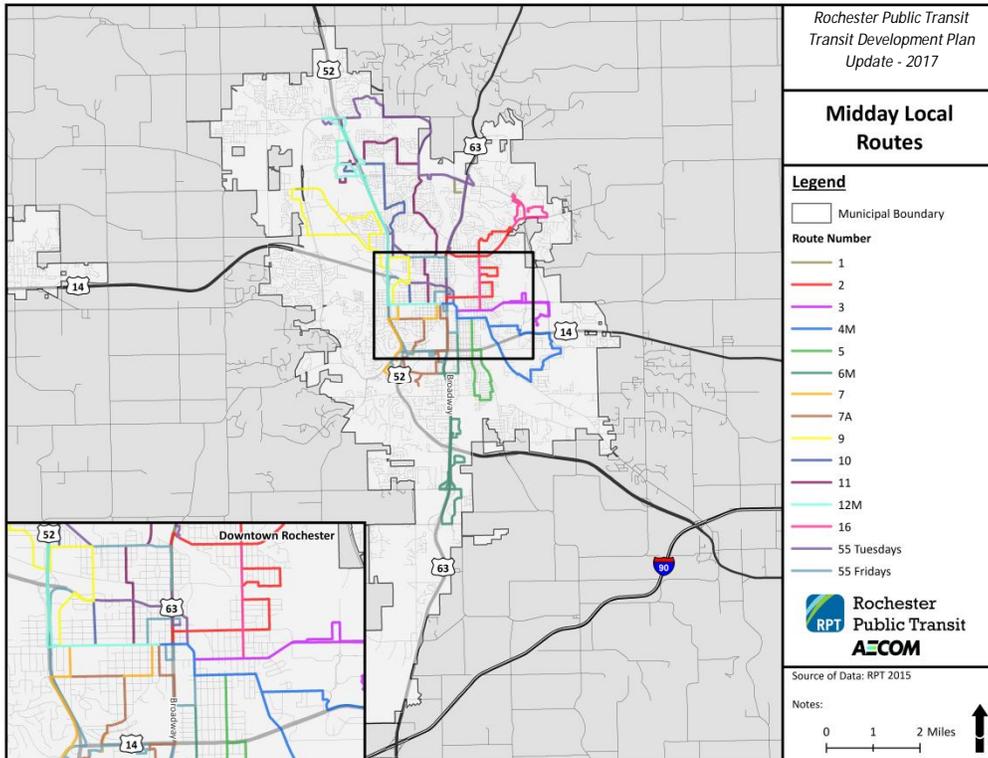


Figure 4-5: Rochester Public Transit Night Bus Route Network

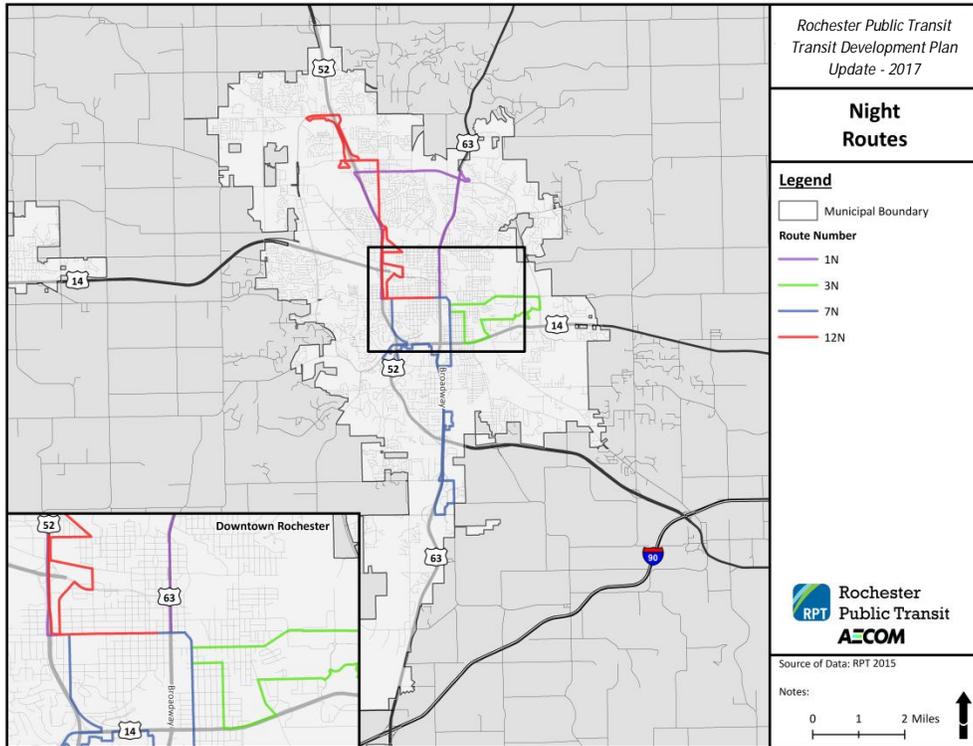


Figure 4-6: Rochester Public Transit Saturday Bus Route Network

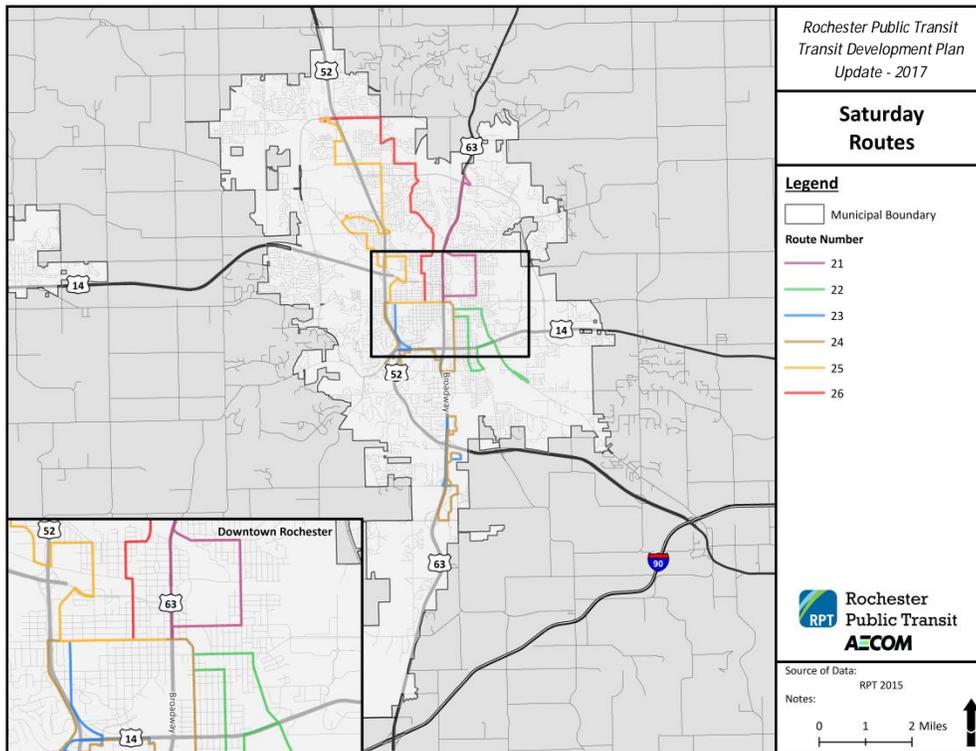


Table 4-1: Span and Frequency of Service - Regular Routes

Route No.	Description	Span of Service	Frequency (Minutes)	Number of peak Buses
<i>Monday through Friday</i>				
1	North Broadway, Silver Lake Shopko North	6:22 AM - 6:40 PM	30 Peak, 60 Off Peak	1.00
1D	Saint Marys, Chateau Park & Ride	6:00 AM - 5:35 PM	30, does not operate from 8:46 AM - 3:05 PM	4.00
1N	Saint Marys, Chateau Park & Ride	5:37 PM - 10:07 PM	30	0.00
2	Quarry Hill, Teton Lane, Silver Lake Center	6:10 AM - 6:40 PM	30 Peak, 60 Off Peak	1.00
3	Heinz Center, RCTC, Human Services Campus	6:45 AM - 6:10 PM	30	1.00
3N	Heinz Center, RCTC, Human Services Campus	7:15 PM - 10:30 PM	175	0.00
4D	Cub Foods Park & Ride	5:50 AM - 5:00 PM	10, 30 after 6AM, does not operate from 7:50AM to 3:15PM	2.00
4A	Cub Foods, Homestead	6:15 AM - 6:28 PM	30, does not operate from 9:38AM - 3:15PM	1.00
4B	Park Lane, Marion Rd	6:12 AM - 6:33 PM	30, does not operate from 9:42AM - 3:12PM	1.00
4MD	Park Lane, Cub Foods, Homestead, Rose Harbor	9:42 AM - 3:16 PM	60	0.00
5	Mayo High School, Southeast, Meadow Park	5:25 AM - 6:15 PM	30 Peak, 60 Off Peak	1.00
6 Midday	Shopko South, Wal-Mart South	8:15 AM - 4:10 PM	60	0.00
6A	Crossroads, Shopko South, Wal-Mart South	5:53 AM - 6:40 PM	30 does not operate from 10:40AM - 3:13 PM	1.00
6B	Walgreens, Bethel	6:00 AM - 6:00 PM	30, does not operate 8:40am - 3:05pm	1.00
6D	Fairgrounds, Downtown, Saint Marys	6:00 AM - 6:05 PM	15, does not operate from 8:15AM - 3:05PM	2.00
7A	Apache Mall, Crossroads College, Edison Building	7:12 AM - 5:40 PM	60	0.50
7N	Shopko South, Wal-Mart South, TJ Maxx Plaza	6:07 PM - 10:33 PM	30	0.00
7	Saint Marys, Apache Mall, TJ Maxx Plaza	6:42 AM - 6:10 PM	60	0.50
8	Country Club Manor, Saint Marys	6:00 AM - 6:15 PM	60, Does not operate from 8:00AM - 12:00	0.67
9	Sunset Terrace, Ability Building Center	5:45 AM - 6:36 PM	30 Peak, 60 Off Peak	2.00
10 Inbound	Elton Hills Drive, Cascade St., Target	5:30 AM - 6:10 PM	60	1.00
10 Outbound	Elton Hills Drive, Cascade St., Target	6:15 AM - 6:36 PM	60, 30 after 3:15PM	1.00
11 Inbound	Valhalla, Elton Hills Drive, Summit Square	6:02 AM - 5:40 PM	30 Peak, 60 Off Peak	1.67
11 Outbound	Valhalla, Elton Hills Drive, Summit Square	7:12 AM - 6:35 PM	30 Peak, 60 Off Peak	1.67
12	IBM, Wal-Mart North, the Homestead, Target, The Gates, Mayo North	5:50 AM - 6:54 PM	30, does not operate from 9:09AM - 12:10PM and 12:10 PM - 3:15 PM	1.50
12N	Wal-Mart North, 41st NW	6:40 PM - 10:26 PM	30	0.00
12 Midday	Mayo NW Family Medicine, Wal-Mart North	8:15 AM - 3:15 PM	20, 25 Alternating Every Run	0.00
14	Channel one, Zumbro Valley,	5:55 AM - 06:30 PM	60, 65 after 4:10PM, 30 After	1.00

Route No.	Description	Span of Service	Frequency (Minutes)	Number of peak Buses
	Bamber Corners		5:15PM, does not operate from 7:40AM - 4:10 PM	
15D	St Marys, Maine Ave, Target Park & Ride	6:00 AM - 6:05 PM	20, does not operate from 8:12AM - 3:05PM	2.00
16	Century High School, Iola Heights Dr. NE	6:15 am - 6:48 PM	45, 60 after 3:15PM	1.00
17	Burr Oak School, Sunnysdale, Marion Rd.	6:00 AM - 6:00 PM	30, 60 after 4:15PM, does not operate 8:00AM - 4:15PM	2.00
18D	IBM, Downtown	5:35 AM - 6:17 PM	Does not operate 8:20AM - 3:10PM	5.00
18	Superior Drive Support Center, Hy-Vee NW, IBM	5:30 AM - 6:00 PM	30, 20 after 6AM, 25 after 6:20PM, 30 After 6:45AM, does not operate from 8:42AM - 3:25PM	1.00
19	OMC NW Clinic, Gibbs Elementary School, Saint Marys	5:25 AM - 6:37 PM	Does not operate from 8:40AM-12:10PM	1.00
Shopper Route 55	Tuesday - North Route	9:15 AM - 3:07 PM	80	0.00
Shopper Route 55	Friday - South Route	9:05 AM - 2:35 PM	75	0.00
<i>Saturday</i>				
21	Shopko North, Silver Lake, 11th Ave NE, North Broadway	8:15 AM - 6:30 PM	60	0.50
22	Homestead Village, Marion Rd, Parkside, Meadow Park, Mayo High School	8:45 AM - 6:10 PM	0:00	0.50
23	K-Mart, Zumbro Valley, Target South, Shopko, Wal-Mart, Crossroads, Apache Mall, St Marys, TJ MAXX Plaza	8:45 AM - 6:40 PM	120, 60 after 10:45AM	1.00
24	Saint Marys, TJ Maxx Plaza, Apache Mall	9:15 AM - 7:10 PM	60	1.00
25 Inbound	Saint Marys, Miracle Mile, North Gate, ABC, Target, Wal-Mart North	8:17 AM - 6:10 PM	60, 120 from 10:35AM - 12:35PM and 2:25PM - 4:35PM	0.50
25 Outbound	Saint Marys, Miracle Mile, North Gate, ABC, Target, Wal-Mart North	8:45 AM - 6:09 PM	60, 120 from 10:45AM - 12:45PM and 2:15PM - 4:15PM	0.50
26 Inbound	Valhalla, Summit Square, Wal-Mart North	8:15 AM - 5:40 PM	60, 120 from 11:15AM - 1:15PM and 2:15PM - 4:15PM	0.50
26 Outbound	Valhalla, Summit Square, Wal-Mart North	9:15 AM - 6:24 PM	60, 120 from 10:15AM - 12:15PM and 2:15PM - 4:15PM	0.50

Source: RPT Timetables

Below is a brief description of each fixed route.

Route 1

This route serves northeast Rochester, operating from the Downtown Transit Center to North Broadway in a roughly linear path. It connects downtown Rochester to Silver Lake Center, ShopKo North, Olympic Village, and the River Center Plaza. During the peak hours the route includes stops in the areas around Rocky Creek Drive & Northern Valley Drive and Northern Heights & 10th Avenue NE.

Route 1D

This route serves north Rochester and follows a large loop connecting the Downtown Transit Center to northern areas. It runs as a clockwise direction during the AM hours and counter-clockwise during the PM hours. Key stops include St. Marys at Canadian Honker, Downtown, and St. Marys Hospital.

Route 1N

This route operates as the night only counterpart to route 1D. However, additional stops are added at 37th Street NW & 21st Avenue NW and multiple stops along North Broadway and 2nd Street SW.

Route 2

This route connects the Downtown Transit Center with multiple points of interest in northeast Rochester. It runs in a clockwise loop roughly along Broadway, 14th Street NE, 11th Avenue NE, Viola Road, 15th Avenue NE, and East Center Street during the AM hours and counter-clockwise during the PM hours. Key generators include downtown Rochester, Jefferson Elementary, Quarry Hill Park, the Boys & Girls Club, and Kellogg Middle School.

Route 3

This route connects the Downtown Transit Center to the areas southeast of downtown Rochester. Areas served include downtown Rochester and the area bounded by 4th Street SW, College View Road, and 30th Avenue SE. Key points of interest include the Heinz Center, University Center (RCTC), and Human Services Campus.

Routes 3N

This is a night only route that is similar to Route 3 but runs in a larger loop to include stops along 8th Avenue SE and 3rd Avenue SE.

Route 4D

This route operates in southern Rochester in a counter-clockwise loop along 2nd Street SW, 9th Street SE, 12 Street SW, and Highway 52 during the AM hours and clockwise during the PM hours. It's only stops are at the Downtown Transit Center, St. Marys Hospital, and Cub Foods park-and-ride.

Route 4A

This route operates in southeast Rochester and connects the Downtown Transit Center to areas bounded by Highway 14 SE. Key generators include Hawthorne School, Riverside School, Bear Creek Post Office, and Bear Creek Park.

Route 4B

This route operates in southeast Rochester and connects the Downtown Transit Center to areas bounded by Highway 14 SE and Marion Road SE.

Route 4MD

This route is similar to route 4B, however, instead of operating along 12th Street SE, it operates along 6th Street SE and 8 ½ Street SE to include more stops.

Routes 5

This route connects the Downtown Transit Center to areas south, operating along 8th Avenue SE including a clockwise loop bounded by 12th Street SE, 11th Avenue SE, and 22nd Street SE. Points of interest include Mayo High School, Pinewood Elementary, and Ben Franklin School.

Routes 6

This route operates in southern Rochester in a roughly linear path along 3rd Avenue SE and Broadway between downtown and 48th Street SE. It includes multiple small loops in areas off of Broadway with points of interests including Target park-and-ride, ShopKo South, and Wal-Mart South.

Route 6A

This route operates along Broadway in southern Rochester from the Downtown Transit Center to 28th Street SE, including a loop along 20th Street SE, 23rd Street SW, and Meadow Run Drive SW. Similar to Route 6, this route has points of interest including ShopKo South and Wal-Mart South, along with apartment complexes and shopping centers along Broadway.

Routes 6B

This route is similar to Route 6A but operates along 3rd Avenue SE with a figure-eight style loop along 20th Street SW, Broadway, 14th Street SW, and 16th Street SW.

Route 6D

This route operates in a large counter-clockwise loop along 2nd Street SW, Highway 52, Broadway, and 3rd Avenue SE. The only stops include the Downtown Transit Center, St. Marys, and the Fairgrounds park-and-ride.

Route 7A

This route operates in a large counter-clockwise loop in southwest Rochester. Key generators include persons traveling to St. Marys, Edison Building, Apache Mall, Crossroads College, and Crossroads Shopping Center.

Route 7N

This route operates in a large loop around downtown including stops at K-mart, St. Marys Hospital, Apache Mall, and TJ Maxx Plaza along with a linear path on Broadway extending down to 48th Street SE. Southern stops include Target and Maine Avenue park-and-ride, Wal-Mart South, and ShopKo South.

Route 7

This route operates in a large counter-clockwise loop connecting the Downtown Transit Center to areas southeast around TJ Maxx Plaza and the Apache Mall.

Route 8

This route operates in the west side of Rochester to accommodate the area surrounding Harriet Bishop Elementary School and, 2nd Street SW (west of TH 52), and Country Club Manor neighborhood.

Route 9

This route connects the Downtown Transit Center with areas in northwest Rochester bounded by Valley High Drive NW and Superior Drive NW.

Route 10 Inbound & Outbound

These routes operate in a roughly linear path in northwest Rochester extending from downtown to 41st Street NW. The inbound route departs from Target Home Depot and arrives downtown while the outbound route operates vice versa.

Route 11 Inbound & Outbound

These routes operate in a roughly linear path in northwest Rochester extending from downtown to 48th Street NW and Mayo NW 41st Street. During the peak hours, additional stops are added along Zumbro Drive & 4th Avenue NW. The inbound route departs from Mayo NW 41st Street to downtown while the outbound route operates vice versa.

Route 12

This route serves neighborhoods in the area around Highway 52 and 55th Street, and also serves Lincolnshire/Arbor Glen, and Boulder Ridge.

Route 12N

This route operates in northwest Rochester spanning from downtown to Wal-Mart park-and-ride located by 55th Street NW. It is a night only route with points of interest including Barlow Plaza, John Marshall High School, Gates of Rochester, Marketplace Target, and Meadow Brook Townhomes.

Route 12 Midday

This route serves a similar area to that of 12N, however, does not include stops between 2nd Street SW and 41st Street NW.

Route 14

This route follows a large loop in southern Rochester roughly along 2nd Street SW, Broadway, 40th Street SW, and 18th Avenue SW. During the AM hours it operates in a clockwise direction while the PM hours operate in a counter-clockwise direction.

Route 15D

This route follows a large loop in southwest Rochester along 2nd Street SW, Broadway, 48th Street SW, and Highway 52. During the AM hours it operates in a clockwise direction while the PM hours operate in a counter-clockwise direction. The only stops for this route are the Downtown Transit Center, Target and Maine Avenue park-and-ride, and St. Marys Hospital.

Route 16

This route operates in northeast Rochester connecting the Downtown Transit Center to areas surrounding Century High School, including stops along 4th Street SE, 11th Avenue NE, and Viola Road.

Route 17

This route connects the Downtown Transit Center to southeast Rochester in a loop roughly along Highway 14, 50th Avenue SE, and Marion Road. Route 17 is RPT's most rural route, providing service on the east side of the City and into Marion Township.

Route 18D

This route operates in northwest Rochester connecting the Downtown Transit Center to IBM park-and-ride along 2nd Street SW, Highway 52, and 41st Street NW. The only other stop included in this route is St. Marys Hospital.

Route 18

Like route 18D, this route operates in northwest Rochester connecting the Downtown Transit Center to IBM park-and-ride, but includes more stops in the areas surrounding 18 ½ Avenue & 19th Street NW, Woodside Park, and 41st Street NW.

Route 19

This route operates in northwest Rochester, on the west side of TH 52, roughly as a figure eight loop along 55th Street NW, Savannah Drive NW, 50th Avenue NW, 51st Street NW, and 56th Avenue NW.

Shopper Route 55 North & South

These routes serve a large area of Rochester, stopping at the majority of commercial areas as well as a few apartment complexes. The North route only operates on Tuesday while the South route only operates on Friday.

Route 21

This route serves northeast Rochester and connects the Downtown Transit Center to ShopKo North with multiple stops in the area surrounding Silver Lake.

Route 22

This route operates in southeast Rochester in the area surrounding Mayo High School and Slatterly Park, bordered by 8th Street SE and Marion Road. Key points of interests include Cub Foods, Parkside, and Mayo High School.

Route 23

This route operates in southwest Rochester connecting the Downtown Transit Center to Target and Maine Avenue park-and-ride. Multiple stops are present along 3rd Avenue SE and Broadway, while key points of interests include a variety of commercial areas.

Route 24

This route acts as the counter-clockwise counterpart to Route 23 (which runs clockwise).

Route 25 Inbound & Outbound

These routes are similar to Route 18 but include stops along 18th Avenue NW to 41st Street NW rather than extending to areas west of Highway 52.

Route 26 Inbound & Outbound

These routes connect the Downtown Transit Center to Wal-Mart North roughly along 6th Avenue NW, Elton Hills Drive, 9th Avenue NW, 41st Street NW, 13th Avenue NW, and 55th Street NW.

4.2.2 Service Details

Roundtrip or cycle mileage, time, and average speed for each of the routes are presented in Table 4-2. RPT Bus route vehicles operate approximately 381 hours per day weekdays and 46 hours Saturdays. They travel approximately 3,959 miles weekdays and 598 miles Saturdays.

Table 4-2: Roundtrip Mileage and Travel Time

Route No.	Roundtrip Mileage	Typical Roundtrip Travel Time (minutes)	Average Speed (mph)
1	6.6	30 Peak, 25 Off-Peak	13.1 Peak, 15.7 Off-Peak
1D	9.0	30	18.1
1N	9.5	30	19.0
2	7.2	28	15.4
3	6.9	25	16.6
3N	6.8	20	20.4
4D	6.0	30	12.0
4A	4.2	23	10.9
4B	4.2	30	8.3
4MD	9.7	34	17.1
5	7.0	28 Peak, 25 Off-Peak	15.0 Peak, 16.8 Off-Peak
6 Midday	3.7	55	4.0
6A	8.3	27	18.5
6B	7.2	25	17.3
6D	7.9	15	31.4
7A	7.3	28	15.6
7N	23.5	60	23.5
7	8.3	28	17.9
8	8.2	40	12.3
9	13.8	55	15.0
10 Inbound	5.7	30	11.4
10 Outbound	6.0	25	14.3
11 Inbound	6.3	38	10.0
11 Outbound	7.5	30	14.9
12	14.4	54	16.0
12N	11.5	46	15.1
12 Midday	11.4	40	17.2
14	16.7	45	22.3
15D	10.5	40 AM, 20 PM	15.8 AM, 31.5 PM
16	10.0	33	18.2
17	16.0	60 AM, 45 PM	16.0 AM, 21.3 PM
18D	7.0	15 AM, 12 PM	27.9 AM, 34.8 PM
18	8.7	27 AM, 35 PM	19.4 AM, 14.9 PM
19	11.7	40	17.5
Shopper Route 55-North Route	11.7	80	8.7
Shopper Route 55-South Route	11.7	75	9.3
21	7.0	25	16.9
22	7.5	25	18.0
23	8.7	55	9.5
24	7.3	55	8.0
25 Inbound	9.9	35	17.0
25 Outbound	9.9	30	19.8
26 Inbound	8.6	25	20.6
26 Outbound	7.2	20	21.6

Source: Timetables and RPT Monthly Ridership Report FY 2015

Routes 9 and 12 Midday operate the most on weekdays, traveling 289 miles in 38.4 hours and 206 miles in 34 hours respectively, while Route 25 Inbound & Outbound operate the most on Saturdays, traveling 89.1 miles in 5.8 hours and 79.2 miles in 4.4 hours respectively. For the regular routes, Route 3N provides the least amount of service on weekdays, traveling 13.6 miles in 0.8 hours, while Route 26 Outbound provides the least amount of service on Saturdays, traveling 57.6 miles in 2.5 hours. Daily revenue miles and hours for each route are shown in Table 4-3.

Table 4-3: Daily Revenue Miles and Hours

Route	Weekday		Saturday	
	Miles	Hours	Miles	Hours
1	131.1	9.4	-	-
1D	99.3	4.5	-	-
1N	85.5	4.8	-	-
2	136.8	9.8	-	-
3	158.7	33.7	-	-
3N	13.6	0.8	-	-
4D	30.1	3.8	-	-
4A	58.3	6.3	-	-
4B	58.3	6.8	-	-
4MD	58.3	3.7	-	-
5	133.0	9.5	-	-
6 Midday	29.6	7.8	-	-
6A	108.0	6.6	-	-
6B	79.2	5.4	-	-
6D	165.0	9.5	-	-
7A	80.3	5.7	-	-
7N	188.0	8.3	-	-
7	100.0	6.3	-	-
8	90.0	7.3	-	-
9	289.0	38.4	-	-
10 Inbound	103.0	9.5	-	-
10 Outbound	101.2	7.4	-	-
11 Inbound	120.0	9.6	-	-
11 Outbound	127.0	9.1	-	-
12	187.0	33.5	-	-
12N	80.8	5.7	-	-
12 Midday	206.0	34.0	-	-
14	83.6	4.4	-	-
15D	168.0	7.7	-	-
16	160.0	30.4	-	-
17	80.0	4.8	-	-
18D	188.0	8.4	-	-
18	87.1	6.0	-	-
19	58.3	9.9	-	-
Shopper Route 55-North Route	58.3	6.4	-	-

Route	Weekday		Saturday	
	Miles	Hours	Miles	Hours
Shopper Route 55-South Route	58.3	5.4	-	-
21	-	-	77.5	4.8
22	-	-	75	5.1
23	-	-	78	8.8
24	-	-	73	9.8
25 Inbound	-	-	89.1	5.8
25 Outbound	-	-	79.2	4.4
26 Inbound	-	-	68.8	4.4
26 Outbound	-	-	57.6	2.5
TOTAL	3,958.7	380.6	598.2	45.5

Source: Monthly Ridership Report FY 2015

RPT has a peak vehicle requirement of 38 buses during the AM peak period versus a midday vehicle requirement of 13 buses. The high number of peak buses is due to a large number of peak period only routes, including the "Direct" routes which provide express service. During evenings and on Saturday, five buses are required to provide service throughout the Rochester area. Table 4-4 presents the number of vehicles required for each route by time of day.

Table 4-4: Weekday Vehicle Requirements

Route	AM Peak	Midday	PM Peak	Evening	Saturday
1	1	0.5	1	0	0
1D	4	0	4	0	0
1N	0	0	0	1	0
2	1	1	1	0	0
3	1	1	1	0	0
3N	0	0	0	1	0
4D	1	0	2	0	0
4A	1	0	1	0	0
4B	1	0	1	0	0
4MD	0	0.5	0	0	0
5	1	0.5	1	0	0
6 Midday	0	1	0	0	0
6A	1	0	1	0	0
6B	1	0	1	0	0
6D	2	0	2	0	0
7A	0.5	0.5	0.5	0	0
7N	0	0	0	2	0
7	0.5	0.5	0.5	0	0
8	0.67	0.5	0.67	0	0
9	2	1	2	0	0
10 Inbound	1	0.5	0.5	0	0

Route	AM Peak	Midday	PM Peak	Evening	Saturday
10 Outbound	0.5	0.5	1	0	0
11 Inbound	1.67	0.5	1.67	0	0
11 Outbound	1.67	0.5	1.67	0	0
12	1.5	0	1.5	0	0
12N	0	0	0	1	0
12 Midday	0	2	0	0	0
14	1	0	1	0	0
15D	2	0	2	0	0
16	1	1	1	0	0
17	2	0	1	0	0
18D	5	0	5	0	0
18	1	0	1	0	0
19	1	0	1	0	0
Shopper Route 55	0	1	0	0	0
21	0	0	0	0	0.5
22	0	0	0	0	0.5
23	0	0	0	0	1
24	0	0	0	0	1
25 Inbound	0	0	0	0	0.5
25 Outbound	0	0	0	0	0.5
25 Inbound	0	0	0	0	0.5
25 Outbound	0	0	0	0	0.5
TOTAL	38.01	13	38.01	5	5

Source: RPT

4.2.3 Demand Response Service

RPT's Zumbro Independent Passenger Service (ZIPS) is an on-demand service (referred to as "Specialized Service") available to individuals with disabilities. To use the service, riders must go through a certification process to document that they are unable to use the regular route service. The certification process includes completing an application and having a physician certify that they meet ZIPS certification. The City of Rochester's Department of Public Works reserves the right to refuse to certify a person for ZIPS service. If a person's application is refused, they may appeal the decision by contacting the Department of Public Works. If after the appeal, the Department of Public Works determines that the person is not eligible to use ZIPS services then the person can appeal to the Citizens Advisory on Transit Eligibility Review Committee. A person can resubmit their application at any time.

ZIPS reservations can be made up to seven days in advance of a trip. ZIPS provide Americans with Disabilities Act (ADA) complementary service for RPT. ZIPS will transport ADA passengers as well as assistants, companions, and children who are traveling with the passenger and have the same origin and destination as the ADA passenger.

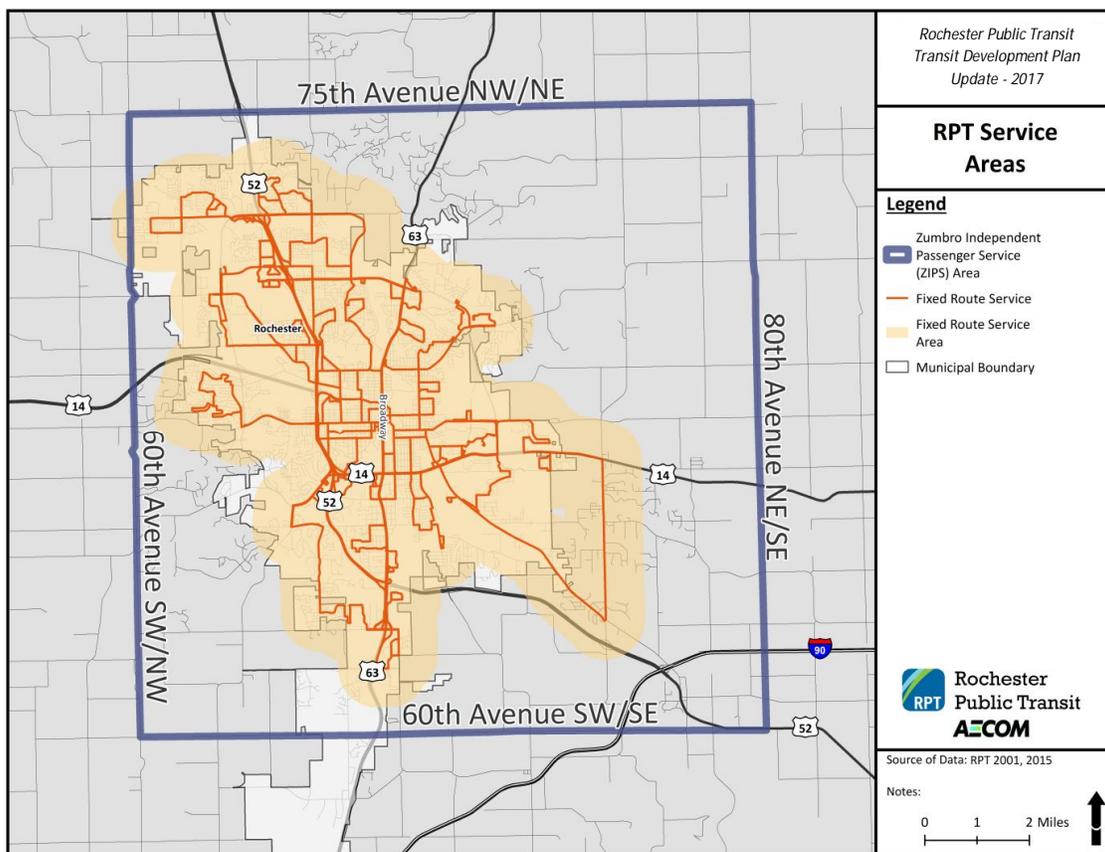
ZIPS provides door-to-door service, meaning that when needed, ZIPS operators will assist passengers getting from the door of their origin, onto the paratransit vehicle, off the vehicle, and into the door of the destination. ZIPS fares are less than double the current RPT base fares. Passengers can call for a ride up to 14 days in advance, and must call at least one day in advance when scheduling a ride. All certified passengers will be accommodated on a space available basis. ZIPS has a policy of terminating service to a passenger if they do not show up for their trip three times, without providing adequate cancellation notice.

The ZIPS service area is currently bounded by 75th Street North, 80th Avenue East, 60th Street South, and 60th Avenue West (see Figure 4-7) from Monday through Friday from 5:30 AM to 10:00 PM, Saturdays from 7:00 AM to 7:00 PM, and no service on Sundays. Table 4-5 summarizes the 2013 operating statistics.

Table 4-5: Demand Response Operating Statistics (FY15)

Ridership	45,251
Revenue Miles	278,668
Revenue Hours	17,531
Peak Vehicles	5
<i>Source: ZIPS Budget through 9/2015</i>	

Figure 4-7: ZIPS Service Area Map



4.2.4 Fare Structure

Rochester Public Transit passengers have multiple fare payment options, including single ride cash fares, 10- and 20-ride tickets, monthly passes and semester passes available for students. For regular routes, the single ride cash fare is \$2.00 while the 10-ride, 20-ride and 31-day pass are \$16.00, \$26.00 and \$42.00, respectively. There is a 365 day pass available for \$480. All riders are allowed one free transfer per trip. Youth ages 6 to 18, seniors and persons with disabilities are eligible for half fares for single ride and 10-ride tickets. Employers are offered a 10% bulk discount when purchasing pre-paid fare media for employees. In 2016 almost 91% of passenger trips were paid for using pre-paid fare media. Children 5 and under ride for free when accompanied by a paying adult (maximum three children per adult). The existing fare structure is presented in Table 4-6.

Table 4-6: RPT Fares

Regular Fixed Route		Youth Ages 6 – 18, Seniors and Persons with Disabilities Fixed Route		Student	
Single Ride Cash	\$2.00	Single Ride Half Fare	\$1.00	First Semester Sept - Dec	\$80.00
Transfer	Free	Transfer	Free	Second Semester Jan - May	\$100.00
10-Ride Ticket	\$16.00	10-Ride Half Fare	\$8.00	Summer Semester	\$60.00
20-Ride Ticket	\$26.00	N/A		N/A	
31-Day Pass	\$42.00	N/A		N/A	
365-Day Pass	\$380	N/A		N/A	

Source: RPT Fare Schedule

Punch tickets and monthly passes are available at Cub Foods, all Hy-Vee Foods, City Hall (City Clerk's Office), Eagle Drug (23 2nd St. SW), Center Street Parking Ramp Office and Transit Operations Center (4300 East River Rd. NE). All Tickets and Passes can be purchased (cash or check only) at First Transit's office located at The City of Rochester's Transit Operation Center, 4300 East River Road NE.

*To be eligible for reduced fares, riders must present a valid Medicare card, a ZIPS Identification card, proof of age 65 or over, utilize and visible mobility device, or a City of Rochester Reduced Fare Card.

4.3 Financial Information

This section provides an overview of system wide operating expenses and revenue sources. Table 4-7 presents revenue and expenses by source for Fiscal Year 2014. This table shows that contracts, which include vehicle operation is the largest expense line item, followed by fuels and supply expenses. While directly generated funds comprised almost 25% of revenue in FY 2014, the largest source of revenue is state funding.

Table 4-7: Expenses and Revenues

Category	Fixed Route	ZIPS	Total
<i>Expense</i>			
Salaries and Benefits	\$38,543	\$0	\$38,543
Professional and Contract Services	\$5,048,746	\$727,640	\$5,776,385
Fuel, Materials, and Supplies	\$1,445,518	\$68,296	\$1,513,814
Other Charges	\$23,927	\$154	\$24,081
Allocated to other activities	(\$181,868)	\$0	(\$181,868)
Total	\$6,374,865	\$796,090	\$7,170,955
<i>Revenue</i>			
Directly Generated	\$1,591,153	\$104,121	\$1,695,274
Local	\$0	\$0	\$0
State	\$2,308,511	\$559,665	\$2,868,176
Federal	\$1,783,130	\$0	\$1,783,130
Other	\$472,134	\$61,966	\$534,099
Total	\$6,154,928	\$725,752	\$6,880,680

Source: 2014 Budget

4.4 Capital Resources

RPT's capital resources include buses, bus stops, shelters, supervisory and maintenance vehicles, and property. RPT owns its maintenance facility at 4300 E River Road, a site that also contains the RPT administrative offices. As of 2015, RPT currently owned 70 bus shelters throughout the service area. The RPT vehicle fleet includes buses and paratransit vehicles used in revenue service as well as non-revenue vehicles that are used for supervisory personnel and maintenance purposes

RPT expects to take delivery of five buses 2017 and six buses in 2018. An additional eleven vehicles are planned to be purchased. This is documented in the Transportation Improvement Program (TIP).

4.4.1 Revenue Fleet

As of March, 2017, the RPT owned fleet consisted of 59 vehicles, including 49 fixed route vehicles, 6 paratransit vehicles, and 4 non-revenue support vehicles. The fixed route fleet consists primarily of low floor, 35-foot, and diesel transit buses, all of which were manufactured in 2003 or later. The demand response fleet consists of 26-foot paratransit vehicles built between 2010 and 2014. Table 4-8 presents the details of RPT's current fleet inventory. In addition, all RPT vehicles are wheelchair accessible in accordance with requirements of the Americans with Disabilities Act of 1990 (ADA) as amended.

Table 4-8: Revenue Fleet Inventory

Number of Vehicles	Vehicle Length	Year, Manufacturer & Style
<i>Fixed Route</i>		
8	35'	2003 Gillig Low Floor
6	35'	2004 Gillig Low Floor
10	35'	2005 Gillig Low Floor
4	35'	2007 Gillig Low Floor
4	35'	2010 Gillig Low Floor
1	35'	2011 Gillig Low Floor
4	35'	2014 Gillig Low Floor
7	40'	2015 Gillig Low Floor BRT
5	40'	2017 Gillig Low Floor BRT
<i>ZIPS Fleet</i>		
1	26'	2010 Chevy Arboc
2	26'	2011 Chevy Arboc
1	26'	2012 Chevy Arboc
2	26'	2014 Chevy Arboc
<i>Non-Revenue Support Vehicles</i>		
1		2010 Ford: Focus
1		2011 Ford: Taurus
1		2012 Chevy Silverado 1500
1		2012 Mobility Works Transit Connect
<i>Source: RPT 2015</i>		

4.4.2 Administrative, Operating, and Maintenance Facilities

The Public Works and Transit Operations Center (PWTOC), where vehicles are stored, refueled, and maintained, is located at 4300 E River Road. The facility is modern and sufficient for RPT's needs for time being, but the facility is approaching the designed capacity. The facility allows for the indoor storage of the fleet, which is advantageous given the local climate. The expansion of the fleet based on recommendations in this TDP and subsequent TDPs will require that the PWTOC be expanded.

4.4.3 Transit Centers

RPT utilizes a Downtown Transit Center where passengers can transfer between any of the different routes RPT offers. The facility is located primarily along 2nd Street SW between 1st Avenue SW and 2nd Avenue SW, with some transfer points also on 2nd Avenue SW. All stops are on the streets with shelters. There are two Transit Information Centers, one in the US Bank building on the north side of 2nd Street SW and one in the 201 Building on the south side of 2nd Street SW. Route schedules are coordinated for passenger ease in transferring between routes at this facility.

4.4.4 Bus Stops and Bus Stop Amenities

RPT maintains roughly 707 stops throughout the system. Stops are easily identifiable by clear, brightly-colored signs featuring the RPT logo, a blue bus, and a telephone number (507-328-RIDE) and website (rptride.com) that passengers may use to obtain service or schedule information.

4.5 Route Diagnostics

The purpose of the route diagnostics discussion is to determine the degree to which each route contributes to the overall operations of the transit system as well as to identify possible areas in which specific routes or operations could be modified increase efficiency or effectiveness. To accomplish this, five indicators were collected to establish a baseline for each route including: ridership statistics, revenue hours, revenue miles, operating cost, and farebox revenue. The data shown in Table 4-9 were supplied by RPT and represent operations for Fiscal Year 2014. It is important to note that data is presented for Route 12D which was in operation when this data was collected but has since been discontinued.

Table 4-9: Baseline Data for Route Diagnostics FY 2014

Route	Annual Ridership	Annual Revenue Hours	Annual Revenue Miles	Annual Operating Cost	Annual Farebox Revenue
<i>Weekday Routes</i>					
1	93,716	2,428	33,549	\$187,046	\$116,208
1D	68,620	1,159	25,421	\$89,283	\$85,089
1N	16,002	1,225	21,888	\$94,351	\$19,842
2	67,261	2,509	35,021	\$193,278	\$83,404
3	54,357	5,803	40,627	\$447,044	\$67,403
3N	1,795	192	3,482	\$14,792	\$2,226
4	44,971	1,678	26,361	\$129,277	\$55,764
4D	9,468	728	7,706	\$56,090	\$11,740
5	74,546	2,419	34,048	\$186,375	\$92,437
6	53,690	1,993	7,578	\$153,518	\$66,576
6A	31,769	1,686	27,648	\$129,851	\$39,394
6B	29,003	1,400	20,275	\$107,821	\$35,964
6D	39,705	2,432	42,240	\$187,361	\$49,234
6S	1,643	576	2,816	\$44,375	\$2,037
7	27,227	1,649	25,600	\$127,011	\$33,761
7A	26,564	1,460	20,557	\$112,496	\$32,939
7N	14,888	378	8,648	\$29,155	\$18,461
7S	2,722	636	21,453	\$48,990	\$3,375
8	59,610	1,894	23,040	\$145,945	\$73,916
9	129,143	7,226	73,984	\$556,700	\$160,137
10 IN	58,680	2,470	26,368	\$190,320	\$72,763
10 OUT	59,165	1,814	25,907	\$139,712	\$73,365
11 IN	62,973	5,747	30,720	\$442,764	\$78,087
11 OUT	59,361	1,609	32,512	\$123,935	\$73,608
12	43,805	5,182	47,872	\$399,257	\$54,318
12M	36,850	5,875	52,736	\$452,625	\$45,694

Route	Annual Ridership	Annual Revenue Hours	Annual Revenue Miles	Annual Operating Cost	Annual Farebox Revenue
12N	19,353	1,459	20,685	\$112,417	\$23,998
14	20,387	1,092	21,402	\$84,155	\$25,280
15D	75,048	1,971	43,008	\$151,861	\$93,060
16	36,870	5,184	40,960	\$399,375	\$45,719
17	24,736	1,240	20,480	\$95,535	\$30,673
18	10,083	1,536	22,298	\$118,333	\$12,503
18D	212,193	1,953	48,128	\$150,422	\$263,119
55 Tuesday	1,109	325	3,029	\$25,038	\$1,375
55 Friday	1,441	273	2,913	\$21,059	\$1,787
19	39,715	1,170	12,466	\$90,132	\$49,247
4A	10,256	448	4,777	\$34,537	\$12,717
4B	5,209	448	4,777	\$34,537	\$6,459
4M	5,340	448	4,777	\$34,537	\$6,622
Total Weekday Routes	1,629,274	79,716	967,752	\$6,141,309	\$2,020,300
<i>Saturday Routes</i>					
21	5,934	252	4,030	\$19,389	\$7,358
22	3,595	264	3,900	\$20,351	\$4,458
23	6,472	455	4,056	\$35,053	\$8,025
24	6,792	507	3,796	\$39,059	\$8,422
25 IN	3,796	302	4,633	\$23,235	\$4,707
25 OUT	4,196	222	4,118	\$17,106	\$5,203
26 IN	2,040	230	3,578	\$17,707	\$2,530
26 OUT	2,151	129	2,995	\$9,975	\$2,667
Saturday Route Total	34,976	2,361	31,106	\$181,876	\$43,370
FIXED ROUTE TOTAL	1,664,250	82,077	998,858	\$6,323,185	\$2,063,670
<i>Demand Response</i>					
ZIPS*	39,288	14,352	217,621	\$768,414	138,264
SYSTEM TOTAL	1,703,538	96,429	1,216,479	\$7,091,599	\$2,201,934

Source: RPT 2014, *NTD 2013 Profile annual miles, farebox revenue

In FY 2014, RPT carried 1,664,250 passengers on the regular routes and 39,288 passengers on ZIPS. In terms of revenue hours, RPT's regular routes operated 82,077 revenue hours, with ZIPS operating 14,352 hours. Systemwide operating costs totaled approximately \$7 million.

4.5.1 Service Effectiveness

Service effectiveness describes the amount of service utilized per unit of transit service provided and is measured based on two indicators: passengers per mile and passengers per hour. While both of these indicators are presented, only the passengers per hour statistic is included in the route scoring and ranking presented at the end of the route diagnostics section to avoid duplication.

For each of the diagnostic indicators, each route is ranked compared to the other routes in the system, and is also compared to the system average.

Passengers per Mile

The passengers per mile figures and rankings are presented in Table 4-10. This indicator measures the number of passengers carried each day by each route versus the number of miles per day the route operates. Figure 4-8 presents the passenger per mile for each order in rank order.

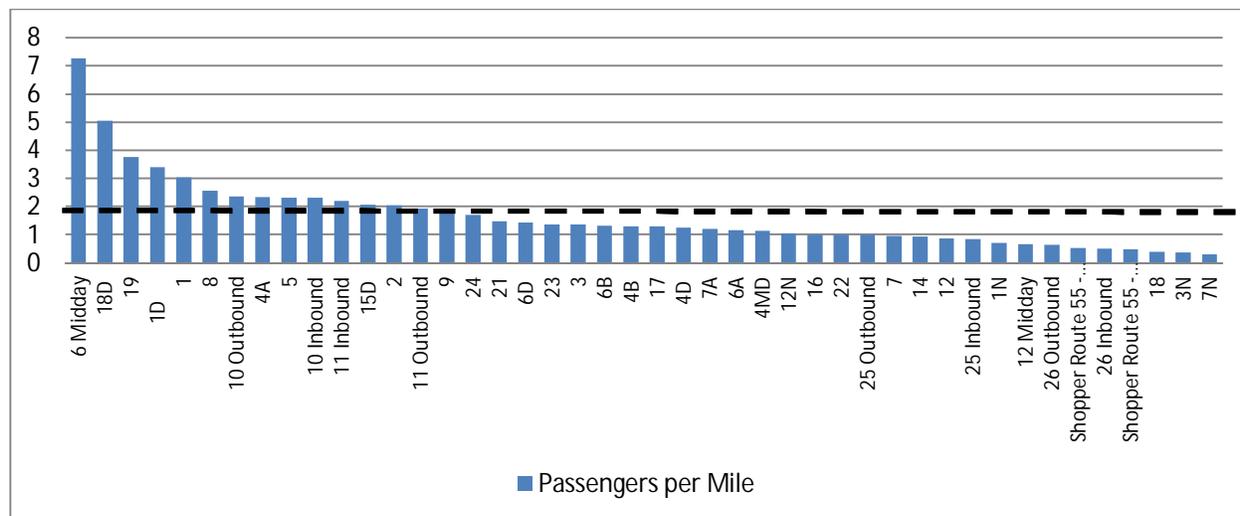
RPT buses average 1.66 overall passengers per mile on the regular routes. Sixteen of the regular routes operate above average while twenty-eight operate below average. Route 6 Midday had the highest number of passengers per mile for regular routes, followed by Route 18D and 19. At the other end of the scale, Routes 1N, 3N, 7N, 12 Midday, 18, Shopper Route 55 North & South, and 26 Inbound & Outbound each carried fewer than 50% of the system wide average for passengers per mile.

Table 4-10: Service Effectiveness Indicators (pass/mile)

Route	Passengers per Mile					Rank (2015)	Percent of System Average (2015)
Overall Average (2015) = 1.66, Local = 1.85, Direct = 2.65, Evening = 0.61, Saturday = 1.07							
	2006	2012	2013	2014	2015		
1	2.34	2.75	2.87	2.79	3.04	5	183%
1D	0.92	2.73	2.68	2.70	3.41	4	205%
1N	0.20	0.68	0.69	0.73	0.71	36	43%
2	1.54	1.85	1.90	1.92	2.04	13	123%
3	0.90	1.65	1.75	1.45	1.36	20	82%
3N	0.38	0.53	0.87	0.74	0.37	43	22%
4D	0.70	1.71	1.48	1.23	1.26	24	76%
4A	-	-	-	2.15	2.34	8	141%
4B	-	-	-	1.09	1.31	22	79%
4MD	-	-	-	1.12	1.14	27	69%
5	1.70	2.13	2.13	2.19	2.33	9	140%
6 Midday	1.21	6.32	7.05	7.09	7.29	1	439%
6A	1.08	1.42	1.39	1.15	1.16	26	70%
6B	1.25	2.24	2.23	1.43	1.32	21	80%
6D	1.29	0.13	0.77	0.94	1.45	18	87%
7A	-	1.32	1.24	1.29	1.21	25	73%
7N	0.44	0.37	0.37	0.31	0.31	44	19%
7	1.33	1.29	1.17	1.06	0.96	32	58%
8	2.10	2.87	2.77	2.59	2.58	6	155%
9	1.61	1.99	2.06	1.75	1.83	15	110%
10 Inbound	1.51	2.41	2.35	2.23	2.33	10	140%
10 Outbound	1.51	2.57	2.48	2.28	2.37	7	143%

Route	Passengers per Mile					Rank (2015)	Percent of System Average (2015)
Overall Average (2015) = 1.66, Local = 1.85, Direct = 2.65, Evening = 0.61, Saturday = 1.07							
	2006	2012	2013	2014	2015		
11 Inbound	1.80	2.06	2.08	2.05	2.20	11	133%
11 Outbound	1.57	1.89	1.83	1.83	1.94	14	117%
12	0.92	1.16	1.12	1.00	0.88	34	53%
12N	0.41	0.98	0.97	0.94	1.05	28	63%
12 Midday	0.48	0.86	0.82	0.70	0.67	37	40%
14	1.03	1.02	1.06	0.95	0.94	33	57%
15D	-	2.13	1.78	1.83	2.08	12	125%
16	0.50	0.90	0.94	0.90	1.00	29	60%
17	0.87	1.80	1.32	1.21	1.30	23	78%
18D	2.65	6.75	6.36	4.41	5.06	2	305%
18	0.52	0.52	0.48	0.45	0.40	42	24%
19	-	-	-	3.19	3.76	3	227%
Shopper Route 55 - North	0.58	0.63	0.49	0.37	0.49	40	30%
Shopper Route 55 - South	0.58	0.53	0.51	0.49	0.53	39	32%
21	1.03	1.24	1.35	1.47	1.48	17	89%
22	0.77	0.98	1.10	0.92	1.00	30	60%
23	1.45	1.96	1.82	1.60	1.38	19	83%
24	1.58	2.23	2.04	1.79	1.70	16	102%
25 Inbound	0.67	0.90	0.81	0.82	0.84	35	51%
25 Outbound	0.67	1.01	0.98	1.02	1.00	31	60%
26 Inbound	0.53	0.63	0.64	0.57	0.50	40	30%
26 Outbound	0.53	0.72	0.75	0.72	0.65	38	39%

Figure 4-8: Service Effectiveness Indicators (pass/mile)



Passengers per Hour

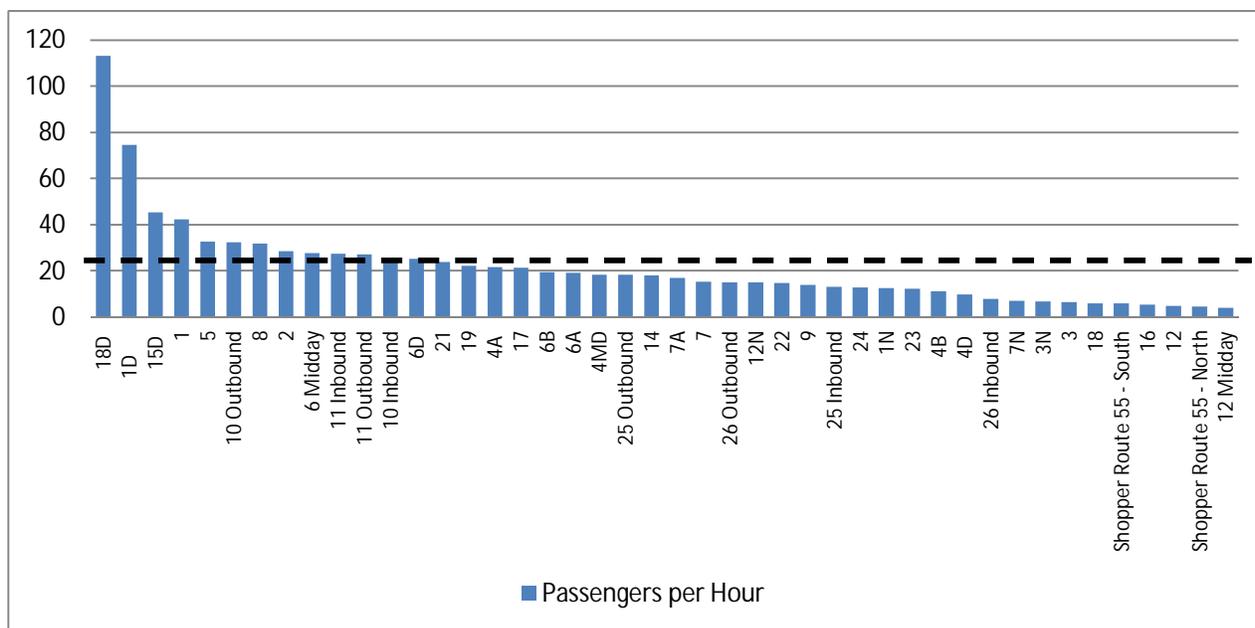
As shown in Table 4-11, the passengers per hour measures the number of passengers carried by each route versus the number of hours the route operates. RPT buses average 21.28 passengers per hour. Route 18D ranks first out of regular routes with 113.3 passengers per hour, while Route 12 Midday ranks lowest, with 4.05. Routes 3, 3N, 4D, 7N, 12, 12 Midday, 16, 18, Shopper Route 55 North & South, and 26 Inbound all fall below 50 percent of the system wide average. Passenger per hour is presented in route rank order on Figure 4-9.

Table 4-11: Service Effectiveness Indicators (pass/hour)

Route	Passengers per Hour					Rank (2015)	Percent of System Average (2015)
Overall Average (2015) = 21.28, Local = 19.44, Direct = 53.65, Evening = 10.31, Saturday = 14.67							
	2006	2012	2013	2014	2015		
1	30.95	38.37	40.08	38.60	42.41	4	199%
1D	14.37	60.11	58.86	59.21	74.59	2	350%
1N	3.24	12.12	12.35	13.07	12.62	31	59%
2	19.88	25.79	26.54	26.81	28.46	8	134%
3	11.45	22.47	23.86	10.13	6.41	38	30%
3N	5.43	9.54	15.71	13.40	6.71	37	32%
4D	9.33	28.00	24.37	13.00	9.88	34	46%
4A	-	-	-	22.88	21.53	16	101%
4B	-	-	-	11.62	11.24	33	53%
4MD	-	-	-	11.91	18.18	20	85%
5	23.2	30.00	30.04	30.81	32.77	5	154%
6 Midday	22.77	24.02	26.80	26.94	27.73	9	130%
6A	16.76	22.40	22.01	18.85	19.09	19	90%

Route	Passengers per Hour					Rank (2015)	Percent of System Average (2015)
Overall Average (2015) = 21.28, Local = 19.44, Direct = 53.65, Evening = 10.31, Saturday = 14.67							
	2006	2012	2013	2014	2015		
6B	16.6	33.10	32.95	20.72	19.53	18	92%
6D	16.88	2.27	13.46	16.33	25.12	13	118%
7A	-	18.56	17.42	18.19	16.92	23	79%
7N	5.92	6.80	6.68	7.07	7.01	36	33%
7	17.83	20.40	18.47	16.51	15.20	24	71%
8	25.79	35.33	34.18	31.47	31.82	7	150%
9	19.76	27.21	28.14	17.87	13.82	28	65%
10 Inbound	18.12	25.72	25.12	23.75	25.44	12	120%
10 Outbound	17.84	36.72	35.48	32.62	32.49	6	153%
11 Inbound	23.29	19.88	20.07	10.96	27.51	10	129%
11 Outbound	20.98	38.86	37.66	36.90	27.16	11	128%
12	15.97	21.24	20.45	9.28	4.89	42	23%
12N	4.57	13.86	13.74	13.26	14.90	26	70%
12 Midday	7.78	13.68	13.07	6.27	4.05	44	19%
14	17.41	20.46	21.26	18.66	17.97	22	84%
15D	-	46.38	38.86	39.94	45.36	3	213%
16	6.5	14.21	14.78	7.11	5.29	41	25%
17	14.47	29.76	21.86	19.95	21.45	17	101%
18D	56.86	131.11	123.66	108.68	113.30	1	532%
18	8.55	7.61	6.98	6.56	5.85	39	27%
19	-	-	-	33.95	22.15	15	104%
Shopper Route 55 - North	5.21	5.86	4.54	3.41	4.49	43	21%
Shopper Route 55 - South	5.21	5.76	5.49	5.27	5.75	40	27%
21	14.28	19.85	21.61	23.58	23.70	14	111%
22	11.48	14.53	16.22	13.61	14.75	27	69%
23	21.4	16.54	15.39	14.22	12.34	32	58%
24	23.73	16.69	15.30	13.40	12.69	30	60%
25 Inbound	12.24	13.78	12.40	12.59	12.92	29	61%
25 Outbound	12.24	19.19	18.55	18.90	18.18	20	85%
26 Inbound	8.16	9.33	9.38	8.88	7.83	35	37%
26 Outbound	8.16	16.85	17.24	16.61	14.98	25	70%

Figure 4-9: Service Effectiveness Indicators (pass/hour)



4.5.2 Financial Efficiency

Financial efficiency measures the annual operating and maintenance cost of providing transit service per unit of service provided. One indicator, cost per mile, is used to describe financial efficiency. Cost per revenue hour for the system was used to determine operating costs by route, so it is excluded from this analysis.

Cost per Mile

Table 4-12 presents the cost per mile for each weekday route, Saturday route, and the ZIPS service, as well as the route rankings. This indicator presents the total route cost per revenue mile operated, and is an indicator of how well resources are being used to produce a unit of service. RPT averages \$6.67 in cost per mile for all of the weekday routes, \$5.80 per mile for the Saturday routes, and \$3.53 per mile for the ZIPS program. On weekdays, local routes have an average cost per mile of \$7.36, Direct routes have an average cost per mile of \$4.38, and evening routes have an average cost per mile of \$4.34. Figure 4-10 presents the rank order for each route for cost per mile.

4.5.3 Cost Effectiveness

Cost effectiveness measures the effectiveness of the system from a financial standpoint – how well the dollars put into the system are being used to produce trips. The cost effectiveness indicators include cost per passenger, subsidy per passenger, and farebox recovery.

Cost per Passenger

Also shown in Table 4-12 is cost per passenger and ranking for each weekday route, Saturday route, and the ZIPS service. RPT averages \$6.38 in cost per passenger for the weekday routes, \$5.45 per passenger for the Saturday routes, and \$19.56 per passenger for the ZIPS service. The average cost per passenger for local routes is \$7.08, for Direct routes it is \$2.93, and for evening routes it is \$5.48. Figure 4-11 presents the rank order for each route for cost per passenger.

Subsidy per Passenger

A fraction of the cost of service is covered by the passenger fares collected. The difference between fares collected and cost is funded through a public subsidy. Subsidy per passenger is similar to cost per passenger, but measures specifically how much of the operating subsidy goes towards each passenger's trip. RPT averages \$5.14 in subsidy per passenger for the weekday routes, \$4.21 per passenger for the Saturday routes, and \$16.04 per passenger for the ZIPS service. The average subsidy per passenger for weekday local routes is \$5.84, for Direct routes is \$1.69, and for evening routes it is \$4.24. Figure 4-12 presents the rank order for each route for subsidy per passenger.

Farebox Recovery

Farebox recovery measures the percent of operating cost covered by fares. Calculated by dividing fare revenue by operating cost, this measurement evaluates the ridership productivity of a route against its total operating cost, as well as the fare policy of the system. RPT averages 36% farebox recovery for the weekday routes, 25% recovery for the Saturday routes, and 18% recovery for the ZIPS program. Farebox recovery varies by route as higher ridership routes carry collect more revenue than lower ridership routes, thus fare revenue provides more revenue to cover the cost of the route. The average farebox recovery by route type on weekdays is 29.53% for local routes, 75.74% for Direct routes, and 30.15% for evening routes. Figure 4-13 presents the rank order for each route for farebox recovery.

Table 4-12: Financial Efficiency and Cost Effectiveness Indicators

Route	Cost per Mile	Rank	Percent of System Average	Cost per Passenger	Rank	Percent of System Average	Subsidy per Passenger	Rank	Percent of System Average	Farebox Recovery	Rank	Percent of System Average
<i>Weekday Routes</i>												
1	\$5.58	22	84%	\$2.00	4	31%	\$0.76	4	15%	62.1%	4	175%
1D	\$3.51	4	53%	\$1.30	2	20%	\$0.06	2	1%	95.3%	2	268%
1N	\$4.31	9	65%	\$5.90	25	92%	\$4.66	25	91%	21.0%	25	59%
2	\$5.52	21	83%	\$2.87	12	45%	\$1.63	12	32%	43.2%	12	121%
3	\$11.00	36	165%	\$8.22	30	129%	\$6.98	30	136%	15.1%	30	42%
3N	\$4.25	8	64%	\$8.24	31	129%	\$7.00	31	136%	15.0%	31	42%
4	\$4.90	13	74%	\$2.87	13	45%	\$1.63	13	32%	43.1%	13	121%
4D	\$7.28	30	109%	\$5.92	26	93%	\$4.68	26	91%	20.9%	26	59%
5	\$5.47	20	82%	\$2.50	10	39%	\$1.26	10	24%	49.6%	10	140%
6	\$20.26	39	304%	\$2.86	11	45%	\$1.62	11	31%	43.4%	11	122%
6A	\$4.70	12	70%	\$4.09	18	64%	\$2.85	18	55%	30.3%	18	85%
6B	\$5.32	16	80%	\$3.72	16	58%	\$2.48	16	48%	33.4%	16	94%
6D	\$4.44	10	66%	\$4.72	23	74%	\$3.48	23	68%	26.3%	23	74%
6S	\$15.76	38	236%	\$27.01	39	423%	\$25.77	39	501%	4.6%	39	13%
7	\$4.96	14	74%	\$4.66	22	73%	\$3.42	22	67%	26.6%	22	75%
7A	\$5.47	19	82%	\$4.23	20	66%	\$2.99	20	58%	29.3%	20	82%
7N	\$3.37	3	51%	\$1.96	3	31%	\$0.72	3	14%	63.3%	3	178%
7S	\$2.28	1	34%	\$18.00	37	282%	\$16.76	37	326%	6.9%	37	19%
8	\$6.33	23	95%	\$2.45	9	38%	\$1.21	9	23%	50.6%	9	143%
9	\$7.52	31	113%	\$4.31	21	68%	\$3.07	21	60%	28.8%	21	81%
10 IN	\$7.22	24	108%	\$3.24	14	51%	\$2.00	14	39%	38.2%	14	108%
10 OUT	\$5.39	17	81%	\$2.36	8	37%	\$1.12	8	22%	52.5%	8	148%
11 IN	\$14.41	37	216%	\$7.03	29	110%	\$5.79	29	113%	17.6%	29	50%
11 OUT	\$3.81	6	57%	\$2.09	6	33%	\$0.85	6	16%	59.4%	6	167%

Route	Cost per Mile	Rank	Percent of System Average	Cost per Passenger	Rank	Percent of System Average	Subsidy per Passenger	Rank	Percent of System Average	Farebox Recovery	Rank	Percent of System Average
12	\$8.34	33	125%	\$9.11	32	143%	\$7.87	32	153%	13.6%	32	38%
12M	\$8.58	34	129%	\$12.28	35	192%	\$11.04	35	215%	10.1%	35	28%
12N	\$5.43	18	81%	\$5.81	24	91%	\$4.57	24	89%	21.3%	24	60%
14	\$3.93	7	59%	\$4.13	19	65%	\$2.89	19	56%	30.0%	19	85%
15D	\$3.53	5	53%	\$2.02	5	32%	\$0.78	5	15%	61.3%	5	173%
16	\$9.75	35	146%	\$10.83	33	170%	\$9.59	33	186%	11.4%	33	32%
17	\$4.66	11	70%	\$3.86	17	60%	\$2.62	17	51%	32.1%	17	90%
18	\$5.31	15	80%	\$11.74	34	184%	\$10.50	34	204%	10.6%	34	30%
18D	\$3.13	2	47%	\$0.71	1	11%	(\$0.53)	1	-10%	174.9%	1	492%
55 Tuesday	\$8.27	32	124%	\$22.58	38	354%	\$21.34	38	415%	5.5%	38	15%
55 Friday	\$7.23	25	108%	\$14.61	36	229%	\$13.37	36	260%	8.5%	36	24%
19	\$7.23	29	108%	\$2.27	7	36%	\$1.03	7	20%	54.6%	7	154%
4A	\$7.23	26	108%	\$3.37	15	53%	\$2.13	15	41%	36.8%	15	104%
4B	\$7.23	27	108%	\$6.63	28	104%	\$5.39	28	105%	18.7%	28	53%
4M	\$7.23	28	108%	\$6.47	27	101%	\$5.23	27	102%	19.2%	27	54%
Weekday Route Avg	\$6.67			\$6.38			\$5.14			36%		
<i>Saturday Routes</i>												
21	\$4.81	3	83%	\$3.27	1	60%	\$2.03	1	48%	37.9%	1	155%
22	\$5.22	6	90%	\$5.66	5	104%	\$4.42	5	105%	21.9%	5	89%
23	\$8.64	7	149%	\$5.42	4	99%	\$4.18	4	99%	22.9%	4	93%
24	\$10.29	8	177%	\$5.75	6	105%	\$4.51	6	107%	21.6%	6	88%
25 IN	\$5.02	5	86%	\$6.12	7	112%	\$4.88	7	116%	20.3%	7	83%
25 OUT	\$4.15	2	72%	\$4.08	2	75%	\$2.84	2	67%	30.4%	2	124%
6 IN	\$4.95	4	85%	\$8.68	8	159%	\$7.44	8	177%	14.3%	8	58%

Route	Cost per Mile	Rank	Percent of System Average	Cost per Passenger	Rank	Percent of System Average	Subsidy per Passenger	Rank	Percent of System Average	Farebox Recovery	Rank	Percent of System Average
26 OUT	\$3.33	1	57%	\$4.64	3	85%	\$3.40	3	81%	26.7%	3	109%
Saturday Route Avg	\$5.80			\$5.45			\$4.21			25%		
Fixed Route Avg	\$6.52			\$6.23			\$4.99			34%		
ZIPS*	\$3.53	1	100%	\$19.56	1	100%	\$16.04	1	100%	18.0%	1	100%

Figure 4-10: Cost Efficiency (Cost per Mile)

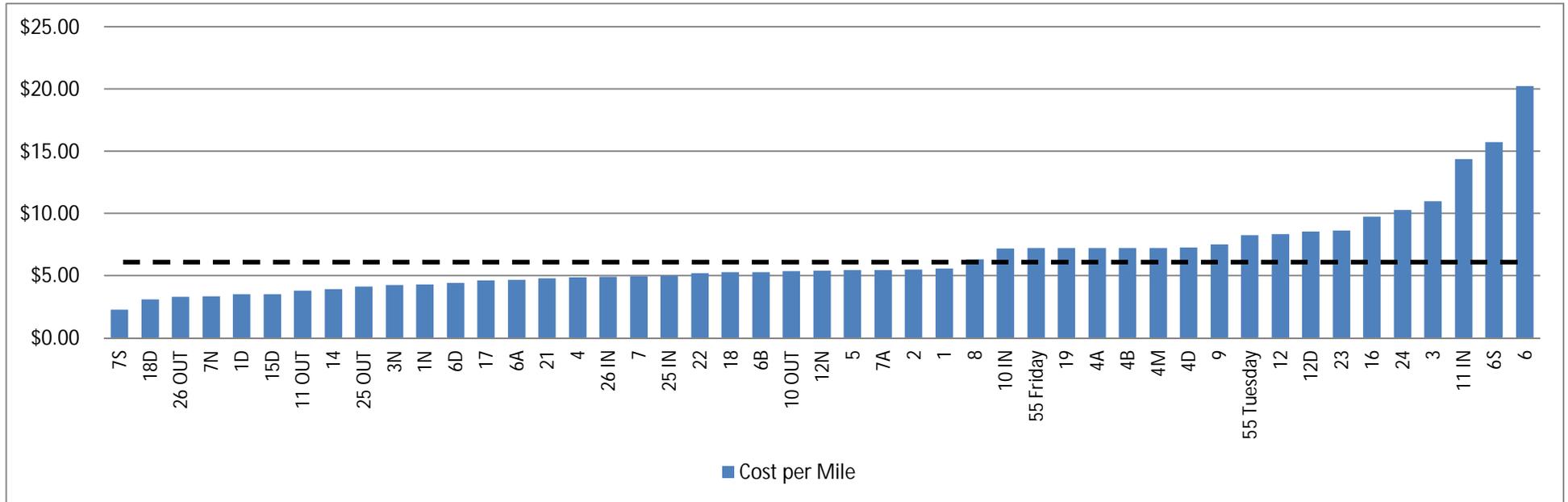


Figure 4-11: Cost Effectiveness (Cost per Passenger)

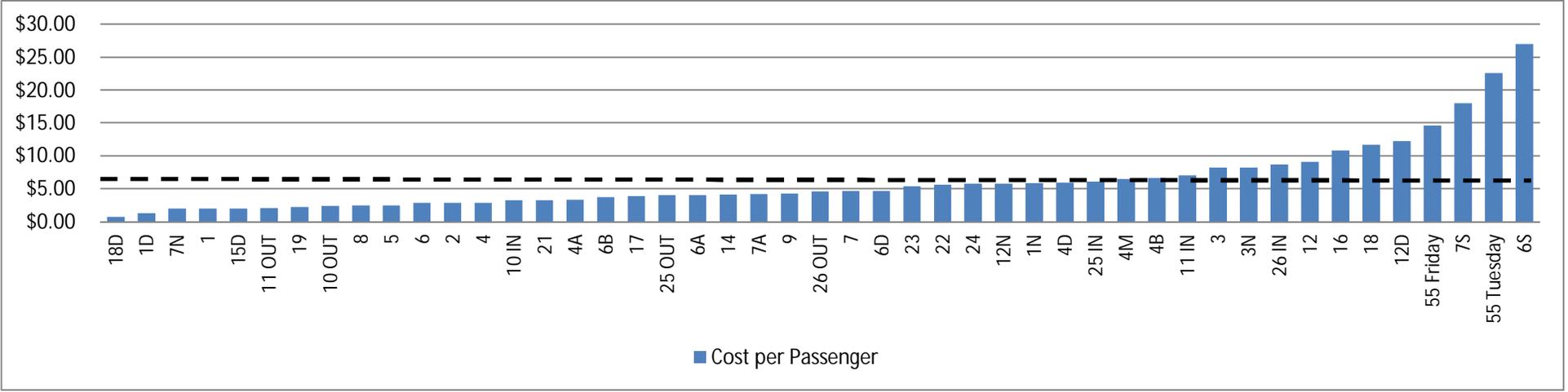


Figure 4-12: Cost Effectiveness (Subsidy per Passenger)

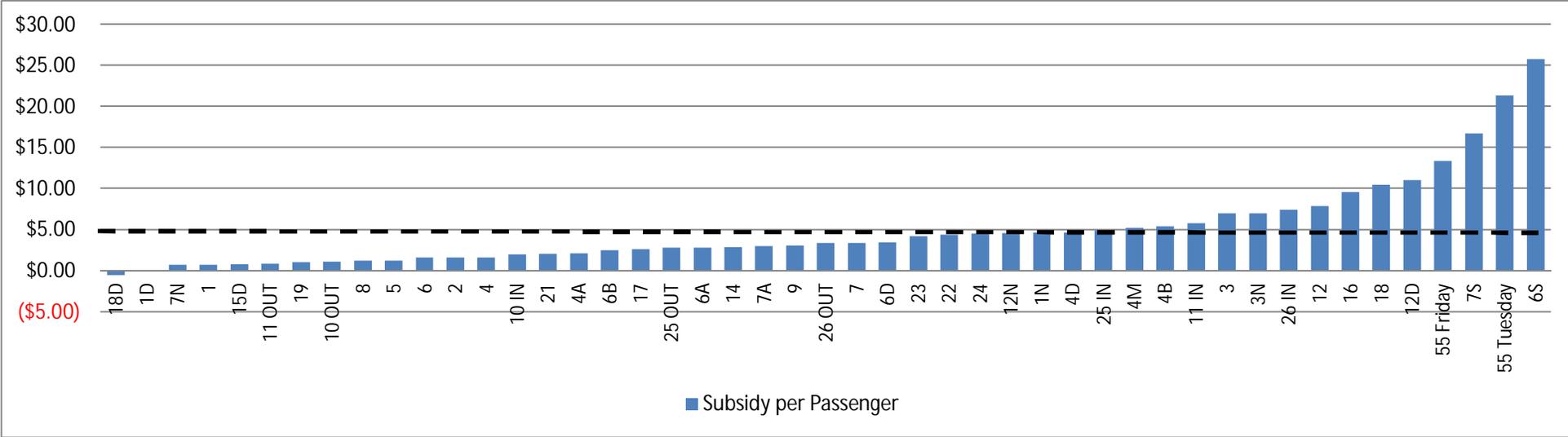
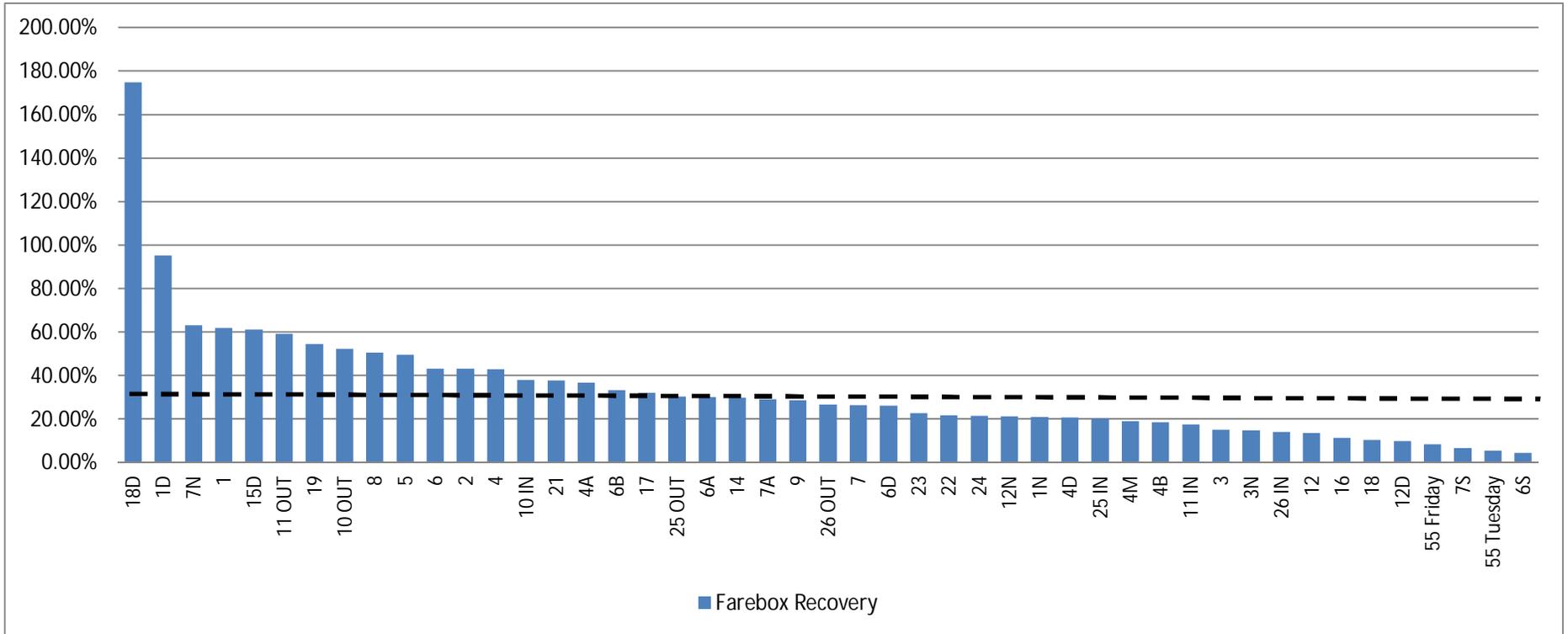


Figure 4-13: Cost Effectiveness (Farebox Recovery)



4.5.4 Overall Route Rankings

The rankings of each of the routes for three indicators can be used to calculate a cumulative rank score for each route annually (with separate rankings for weekday routes and Saturday routes). The three indicators include passengers per hour to rate service effectiveness, cost per mile to rate financial efficiency, and cost per passenger to rate cost effectiveness. Routes with a higher score are indicative of poorer performing routes which need to be addressed. Routes with a lower score are generally better-performing routes that may only require monitoring or minor adjustment in order to integrate better into the RPT network or to serve new trip generators. Table 4-13 presents the annual route rankings by route with Table 4-14 presenting the route rankings by rank.

Table 4-13: RPT Annual Route Rankings by Route

Route	Passengers per Hour Rank	Cost per Mile Rank	Cost per Passenger Rank	Cumulative Rank Score	Route Ranking
<i>Weekday Routes</i>					
1	4	22	4	30	5
1D	2	4	2	8	2
1N	25	9	25	59	20
2	8	21	12	41	10
3	30	36	30	96	32
3N	29	8	31	68	24
4	NA	13	13	26	
4D	27	30	26	83	30
5	5	20	10	35	8
6	9	39	11	59	21
6A	18	12	18	48	14
6B	17	16	16	49	15
6D	13	10	23	46	12
6S	NA	38	39	77	
7	22	14	22	58	19
7A	21	19	20	60	22
7N	28	3	3	34	7
7S	NA	1	37	38	
8	7	23	9	39	9
9	24	31	21	76	26
10 IN	12	24	14	50	16
10 OUT	6	17	8	31	6
11 IN	10	37	29	76	27
11 OUT	11	6	6	23	4
12	34	33	32	99	33
12M	36	34	35	105	35

Route	Passengers per Hour Rank	Cost per Mile Rank	Cost per Passenger Rank	Cumulative Rank Score	Route Ranking
12N	23	18	24	65	23
14	20	7	19	46	13
15D	3	5	5	13	3
16	33	35	33	101	34
17	16	11	17	44	11
18	31	15	34	80	28
18D	1	2	1	4	1
55 Tuesday	35	32	38	105	36
55 Friday	32	25	36	93	31
19	14	29	7	50	17
4A	15	26	15	56	18
4B	26	27	28	81	29
4M	19	28	27	74	25
<i>Saturday Routes</i>					
21	1	3	1	5	1
22	4	6	5	15	4
23	7	7	4	18	6
24	6	8	6	20	T7
25 IN	5	5	7	17	5
25 OUT	2	2	2	6	2
26 IN	8	4	8	20	T7
26 OUT	3	1	3	7	3

Table 4-14: RPT Annual Route Rankings by Rank

Route	Passengers per Hour Rank	Cost per Mile Rank	Cost per Passenger Rank	Cumulative Rank Score	Route Ranking
<i>Weekday Routes</i>					
18D	1	2	1	4	1
1D	2	4	2	8	2
15D	3	5	5	13	3
11 OUT	11	6	6	23	4
1	4	22	4	30	5
10 OUT	6	17	8	31	6
7N	28	3	3	34	7
5	5	20	10	35	8
8	7	23	9	39	9
2	8	21	12	41	10
17	16	11	17	44	11
6D	13	10	23	46	12
14	20	7	19	46	13
6A	18	12	18	48	14
6B	17	16	16	49	15
10 IN	12	24	14	50	16
19	14	29	7	50	17
4A	15	26	15	56	18
7	22	14	22	58	19
1N	25	9	25	59	20
6	9	39	11	59	21
7A	21	19	20	60	22
12N	23	18	24	65	23
3N	29	8	31	68	24
4M	19	28	27	74	25
9	24	31	21	76	26
11 IN	10	37	29	76	27
18	31	15	34	80	28
4B	26	27	28	81	29
4D	27	30	26	83	30
55 Friday	32	25	36	93	31
3	30	36	30	96	32
12	34	33	32	99	33

Route	Passengers per Hour Rank	Cost per Mile Rank	Cost per Passenger Rank	Cumulative Rank Score	Route Ranking
16	33	35	33	101	34
12M	36	34	35	105	35
55 Tuesday	35	32	38	105	36
4	NA	13	13	26	
6S	NA	38	39	77	
7S	NA	1	37	38	
<i>Saturday Routes</i>					
21	1	3	1	5	1
25 OUT	2	2	2	6	2
26 OUT	3	1	3	7	3
22	4	6	5	15	4
25 IN	5	5	7	17	5
23	7	7	4	18	6
24	6	8	6	20	T7
26 IN	8	4	8	20	T7

Route 18D scored the best for the weekday routes, followed by Routes 1D, 15D, and 11, while Route 12M and the Tuesday Shopper scored the worst. For the Saturday routes, Route 21 scored the best, followed by Route 25, while Routes 24 and 26 scored the worst.

5 Service Guidelines

To assess the performance and adequacy of the current public transportation system and guide the formulation of route improvement proposals, it is necessary to establish a set of transit performance criteria.

Initially, these criteria are used in assessing the current bus service and indicating where areas of concern in terms of system performance may be. These criteria help shape the recommended guidelines that, in turn, help service planners determine the nature and extent of potential service improvements. These guidelines subsequently become the basis for formulating route improvement proposals to “bridge the gap” between actual and desired performance.

It should be noted that the focus of this chapter is on presenting service guidelines only for Rochester Public Transit’s fixed route bus system.

The recommended service guidelines for Rochester Public Transit’s fixed route service were developed by considering several key factors, including:

- Suitability to the characteristics of development and land uses in the Rochester Public Transit service area.
- Recognition of the cost implications that certain guidelines may entail and the availability of funding.
- Benchmarks set by existing service levels and performance.
- “Ease of use” in that the parameters defined in each guideline can be measured utilizing data that the Rochester Public Transit system can easily gather and track.
- Prevailing practice in the transit industry.
- The service guidelines prepared for the prior Transit Development Plan.
- Consultation with City of Rochester/Rochester Public Transit staff, as well as other stakeholders.

Several points should be made with respect to the development and subsequent application of the service guidelines:

- Reasonable judgment must be utilized in applying the service guidelines to assess current Rochester Public Transit service. In applying the guidelines, it should be kept in mind that although they are quantitative for the most part they nonetheless do not represent absolute conditions that must be met in all cases. For example, unusual situations may arise which warrant special consideration. Thus, the guidelines should be viewed as providing technical guidance for Rochester Public Transit’s service planners and should not be viewed as rigorous “standards” or “warrants”. The guidelines are designed to be used in combination with the best judgment and experience of Rochester Public Transit’s service planners and operations personnel.
- The recommended guidelines may sometimes appear to conflict with one another since some relate to the benefits derived from transit service while others relate to the costs. Nonetheless, the guidelines permit the tradeoffs to be delineated and an informed decision made to resolve differences.

- The guidelines have been developed to reflect the current Rochester Public Transit funding conditions. This does not preclude revisions to respond to new policy guidelines and prospective changes in operating and funding conditions.
- The comparison of actual performance with the guidelines should not be made on a strict “pass-fail” basis. Instead, results should be viewed in terms of the proportion of the time that the guideline is met or the level of attainment. Put simply, it should be recognized that there are times when the “intent of the guideline” is being satisfied.
- Finally, the service guidelines will be applied to Rochester Public Transit’s bus operations as part of the current analyses. Consideration should be given to adopting a set of service guidelines as part of a continuing monitoring program.

The proposed set of service guidelines appropriate for Rochester Public Transit includes four major aspects of service – Service Attributes, Operational Attributes, Passenger Comfort and Convenience, and Fiscal Condition. More than a dozen separate service guidelines within the four broad categories are presented in the following sections of this report.

5.1 Service Attributes

This category deals with routes and schedules and includes guidelines related to service availability, route design, and service provision. That is, this section first identifies where transit service should be provided throughout the City of Rochester, how the bus routes serving those destinations should be designed as well as when and how often those bus routes should operate.

5.1.1 Availability

A transit operator inevitably receives many requests for service from citizens who are not within walking distance of any route, or who desire that buses operating in their neighborhoods serve different destinations. Since transit resources are limited, it is unlikely that everyone will be accommodated to a satisfactory degree. Therefore, it is necessary to determine how to allocate the available resources to provide the best possible service.

In developing availability measures to gauge Rochester Public Transit service, this guideline has been divided into two separate components that reflect travel concentrations, trip purpose and the need for bus service. Availability guidelines are developed for the residential trip end that produces travel and the non-home end that attracts travel. A description of each of these two is presented below:

Production End - The City of Rochester is different compared with other comparable size communities in terms of the use of its transit system. In downtown Rochester, convenient parking is limited as well as costly resulting in car commuters only finding affordable parking many blocks from their work place. As a result, Rochester Public Transit Services sees a higher share of work commuters than would be expected in a community of this size.

With this background, the determination of which residential neighborhoods should be candidates for service is a more a function of population density of the area without regard for income considerations. Areas with high population density would exhibit the greater need for

transit. In other comparable size communities, both density and income levels typically are used to define where residential service should exist and warrant service.

Based on the standards developed for the previous Transit Development Plan, it has been determined that any census tracts of the City of Rochester that has a population density of 1,500 persons per square mile has the concentration necessary to support reasonable transit utilization levels. As the table below describes, the greater the density, the more the routes should be spaced together.

Table 5-1: Fixed Route Service Guide

Population Density (Population/Square Mile)	Recommended Fixed Route Requirement
Under 1,500	Fixed route is not Required
1,500 to 2,500	Fixed route service is provided during peak hours only/as needed
Above 2,500	Fixed routes are required with spacing not more than ¼ mile (4 city blocks) between routes

The route service guide and its application is just that, a guide and not an exact measurement. In some areas, the street pattern is not uniform or major generators are further apart than the guide indicates. Rochester Public Transit bus service may not conform to the guide in all areas. Service should, however, meet the intent of the guide which is to recognize that more densely populated areas need more transit service than sparsely populated areas.

Attraction End - Activity centers call for transit service if they are large enough to attract an adequate number of transit trips. To assist in this determination, "threshold levels" have been established for different categories of activity centers. These threshold levels are based on past experience and judgment, and should serve as guidelines in determining which centers in each category should be given consideration for service. It should also be noted that other factors, such as the proximity of the center to existing routes, should be considered before providing new service to a major activity center.

Major Employers – Employers with 300 or more total employees at one site (both full-time and part-time) are large enough to be considered for service. This guideline applies to individual employers. Groups of employers in a concentrated area such as *Industrial or Business Parks*, should all be considered major activity centers.

Shopping Centers – Shopping trips constitute a major reason for transit travel. Shopping centers with more than 100,000 square feet of leased retail space are large enough to be considered for Rochester Public Transit bus service. Mixed-use retail and office complexes can also be included within this category.

Colleges/Schools – Students often comprise a major segment of transit users in a community. Many high school students, however, have access to school buses to travel between home and school while college students must arrange for their own transportation. Additionally, colleges and universities often represent major employment sites. For this reason, only colleges and postsecondary schools have been included in this guideline. Those institutions with an enrollment of at least 1,000 students should be considered for service. Special consideration should be given to colleges and universities with restrictive parking policies.

Hospitals/Nursing Homes – In many instances, transit is the most reliable way for elderly and low-income residents of an area to access local medical offices and facilities. Also, hospitals and nursing homes often employ many individuals in entry level staff positions. Therefore, institutions of 100 beds or more may be considered candidates for Rochester Public Transit bus service.

Social Service/Government Centers – Public agencies, government centers and community facilities attract some volume of traffic. While the nature and size of these facilities varies greatly, it can be generally stated that those serving at least 100 clients daily may be considered for Rochester Public Transit service.

The categories of generators listed above represent the "destination" end of the transit trip. Combined with the availability guidelines for the other trip end (production), this provides a comprehensive view of service requirements within the Rochester Public Transit service area.

5.1.2 Route Structure

The above section identified recommendations on where Rochester Public Transit service should be made available. This section provides guidelines for the structure or design of the bus routes used to serve and connect the various destinations identified above.

5.1.2.1 Directness

This guideline addresses the need for system coordination, coherence and accessibility. Complicated circuitous routes and inordinate trip travel times discourage transit use. It must be recognized, however, that Rochester Public Transit cannot provide door-to-door bus service, or even a single ride trip ("one-seat" ride), for every passenger.

Two components are involved in measuring the directness of Rochester Public Transit's bus routes:

- First, the ratio of the actual route path distance to the straight line mileage between route terminals should be no more than 1.70. That is, the distance from one terminal to the other should be no more than seventy percent greater than the straightest ("as the crow flies") distance between the route's termini. This allows for deviation caused by both road alignment and route circulation. Routes with ratios that exceed 1.70 should be subjected to examination for cause, and modified if practical. Routes 7 and 7A, shown on Figure 5-1, are an example of routes that are not very direct while Routes 6A and 6B, shown on Figure 5-2 are direct routes.

Figure 5-1: Current Routes 7 and 7A Which Do Not Meet Directness Guidelines

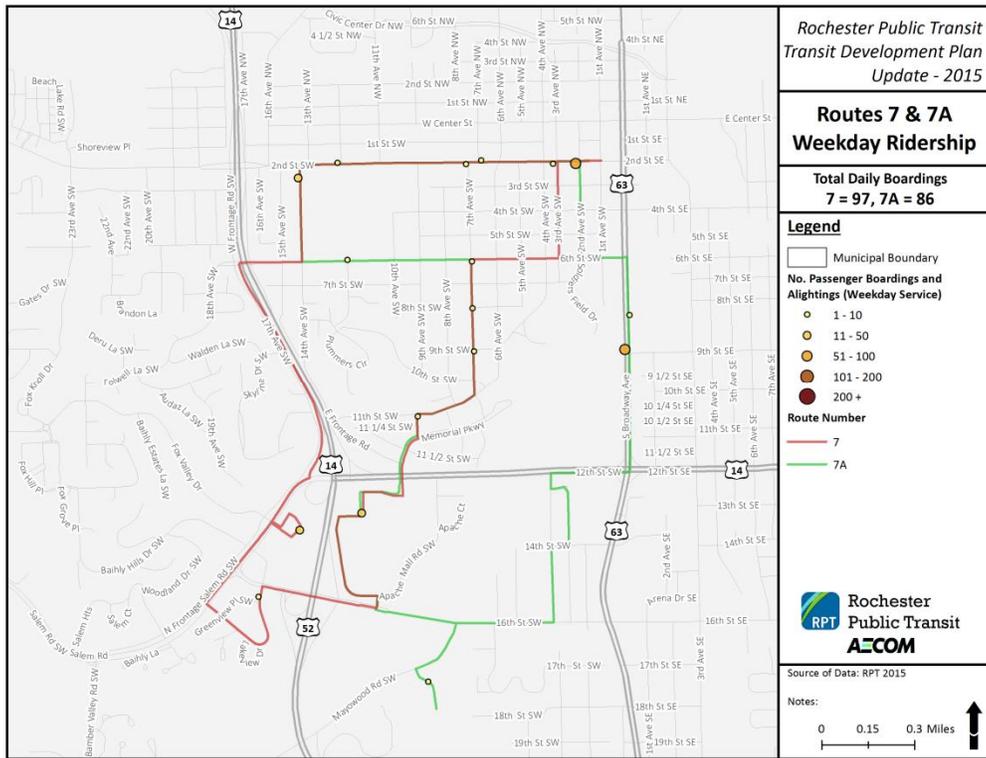
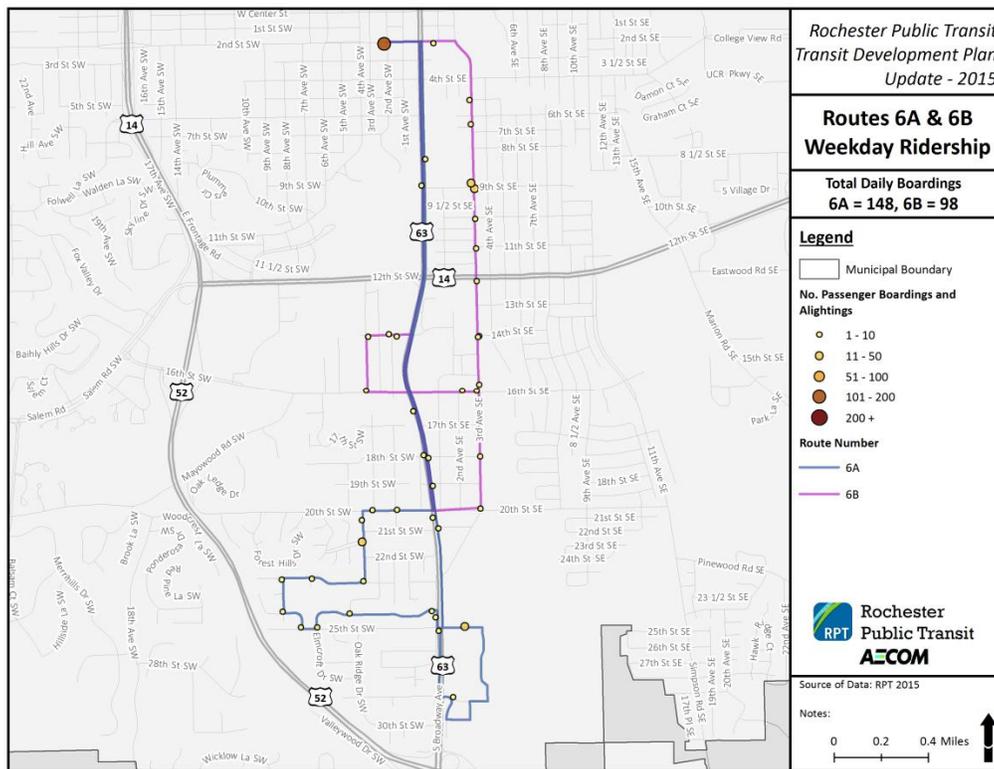


Figure 5-2: Routes 6A and 6B Which Do Meet Directness Guidelines



As mentioned earlier, service guidelines permit tradeoffs regarding service attributes. For example, if a particular route exhibits a directness ratio of 2.00, perhaps the route is attempting to serve too many places. In order to "straighten out" the alignment, deletion of service to certain generators may be necessary. If it is determined that these places should continue to be served, development of a new route or a realignment of an existing route may be in order. The tradeoff appears when weighing the costs of the new route or route realignment versus the expected ridership gain from offering a more direct and swift service.

Another aspect of the directness guideline is how it may impact a "loop" route, many of which exist in the Rochester Public Transit system. For example, a loop route may not meet the directness guideline because from point-to-point – in one direction – the guideline might be met, but the return trip – in the other direction – may be more circuitous and it might therefore exceed the guideline.

- The second component of the directness guideline states that no more than 25 percent of the system's patrons should need to transfer between vehicles in order to complete their trips. For purposes of this analysis, the transfer rate is determined as the ratio of transfers to total boardings. However, if specific transfer activity between two bus routes exceeds 25 percent of the total ridership on each of them, the guideline recommends that the routes be linked in some way. Also, transfer connections should be scheduled as closely as possible in order to minimize waiting times. Passengers should wait no longer than 15 minutes and preferably ten minutes or less.

5.1.2.2 *Route Branching/Turn Backs*

This service guideline concerns the complexity of the route structure in terms of route variations, that is, the number of branches off of the main route and turn backs from the full length of the route. A route structure which is too complex or has several variations for each bus route is confusing to existing riders and serves as a deterrent to new riders. The guideline for Rochester Public Transit should be to limit route branches or turn backs to no more than two for each route. Adherence to this guideline will reinforce for passengers the impression that the bus service is simple and easy to use.

5.1.2.3 *Route Categories*

Rochester Public Transit has five types of bus routes – *Regular Routes*, *Night Routes*, *Direct Routes*, *Special Routes* and *Saturday Routes*. Although there is no strict guideline regarding the number of route types that should exist, it should be recognized that the Route Structure guidelines as a group – the directness and route branching/turn back guidelines (as well as the span of service guidelines subsequently described) – would apply to each route regardless of type. In addition, efforts should continue – over time – to reduce the number of route types so as to minimize rider confusion and maximize system legibility, comprehension and consistency.

5.1.3 *Service Provision*

The two previous sections identified the areas and destinations where Rochester Public Transit service should be made available and provided certain guidelines for the design of the bus routes used to do so. This section prescribes guidelines for the hours during which these routes should operate and how often

they should be operated. The following paragraphs provide the service frequency and span of service for the Rochester Public Transit system. Rochester Public Transit provides five categories of service that must be addressed in these areas – Regular, Night, Directs, Special and Saturday routes.

5.1.3.1 *Span*

This measure is the duration of time each bus route is “made available” or operated during the day. Desires of the transit constituency and financial capability of the operator are key considerations in setting not only weekday service spans, but also which routes are operate on weekends (RPT does not currently have Sunday service but comments received during public outreach showed a desire for Sunday service). For weekdays, routes that are oriented to commuter travel should begin early enough to permit workers to make their morning start times and should end late enough to provide return trips home. Park-and-rides do have service available until 10:00PM. Service oriented to non-work or school travel generally starts later and ends sooner. A general guide for an appropriate span of service on a Sunday in a metropolitan area the size of Rochester is that service should exist on an “as needed” basis. The table below provides the suggested span of service for Rochester Public Transit Regular, Night, Directs, Special and Saturday routes.

Table 5-2: Span of Service

	Regular	Nights	Direct	Special	Weekend
Weekday	5:30AM to 7:00PM	6:00PM to 10:00PM	5:30AM to 9:00AM 3:00PM to 6:00PM	Midday Only	None
Saturday	None	None	None	None	7:00AM to 7:00PM
Sunday	As Needed				

The span, like other guidelines, is a guide. Specific routes can start earlier or end later than the suggested span depending on the need for service in a specific area as well as the generators and trip purposes served.

5.1.3.2 *Frequency*

This guideline is one of the commonly applied measures of transit adequacy, particularly from the patron's point of view. Consequently, it is one service characteristic that is typically the source of patron dissatisfaction. In general, frequencies or “headways” (i.e., the time from one bus to the next at the same location) are established to provide enough vehicles past the maximum load point(s) on a route to accommodate the passenger volume and stay within the recommended loading guidelines which are discussed later. If passenger loads are so light that an excessive time is needed between vehicles to meet loading guidelines, then headways should be set on the basis of policy considerations.

It should be noted that the headway guidelines should be viewed in conjunction with both the loading and productivity guidelines (described subsequently) to determine when a significant variance from the

policy guidelines can be allowed. Routes that perform at more than *125 percent of the system average* in terms of the productivity and/or loading guidelines might be overloading (or have high load factors) in at least the peak periods, and of course this would allow for headways more frequent than the minimum policy headways discussed below. In essence, it should be kept in mind – as was mentioned previously – that these performance guidelines should be viewed in conjunction with each other and in terms of the extent to which routes meet the intent of the guidelines.

For periods in which service is operated, the following minimum headways are suggested for Rochester Public Transit for Regular, Night, Directs, Special and Saturday routes.

Table 5-3: Intended Minimum Policy Headway (Minutes)

Route Type	Weekdays			Weekends	
	Peak	Base	Nights	Saturday	Sunday
	5:30AM-9AM 3PM-6PM	9AM-3PM	After 6PM	7AM-7PM	7AM-7PM
Regular	30	60	--	--	--
Night	--	--	60	--	--
Directs	30	--	--	--	--
Special	--	60	--	--	--
Saturday	--	--	--	60	--

As with all guidelines, this headway matrix should be considered a guide, not an absolute measure. Further, headways should be designed, wherever possible, to conform to regularly recurring “clockface” intervals. There are situations, however, where operational efficiencies may supersede the desirability of clockface headways. For example, if a route has a round trip cycle time of 70 minutes (the time needed to operate a round trip on the route), Rochester Public Transit may want to adopt a 70 minute frequency rather than a 60 minute frequency for that particular route. Establishing headways equal to cycle times allows a transit system to minimize costs by assigning a single bus to the route. In this example, strict adherence to a 60 minute headway policy would require a substantial increase in the amount of unproductive layover time.

5.2 Operational Attributes

The next four service guidelines – speed, loading, bus stop spacing and dependability – are focused primarily with the quality of Rochester Public Transit operations. These guidelines greatly affect the convenience of the service for the system’s passengers and also influence system operating costs.

5.2.1 Speed

Buses face certain unavoidable constraints that all vehicles on public streets experience. Thus, the speed of transit vehicles, in the absence of any preferential treatments, will not exceed the speed of traffic in general. Passenger boarding and alighting volumes, route alignments, bus stop spacing and fare collection methods are factors under the operator’s control which influence operating speed.

While there are several measures of speed that may be employed in the evaluation of this criterion, the most meaningful to the patron is running speed, which is route miles/running time (excluding layover). As might be expected, traffic and safety conditions will influence running speed. As the Rochester Public Transit system operates in a variety of settings, different running speeds are appropriate on different routes depending upon the characteristics of the areas served. Average running speed will be affected by the amount of the route that is operated in the more congested areas of the City of Rochester. Much higher running speeds should be expected in suburban or less congested areas of the City due to the nature of the area and the lower level of passenger activity. Higher speeds would also be expected on the direct routes that operate on a limited stop basis. The table below shows average running speeds that should be expected in the three different operating environments.

Table 5-4: Running Speed (MPH)

Service Area/Type	Speed (MPH)
City	8-14
Suburban	12-22
Direct Service	14-22

5.2.2 Loading

To ensure that most passengers will be provided a seat on a Rochester Public Transit bus for at least a major portion of the trip, loading guidelines must be established and schedules devised that reflect passenger volumes.

This guideline is measured as the ratio of passengers on board to the seated bus capacity expressed as a percent. Values of 100 percent or less indicate all riders are provided a seated ride while values of more than 100 percent denote standees.

Loading guidelines indicate the degree of crowding (i.e., standees) which is acceptable, with consideration given to both the type of service and the operating period. Acceptable load factors are as follows:

Table 5-5: Load Factor

Service Type	Peak (%)	Off-Peak (%)
Regular	125	100
Nights	n/a	100
Directs	100	n/a
Special	n/a	100
Saturday	n/a	100

n/a: not applicable

As shown in the above table, the recommended loading guideline for Rochester Public Transit requires that a seat is available for every rider's entire trip except on peak periods for Regular routes. The Direct routes require that each person have a seat since these routes will typically operate at high speeds over

a highway. Although the guideline allows for standees on peak period Regular routes, no rider should be expected to stand for more than 10 minutes.

For a route to be considered “overcrowded” a sustained pattern of trips exceeding the maximum load factor needs to be recorded, a single overcrowded trip would not represent a pattern of crowding. There are two ways to address overcrowding; first is to add additional trips and the second is to utilize larger vehicles such as articulated buses. Articulated buses are a lower cost solution that as it does not require additional bus operators along with associated costs. Adding service improves customer convenience by having service operate more frequently but it requires additional operators and vehicles and the additional frequency may have an effect on transferring passengers.

It should be noted that the loading guidelines should be viewed in conjunction with both the previously described frequency guidelines as well as the productivity guidelines (described subsequently) to determine when a significant variance from the policy guidelines can be allowed. Routes that perform at more than *125 percent of the system average* in terms of the productivity and/or loading guidelines might be overloading (or have high load factors) in at least the peak periods, and of course this would allow for headways more frequent than the minimum policy headways previously discussed. In essence, it should be kept in mind – as was mentioned previously – that these performance guidelines should be viewed in conjunction with each other and in terms of the extent to which routes meet the intent of the guidelines.

5.2.3 Bus Stop Spacing

While route alignments are the primary determinants of transit availability, a second influence on the proximity of transit service is the bus stop spacing along those routes. Bus stop spacing must provide the shortest walking distance to the bus for as many passengers as possible while allowing for an efficient running speed. Therefore, a bus stop spacing guideline must consider the density of the service area and the characteristics of the land uses served. The bus stop spacing guideline suggested for Rochester Public Transit is summarized in the table below.

Table 5-6: Bus Stop Spacing

Population Density (Persons/Square Mile)	Stop Spacing
Above 4,500	Every other block
2,500 to 4,500	5 to 6 per mile
1,500 to 2,500	4 to 5 per mile
Below 1,500	As Needed

Urban areas with regular street patterns can be more effectively considered on a block-by-block basis than would less densely developed suburban corridors. Within portions of downtown, it is reasonable to expect bus stops every block. It should be noted that in some instances, the bus stop spacing guideline should be discarded in favor of simply considering the location of patron concentration. This is especially true for stops that serve major activity centers.

Rochester Public Transit could enhance certain bus stops in downtown areas by furnishing each bus stop with passenger amenities, i.e., bus passenger waiting shelters that include bus route information. Waiting passengers will tend to congregate at stops where shelters including service information are located. This could reduce the number of stops and improve running speed. However, the installation and maintenance of a high number of bus shelters can be costly and may be considered undesirable.

The exact placement of a bus stop in the area of a signalized intersection is also a matter of concern. Some transit agencies prefer a “near-side” bus stop, where the bus stop is located just before an intersection. Other transit agencies prefer a “far-side” bus stop, which is located just after the intersection. In some cases a “mid-block” bus stop is utilized. In any event, site-specific traffic and street conditions should ultimately determine bus stop locations, and the exact placement of a bus stop should always be a matter for individual traffic engineering analysis. Overall, the intent of this aspect of the bus stop placement guideline is that a consistent policy should be pursued with respect to location.

5.2.4 Dependability

Published timetables must provide the transit patron with a reasonable guarantee that the scheduled service will operate, and will operate on time. The dependability of Rochester Public Transit is important to people who typically plan trips around the availability of bus service. Moreover, riders associate a time penalty with unreliable bus service that reduces the attractiveness of public transportation.

There are several ways to measure Rochester Public Transit's dependability, and the guidelines for service dependability are presented as follows:

The first group of measures indicates the level of dependability of Rochester Public Transit vehicles and staff to actually operate its scheduled service. Measures of actual versus scheduled service are expressed as the percentage of scheduled trips and scheduled bus pull-outs that are actually made as well as the number of miles between road calls.

- *Missed Trips* – For Rochester Public Transit, the missed trip guideline is established at 99.5 percent. This indicates that only one out of every 200 scheduled trips can be missed to meet the guideline.
- *Missed Pull-Outs* – Since it is easier to recover from service disruptions at the garage than in the field, an even more stringent guideline of 99.8 percent is appropriate for missed pull-outs. This permits one missed pull-out in 500. Rochester Public Transit should have sufficient spare buses and extra board bus drivers to ensure that both the trip and pull-out guidelines are met.
- *Miles Between Road Calls* – The final measure concerning the dependability of Rochester Public Transit vehicles is the number of miles operated between service disruption road calls. A general guide for Rochester Public Transit should be 4,000 miles between road calls.

Another way to measure dependability is to examine how well the service operated by Rochester Public Transit adheres to its posted schedule; that is, the difference between scheduled time and the time the bus actually passes a particular location. The schedule adherence guideline consists of two parts: (1) the definition of “on-time”; and (2) the proportion of buses that operate within the “on-time” range.

- *Definition of On-Time* – For purposes of assessing Rochester Public Transit’s dependability, “on-time” is established at zero minutes early to five minutes late. This allows the bus reasonable latitude for encountering general delays, without unduly inconveniencing the waiting patron. For most persons, a wait of up to five additional minutes would not be regarded as excessive. Buses should never be early, for this would cause patrons to miss the bus entirely and subject many riders to an even longer wait for the next scheduled bus.
- *Schedule Adherence* – The guideline for Rochester Public Transit schedule adherence is established at 95 percent. Therefore, 19 out of 20 trips should operate within the “on-time” range.

5.3 Passenger Comfort and Convenience

The next set of guidelines deals with increasing system utilization by providing a comfortable and functional environment. Guidelines in this category deal primarily with Rochester Public Transit’s equipment and communications. The guidelines address bus shelters, bus stop signs, revenue equipment and public information.

5.3.1 Bus Shelters

A major concern of transit riders is the amount of time spent on the street exposed to the elements. The placement of shelters and the development of a priority location program should be based on the number of boarding and/or transferring passengers at a specific stop. Bus shelters should be installed where daily passenger boardings exceed 25 passengers or at stops which serve concentrations of elderly residents or persons with disabilities, with higher priority given to stops that receive less frequent service. The table below provides a location priority guideline for bus shelters. Shelters should also display service information including bus route numbers and schedules for those routes that serve that bus stop.

Table 5-7: Bus Shelter Location Priority Guide

Daily Boardings	Headway in Minutes (Peak)		
	Over 60	31 to 60	30 or less
Over 50	Priority 1	Priority 2	Priority 3
25 to 50	Priority 4	Priority 5	*
Under 25	*	*	*

* Only provide shelter if concentrations of elderly residents or persons with disabilities exists

Benches, either in a shelter or stand alone, are another amenity that should be provided to riders. When furnishing bus stops with benches, priority should be given to bus stops where daily boardings exceed 15 passengers. Finally, it should be noted that some shelters and benches may be provided at locations that only see occasional peak numbers of average daily boardings – for example, at an academic facility or at an arena or similar public facility.

5.3.2 Bus Stop Signs

All bus stops in the system should be identified by a common bus stop sign bearing the Rochester Public Transit logo, web page address and telephone information number. All bus stop signs should be of a uniform style and, if possible, include the route numbers of buses that stop at that location (although

the route numbers may be included on a modular panel so that the “basic” bus stop sign is of a uniform design). All bus stops prescribed by the bus stop spacing guideline should be marked with such a sign.

5.3.3 Revenue Equipment

In order to maximize the pleasure and comfort of the bus rider, and thereby spur demand, Rochester Public Transit should provide attractive and comfortable vehicles. This guideline is primarily a matter of maintenance and suggests that within each Rochester Public Transit vehicle, seats should not be loose or ripped, floor covering should be in good repair, lighting systems should be operational, and the overall interior should be clean. Fareboxes should be in working condition. AVL and ITS should also be operable to allow the public (and transit managers) to know where all vehicles are at any time. Of particular importance to the patron is the riding environment. Therefore, the proper operation of air conditioning, ventilation and heating systems is essential.

Buses should also be attractive for the community in general. Noise, smoke and odor should be kept to as low a level as possible through use of the latest equipment and strict maintenance procedures. Bus exteriors should be washed at least every other day, preferably daily, and body damage and loose panels or doors should be scheduled for immediate repair. Bus exteriors should also display the agency name, logo, web page address and telephone information number. All buses should also have a bicycle rack.

A bus should be clearly marked as to which route it is operating. Traditionally, buses have a route destination sign overhead in front and also one on the side. This signage should display route number, destination and direction information that is easily understood by the transit patron.

5.3.4 Public Information

A transit system should develop and maintain a public information program which not only provides information to those who ask for it, but aggressively educates the public about the transit system and how to use it.

Individual bus route timetables should include all the information necessary for a new patron to make a trip on the bus, including route maps, schedules which show intermediate time points, fare information and transfer information. Route maps should label each street upon which, and the direction in which, the route operates. The lines marking the bus routing on the map should appear in a different color or weight than all other streets appearing on the map. Updated timetables should be published and available to the public a minimum of one week prior to the implementation of service changes. All timetables should include a beginning effective date. An ending effective date is even more helpful to passengers; however, due to the uncertainty of when service changes will be implemented, many systems do not include an ending effective date on their timetables to avoid the need to discard schedules that remain valid.

Public timetables should be available and prominently displayed on all buses. Appropriate sets of timetables should also be available in major activity centers and all shelters should display detailed bus route information. All buses, shelters and bus stop signs should display Rochester Public Transit’s web page address.

A system map of the service area showing all of Rochester Public Transit's bus routes should be available at no cost and should also be widely distributed.

Information should be available by phone during service hours. Passengers should be able to access information on all Rochester Public Transit routes through a single web portal that is also formatted to be easily legible on mobile devices. A procedure for handling and processing complaints or compliments should also be in place with all comments logged and their nature recorded. It should include mechanisms to take action to assure that the complaint is satisfactorily resolved or the compliment is delivered to the proper employee, and to inform the passenger that their comment was handled. To assist passengers in providing complete and accurate feedback, vehicle numbers should be displayed on the exterior and interior of each bus, each shelter and bus stop sign should display a prominent Rochester Public Transit name and the web page address.

5.4 Fiscal Condition

Rochester Public Transit's financial situation can be defined, both for the system and individual routes, in terms of four guidelines; fare structure, farebox recovery, productivity and evaluation of new services.

5.4.1 Fare Structure

A transit system's fare structure should be easy to understand, easy to remember, and easy to administer. There is a tradeoff, however, between simplicity and equity. For example, a zone structure would charge people more equitably by having those who ride farther pay more, but the zones add another dimension to the fare structure. On the other hand, a flat fare is simple to understand and administer, but those who ride short distances pay just as much as long distance travelers. Another facet of fares to consider is special fares for certain ridership groups such as senior citizens.

Fare structure is a *subjective* element for which no quantitative guideline is established for Rochester Public Transit. Rather, judgment and/or local policy must be used to establish or change the fare structure. Five qualitative criteria should guide that process:

- Equity – How equitable is the fare structure?
- Administrative Ease – How easily is the fare structure administered?
- Patron Comprehension – How easy is the fare structure for people to understand?
- Fiscal Integrity – Will the fare structure provide a reasonable level of revenue?
- Promotion of Transit Use – Can the fare structure be used to promote ridership?

5.4.2 Farebox Recovery

One of Rochester Public Transit's primary objectives is to provide area residents with the best possible service within a reasonable budget constraint. To achieve this, each route should be examined individually to determine if any bus line is placing an inordinate financial burden on the entire system. Routes should be periodically compared to systemwide averages so that the operating deficit is controlled and equipment is deployed productively.

To accomplish this, two farebox recovery measures (the ratio of passenger revenue to operating costs) are suggested for each service type – Regular, Night, Directs, Special and Saturday routes – as follows:

- The first relates to systemwide performance; a systemwide farebox recovery guideline of 35 percent is suggested for Regular and Night routes, 50 percent for Direct routes, 20 percent for Specials and 35 percent for the Saturday routes. These benchmarks are based on the current system farebox recovery rates.
- The second farebox recovery measure looks at the performance of each individual Rochester Public Transit route. Each route's farebox recovery ratio should be calculated. System costs must be computed for each route, and the route's revenue compared to its calculated cost. Individual route performance should then be compared to the suggested applicable farebox recovery guideline for its route category, as presented above. The table below provides guidelines for evaluating route performance against the suggested guideline.

Table 5-8: Route Farebox Recovery Guide

Percent of System Standard	Category	Suggested Actions
80 and above	Successful	Modify if opportunities exist
60 to 79	Acceptable	Seek improvement opportunities
Below 60	Unacceptable	Consider major modification or elimination

For the Regular individual route guideline, routes with a farebox recovery of 80 percent of the suggested farebox recovery guideline (80% of 35 percent) or a 28.8 percent farebox recovery or higher are considered successful and changes should only be made on an opportunistic basis. Regular routes from 60 to 79 percent of the guideline (21 - 28 percent farebox recovery) are deemed acceptable. Strategies to improve the performance of these routes should be actively explored, but no changes are necessary. Routes that fall below 60 percent of the suggested guideline (below 21 percent farebox recovery) are problem bus lines and candidates for modification or elimination. Application of the route level guideline will also help control the operating deficit and ensure that transit resources are used in an efficient manner.

5.4.3 Productivity

The average fare paid by passengers varies by transit route, and therefore, productivity is a useful performance measure to supplement farebox recovery results. Productivity is measured in terms of how many passengers a transit system carries for each unit of service. The two most common measures are passengers per hour and passengers per mile. "Passengers per hour" is the more commonly used of the two, and is more appropriate for Rochester Public Transit.

Similar to farebox recovery, there are two measures for passengers per vehicle hour, as follows:

- The first relates to systemwide performance; a systemwide passengers per vehicle hour guideline of 18 for Regular routes, 20 for Direct routes, 5 for Specials and Night routes and 15 for Saturday routes is suggested. This is based on a combination of the performance of the current bus routes and the performance of other similarly sized systems throughout the country.
- The second passengers per vehicle hour measure looks at the performance of each individual Rochester Public Transit route. Each bus route's passengers per vehicle hour rate should be calculated. Individual route performance should then be compared to the suggested

systemwide guideline for the appropriate route category. The chart below provides guidelines for evaluating route performance against the suggested guideline.

Table 5-9: Fixed Route Productivity Guidelines

Percent of System Standard	Category	Suggested Actions
80 and above	Successful	Modify if opportunities exist
60 to 79	Acceptable	Seek improvement opportunities
Below 60	Unacceptable	Consider major modification or elimination

For the individual Regular route guideline, routes above 80 percent of the suggested passenger per vehicle hour guideline (14.40 passengers per vehicle hour or above) are considered successful and changes should only be made on an opportunistic basis. Routes from 60 to 79 percent of the guideline (10.80 – 14.22 passengers per vehicle hour) are deemed acceptable. Strategies to improve the performance of these routes should be actively explored, but no changes are necessary. Routes that fall below 60 percent of the suggested guideline (below 10.80 passengers per vehicle hour) are problem bus lines and candidates for modification or elimination. Application of the route level guideline will also help control the operating deficit and ensure that transit resources are used in an efficient manner. This is shown on Tables 5-8 and 5-9.

It should be noted that the productivity guidelines should be viewed in conjunction with both the previously described frequency and loading guidelines to determine when a significant variance from the policy guidelines can be allowed. Routes that perform at more than *125 percent of the system average* in terms of the productivity and/or loading guidelines might be overloading (or have high load factors) in at least the peak periods, and of course this would allow for headways more frequent than the minimum policy headways previously discussed. In essence, it should be kept in mind – as was mentioned previously – that these performance guidelines should be viewed in conjunction with each other and in terms of the extent to which routes meet the intent of the guidelines.

5.4.4 Evaluation of New Services

A difficult issue many transit operators face is how to evaluate new services, which includes new routes or extensions to existing routes. New service needs should be identified and developed as part of the continuous transit planning and development process, with outreach to and input from the public, as well as consideration of the transit need assessment that can be developed and ascertained from the application of the “Availability” guidelines described previously.

The farebox recovery and productivity guidelines should be applied to a new route or route extension with some caution. Any new service takes time to build its ridership base. In many cases, new services are not fully productive for several months. Therefore, new routes with productivity and performance rates greater than 45 percent of the system guideline for the appropriate service type should be considered acceptable at the end of the first year. After the first year of operation, new routes should be evaluated in the same manner as all other routes. New services should be monitored closely during the first few weeks of operation.

A trial period extending approximately 12 months should be adequate to help determine whether or not the service change should be made permanent. This evaluation criteria is highlighted on Table 5-10.

Table 5-10: Evaluation of New Services

	First 12 Months	After 12 Months
Farebox Recovery Guidelines	Performance should exceed 45% of the guideline for the route type	Performance should meet the guideline for the route type
Productivity Guidelines		

Another point to remember when evaluating route performance is that the demand elasticity for bus service is less than one. For example, a ten percent increase in service and costs will not produce a corresponding increase in ridership and revenue. Accordingly, it is reasonable to expect routes with service expansions to experience a reduction in farebox recovery and other performance measures. However, the change in performance measures must be compared to the benefits to riders and the community receiving the expanded bus service.

5.5 ADA Complementary Paratransit Guidelines

Just as there are service guidelines for fixed route services, ZIPS also requires a set of guidelines for its complementary paratransit, both to ensure that the system is configured correctly and to determine how effective it is in delivering service to its customers.

The ADA guidelines herein come generally from three sources and are divided into two categories, design and performance. The ADA prescribes the set of design criteria while industry standards, particularly with regard to service effectiveness and productivity, and previous standards used by ZIPS define the performance criteria.

The following guidelines will be used to ensure that ZIPS, the ADA program, is meeting the requirements of the ADA and, second, that it is being operated effectively with regard to productivity, financial performance, and customer satisfaction.

Design Guidelines from the ADA

The ADA has several requirements that have been taken from the law and are the basis for assessing the design of the program.

Coverage

ADA service must be provided to all areas within ¼ of a mile of a local fixed route, but is not required to be provided in an area outside the boundaries of the jurisdiction if it does not have authority to operate in that area.

Hours of Service

ADA service must be provided for all days and hours that local fixed route bus service is provided.

Trip Purpose

There can be no restrictions or priorities based on trip purpose. There is no restriction on the number of trips that an eligible individual can take. Paratransit service will be provided to any ADA paratransit eligible person at any requested time on a particular day in response to a request for service made the previous day. Reservation service must be available during at least all normal business hours as well as during times comparable to normal business hours on a day when the offices are not open before a service day. Negotiated pickup times are allowable but not to begin more than one hour before or after the individual's desired departure time.

Advance reservations made up to 14 days in advance of an ADA paratransit eligible individual's desired trips are allowable.

Fares

ADA fares cannot exceed twice that of the fixed route system's base fares for a trip of similar length, at a similar time of day, on the entity's fixed route system. A personal care attendant shall not be charged for complementary paratransit service. The fares for individuals accompanying ADA paratransit eligible individuals is the same as for the ADA paratransit eligible individuals they are accompanying. ZIPS may charge a fare higher than otherwise permitted to a social service agency or other organization for agency trips (*i.e.*, trips guaranteed to the organization).

Eligibility

Eligibility for ZIPS service is defined as being for individuals who cannot access a fixed route bus and/or cannot board a fixed route bus that is not wheelchair accessible. Because RPT's entire fixed route fleet is wheelchair accessible (low floor buses), the eligibility requirement pertains to those who cannot access the bus stops due to environmental considerations.

Conditional eligibility, particularly due to weather conditions, is encouraged by the ADA. Conditional eligibility is useful during the winter—for some at all times, for others during only the harshest days, and for all if sidewalk and pathway conditions are impassable due to heavy snowfall or icing.

Many agencies have tightened their eligibility by using functional testing and in-person interviews in addition to standard forms and medical provider reviews; provide fixed route training; and use the aforementioned conditional eligibility as means of targeting their services to those who otherwise have no other means to travel and controlling overall demand.

ADA systems can set a No-Show and Cancellation Policy to penalize frequent abusers of the system who fail to show up for their scheduled trip and who do not call in cancellations in an appropriate time frame. Most commonly, systems use a policy that an individual gets two warnings with the third failure resulting in a suspension of service, again most commonly for one month. The system must have a policy in place for riders to contest the suspensions if they wish.

Percent Standing Orders

The ADA allows agencies to set aside a portion of the service available for standing orders, with the sole caveat that there still is enough space available to meet individual demands for trips on a daily basis. As a general rule, no more than 50 percent of the service should be dedicated to such orders, but this would be flexible and governed by the ability of the system to avoid systematic denials.

Service Denials

There should be no systematic denials per the ADA. That is to say, the system cannot, on a regular basis, deny services to individuals who require them. As far as overall denials, the rate should be no more than 3 percent of all requests for service. Managing trip requests by offering reasonable alternative times is not considered a denial if the customer is flexible.

Recommended ZIPS Performance Guidelines

Industry standards, particularly with regard to service effectiveness and productivity, and previous standards used by ZIPS defining the performance criteria, were used to set the range and targets for the set of performance criteria recommended herein. These guidelines provide the means for completing a detailed assessment of the quality of the ADA complementary paratransit program. The assessment, which will appear later in the report, will identify any concerns with the program, apparent causes for these concerns, and then recommendations for amelioration of them. A guide to this process is contained in TCRP Report 124, Guidebook for Measuring, Assessing, and Improving Performance of Demand Responsive Transportation (Transportation Research Board 2008) developed by KFH Group in association with Urbitran Associates Inc. (AECOM) and others. The report contains a wealth of materials on the process and methods for improving performance and is highly recommended as a guidebook for the management and operation of the ADA program at all times.

There are innumerable measures possible to assess performance but the set that follows covers nine critical areas, uses readily available data from system operations, and uses targets that are easily identifiable from actual ZIPS operation and from industry resources. Together they cover key measures of efficiency and effectiveness, service quality, safety, and customer satisfaction.

Productivity

Measure: Passenger Trips/Revenue Hour

Peer Range 1.77 to 3.84

Minimum: 2.5

Target: 2.8

Cost-efficiency

Measure: Operating Cost/Revenue Hour

Range \$20.09 - \$ 79.91 (2008) [Note: The low value is a contracted, pay by trip program that is not comparable]

Target: \$50.00

Cost Effectiveness

Measure: Operating Cost/Passenger Trip

Range \$ 11.36 – 20.80 (2008)

Target: \$ 18.00

On-Time Performance

Measure: Target 90 percent within the system pick up window

Measure: Target 90 percent within the drop-off window

Target : plus/minus 10 minutes for pick-ups and drop-offs

Scheduling Quality

Measure: Percent No-Shows

Target: not to exceed 5 percent

Scheduling Effectiveness

Measure: Percent Cancellations

Target: not to exceed 10 percent

Safety

Measure: Chargeable Accidents or Incidents/ 100,000 miles

Target: Zero accidents per 100,000 miles

Safety/Condition

Measure: Mechanical Incidents/100,000 miles

Target : Up to .25 incidents per 100000 miles

Customer Satisfaction

Measure: Complaints per 100 trips

Target: Zero complaints

Measure: Average Telephone Wait Time

Target: Maximum 2 minutes on hold

Measure: Maximum Customer Time in Vehicle

Target: 45 minutes

The NTD term for accidents is incidents, and its definition is very specific, including the existence of one or more specifically defined conditions, such as injuries, fatalities and non-arson fires. The NTD safety-related data items differ from the other data items in that FTA does not make the reported data available to the public at the individual system report level. Those interested in reviewing the safety records of other transit systems cannot use posted electronic spreadsheets and databases to make safety performance comparisons among individual transit systems as they can for other NTD data items. However, since common definitions are used, data requests can be made to the transit systems.

ADA Paratransit Assessment and Recommendations

Using data collected by ZIPS and Rochester Public Transit staff, this section provides an assessment of the ZIPS program using the criteria and targets defined in an earlier report. As will be seen, ZIPS service design meets or exceeds all ADA requirements, and its performance on those criteria for which there are data is excellent. There are some gaps in the availability of data, although there is qualitative information on each of those areas that indicates very positive results.

ZIPS Program Design

As noted, ZIPS design is largely governed by the regulations of the ADA with regard to service parameters and policies. The service meets all of the standards and in fact exceeds them in a couple of areas, as follows:

Coverage – The ZIPS service area, defined as a rectangle bounded by 75th Avenue NW/NE on the north, 80th Avenue NE/SE on the east, 60th Avenue SW/SE on the south, and 60th Avenue SW/NW on the west is significantly larger than the fixed route service area, ZIPS is not required to go more than ¾ miles beyond the fixed route network so it is serving locations beyond the requirements. While a lot of the area, particularly to the northeast is undeveloped, serving even a few trips in any of these areas requires more resources than RPT necessarily has to provide, which in turn can restrict service availability within the actual required service area. As development moves further out and as RPT services follow, ZIPS will also have to expand into these areas by regulation, but for the moment this is excess service.

Recommendation: Monitor activity in those areas not required to be served under ADA and determine if they are reducing availability in the actual fixed route service area. If so, consider a reduction in the service area back to the ¾ mile boundaries. Also, if operating costs escalate beyond what RPT can support, consider reducing service as well.

Hours of Service – The hours of service are matched to those of the fixed route network as required by the ADA.

Recommendation: RPT will need to extend hours for the ADA based upon recommendations forthcoming from this plan, which is expected to call for longer hours into the evening as well as Sunday service.

Trip Purpose – ZIPS places no restrictions on purpose, and allots service between standing orders and demand services properly so that all trips are being served.

Recommendation: None

Fares – ADA fares are less than double that of the fixed route system. The base cash fare on the fixed route system is \$ 2.00, and that of ZIPS is \$ 3.00. PCAs ride free as required by the law and accompanying individuals pay the same rate as the ADA rider.

Recommendation: There are several reasons to consider a fare increase. Current fare revenues should be monitored against the operating cost for ZIPS, and if the deficit is too large for policy-makers then an increase should be considered since there is room to move to \$ 4.00 per trip. Second, if there is a need in the future to control demand an increase can be used to move some riders onto the fixed route system, which is fully accessible. Any action of this type needs to be accompanied by travel training and possibly by changes to the eligibility determination for ZIPS as outlined in the next section.

Eligibility - The eligibility determination for ZIPs consists of a questionnaire and certification by a medical provider of disability. . Because RPT's entire fixed route fleet is accessible (low floor buses), the eligibility requirement pertains to those who cannot access the bus stops due to environmental considerations, and could be set conditionally based on weather related issues.

ZIPS is in compliance with the ADA regulations and has both a proper certification process and a process for those challenging a negative finding.

ADA systems can set a No-Show and Cancellation Policy to penalize frequent abusers of the system who fail to show up for their scheduled trip and who do not call in cancellations in an appropriate time frame. ZIPS uses the most common procedure -- an individual gets two warnings with the third failure resulting in a suspension of service, again most commonly for one month. The system must have a policy in place for riders to contest the suspensions if they wish.

Recommendations: Because ADA trips are significantly more expensive to provide than fixed route trips, and because demand for ADA service has been growing at a rate that taxes available resources, many agencies have tightened their eligibility rules by using functional testing and in-person interviews in addition to standard forms and medical provider reviews; provide fixed route training; and use conditional eligibility as means of targeting their services to those who otherwise have no other means to travel and controlling overall demand. ZIPS can benefit by instituting these procedures, which also benefit in turn those who clearly need ADA service versus those who just as clearly can use fixed route services but do not.

Percent Standing Orders - Data provided by RPT from ZIPS shows that 71 percent of all trips are standing orders. While this exceed the general benchmark of 50 percent, the actual requirement is that standing orders as a percent of all trips should not create denials for individual trips. As will be seen below, ZIPS has reported no denials during the FY 15 period for which data was provided. Therefore, no change is needed at this time.

Service Denials - There were no denials recorded for the period under study. ZIPS schedulers have been able to negotiate slots successfully with clients to meet all demands for service to data.

Recommendation: Monitor the denial rate and standing order percentage to ensure that there is a proper balance between the two and that there are no systematic denials.

Zips Performance

ZIPS performance is excellent as can be seen by a comparison of the numbers to the target values set earlier:

Productivity – ZIPS productivity for FY 15 was 2.58 trips per vehicle hour, well within the range of 1.77 to 3.84 trips per vehicle hour, and within 10 percent of the target set at 2.8 trips per vehicle hour.

Cost-efficiency – ZIPS operating cost per vehicle hour was \$ 45.41 based on the data provided, again right in the middle of the suggested range and also below the target of \$ 50.00. This indicates an effective use of the operating costs to put service on the street.

Cost Effectiveness - In terms of using those financial resources effectively by making sure the vehicles are well-utilized, the productivity as shown above was good and therefore the cost per trip is very good for ADA paratransit at \$ 17.59, which is also below the target cost of \$ 18.00.

The above three measures combined indicate that ZIPS is performing well, using its resources effectively, and carrying a reasonable level of passengers. Any continued improvement might be recognized through consideration of tightened eligibility and service area, more control of cancellations and no-shows, and further experience in the scheduling and dispatching areas where the most significant work is done to effectively translate demand into trips. Staff at RPT and ZIPS should monitor changes in scheduling technology to keep abreast of best practices and to determine if there are packages coming that could improve performance. At this time, though, performance is very good and does not require any significant changes.

On-Time Performance – Data provided by for ZIPs reported only a 67 percent on time performance rate, but a caveat was added by them and by RPT staff that the software is relatively new and that there might be errors which they are working with the vendor to repair.

We would recommend that while the program is being debugged the vendor should do some manual checking of on-time performance. A manifest showing schedule time and actual time should be used and drivers instructed to call in to dispatching when they pick up or drop off a passenger. A representative sampling should be developed for this procedure, and the data used to determine the rate of on-time trips. The data can also be used to compare to the data from the software as it is being debugged.

Scheduling Quality – According to the data there were 453 no-shows during the period May – July 2016, and approximately 4500 trips provided. This translates to a no-show rate of about 9 percent (453 no-shows/4953 trips booked) which is a higher rate than the 5 percent target and requires consideration of steps to reduce it. The first step is to ensure that the no-show policy is being enforced. Second, schedulers or dispatchers can call clients on day in advance to remind them of their upcoming trip. Third and most dramatically the policy for reservations could be changed from 14 days to 7 days; in studies we have reviewed it appears that this step reduces no-shows by up to 10 percent.

Managing no-shows to reduce the rate would also result in higher productivity and a reduced cost per trip for the system.

Scheduling Effectiveness – Cancellations are not as bad as no-shows, as they are made at least 24 hours in advance and offer the opportunity to book other passengers. But not all cancellations will allow for another trip to be made so they do negatively affect performance and need to be controlled. The best control of cancellations is again to restrict the amount of time in advance that a trip can be booked, in this case from 14 days to one week. Too many people book trips “just in case” and then cancel, and this would control for that to some degree.

The data provided had 2991 cancellations, which means that of about 8,000 reservations that were made (4500 completed trips, 453 no-shows, 2991 cancellations), 37 percent were cancelled, which is an unacceptable rate. Reducing advance notice time is the first step but other actions likely need to be considered including training and outreach to clients, calls to egregious violators, and possible travel restriction penalties.

Safety – The target for chargeable accidents is to have none at all, and for the first 7 months of 2016 ZIPS had a single one, which is excellent.

Safety/Condition - Data was not reported for this measure. The data would have indicated how many in-service breakdowns occurred on the road, and how many required that passengers be transferred to another vehicle either while on-board or while waiting for service. The target value is up to .25 incidents per 100000 miles.

Customer Satisfaction - No data was provided for the three customer satisfaction criteria. A data collection plan needs to be set up for collecting and reporting this information: complaints, telephone wait time, and customer time in-vehicle.

The findings overall present a very positive picture of ZIPS, with some areas noted for improvements, largely concerning reducing the number of booked trips that are not translated into actual trips, e.g. no-shows and cancellations; and collecting more data on passenger satisfaction and service quality.

Tightening eligibility and certification processes within the guidelines of the ADA is one step to consider and use of functional testing and in person interviews would be very useful. A second is tightening advance notice policy to reduce the number of trips that are booked but never made. A third is to ensure that penalties for no-shows are being enforced and taking steps to educate and possibly penalize those who frequently cancel.

5.6 Summary

This chapter has provided service guidelines for the assessment of the existing Rochester Public Transit system; these service guidelines can also help provide direction for the subsequent development of service modification strategies.

Also, this chapter provided guidelines for the appearance and provision of passenger amenities and the condition of Rochester Public Transit revenue equipment. Additionally, the chapter addressed how information regarding the Rochester Public Transit system and its individual routes should be

communicated to Rochester Public Transit's current and prospective passengers, and how passenger feedback could be facilitated and processed.

Lastly, the chapter provided guidelines for measuring the performance of Rochester Public Transit's system and its individual bus routes and what kinds of actions to take in response to these measurements.

As mentioned throughout this chapter, the guidelines presented here are just that – *guides*. They are not meant to be used as concrete or inflexible measures, but rather as guidelines to assist in the preparation of transit service and other Rochester Public Transit policies.

6 Initial Public Outreach

To gain an expanded understanding of existing conditions and needs from a diverse set of transit stakeholders, the consultant team, in collaboration with City of Rochester staff, used a variety of tools and techniques to gather meaningful input to help shape the recommendations for the transit development plan. Engagement strategies involved City of Rochester and transit operations staff (including bus operators and supervisors), elected officials, members of the business and academic community, transit advisory committee, agency leaders, current passengers as well as the broader community. The project team incorporated a mix of outreach sessions, personal interviews, focused meetings, on-line and social media opportunities and surveys to gather input on current and future transit service needs and test the reasonableness of potential service modifications. An inventory of outreach activities is summarized in this section with subsequent sections summarizing the information and opinions gathered. This chapter provides a summary of findings from the initial round of public outreach, detailed descriptions of each event is provided in an appendix. Table 6-1 presents the number of people who participated in outreach activities.

Table 6-1: Public Outreach Participation

Activity	Response/Attendees
Decision Maker Survey	66
Community Survey	326
On-board Passenger Survey	1,286
Total	1,678

6.1 Decision Maker Survey

Overall decision makers are not users of the transit system. Decision makers feel that transit is important to have, and they have an overall positive view of the transit system. Decision makers echoed many of the unmet transit needs identified by others in the community related to service during evenings and weekends. There is also a feeling that at certain times of day the wait for a bus can be too long. Also, decision makers noted that RPT does not connect Rochester to neighboring communities. Decision makers stated in the survey that there should be increased investment in transit service in Rochester.

6.2 Community Survey

The findings of the community survey are similar to the decisions maker survey. Transit service is good for business and the community as a whole. The primary transit needs are evening and weekend service. The community at large mentioned that better public information is needed. The community is supportive of continuing to invest and grow RPT.

6.3 On-Board Passenger Survey

The riders are generally satisfied with transit service on most parameters, but least satisfied with “places served by transit” and by the cleanliness of RPT facilities.

The respondents endorsed a variety of what they judged would be improvements to transit services, specifically:

- More frequent service on existing routes—14.5 percent of all responses/mentions. Those riding to work were most likely to support this service expansion.
- More frequent night service in existing routes—13.3 percent
- More routes offering night service—12.1 percent
- Sunday service—11.2 percent. Those riding to destinations other than work were most likely to support this service expansion.

6.4 Other Outreach

As a key part of public input to the Rochester Transit Development Plan, a variety of qualitative meetings and discussions was held on October 27 and 28, 2015. These events included:

- Meeting with Community Network Group, consisting of representatives of social service agencies
- Two focused discussions with various city and transit leaders, service providers and others
- Meeting of the Citizen's Advisory Commission
- An open house meeting open to the general public, and one open house meeting at Ability Building Center
- Meeting of the Technical Committee of the TDP
- Pop-up meetings in downtown Rochester

A persistent theme across all of these groups and discussions is that Rochester Public Transit serves commuters (8 a.m. or 9 a.m.-to-5 p.m. workers) in the downtown Rochester area, including the Mayo Clinic, very well. It does not serve the needs of other riders—and, specifically, transit-dependent riders—well at all.

- "We don't have a public transit system," one participant said. "We have an employee shuttle for people who work downtown." This is of course hyperbole, but it makes the point.
- "Affluent areas with 8-to-5 workers are served very well."
- RPT is "a good bus system... (but) for limited use."

Much of the discussion centered on shortcomings of the current service. Some participants provided context for the complaints. Several said that public transit has not "kept up" with changes in the community. The workforce, for example, is increasingly working hours other than 8-to-5, working locations other than down town, and not all as well-paid as in the past.

Perhaps the biggest change is the continuing growth of employment in the downtown area, primarily at Mayo Clinic. One respondent said, "There will be 50,000 new workers downtown in the next 20 years—and no new traffic lanes. You can't get all those workers downtown in cars. You have to have transit."

- "Transit is no longer a transportation mode only for people who can't afford a car."
- Transit is not just transportation. "Transit is a huge part of economic development."

6.5 Overall Findings/Themes

Throughout the stakeholder outreach process, the project team was able to reach out to various groups that both influence and use transit service in the City of Rochester. While greater levels of detail are provided in the previous summary, some key themes emerge across multiple groups that are highlighted here.

Service Span

The span of service, both on weekdays and weekends, was cited as an area for the transit system's improvement. Having buses run earlier or later in the day was cited as a method for growing ridership 1) getting existing transit users to ride the bus more often, and 2) attracting new riders for whom the current span of service was inconvenient. Span was cited as a reason why shift workers are difficult to serve with transit.

Orientation to Downtown

Rochester Public Transit's route orientation to downtown and the Mayo Clinic is both a key strength of the system and identified as a potential shortcoming. Having a strong center of employment in downtown enables Rochester Public Transit to efficiently carry commuters and have a stable base of ridership, and a level of affluence among its ridership that sets Rochester apart from peer small urban systems. However, many outreach participants cited the possibility of an untapped market for those that do not travel to and from downtown and that mobility is limited for those that want to travel to outlying areas or across town without a downtown transfer.

Core Market for Transit Service

Improvements to transit service should prioritize people who rely on transit, older adults, and people with disabilities.

Increased Investment

The vast majority of decision makers stated that they would be willing to support an increased investment in public transit service.

System Strengths

Rochester Public Transit is operationally sound. Very few people indicated that there were major issues related to on-time performance, safety, driver training, or customer service. Shortcomings in these areas typically must be addressed before embarking on new transit initiatives, and it is apparent that Rochester Public Transit has a sound operational foundation on which it can build.

Community Values

Public transit is both valued by the community and businesses in Rochester. It is viewed as vital to both community and economic development.

Frequency

Participants in the community survey cited increased frequency of service (having buses run more often on their current routes) as a key strategy for improving transit and increasing ridership.

Why People Use Transit

Based on responses to the onboard survey, the top two factors for choosing to ride transit were the price and availability of parking and lack of access to an automobile.

7 Peer Group Analysis

This peer group analysis evaluates the City of Rochester, Minnesota transit system in relation to peers selected from the National Transit Database. Conducting a peer group assessment helps determine how a particular system is performing by providing a side by side comparison to other systems that share similar characteristics. This type of analysis provides a framework to determine what elements of a system perform well, and what elements could use some improvement.

7.1 Peer Group Selection Methodology

Peers should be about the same size with respect to the amount of service provided, as measured by the number of miles and hours of service, as well as the number of vehicles in service during peak periods.

The process for selecting peer systems begins by reviewing two sets of data as described below:

- Service area characteristics, including population size, service area, and other special characteristics such as the existence of a major institutional employer such as a university or large medical center. According to data collected from the City of Rochester's National Transit Database (NTD) for FY2013, the service area population for the Rochester transit system was 104,230. The City is also a major center for the health care industry, most notably home to the Mayo Clinic.
- Basic level of service criteria, including vehicle revenue miles, vehicle revenue hours, and the number of peak vehicles.

A careful review and selection from these two sets of data generally ensures that the peer group is representative of a similar set of transit systems operating under similar circumstances; and therefore provides some insights into the overall performance of the candidate system. The range within the group provides approximations for high and low achievement, allowing Rochester's service to be compared against the average as well as the upper and lower extremes.

The peer group analysis compares the subject system, in this case the City of Rochester's transit system, to its peers for the most recent data available. This peer group analysis for Rochester has been completed using data from the FY2013 National Transit Database (NTD) for Rochester and the peer systems. It is important to note that there may be changes in the peer systems and its operations since the publication of the FY 2013 data.

In addition to the peer system data, performance measures and service characteristics for the City of Rochester's transit system from 2006 were also added to the tables and analysis presented in this chapter. This allows for a comparison from when the last Transit Development Plan was completed that documents how Rochester's system has changed over the intervening years.

7.2 Selected Peer Group

After reviewing the NTD for systems that operate in a similar environment as the City of Rochester transit system and in consultation with City of Rochester staff, a total of eight systems were selected for the peer group analysis. The selected peers are as follows:

- Sioux Falls, South Dakota
- South Bend, Indiana
- Lawrence, Kansas
- College Station, Texas
- Iowa City, Iowa
- Greenville, North Carolina
- Asheville, North Carolina
- Columbia, Missouri

These peer cities have an average population of 110,057 within their service areas, compared to 104,230 for the City of Rochester, a difference of just under 6,000. A variety of operating statistics were obtained for this review, presented on Table 7-1, and used as the basis for calculating performance indicators. The performance of Rochester and its peers is detailed and contrasted in this analysis, first for the fixed-route service mode, and then for paratransit.

7.3 Fixed-Route Service

The 2013 operating statistics for Rochester and its fixed-route peer systems are presented in Table 7-1. Performance indicators were developed using these operating statistics and are shown in Table 7-2. The discussion below highlights Rochester's operations and performance in relation to the peer group average and its ranking within the total group of nine systems.

While Rochester has a similar service population to the peer average, it has the largest service area as measured by the square miles of the service area. As a result, it provides 26% more revenue miles of service to that population but just fewer than 4% more revenue hours when compared with the peer group average. In 2013, Rochester provided over 155,000 more trips than the peer average, ranking right in the middle of the peer group. Both operating costs and fare revenues were higher for Rochester than the peer average, leading to a total system deficit (difference between operating cost and farebox revenue) that was 12% greater than its peer average and third highest among the group.

Comparing Rochester's 2013 characteristics with those of 2006 shows an approximately 8% increase in revenue miles and hours along with a 20% increase in passenger trips and a 21% increase in fare revenue. The largest increases between 2006 and 2013 were seen in operating cost, with 73% growth, and the systemwide deficit, which more than doubled with growth of 117%.

Table 7-1: 2013 Operating Statistics – Fixed Route; City of Rochester and Peer Systems

System	Service Area Population	Revenue Miles	Revenue Hours	Passenger Trips	Operating Cost	Revenue from Fares	Deficit
Sioux Falls, SD	144,000	721,848	55,490	1,023,089	\$4,024,082	\$579,216	\$3,444,866
South Bend, IN	154,346	1,245,779	91,683	2,239,073	\$9,088,058	\$1,320,662	\$7,767,396
Lawrence, KS	87,965	917,845	89,050	2,916,833	\$5,705,498	\$3,097,878	\$2,607,620
College Station, TX	132,500	804,674	50,620	591,623	\$3,233,874	\$264,970	\$2,968,904
Iowa City, IA	68,947	714,810	54,536	1,879,594	\$5,124,364	\$1,303,197	\$3,821,167
Greenville, NC	84,554	293,264	21,606	543,282	\$1,719,975	\$303,126	\$1,416,849
Asheville, NC	83,393	888,930	62,975	1,437,104	\$5,347,924	\$800,146	\$4,547,778
Columbia, MO	124,748	685,020	70,325	1,833,822	\$4,491,807	\$1,734,557	\$2,757,250
Peer Average	110,057	784,021	62,036	1,558,053	\$4,841,948	\$1,175,469	\$3,666,479
Rochester, MN (2013)	104,230	990,883	64,301	1,713,801	\$6,082,813	\$1,966,224	\$4,116,589
Peer Difference	-5.29%	26.38%	3.65%	10.00%	25.63%	67.27%	12.28%
Rochester, MN (2006)	104,230	917,941	59,975	1,427,340	\$3,514,097	\$1,617,486	\$1,896,611
Change since 2006	0.00%	7.95%	7.21%	20.07%	73.10%	21.56%	117.05%

Below is a definition of terms presented in Table 7-1:

- Service Area Population – the number of people who reside in the transit service area as reported in the National Transit Database
- Revenue Miles – Distance buses travel providing service to passengers
- Revenue Hours – number of hours buses are providing service to passengers
- Passenger Trips – number of passenger boardings
- Operating Cost – The cost total cost to operate the system including operations, maintenance, and management
- Revenue from Fares – Amount of revenue collected from passengers or from service contracts
- Deficit – Difference between the operating cost of the route and revenue collected from fares

A next level of analysis is to compare performance measures of the peer group with the City of Rochester's. Table 7-2 summarizes several key performance measures that are summarized below. *Service Provided – These three measures reflect the relative amount of service offered in each community:*

- Revenue Miles per Capita: Rochester had 9.51 revenue miles per capita in 2013, the fourth highest among its peer group and 27% higher than the peer average.
- Revenue Hours per Capita: Rochester had 0.62 revenue hours per capita, also ranking it fourth highest and 4% more than the peer average.
- Passengers per Capita: Rochester had 16.44 passengers per capita, just over 5% higher than the peer average and once again ranking fourth highest.

In all three of these categories Rochester was above its peer group average and ranked fourth, putting it just above the middle of the range in the relative amount of service it provides. By far the largest difference came in revenue miles, partially due to Rochester's large service area, but also to some of the peers having particularly small service areas, such as Lawrence and Iowa City.

Relative to the 2006 numbers, Rochester saw 7%-8% growth in its revenue miles per capita and revenue hours per capita, but a larger 20% increase in passengers per capita. This demonstrates a higher level of service being provided to the service area population, and an even higher level of ridership taking advantage of the increased transit service.

Passenger Productivity – These two measures reflect the amount of service used by the public:

- Passengers per Revenue Mile: Rochester had 1.73 passengers per revenue mile, which was 13% below the peer average and ranked Rochester sixth among the peer group.
- Passengers per Revenue Hour: Rochester had 26.65 passengers per hour, ranking third in the group and nearly 9% above the peer average.

While Rochester was below the peer average in passengers per mile, it showed higher passenger productivity when considering passengers per hour. This dynamic could possibly be the result of Rochester's higher average operating speed. Compared to its 2006 numbers, Rochester saw between 11%-12% increase in its passengers per mile and per hour, reflecting a notable increase in passenger productivity.

Resource Utilization – This measure relates to usage of the vehicle fleet in terms of operating speed:

- Revenue Miles per Revenue Hour (Operating Speed): Rochester's average operating speed was 15.41 in 2013, compared to the peer group average of 12.92. This places the City second in its peer group, behind only College Station. Compared to 2006, this metric saw a negligible increase of 0.68%.

Cost Efficiency – These two measures reflect the costs of providing service:

- Operating Cost per Revenue Mile: Rochester's cost per mile in 2013 was \$6.14, nearly identical to the peer average of \$6.09. Within the group it ranked exactly in the middle.
- Operating Cost per Revenue Hour: Rochester's cost per hour was \$94.60, the second highest of its peer group and 21% higher than the peer average.

While Rochester's costs per mile were in line with the group average, its cost per hour was significantly higher than many of its peer cities. Rochester's costs have also grown considerably since 2006, with just over 60% increases on both measures of cost efficiency.

Cost Effectiveness – These four measures relate the costs and consumption of the service:

- Operating Cost per Passenger: Rochester's cost per passenger was \$3.55 in 2013, nearly in line with the peer group average of \$3.43 and ranking fifth in the group.

- Fare Revenue per Passenger: Rochester's revenue per passenger was \$1.15, the highest of the peer group and nearly 70% above the peer average of \$0.68.
- Deficit per Passenger: Rochester's deficit per passenger was \$2.40, almost 13% lower than the peer group average of \$2.76. This ranks it as fourth lowest deficit among its peers.
- Farebox Recovery (%): This measures the percentage of costs that are recovered through passenger fares. Rochester's farebox recovery was 32%, compared to the average of 23%, and placing it third highest within its peer group.

Of the cost effectiveness measures, Rochester compares favorably with its peer systems. It performed better than average on revenue and deficit per passenger and farebox recovery. It performed at the average on its operating costs per passenger. A factor in these results is the presence of revenue guarantees on certain Rochester transit routes provided by the Mayo Clinic. Rochester did see significant growth in its deficit per passenger since 2006, with an increase of 81%. This can be seen in its small increase in revenue per passenger (just over 1%), but a large, 44%, increase in its operating cost per passenger. These numbers led to a 30% decrease in the City's farebox recovery from 2006, though it still outperforms its peers on this metric.

Table 7-2: 2013 Performance Indicators - Fixed Route, City of Rochester and Peer Systems

System	Revenue Miles per Capita	Revenue Hours per Capita	Passengers per Capita	Passengers per Mile	Passengers per Hour	Miles per Hour
Sioux Falls, SD	5.01	0.39	7.10	1.42	18.44	13.01
South Bend, IN	8.07	0.59	14.51	1.80	24.42	13.59
Lawrence, KS	10.43	1.01	33.16	3.18	32.76	10.31
College Station, TX	6.07	0.38	4.47	0.74	11.69	15.90
Iowa City, IA	10.37	0.79	27.26	2.63	34.47	13.11
Greenville, NC	3.47	0.26	6.43	1.85	25.14	13.57
Asheville, NC	10.66	0.76	17.23	1.62	22.82	14.12
Columbia, MO	5.49	0.56	14.70	2.68	26.08	9.74
Peer Average	7.45	0.59	15.61	1.99	24.48	12.92
Rochester, MN (2013)	9.51	0.62	16.44	1.73	26.65	15.41
Peer Difference	27.65%	4.14%	5.35%	-13.00%	8.89%	19.30%
Rochester, MN (2006)	8.81	0.58	13.69	1.55	23.80	15.31
Rochester Trend	7.95%	7.21%	20.07%	11.23%	11.99%	0.68%
System	Op. Cost per Mile	Op. Cost per Hour	Op. Cost per Passenger	Revenue per Passenger	Deficit per passenger	Farebox Recovery
Sioux Falls, SD	\$5.57	\$72.52	\$3.93	\$0.57	\$3.37	14.39%
South Bend, IN	\$7.30	\$99.12	\$4.06	\$0.59	\$3.47	14.53%
Lawrence, KS	\$6.22	\$64.07	\$1.96	\$1.06	\$0.89	54.30%
College Station, TX	\$4.02	\$63.89	\$5.47	\$0.45	\$5.02	8.19%
Iowa City, IA	\$7.17	\$93.96	\$2.73	\$0.69	\$2.03	25.43%
Greenville, NC	\$5.86	\$79.61	\$3.17	\$0.56	\$2.61	17.62%
Asheville, NC	\$6.02	\$84.92	\$3.72	\$0.56	\$3.16	14.96%
Columbia, MO	\$6.56	\$63.87	\$2.45	\$0.95	\$1.50	38.62%
Peer Average	\$6.09	\$77.75	\$3.43	\$0.68	\$2.76	23.51%
Rochester, MN (2013)	\$6.14	\$94.60	\$3.55	\$1.15	\$2.40	32.32%
Peer Difference	0.82%	21.68%	3.34%	69.35%	-12.88%	37.51%
Rochester, MN (2006)	\$3.83	\$58.59	\$2.46	\$1.13	\$1.33	46.03%
Rochester Trend	60.36%	61.45%	44.16%	1.24%	80.77%	-29.77%

In summary, Rochester out-performed the peer average on eight of the twelve performance measures (Revenue Miles per Capita, Revenue Hours per Capita, Passengers per Capita, Passengers per Hour, Miles per Hour, Revenue per Passenger, Deficit per Passenger, and Farebox Recovery), performed at the average in two of them (Operating Cost per Mile and per Passenger), and performed below average on two measures (Passengers per Mile, and Operating Cost per Hour).

Rochester fared well with providing a high amount of service and doing so in a cost effective manner, particularly given its larger service area. Its performance, relative to the peer group, was also high on resource utilization, mixed on passenger productivity, and not as high on cost efficiency. Rochester's top measure as compared to its peers was revenue per passenger and its lowest was operating cost per hour.

When compared to its 2006 performance on these service indicators, Rochester has seen positive growth in service provided and passenger productivity, while remaining essentially flat on resource utilization and revenue per passenger. Additionally, the City has also seen large growth on the cost efficiency and effectiveness measures, reflecting a large increase in costs to provide the additional service since 2006.

7.4 Paratransit Service

The 2013 operating statistics for Rochester’s ZIPS and its paratransit peer systems are presented below in Table 7-3. Performance indicators were developed using these operating statistics and are shown in Table 7-4. As in the fixed-route section, the discussion below highlights Rochester’s operations and performance in relation to the peer group average and its ranking within the total group of nine systems, along with a comparison to its 2006 performance. The set of performance measures for paratransit service differs slightly from the fixed-route analysis due to the unique characteristics associated with providing paratransit service.

Table 7-3: 2013 Operating Statistics - Paratransit; City of Rochester and Peer Systems

System	Service Area Population	Revenue Miles	Revenue Hours	Passenger Trips	Passenger Miles	Operating Cost
Sioux Falls, SD	144,000	644,590	54,329	142,672	887,349	\$3,765,387
South Bend, IN	154,346	280,904	20,917	57,831	464,788	\$909,176
Lawrence, KS	87,965	314,920	29,390	60,418	287,259	\$1,814,417
College Station, TX	132,500	1,000,692	42,752	69,628	1,438,153	\$2,886,070
Iowa City, IA*	68,947	463,097	40,557	133,045	594,016	\$2,415,016
Greenville, NC**	84,554	109,863	10,485	13,975	NA	\$194,065
Asheville, NC***	83,393	1,008,362	55,585	127,569	1,285,397	\$2,845,131
Columbia, MO	124,748	187,110	21,871	45,413	245,834	\$1,420,890
Peer Average	110,057	501,192	34,486	81,319	743,257	\$2,031,269
Rochester, MN (2013)	104,230	217,621	14,352	39,288	276,299	\$768,414
Peer Difference	-5.29%	-56.58%	-58.38%	-51.69%	-62.83%	-62.17%
Rochester, MN (2006)	104,230	170,856	11,950	37,493	247,880	\$605,788
Rochester Trend	0.00%	27.37%	20.10%	4.79%	11.46%	26.85%

NA = Not Available

* Operated separately from Iowa City Transit by Johnson County SEATS

** Includes service inside city limits only, rest of county is covered by Pitt Area Transit System

*** Operated separately from Asheville Redefines Transit by Buncombe County (Mountain Mobility)

Service Provided – These measures reflect the relative amount of service offered in each community:

- Revenue Miles per Capita: Rochester had 2.09 revenue miles per capita in 2013, compared to the peer group average of 4.88, ranking them sixth out of the nine peer systems.
- Revenue Hours per Capita: Rochester had 0.14 revenue hours per capita while the peer group averaged 0.34. Rochester ranked seventh within the group.

- Passengers per Capita: Rochester had 0.38 passengers per capita, compared to a 0.82 average for the peer systems, with Rochester ranking sixth.

ZIPS ranks in the bottom half for service provided, and performs between 54%-60% below the average of its paratransit system peers. This is largely due to lower service demand due to the effectiveness of the fixed route service and other providers connecting seniors to the Mayor Clinic. ZIPS has seen substantial growth compared to its 2006 performance, with a 27% increase in revenue miles per capita and a 20% increase in revenue hours per capita. ZIPS also had smaller increase of nearly 5% for passengers per capita. This demonstrates a sizable increase in service provided over the last few years.

Passenger Productivity – This measure reflects the amount of service used by the public:

- Passengers per Revenue Mile: Rochester had 0.18 passengers per mile in 2013, which ties the peer group average, though it ranks sixth among the nine peer systems. Compared to its 2006 performance, ZIPS passenger productivity has dipped by 0.04 passengers per mile.

Service Utilization – This is a measure of how far paratransit riders travel during each ride:

- Average Trip Length (Passenger Miles per Passenger Trip): Rochester's average trip length was 7.03 miles, about 1.5 miles less than the peer group average. Relative to 2006, ZIPS has seen a 6% increase in its average trip length.

Cost Efficiency – This measure reflects the costs of providing service:

- Operating Cost per Revenue Mile: Rochester's cost per mile was \$3.53, nearly 20% less than the peer group average of \$4.39. This performance ranks Rochester fifth out of nine among its peers. It was a decrease of \$0.02 from its 2006 performance.

Cost Effectiveness – These two measures relate the costs and consumption of the service:

- Operating Cost per Passenger: Rochester's cost per passenger in 2013 was \$19.56, compared to a peer average of \$24.90, ranking ZIPS fourth among its peer systems.
- Operating Cost per Passenger Mile: Rochester's cost per passenger mile was \$2.78, nearly 27% less than the peer average of \$3.80. This ranks Rochester fourth among eight peers (Greenville did not have available data for this metric).

Since 2006, Rochester has seen a decrease in the cost effectiveness of its paratransit service. Its costs per passenger increased by 21%, or \$3.40, and its costs per passenger mile increased nearly 14%, or \$0.34.

Table 7-4: 2013 Performance - Paratransit; City of Rochester and Peer Systems

System	Revenue Miles per Capita	Revenue Hours per Capita	Passengers per Capita	Passengers per Rev. Mile
Sioux Falls, SD	4.48	0.38	0.99	0.22
South Bend, IN	1.82	0.14	0.37	0.21
Lawrence, KS	3.58	0.33	0.69	0.19
College Station, TX	7.55	0.32	0.53	0.07
Iowa City, IA*	6.72	0.59	1.93	0.29
Greenville, NC**	1.30	0.12	0.17	0.13
Asheville, NC***	12.09	0.67	1.53	0.13
Columbia, MO	1.50	0.18	0.36	0.24
Peer Average	4.88	0.34	0.82	0.18
Rochester, MN (2013)	2.09	0.14	0.38	0.18
Peer Difference	-57.21%	-59.56%	-54.08%	0.00%
Rochester, MN (2006)	1.64	0.11	0.36	0.22
Rochester Trend	27.37%	20.10%	4.79%	-17.73%
System	Cost per Rev. Mile	Cost per Passenger	Cost per Pass. Mile	Average Trip Length
Sioux Falls, SD	5.84	\$26.39	\$4.24	6.22
South Bend, IN	3.24	\$15.72	\$1.96	8.04
Lawrence, KS	5.76	\$30.03	\$6.32	4.75
College Station, TX	2.88	\$41.45	\$2.01	20.65
Iowa City, IA*	5.21	\$18.15	\$4.07	4.46
Greenville, NC**	1.77	\$13.89	NA	NA
Asheville, NC***	2.82	\$22.30	\$2.21	10.08
Columbia, MO	7.59	\$31.29	\$5.78	5.41
Peer Average	4.39	\$24.90	\$3.80	8.52
Rochester, MN (2013)	3.53	\$19.56	\$2.78	7.03
Peer Difference	-19.57%	-21.46%	-26.76%	-17.43%
Rochester, MN (2006)	3.55	\$16.16	\$2.44	6.61
Rochester Trend	-0.41%	21.05%	13.80%	6.37%

NA = Not Available

* Operated separately from Iowa City Transit by Johnson County SEATS

** Includes service inside city limits only, rest of county is covered by Pitt Area Transit System

*** Operated separately from Asheville Redefines Transit by Buncombe County (Mountain Mobility)

Overall, Rochester's ZIPS paratransit service does not provide as much service when compared to the peer averages, but as mentioned earlier this is partly due to good fixed-route coverage and other demand response providers also offering service. What it does provide, however, is done more cost efficiently and effectively relative to the peer group average. Since 2006, ZIPS has seen a notable increase in service provided but also a corresponding increase in costs to provide the additional service.

8 Issues and Opportunities

This chapter provides an analysis of RPT services and study area characteristics and a description of the issues and opportunities for transit services in Rochester. Presented in this chapter are summaries of key findings from public outreach and the transit service baseline analysis, previously reported in earlier chapters. This chapter includes a detailed analysis of the RPT bus routes to highlight the strengths and weaknesses of each, and includes tables and charts ranking the routes for each service type. An analysis of coverage and congruency was conducted for this chapter to show areas where there are likely to be needs that are currently unserved.

These analyses taken together form the picture of transit issues and opportunities, which are summarized at the end of this chapter. This summary will be used to inform the route planning process and service plan that builds upon the strengths and addresses the weaknesses of the RPT network.

8.1 Findings from Service Baseline Analysis

The service operated by Rochester Public Transit (RPT) was reviewed in an earlier chapter which reported on operating and financial data, capital assets, and staffing and organization. A diagnostic analysis was provided for each route using selected quantitative measures of performance the route's performance metrics. This was done to identify any significant trends and general findings to aid in the development of recommendations for service improvement.

Some key findings from the earlier analysis include the following:

- Fixed route service operated during the evening and on Saturdays is limited in terms of service hours and service area. Only four routes operate at night and only six operate on Saturdays.
- RPT has a peak vehicle requirement of 32 buses during the morning peak period. Only five buses are required for service during the evening and on Saturdays.
- Routes 6, 18D and 19 operate with the highest number of passengers per mile within the regular route system; Route 18, 3N and 7N carry the least number of passengers per mile.
- Routes 18D, 1D and 15D carry the most passengers per hour while Routes 12, Shopper Route 55 – North and 12 Midday carry the least.
- Route 18D ranked the highest overall within the weekday route system and Route 55 ranked the lowest. This is based on passengers per hour, cost per mile and cost per passenger.
- Route 21 ranked the highest overall of the six routes that operate on Saturday while Route 26 ranked the lowest. This is based on passengers per hour, cost per mile and cost per passenger.

8.2 Congruency Analysis

The service coverage analysis looks at the RPT system in comparison to the distribution of the population and socioeconomic characteristics (transit need score) in the region and major generators to determine if any areas of the community that should have transit service do not. The coverage map, presented on Figure 8-1 presents the transit success score along with RPT routes and their coverage region ($\frac{1}{4}$ mile catchment area). The congruency analysis, presented on Figure 8-1, looks at the RPT fixed route service area (the area within a quarter mile of fixed routes) in comparison to the location of major trip generators in the City of Rochester.

Figure 8-1: Service Coverage compared Transit Propensity

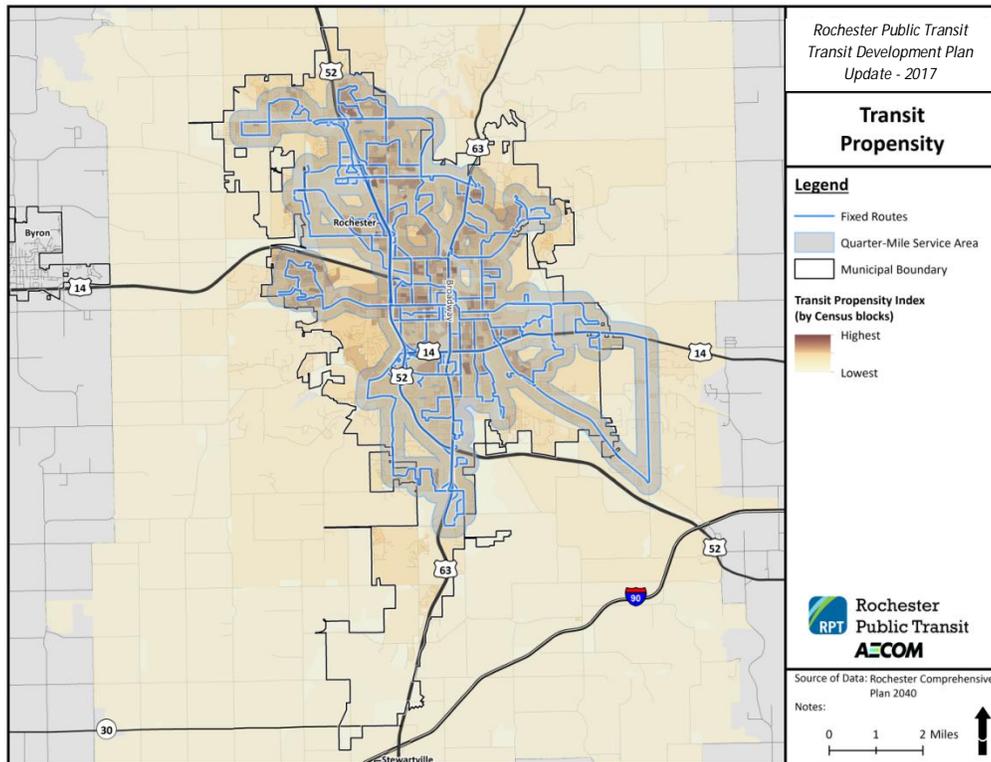
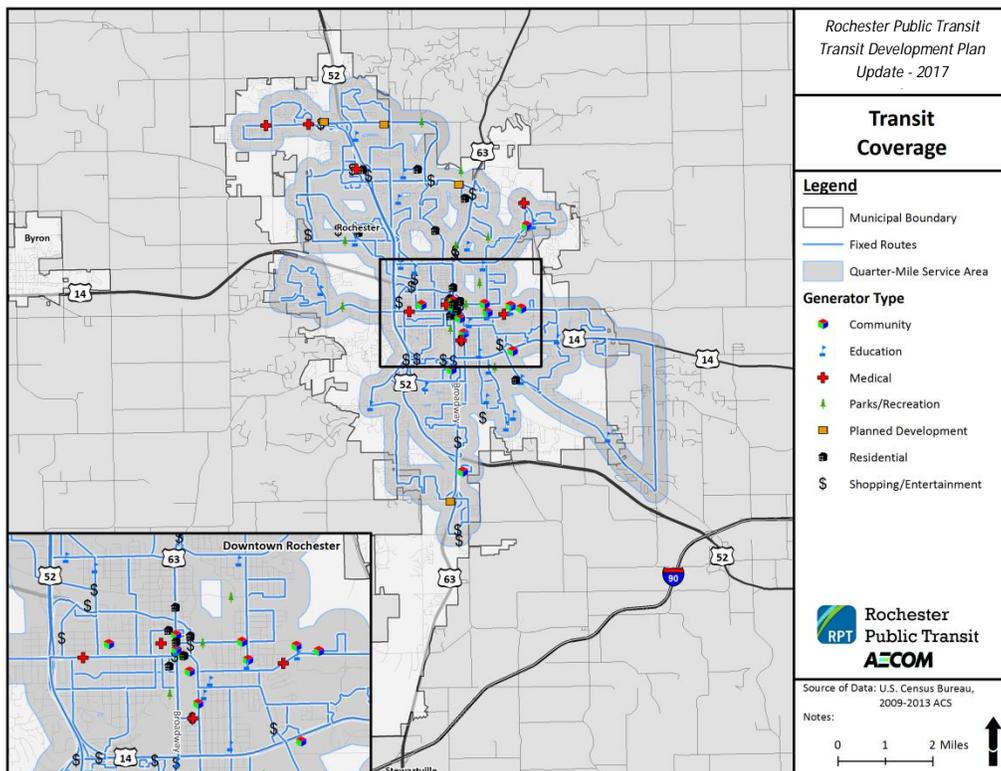


Figure 8-2: Service Coverage compared to the Location of Major Generators



Figures 8-3 through 8-6 present the overall stop level ridership for weekday days, night services, and Saturday service at the stop level. These three maps show that much of the ridership activity occurs at major generators shown in Figure 8-2 and areas with higher transit propensity shown on Figure 8-1.

The findings of this analysis are that RPT serves almost all of the generators in the City of Rochester as well as the areas where transit propensity is highest. There is a neighborhood that has a medium transit propensity in the southwest portion of the city, near Fox Valley Park, that is outside of the coverage area. Most major generators are also located along a bus line as many of them are located in Downtown Rochester or are located along a major corridor that has service to and from Downtown Rochester. While overall service coverage is good, there may be issues with span and frequency of service as well as long travel times due to indirect services.

Figure 8-3: Weekday Local and Direct Service Ridership Activity by Stop

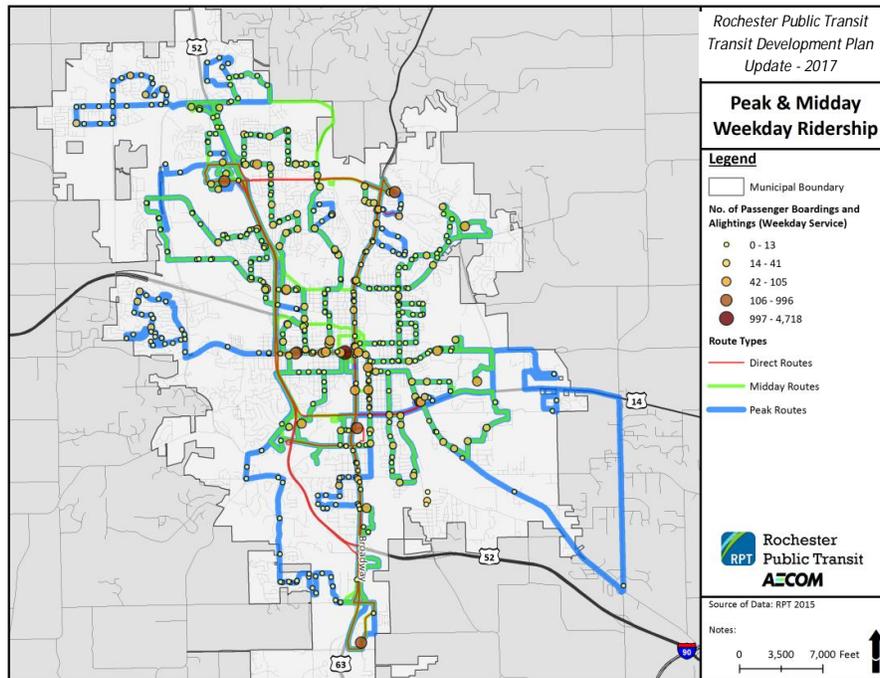


Figure 8-4: Night Service Ridership Activity by Stop

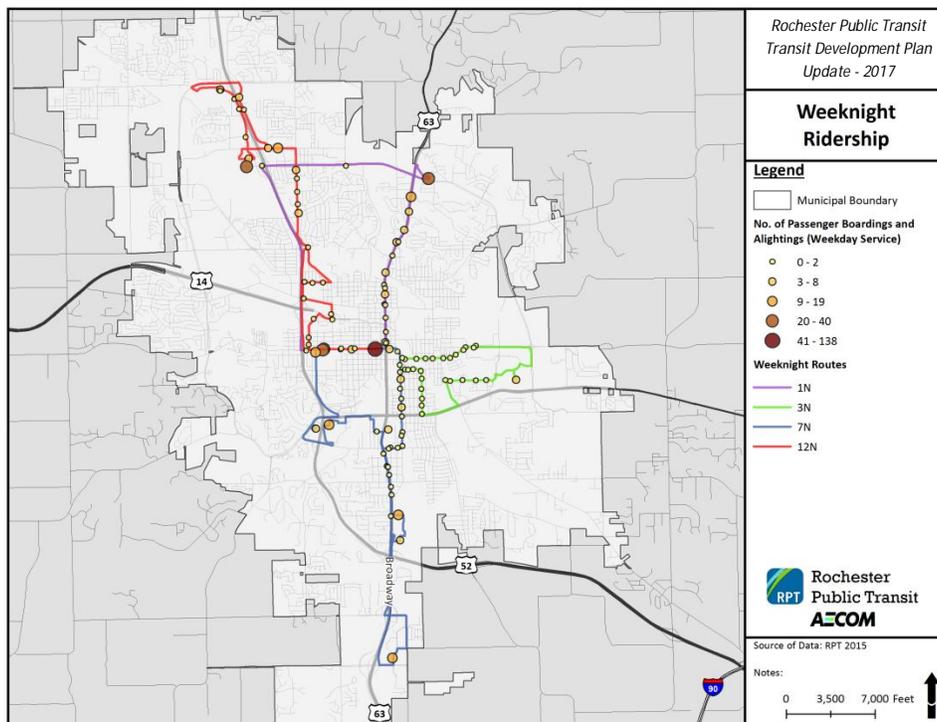
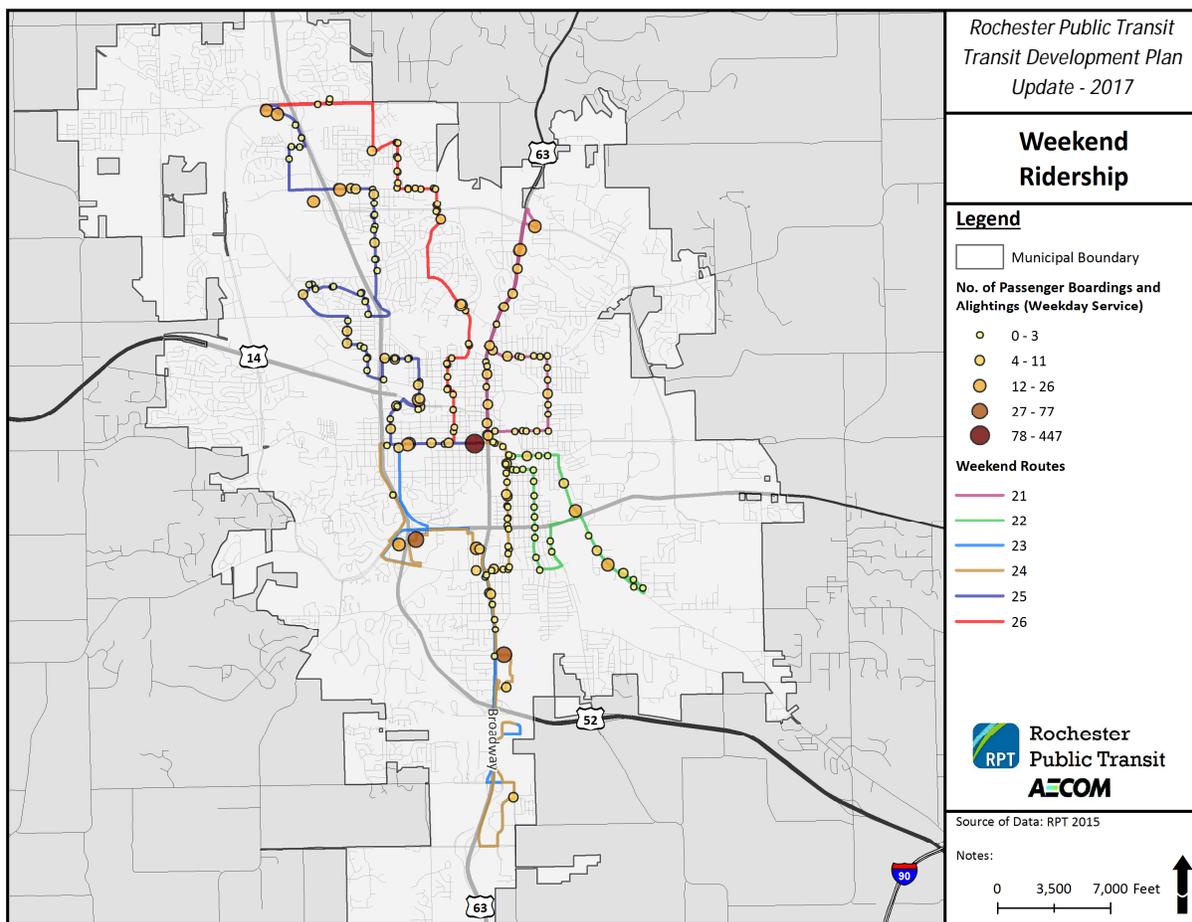


Figure 8-5: Saturday Ridership Activity by Stop



8.3 Route Ratings by Service Type

The route ratings section by service type looks at the financial efficiency and service effectiveness of each route, comparing the routes based on service types. Four service types are presented in this section; local routes, direct routes, night routes, and Saturday routes. The same indicators that were used in the transit service review are presented in this section. The section after this will then break down each route in further detail to identifying underlying issues that contribute to the performances.

The average performance for each indicator is presented below on Table 8-1. This table shows that the highest cost per mile and per passenger services, along with the highest subsidy per passenger, is the local services. One interesting point is the most productive services, with the overall highest financial efficiency, are the direct services.

Table 8-1: Overall Performance Averages by Route Classification

	Cost per Mile	Cost per Passenger	Subsidy per Passenger	Farebox Recovery	Passenger per Hour	Passenger per Mile
Local Service	\$7.32	\$6.90	\$5.66	30.20%	18.87	1.80
Direct Service	\$5.08	\$4.49	\$3.25	64.80%	53.65	2.65
Evening Service	\$4.34	\$5.48	\$4.24	30.15%	10.31	0.61
Saturday Service	\$5.80	\$5.45	\$4.21	24.50%	14.67	1.07
System Average	\$6.52	\$6.23	\$4.99	34.00%	21.28	1.66

8.3.1 Local Service

The single largest category is the local service. These routes operate during the weekday during both peak and off-peak periods.

The cost per mile ranking of services is presented on Figure 8-6. On this figure, lower costs represent a better performing route. The average cost per mile for local services is \$7.32. Figure 8-6 shows that the routes with the lowest cost per mile are Routes 7S, the outbound Route 11, and Route 14 while the inbound Route 11 and Route 6 have the highest cost per mile.

The cost per passenger ratings is presented on Figure 8-7. The average cost per passenger is \$6.90. The cost per passenger pattern is very similar to the cost per mile pattern with Routes 7S, 11 outbound, and 14 having the lowest cost per passenger, while Routes 11 inbound and 6 have the highest cost per passenger.

The average subsidy per passenger for local services is \$5.66. Subsidy per passenger is presented on Figure 8. This figure shows a similar pattern to the previous two financial efficiency indicators with the lowest subsidy per passenger being Routes 7S, 11 outbound, and 14 while the highest subsidy per passenger is the old Route 6 and 11 inbound.

Figure 8-6: Local Service Cost per Mile Ranking

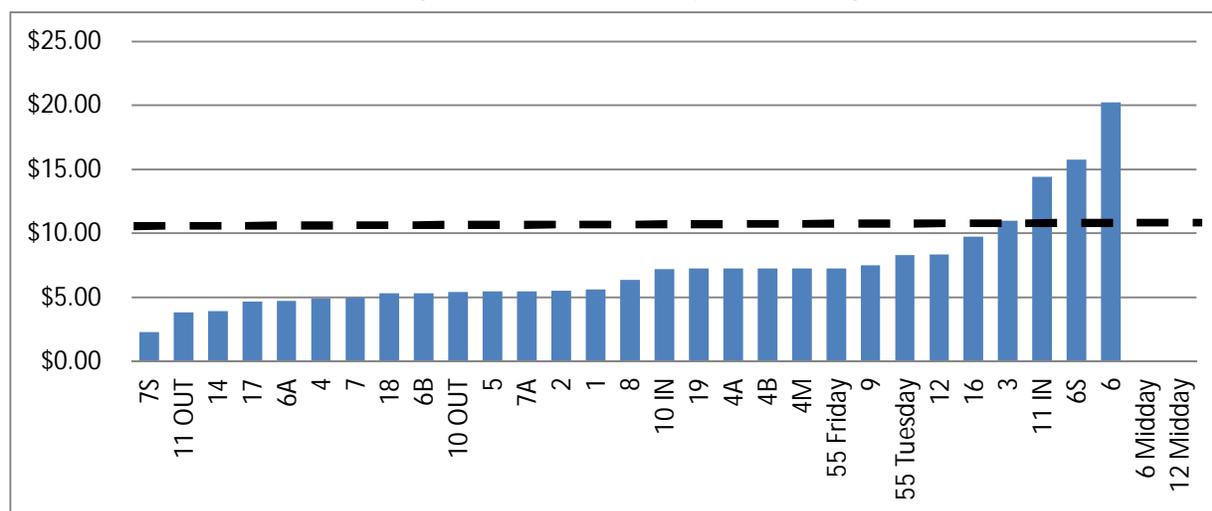


Figure 8-7: Local Service Cost per Passenger Ranking

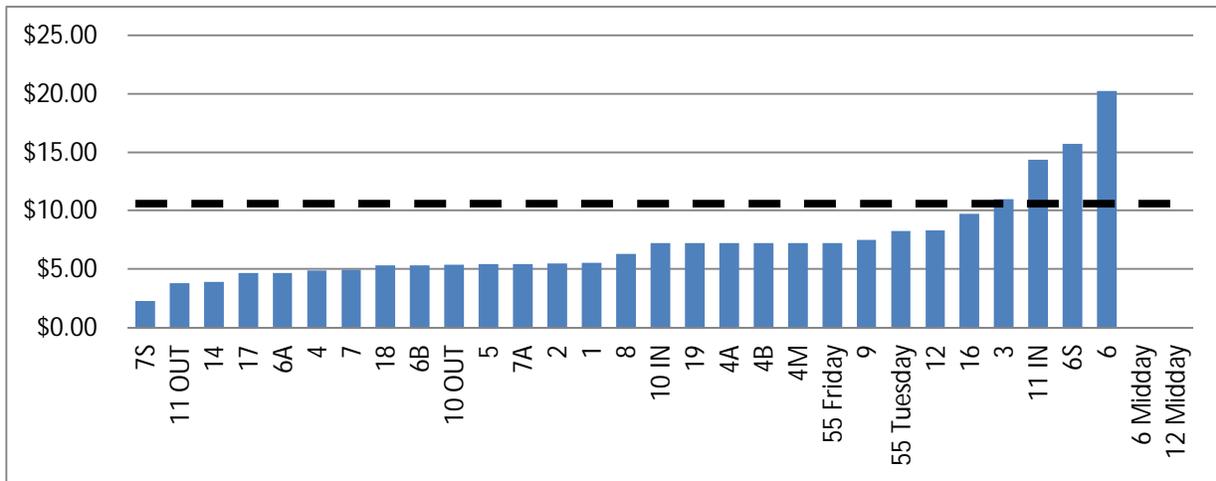
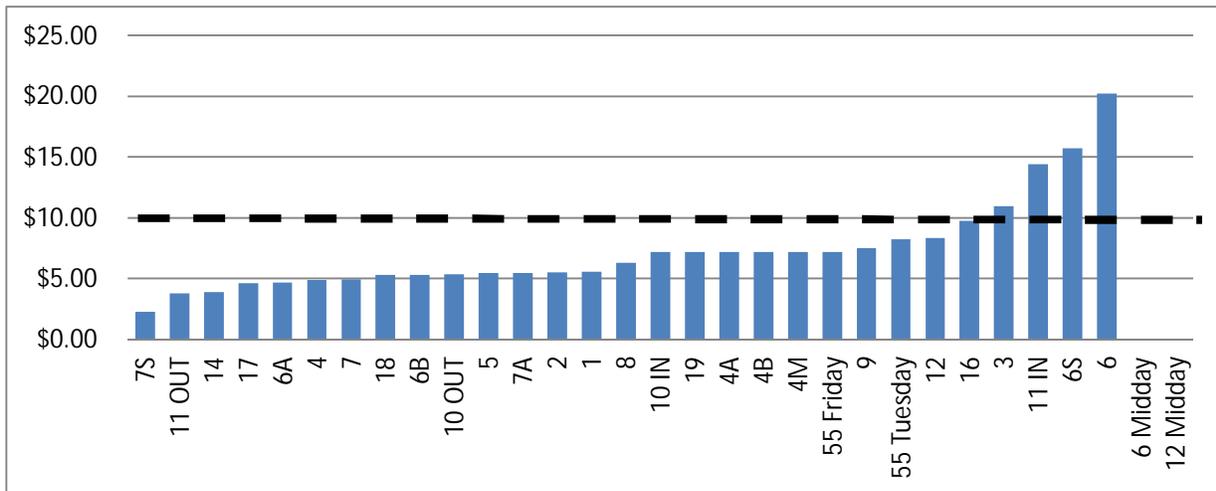
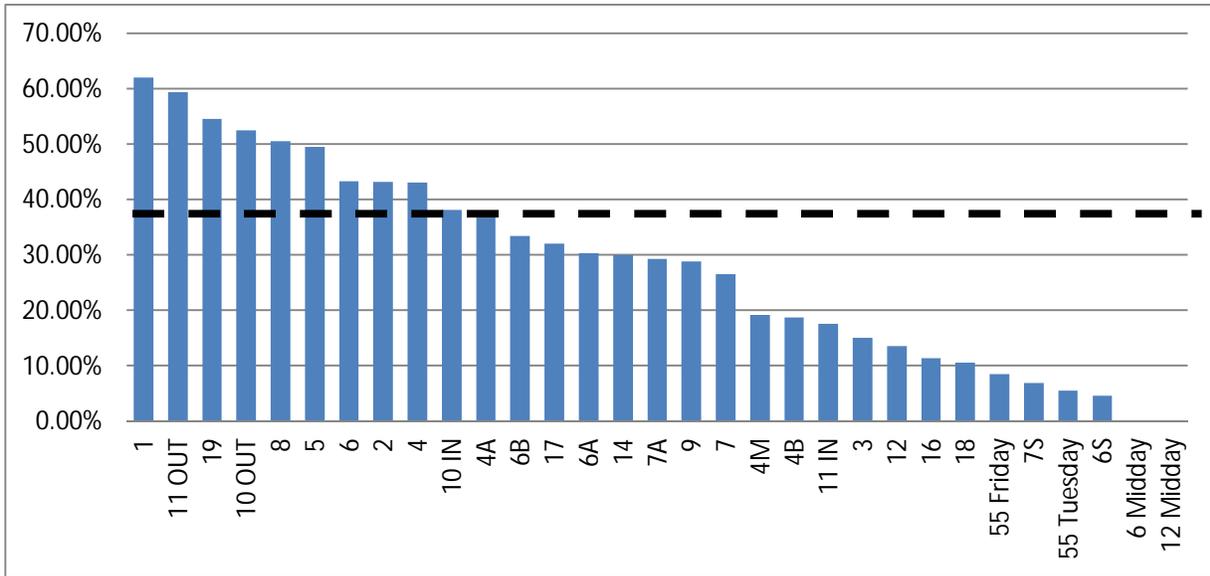


Figure 8-8: Local Service Subsidy per Passenger Ranking



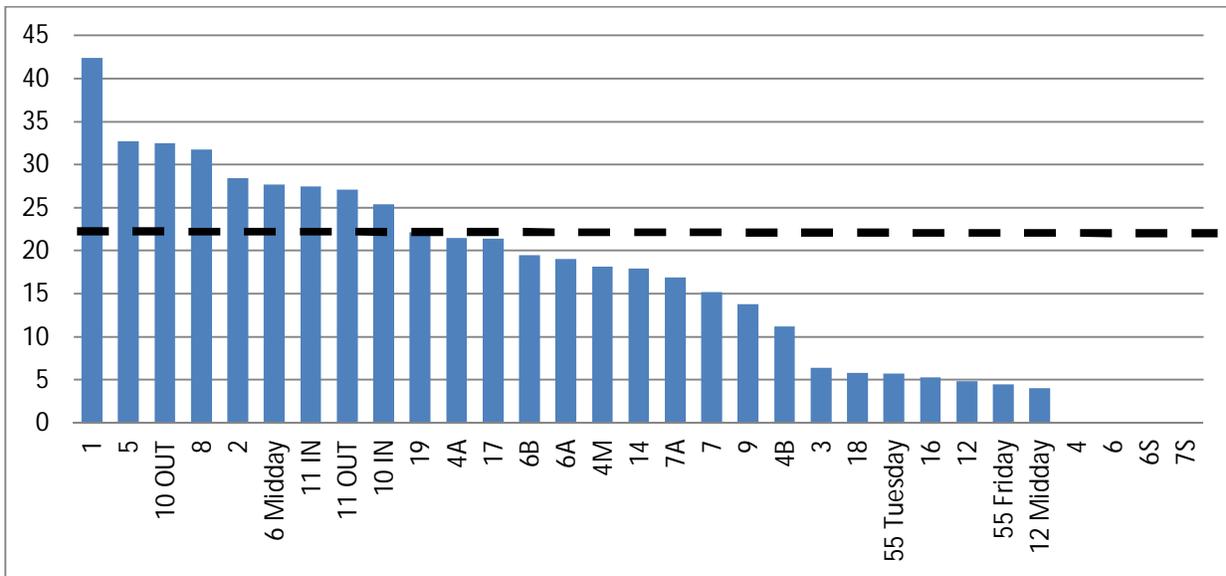
The final financial efficiency indicator is farebox recovery, which is presented on Figure 8-9. The average farebox recovery for RPT local routes is 30%. The routes that have the highest farebox recovery include Route 1, 11 outbound, and 19. The routes that have the lowest farebox recovery are routes that operate only during middays, the 6 midday, the 12 midday, and the Shopper Shuttles.

Figure 8-9: Local Service Farebox Recovery Ranking



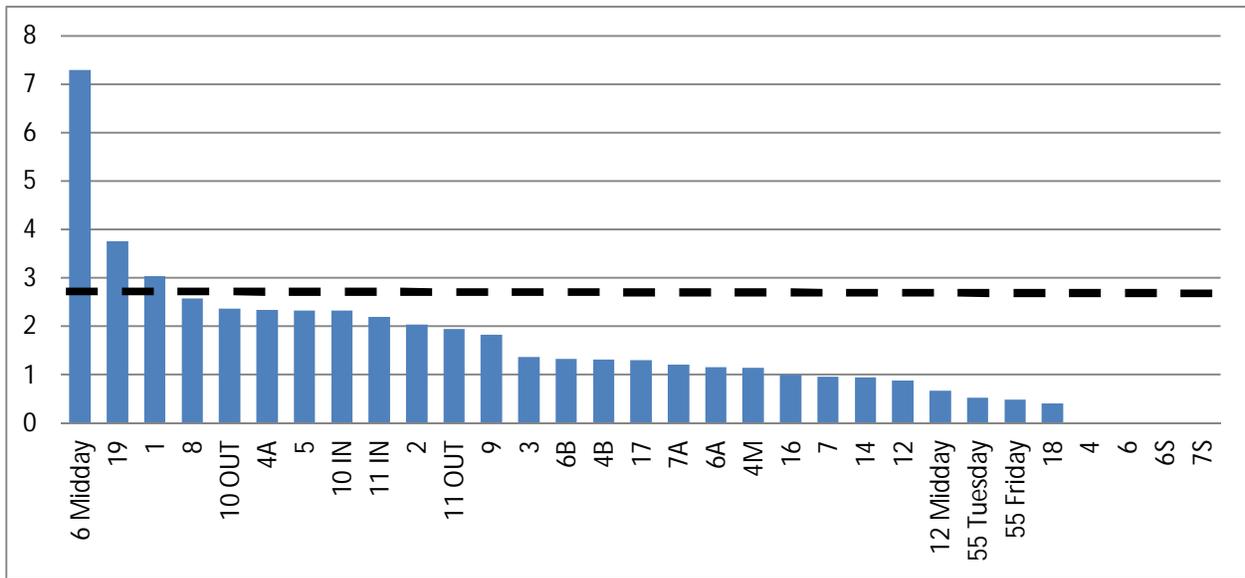
The average passenger per hour for local routes is 18.87. Routes 1, 5, and 10 outbound have the highest passengers per hour as shown on Figure 10. The routes with the lowest passengers per hour are the 12, the shopper shuttle, and 16.

Figure 8-10: Local Service Passenger per Hour Ranking



Passengers per mile rankings are shown on Figure 8-11. This figure shows that the routes that have the highest passengers per mile are the 6 midday, 19, and 1. The routes with the lowest passengers per mile are 18, 12, and the shopper shuttle. The average passenger per mile is 1.8.

Figure 8-11: Local Service Passenger per Mile



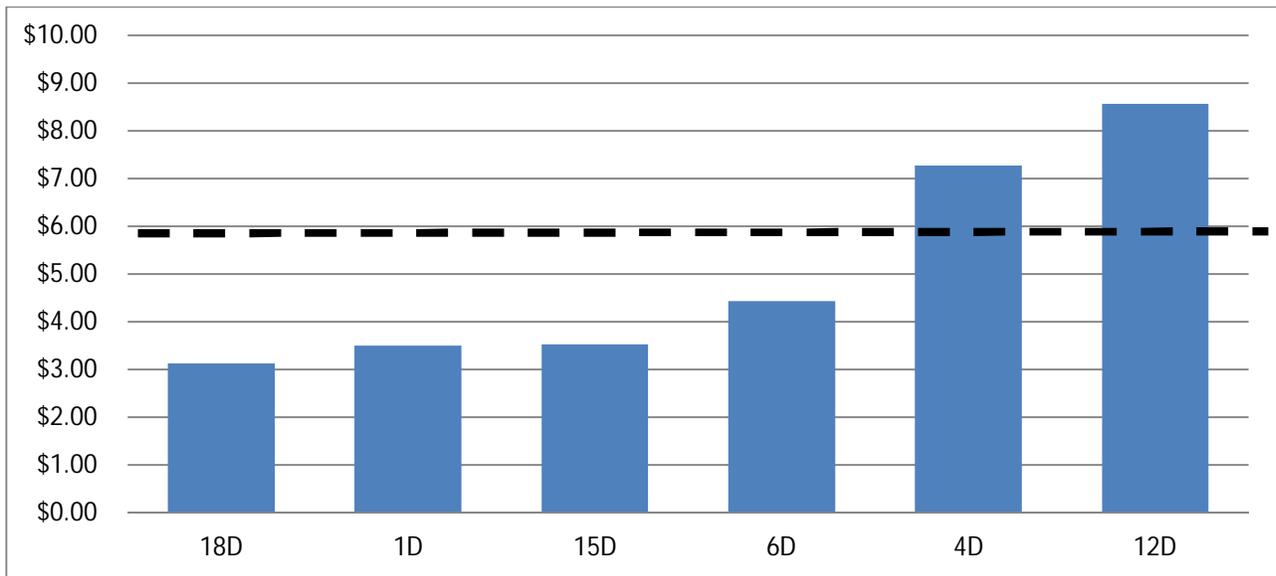
Overall this comparative analysis shows that Routes 1, 5, 6M, and 19 have the highest service effectiveness based on passengers per hour and passengers per mile, while 4, 6, 6S, 7S, and the 55 Shopper routes are the least effective. The routes that have the highest financial efficiency (cost per mile, cost per passenger, subsidy per passenger, and farebox recovery measures) are Routes 1, 7S, outbound 11, 14, and 19. The routes with the lowest financial efficiency are 6, 6S, 11 inbound, and the Shopper Shuttles. The implication is that routes that operate along major corridors with a large number of businesses and access to passengers tend to perform better than routes that operate with loops and many different variations. Providing service throughout the day at regular intervals is another characteristic of the better performing routes. The poorer performing routes have irregular headways, multiple variations operating at the same time, and operate indirect loops.

8.3.2 Direct Service

The direct services are a series of six routes that operate during peak periods. These routes provide express service between park-and-ride lots and Downtown Rochester. The ranking of these six routes are presented below. These rankings tend to be consistent with the size of the park-and-ride shown, with larger park-and-ride lots having a better performance than smaller park-and-ride lots.

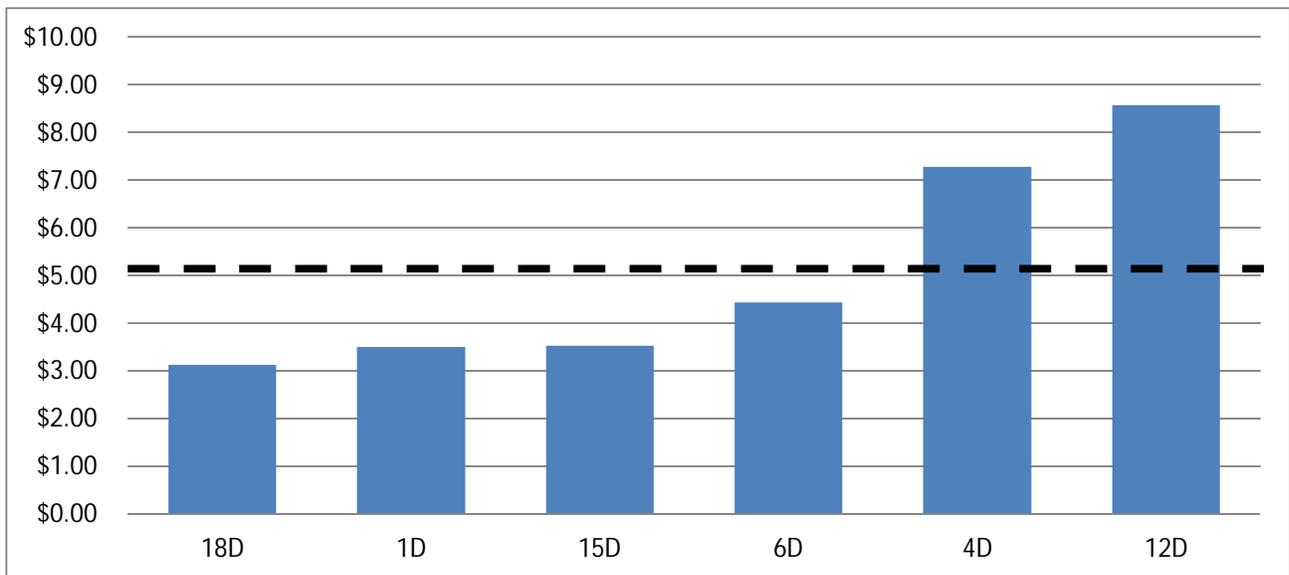
The average cost per mile for the direct routes is \$5.08. The routes with the lowest cost per mile are the 18D and the 1D. The routes that have the highest cost per mile are the 4D and 12M, which are the only routes that have a higher cost per mile than the average. The cost per mile rankings is presented on Figure 8-12.

Figure 8-12: Direct Service Cost per Mile Ranking



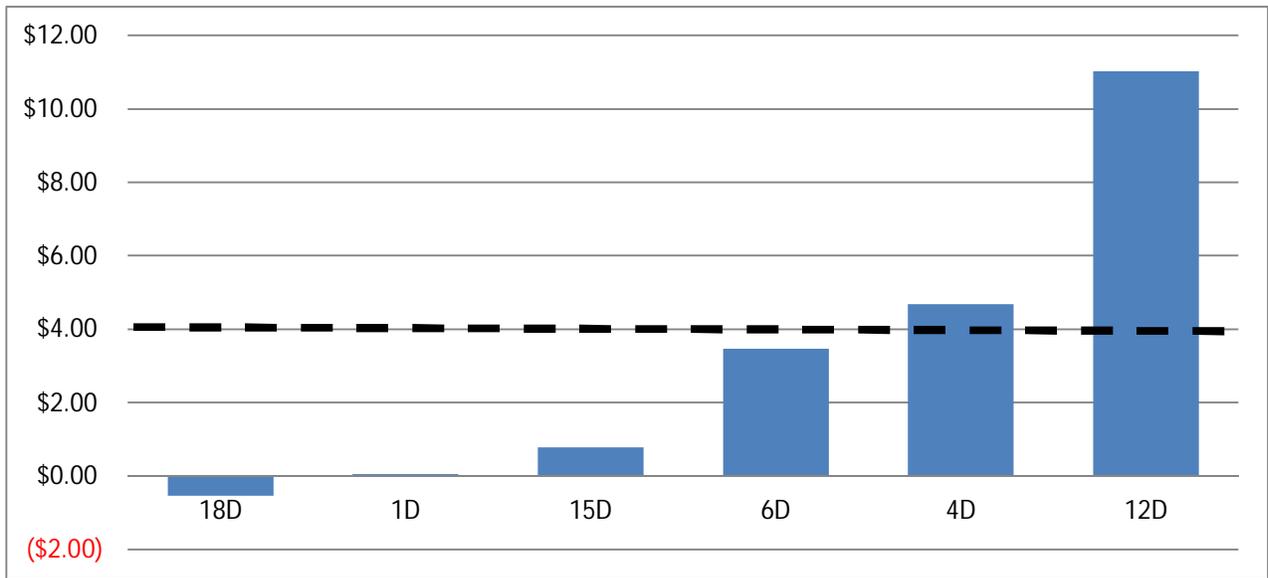
The average cost per passenger for direct services is \$4.49. As shown on Figure 13, Routes 4D and the old 12D have a much higher cost per passenger, while Route 6D is very close to the average direct cost per passenger. Routes 18D, 1D, and 15D all have lower cost per passenger compared to the average.

Figure 8-13: Direct Service Cost per Passenger Ranking



Subsidy per passenger rankings follow the same pattern as cost per passenger and cost per mile rankings, with 18D and 1D being the better performers and 4D and the former 12D being poorer performers. The average subsidy per passenger for the direct routes is \$3.25. The rankings are presented on Figure 8-14.

Figure 8-14: Direct Service Subsidy per Passenger Ranking



The average farebox recovery for direct routes is 64.80%, which is quite high. That being said, Routes 4D and the former 12D have a farebox recovery of less than 20%, while 18D has a farebox recovery that is greater than 100%. The farebox recovery ranking is presented on Figure 8-15.

Figure 8-15: Direct Service Farebox Recovery Ranking

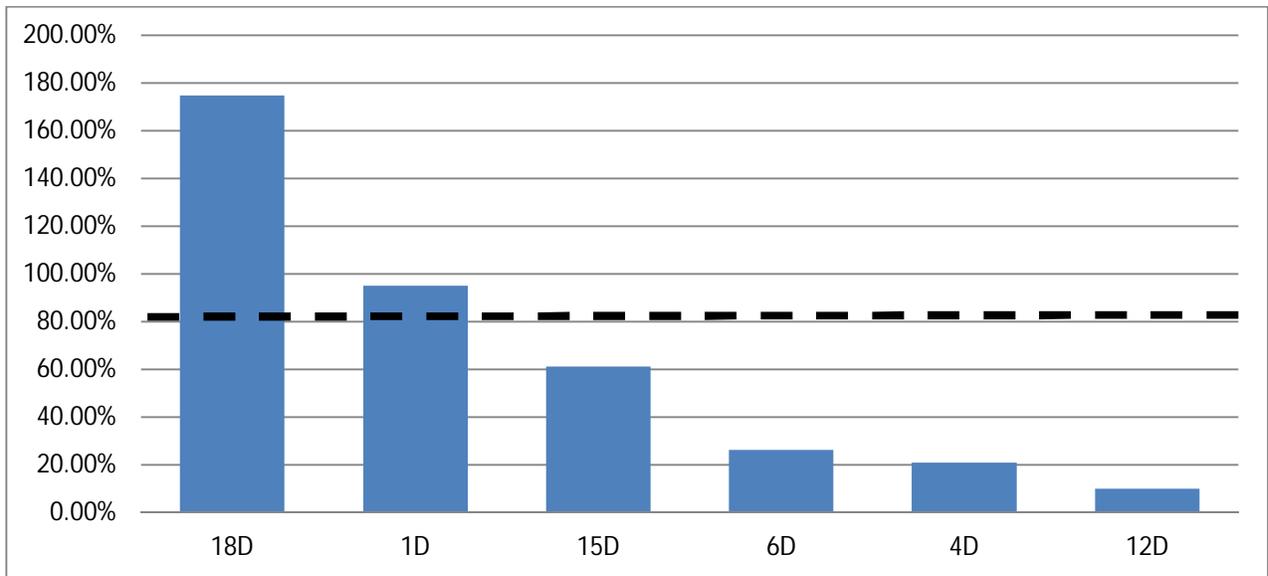
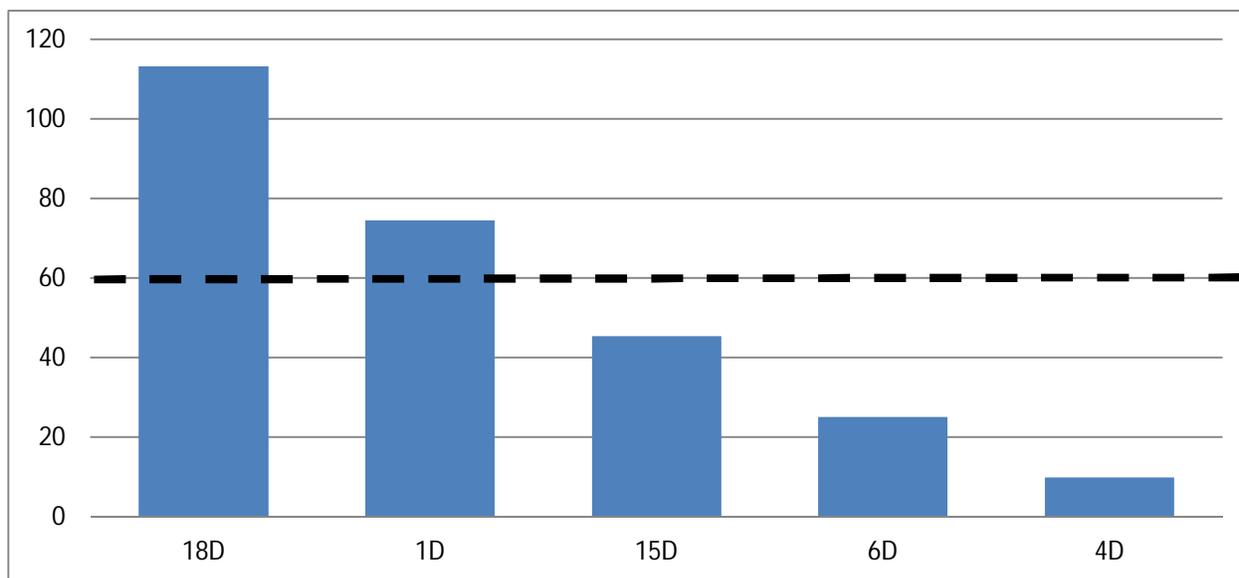


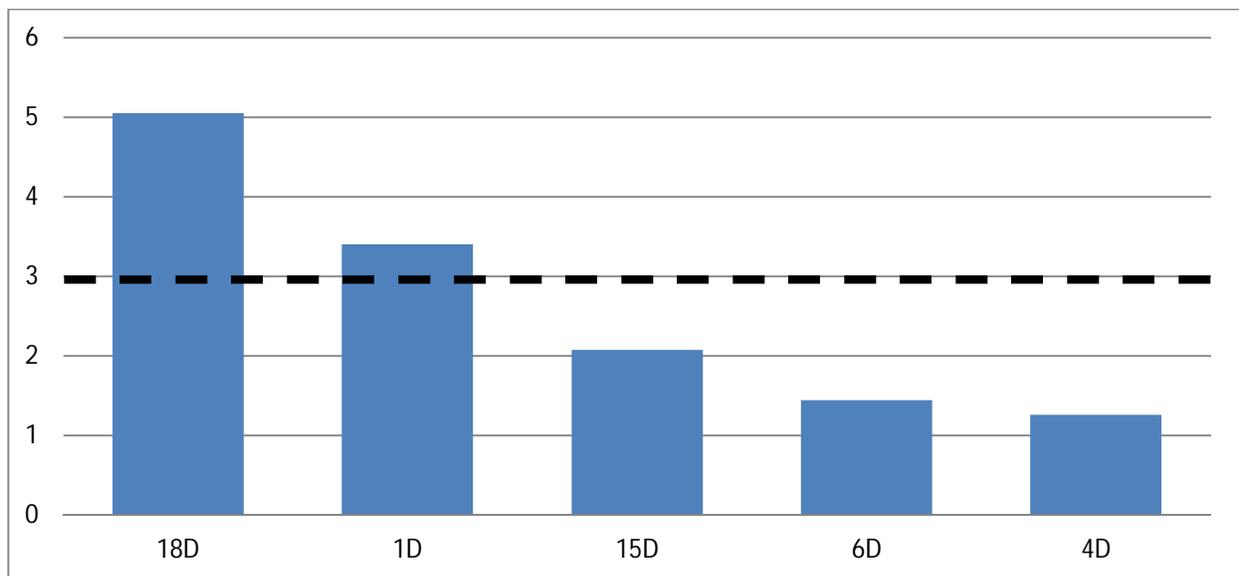
Figure 8-16 presents the ranking of direct services in regards to passenger per hour. Route 18D and 1D again are the most productive services. Routes 6D and 4D are the least productive services. The average passenger per hour for direct service is 53.65.

Figure 8-16: Direct Service Passenger per Hour Ranking



The average passenger per mile for the direct services is 2.65. The ranking of routes based on passengers per mile is the same ranking as passengers per hour, with Routes 18D and 1D ranking highest and Routes 6D and 4D having the lowest rank. This is shown on Figure 8-17.

Figure 8-17: Direct Service Passenger per Mile Ranking



In all categories, Route 18D and 1D are the best performing of the Direct Routes. The reason these routes perform the best is because these routes serve the larger park-and-ride lots that have short travel times into Downtown Rochester. Route 4D, which is the poorest performing route in most

categories, only operates a small number of trips, many in conjunction with Route 17, and serves a smaller park-and-ride that is located near the core of the city.

8.3.3 Night Service

During the night period on weekdays, starting around 5:30PM, night route variations begin operating. These four routes provide service until around 10:30PM. These routes differ from the regular routes as they incorporate segments of various routes to provide service coverage during the night hours throughout the Rochester area. This section provides rankings of efficiency and effectiveness indicators for the four night service routes.

The average cost per mile operated of night service routes is \$4.34. Figure 8-18 shows that most routes operate at a cost per mile of less than the average, with Route 12N having a higher cost per mile than the average.

Three of the four night service routes have a cost per passenger that is greater than the average cost per passenger of \$5.48. Route 7N is the only route that is less expensive than the average cost per passenger. This is shown on Figure 8-19.

Figure 8-18: Night Cost per Mile Ranking

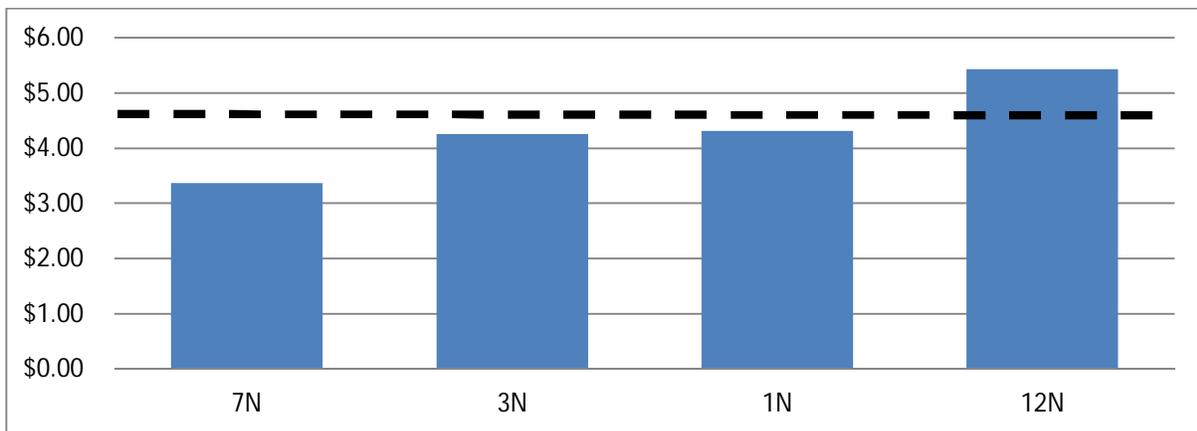


Figure 8-19: Night Cost per Passenger Ranking

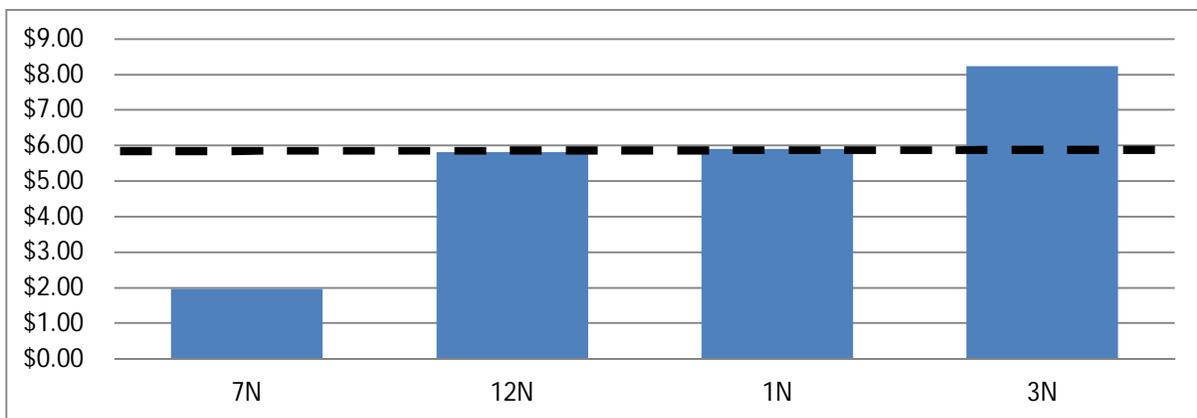
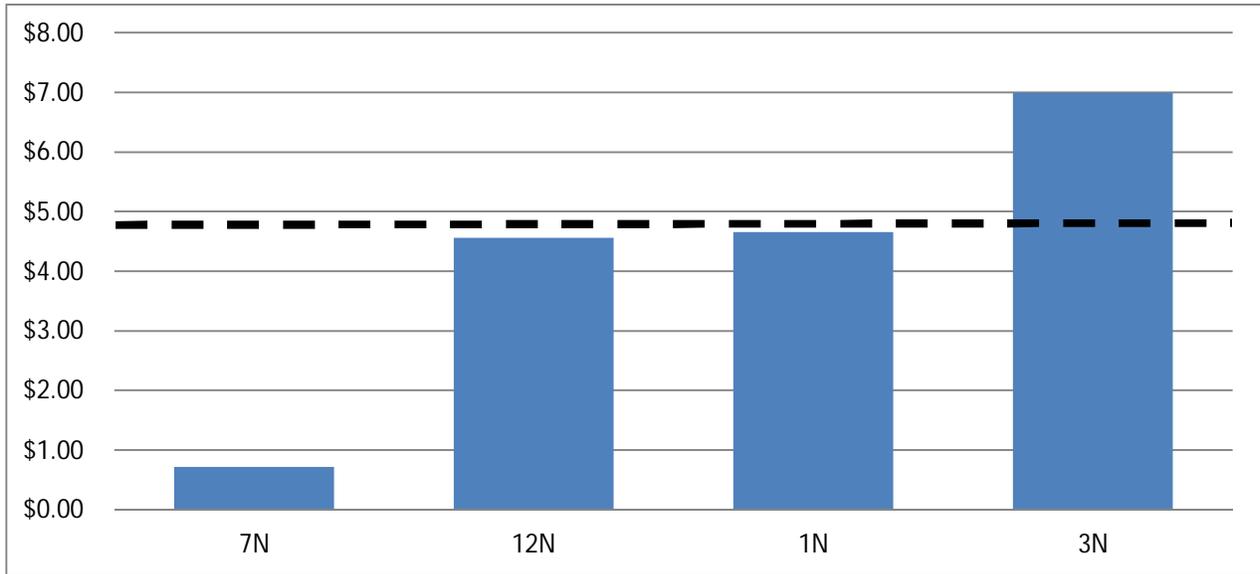


Figure 8-20 presents the subsidy per passenger ranking of the night service routes. The rank order for subsidy per passenger is the same as the cost per passenger of night service routes, with only Route 7N having a lower cost than the average of \$4.24. Subsidy per passenger for night service routes is shown on Figure 20.

Figure 8-20: Night Subsidy per Passenger Ranking



The percent of cost that fares paid by passengers cover is on average 30.15%. The farebox recovery for the four night routes is presented on Figure 8-21. Again, only 7N performs better than the average with Routes 12N and 1N recovering approximately 20%.

Figure 8-21: Night Farebox Recovery Ranking

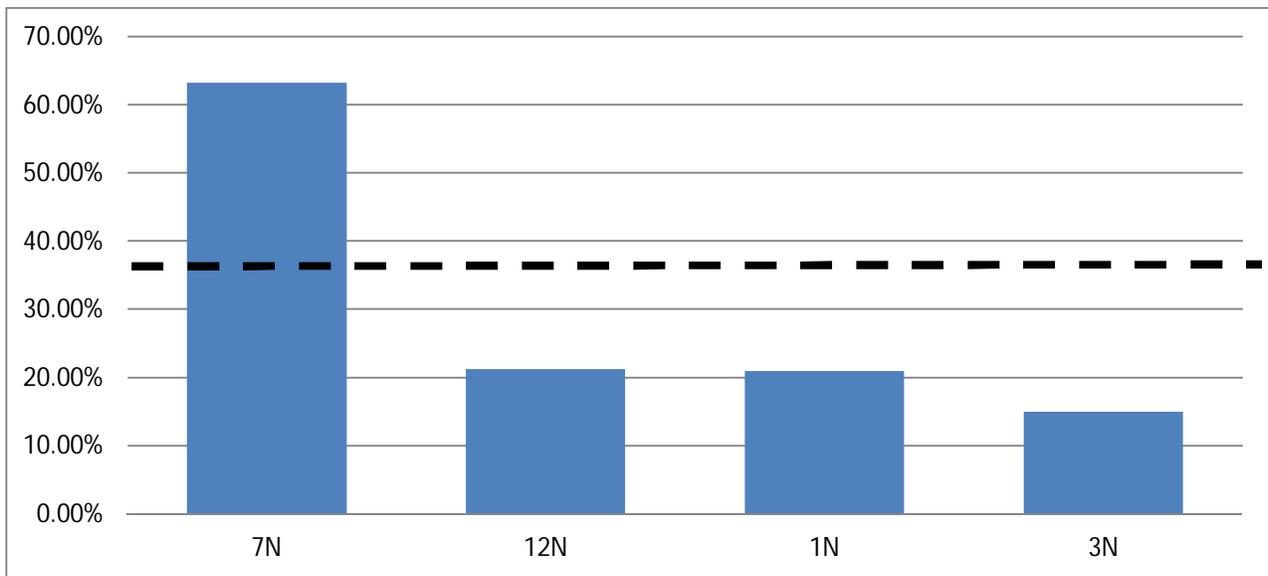


Figure 8-22 presents the passenger per hour ranking of the night service routes. This figure shows that the average passenger per hour is 10.31. Routes 12N and 1N have a higher passenger per hour than the average while Routes 7N and 3N have a lower passenger per hour productivity.

Figure 8-22: Night Passenger per Hour Ranking

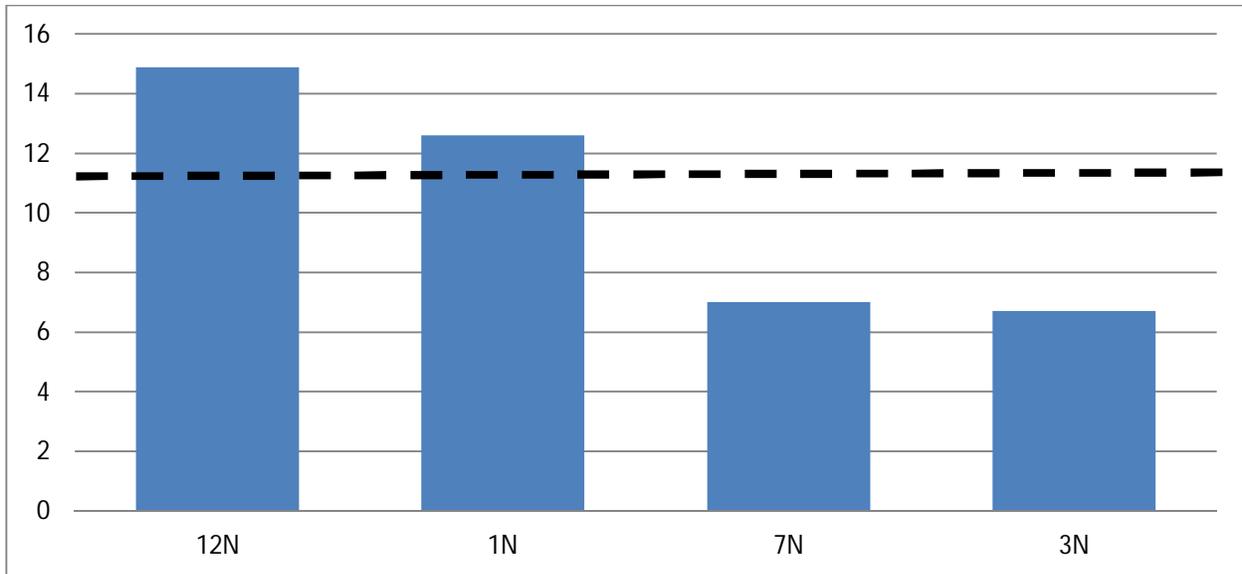
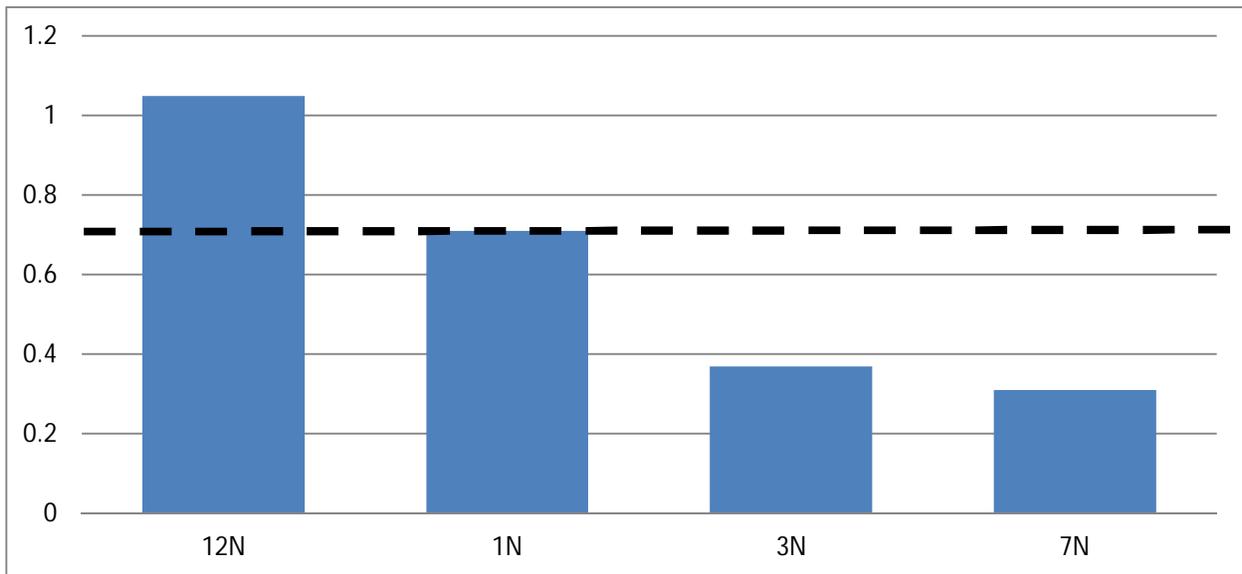


Figure 8-23 presents the productivity of night service routes by presenting passengers per mile. The average passenger per mile is 0.61. Routes 12N and 1N have more passenger boardings per mile than the system average while Routes 3N and 7N have fewer boardings per mile.

Figure 8-23: Night Passenger per Mile Ranking



Route 7N is the most financially efficient of all the evening routes, while Route 12N is the most effective route at serving passengers. Meanwhile Route 7N is not the most effective route in terms of passengers per hour and per mile. Route 3N tends to have a poorer performance in financial measures since this

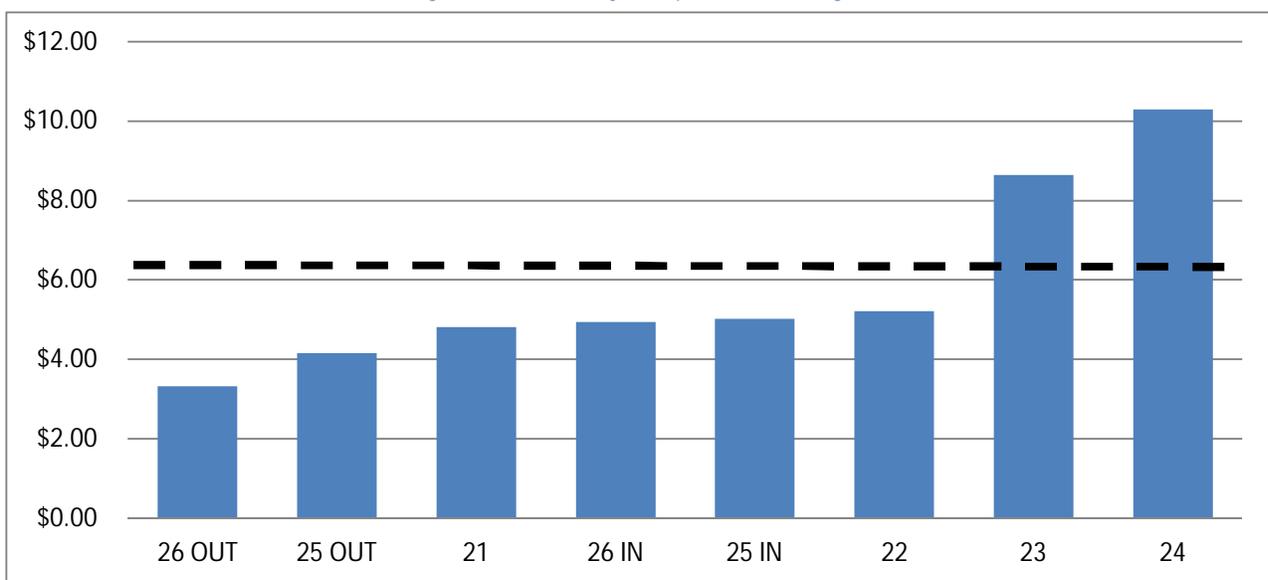
route only has two trips, resulting in lower ridership while the other evening routes tend to operate with a service headway of every 30 minutes.

8.3.4 Saturday Service

Saturday services are Routes 21 through 26. Similar to the night routes, these routes operate along various combined segments of the local weekday network. The indicators and rankings of each night route are presented on the figures in this section.

The cost per mile rankings for Saturday service is presented on Figure 8-24. This figure shows that all but two routes, Routes 23 and 24 have a cost per mile that is higher than the \$5.80 average cost per mile. The routes with the lowest cost per mile are the outbound Routes 26 and 25.

Figure 8-24: Saturday Cost per Mile Ranking



The average cost per passenger on Saturday \$5.45. The inbound Route 25 and 26 have the highest cost per passenger, both being greater than \$6.00. Meanwhile the inbound Route 25 and 26, along with Route 21 have a cost per passenger of less than \$5.00. This is shown on Figure 8-25.

Subsidy per passenger on Saturday is presented on Figure 8-26. The average subsidy per passenger is \$4.21. The routes that have the lowest subsidy per passenger are the outbound 25 and 26 along with Route 21. The routes with the highest subsidy per passenger are the inbound Routes 25 and 26 along with Route 24.

The average farebox recovery on Saturday is 24.50%. Farebox recovery rankings are presented on Figure 8-27. This figure shows a similar pattern to subsidy per passenger with the best performing routes being Routes 21, outbound 25, and outbound 26 while the lowest farebox recovery is on Routes 24, inbound 25, and inbound 26.

Figure 8-25: Saturday Cost per Passenger Ranking

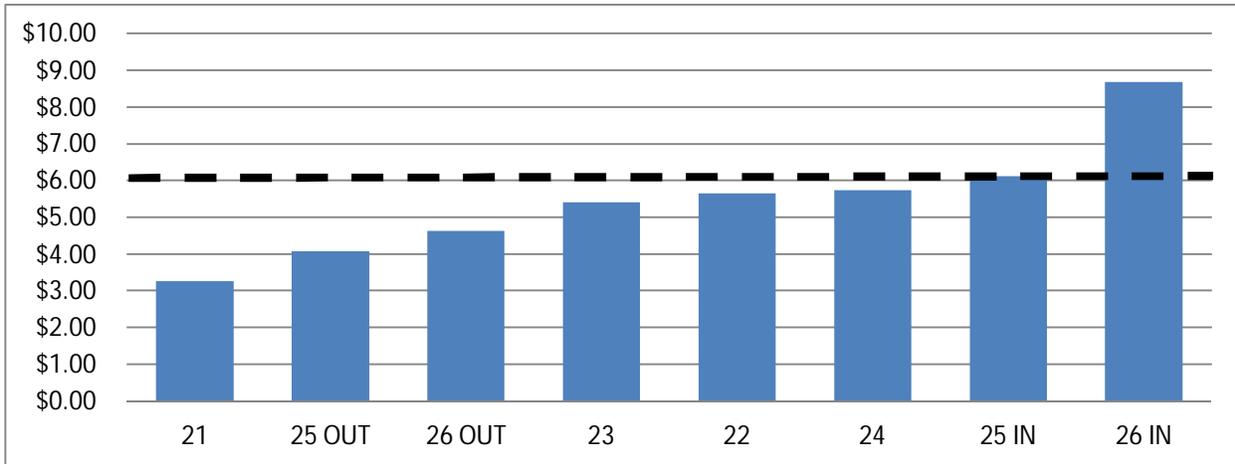


Figure 8-26: Saturday Subsidy per Passenger Ranking

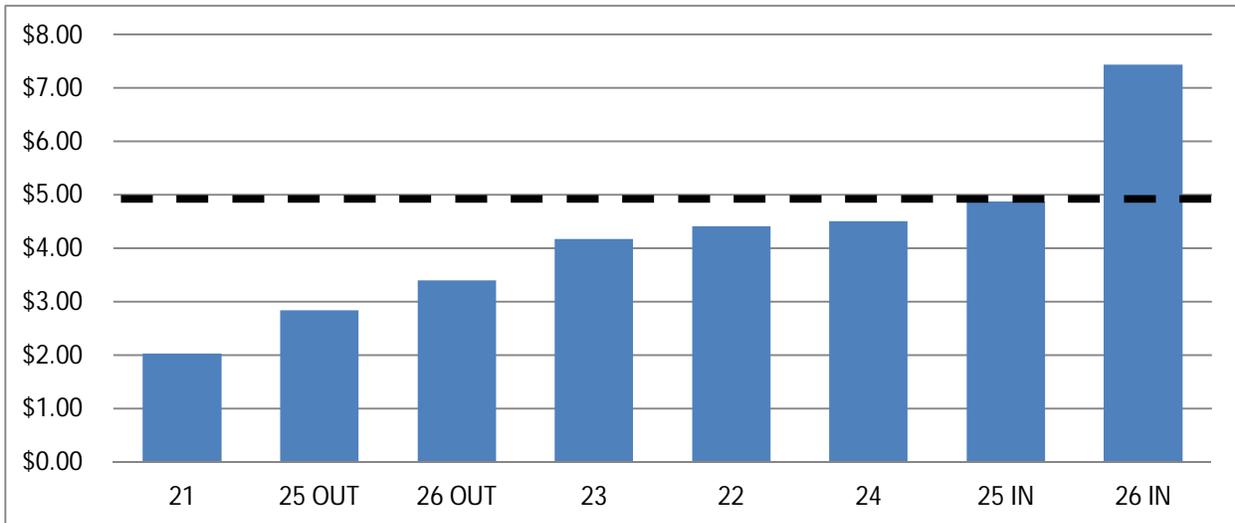
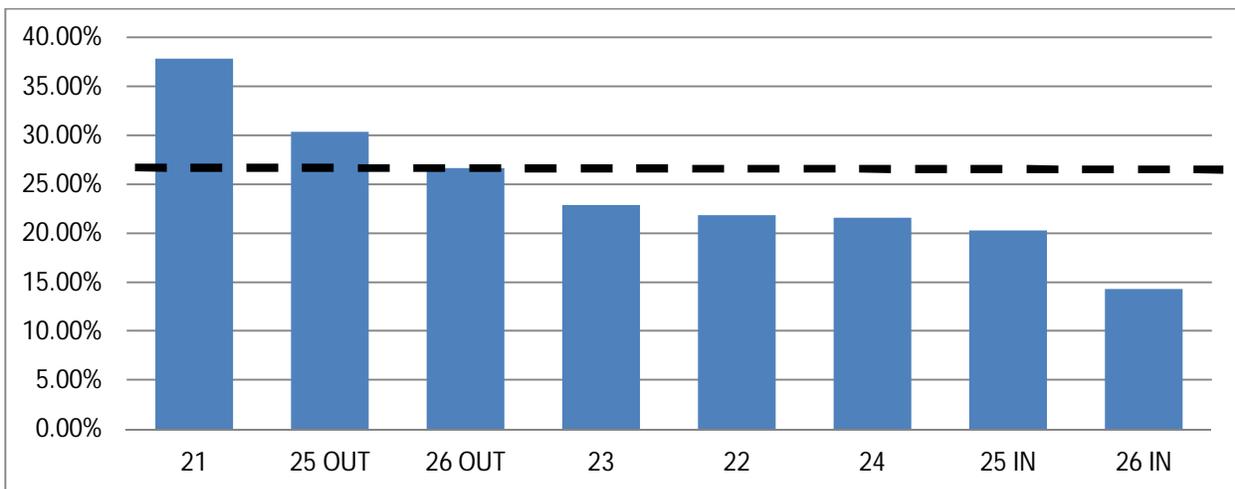


Figure 8-27: Saturday Farebox Recovery Ranking



The average passenger per hour on Saturday is 14.67. This is shown on Figure 8-28. The routes that have the highest passenger per hour, which means that they are the most productive, are Routes 21, 25 outbound, and 26 outbound. The routes with the lowest productivity are the 26 inbound, 23, and 24.

Figure 8-28: Saturday Passenger per Hour Ranking

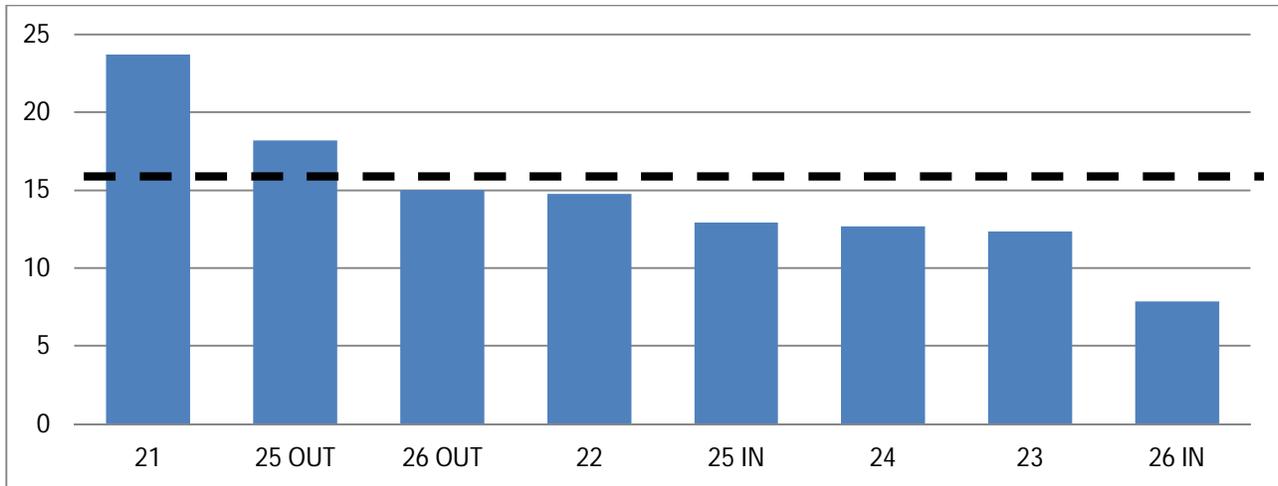
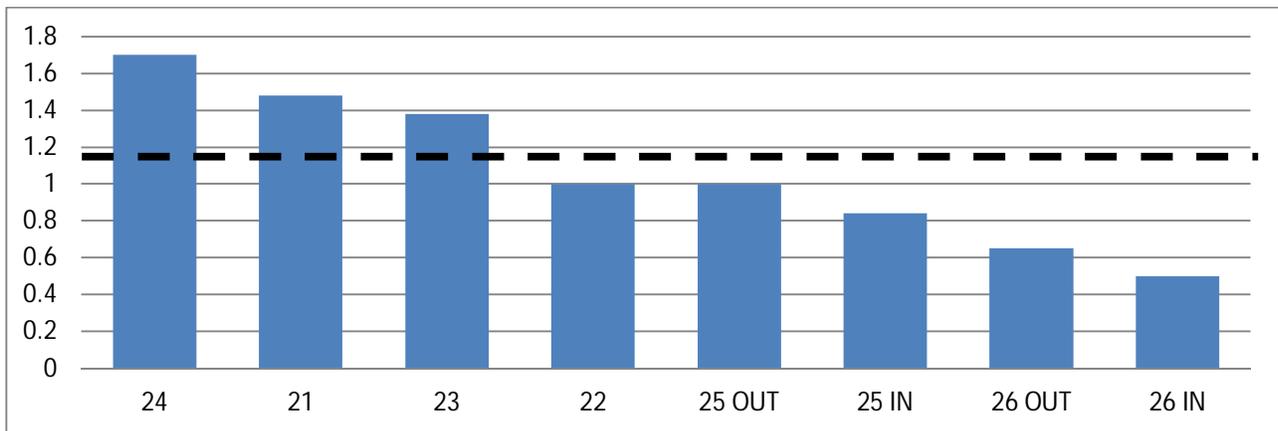


Figure 8-29 presents productivity in terms of passengers per mile on Saturday. The average passenger per mile is 1.07. The routes that have the highest passenger per mile are Routes 21, 23, and 24. Routes 25 and 26 have the lowest passenger per mile.

Figure 8-29: Saturday Passenger per Mile Ranking



The findings for Saturday are interesting as Routes 25 and 26 tend to be perform well outbound while the inbound direction does not perform well. Route 21 which serves the same areas that Route 1 serves on weekdays, also is a good an efficient and effective route. Route 24, which serves the South Broadway corridor, is not very efficient or effective, primarily because this route operates a large loop approaching/leaving Downtown Rochester.

8.4 Route Profiles

The route profiles examine ridership by stop, time of day and on-time performance to more closely view each route. Maps herein show where boarding and alighting activities are heaviest, showing travel

patterns and key generators of ridership. The maps also show directness and circuitry in the network and these two factors are also assessed for their possible contribution to positive or negative ridership levels. Column charts have been developed for each route to show total ridership and maximum loads for each trip to evaluate overcrowding. Based on the vehicle size and time period and using the service standards developed in an earlier chapter, a trip is overcrowded during peak periods if the maximum load is greater than 44 passengers (125% load factor), and during off-peak if it is greater 35 passengers (100% load factor). In some instances the maximum load may be higher than the boardings for a particular trip. This is because there are passengers onboard when the trip begins, they are carried over from the previous trip that vehicle ran due to the heavy amount of interlining amongst the routes. On-time performance is defined as leaving a time point zero minutes early to five minutes late. The guideline for this indicator is 90% during the peak and 95% during the off-peak. The morning peak is 5:30 AM to 8:30 AM, afternoon commute peak is 3:00 PM to 6:00 PM, midday is 8:31 AM to 2:59 PM, and evening is 6:01 PM to the end of service. Weekend on-time performance is 90%, regardless of time of day. For each route a table is provided, broken down by time of day and time point to show where issues may exist.

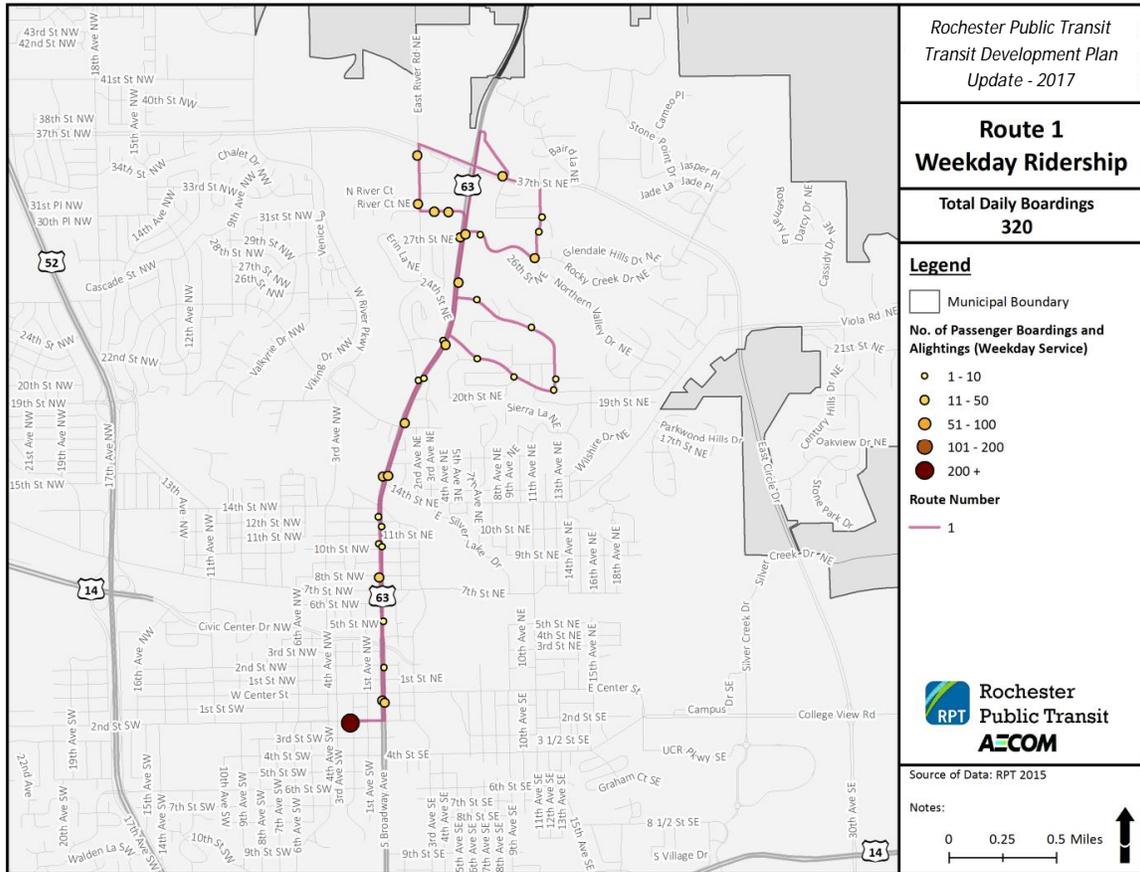
8.4.1 Route 1

Route 1 is one of the best performing local routes in the RPT system. This route ranks first in cost per passenger, subsidy per passenger, farebox recovery, and passengers per hour amongst all local routes. Route 1 ranks third in passengers per mile amongst the 31 local routes, which is still very high. This route's performance is better than the local route average for all indicators.

The majority of the ridership activity on the Route 1 occurred at the Downtown Transit Center, with over 250 boardings and alightings combined (Figure 8-30). This is a pattern that will be repeated for all routes, demonstrating that downtown is the heaviest boarding and alighting zone in the system, but also demonstrating the CBD-centric design of the system, something that was identified as an issue for those travelling between non-CBD locations. Overall, ridership activity occurs throughout the route.

Ridership on this route was strong at Broadway Avenue and 1st Street, Olympic Village and River Center Plaza. The largest occurrence of alightings is at Silver Lake Center, Rocky Creek Drive and Broadway Avenue, and Broadway Avenue and Center Street. Silver Lake Center is a shopping plaza with a grocery store (Silver Lake Foods) which is only serviced on the outbound trip. Since alightings at this location are higher than boardings and it is only serviced in the outbound direction which indicates that most riders are coming from the downtown direction. River Center conversely is serviced only in the inbound direction and had a higher instance of boardings than alightings. Olympic Village is an apartment complex and is only serviced in the inbound direction which accounts for the large number of boardings but few alightings. In the vicinity of Rocky Creek Drive there is higher density housing including Rocky Creek Estates, a trailer park. It is also the closest outbound stop to Olympic Village. Broadway Avenue and 1st Street and Broadway Avenue and Center Street and paired stops servicing the same location but in opposing directions. The stops are located downtown by the University of Minnesota Rochester Campus.

Figure 8-30: Route 1 Ridership Map



Route 1 did not meet all of the guidelines for on-time performance based on the time period surveyed but always started the trip at the Downtown Transit Center on-time (Table 8-2). During the survey period for this study, the route ran ahead of schedule on the inbound trip, leaving stops one or two minutes before the scheduled departure and arriving downtown early. Running hot as this is called is never allowable in a bus system and this pattern is repeated for many other routes. Buses running ahead of schedule need to hold at the timepoints to remedy the problem on individual trips; in extreme cases where the pattern is constant routes will need to be retimed.

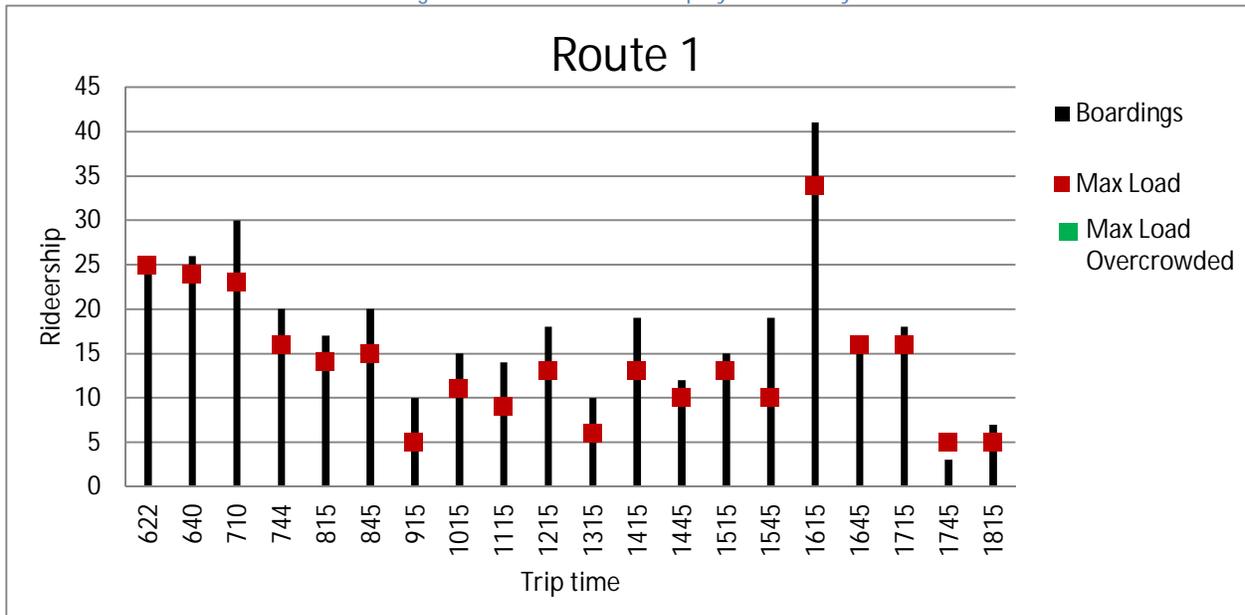
Table 8-2: Route 1 On-time Performance

	10 Ave. Downtown	10 Ave. NE/21 St. NE	Rocky Creek Dr. & Northern Valley Dr.	ShopKo North	10th Ave. & 21st St.	River Plaza	Downtown
AM Peak	100%	No service	75%	No Service	100%	80%	80%
Middy	100%	No service	100%	86%	No Service	75%	50%
PM Peak	100%	100%	100%	100%	No Service	50%	50%

In the morning, peak ridership was spread out among several trips and then drops to below 20 passengers during the midday (Figure 8-31). During the afternoon peak the 4:15 PM trip was the most heavily used, carrying two times more passengers than any other trip in the afternoon. The last two trips were the most underutilized with less than 10 passengers each. At no point was this route

overcrowded. Instances where the maximum load exceeded the total number riders were due to passengers riding through a terminal, with passengers already onboard at the beginning of a trip.

Figure 8-31: Route 1 Ridership by Time of Day



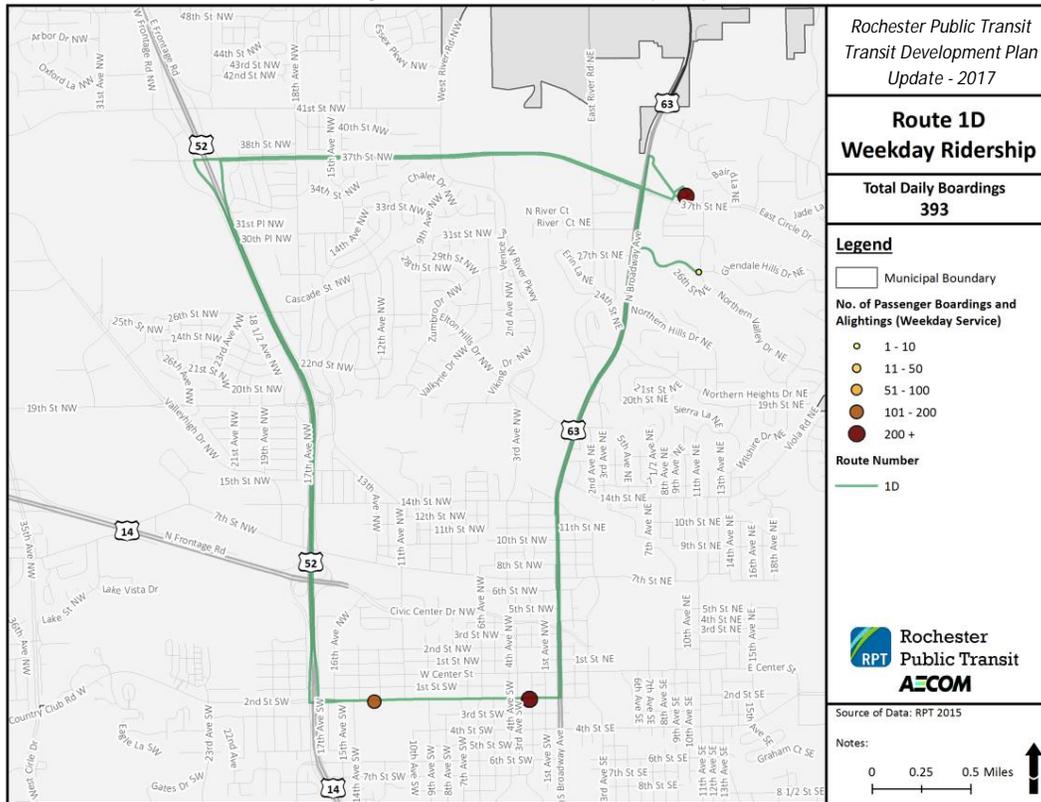
Route 1 is a very direct route providing service along a major corridor, Broadway Avenue North. It is anchored by Downtown Rochester on the south end of the route and the ShopKo shopping center, with a park-and-ride, on north end. The weakness of this route is that it does deviate off of Broadway to serve a few neighborhoods. While these deviations do provide service closer to users homes, it does affect the amount of time it takes to travel between ShopKo and Downtown Rochester. There may be opportunities to serve emerging areas along East Circle Drive or 37th Street NE.

8.4.2 Route 1D

Route 1D is a one of the highest performing direct routes operated by RPT. It ranked second amongst all direct routes in all six service efficiency and effectiveness indicators. For all indicators, Route 1D's performance is better than the direct route average.

In the morning almost all of the boardings (204 or 99%) on the Route 1D were at the Chateau Theatre park-and-ride (Figure 8-32). Thirty-six percent alighted at the St. Marys Hospital stop and the remaining at the Downtown Transit Center. The patterns in the afternoon commute were reversed.

Figure 8-32: Route 1D Ridership Map



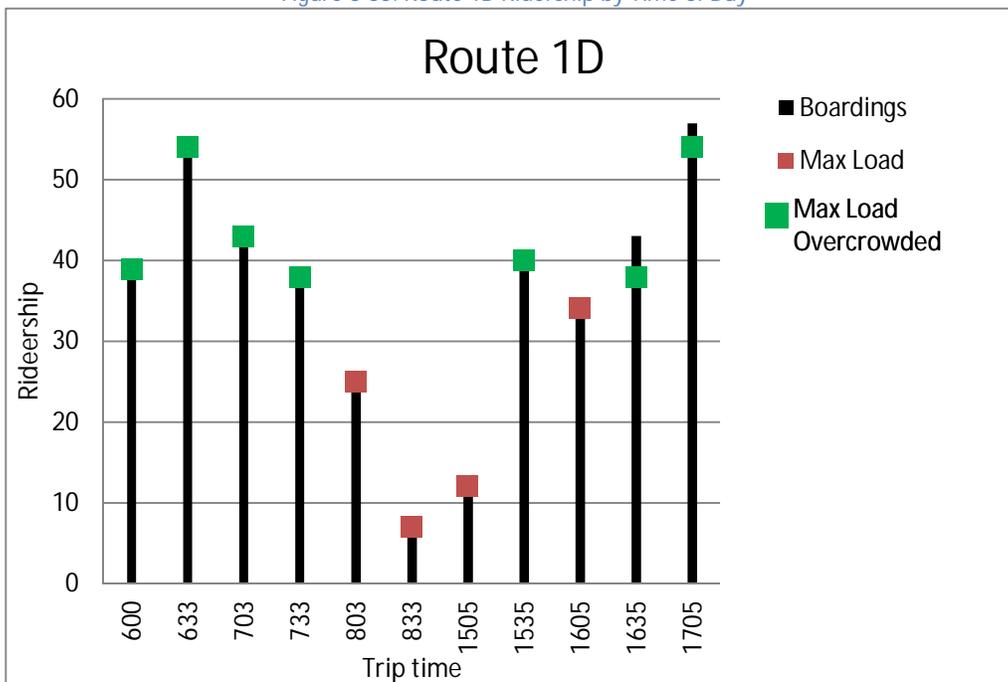
Route 1D did not meet all of the guidelines for on-time performance during the survey period. The route tended to run ahead of schedule (“hot”) in the morning, leaving the park-and-ride three to six minutes before the scheduled departure and arriving downtown early. The afternoon commute trip was the reverse of the morning, leaving St. Marys first. The first two trips in the afternoon left two minutes early, resulting in early arrivals/departures at the remaining stops. The remaining afternoon commute trips were on-time. Again, buses cannot leave stops before their scheduled departure.

Table 8-3: Route 1D On-time Performance

	Rocky Creek Dr. & Northern Valley Dr.	Chateau Theatre park-and-ride	Downtown	St. Marys Hospital
AM Peak	100%	67%	33%	50%
PM Peak	No service	80%	60%	60%

The last morning and first afternoon trips had the lowest ridership with less than 13 passengers each; otherwise ridership during the peaks was high (Figure 8-33). The second morning trip and last afternoon commute trip had the highest ridership and greatest maximum loads (54 passengers), and both were overcrowded. Many of the trips, 64%, were overcrowded on this route. The 7:03 AM trip had two buses for the same trip; if only one was used there would have been even more overcrowding than there was.

Figure 8-33: Route 1D Ridership by Time of Day



Route 1D is a very productive Direct Route that provides express service between the ShopKo park-and-ride and Downtown Rochester. The biggest issue with this route, both shown in the data and from numerous comments from riders, is crowding on the route, with most trips exceeding the loading guidelines.

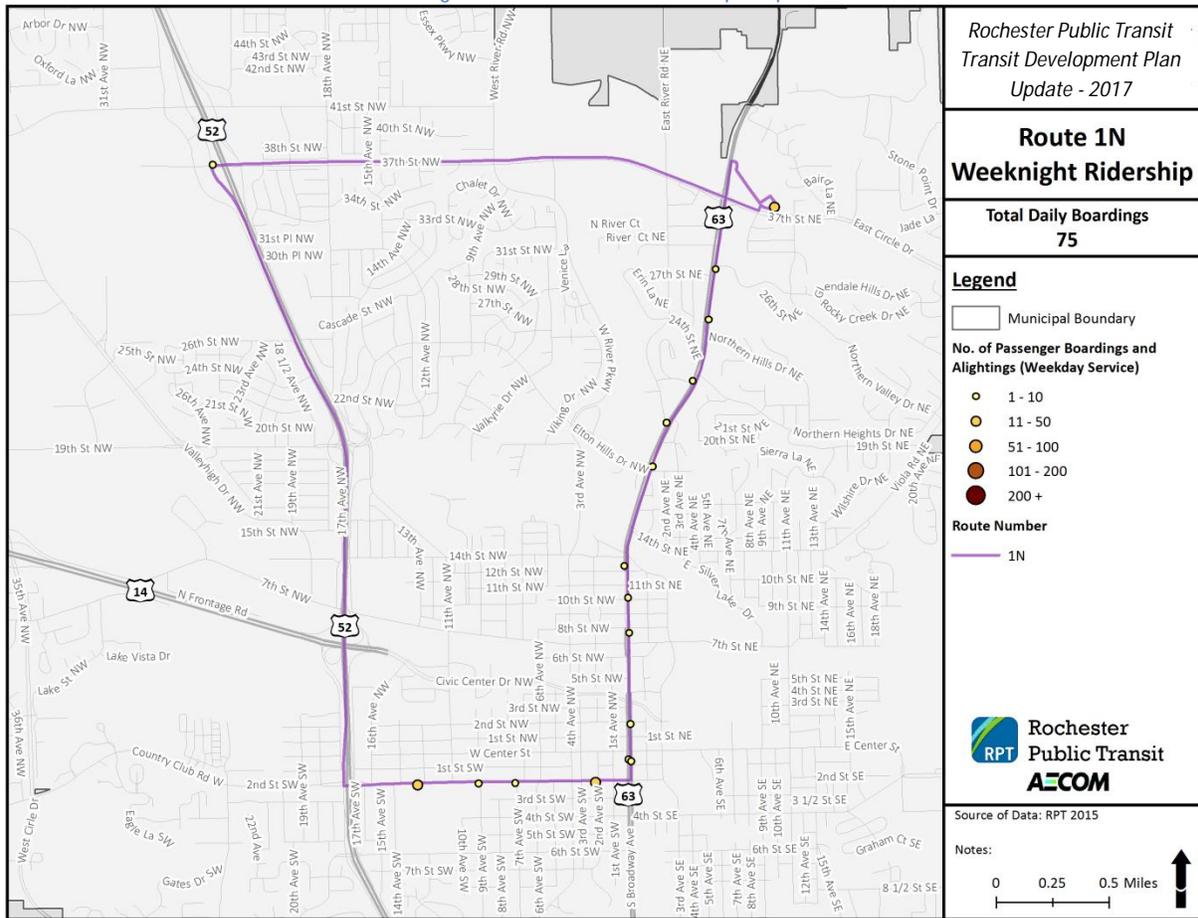
8.4.3 Route 1N

Of four evening routes, Route 1N ranks towards the middle for all indicators. For the financial efficiency indicators, Route 1N ranks third out of four routes. For the service effectiveness indicators, Route 1N ranks second out of four routes. Route 1N's performance is better than the night route average in passengers per hour and passengers per mile. Route 1N is between 80% and 100% better than the night route average in cost per passenger, subsidy per passenger, and farebox recovery. Being in these ranges indicates that this is one of the more successful routes in the network.

The majority of boardings for this night route, as expected, were at the Downtown Transit Center and at St. Marys Hospital, while the Chateau Theater park-and-ride was the largest alighting location (Figure 8-34). As this is largely a route designed for commuters returning from downtown, there were minimal rides going inbound from the park and ride. Ridership primarily occurred on the North Broadway Avenue, with very little ridership on 37th Street NW.

The Route 1N did not meet the guidelines for on-time performance during the survey period (Table 8-4), operating as it did about 1-2 minutes early on all trips at all stops.

Figure 8-34: Route 1N Ridership Map



**Rochester Public Transit
Transit Development Plan
Update - 2017**

**Route 1N
Weeknight Ridership**

**Total Daily Boardings
75**

Legend

□ Municipal Boundary

No. of Passenger Boardings and Alightings (Weekday Service)

- 1 - 10
- 11 - 50
- 51 - 100
- 101 - 200
- 200 +

Route Number

— 1N

**Rochester
Public Transit
AZCOM**

Source of Data: RPT 2015

Notes:

0 0.25 0.5 Miles

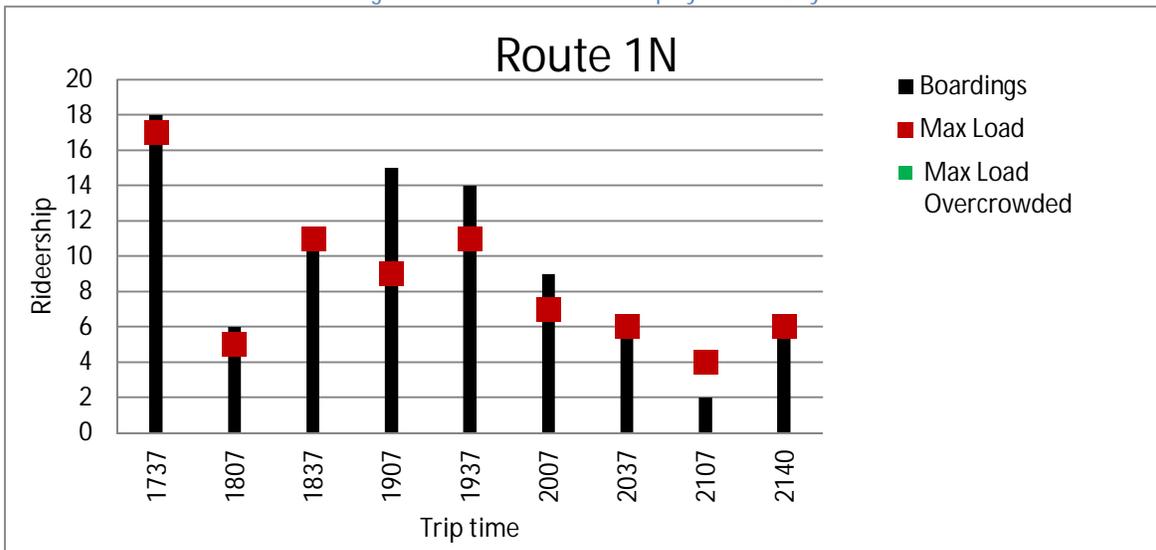
Table 8-4: Route 1N On-time Performance

	St. Marys Hospital	Downtown	Chateau Theatre park-and-ride	38th St. & W. Frontage Rd.	Downtown
PM Peak	100%	0%	100%	100%	0%
Evening	100%	88%	75%	75%	83%

The first 1N trip had the highest ridership; this is still within the afternoon commute peak. Times where the maximum load was greater than the number of boardings was due to people who were already onboard when the trip began, continuing from a previous trip on the same bus.

Figure 8-35). Ridership dropped once the afternoon commute peak ended but then began to climb again and peaked around 7:00 PM after which it began to drop off. The 9:07 PM trip had the fewest passengers with only two. At no point was this route overcrowded. Times where the maximum load was greater than the number of boardings was due to people who were already onboard when the trip began, continuing from a previous trip on the same bus.

Figure 8-35: Route 1N Ridership by Time of Day



One of the biggest issues with Route 1N is early trips. Since this is a night route, passengers rely on this service to return to their home location in the evening. Early trips affect ridership and the perception of reliability of RPT, especially if the last trip of the evening is early. Otherwise this route complements Route 1 well, providing evening service along the Broadway Avenue North corridor; however only northbound service is provided, with southbound service operating along Trunk Highway 52.

8.4.4 Route 2

Route 2 ranks towards the middle amongst the 31 local routes but in all measures exceeds the system average for this type of route. For cost per passenger, subsidy per passenger, and farebox recovery Route 2 ranks 8th and is better than the local route average. For passengers per hour Route 2 ranks a very respectable 5th and its performance is better than the local route average. Finally, for passengers per mile Route 2 ranks 10th which is still better than the local route average.

In the morning, boardings occurred all along the route with the largest occurring at the Downtown Transit Center, Northern Heights Drive and 13th Avenue NE and along 15th Avenue (Figure 8-36). Northern Heights Drive and 15th Avenue are both residential areas. During the afternoon commute 80% of the boardings occurred at the Transit Center. While alightings were spread out along the route, which had no weak segments, the largest number (20%) occur in the Northern Heights Drive area. Ridership was distributed along the entire Route 2 loop.

The Route 2 did not meet all of the guidelines for on-time performance based on the survey period findings (Table 8-5). In the morning and afternoon peaks the trips ran anywhere from 5 to 18 minutes late when they reached the Northern Heights timepoint and then continued to run even later as they headed back towards downtown. Trips between 4:00 PM and 5:00 PM were the trips that ran the latest. In the midday trips tended to run one-two minutes early. Careful analysis will be needed to ameliorate these issues.

Figure 8-36: Route 2 Ridership Map

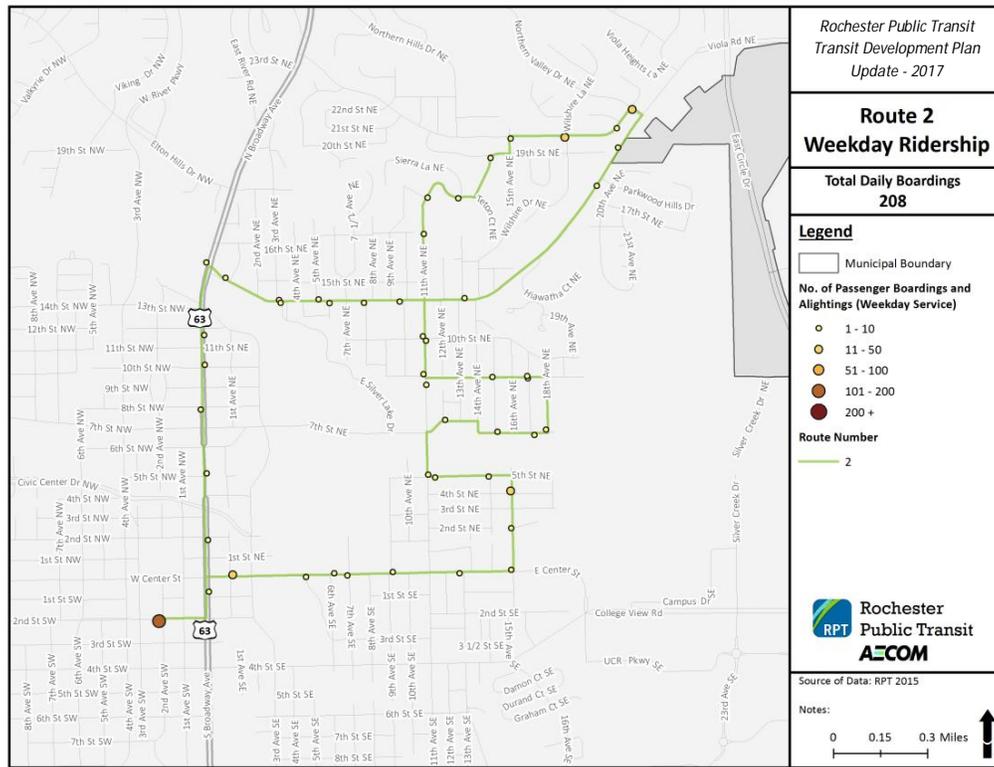
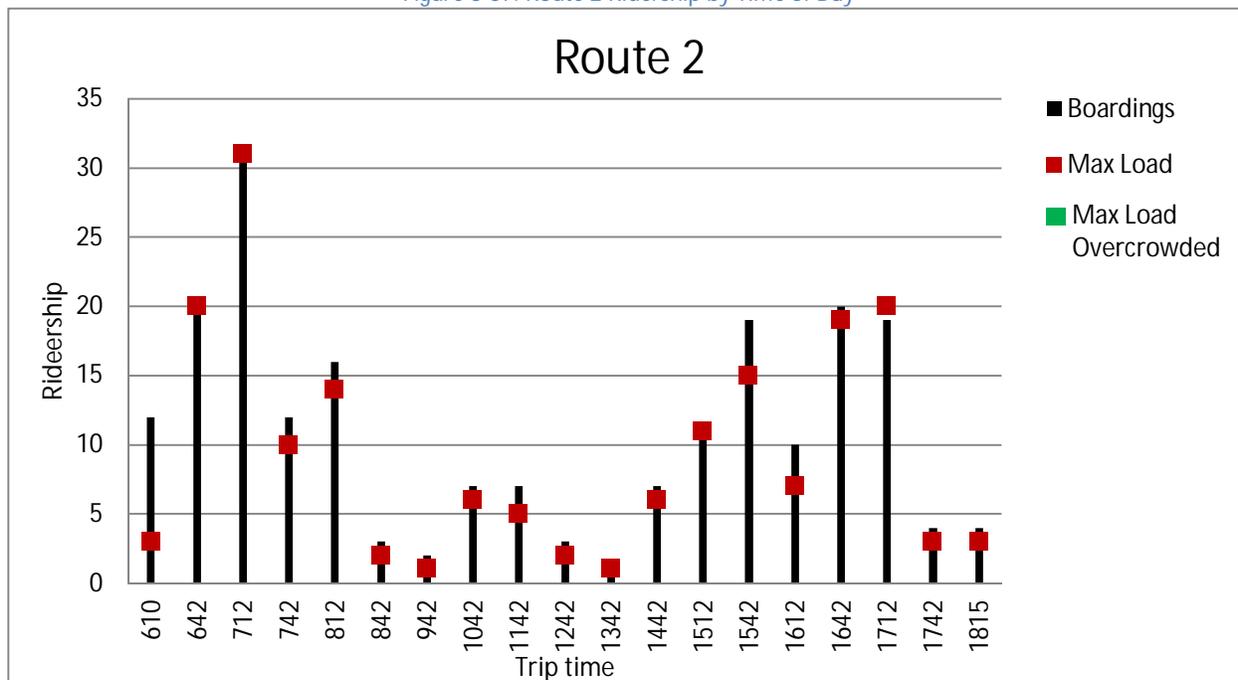


Table 8-5: Route 2 On-time Performance

	Downtown	Northern Heights & Northern Valley	Center St. E & 15 Ave. NE	Northern Heights & Northern Valley	Downtown
AM Peak	100%	100%	40%	PM only	80%
Midday	100%	75%	86%	100%	43%
PM Peak	100%	AM only	90%	70%	70%

The morning and afternoon commute peaks had the most ridership (Figure 8-37). In the morning ridership was concentrated, while ridership in the afternoon commute it was more spread out. The midday had very little ridership. The trip with the highest number of riders and the greatest load was 7:12 AM; the least was the 1:42 PM trip with only one passenger. After 5:15 PM there was very little ridership on Route 2 with no trip carrying more than five passengers. At no point was this route overcrowded. Times where the maximum load was greater than the number of boardings is due to people who were already onboard when the trip began, continuing from a previous trip on the same bus.

Figure 8-37: Route 2 Ridership by Time of Day



Overall Route 2 is a strong performer in terms of service effectiveness and financial efficiency falling about the middle of the group of local routes. This route operates as a large loop serving neighborhoods in northeast Rochester. This route serves many of the same areas as Routes 1 and 16. The fact that this route is a loop route and duplicates other services would explain why this route is not a top performer. There may be opportunities to restructure services in northeast Rochester to better allocate resources in this area to provide more direct routings that may be more attractive to passengers.

8.4.5 Route 3

For most indicators, Route 3 ranks very low amongst the 31 local routes. For cost per passenger Route 3 ranks 22nd and its performance is also only between 60% and 80% of the local route average. For subsidy per passenger and farebox recovery Route 3 ranks 21st. The subsidy per passenger is between 80% and 100% better than the local route average, and yet the farebox recovery performance is less than 60% of the local route average. For passengers per hour Route 3 ranks 21st and its performance is worse than 60% of the local route average. For passengers per mile Route 3 ranks 13th and its performance is between 60% and 80% of the local route average. This is a route that will need careful analysis and possibly significant restructuring.

The majority of the activity on the Route 3 was at the Downtown Transit Center and at the Heintz Center and the main building for Rochester Community and Technical College (RCTC). Stops between Downtown Rochester and RCTC had low ridership; however, this is a very direct route between the two endpoints.

Route 3 did not meet the guidelines for on-time performance during the survey period (Table 8-6). There was no distinct pattern of running early or late by time of day. When running late the delay occurred outbound between the Downtown and Heintz Center.

Figure 8-38: Route 3 Ridership Map

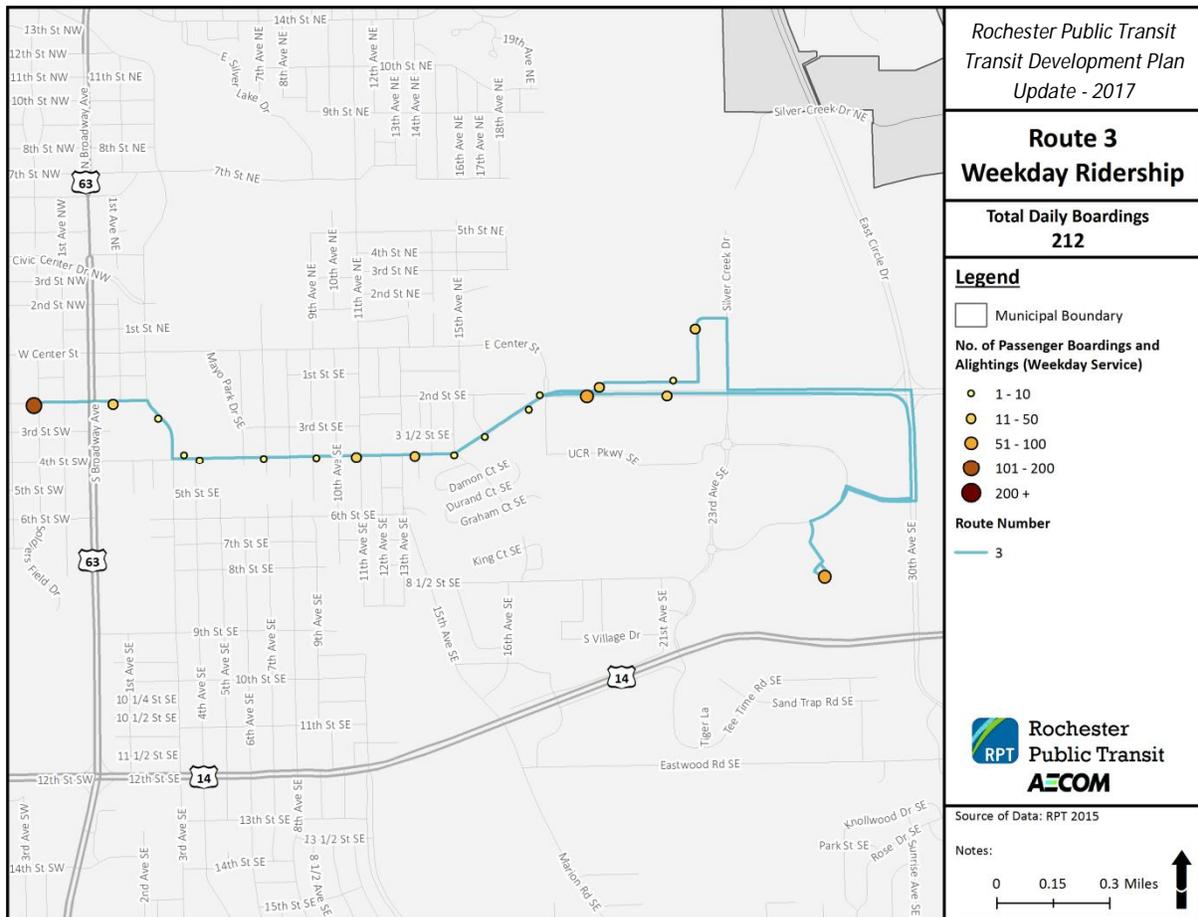
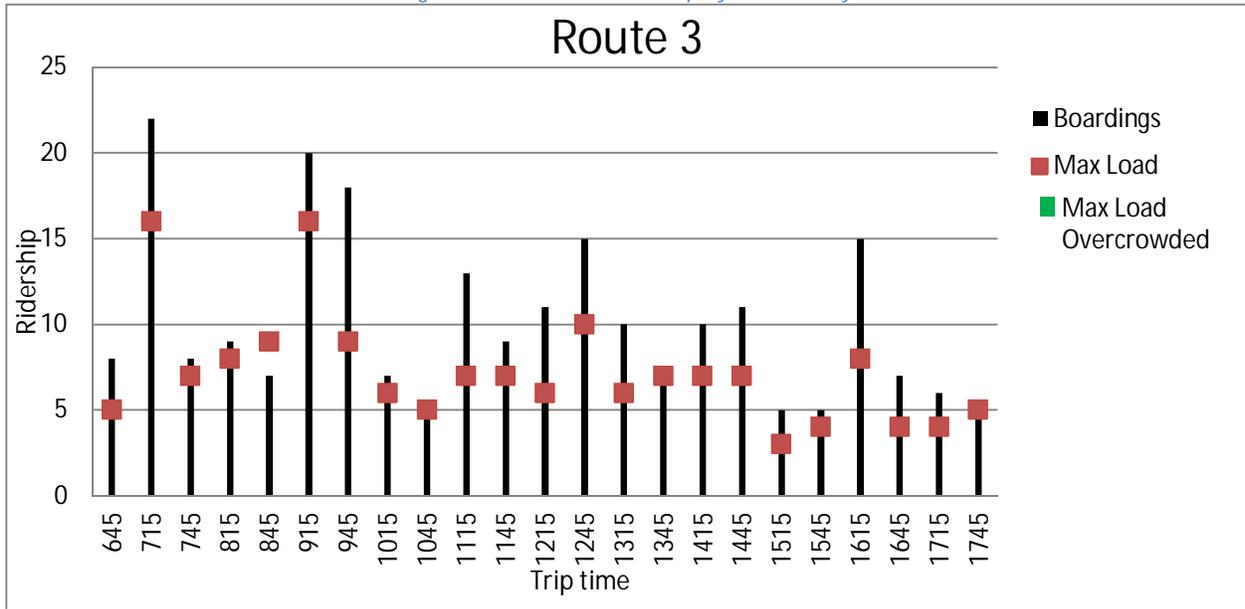


Table 8-6: Route 3 On-time Performance

	Downtown	Heintz Center	Campus Drive S. & Olmsted Services	Downtown
AM Peak	100%	75%	75%	75%
Midday	92%	85%	92%	69%
PM Peak	100%	67%	83%	67%

Ridership on the route was steady but very low, with ridership less than 15 passengers for all but three trips. The 7:15 AM trip had the most ridership; this trip arrives at RCTC at 7:35 AM in time for 8:00 AM classes (Figure 8-39). Throughout the day there were peaks and valleys in ridership which may correspond to the class schedule. Ridership was lowest after 3:00 PM; all but one of these trips had five passengers. At no point was this route overcrowded. Times where the maximum load was greater than the number of boardings was due to people who were already onboard when the trip began, continuing from a previous trip on the same bus.

Figure 8-39: Route 3 Ridership by Time of Day



Route 3 provides service along 4th Street SW and has lackluster performance in terms of financial efficiency and service effectiveness. This is surprising as the eastern anchor of this route has a number of educational, medical, and social service offices which are usually major transit generators. Also, this route is very direct and there are very few segments of this route that are duplicated by other routes. However, the institutions served do have a lot of free parking which could result in lower transit use. Service needs to be maintained to the educational/medical/social service agencies served by this route and opportunities to modify the service to improve ridership must be explored.

8.4.6 Route 3N

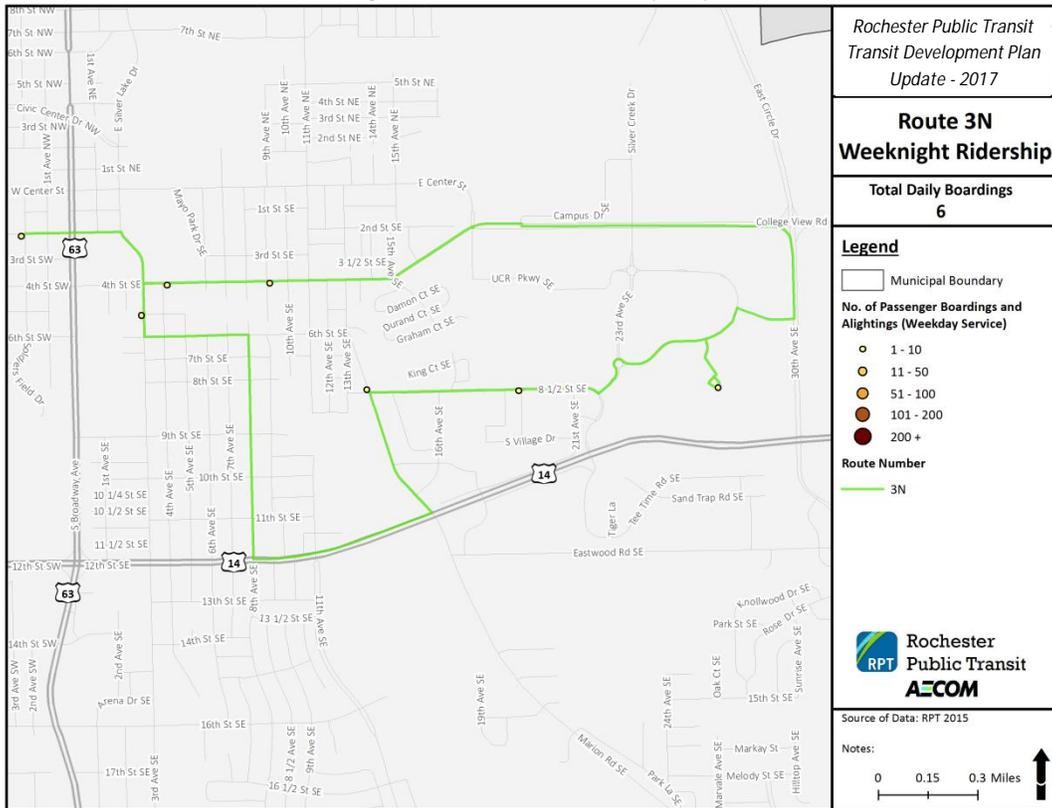
Route 3N ranks fourth out of four evening routes in cost per passenger, subsidy per passenger, farebox recovery, and passengers per hour. For passengers per mile Route 3N ranks third. Route 3N performs better than the night route average in cost per mile, passengers per hour, and passengers per mile. Route 3N performs between 60% and 80% of the night service average in cost per passenger and subsidy per passenger. Route 3N performs worse than 60% of the night route average in farebox recovery. This route had very little ridership overall. The only stops that had more than one alighting or boarding were the Transit Center and RCTC (Figure 8-40). Ridership activity throughout the route was low.

Route 1N did not meet the guidelines for on-time performance (Table 8-7); but it arrived at the Heintz Center only one minute early on the first trip so this may not be a big issue.

Table 8-7: Route 3N On-time Performance

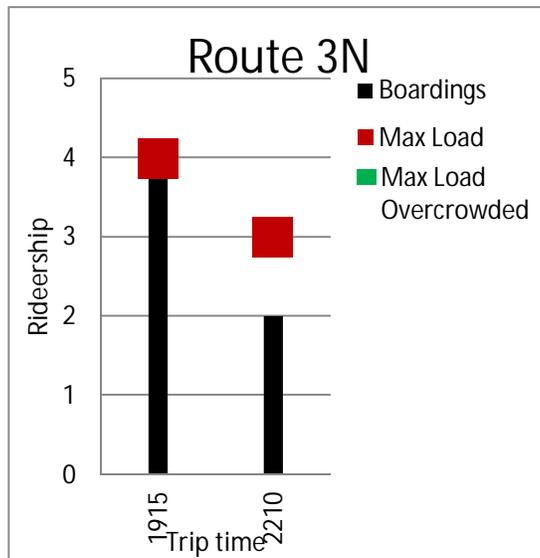
	Downtown	Heintz Center	Downtown
Evening	100%	50%	100%

Figure 8-40: Route 3N Ridership Map



This route only has two trips and very little ridership. Ridership was higher on the first trip (Figure 8-41). The last trip had a higher maximum load than total number of boardings which was due to riders already onboard the bus when the trip started.

Figure 8-41: Route 3N Ridership by Time of Day



In most of the financial and service indicator categories, Route 3N is the poorest performer of all evening services. One major reason is that only two trips are provided on this route that serve

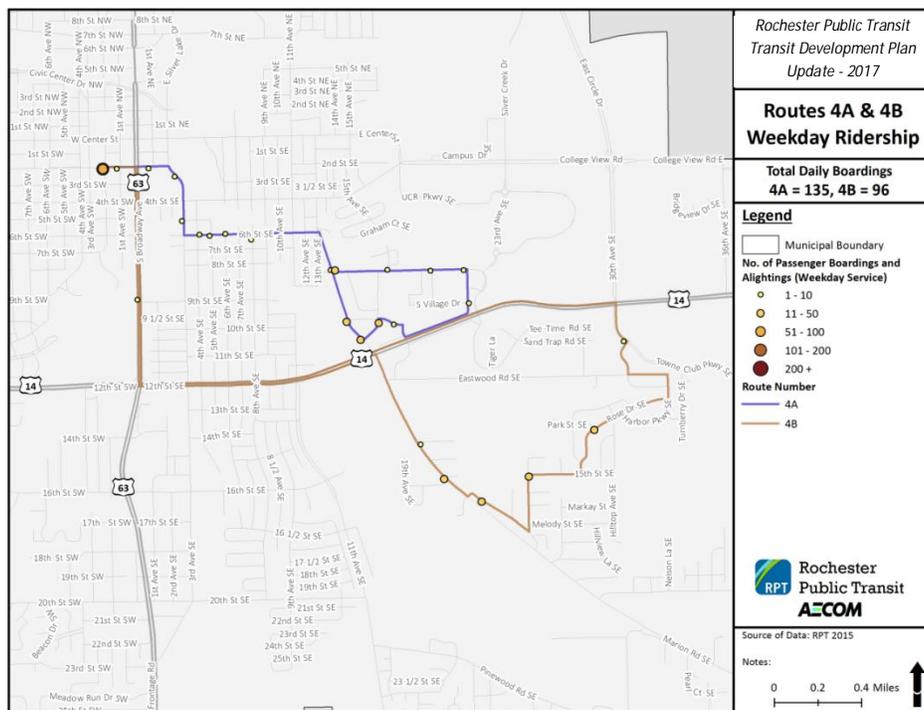
neighborhoods in the southeastern quadrant of the city. The second reason is that these trips appear to be timed to serve students at the various institutions along the route, versus people who live in the neighborhoods served. The final reason may be the direction of the loop with the colleges served first then the neighborhoods then downtown. One low hanging fruit may be to reverse the direction of the loop. In any case this route will need careful study as it would be a candidate for elimination if its poor performance were to continue.

8.4.7 Route 4A

Route 4A's performance is towards the middle amongst the 31 local routes. Route 4A has a rank of 11th for cost per passenger, subsidy per passenger, and farebox recovery. It also ranks 11th for passengers per hour. For passengers per mile Route 4A has a rank of 6th. Route 4A's performance is better than the local route average for all indicators so it has a good profile for use even as its rank is in the middle for local routes.

The majority of the activity on the Route 4A was at the Downtown Transit Center, with 45% of all combined boardings and alightings (Figure 8-42). Ridership was also high at the Cub Foods park-and-ride (48 boardings and alightings), along 8 ½ Street SE, and at the Big Lots (11th Street SE & 10th Street SE). Along 8 ½ Street SE there are three different apartment complexes including Hunter Ridge, which has 80 units targeted for students at the University of Minnesota Rochester, and Homestead Village, which has 100 units of affordable housing. The weakest segment of Route 4A was the segment along 6th Street SE where both Route 4A and Route 5 also operate.

Figure 8-42: Route 4A Ridership Map



Route 4A did not meet all of the guidelines for on-time performance (Table 8-8). Trips that left the Downtown Transit Center arrived at Cub Foods and 15th Avenue SE & 8 ½ Street SE late but arrived back

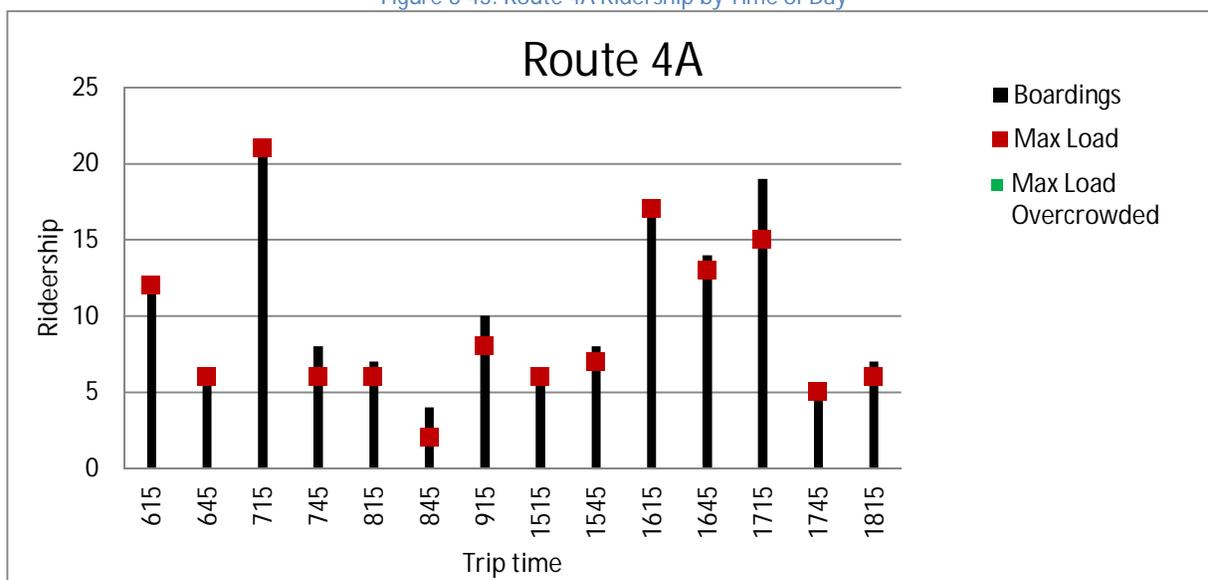
at the Downtown Transit Center on-time. Trips that departed on-time arrive at Cub Foods on-time, but arrive at 15th Avenue SE & 8 1/2 Street SE and downtown one to five minutes early. The implication is that the timepoint to timepoint running time is not properly distributed throughout the route.

Table 8-8: Route 4A On-time Performance

	Downtown	Cub Food	15th Ave. SE & 8 1/2 St. SE	Downtown
AM Peak	80%	60%	60%	60%
Middy	100%	100%	50%	0%
PM Peak	86%	86%	57%	33%

In the morning the 7:15 AM trip was the most heavily used trip, carrying more passengers than any other trip. After that, ridership dropped to less than 10 passengers per trip (Figure 8-43). The trip with the lowest number of passengers was the 8:45 AM trip with just four. In the afternoon commute peak ridership was spread out among several trips between 4:00 PM and 5:30 PM but then dropped significantly. The last two trips were underutilized with less than eight passengers each. At no point was this route overcrowded.

Figure 8-43: Route 4A Ridership by Time of Day



This route provides peak period only service, with midday service provided by the 4MD which combines elements of 4A and 4B. The purpose of this arrangement is to reduce travel times during the weekday peak periods while maintaining area coverage during the midday. The result is that both Routes 4A and 4B, each operating every 30 minutes, do not maximize opportunities to be as efficient or effective as they can be. Also, the multiple variations of these routes, along with a midday version that is completely different, make these routes confusing. A redesign of Routes 4A/4B/4MD should be considered to provide consistent all day service in these neighborhoods in Rochester.

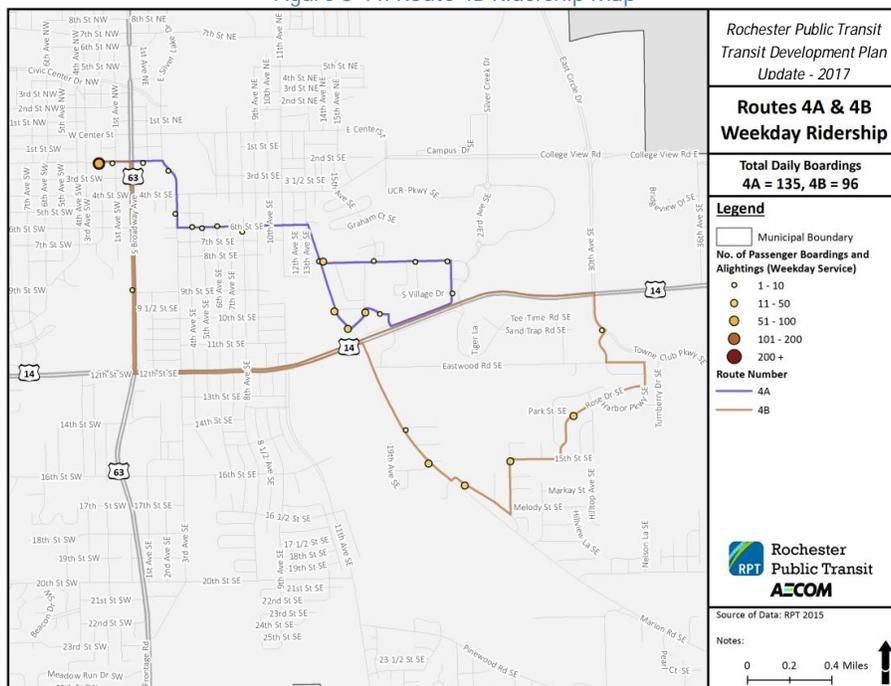
8.4.8 Route 4B

Route 4B's performance is also in the middle amongst the 31 local routes. Route 4B ranks 20th for cost per passenger, subsidy per passenger, and farebox recovery. It also ranks 20th for passengers per hour.

For passengers per mile Route 4B has a rank of 15th. Route 4B's performance is better than the local route average for cost per mile, cost per passenger, and subsidy per passenger but is only around the 60 percent level in farebox recovery, passengers per hour, and passengers per mile suggesting that it needs to be considered for significant changes in order to improve efficiency.

Like Route 4A, the majority of activity on the Route 4B was at the Downtown Transit Center, with 45% of the boardings and alightings combined (Figure 8-44). Ridership was also high by Longfellow Choice Elementary School (Marion Road SE & Park Lane SE) and at 24th Avenue SE & 15th Street SE and Rose Drive SE & Harbor Drive SE. Both of these are in residential areas. The flow of passengers was inbound towards the downtown in the morning and outbound during the afternoon commute. Ridership activity was very low along Broadway Avenue South and there are no stops along 12th Street SE. All the ridership activity was along Marion Road SE and stops near Oak Terrace Estates.

Figure 8-44: Route 4B Ridership Map



The Route 4B did not meet the guidelines for on-time performance (Table 8-9). When not on-time the route ran one to two minutes ahead of schedule.

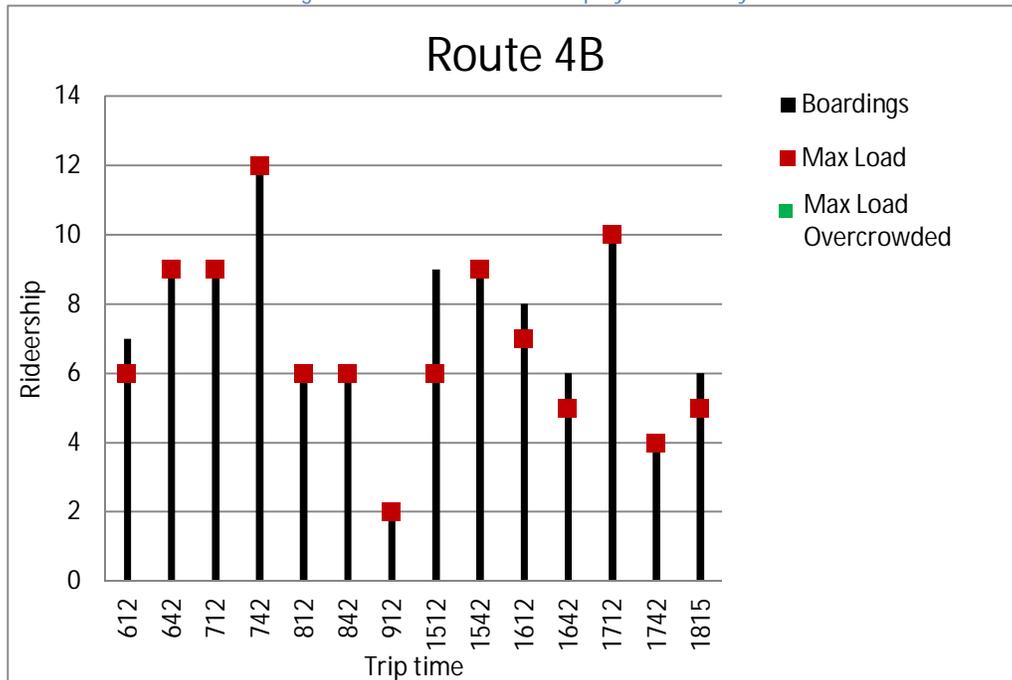
Table 8-9: Route 4B On-time Performance

	Downtown	Marion Rd. SE & Park Lane SE	Felty Ave. SE & 30 Ave. SE	Downtown
AM Peak	100%	80%	100%	40%
Midday	100%	50%	100%	50%
PM Peak	100%	57%	71%	33%

Ridership on this route was generally lower per trip than the other peak period-only local routes. The 7:42 AM trip was the most heavily used trip, carrying more passengers (12) than any other trip. After

that, ridership dropped to less than seven passengers per trip with a low of two on the last morning trip at 9:12 AM (Figure 8-45). At no point was this route overcrowded.

Figure 8-45: Route 4B Ridership by Time of Day



This route provides peak period only service, with midday service provided by the 4MD which combines elements of 4A and 4B. The purpose of this arrangement is to reduce travel times during the weekday peak periods while maintaining area coverage during the midday. The result is that both Routes 4A and 4B, each operating every 30 minutes, do not maximize opportunities to be as efficient or effective as they can be. Also, the multiple variations of these routes, along with a midday version that is completely different, make these routes confusing. A redesign of Routes 4A/4B/4MD should be considered to provide consistent all day service in these neighborhoods in Rochester.

8.4.9 Route 4D

Of the four direct routes, Route 4D ranks third in each service indicator category. Route 4D performs worse than the direct route average in farebox recovery, passengers per hour, and passengers per mile, and in general is a route that has a poor performance profile.

In the morning 90% of the boardings on the Route 4D were at the Cub Foods park-and-ride; half departed at the Downtown Transit Center and the other half at St. Marys Hospital (Figure 8-46). The patterns in the afternoon commute were reversed.

Route 4D did not meet the guidelines for on-time performance (Table 8-10). The morning trip left the park-and-ride ten minutes early which is extremely worrisome, arriving at the Downtown Transit Center three minutes early. For the afternoon commute, trips that left St. Marys Hospital late are unable to make up the lost time and ran behind for the remainder of the trip. Trips that left St. Marys on-time left

downtown early as five minutes are allotted for travel between St. Marys and Downtown yet the actual travel time is three minutes. Retiming is essential for this route.

Figure 8-46: Route 4D Ridership Map

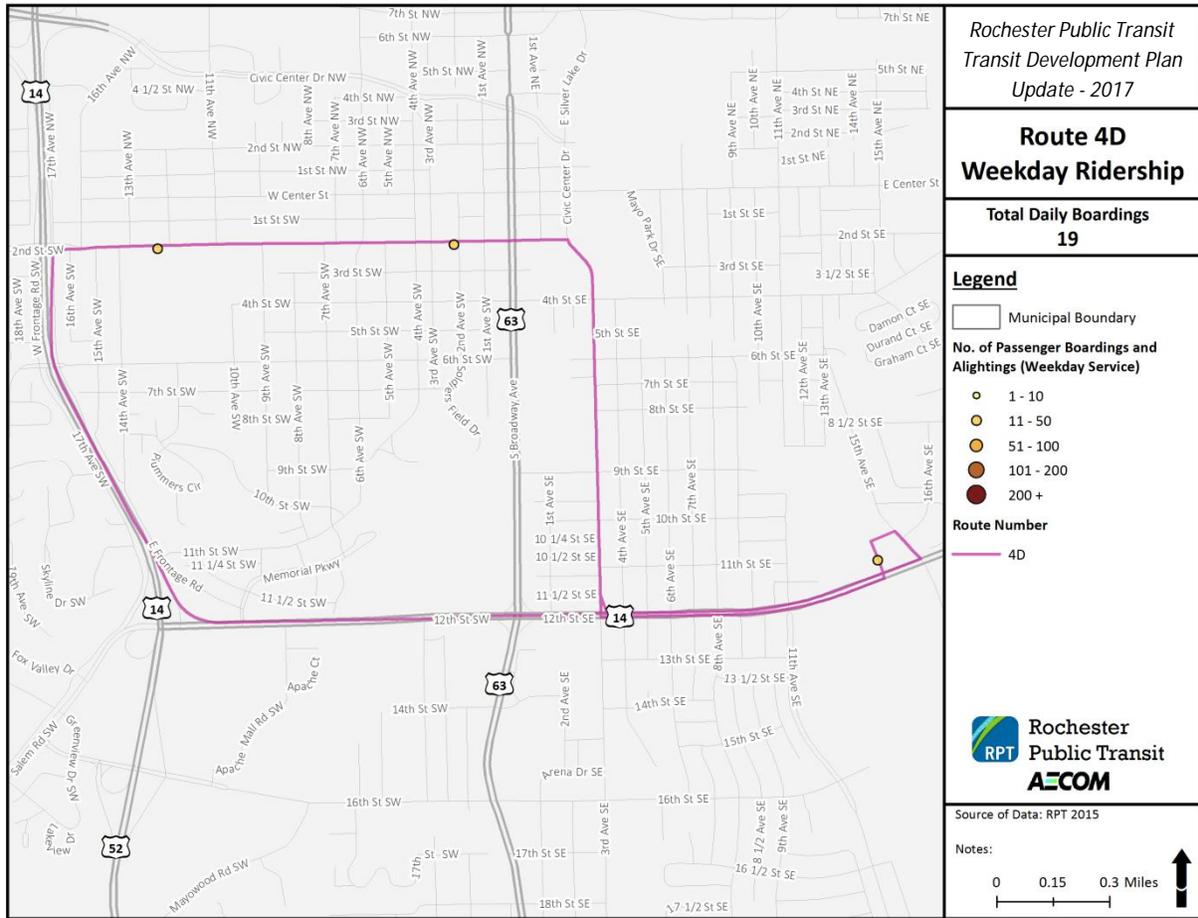
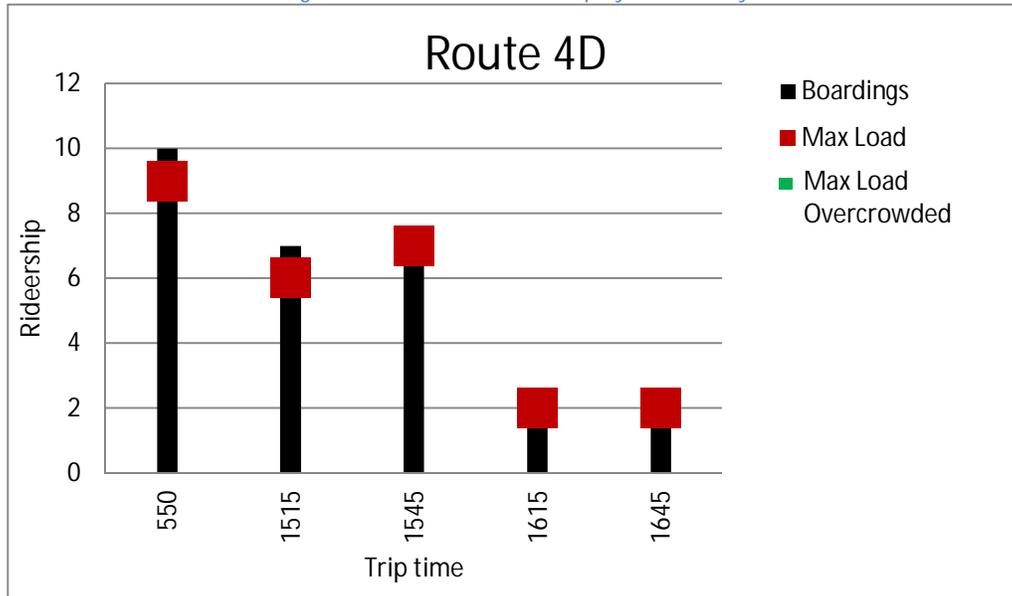


Table 8-10: Route 4D On-time Performance

	St. Marys Hospital	Downtown	Cub Foods park-and-ride	Downtown	St. Marys Hospital
AM Peak	PM Only	100%	0%	0%	No timepoint
PM Peak	75%	25%	50%	AM only	0%

Overall ridership per trip was low on this route. Ridership was highest on the 5:50 AM trip; this was the only morning peak trip. Ridership was lowest on the last two afternoon commute trips with just two passengers each (Figure 8-47). At no point was this route overcrowded.

Figure 8-47: Route 4D Ridership by Time of Day



During the AM peak period there is only one trip on Route 4D as Route 17 is able to serve the trip purposes of Route 4D during this period. Early trips are an issue for this route. However, ridership is not very high on this route since the Cub Foods park-and-ride is not located very far from downtown, and accessible only on local streets that have lower speeds; therefore there is very little time advantage on Route 4D versus a local service. This route is one of the poorest performing direct routes and may be a candidate for elimination or full consolidation with Route 17.

8.4.10 Route 4M

Route 4M's ranking for each service indicator is very similar to the ranking of Route 4B. For cost per passenger, subsidy per passenger, and farebox recovery Route 4M ranks 19th. Route 4M has a rank of 15 for passengers per hour and a rank of 19 for passenger per mile. Route 4M performs better than better than the local route average in cost per mile, cost per passenger, and subsidy per passenger. Route 4M performs between 80% and 100% better than the local route average in passengers per hour. Route 4M performs between 60% and 80% of the local route average in farebox recovery and passenger per mile. Overall it is only a modest performer in the system.

The majority of activity on the Route 4M was at the Downtown Transit Center, with 41% of the boardings and alightings combined (Figure 8-48). Ridership was also high by Cub Foods (13 boardings and alightings), Marion Road SE and 17th Street SE and Marion Road SE and Park Lane SE. At Marion Road SE and 17th Street SE there are two apartment complexes, Sutton Place and Eastridge, which collectively have over 150 units. There was very little ridership activity east of Oak Terrace Estates.

Route 4M operates only during the midday period. During the survey period, Route 4M did not meet the 90% threshold for on-time performance (Table 8-11). This route may have too much running time as trips left downtown late still arrive at Cub Foods early.

Figure 8-48: Route 4M Ridership Map

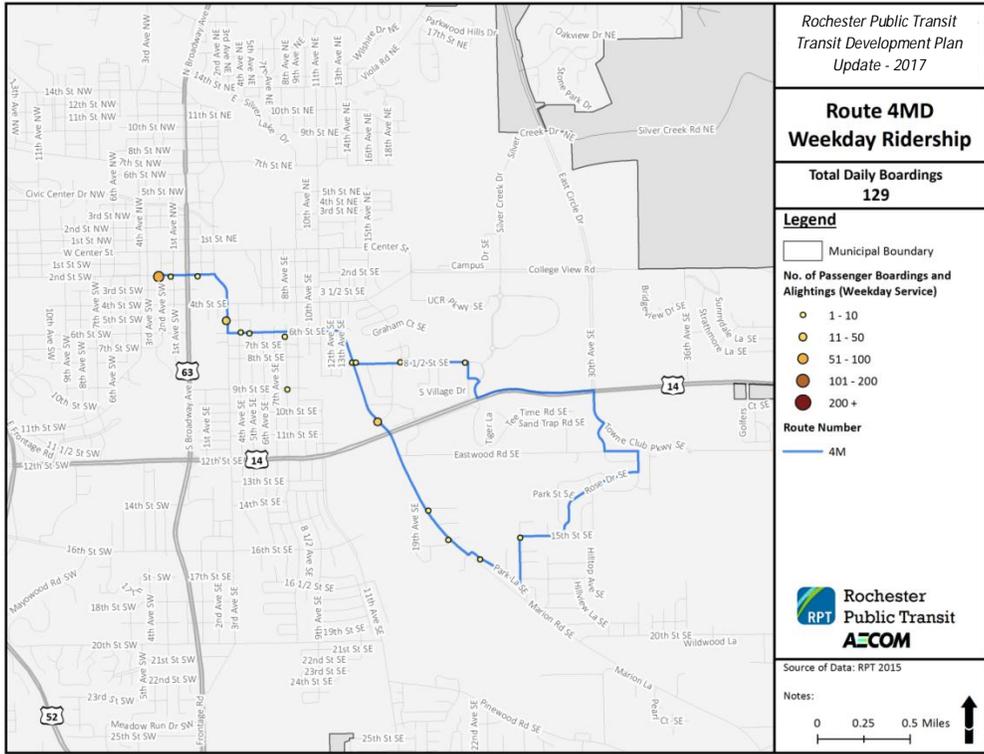
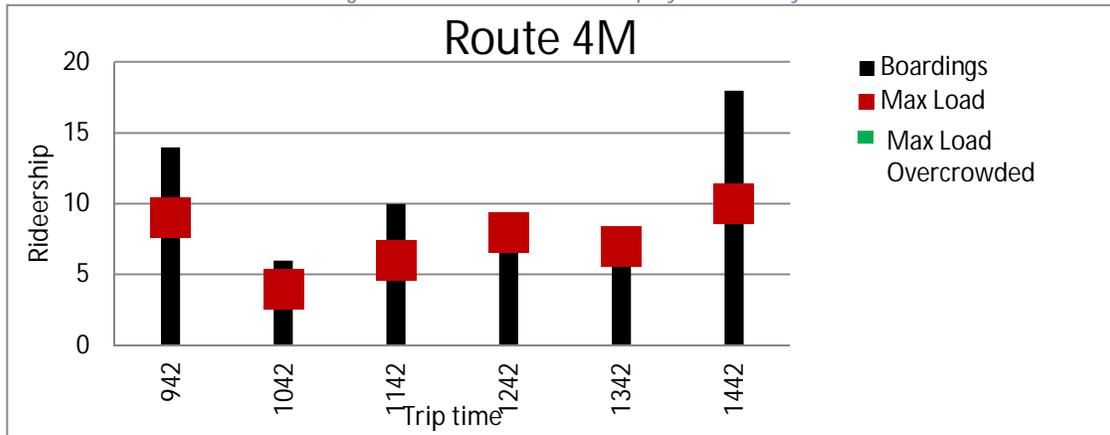


Table 8-11: Route 4M On-time Performance

	Downtown	Marion Rd. SE & Park Lane SE	Felty Ave. SE & 30 Ave. SE	15th Ave. SE & 8 1/2 St. SE	Downtown
Midday	83%	67%	83%	50%	17%

Ridership was highest on the 2:42 PM trip; this was the last trip for this route. Ridership was lowest on the 10:42 AM trip with just six passengers each (Figure 8-49). At no point was this route overcrowded.

Figure 8-49: Route 4M Ridership by Time of Day



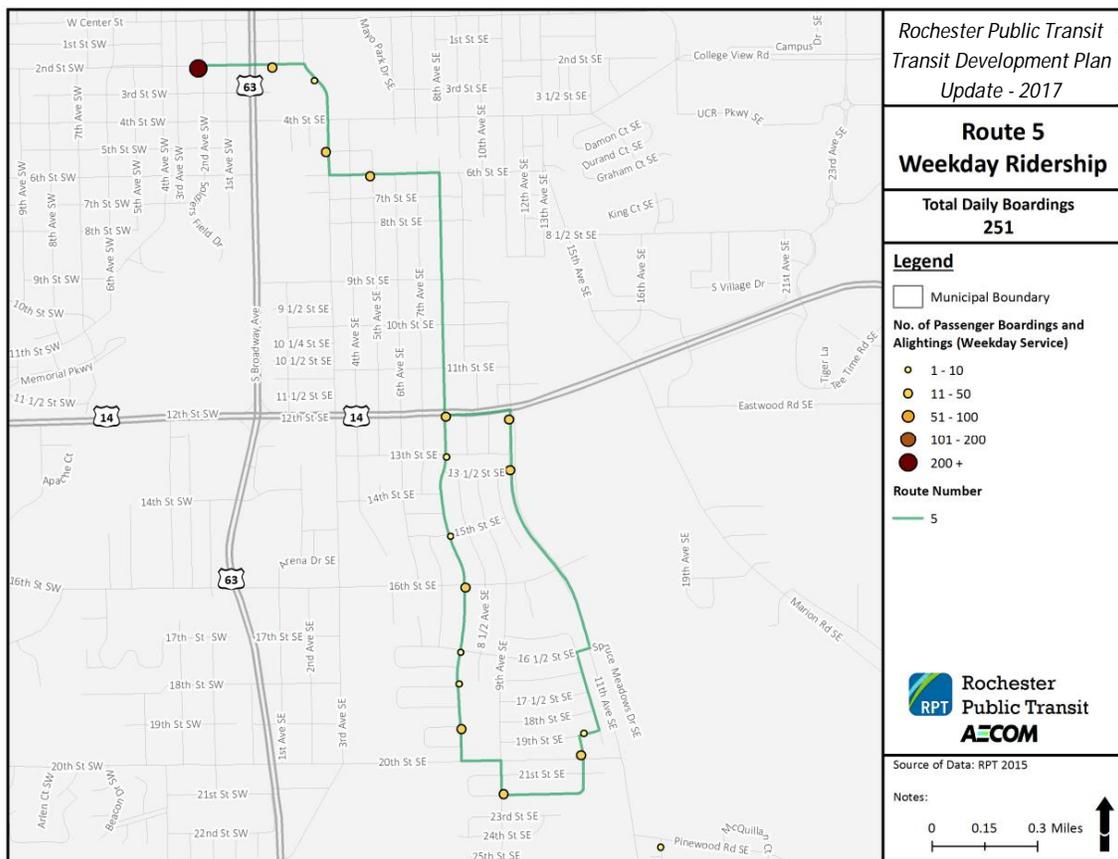
This route provides midday service which combines elements of 4A and 4B. The purpose of this arrangement has already been described; a redesign of Routes 4A/4B/4MD should be considered to provide consistent all day service in these neighborhoods in Rochester.

8.4.11 Route 5

Route 5 is one of the best performing routes of the 31 local routes. This route is ranked 6th for farebox recovery, cost per passenger, and subsidy per passenger. For passengers per hour this route ranks 2nd while it ranks 7th for passengers per mile. Route 5 performs better than better than the local route average in all indicators.

The location with the most activity on the Route 5 was at the Downtown Transit Center, with 249 (43%) boardings and alightings combined (Figure 8-50). Ridership was also high by Mayo High School (49 boardings and alightings), Seneca Foods (8th Avenue SE & 6th Street SE, 20 boardings and alightings) and at 22nd Street SE and 9th Avenue SE, a residential area with 27 boardings and alightings. The segment along 8th Avenue SE between 6th Street SE and 12th Street SE did not have any ridership activity.

Figure 8-50: Route 5 Ridership Map



Route 5 did not meet all of the guidelines for on-time performance and performs worse in the morning (

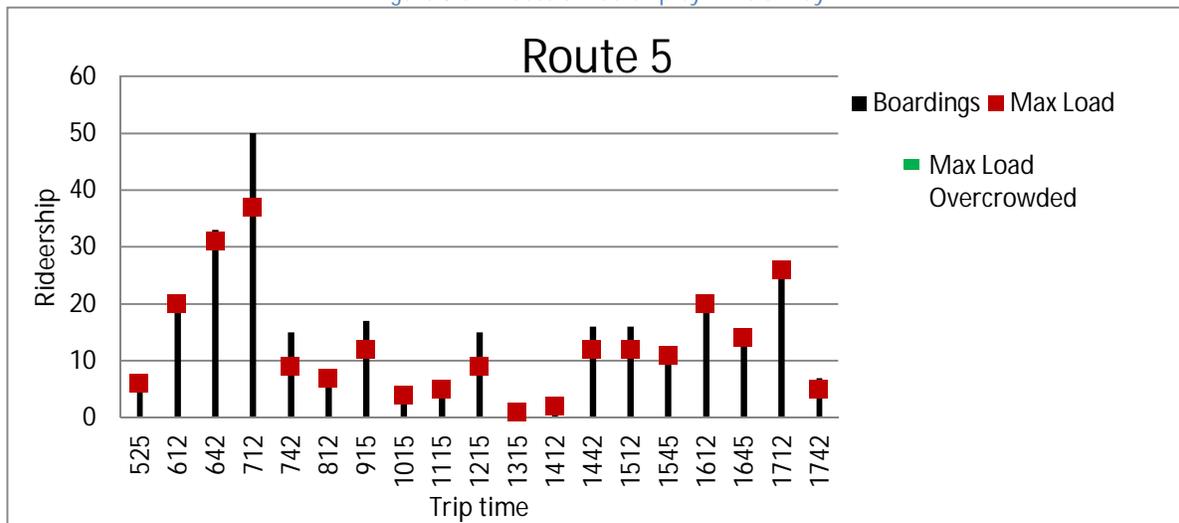
Table 8-12). During the peak periods, the route tended to run behind schedule by five to six minutes and during the midday the route consistently arrived early downtown by one to four minutes.

Table 8-12: Route 5 On-time Performance

	Downtown	13th St. & 11th Ave.	18th Ave. & Pinewood Rd.	9th Ave. & 22nd St. SE	8th Ave. & 6th St. SE	Downtown
AM Peak	100%	83%	83%	83%	67%	33%
Midday	100%	86%	100%	86%	86%	43%
PM Peak	100%	100%	100%	67%	83%	83%

The morning peak period had the most ridership (Figure 8-51). In the morning ridership continued to increase until 7:12 AM with but then dropped off sharply. In the afternoon commuter ridership was spread out more evenly amongst trips. The midday had little ridership. The trip with the highest number of riders and the greatest load was 7:12 AM (50 passengers); the least was the 1:15 PM with only one passenger. At no point was this route overcrowded.

Figure 8-51: Route 5 Ridership by Time of Day



Route 5 is a productive service that serves neighborhoods in Southeast Rochester. This route could be restructured to eliminate the unproductive segment along 8th Avenue SE; however this may result in a service coverage gap. Changes to this route may be considered in conjunction with changes to other routes in Southeast Rochester.

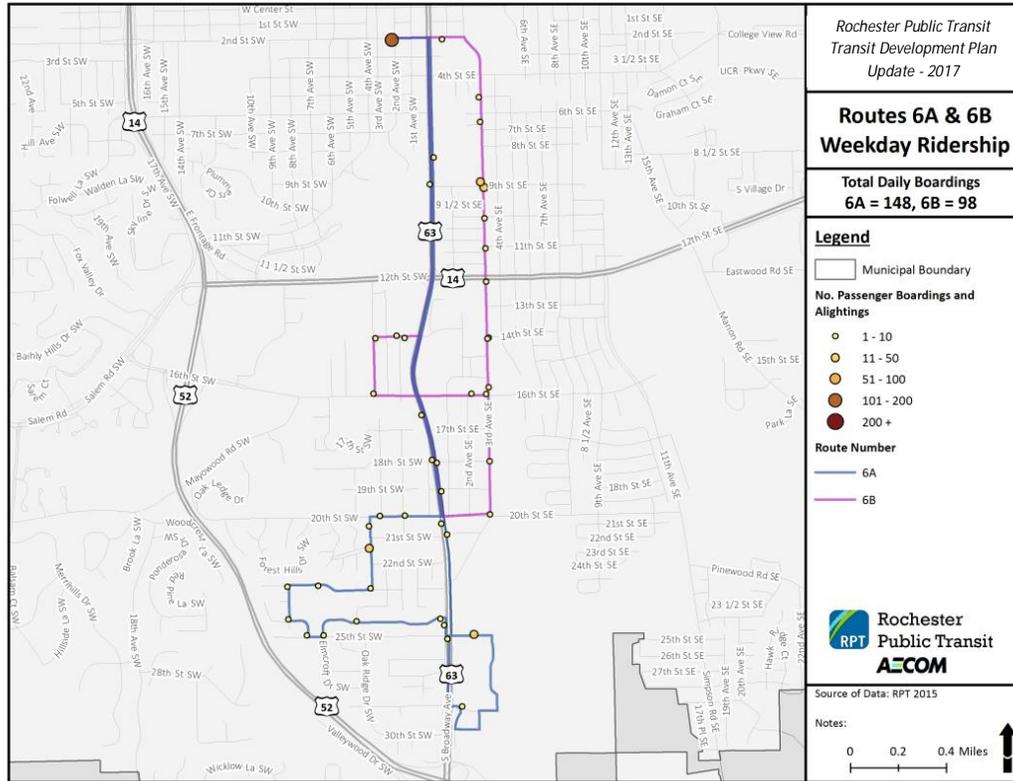
8.4.12 Route 6A

Route 6A is a peak period only local route that operates along Broadway Avenue South and is one of the better performing routes in the system. The route ranks towards the middle in terms of cost per passenger, subsidy per passenger, and farebox recovery ranking 14th. This route also ranks 14th in passengers per hour, but in passengers per mile this route ranks 18th. All Route 6A indicators perform at a level that is better than better than the local route average.

The majority of activity on the Route 6A was at the Downtown Transit Center, with over 140 boardings and alightings combined (Figure 8-52). Ridership was also high at 5th Avenue & Apple Ridge Boulevard and Walmart. 5th Avenue and Apple Ridge Boulevard is a residential area with single family homes and had 18 boardings/alightings, Walmart had 50. Ridership by trip time at Walmart indicates it was being

used more by employees and patrons than commuters. Adjacent to the Walmart is the Kohl's shopping plaza. The stronger segments of this route were the portions where the route provides neighborhood circulation, while the route was weaker along Broadway Avenue.

Figure 8-52: Route 6A Ridership Map



Route 6A did not meet all of the guidelines for on-time performance (Table 8-13). Overall, trips tended to be running late and were unable to make up the time, falling up to 12 minutes late when reaching the downtown Transit Center.

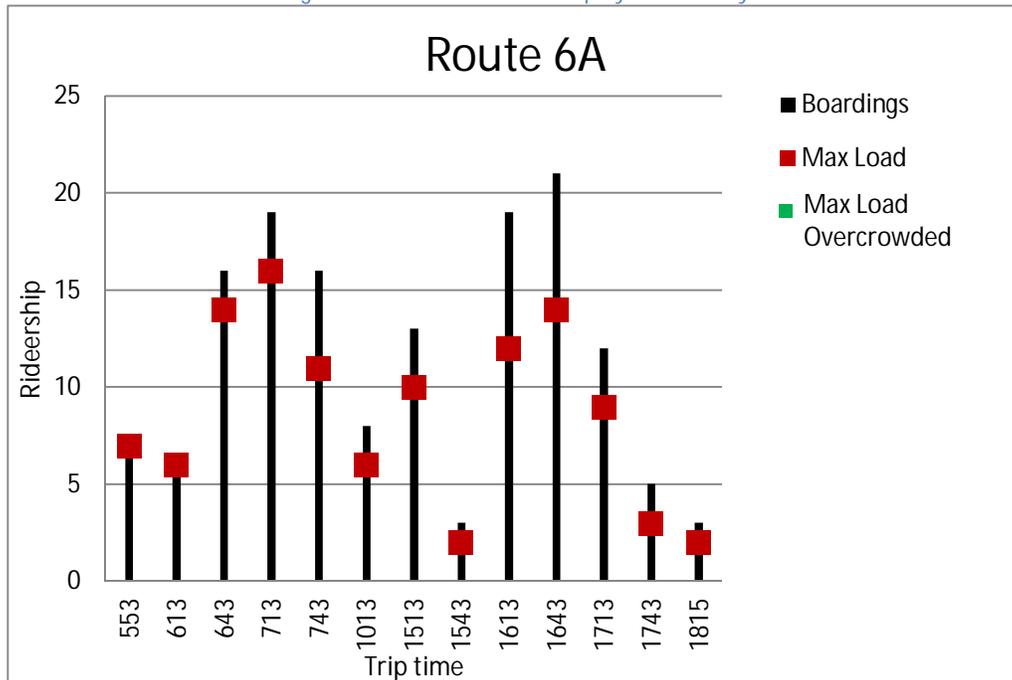
Table 8-13: Route 6A On-time Performance

	Downtown	5th Ave. SW & 23rd St.	Walmart	Downtown
AM Peak	100%	100%	60%	60%
Midday	100%	100%	100%	0%
PM Peak	83%	83%	67%	50%
Evening	100%	100%	0%	0%

In the morning the two trips at 6:43 AM and 7:43 PM were the most used (Figure 8-53). In the afternoon ridership was spread out among the three trips between 4:13 PM and 5:13 PM. The trip with the largest passenger load (16 passengers) was 7:13 AM but the trip that carried the most passengers overall was the 4:43 PM (21 passengers). The 3:43 PM and 6:15 PM trips had the least amount of passengers with just three each. The 6:15 PM trip leaves downtown just five minutes after the first 7N trip and both

arrive at Walmart within one minute of each other, which may contribute to the low ridership on that trip on the 6A. At no point is this route overcrowded.

Figure 8-53: Route 6A Ridership by Time of Day



This route provides service along a major commercial corridor in Rochester. While there are a number of locations where this route deviates off of the corridor, they are close to the southern terminal of this route. Ridership along Broadway Avenue itself is not great, likely due to the route's role as a peak period service connecting home and work, and less as a route that moves people to and from commercial locations along it. Any changes to this route would have to consider the overall role of the Route 6 variations throughout the day, ideally simplifying them.

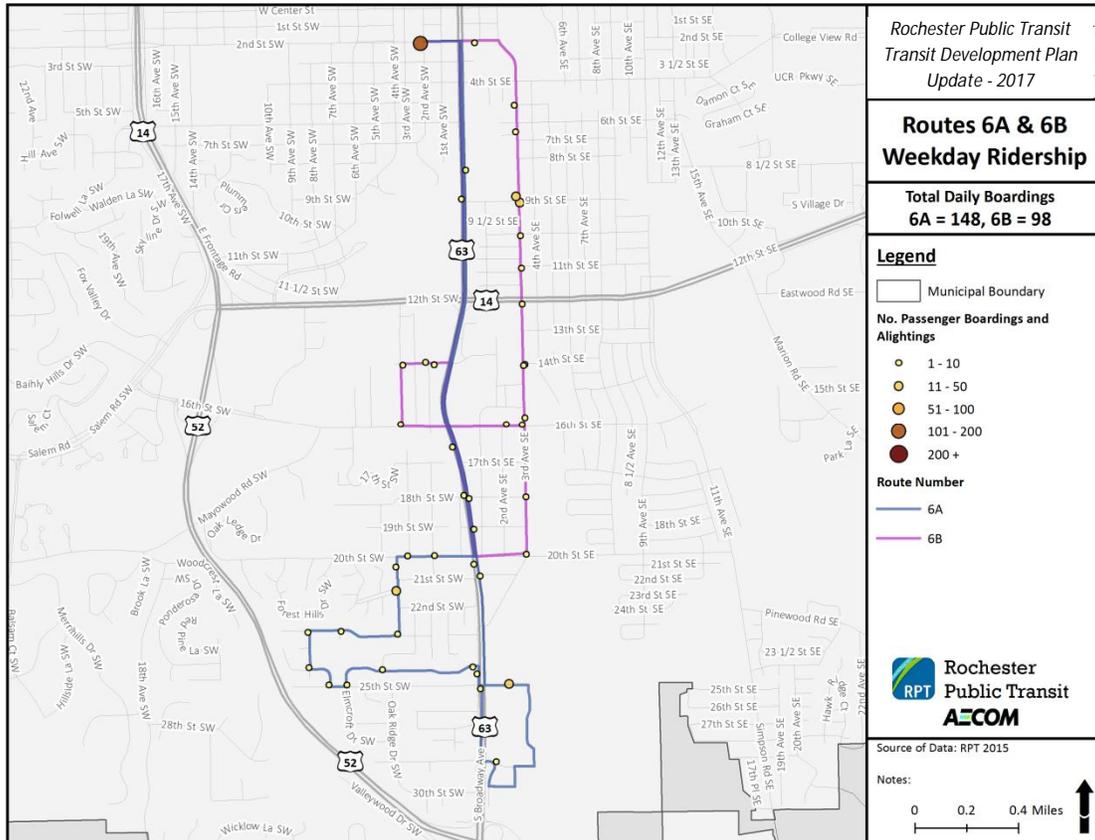
8.4.13 Route 6B

Like Route 6A, Route 6B is a peak period only variation of the Route 6 family. For cost per passenger, subsidy per passenger, and farebox recovery, Route 6B has a rank of 12. For service effectiveness measures, Route 6B ranks towards the middle, ranking 13th in passengers per hour and ranking 14th in passengers per mile. Route 6B performs better than better than the local route average in all indicators except passengers per mile where it performs between 80% and 100% better than the local route average. Thus it is a strong route in the network.

The majority of activity for Route 6B was at the Downtown Transit Center, with 100 boardings and alightings combined (Figure 8-54). In the morning the flow of passengers was inbound towards downtown with the majority boarding after the Broadway Avenue and 19th Street stop. In the morning ridership was also high at 3rd Avenue and 14th Street SE; this stop is closest to the Fairgrounds park-and-ride. The afternoon commute experienced a reverse flow of passengers outbound. Ridership was high at the K-Mart/Olmsted Medical Center and opposing stop during the afternoon commute with nine

boardings and 23 alightings. Most boardings were on the inbound trip and alightings the outbound trip indicating that this is a route used mostly for downtown-oriented travel.

Figure 8-54: Route 6B Ridership Map



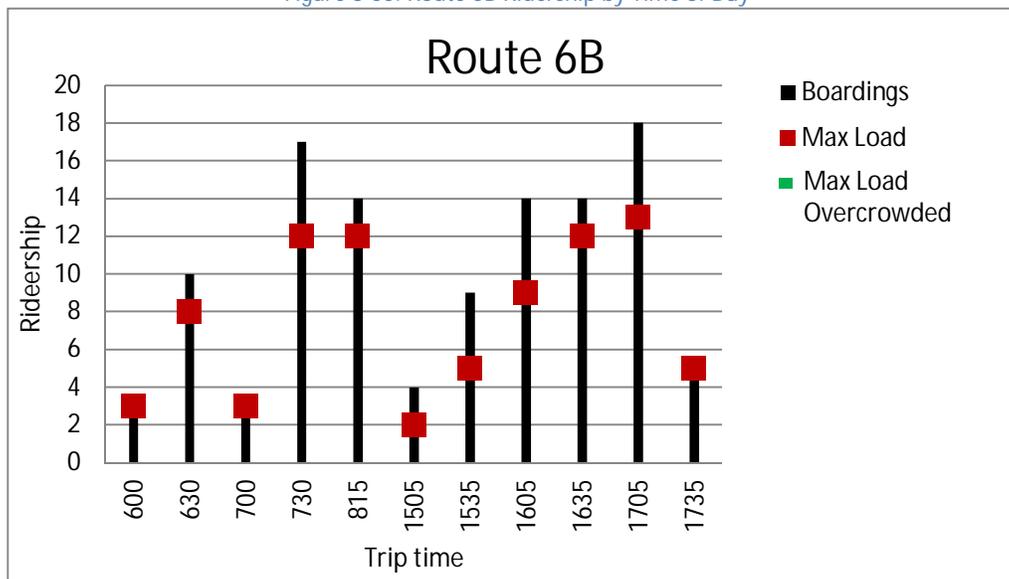
Route 6B did not meet the guidelines for on-time performance based on the time period (Table 8-14). In general the morning trips were on-time, and when behind by just a few minutes were able to make that up on subsequent trips. In the afternoon commute trips that were not on-time ran early.

Table 8-14: Route 6B On-time Performance

	3rd Ave. & Downtown	3rd Ave. & 20th St.	3rd Ave. & 16th St. SE	3rd Ave. & 20th St.	Downtown
AM Peak	100%	100%	80%	PM only	100%
PM Peak	100%	AM only	67%	83%	83%

In the morning the last two trips were the most productive, while the first and third had very low ridership (Figure 8-55). The first trip in the afternoon had low ridership (four) but then ridership began to grow and reached 18 passengers at 5:05PM. The 5:05 PM trip carried the largest number amount of passengers. The last trip had little ridership. At no point was this route overcrowded.

Figure 8-55: Route 6B Ridership by Time of Day



Route 6B has similar issues to Route 6A. It is a peak period route variation that connects neighborhoods in the southern portion of Rochester and Downtown. There are some directness issues that are related to the terminal loop, which may force out of direction travel for some passengers. Ridership is good along the 3rd Street SE corridor. Changes to this route variation will need to be done in conjunction to changes to all variations of Route 6.

8.4.14 Route 6D

This direct route is a mid-level performer in all service categories amongst the six direct routes, ranking fourth in all categories. The routes performance is between 80% and 100% of direct route average for cost per passenger and subsidy per passenger. It is between 60% and 80% of the direct route average for passengers per mile. It is worse than 60% of the direct route average for farebox recovery and passengers per mile. Therefore it is underutilized in relation to the amount of service provided.

In the morning all of the boardings (164) on the Route 6D were at the Fairgrounds park-and-ride (Figure 8-56). Thirty percent alighted at the St. Marys Hospital stop and the remaining at the Transit Center Downtown. The pattern during the afternoon commute was reversed.

Route 6D did not meet all of the guidelines for on-time performance. It left the origin on time and arrived at destinations early, which in reality is not a problem for this express route. For example, in the morning, trips reached the downtown and St. Marys Hospital stops early, but because there are no boardings at these two stops it did not impact riders. Similarly for the afternoon commute, trips arrived at the Fairground park-and-ride either on-time or one-to three minutes early after leaving downtown on schedule.

The morning ridership was higher than the afternoon (Figure 8-57). The 7:15 AM and 7:30 AM trips had the greatest ridership of any trip throughout the day. The last trip in the morning (8:00 AM) experienced a sharp drop in ridership. The 3:20 PM and last trip (5:50 PM) had the lowest ridership with just one passenger each. At no point was this route overcrowded.

Figure 8-56: Route 6D Ridership Map

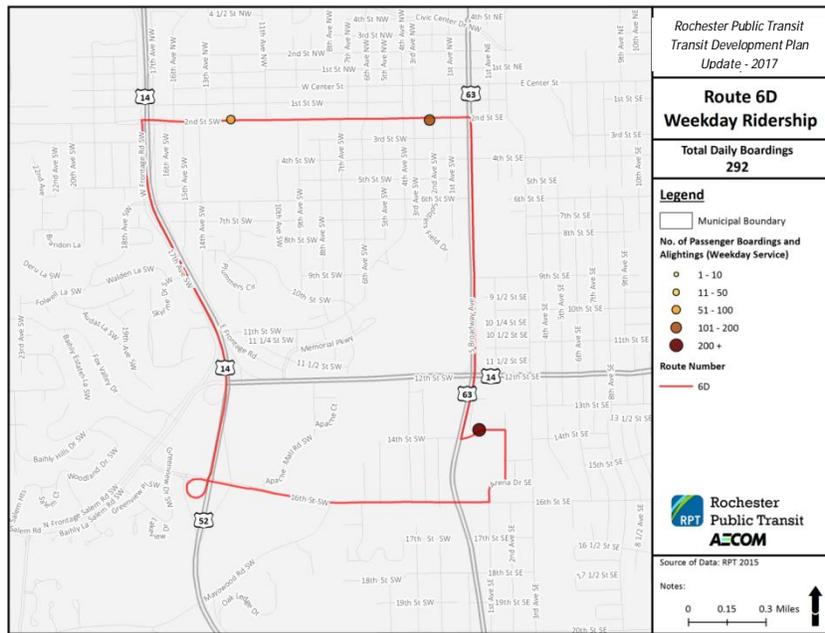
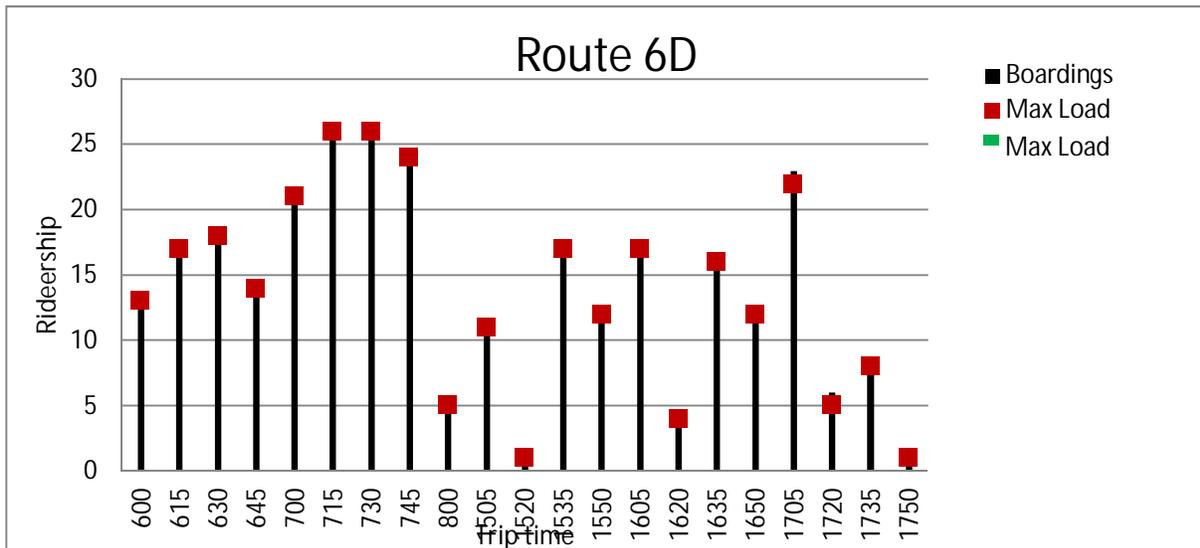


Table 8-15: Route 6D On-time Performance

	Fairgrounds park-and-ride	Downtown	St. Marys Hospital	Fairgrounds park-and-ride
AM Peak	100%	0%	0%	PM only
PM Peak	AM Only	92%	No Timepoint	67%

Figure 8-57: Route 6D Ridership by Time of Day



Route 6D is a direct route that connects the Fairgrounds park-and-ride to Downtown Rochester. The reason why productivity is not as high is because of the establishment of the park-and-ride at Target South which is likely capturing ridership that may have in the past used the Fairgrounds park-and-ride. Also, there is an issue with the capacity of the fairgrounds park-and-ride which limits the number of

people who are using this park-and-ride. There may be opportunities to improve productivity through an expansion of this park-and-ride, schedule adjustments or route combinations.

8.4.15 Route 6M

Route 6M is one of the most productive routes in terms of service effectiveness, ranking first in passenger per mile and sixth in passengers per hour amongst the 31 local routes. Route 6M's performance in the service effectiveness measures is better than better than the system average. Data was not available for the financial efficiency indicators.

The major activity on Route 6M was at the Downtown Transit Center (165), by Olmsted County Fairground (24), K-Mart (22), the Woodlake Drive deviation (Textile Care - 18, and Channel One - 18), Walmart (21), the Broadway Commons Shopping Center (13) and Target (13) (Figure 8-58). This route is a very solid and steady with no weak segments, good design, and has a good southern anchor terminal.

Route 6M only runs during the midday and did not meet the 90% threshold for on-time performance (Table 8-16). Trips left time points anywhere from one minute early to 10 minutes late; there was no distinct pattern.

Figure 8-58: Route 6M Ridership Map

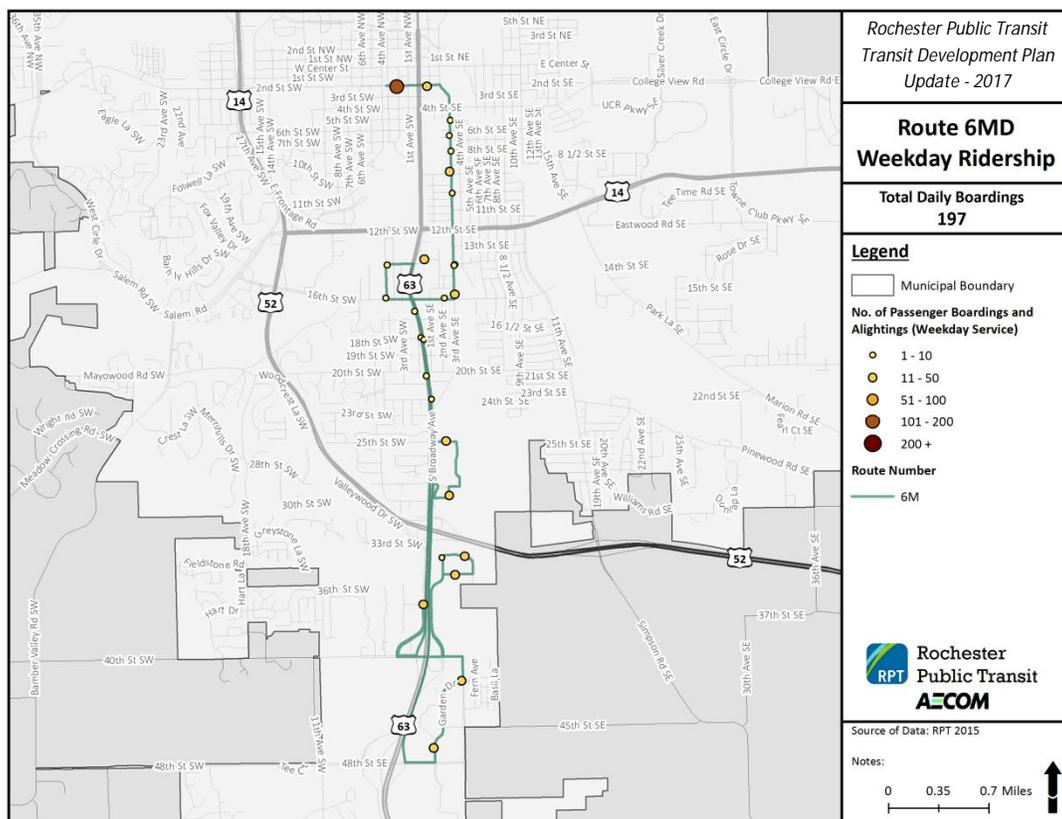
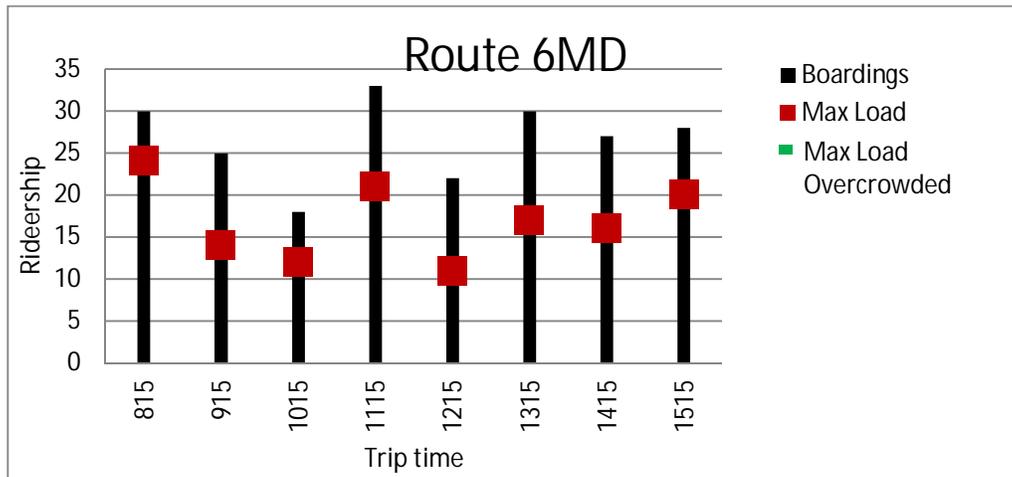


Table 8-16: Route 6M On-time Performance

	Downtown	3rd Ave. & 16 St. SE	Commercial Dr. & Fleet Pride	Channel One	ShopKo South	4th Ave. & 14th St. SW	K-Mart	Downtown
Midday	88%	50%	75%	38%	75%	25%	50%	50%

The 11:15 AM trip had the greatest ridership with 33 passengers (Figure 8-59). The 10:15 AM trip had the lowest ridership with 17 passengers. Ridership was strong but at no point was this route overcrowded.

Figure 8-59: Route 6M Ridership by Time of Day



This route is the best performing route of all the Route 6 services. This route provides service along productive segments, it is a very direct route with very few mid-route loops, and has a strong southern anchor. The weakness of this route is that it only operates during middays. This route will be a part of any redesign of the Route 6 services to simplify the service.

8.4.16 Route 7

Route 7 is a loop route that operates in the southwestern quadrant of Rochester, providing peak and midday service. For cost per passenger, subsidy per passenger, and farebox recovery Route 7 ranks 18th. For passengers per hour Route 7 ranks 18th, while for passengers per mile Route 7 ranks 21st. Route 7 performs between 80% and 100% better than the local route average in farebox recovery and passengers per hour. Route 7 performs worse than the local route average in passengers per mile.

The major activity centers on the Route 7 were at the Downtown Transit Center (80), TJ Maxx (29) and the Apache Mall (41). Beyond the individual generators, Figure 60 shows that there was not very much boarding and alighting activity along this route. Riders may be dissuaded from using this service because it is a loop route that may have long travel times in one direction.

During the peak periods the route tended to run behind by five to 11 minutes. It fell behind schedule between downtown and TJ Maxx and was unable to make up the time, falling even more behind as it left the Apache Mall. During the midday the route is better able to stay on-time to the TJ Maxx Plaza but

fell behind as it reached the mall. This indicates that there is insufficient travel time between the two locations (Table 8-17).

Figure 8-60: Route 7 Ridership Map

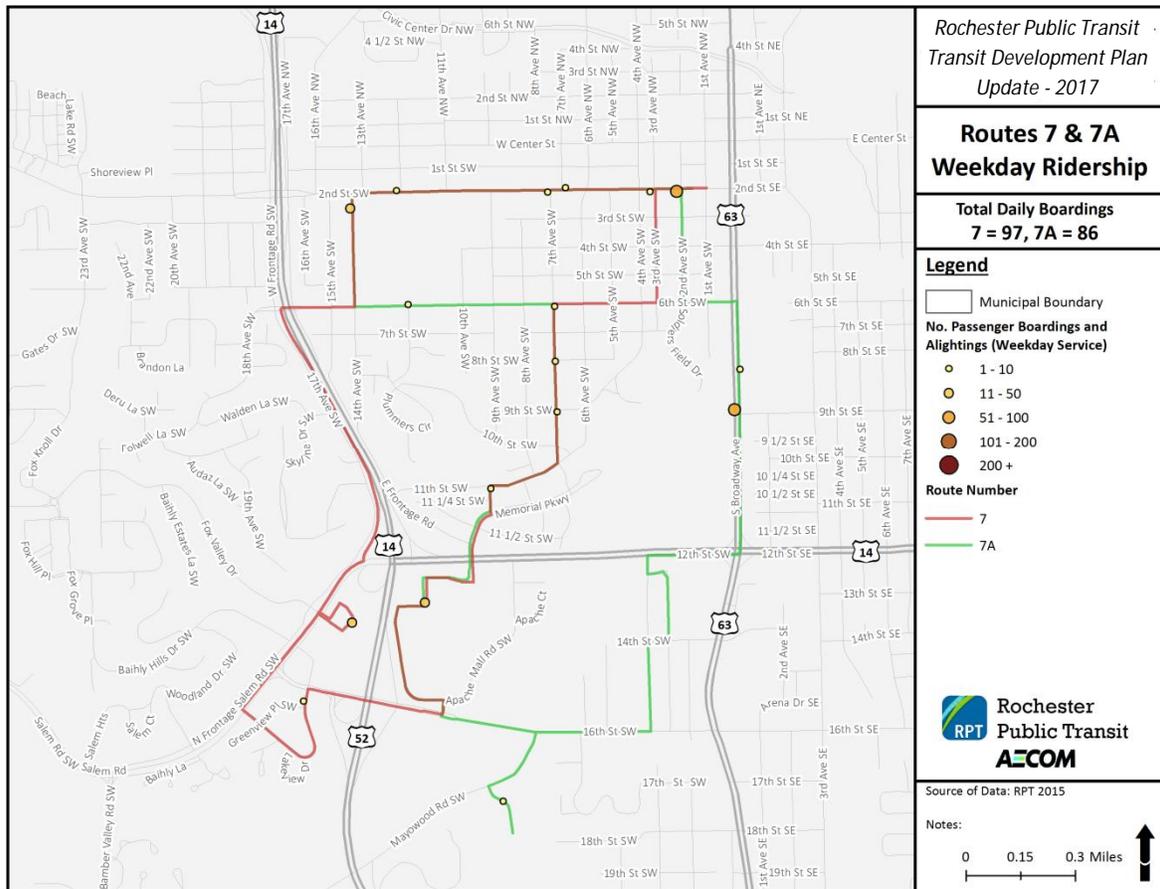
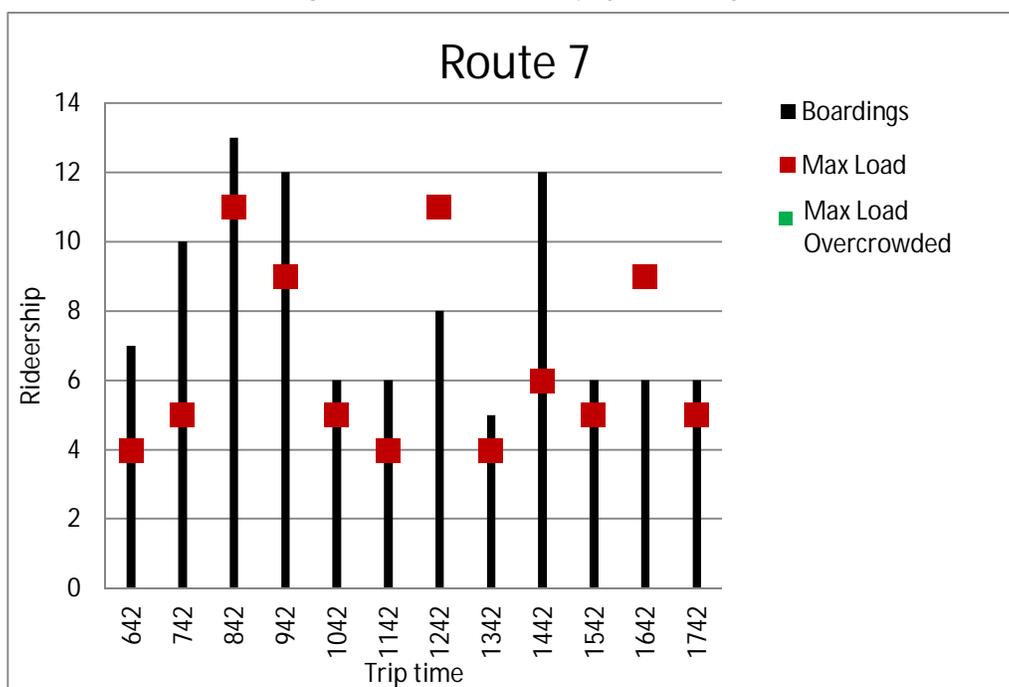


Table 8-17: Route 7 On-time Performance

	Downtown	TJ Maxx Plaza	Apache Mall	6th St. SW & 2nd St. SW	Downtown
AM Peak	100%	50%	50%	100%	100%
Midday	86%	86%	14%	71%	43%
PM Peak	100%	0%	0%	67%	67%

Ridership was highest during the morning. In the morning peak ridership was spread out among several trips and then dropped at 10:42 AM (Figure 8-61). In the afternoon the peak period experienced low ridership. The 8:42 AM trip had the highest ridership (13) and the 1:42 PM the lowest (five). At no point was this route overcrowded. Some trips had a higher maximum load than total number of boardings which was due to riders already onboard the bus when the trip started.

Figure 8-61: Route 7 Ridership by Time of Day



The key finding for this route is that this is a rather unproductive loop route. A major restructuring of this route may be needed to improve transit service in this area of the city. There may be opportunities to serve new parts of the service area that the congruency analysis has shown to have a higher transit propensity.

8.4.17 Route 7A

Route 7A is another loop variation of the Route 7 family. It ranks 16th in cost per passenger, subsidy per passenger, and farebox recovery. For the two service effectiveness indicators, Route 7A ranks 18th. Route 7A is better than better than the local service average for cost per passenger and subsidy per passenger. It is between 80% and 100% better than the system average for farebox recovery and passenger per hour. This route is between 60% and 80% of the system average in passengers per mile.

The major activity centers on the Route 7A were at the Downtown Transit Center (82), Broadway Avenue S and 9th Street SE (27) and the Apache Mall (31). Besides these specific locations, there was not much boarding and alighting activity along other parts of this route. Passengers may not be using this route because loop routes can have long travel times due to indirect travel.

Route 7A did not meet the guidelines for on-time performance (Table 8-18). During the morning peak period the route met the on-time requirements but it did not during the afternoon commute. When not on-time the route was ahead of schedule by one to two minutes.

Ridership was highest during the midday. The 12:12 PM trip had the highest ridership (15) and the 8:12 AM the lowest (three). After the peak in ridership at noon, it began to drop. At no point was this route overcrowded.

Figure 8-62: Route 7A Ridership Map

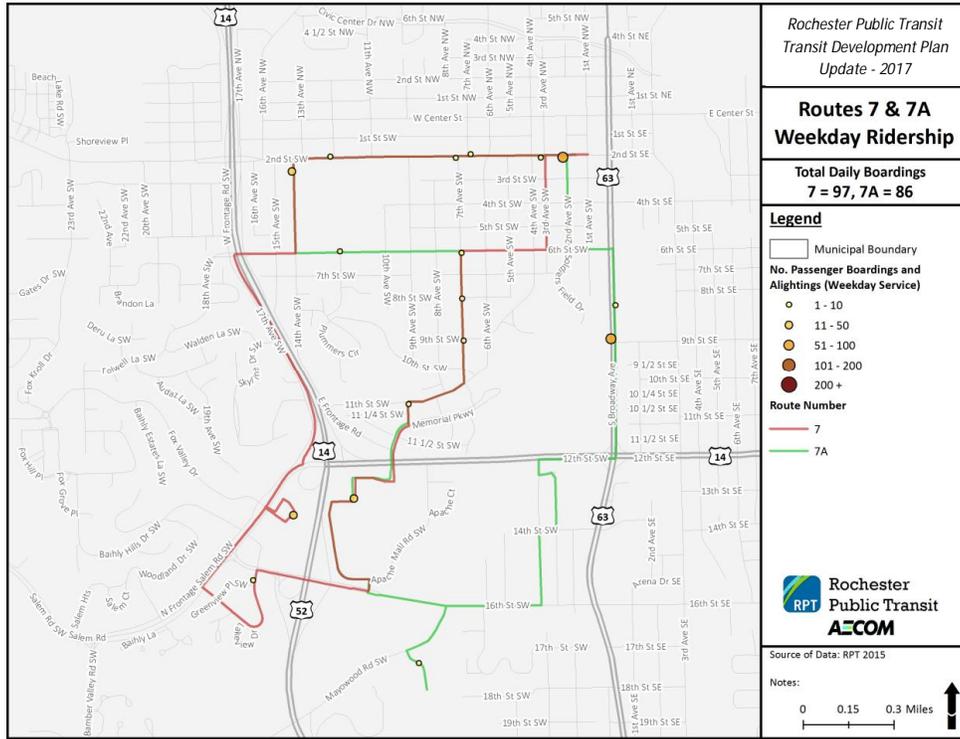
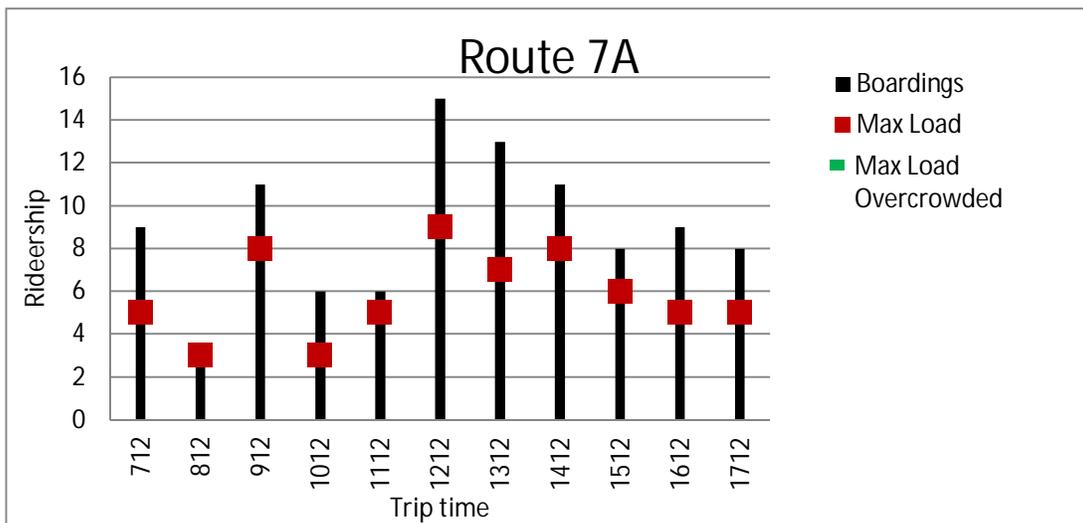


Table 8-18: Route 7A On-time Performance

	7th Ave. & 6 St			
	Downtown	SW-EDISON BLDG	Apache Mall	Downtown
AM Peak	100%	100%	100%	100%
Midday	100%	83%	67%	50%
PM Peak	67%	100%	67%	100%

Figure 8-63: Route 7A Ridership by Time of Day



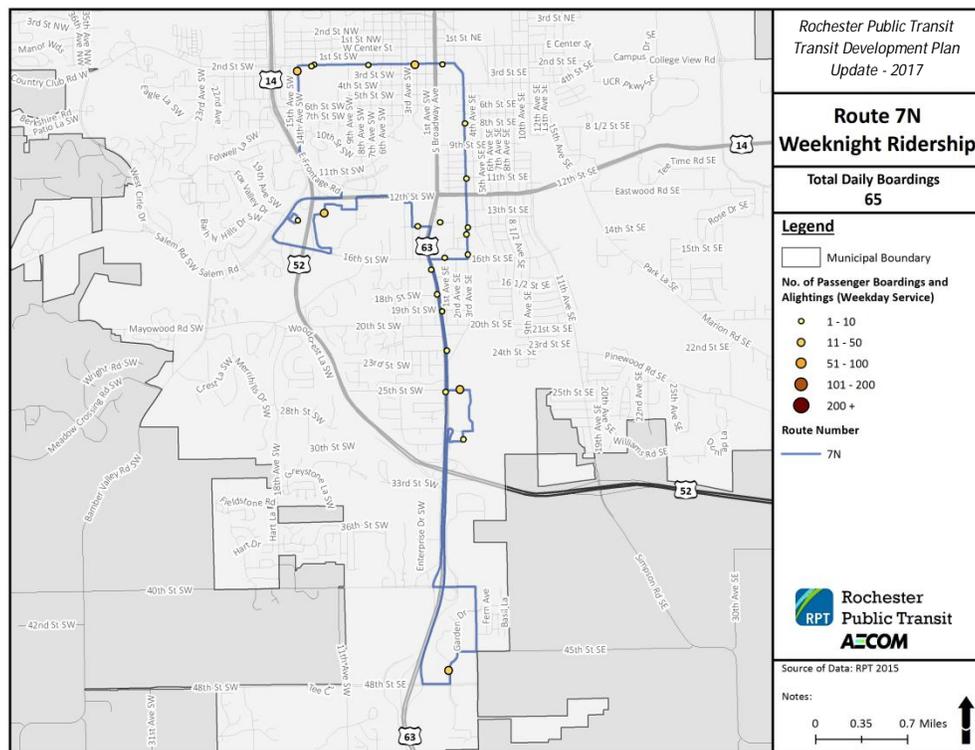
Low productivity is the primary issue with this route. Buses on this route were never crowded and boarding/alighting patterns show that people are using this route to get to more places than downtown. Because this route is a loop route the route does not get people to and from these locations quickly. This route may require a complete redesign to better serve neighborhoods in southwest Rochester.

8.4.18 Route 7N

Route 7N is the evening only route that serves southern Rochester. This route combines elements of the Route 7 and 7A loops closer to Downtown Rochester and the Broadway Avenue South segments of Route 6. For all four of the financial efficiency indicators Route 7N ranks first among the four evening routes performing better than better than the night route average. For service effectiveness Route 7N ranks lower, ranking 3rd in passengers per hour and last in passengers per mile. Route 7N performs between 60% and 80% of the night route average for passengers per hour but worse than 60% of the night route average for passengers per mile.

This route runs only at night. The major activity centers on the Route 7N were at the Downtown Transit Center (25), Apache Mall (19), St. Marys Hospital (16) Walmart (14), and the Target park-and-ride (11). Overall ridership activity occurred throughout the entire route.

Figure 8-64: Route 7N Ridership Map



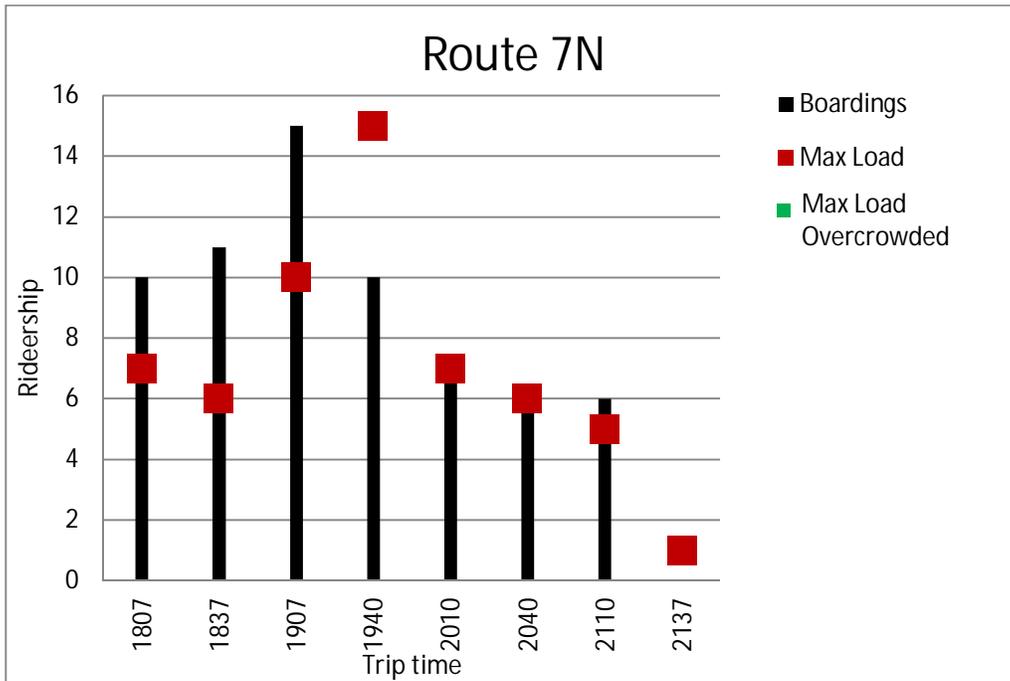
Route 7N did not meet all of the guidelines for on-time performance for the evening time period. The route ran behind schedule between five to eight minutes between St. Marys Hospital and The TJ Maxx Plaza but then did arrive back at the hospital six to 16 minutes early.

Table 8-19: Route 7N On-time Performance

	St. Marys Hospital	Downtown	K-Mart	Target	Walmart	Apache Mall	TJ Maxx Plaza	St. Marys Hospital
Evening	75%	100%	88%	88%	75%	50%	50%	0%

The 7:07 PM trip had the highest ridership (15) but then ridership began to drop (Figure 8-65). The last trip had no boardings, with one passenger carried over from the previous trip. At no point was this route overcrowded and ridership levels were modest at best.

Figure 8-65: Route 7N Ridership by Time of Day



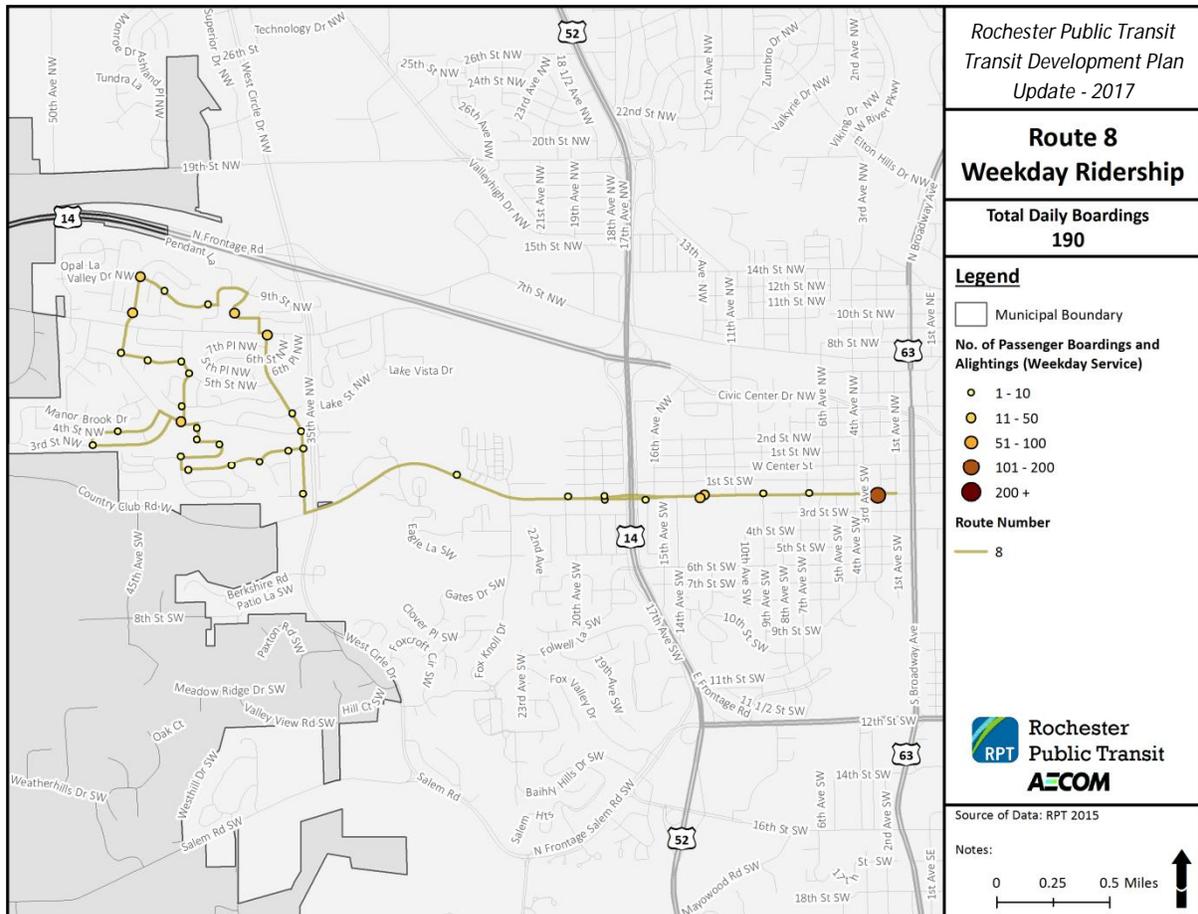
Route 7N is an evening route that serves portions of Routes 6 and 7 families of services. The issue with combining these services is that the Route 7 services are loop routes which results in long travel times for certain trips along the route. The combination of a loop route near Downtown Rochester and a radial route further from Downtown is awkward for the user. A passenger going from the Mayo Clinic to a residence near TJ Maxx would have to travel through most of the route, going as far south as the Target park-and-ride at 48th Street SE, before arriving home.

8.4.19 Route 8

Route 8 provides service between Downtown Rochester and Country Club Manor which is west of Downtown. This route is a very good performer as the route's performance is better than better than the local route average for all indicators. Route 8 ranks 5th out of 31 routes for cost per passenger, subsidy per passenger, and farebox recovery. For passengers per hour and passengers per mile Route 8 ranks 4th which is excellent.

Ridership occurred all along the Route 8 with the major activity center at the Downtown Transit Center, which has 39% (148) of the routes boardings and alightings (Figure 8-66). Other areas that had high activity included Valley Drive NW and 10th Street NW (33) St. Marys Hospital (27), 46th Avenue NW and 8th Street NW (15), 36th Avenue NW and 7th Street NW (13) and Manor Park Drive NW and 43rd Avenue NW (13) (Figure 8-66). Valley Drive NW and 10th Street NW, 46th Avenue NW and 8th Street NW, 36th Avenue NW and 7th Street NW, and Manor Park Drive NW and 43rd Avenue NW are in residential areas. There were no segments that stand out as being particularly weak since this route is quite direct.

Figure 8-66: Route 8 Ridership Map



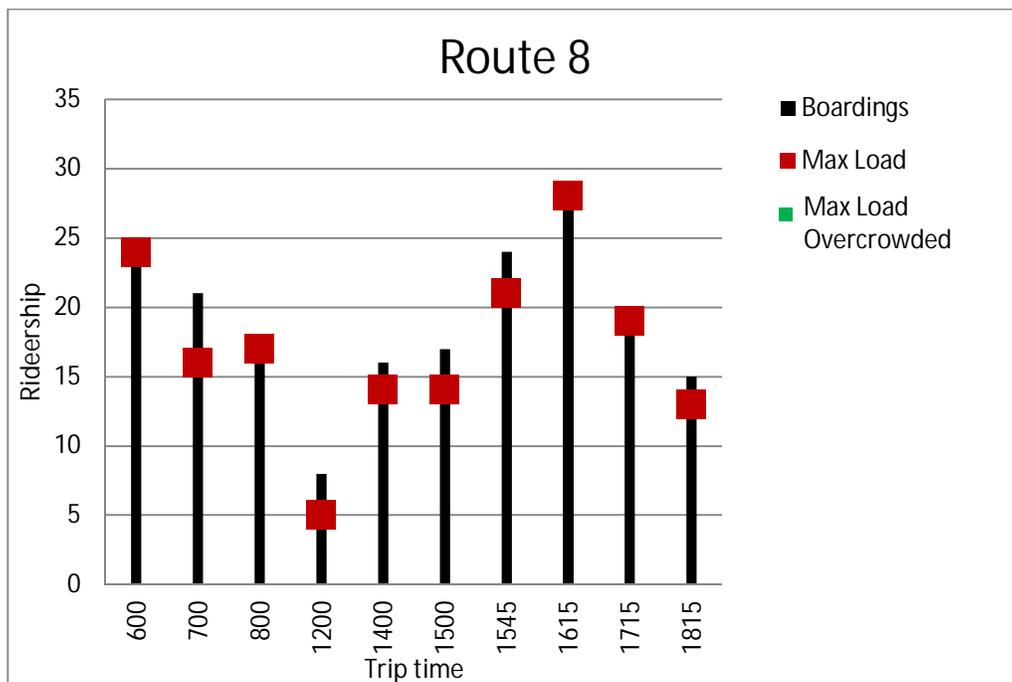
Route 8 did not meet the guidelines for on-time performance but always started the trip at the Downtown Transit Center on-time (Table 8-20). During the morning peak period when the route was not on-time it was typically early (one to three minutes). In the midday the route was on-time until 3rd Street and 36th Avenue NW where it started to fall behind. In the afternoon commute the route tended to be five to nine minutes late. In the evening there is only one trip which ends at 36th Avenue NW & 1st Street NW. All in all the route needs timings that reflect traffic conditions during the day.

Table 8-20: Route 8 On-time Performance

	Downtown	3rd St. & 36th Ave. NW	3rd St. & 49th Ave. NW	36th Ave NW & 1st St. NW	St. Marys Hospital	Downtown
AM Peak	100%	67%	100%	67%	33%	33%
Midday	100%	100%	100%	50%	50%	0%
PM Peak	100%	25%	25%	0%	0%	50%
Evening	100%	100%	100%	0%	No service	No service

Ridership was high on the first trip and then began to drop until noon when it started to increase again until 4:15 PM when it began to decline again (Figure 8-67). With the exception of the noon run the route had solid ridership levels in both peak and off-peak periods. The 4:15 PM trip had the highest ridership (29) and the noon the lowest (eight). At no point was this route overcrowded.

Figure 8-67: Route 8 Ridership by Time of Day



Route 8 is one of the best routes performing RPT routes. The route design is good as it is a direct route serving the 2nd Street SW/Country Club Road corridor. While the route does have a large loop, it is a terminal loop that provides circulation within a residential neighborhood where passengers are not traveling within and there are no single major generators located within the loop. There may be opportunities to redesign the terminal loop to streamline the route within the terminal loop portion.

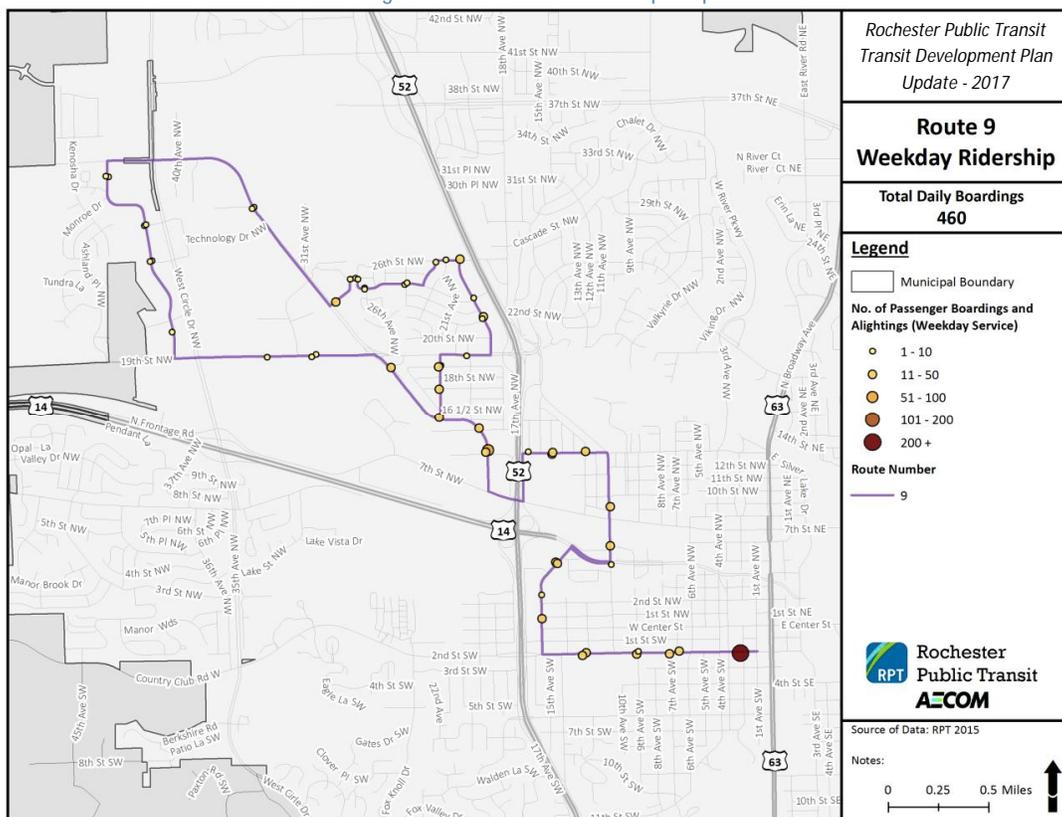
8.4.20 Route 9

Overall Route 9 is low performing route. For cost per passenger, subsidy per passenger, and farebox recovery Route 9 is ranked 17th among the local routes. Route 9 ranks 19th in passengers per hour and performs just between 60% and 80% of the local route average. Route 9 actually carries a significant

number of passengers but does so with a significant investment in resources that keeps overall performance down.

The location with the most activity on the Route 9 was at the Downtown Transit Center, with 312 (32%) boardings and alightings combined (Figure 8-68). In the morning boardings occurred all along the route with most departing downtown between St. Marys Hospital and Transit Center. The one exception to this was Valleyhigh Drive NW and 14th Street NW which had 50 alightings. There are numerous businesses and manufacturers here such as Johnson Printing, US Post Office, Ability Building Center, and a Coca-Cola distribution center. Stops with high boardings (greater than 10) in the morning, aside from downtown, included 30th Avenue NW and Valleyhigh Drive NW (22) and Valleyhigh Drive NW and 14th Street NW (17), Valleyhigh Drive NW and 21st Avenue NW (12), and John Marshall High School (11). By 30th Avenue NW & Valleyhigh Drive NW there is the Hylands, an affordable housing development with 100 rental units. At Valleyhigh Drive NW and 21st Avenue there are several apartment complexes. In the afternoon over 50% of the boardings occurred downtown between St. Marys Hospital and Transit Center, with alightings all along the route, the remaining boardings were spread thinly among the various stops. Stops with high boardings included Valleyhigh Drive NW and 14th Street (21) and Valleyhigh Drive NW and Evergreen Drive NW (18). At Valleyhigh Drive NW and Evergreen Drive NW there is a small charter high school. While the segments perform well there still are concerns with the design of the route which is not very direct.

Figure 8-68: Route 9 Ridership Map



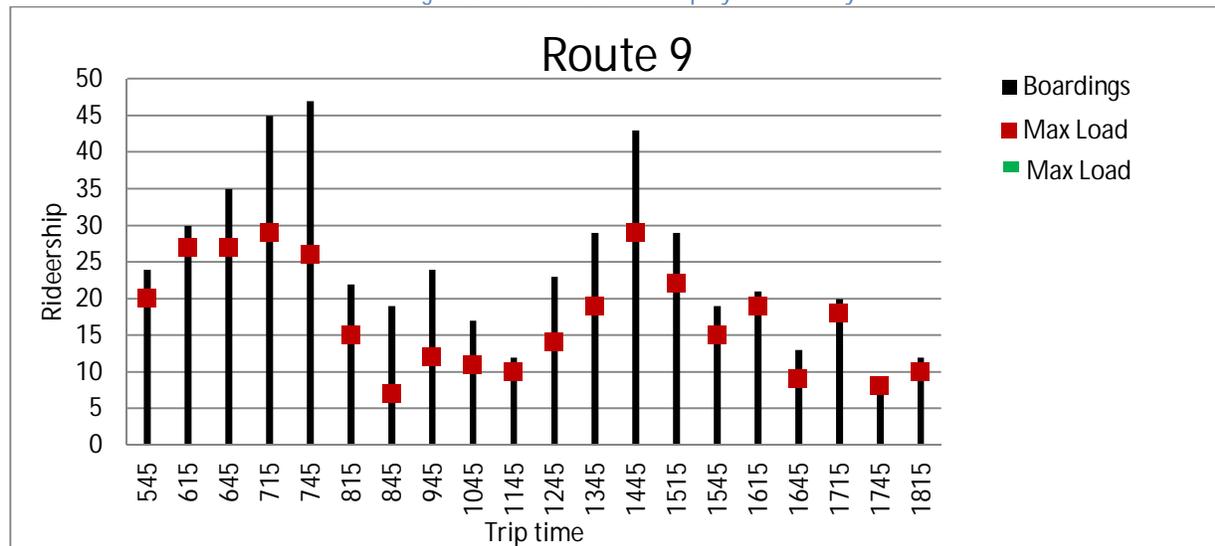
Route 9 did not meet the guidelines for on-time performance although the trips always started on-time at the Downtown Transit Center (Table 8-21). During the morning peak period when the route is not on-time it was late (five to 21 minutes) and with each time point between John Marsh High School outbound and St. Marys Hospital the route continued to fall more behind. In the midday when the route is not on-time it is early by one minute for all except the downtown stops, where it was early by up to five minutes. During the afternoon commute peak period when the route was not on-time it was late by 5 to 12 minutes.

Table 8-21: Route 9 On-time Performance

	Downtown	John Marshall HS	Cinemagic Theater	30th Ave. & Valleyhigh Dr.	John Marshall HS	St. Marys Hospital	Downtown
AM Peak	100%	67%	67%	67%	50%	17%	67%
Midday	100%	71%	100%	100%	86%	57%	0%
PM Peak	100%	86%	29%	60%	0%	0%	60%

Ridership was highest during the morning and afternoon commute peak periods and dropped during the midday and in the evening (Figure 8-69). The 7:15 AM trip had the highest ridership (47) and the 5:15 PM the lowest (nine). While three trips carried more than 35 passengers at no point was this route overcrowded but ridership levels are excellent.

Figure 8-69: Route 9 Ridership by Time of Day



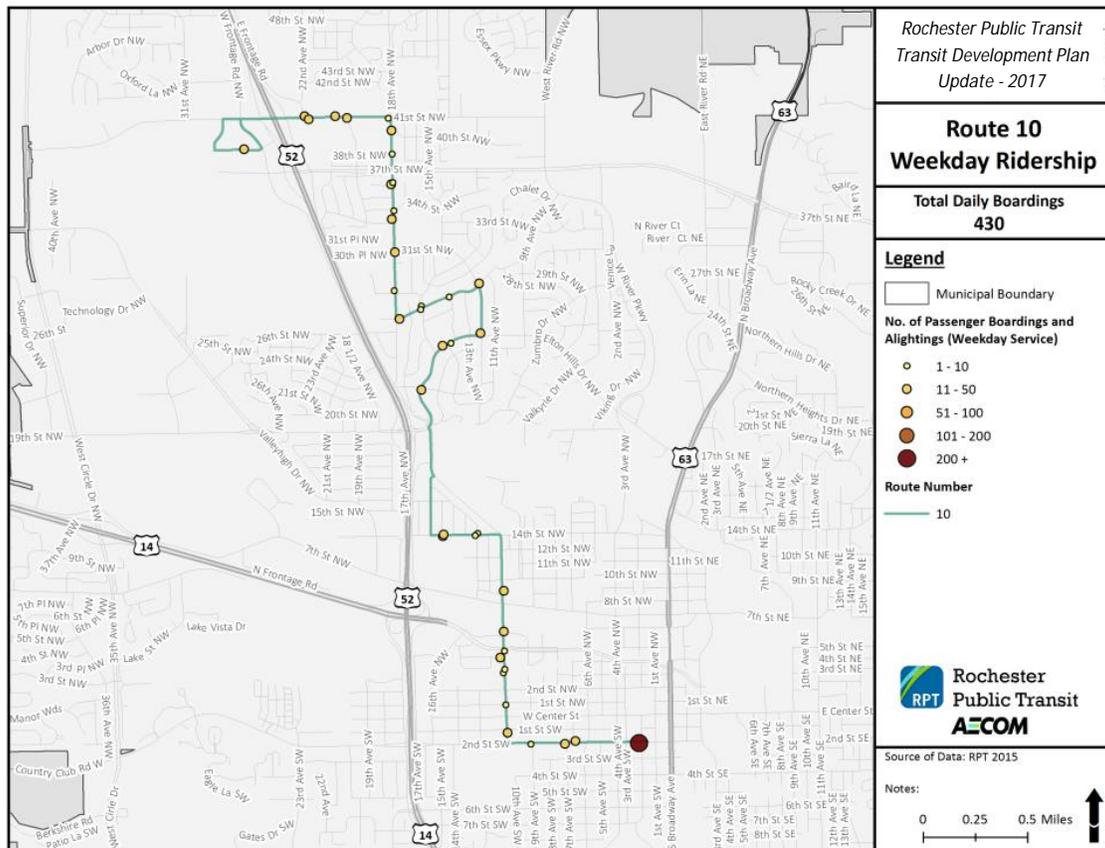
Ridership per trip for this route is quite good; however the service indicators indicate that Route 9 can improve. This route serves the growing areas in the northwest portion of the city. While most of the route is radial, the terminal loop is quite large to serve emerging employment locations along Valleyhigh Drive and West Circle Drive along with newer residential developments. This design will need to be considered in planning for this route.

8.4.21 Route 10

Statistics for Route 10 are separated into outbound and inbound, representing 2 of the 31 routes. For all indicators, and in both directions, Route 10 performs better than better than the local route average. Route 10's cost per passenger, subsidy per passenger, and farebox recovery ranks 3rd in the outbound direction and 10th in the inbound direction. Route 10 ranks 3rd in the outbound direction and 9th in the inbound direction for passengers per hour. Route 10 ranks 5th in the outbound direction and 8th in the inbound direction for passengers per mile.

Ridership occurred all along the Route 10 with the outbound trips having the most boardings at the Transit Center and alightings all along the Route and the inbound experiencing the reverse (Figure 8-70). There were no segments of this route that would be identified as weak segments. The major activity centers were at the Downtown Transit Center, which had 34% (292) of the routes boardings and alightings. Other areas with high activity (greater than 20) included stops by Madonna Towers assisted living center (60), John Marshal High School (51), Cascade Street NW and 12th Avenue NW (37; a residential area) Elton Hills Drive NW and 22nd Street NW (36; a residential area), by St. Marys Hospital (35), Maplewood Square Shopping complex (31), Westminster Square apartment complex (25), and Target (23).

Figure 8-70: Route 10 Ridership Map



Route 10 did not meet all of the guidelines for on-time performance but always started the outbound trips at the Downtown Transit Center and inbound at Target on-time (Table 8-22 and

Table 8-23). For outbound trips not on-time in the morning peak and mid-day they were one minute early. Inbound trips not on-time were up to five minutes early. Early trips are a major problem.

Table 8-22: Route 10 Outbound On-time Performance

	Downtown	John Marshall High School	Cascade St. & 12th Ave. NW	Target
AM Peak	100%	100%	100%	67%
Midday	100%	83%	67%	17%
PM Peak	100%	100%	100%	80%

Table 8-23: Route 10 Inbound On-time Performance

	Target	Maplewood Sq.	Elton Hills Dr. NW	11th Ave. & 1st St	Downtown
AM Peak	100%	88%	100%	50%	75%
Midday	100%	57%	86%	29%	14%
PM Peak	100%	67%	67%	33%	0%

Outbound ridership on the Route 10 was highest in the afternoon commute peak, with little ridership during the morning peak or midday (Figure 8-71). Inbound ridership on the Route 10 was highest in the morning peak, with little ridership in the afternoon commute peak (Figure 8-72). These trends indicate that almost all passengers are headed inbound in the morning and outbound in the afternoon. The trip with the least ridership outbound was the first trip, and the highest was on the 3:15 PM trip. The inbound trip with the greatest ridership was the 7:15 AM trip and the lowest was the 1:40 PM trip. At no point was this route overcrowded.

Figure 8-71: Route 10 Outbound Ridership by Time of Day

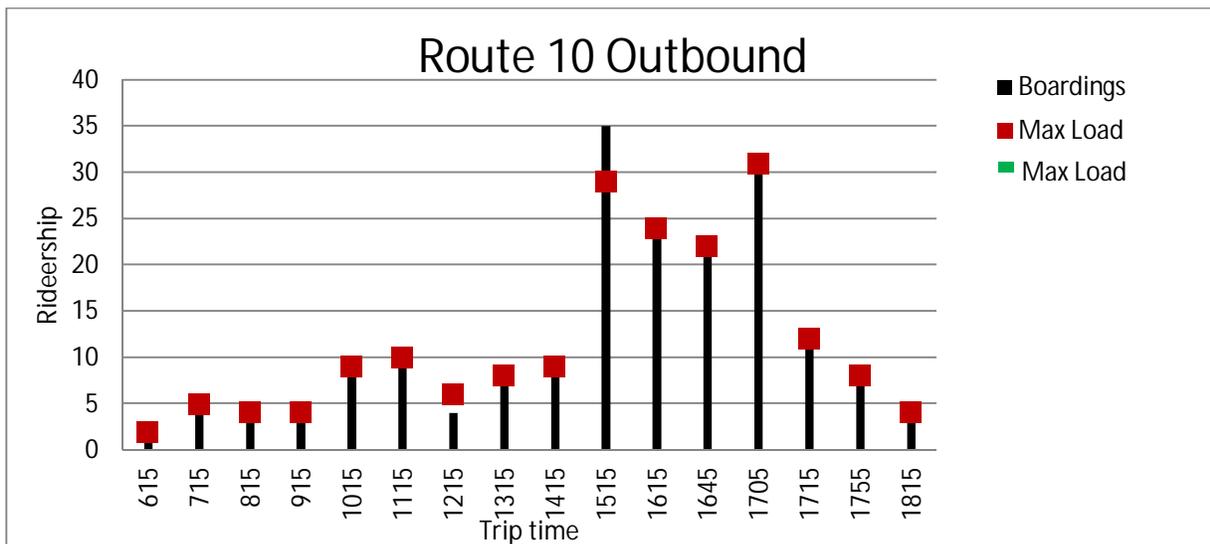
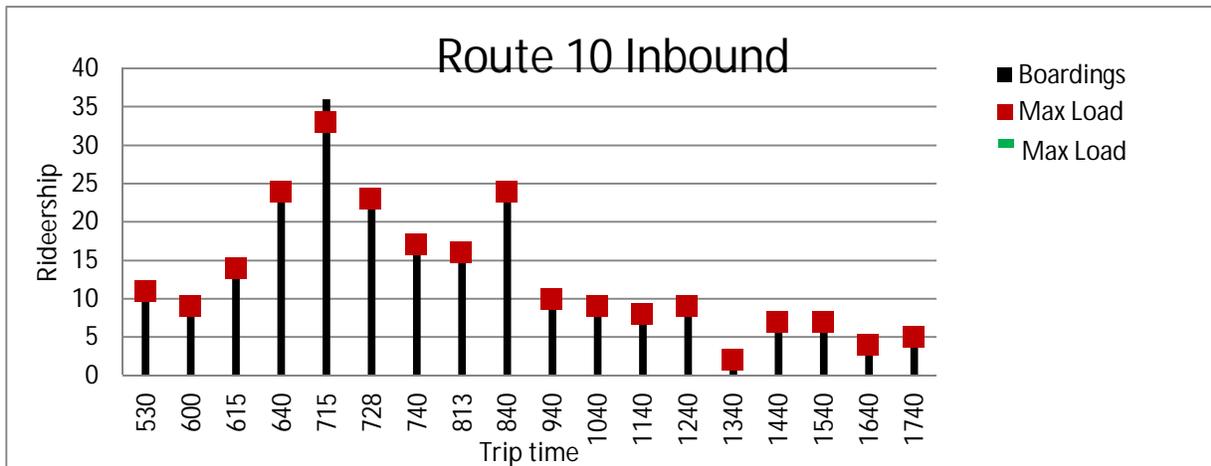


Figure 8-72: Route 10 Outbound Ridership by Time of Day



Overall Route 10 is a very good route. It serves the portion of the city that is growing the fastest. It provides a good connection to downtown and older neighborhoods where people are using the service. Its productivity is good as is the route design since there are no loops.

8.4.22 Route 11

Inbound and outbound Route 11 services are analyzed separately for each of the service indicators, similar to Route 10, which means that Route 11 is represented as two of the 31 local routes. The outbound Route 11 is ranked number 2 in all four financial indicators and performs better than better than the local route average. The inbound route cost per mile and farebox recovery is worse than 60% of the local route average, while cost per passenger and subsidy per passenger are between 80% and 100% better than the local average. The 11 inbound and outbound are ranked 7th and 8th respectively for passenger per hour while the inbound 11 is ranked 11th and the outbound 11 is ranked 11th in passengers per mile, both are better than better than the local route average.

Ridership occurred all along the Route 11 with no weak segments, with the outbound trips having the most boardings at the Transit Center and alightings all along the Route; and the inbound being the reverse (Figure 8-73). The major activity centers were at the Downtown Transit Center, which had 40% (346) of the routes boardings and alightings. Other areas with high activity (greater than 30) included stops by the Dan Abram Healthy Living Center (105), Valhalla Condos (71), Villages of Essex Park Apartments (64), Jordan Mills Apartment Complex (32), and at Zumbro Drive NW and the stop at Elton Hills Drive NW a residential area (30). This route is very direct with no loops.

Route 11 also had some on-time issues (Table 8-24 and Table 8-25). All outbound trips which were not on-time were late between five and 13 minutes. In the inbound direction most morning and midday trips which were not on-time were early (up to five minutes). In the afternoon commute peak, trips leaving downtown were not on-time causing the inbound trips to also be late.

Figure 8-73: Route 11 Ridership Map

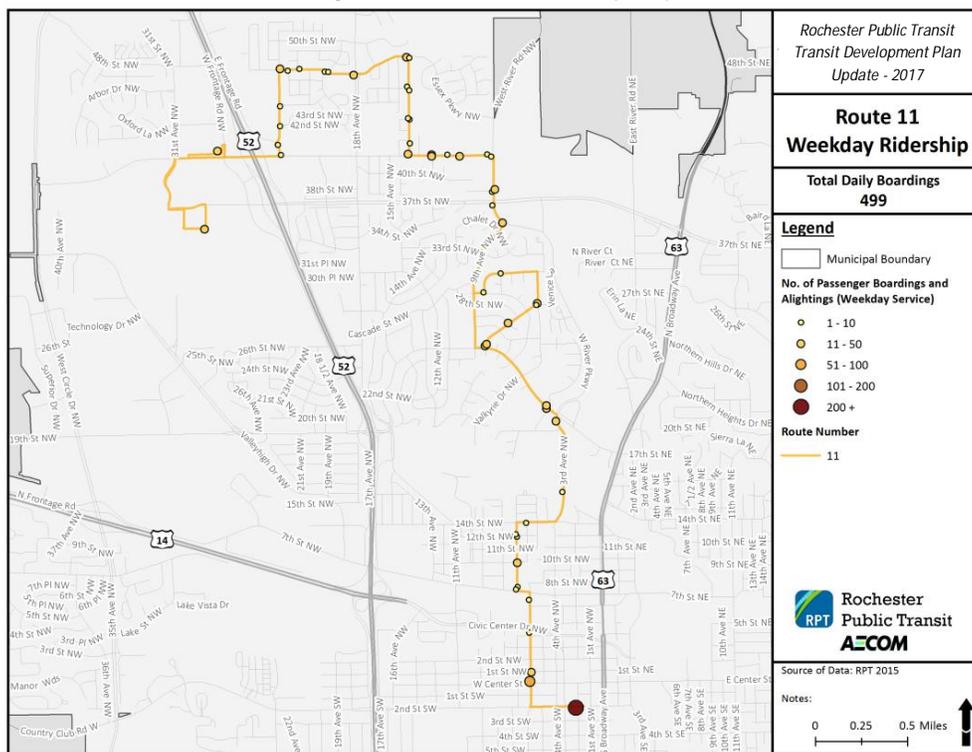


Table 8-24: Route 11 Outbound On-time Performance

	Downtown	Elton Hills Dr. & Vikings Dr. NW	48th St. & 13th Ave. NW	Mayo Clinic
AM Peak	100%	100%	67%	67%
Midday	100%	100%	71%	43%
PM Peak	67%	17%	0%	0%

Table 8-25: Route 11 Inbound On-time Performance

	48th St. & 13th Ave.		Elton Hills Dr. & Vikings Dr.		Downtown
	Mayo Clinic	IBM	NW	NW	
AM Peak	80%	100%	100%	0%	67%
Midday	50%	67%	83%	57%	71%
PM Peak	20%	50%	83%	33%	33%

Outbound ridership on Route 11 was highest in the afternoon commute peak, with little outbound ridership in the morning peak or midday (Figure 8-74). Inbound ridership on the Route 10 was highest in the morning peak; with little inbound ridership in the afternoon commute peak or midday (Figure 8-75). The 4:12 PM outbound trip had a max load of 49 passengers and is overcrowded. The inbound trip with the greatest ridership was the 7:02 AM trip but was not overcrowded.

Figure 8-74: Route 11 Outbound Ridership by Time of Day

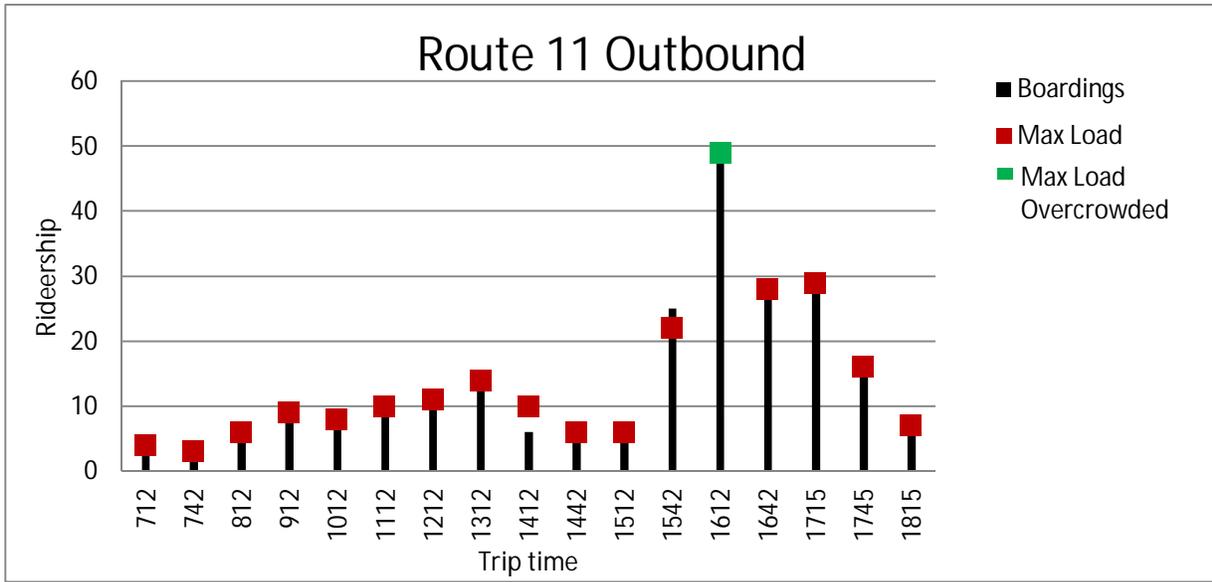
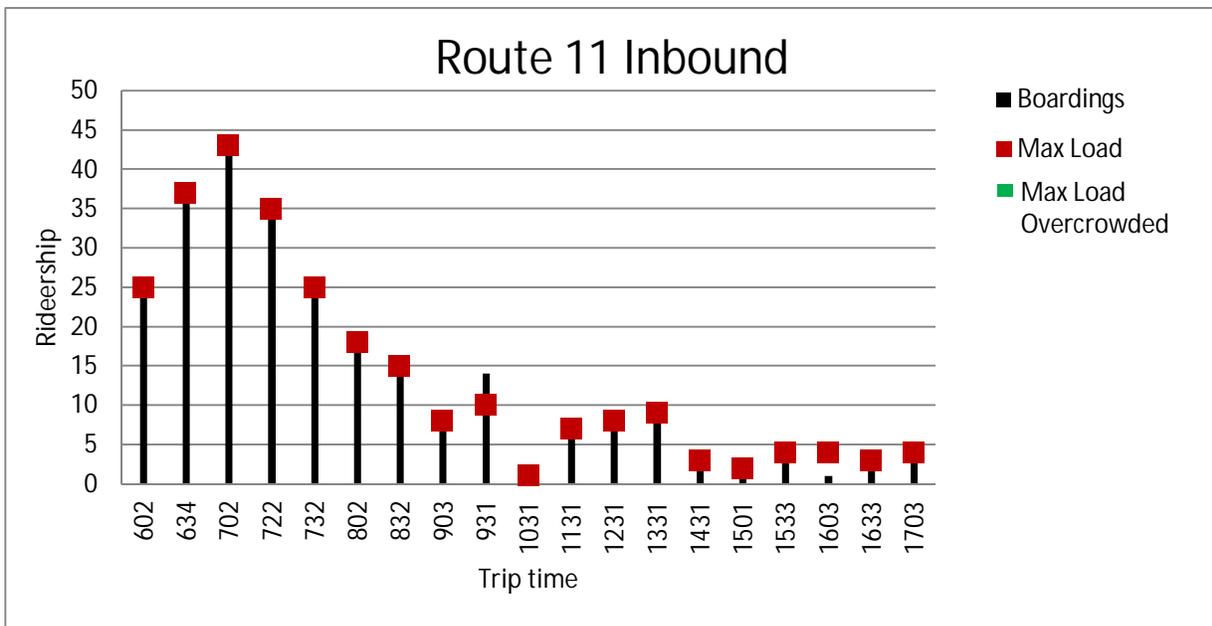


Figure 8-75: Route 11 Outbound Ridership by Time of Day



Looking at a route map, there is no surprise that this route overall is effective when inbound and outbound services are looked at together. The route is a well laid out radial route that serves many neighborhoods that have a high transit propensity as wells a number of generators. While the financial indicators are a concern as is crowding on a few trips, this is a good route.

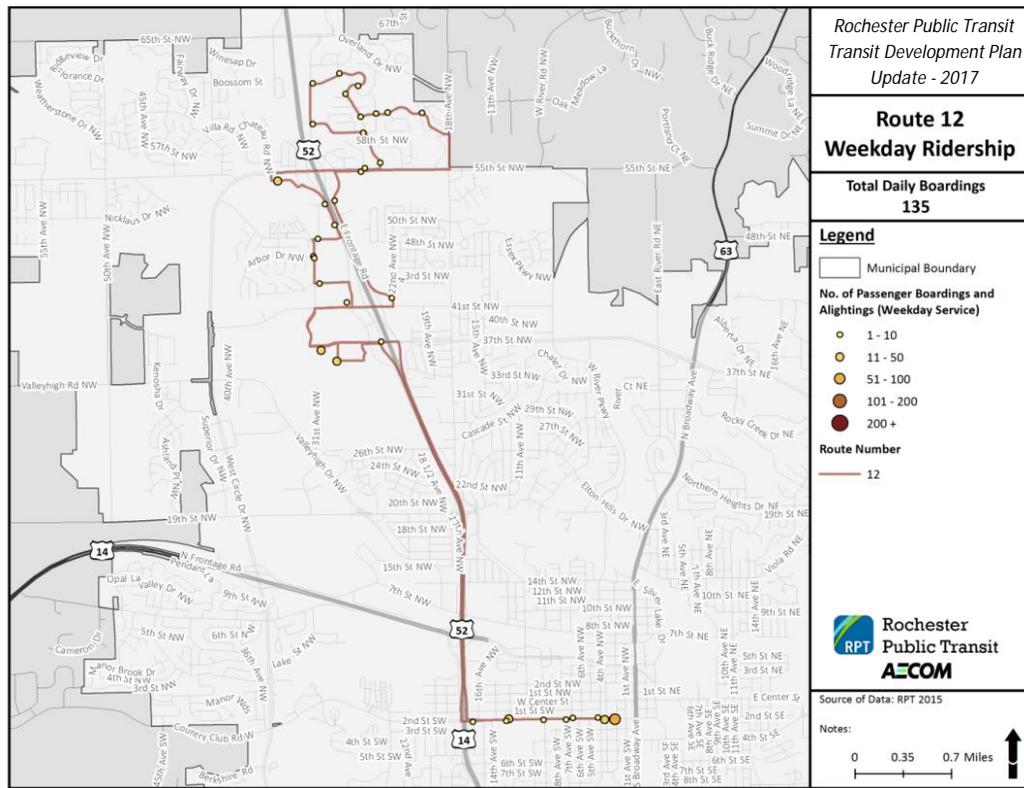
8.4.23 Route 12

The base Route 12 is a peak period only service. This route does not perform well. Route 12 ranks 23rd for cost per passenger and subsidy per passenger which is only in the 60 - 80% range. Route 12 is also ranked 23rd for farebox recovery; however this is worse than 60% of the local route average. For both

service effectiveness indicators, Route 12 is worse than 60% of the local route average and ranks 25 for passengers per hour and 24 for passengers per mile.

In the morning ridership activity occurred all along the route, except along the express section on TH 52, with the majority of passengers boarding on inbound stops (Figure 8-76). The greatest activity occurred at the Downtown Transit Center, St. Marys Hospital, IBM, and by Meadowbrook Townhomes (48th Street and Tongen Avenue), Crown Apartments (Bandle Road and 59th Street) and the Calvary Evangelical Free Church (25th Avenue NW and 55th Street NW). In the afternoon commute ridership was higher at the Downtown Transit Center, St. Marys Hospital, and Walmart. The morning experienced a reverse flow of passengers outbound.

Figure 8-76: Route 12 Ridership Map



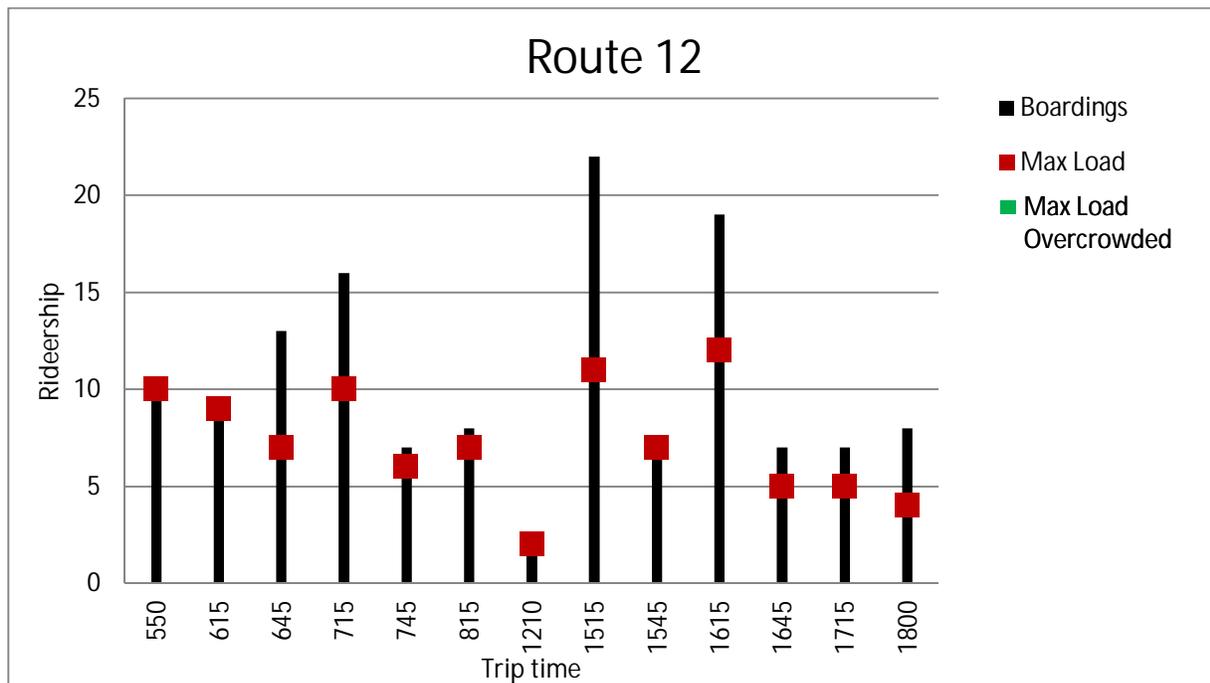
The Route 12 morning trips ran early occasionally leaving time points one to six minutes early. In the afternoon the first and last runs arrived early at some time points but the remaining peak of the peak ran late.

Table 8-26: Route 12 On-time Performance

	Downtown	IBM	Georgetown Town Homes	Bandel Rd. & Boulder Ridge	Walmart	IBM	Downtown
AM Peak	100%	80%	100%	83%	67%	33%	67%
PM Peak	100%	67%	No timepoint	67%	50%	67%	67%

In the morning ridership was more spread out amongst trips than in the afternoon commute which was concentrated on two trips (3:15 PM and 4:15 PM) (Figure 8-77). The first trip in the afternoon commute peak (3:15 PM) had the highest ridership with 22 passengers. The trip with the lowest ridership was the lone midday trip at 12:10 PM; it has just 2 passengers.

Figure 8-77: Route 12 Ridership by Time of Day



Route 12 has a very poor performance profile. This peak period only service is very indirect, serving areas on either side of TH 52. While not exactly a loop route, many locations are only served in one direction. Changes to this route should be considered in conjunction with a redesign of service and service delivery in the northwest part of Rochester.

8.4.24 Route 12M

The midday Route 12 variation performs similarly to the base Route 12. Financial efficiency indicators were not available for Route 12M. For the service effectiveness indicators, Route 12M performs worse than 60% of the local route average, ranking 27th of 31 routes for passengers per hour and 24th of 31 for passengers per mile. This is indicative of a route that needs a major overhaul.

The majority of the activity on the Route 12M was at the Downtown Transit Center, with 33% of the boardings and alightings combined (Figure 8-78). Activity was also high at (greater than 20) St. Marys Hospital (34), the IBM park-and-ride (55) and Walmart (32). Beyond these generators, there was very little activity along this route.

Route 12M did not meet the 90% threshold for on-time performance during the survey (Table 8-27). For trips before noon by the end of the trip they were one to three minutes early. Afternoon trips that were not on-time were late by five to seven minutes.

Figure 8-78: Route 12M Ridership Map

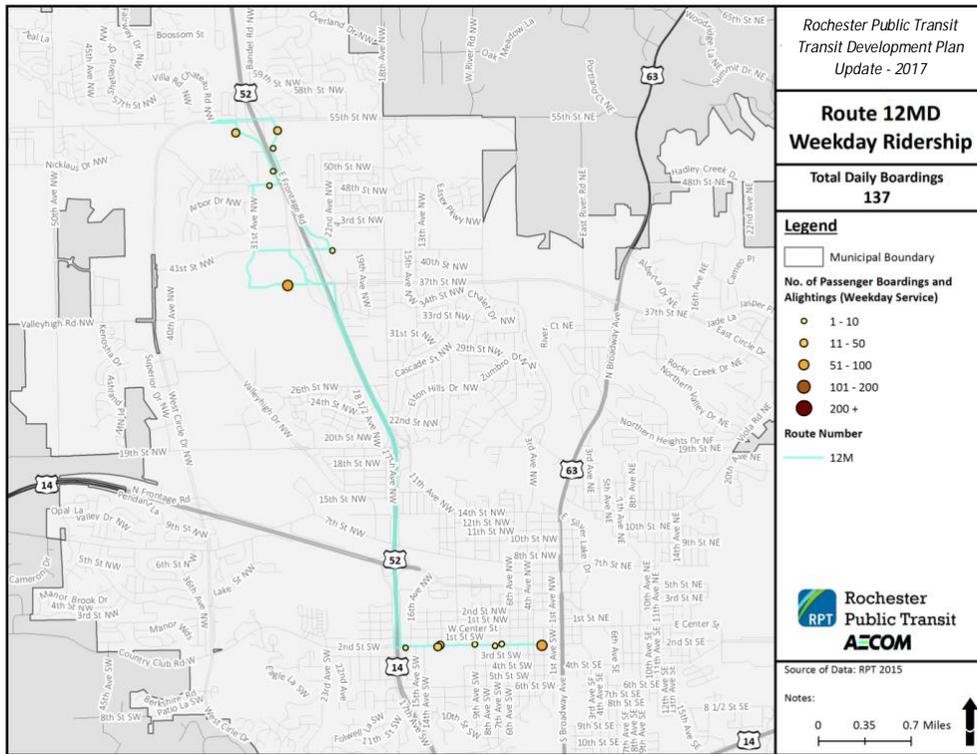
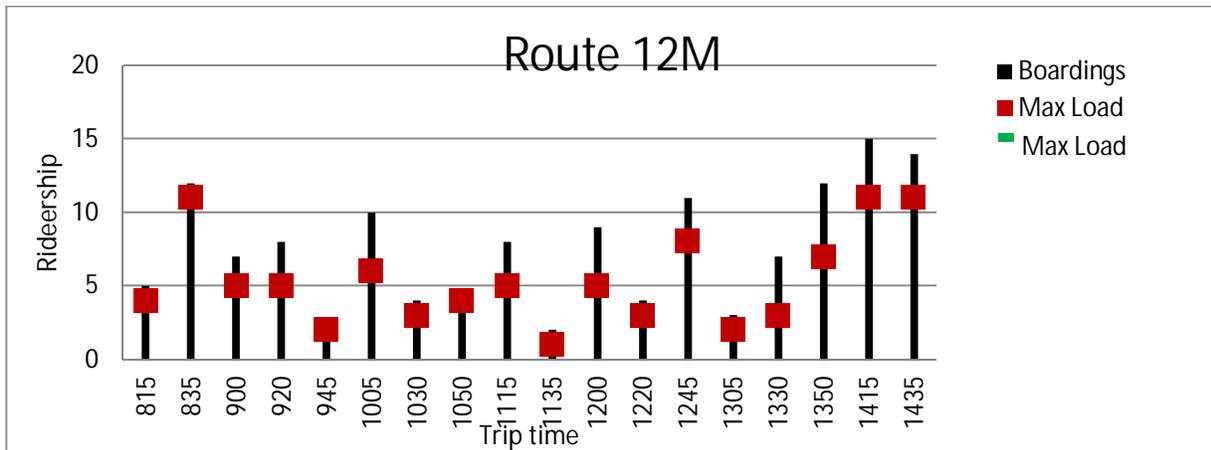


Table 8-27: Route 12M On-time Performance

	Downtown	41st St. & 31st Ave NW	MN School of Business	41st St. & 31st Ave NW	Downtown
Middyay	83%	67%	61%	56%	33%

Ridership was highest on the 2:15 PM trip; this is the second to last trip for this route. Ridership was lowest on the 11:35 AM trip with just 2 passengers (Figure 8-79). At no point was this route overcrowded.

Figure 8-79: Route 12MD Ridership by Time of Day



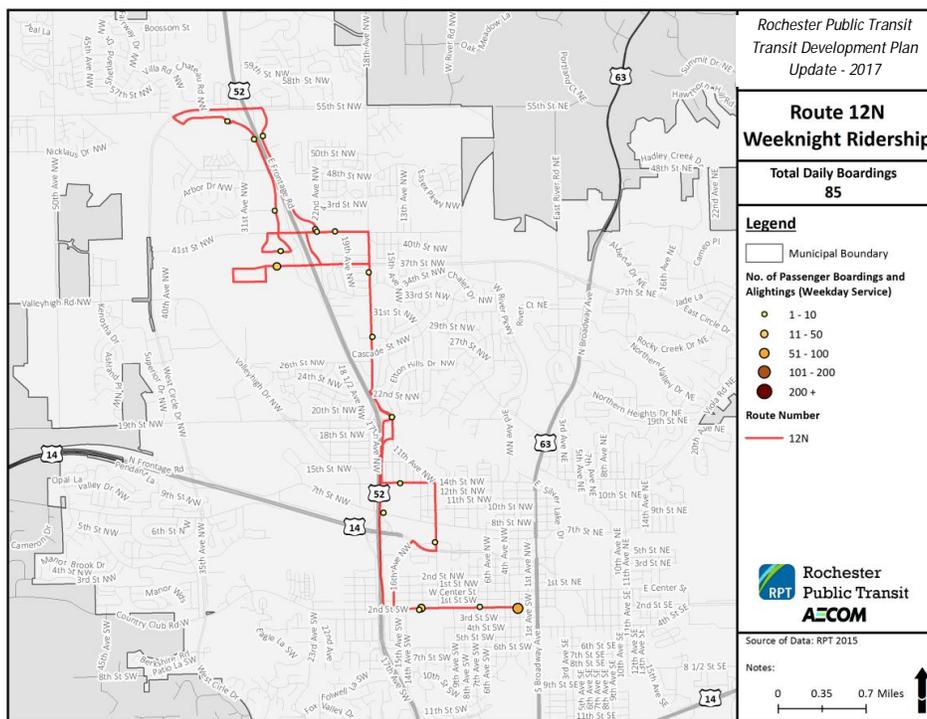
Route 12M demonstrated very poor performance. This midday service is very indirect, serving areas on either side of TH 52. While not exactly a loop route, many locations are only served in one direction. Changes to this route should be considered in conjunction with a redesign of service and service delivery in the northwest part of Rochester.

8.4.25 Route 12N

Of the four evening Routes, Route 12N has the highest passengers per hour and passenger per mile ranking 1st in both categories and performing better than better than the evening route average. For cost per passenger and subsidy per passenger this route rank is 2nd out of 4 routes and is between 80% and 100% better than the night service average. Route 12N ranks 2nd for farebox recovery but and is between 60% and 80% of the evening service average.

The major activity centers on the Route 12N were at the Downtown Transit Center (58), St. Marys Hospital (28), and the IBM park-and-ride (35) (Figure 8-80). There was not very much ridership activity at other locations on this route.

Figure 8-80: Route 12N Ridership Map



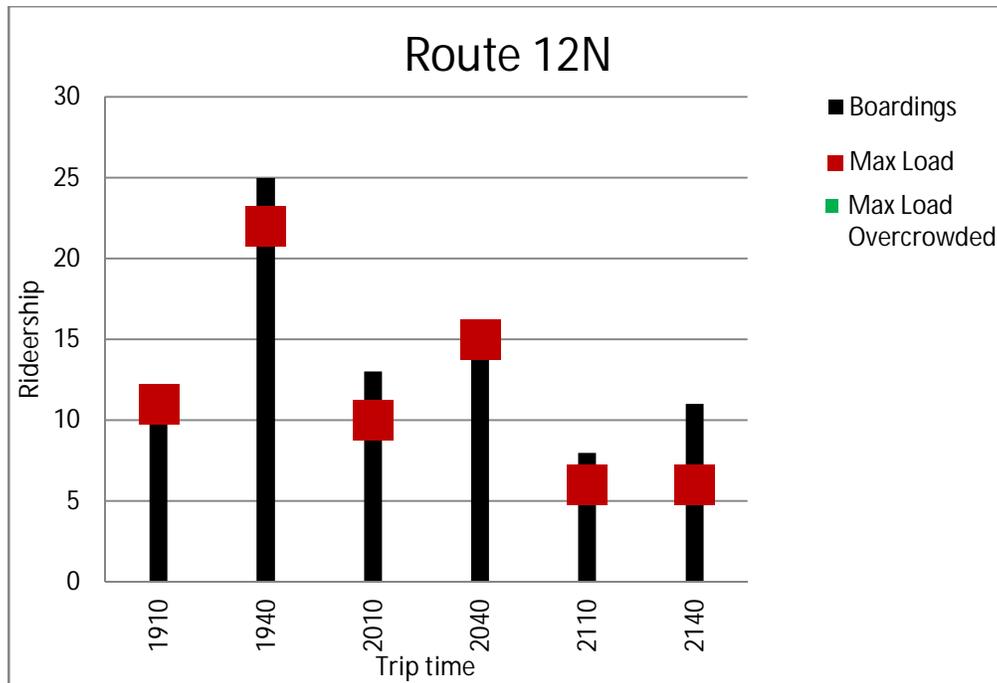
The route generally fell behind by five-seven minutes at Gates of Rochester and continued to be behind schedule for the remainder of the trip.

Table 8-28: Route 12N On-time Performance

	Downtown	19th St. & Elton Hills	Gates of Rochester	Marketplace Target	John Marshall HS	Downtown
Evening	100%	83%	0%	0%	0%	33%

The second trip had the highest ridership (25) (Figure 8-81). The 9:10 PM trip had the fewest number of passengers with only eight. At no point was this route overcrowded.

Figure 8-81: Route 12N Ridership by Time of Day

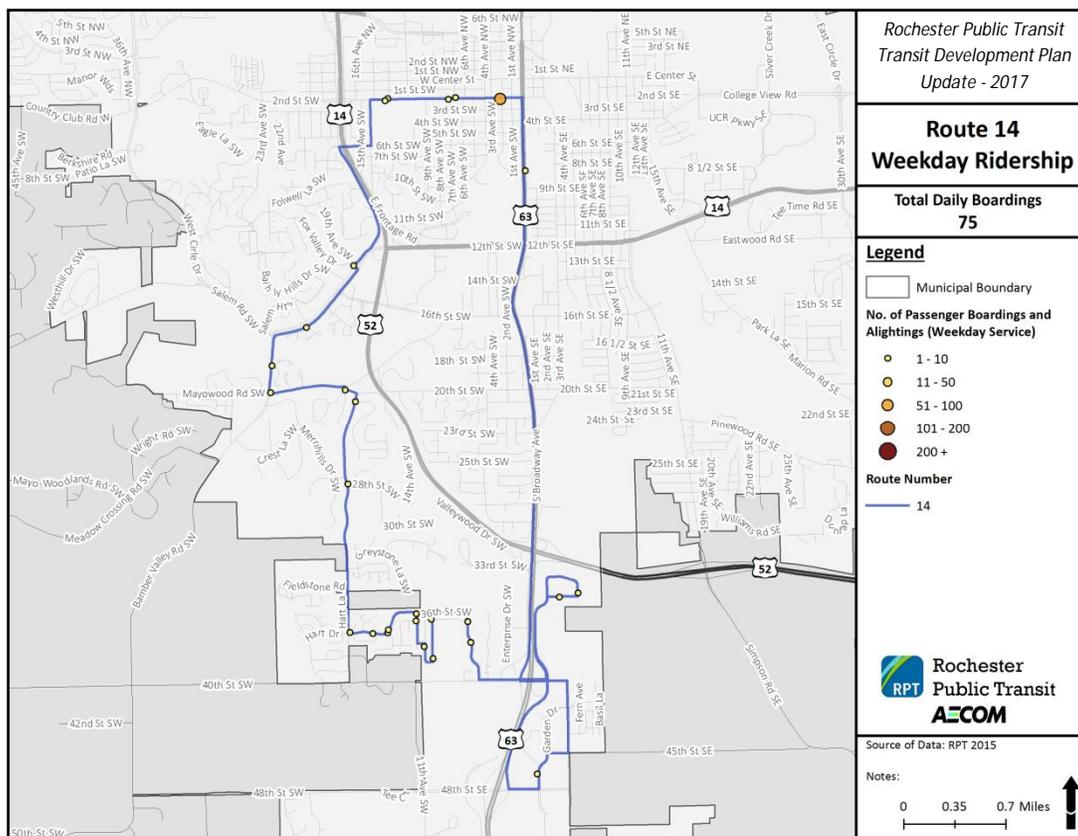


This route provides evening service to the northwestern portion of Rochester. This route serves a lot of passengers during the evening, however there are concerns regarding the financial efficiency of the route. Part of the reason, which is something that will need to be addressed during by a restructuring of the northwest area, is the circuitous nature of the route which increases travel time.

8.4.26 Route 14

Route 14 is a peak period only local route that has two AM trips and three PM trips. While this route ranks towards the middle of local routes, for cost per passenger and subsidy per passenger it performs better than the local route average. Route 14 ranks 15th for cost per passenger and subsidy per passenger. The exception to this performance is farebox recovery, passengers per hour and where this route is between 80% and 100% of the local route average, ranking 15th and 16th respectively. This route performs worse than 60% of the local route average for passengers per mile, where it ranks 22nd out of 31 routes. In the morning boardings occurred all along the route with most alighting at the Downtown Transit Center or along 2nd Street by St. Marys Hospital (Figure 8-82). In the afternoon commute 72% of the boardings occurred at the Transit Center with alightings spread out along the route. Other stops with high activity included TJ Maxx (seven) and Bamber Valley School (seven). There was no ridership along Broadway Avenue South as this segment is also served by Route 6 services.

Figure 8-82: Route 14 Ridership Map



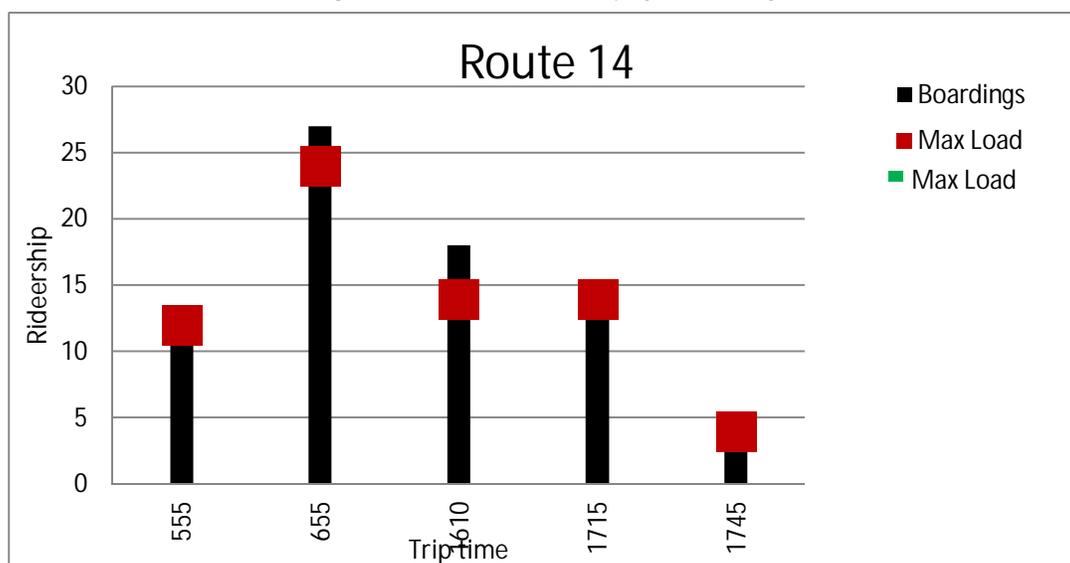
In the morning and afternoon commute peaks trips tended to be running late (five to 18 minutes) as they reach the Northern Heights time point and continued to run even later as they headed towards downtown (Table 28).

Table 8-29: Route 14 On-time Performance

	Downtown	Northern Heights & Northern Valley	Center St. E & 15 Ave. NE	Northern Heights & Northern Valley	Downtown
AM Peak	100%	100%	40%	PM only	80%
PM Peak	100%	AM only	90%	70%	70%

The second morning trip had the highest ridership (27) (Figure 8-83). The 5:45 PM trip had the fewest passengers with only four. Crowding is not an issue with this route, however low ridership on some trips was an issue.

Figure 8-83: Route 14 Ridership by Time of Day



This route is a peak period only loop route that has only two trips during the AM Peak and the PM Peak. Overall ridership is modest but this is the only route that provides service to neighborhoods along 18th Avenue SW. This route could be restructured in conjunction to changes to Route 7 which serve some of the same areas in southwest Rochester.

8.4.27 Route 15D

Route 15D is a direct express route connecting the Target park-and-ride in southern portion of Rochester and Downtown Rochester. This direct route ranks 3rd in all financial efficiency and service effectiveness categories. The route is better than better than the direct route average for cost per passenger and subsidy per passenger. The route performs between 80% and 100% better than the direct route average in farebox recovery and passengers per hour. The route performs between 60% and 80% of the direct route average in passengers per mile.

In the morning most of the boardings (99%) on the Route 15D were at the Target park-and-ride (Figure 8-84). Forty percent alighted at the St. Marys Hospital stop and the remaining at the Transit Center Downtown. The patterns for the afternoon commute were reversed.

The Route 15D morning trips reached the downtown and St. Marys Hospital early. In the afternoon commute trips arrived at St. Marys Hospital either on-time or up to seven minutes late to begin their outbound service. Ridership was highest at 5:05 PM with 39 passengers and a load factor of 111%, above the 100% threshold for direct routes (Figure 8-85). Ridership was lowest on the last trip with three passengers. Three of the trips were considered over overcrowded, two in the morning and one in the evening. Ridership levels were good but overcrowding is an issue.

Figure 8-84: Route 15D Ridership Map

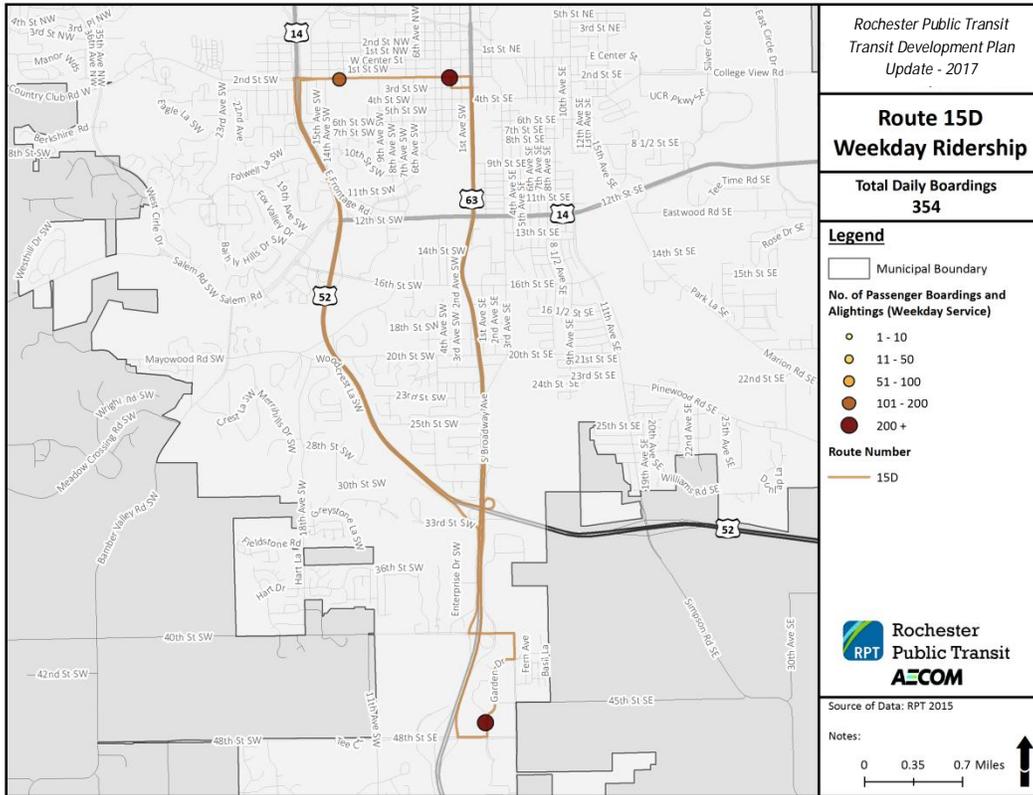
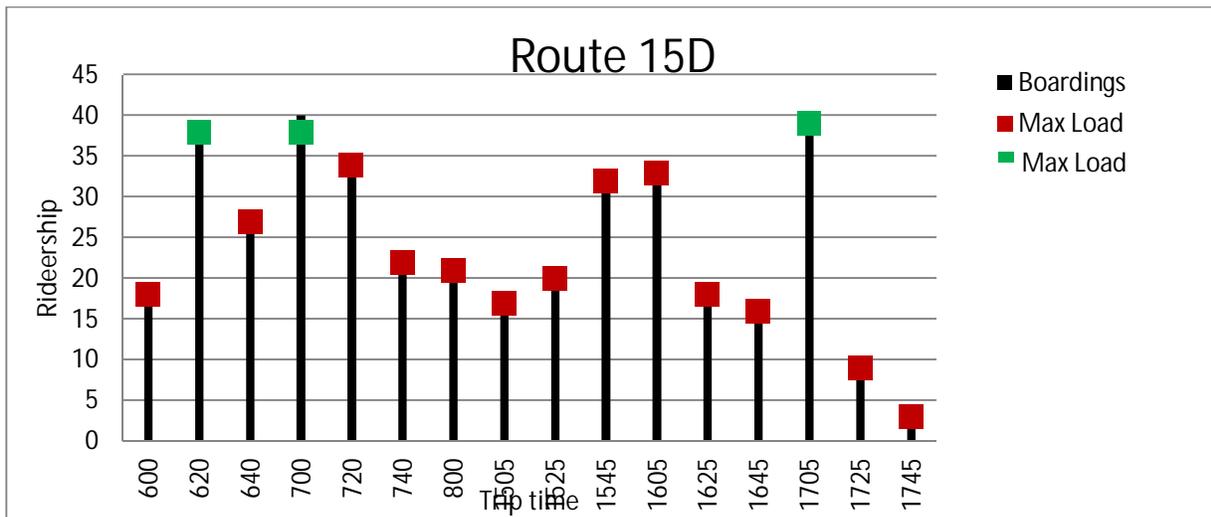


Table 8-30: Route 15D On-time Performance

	Target	St. Marys hospital	Downtown	Target	St. Marys hospital
AM Peak	100%	17%	43%	25%	0%
PM Peak	AM only		100%	67%	89%

Figure 8-85: Route 15D Ridership by Time of Day



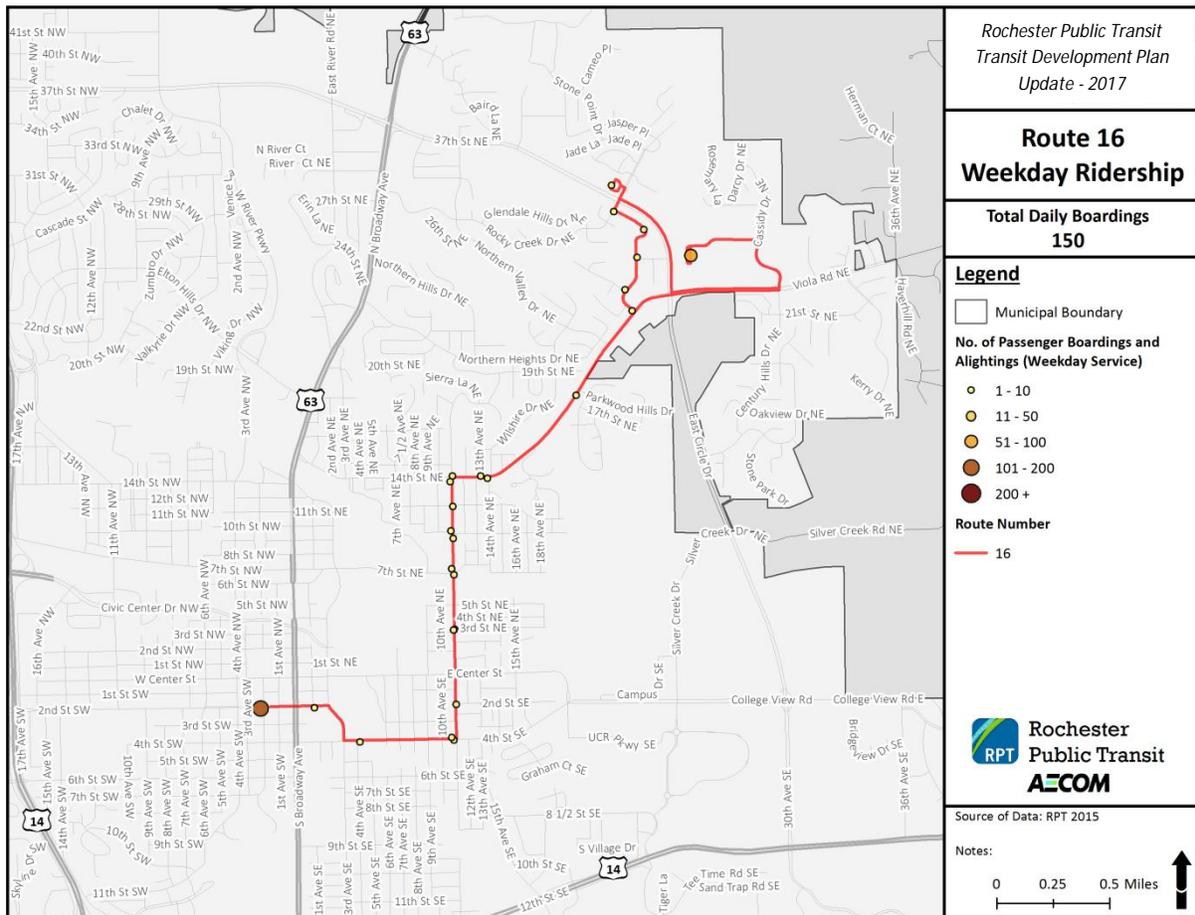
The most important concern regarding this route is crowding on certain trips. There may be opportunities to consolidate this route with the 6D to improve the performance of both routes.

8.4.28 Route 16

Despite being well conceived in terms of its design, Route 16 does not perform very well in terms of the service indicators. The route is ranked 24th for cost per passenger, subsidy per passenger, and farebox recovery. It is in the 60-80 percent range for cost per passenger, but below 60% of the local route average in subsidy per passenger and farebox recovery which is very poor. For the service effectiveness measures Route 16 performs worse than 60% of the direct route average, ranking 24th in passengers per hour and 20th in passengers per mile.

The location with the most activity on the Route 16 was at the Downtown Transit Center, with 150 (49%) boardings and alightings combined (Figure 8-86). The other location with high activity was the Century Senior High School, which had 24 boardings and 33 alightings. The weakest segment was along Viola Drive which connects the 11th Street NE corridor to Century High School.

Figure 8-86: Route 16 Ridership Map



Route 16 did not meet all of the guidelines for on-time performance but always started the trip at the Downtown Transit Center on-time (Table 8-31). The first trip ran early by one minute, all trips after that until 10:00 AM ran behind by five-six minutes when not on-time. Midday the route was ahead of

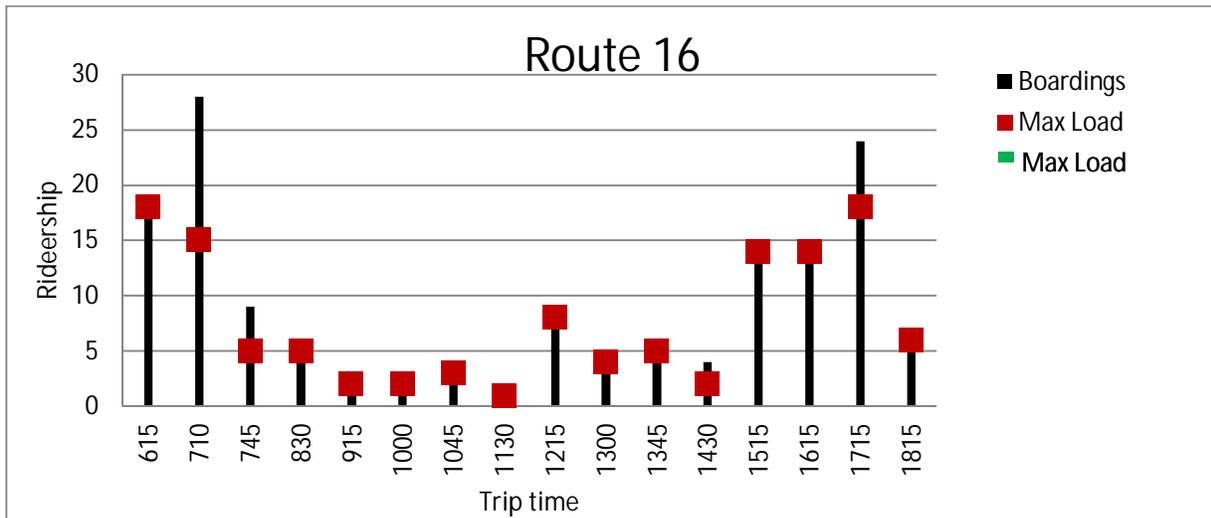
schedule by one-three minutes when not on-time. In the afternoon commute peak the route ran behind schedule. There is only one trip in the evening and it was on-time.

Table 8-31: Route 16 On-time Performance

	Downtown	11th Ave. & 14th St. NE	Mayo Clinic	4th St. & 11th Ave. SE	Downtown
AM Peak	100%	100%	50%	50%	50%
Midday	100%	63%	50%	50%	25%
PM Peak	100%	100%	33%	33%	67%
Evening	100%	100%	100%	100%	100%

Ridership was highest during the morning and evening peak periods and dropped during the midday (Figure 8-87). The 7:10 AM trip had the highest ridership (28) and the 11:30 PM the lowest (two). At no point was this route overcrowded.

Figure 8-87: Route 16 Ridership by Time of Day



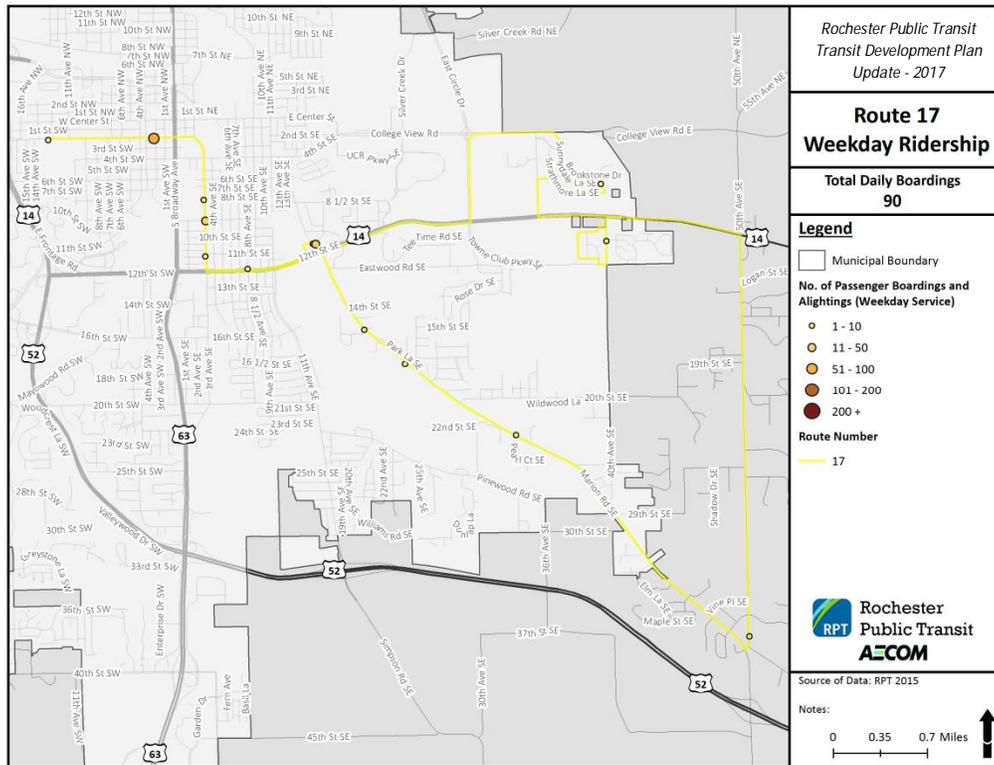
This route performs poorly. While peak ridership is good, there is very little ridership during midday periods. Ridership is spread out throughout the route with the only segment that is weak being the segment along Viola Drive which provides the connection between 11th Avenue and Century High School. The ridership locations and patterns show that ridership on this route is oriented towards Century High School. There may be opportunities to restructure this route along with Route 2.

8.4.29 Route 17

Route 17 is a local route with a middle of the pack performance. This route operates only during peak periods with three trips during the AM peak period and two trips during the PM peak period. This route performs better than better than the local route average for all indicators except passengers per mile, where its performance is between 60% and 80% of the local route average. Route 17 ranks 13th in cost per passenger, subsidy per passenger, and farebox recovery. Route 17 ranks 12th in passengers per hour and 16th in passengers per mile.

In the morning boardings occurred all along the route with all alightings at the Downtown Transit Center or St. Marys Hospital (Figure 8-88). Stops with the greatest boardings included the Cub Foods park-and-ride (42) and K-Mart (one). In the afternoon commute 95% of the boardings occurred at the Transit Center with alightings spread out along the route. This route provides service to low density areas of Rochester and ridership activity is not very high in these locations, specifically along 50th Avenue SE and portions of Marion Drive.

Figure 8-88: Route 17 Ridership Map



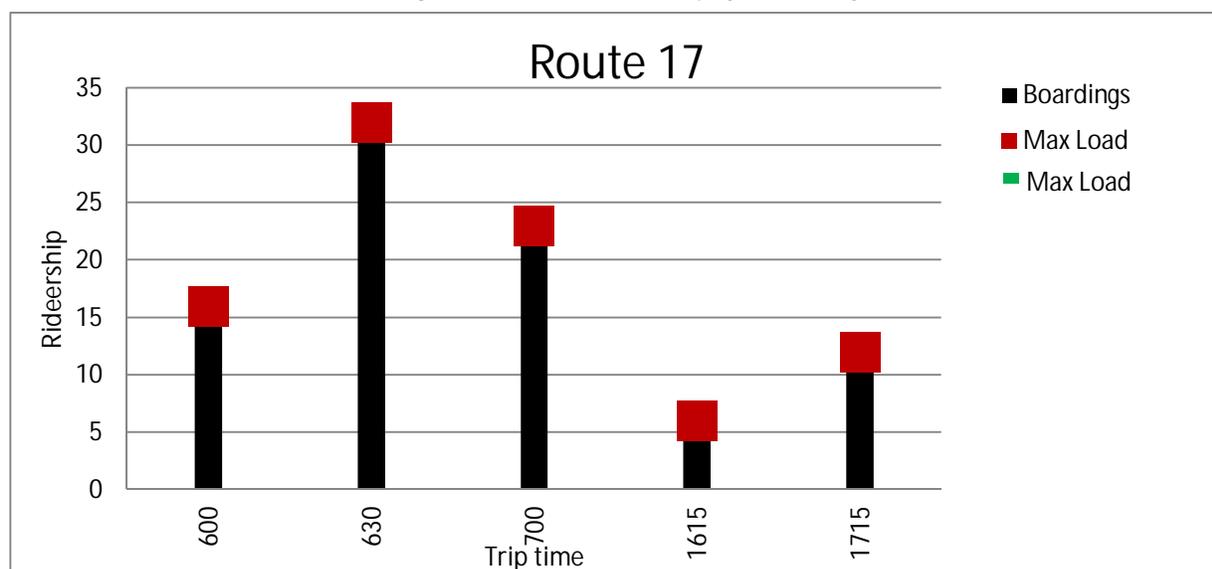
Route 17 did not meet the guidelines for on-time performance (Table 8-32). In the morning the trips were either on-time or early by one minute until it reached St. Marys Hospital where it was behind. In the afternoon commute peak if it was not on-time it was late by up to eight minutes.

Table 8-32: Route 17 On-time Performance

	Downtown	Sunnydale Lane & 40th Ave. SE	Eastwood Rd. & Putter's Place SE	Pearl Ct. & Marion Rd. SE	K-Mart	Downtown	St. Marys hospital	Downtown
AM Peak	100%	33%	67%	67%	100%	0%	33%	0%
PM Peak	100%	50%	50%	100%	No Timepoint	0%	No Service	No Service

The second morning trip had the highest ridership (32) (Figure 8-89). The 5:45 PM trip had the least amount of passengers with only five. At no point was this route overcrowded. The higher ridership in the AM period was attributed to the trips that operate as both Route 17 and 4D.

Figure 8-89: Route 17 Ridership by Time of Day



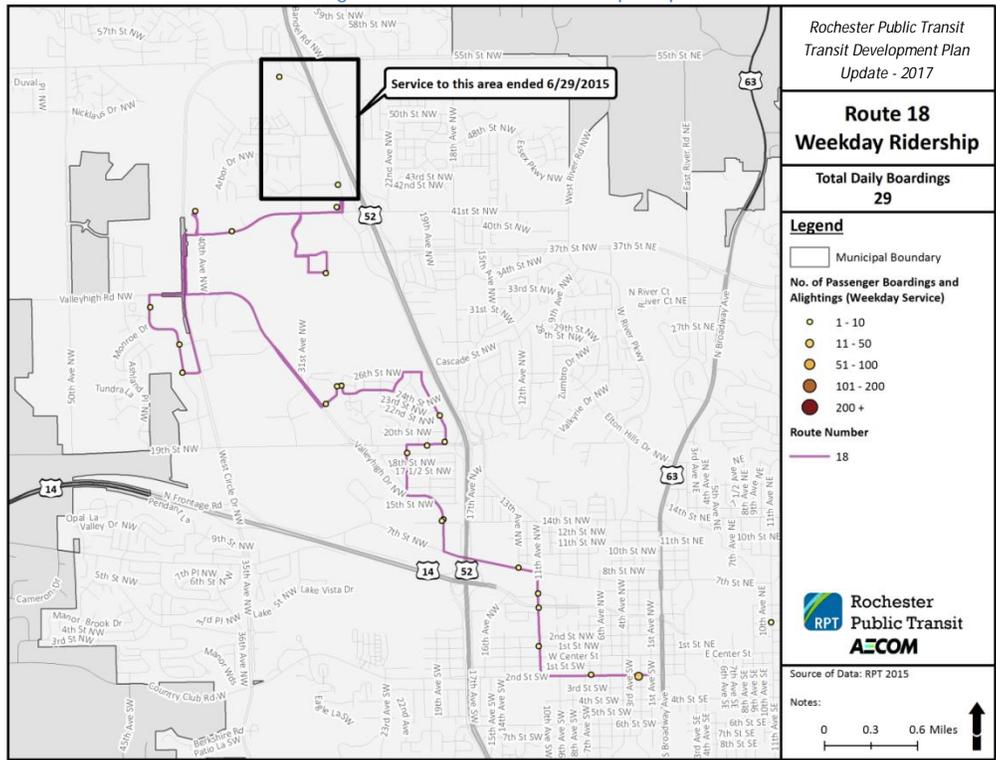
This route provides weekday peak period service only, operating a small number of trips. It serves areas that are less dense and do not generate high ridership. Considering the service area, this route is not performing too badly but changes need to be considered. Based on ridership and service area, this area may warrant a different service model than a peak period fixed route bus.

8.4.30 Route 18

Route 18 is a peak period local route that serves a reverse commute market to Mayo facilities in northwest Rochester, IBM, and the IBM park-and-ride. Route 18 has a mixed performance in terms of service indicators. Route 18 performs worse than 60% of the local route average in cost per passenger, subsidy per passenger, and farebox recovery and is ranked 25th in all these categories. It is also performs worse than 60% of the local route average for passenger per hour and passenger per mile, ranking 22nd and 27th respectively. Thus it is a poor performer in the network that needs to be carefully assessed and significantly modified.

Ridership along this route was low with just 29 passengers (Figure 8-90). The stops with the greatest activity were the Downtown Transit Center and by the businesses/manufacturers along Valleyhigh Drive NW such as Johnson Printing, US Post Office, Ability Building Center, and a Coca-Cola distribution center. Most of the other stops had no riders or only one boarding/alighting. An exception was IBM which had six and since the boardings are in the afternoon and alightings in the morning it is most likely the passengers are employees at IBM and not using the IBM park-and-ride to reach destinations downtown. This stop is on-demand in the morning but requested on four out of five of the trips. In the afternoon commute peak the Mayo Support Center is a deviation off the corridor but had no riders, in the morning it is on-demand only.

Figure 8-90: Route 18 Ridership Map



Route 18 does not meet all of the guidelines for on-time performance (Table 8-33). The first morning trips ran ahead of schedule by one minute while the later trips ran late. In the afternoon commute trips consistently ran five-18 minutes late. Afternoon commute trips that ran late are because they depart their first timepoint nine-10 minutes late.

Table 8-33: Route 18 On-time Performance

	Downtown	18 1/2 Ave & 19th St. NW	Pace Dairy	41st St. Frontage Rd	Walmart	41st St. Frontage Rd	Pace Dairy	18 1/2 Ave & 19th St. NW	Downtown
AM Peak	100%	80%	60%	40%					
PM Peak		AM			40%	40%	40%	40%	40%

In general ridership was low on this route, and 30% of the trips had only one passenger and the highest ridership trips had only have five passengers (Figure 8-91). The first three trips had very low ridership with two passengers or less. At no point was this route overcrowded.

Figure 8-91: Route 18 Ridership by Time of Day



While this route is not a very productive route a couple of things need to be considered. It operates as the reverse trips of the 18D which is a productive route and it is serving emerging generators and employment sites in northwest Rochester. The path it takes is rather indirect, winding around as it does to serve individual generators. Changes to this route should be considered as part of a restructure in the northwest portion of Rochester.

8.4.31 Route 18D

Route 18D is the best performing direct route in the RPT system. It is ranked first for all financial efficiency and service effectiveness, performing better than better than the direct route average. The reason that this route is such a good performer is that it serves the largest park-and-ride in Rochester in the fastest growing part of the service area.

In the morning almost all of the boardings (476 or 99%) on the Route 18D were at the IBM park-and-ride (Figure 8-92). At the St. Marys Hospital stop 45% of passengers alighted and the remaining got off at the Downtown Transit Center. The patterns in the afternoon commute were reversed.

The Route 18D did not meet the guidelines for on-time performance (Table 8-34) which may be a function of the large number of boardings and dispatching of vehicles when they were full even if that is early, with second buses then leaving closer to on-time. Afternoon return buses ran a bit late, up to 12 minutes at the IBM location.

Figure 8-92: Route 18D Ridership Map

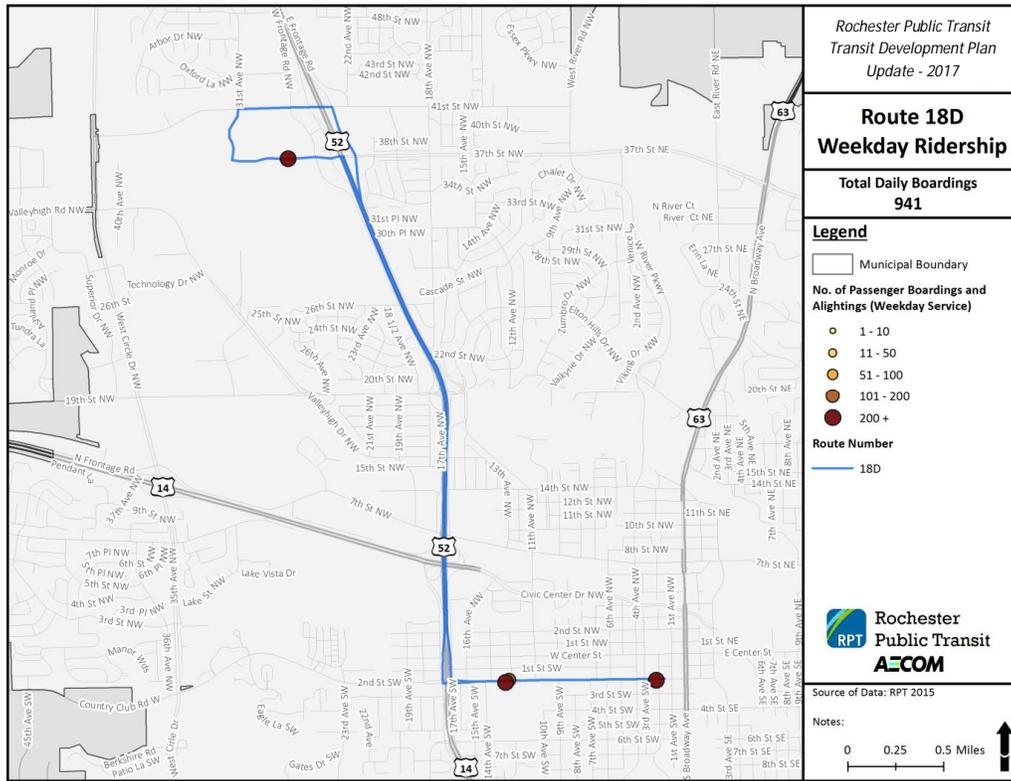


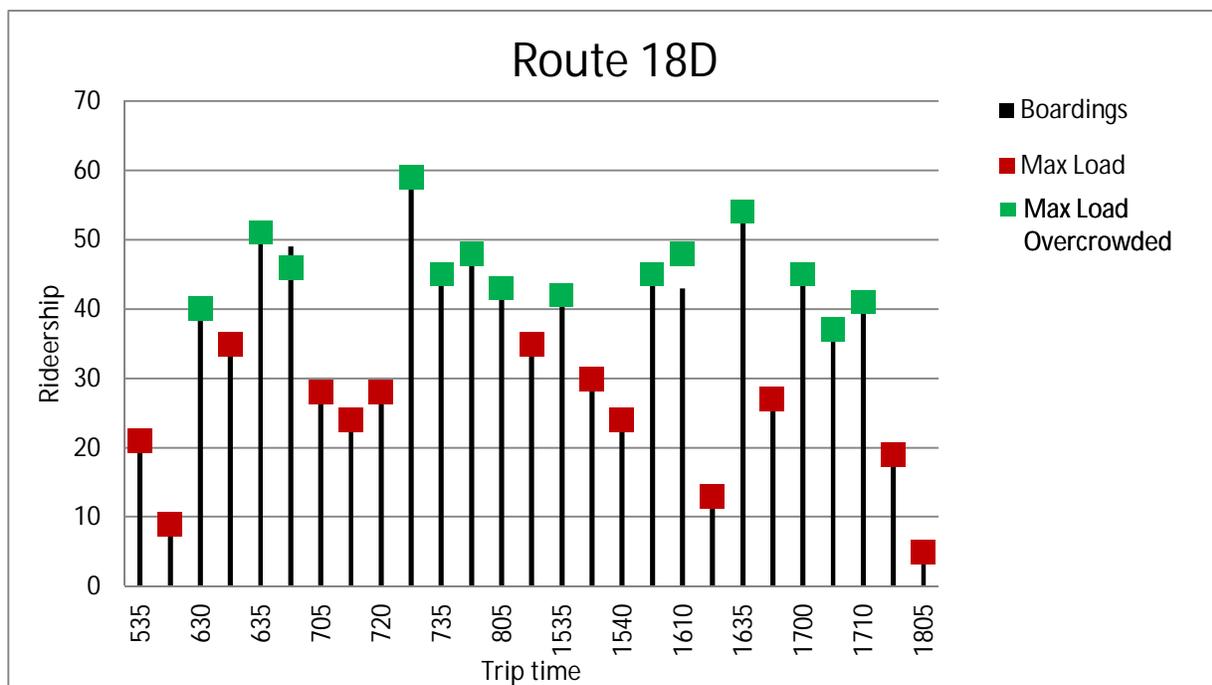
Table 8-34: Route 18D On-time Performance

	IBM	St. Marys hospital	Downtown	St. Marys hospital	IBM
AM Peak	85%	23%	31%	PM	
PM Peak	AM		77%	71%	43%

Ridership was highest at 7:30 AM with 60 passengers and a load factor of 169%, well above the 125% threshold. Ridership was lowest on the last trip with five passengers (Figure 8-93). Fourteen, or slightly over half, of the trips were considered over overcrowded. Three trip times (6:30 AM, 7:20 AM and 3:35 PM) had two buses for the same trip; if one was used there would be overcrowding.

This is the best performing direct route although not in terms of passenger comfort. There are two major issues with this route, first is on-time performance and the second is crowding. These issues will be considered in developing the service plan. Also, consideration will be made for the overall role of this route in a restructured northwest area.

Figure 8-93: Route 18D Ridership by Time of Day



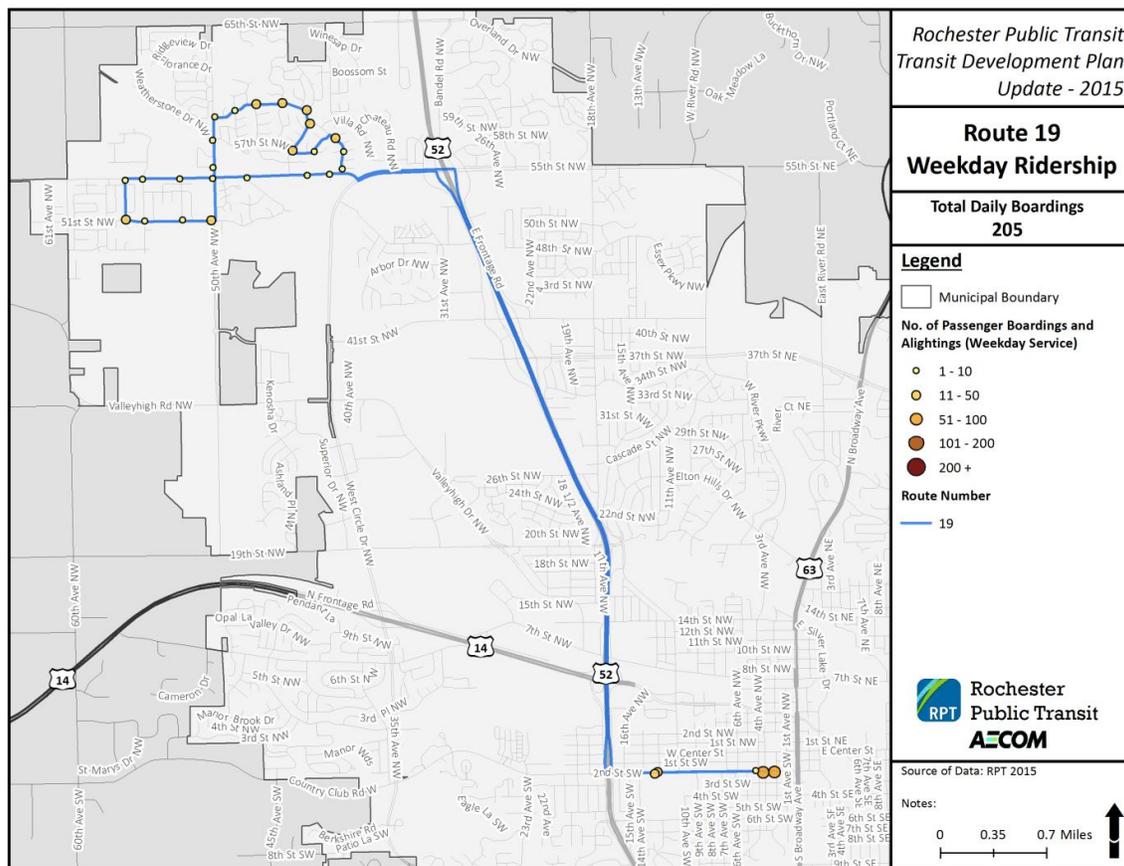
8.4.32 Route 19

This route is primarily a peak period route serving the far northwestern portions of the RPT service area. For all service indicators Route 19 performs better than the local route average. For cost per passenger, subsidy per passenger, and farebox recovery this route is ranked 3rd. Route 19 is ranked 10th in passengers per hour and 2nd in passengers per mile, so it is one of the better performing routes in the system.

The location with the most activity on the Route 19 was at the Downtown Transit Center, with 153 (37%) boardings and alightings combined (Figure 8-94). The other locations with high activity were St. Marys Hospital (40), by the Mayo Clinic (84), and residential areas 57th Street NW and 44th Avenue NW (28), Savannah Drive NW and 45th Avenue NW (17) and 51st Street NW & 56 Avenue NW (18). This route serves as a neighborhood to Downtown Rochester connector and the ridership pattern shows that all stops are utilized.

Route 19 did not meet the guidelines for on-time performance but always started the trip at the Downtown Transit Center on-time (Table 8-35). During the morning, trips that were not on-time are anywhere from one minute early to seven minutes late. In the midday when the route was not on-time it was early by one minute. During the afternoon commute peak period when the route was not on-time it was usually late (five-10 minutes).

Figure 8-94: Route 19 Ridership Map



Rochester Public Transit
Transit Development Plan
Update - 2015

**Route 19
Weekday Ridership**

**Total Daily Boardings
205**

Legend

- Municipal Boundary
- No. of Passenger Boardings and Alightings (Weekday Service)
 - 1 - 10
 - 11 - 50
 - 51 - 100
 - 101 - 200
 - 200 +
- Route Number
 - 19



Source of Data: RPT 2015

Notes:
0 0.35 0.7 Miles

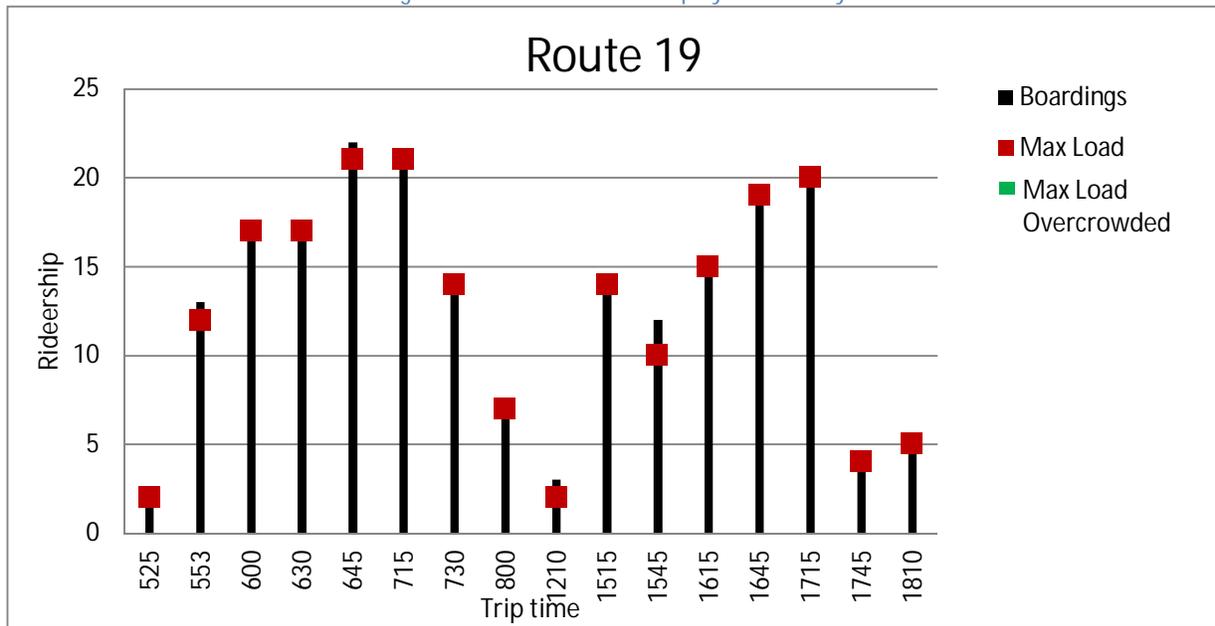
Table 8-35: Route 19 On-time Performance

	Downtown	St. Marys hospital	57th St. NW & 44th Ave. NW	56th Ave. NW & 55th St. NW	St. Marys hospital	Downtown
AM Peak	100%	83%	63%	63%	63%	75%
Midday	100%	100%	0%	100%	100%	100%
PM Peak	100%	83%	83%	50%	60%	60%

Ridership was highest during the morning and afternoon commute peak periods and dropped during the midday and in the evening (Figure 8-95). The 6:45 AM trip had the highest ridership (22) and the 5:25 AM the lowest (two). At no point was this route overcrowded.

This route is a good performer -- ridership levels are good and there are no instances of overcrowding. This route serves a growing area and there may be opportunities to extend this route further north to serve new developments. Also, there may be opportunities for additional midday service along with a general restructuring of services in the northwest area.

Figure 8-95: Route 19 Ridership by Time of Day



8.4.33 Route 21

Route 21 is a Saturday route that serves segments of weekday Routes 1 and 2. Overall the performance of this route is good, performing better than the Saturday route average for all service indicators. Route 21 ranks 1st out of the 8 Saturday routes in cost per passenger, subsidy per passenger, farebox recovery and passengers per hour. Route 21 ranks 2nd in passengers per mile. Like cops per mile, makes this the safest route in the system.

The location with the most activity on the Route 21 was at the Downtown Transit Center, with 68 (29%) boarding and alightings combined (Figure 8-96). The other locations with high activity were by Rocky Creek Estates (34) and Shopko (22). All segments of this route were well utilized.

Route 21 did not meet all of the guidelines for on-time performance but always started the trip at the Downtown Transit Center on-time (Table 8-36). When the route was not on-time it is usually early (one-three minutes).

The 3:15 PM trip had the highest ridership (20) and the 5:15 PM the lowest (three) (Figure 8-97). At no point was this route overcrowded.

Route 21 is one of the best performing Saturday routes. The biggest concern with this route is the mid-route loop that serves portions of the weekday Route 2. This loop results in long travel times for passengers traveling from 11th Avenue NE to Downtown Rochester.

Figure 8-96: Route 21 Ridership Map

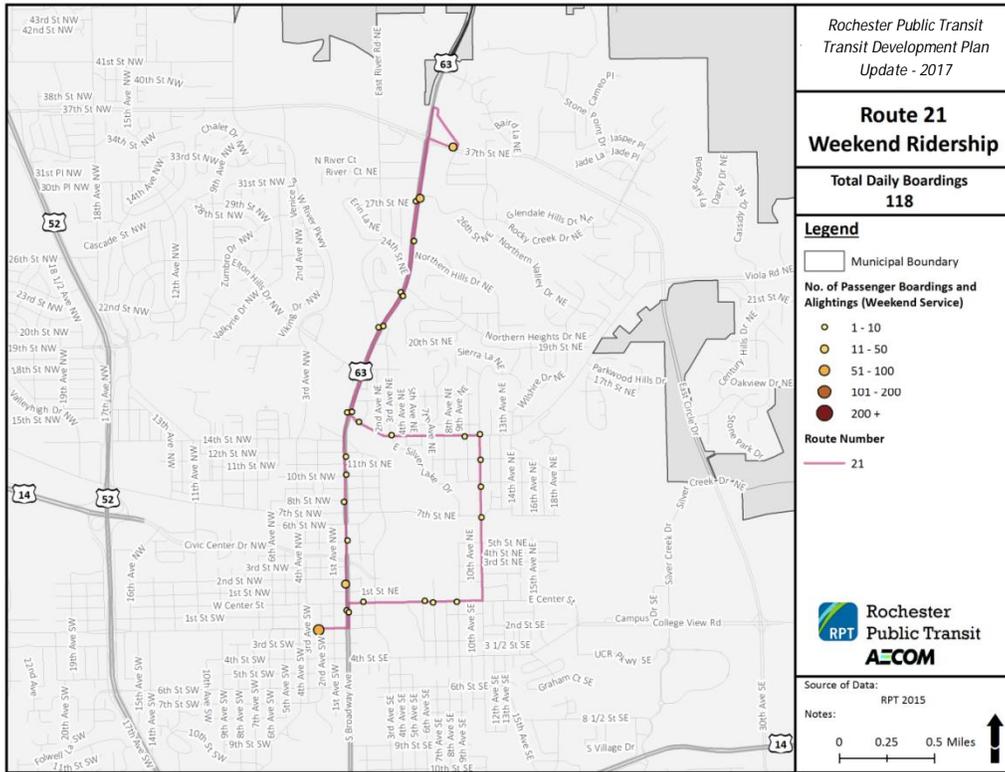
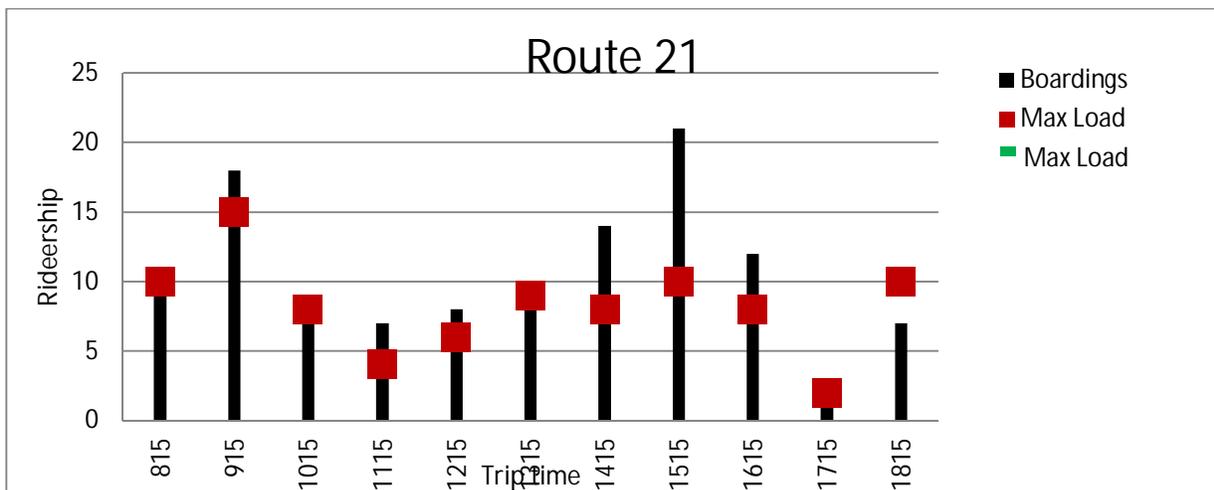


Table 8-36: Route 21 On-time Performance

Saturday	
Downtown	100%
Broadway Ave NE and 2 Ave NE	91%
Shopko North	82%
Downtown	73%

Figure 8-97: Route 21 Ridership by Time of Day

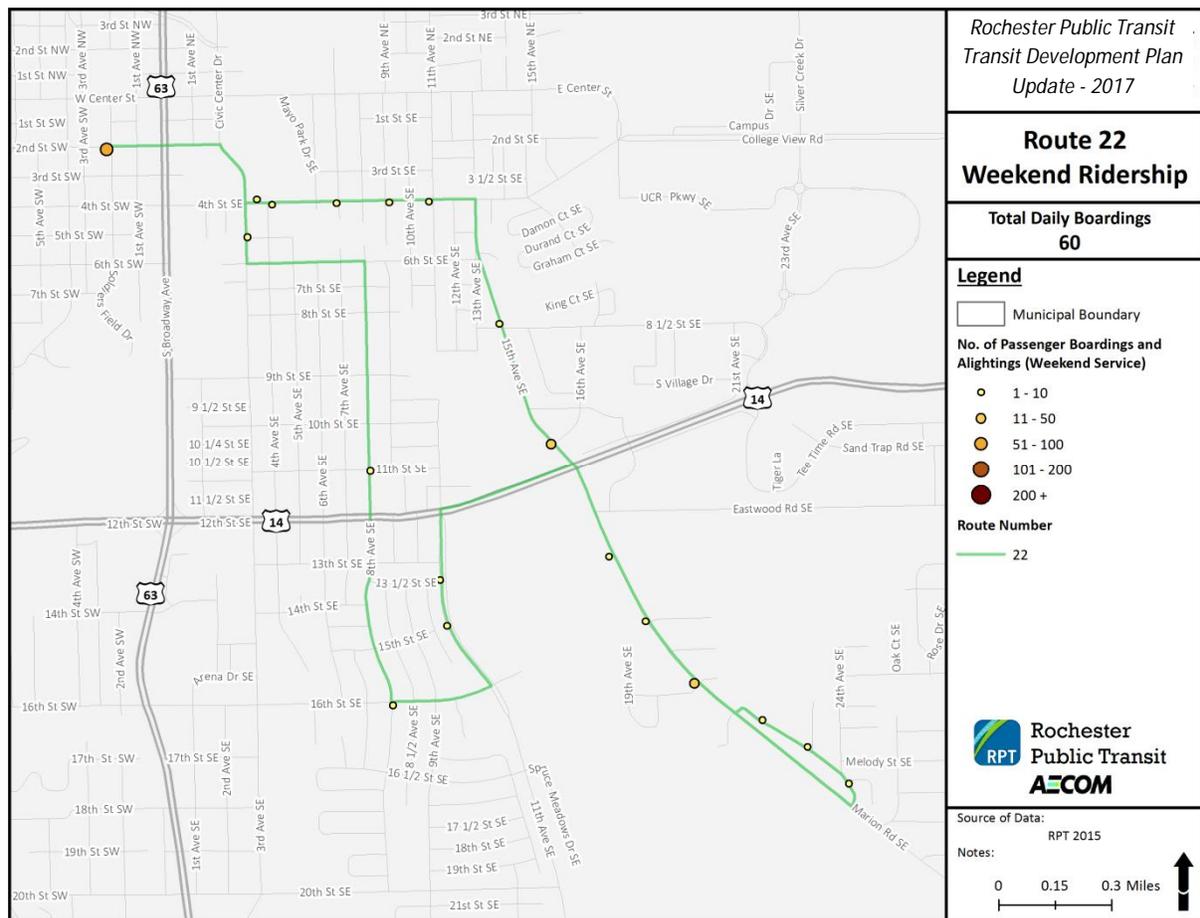


8.4.34 Route 22

Route 22 is the route that provides service to southeast Rochester, serving portions of various routes in this area. Among the Saturday routes, Route 22 is a mid-level performer, performing better than the Saturday route average in passengers per hour, where it ranks 4th. Route 22 performs between 80% and 100% of the Saturday route average in cost per passenger, subsidy per passenger, and farebox recovery -- ranks 5th for each of these indicators. Route 22 ranks 4th in passengers per mile and performs between 80% and 100% of the Saturday average.

The location with the most activity on the Route 21 was at the Downtown Transit Center, with 51 (41%) boardings and alightings combined (Figure 8-98). The other locations with high activity were Cub Foods (14) and Marion Road SE & 17th Street SE (13). At Marion Road SE & 17th Street SE there are two apartment complexes, Sutton Place and Eastridge, which collectively have over 150 units. The weakest segments were along 8th Avenue SE.

Figure 8-98: Route 22 Ridership Map



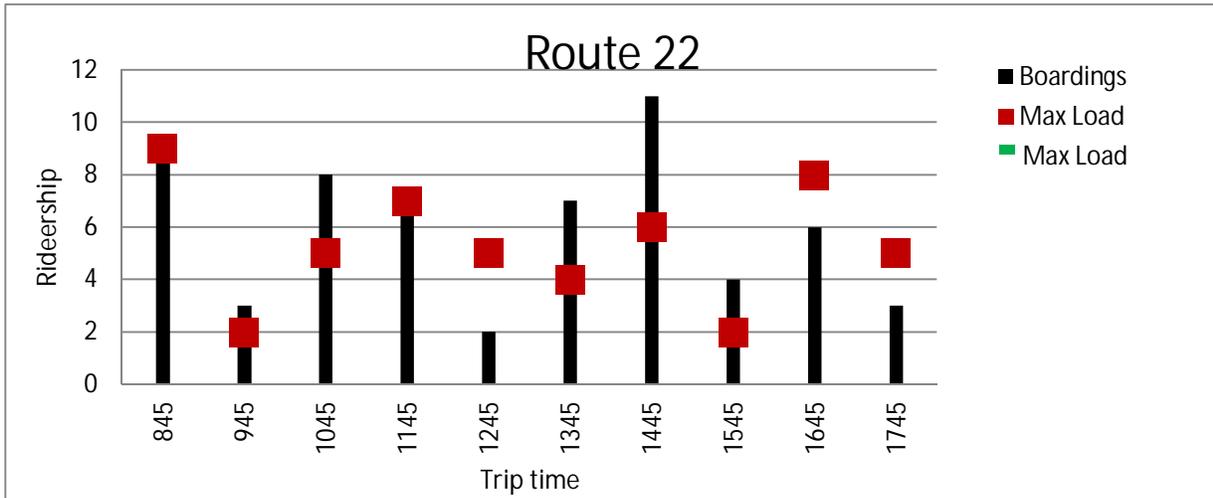
Route 21 did not meet all of the guidelines for on-time performance but always started the trip at the Downtown Transit Center on-time (Table 8-37). When the route was not on-time it was usually early (one-two minutes).

Table 8-37: Route 22 On-time Performance

Saturday	
Downtown	100%
Cub foods	90%
Mayo High School	100%
Downtown	50%

The 2:45 PM trip had the highest ridership (11) and the 12:15 PM the lowest (two) (Figure 8-99). At no point was this route overcrowded.

Figure 8-99: Route 22 Ridership by Time of Day



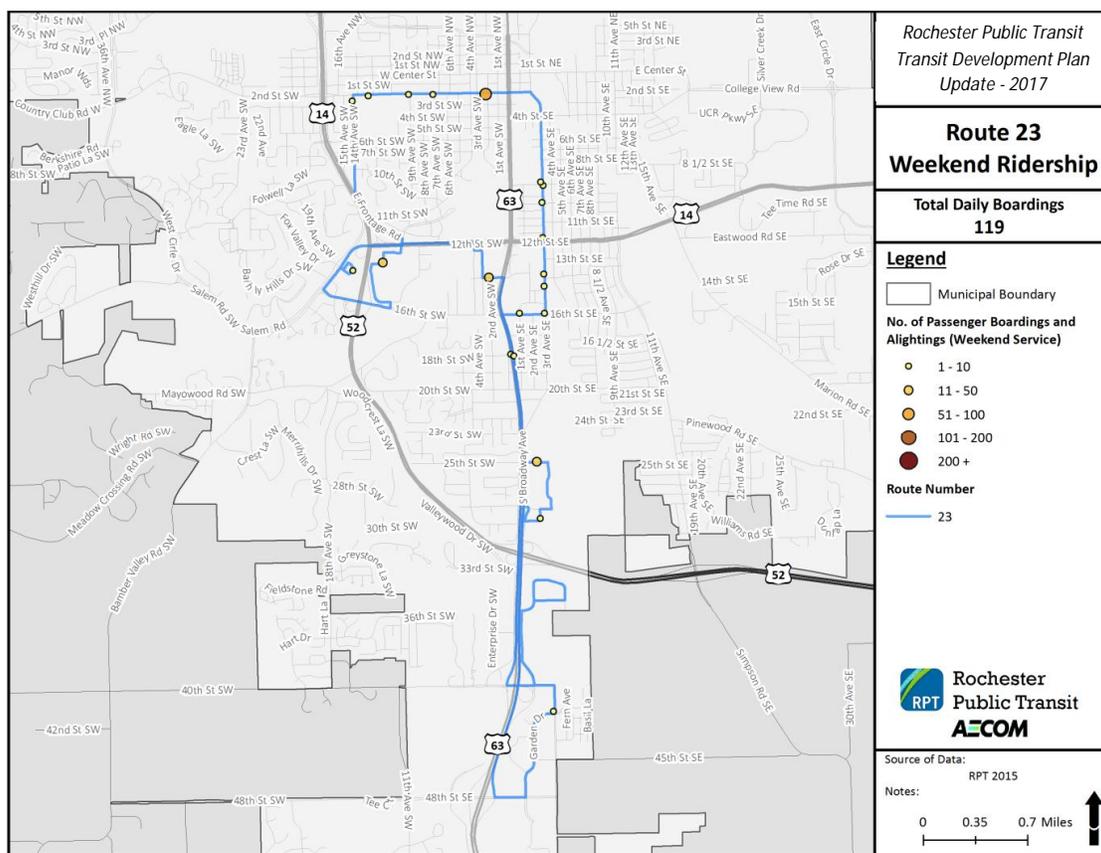
While this route is a mid-level performer, this route operates a large one-way loop in residential areas in Southeast Rochester. This large loop discourages ridership as passengers do have to travel out of their way to get to and from their destination. Also, this service encompasses segments of many routes, which may cause confusion to riders.

8.4.35 Route 23

Routes 23 and 24 operate as reverse loops of each other. Route 23 is a mid-level performer. For passengers per hour Route 23 ranks 7th and performs better between 60-80 % of the Saturday route average. For cost per passenger and subsidy per passenger this route ranks 4th and performs better than the Saturday route average. For farebox recovery this route also ranks 4th and performs between 80% and 100% of the Saturday route average. For passengers per mile this route ranks 3rd and performs better than the system average.

The location with the most activity on the Route 21 was at the Downtown Transit Center, with 91 (39%) boardings and alightings combined (Figure 8-100). The other locations with high activity were Walmart (37), the Apache Mall (29) and the Crossroads Shopping Center (14). There was very little ridership along Broadway Avenue South which is surprising given the number of stores there.

Figure 8-100: Route 23 Ridership Map



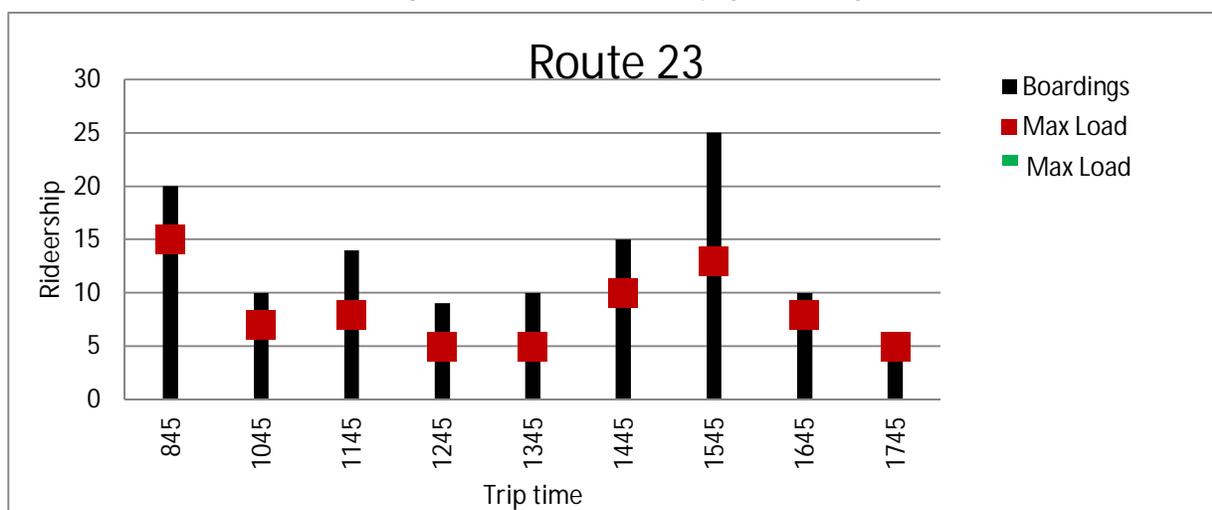
Route 23 did not meet the guidelines for on-time performance but always started the trip at the Downtown Transit Center on-time (Table 8-38). When the route was not on-time it is usually early (one-five minutes).

Table 8-38: Route 23 On-time Performance

	Saturday
Downtown	100%
3rd Ave. & 16th St. SE	89%
Channel One	100%
ShopKo South	100%
Crossroads Walgreens	100%
Apache Mall	89%
St. Marys Hospital	78%
Downtown	44%

The 3:45 PM trip had the highest ridership (25) and the 5:45 PM the lowest (five) (Figure 8-101). At no point was this route overcrowded.

Figure 8-101: Route 23 Ridership by Time of Day



Route 23 is a Saturday route that serves portions of Routes 6 and 7 families of services. The issue with combining these services is that the Route 7 services are loop routes which results in long travel times for certain trips along the route. The combination of a loop route near Downtown Rochester and a radial route further from Downtown is awkward for the user although it is mitigated by the reverse loop on Route 24.

8.4.36 Route 24

As noted above, Routes 23 and 24 operate as reverse loops of each other. Route 24 is a mid-level performer. For cost per passenger, subsidy per passenger, farebox recovery, and passengers per hour this route ranks 6th and performs between 80% and 100% better than the Saturday route average. For passengers per mile this route ranks 1st and performs better than the system average.

The location with the most activity on the Route 24 was at the Downtown Transit Center, with 96 (35%) boardings and alightings combined (Figure 8-102). The other locations with high activity were the Apache Mall (48), Walmart (39), and TJ Maxx (13). There was very little ridership along Broadway Avenue South.

Route 24 did not meet the guidelines for on-time performance but always started the trip at the Downtown Transit Center on-time (Table 8-39). When the route was not on-time it was early (one-four minutes). The 1:15 PM trip had the highest ridership (26) and the 3:15 PM the lowest (eight) (Figure 8-103). At no point was this route overcrowded.

Route 24 is a Saturday route that serves portions of Routes 6 and 7 families of services. The issue with combining these services is that the Route 7 services are loop routes which results in long travel times for certain trips along the route. The combination of a loop route near Downtown Rochester and a radial route further from Downtown is awkward for the user.

Figure 8-102: Route 24 Ridership Map

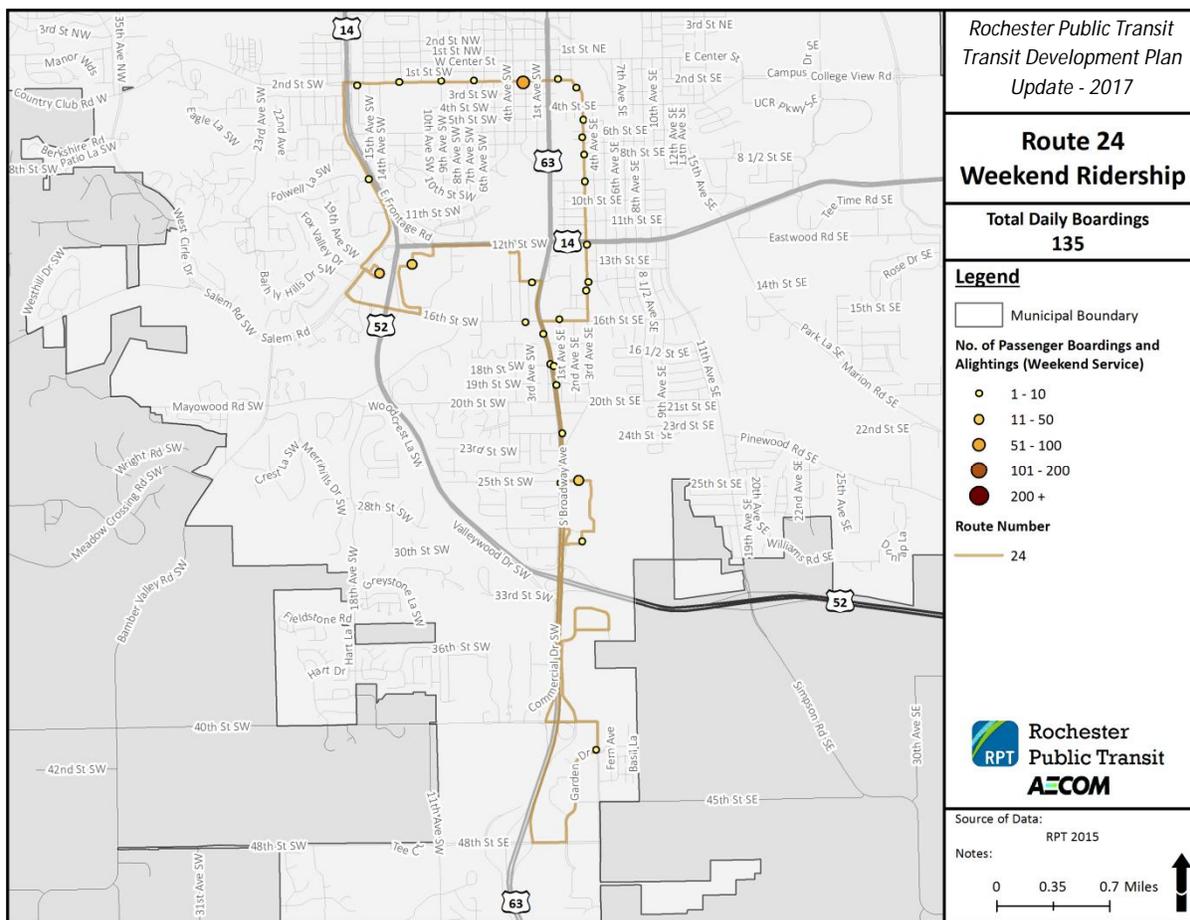
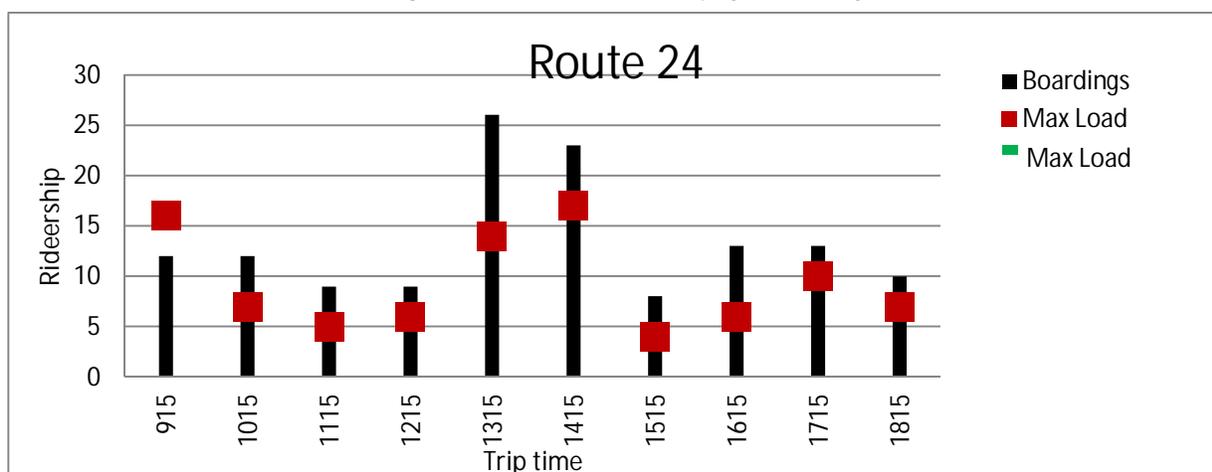


Table 8-39: Route 24 On-time Performance

	Saturday
Downtown	100%
3rd Ave. & 16h St. SE	100%
Crossroads Walgreens	90%
Channel One	90%
Target	80%
Walmart	70%
K-Mart	90%
Downtown	60%

Figure 8-103: Route 24 Ridership by Time of Day



8.4.37 Route 25

Route 25 serves the northwest area of Rochester, particularly those along both sides of TH 52. For the service indicators, this route is separated into an inbound service and an outbound service, representing two of the eight Saturday routes. Outbound Route 25 ranks 2nd among the Saturday routes in all indicator categories except passengers per mile and performs better than the Saturday route average. For passengers per mile the outbound Route 25 ranks 5th and performs between 80% and 100% better than the Saturday route average. For cost per passenger, subsidy per passenger, and farebox recovery Route 25 inbound ranks 7th and performs between 80% and 100% of the Saturday route average. For passenger per hour Route 25 inbound ranks 5th and performs between 80% and 100% of the Saturday route average. For passengers per mile Route 25 inbound ranks 6th and performs between 60% and 80% of the Saturday route average. These are two very good Saturday routes.

Ridership occurred all along the Route 25 with the outbound trips having the most boardings at the Transit Center and alightings all along the route and the inbound experience the reverse (Figure 8-104). The major activity centers were at the Downtown Transit Center, which had 28% (79) of the routes boardings and alightings. Other areas with high activity included Walmart (30), Maplewood Square (21), and at 11th Avenue NW and 6th Street NW (17) by the Hy-Vee grocery store. There were no segments of this route that are lacking in ridership activity.

Route 25 did not meet the guidelines for on-time performance but always started the outbound trips at the Downtown Transit Center on-time and arrives at the Walmart on-time, allowing for the inbound trip to leave on-time (Table 8-40 and Table 8-41). All outbound trips which are not on time were actually early by one minute. The inbound trips which are not on-time are late by five-six minutes.

Figure 8-104: Route 25 Ridership Map

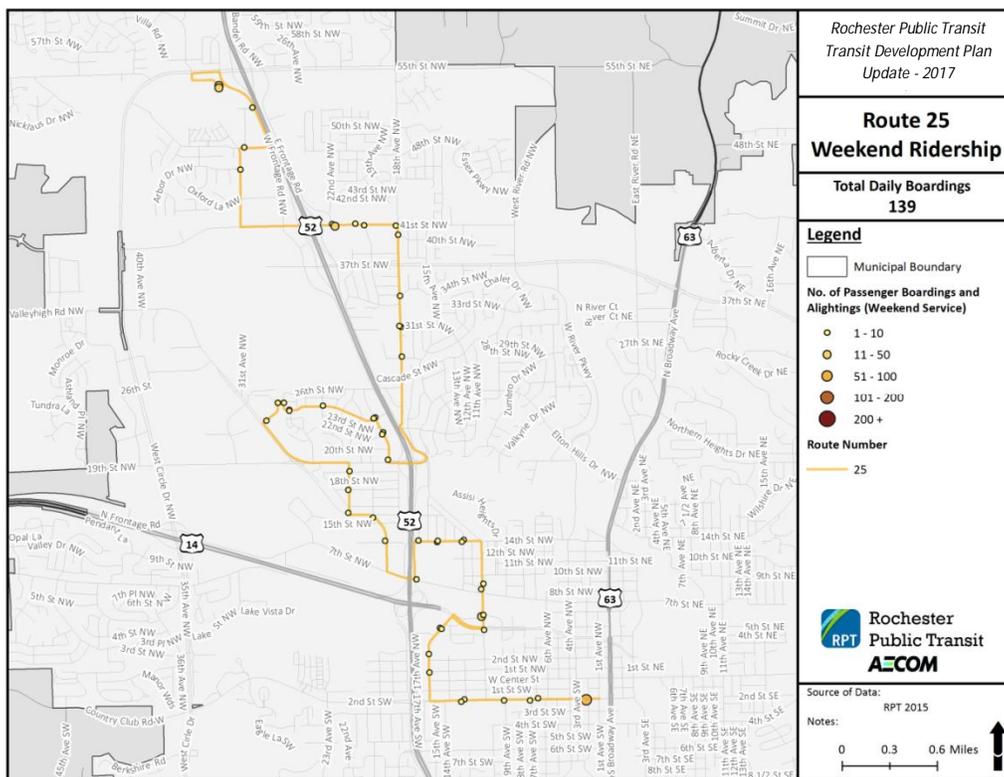


Table 8-40: Route 25 Outbound On-time Performance

Saturday	
Downtown	100%
3rd Ave. & 16h St. SE	88%
18 1/2 Ave. & 19th St. NW	88%
Maplewood Square	100%
Walmart	100%

Table 8-41: Route 25 Inbound On-time Performance

Saturday	
Walmart	100%
3rd Ave. & 16h St. SE	100%
18 1/2 Ave. & 19th St. NW	88%
John Marshall High School	88%
Downtown	75%

Outbound ridership on the Route 25 was highest on the last trip with 17 passengers (Figure 8-105). The trips with the least ridership outbound were the first 3:45 PM and 4:45 PM (two each). Inbound ridership on the Route 25 was higher in the afternoon than in the morning (Figure 8-106). The trip with the highest ridership was the 12:35 PM (18), the least was the 10:35 AM (three).

Figure 8-105: Route 25 Outbound Ridership by Time of Day

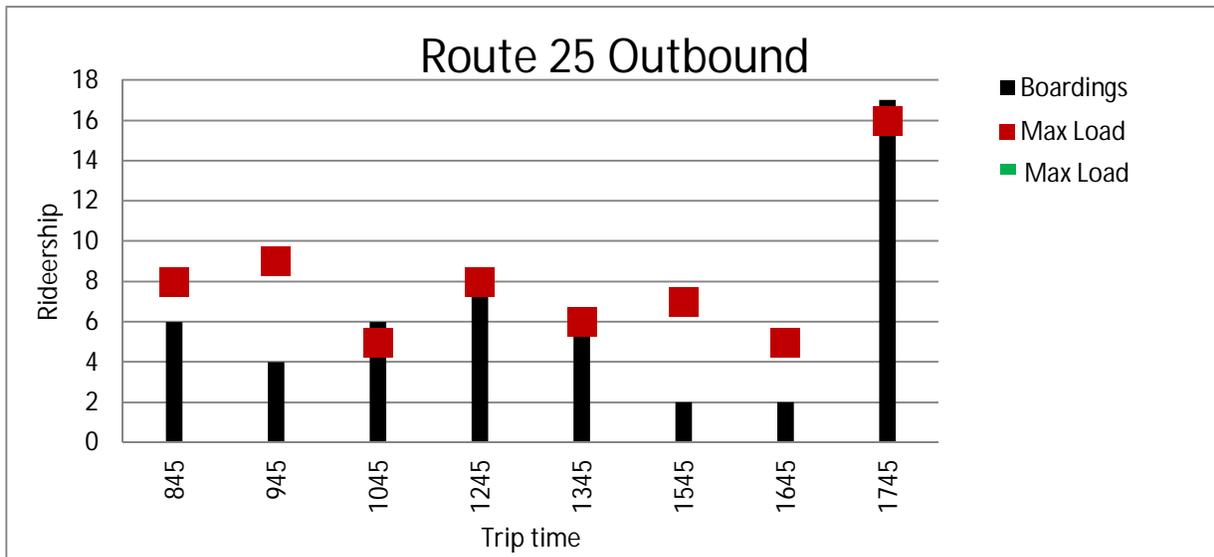
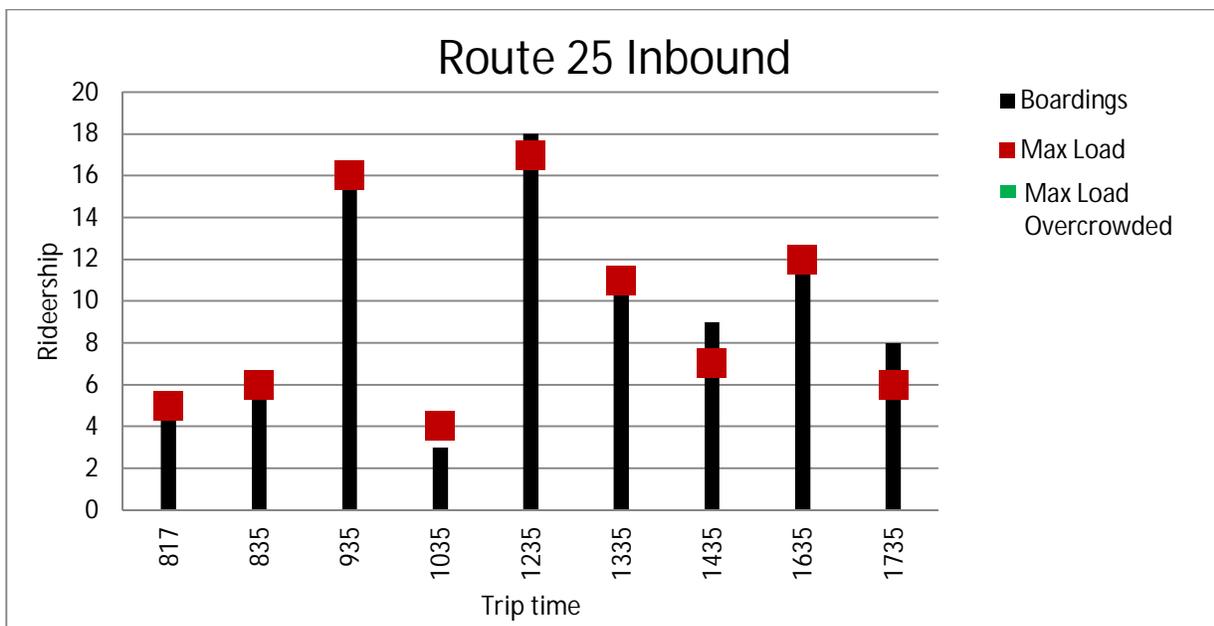


Figure 8-106: Route 25 Outbound Ridership by Time of Day



While Route 25 does not have any loops, there are directness issues that may discourage ridership. This route is trying to cover the service territory of a number of northwest Rochester routes which causes most of the problem with out of direction segments. Overall this route performs well but may be restructured as part of changes to the services in northwest Rochester.

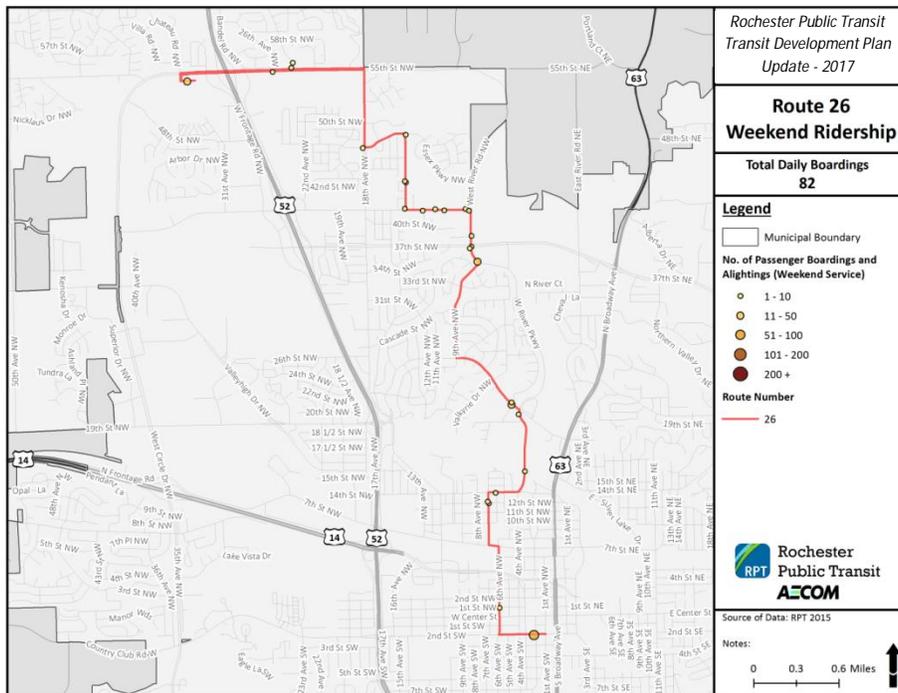
8.4.38 Route 26

Route 26 serves the northwest areas of Rochester, primarily areas east of TH 52. For the service indicators, this route is separated into an inbound service and an outbound service, representing two of the eight Saturday routes. For cost per passenger, subsidy per passenger, farebox recovery passengers, and passengers per hour Route 26 inbound ranks last and performs worse than 60% of the Saturday

route average. Route 26 outbound performs better than the Saturday route average for cost per passenger, subsidy per passenger, farebox recovery, and passengers per hour and ranks 3rd for each of these indicators. For passengers per mile Route 26 outbound ranks 7th and performs between 60% and 80% of the Saturday route average. This is a poor performing pair of routes that need attention in the plan.

Ridership was scattered all along the Route 26 with the outbound trips having the most boardings at the Transit Center and alightings all along the route with the inbound experiencing the reverse (Figure 8-107). The major activity center was the Downtown Transit Center, which had 39% (62) of the route's boardings and alightings. Other areas with high activity included Walmart (14), Valhalla Condos (19), and at West River Parkway NW and 9th Street NW (17) by the Hy-Vee grocery store.

Figure 8-107: Route 26 Ridership Map



Route 25 did not meet the guidelines for on-time performance (Table 8-42 and Table 8-43). All trips (outbound and inbound) which were not on-time were early by one-five minutes.

Table 8-42: Route 26 Outbound On-time Performance

Saturday	
Downtown	88%
3rd Ave. & 16h St. SE	100%
13th Ave. & 48th St. NW	88%
Walmart	88%

Table 8-43: Route 26 Inbound On-time Performance

Saturday	
Walmart	100%
3rd Ave. & 16h St. SE	88%
Elton Hill & Viking Dr.	63%
Downtown	50%

Ridership on the Route 26 was higher in the morning than in the afternoon. The trip with the highest ridership outbound was the 12:15 PM with 11 passengers; the lowest was the 2:15 PM with two passengers (Figure 8-108). The inbound trips with the highest ridership were the 11:15 AM and 4:15 PM with nine each, the lowest ridership trips were the 1:15 PM and 5:15 PM with two each (Figure 8-109).

Figure 8-108: Route 26 Outbound Ridership by Time of Day

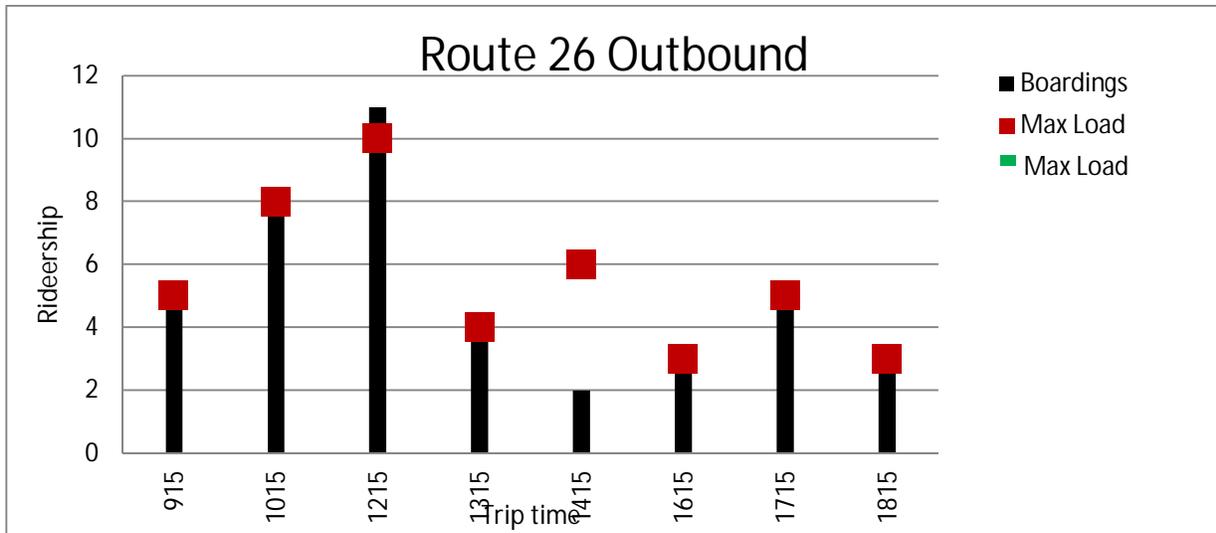
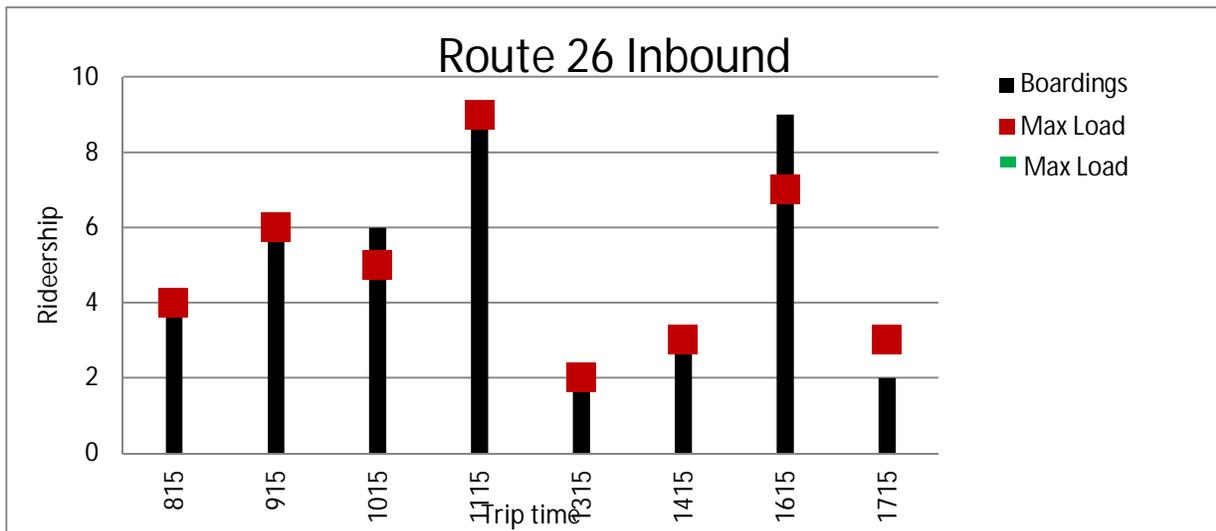


Figure 8-109: Route 26 Inbound Ridership by Time of Day



Route 26 has one of the more direct route alignments of the Saturday routes. While there here are no individual route segments that have no ridership, ridership levels overall are low even though the route design is good and it serves many parts of Rochester that have a high transit propensity. The service planning process will identify opportunities to improve ridership.

8.4.39 Summary of Key Route Statistics

Table 8-44 presents a comparison of key route statistics presented in the route profiles focused on-time performance and crowding. On-time performance is presented for arrivals into Downtown Rochester as this is indicative of the route performance overall. Departures from the Downtown Transit Center are not indicative because late buses have the opportunity to leave on-time due to layover time in Downtown, and early buses can also leave “on-schedule”. Crowding is summarized from the charts in each route profile.

Table 8-44: Comparison of Key Route Statistics

Route No.	AM Peak On-Time	Midday On-Time	PM Peak On-Time	Evening On-Time	Saturday On-Time	Crowding Issues
1	80%	50%	50%	n/a	n/a	None observed
1D	50%	n/a	60%	n/a	n/a	Crowding during 8:00AM and 4:00 PM hours
1N	n/a	n/a	100%	83%	n/a	None observed
2	80%	43%	70%	n/a	n/a	None observed
3	75%	69%	67%	n/a	n/a	None observed
3N	n/a	n/a	n/a	100%	n/a	None observed
4D	0%	n/a	0%	n/a	n/a	None observed
4A	60%	n/a	33%	n/a	n/a	None observed
4B	40%	n/a	33%	n/a	n/a	None observed
4Midday	n/a	17%	n/a	n/a	n/a	None observed
5	33%	43%	83%	n/a	n/a	None observed
6 Midday	n/a	50%	n/a	n/a	n/a	None observed
6A	60%	n/a	50%	n/a	n/a	None observed
6B	100%	n/a	83%	n/a	n/a	None observed
6D	100%	n/a	67%	n/a	n/a	None observed
7	100%	43%	67%	n/a	n/a	None observed
7A	100%	50%	100%	n/a	n/a	None observed
7N	n/a	n/a	n/a	0%	n/a	None observed
8	33%	0%	50%	n/a	n/a	None observed
9	67%	0	60%	n/a	n/a	None observed
10 Inbound	75%	14%	0%	n/a	n/a	None observed
10 Outbound	67%	17%	80%	n/a	n/a	None observed
11 Inbound	67%	71%	33%	n/a	n/a	None observed
11 Outbound	67%	43%	0%	n/a	n/a	Crowding observed during the 4:00PM hour
12	67%	n/a	67%	n/a	n/a	None observed
12N	n/a	n/a	n/a	33%	n/a	None observed
12 Midday	n/a	33%	n/a	n/a	n/a	None observed
14	80%	n/a	70%	n/a	n/a	None observed
15D	0%	n/a	89%	n/a	n/a	Crowding observed between 6:30 and 7:30AM and at 5:00PM

Route No.	AM Peak On-Time	Midday On-Time	PM Peak On-Time	Evening On-Time	Saturday On-Time	Crowding Issues
16	50%	25%	67%	100%	n/a	None observed
17	0%	n/a	0%	n/a	n/a	None observed
18D	31%	n/a	77%	n/a	n/a	Crowding observed throughout service day
18	40%	n/a	40%	n/a	n/a	None observed
19	75%	100%	60%	n/a	n/a	None observed
21	n/a	n/a	n/a	n/a	73%	None observed
22	n/a	n/a	n/a	n/a	50%	None observed
23	n/a	n/a	n/a	n/a	44%	None observed
24	n/a	n/a	n/a	n/a	60%	None observed
25 Inbound	n/a	n/a	n/a	n/a	75%	None observed
25 Outbound	n/a	n/a	n/a	n/a	100%	None observed
26 Inbound	n/a	n/a	n/a	n/a	50%	None observed
26 Outbound	n/a	n/a	n/a	n/a	88%	None observed

8.5 Public Outreach Findings

To guide the development of strategies to improve future transit service, the consultant team developed a robust public outreach program to engage local stakeholders, public transit riders and the Rochester community. Through online surveys, on-board surveys and outreach events, the team was able to reach a wide range of stakeholders. Online surveys were developed for two key groups: “Decision Makers” who are able to make decisions that influence transit development, such as local agencies or elected officials; and the “Community” who represent the residents and employees in Rochester. In addition to the online surveys, the consultant team also conducted surveys on-board RPT buses to obtain feedback from current transit users. To reach other stakeholders, the team also participated in public meetings, focused discussion meetings as well as pop-up events throughout the Rochester area. The responses received through these efforts offer valuable insight on the community’s experiences with RPT, their transit needs and strategies to improve service to meet these unmet needs. Below are some key findings:

Decision Maker survey:

- 77 percent of respondents within this group identified as having not used public transit
- Although the majority do not use public transit, 97 percent agreed with the importance of having public transit service in Rochester and 93 percent believe that “a strong public transit system is important to business”
- To improve service, 72 percent believe that extending the span of service throughout the day should be a top priority

Community survey:

- Over half of respondents (54 percent) identified as having not used public transit within the past six months
- Over a third of respondents (37 percent) are employees of the Mayo Clinic

- This group indicated their highest unmet needs are evening service, weekend service and geographic gaps in service
- 77 percent of respondents believe that second-shift commuters are poorly served
- To improve service, this group favors extending the span of service throughout the day. Other priorities rated highly by the community include connecting crosstown areas without going into downtown, increasing current route frequencies and adding more weekend service

On-board survey:

- Of the 1,286 surveys collected on the bus, 68 percent were from riders who use the bus to get to and from work
- Of the 68 percent heading to work, 50 percent indicated they would be able to make their trip by different means; only 29.5 percent of the other riders had alternative means of transportation to make their trip if they couldn't use the bus
- Lack of parking is the main reason riders who are going to work use the bus instead of driving
- 83.3 percent of all riders indicated they would recommend riding the bus to others
- In general, those riding the bus to places other than work were more supportive of strategies to improve the service

Other outreach efforts:

- A common theme among participants at these events was a concern that RPT serves workers in the downtown Rochester area very well, while the needs of other riders are not as well-served
- There was a general consensus among participants that the service has not kept up with the changing needs of the community as more people work outside the typical 8-to-5 shifts

Across all outreach efforts, participant responses echoed a similar concern that there is a lack of service before 8 a.m. and after 5p.m. as well as a lack of service on the weekend.

8.6 Summary of Issues and Opportunities

This section provides a summary of the key findings of the strengths and weaknesses of the current RPT bus network. These strengths and weaknesses form a statement of issues and opportunities that will be used for service planning in the next phase of the Transit Development Plan. The development of the service plan will capitalize on the strengths of the system while trying to reduce or eliminate the weaknesses and take advantage of opportunities to serve new riders or better serve current riders.

One of the most frequently received comments regarding RPT is that service is more oriented to the downtown commuter rather than to the community at large. This perception may be due to the extra services that operate during peak periods, the orientation of the network to downtown, the lack of crosstown services, and the lack of Sunday service. It is important to note that Downtown Rochester still functions as the City's central business district -- a situation that many other American cities are trying to re-establish. Rochester has an advantage in not having to attract a concentration of employment and investment back downtown after decades of neglect, and so our starting point for the TDP recommendations is one in which our peak-hour commuter ridership is well-served. That being

said, there may be opportunities to change this perception through new or modified services that serve the community all day.

The coverage and congruency maps showed that overall coverage of RPT is good throughout the community. Most neighborhoods are within a ¼ mile of a bus route as are most generators. There are a few areas of the community that have a high transit propensity score but are located beyond a quarter mile of a bus route, specifically the areas around Fox Valley Park. While most of the community is served, all day service may not be available to all generators and neighborhoods, especially during the weekend and night periods.

Development is occurring along Circle Drive, which is located in the fringes of the city, as well as along Trunk Highway (TH) 52 in the northwest portion of the city. While RPT does provide service out to Circle Drive, only certain nodes along this roadway are served. New or modified routes will need to provide service to new generators along Circle Drive. RPT may also need to provide service further to the northwest to serve emerging developments along TH 52.

System legibility is impacted by having different networks by time of day. Many routes have peak period variations and midday variations. During late night periods and on Saturdays many routes are combined and have different route numbers to reflect combined services. This makes it very difficult for people to understand the system. Indeed the better performing routes are the more direct routes that do not have large loops or multiple variations.

The current transit hub on 2nd Street SW is well situated to serve RPT as it is located very close to major downtown generators. The low number of transfers in downtown shows that having the transfer facility in the heart of downtown is a benefit to riders. That being said, there are issues with the current facility. The first issue is congestion since during peak periods commuter buses operated by Rochester City Lines also use bus stops in the vicinity, and in some instances, block RPT bus stops. Congestion also comes from general traffic congestion and the large number of shuttle buses operating through the area. The second issue is that some transfers require passengers to cross the street, which can delay transfer times causing passengers to miss connections.

There has been a lot of growth in the northwest portion of town. The impact is that there can be very long travel times between portions of northwest Rochester and Downtown, which is the locus of the current route network. A transit center in northwest Rochester could be used as a secondary transfer point allowing for both a quicker connection into Rochester, by operating an off-peak direct route connecting to this hub, and as a location where crosstown services can operate from, creating the desired new connections.

Park-and-ride services typically are the most productive services and serve an important function of providing a parking location for commuters who cannot park in downtown. These services connect various park-and-ride locations to generators in Downtown Rochester. Additional park-and-ride locations should be developed to address expected growth in employment in Downtown Rochester. Based on the current park-and-ride locations and the overall commuter-shed of Rochester, an ideal location for a new park-and-ride would be in the vicinity of West Circle Drive and Trunk Highway 14,

with a new direct route connecting into Downtown Rochester. Capacity of other park-and-ride lots will need to be monitored to ensure that adequate park-and-ride space is available.

While crowding onboard buses is not a major issue, there are instances where crowding occurs. Routes that have chronic issues with crowding are direct routes that serve park-and-ride locations, Routes 1D and 18D. There are a number of instances where trips may be underutilized. The service plan will match capacity to demand to avoid overcrowding and underutilized trips.

There are a number of instances of service duplication. Service duplication happens for a number of reasons. The first reason for service duplication has to do with timed transfers: as buses depart the transit center at the same time and serve portions of the same corridor, they are duplicating each other. Another instance of duplication can occur during the ends of the peak periods, for example, the last trip of the 6A is around the same time as the 7N, serving the same areas.

On-time performance is an issue that directly affects the perception of the system. During the survey period it was found that a significant number of buses were running "hot", that is early at time points, which is unacceptable. Note that the surveyors synchronized their watches with the bus drivers and system when doing these studies so that the data would be accurately described. This issue will be reviewed with RPT staff including the First Transit operations staff to determine if the causes were route design related, congestion related, or possibly driver related. Passengers, especially when waiting at bus stops that are not heated, expect on-time service and reliable service. Late and early buses diminish the perception of service quality. Overall, 41.6% of trips are not on-time as 24.4% of trips are early and 17.2% of bus trips are greater than five minutes late (see Table 8-44 for each routes on-time performance). Some routes can be as late as 18 minutes. Meanwhile, when buses are early, passengers who are at a bus stop on-time may miss their bus, which is also a concern since almost a quarter of all buses during the survey period were early. The service plan will need to ensure that all services have adequate running time and identify locations that may cause delays to bus services.

Looking at service efficiency and effectiveness measures helps identify which routes may need to be redesigned. Routes that perform that have a poorer performance are candidates for a redesign. Some of the local routes that performed poorly in regards to service indicators are the 55 Shopper Shuttles, Route 6, Route 7, and Route 18. Routes 12M and 4D are the direct routes that were less efficient and effective. The night service and Saturday performance is mixed, with almost every route performing well in some categories and poorly in other categories, which indicates that this network will need to be evaluated on a segment basis versus a route level basis. Strategies to address low productive could include flexible services or utilizing taxi vouchers to supplement the transit network. Building upon the strengths of the network and particularly the strength of ridership along key arterials, a greater concentration of services to these locations could be highly beneficial in improving headways and encouraging better on-time performance. Restructuring services to reduce loops, to increase directness, to eliminate poor performing segments will also improve RPT's performance.

Expansion of the Intelligent Transportation (ITS) Infrastructure would be useful for RPT. Many RPT riders are tech savvy and would appreciate having access to real-time information at bus stops and accessible

through smartphones. The real-time information can also help staff from the operations contractor, as well as city staff, monitor the system by providing information on on-time performance, bus bottlenecks, and allow for real-time supervision of routes. Automatic Passenger Counters (APC) can help track ridership by stop and trip. Also, certain ITS applications can be used to improve bus travel speeds and improve on-time performance, such as Transit Signal Priority (TSP).

9 Service Alternatives

This chapter presents a comprehensive redesign of the Rochester Public Transit (RPT) network. The development of the service alternatives took advantage of all the data that was collected for the study and presented in previous chapters. This includes data on the City of Rochester, public outreach, analyses of the public transit network and individual routes, and service guidelines. The alternatives were presented to the public in October 2016. This section presents the service alternatives in detail, along with public outreach efforts.

9.1 Route Alternatives

The new network still focuses on Downtown Rochester but adds cross-town services to incrementally build a circumferential bus route. The proposed system creates high frequency corridors by having multiple services on a single corridor with off-set schedules. Finally the service alternatives also include Bus Rapid Transit services that operate through downtown Rochester providing direct, high speed, and high frequency connections between various parts of the city.

9.1.1 Transfer Centers

Transfer centers are important locations where passengers are able to connect from one bus to another to complete their trip. Currently RPT has only one transfer center, located in Downtown Rochester at the intersection of 2nd Street SW and 2nd Avenue SW. The TDP recommends changing the pulse system at the downtown transfer centers and creating satellite transfer centers.

9.1.1.1 Downtown Transfer Center

The downtown transfer center is recommended to continue operating from the same location. The pulse system is proposed to change at the downtown transit center to improve traffic flow and provide more frequent service. The recommendations for changing the pulse system in downtown for local services and to have buses pulse four times an hour during peak hours and two times an hour during off-peak times. This will help reduce congestion related to buses in downtown while allowing for more frequent service on corridors where bus routes overlap. Each local bus route will be assigned one time to be scheduled to arrive downtown, or two times during peak periods. The proposed times in each hour are presented on Table 9-1. Direct services would operate demand based headways since these routes are designed to directly carry passengers between park-and-rides and downtown destinations.

Table 9-1: Local Routes Serving Each Pulse Time at the Downtown Transit Center (year 2)

	:00	:15	:30	:45
Weekday Peak	12, 16, 24, 31, 42, 44, 52, 62, 65, 72	10, 15, 22, 26, 32, 54, 64, 73, 74	12, 16, 24, 31, 42, 44, 52, 62, 65, 72	10, 15, 22, 26, 32, 54, 64, 73, 74
Weekday Off-Peak		10, 15, 22, 26, 32, 64, 73, 74		12, 16, 24, 31, 42, 50, 62, 65, 72
Evening/Weekend		10, 32, 64, 74		16, 24, 42, 72

9.1.1.2 Satellite Transfer Centers

Two satellite transfer centers are proposed. These are at locations where a few routes would meet allowing passengers to transfer without going into Downtown Rochester. The first location is in the

vicinity of the IBM park-and-ride which would be served by Routes 62, 64, 69, 72, 74, and 91. The second transfer center would be in the vicinity of the Target South park-and-ride which would be served by Routes 31, 32, 39, 44, and 84. These two satellite transfer locations are well located to serve new development areas that are further from downtown. These transfer centers should have an improved level of amenity than a typical bus stop to create a more comfortable waiting environment for connecting passengers versus a regular bus stop. The capital plan and financial plan include improvements for satellite transfer centers.

9.1.2 Route Nomenclature

The redesign of the Rochester Public Transit network includes a new nomenclature system for routes. All routes will now have two digits, with no letter suffixes. The first digit will be a reference to the corridor or area of the city the route serves and the second digit will be the distinct route number. The route groups are as follows:

- 10 series: North Broadway corridor and northeast Rochester
- 20 series: East and southeast Rochester
- 30 series: South Broadway corridor
- 40 series: Southwest Rochester
- 50 series: West Rochester/Country Club area
- 60 series: Northwest Rochester west of TH 52
- 70 series: North Rochester/area between Broadway and TH 52
- 80 series: Bus Rapid Transit services
- 90 series: Crosstown services

The route number of the direct routes is based on the corridor or area served with the second digit being either 7 or 9. Since BRT routes will serve multiple areas in the city, the second digit is the sum of the two primary areas/corridors served.

9.1.3 Route Alternatives

This section presents the individual route alternatives. Figure 9-1 presents the weekday daytime network with all routes that operate. Figure 9-2 presents the high frequency network, which is service along major corridors that are served by multiple routes that combine to provide service every 15 minutes during peak periods and every 30 minutes during midday periods. Included in the high frequency is proposed BRT services (Routes 84 and 87). Night and weekend routes are presented on Figure 9-3. Individual route descriptions are presented below.

Figure 9-1: Weekday Daytime Network

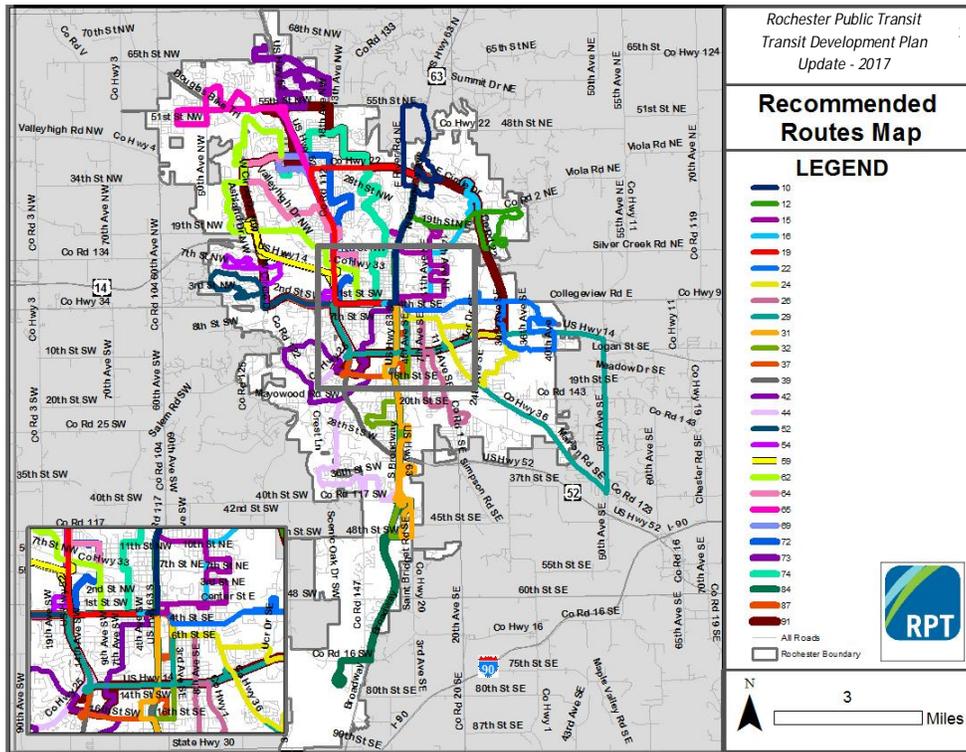


Figure 9-2: High Frequency Network

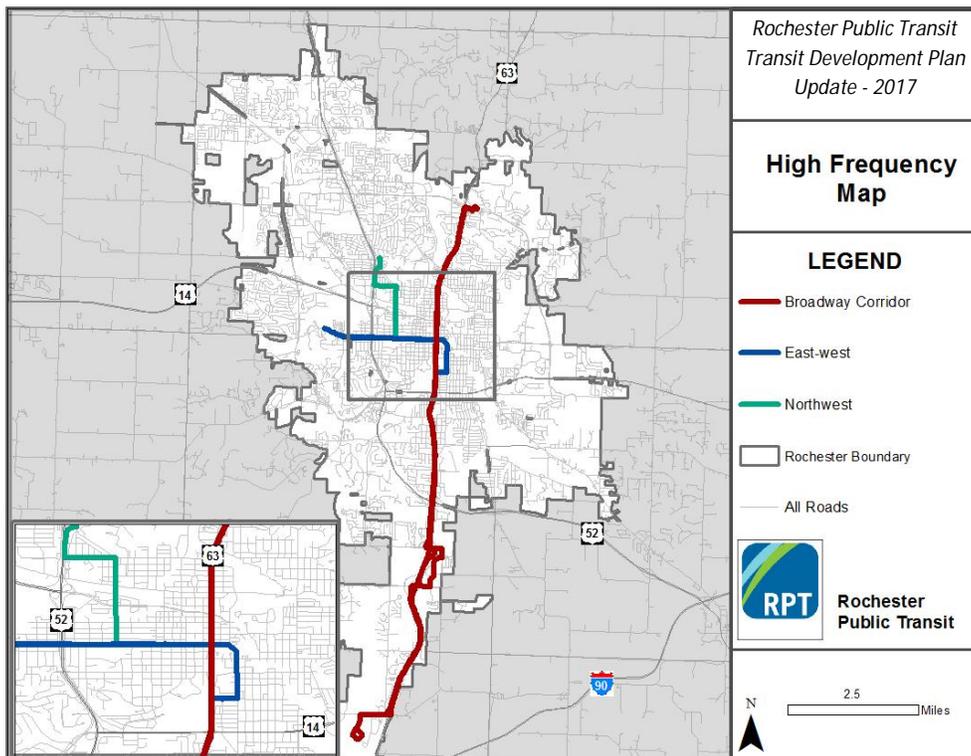
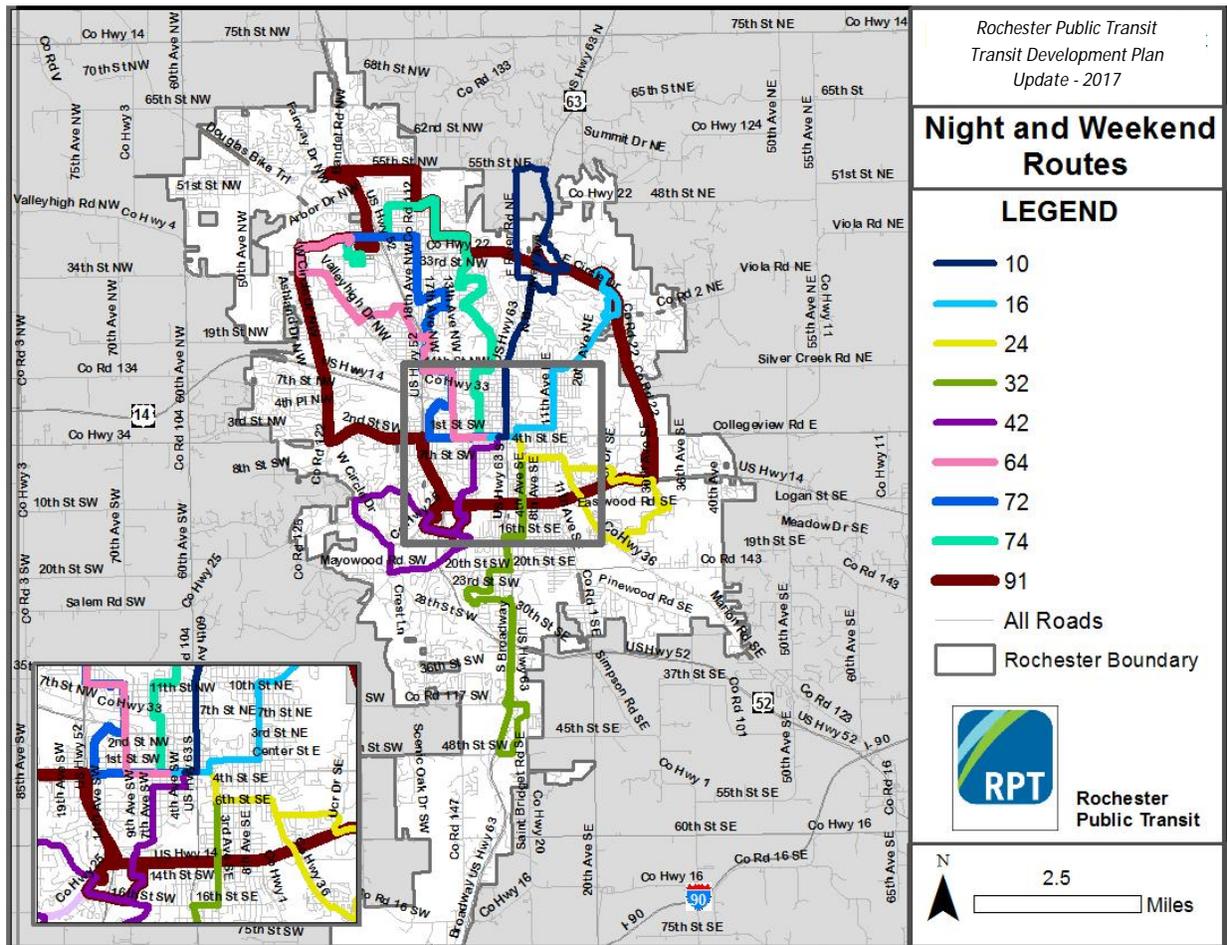


Figure 9-3: Night and Weekend Service



9.1.3.1 Service Parameters

The route alternatives create four route types. The route types are full-time local service routes, weekday only routes, direct routes, and bus rapid transit routes. Full-time local routes are routes that operate during weekday peak periods, middays, evenings, and on weekends. Weekday only routes operate only during weekday peak periods and middays. Direct routes are express routes that operate during weekday peak periods. Bus rapid transit routes are limited stop routes along major corridors that operate on weekdays during peak periods and middays. The service parameters, which include span and frequency, are presented on Table 9-2 below, along with a proposed list of routes that are included in each category.

Table 9-2: Proposed Service Parameters

	Full-Time Service Local Route	Weekday Only Local Route	Direct Route	Bus Rapid Transit
Proposed Routes	10, 16, 24, 32, 42, 64, 72, 74, 91	12, 15, 22, 26, 31, 44, 50 ⁸ , 52, 54, 62, 65, 73	19, 29, 37, 39, 59, 69	84, 87
Weekday Span	5:00AM to 11:00PM	5:00AM to 8:00PM	5:30AM to 8:45AM and 3:00PM to 6:00PM	5:00AM to 8:00PM
Saturday/Sunday Span	7:00AM to 7:00PM	Not Applicable	Not Applicable	Not Applicable
Peak Headway	30 minutes	30 minutes	Between 12 and 30 minutes	15 minutes
Off-Peak Headway	60 minutes	60 minutes	Not Applicable	Between 10 and 20 minutes

9.1.3.2 Vehicle Requirements

The service plan includes having two different types of vehicles for fixed route service: standard buses and articulated buses. Standard buses are the 40-foot long buses that RPT is currently operating. Articulated buses are 60-foot long buses that have an articulated joint in the center of the bus that allows the bus to bend. The purpose of having different types of buses is to better match vehicle type to service area and ridership levels. Table 9-3 presents the projected number of buses of each size will operate during peak and midday periods. Vehicle purchases will be presented in the capital plan.

Table 9-3: Proposed Vehicle Requirements

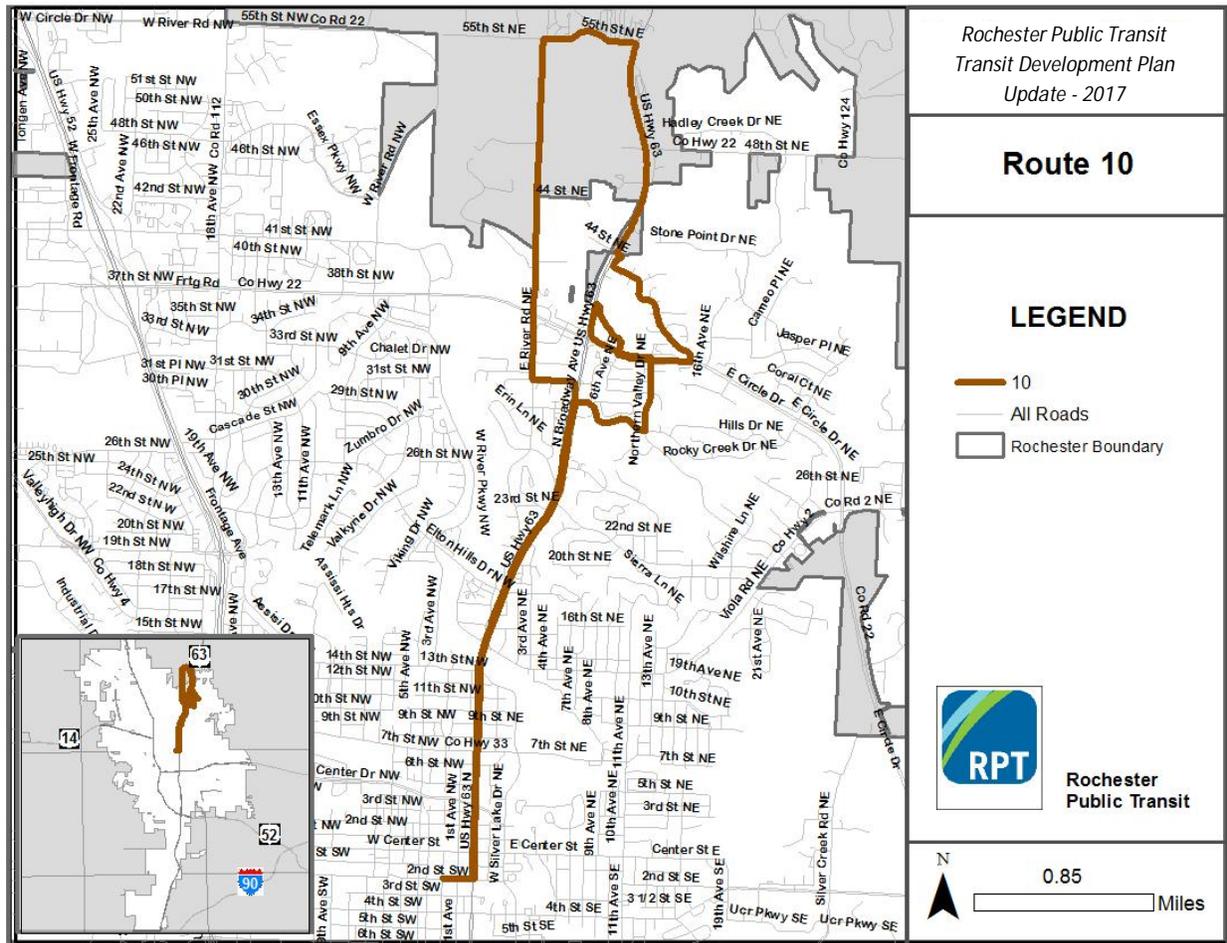
	Standard		Articulated		Total	
	Peak	Midday	Peak	Midday	Peak	Midday
2017	43	13	0	0	43	13
2018	61	21	0	0	61	21
2019	61	21	8	0	69	21
2020	63	25	8	0	71	25
2021	64	29	8	0	72	29

⁸ Interim replacement for Route 8

9.1.3.3 Route 10

Route 10 will be a full-time service local route. This route will serve as a replacement to the current Route 1. This is one of the routes that will provide service along the North Broadway corridor operating between Downtown Rochester and ShopKo North. This route will also continue further north to serve Viking Hills, 55th Street NW, and the PWOTC. Route 10 and Route 12 will both serve the North Broadway corridor and their schedules will be staggered to allow for high frequency service along North Broadway. The peak number of buses required for this route is two. The proposed Route 10 is presented on Figure 9-4.

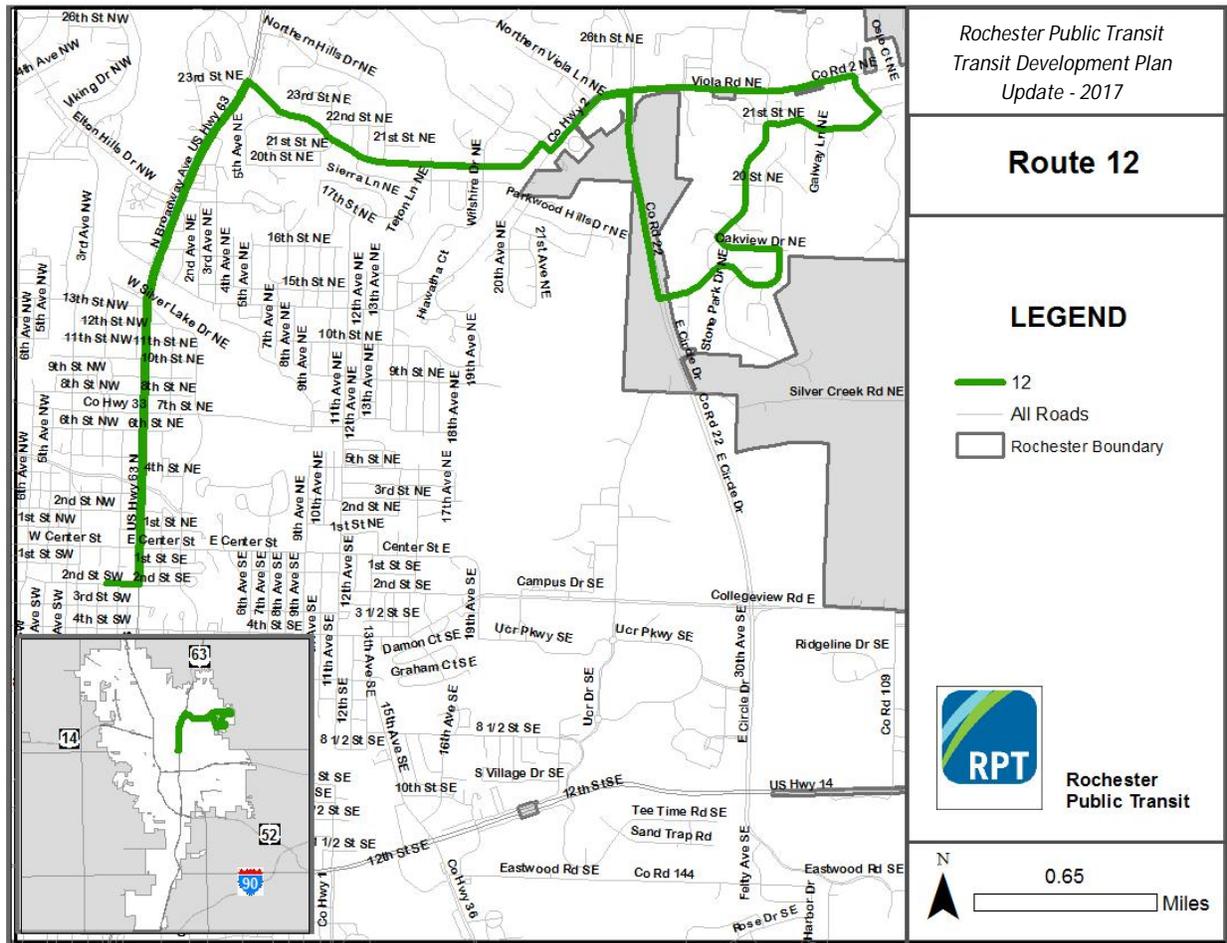
Figure 9-4: Proposed Route 10



9.1.3.4 Route 12

Route 12 will be a weekday only local route. This route will serve as a replacement to the current Routes 1 and 16. This is one of the routes that will provide service along the North Broadway corridor operating between Downtown Rochester and Northern Heights Drive NE, continuing to Century Hills High School and the Century Hills neighborhood. Route 10 and Route 12 will both serve the North Broadway corridor and their schedules will be staggered to allow for high frequency service along North Broadway. The peak number of buses required for this route is two standard buses. The proposed Route 12 is presented on Figure 9-5.

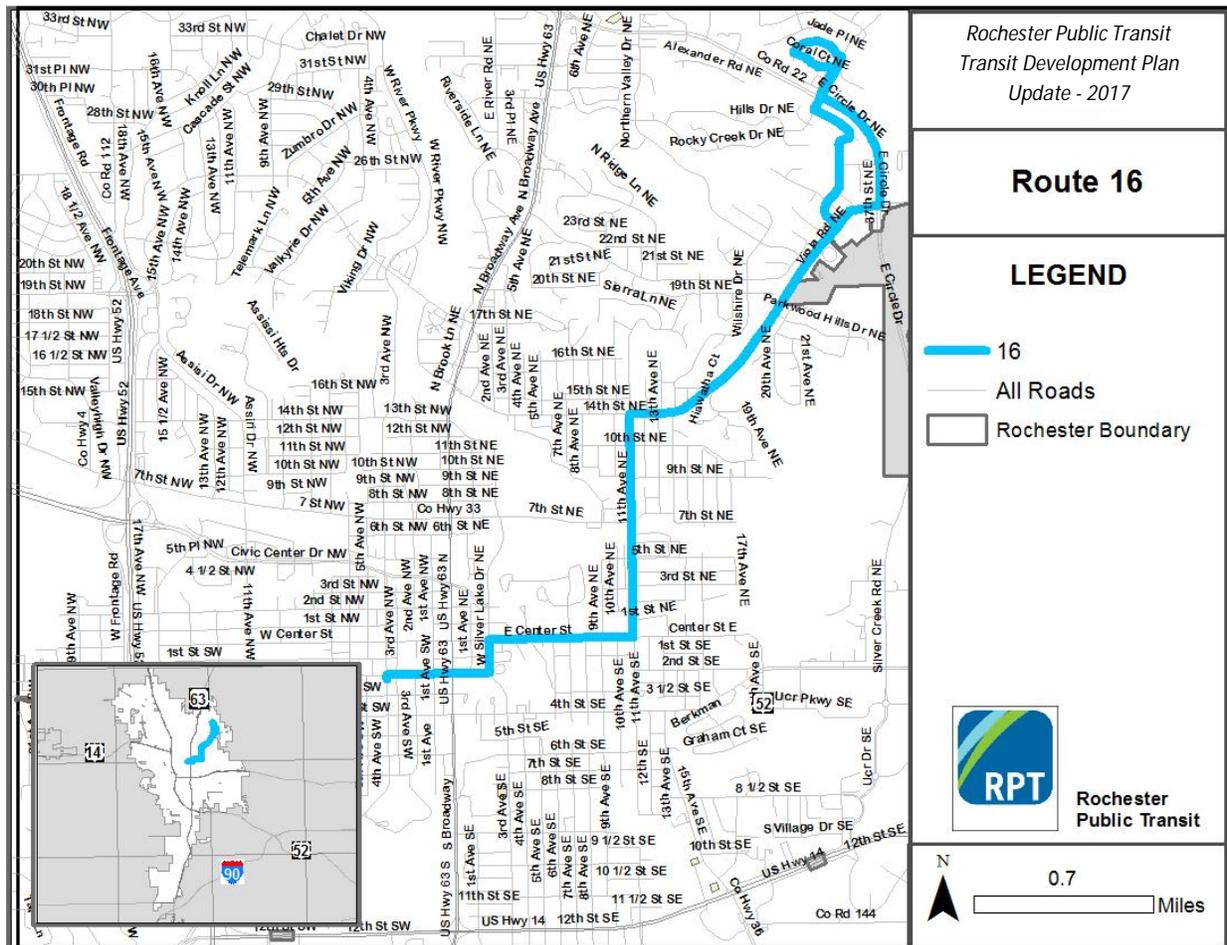
Figure 9-5: Proposed Route 12



9.1.3.6 Route 16

The proposed Route 16 is very similar to the current Route 16. This route is a full-time local service route. This route will not provide direct service to Century Hills High School; instead access to the high school will be from a stop at the intersection of Viola Heights Drive NE and 26th Street NE, near the footbridge over East Circle Drive NE. A capital project could be to construct a bus turnout with access to the footbridge pedestrian path on the east curb of East Circle Drive near the intersection with 26th Street NE. The peak number of buses required for this route is two standard buses. The proposed Route 16 is presented on Figure 9-7.

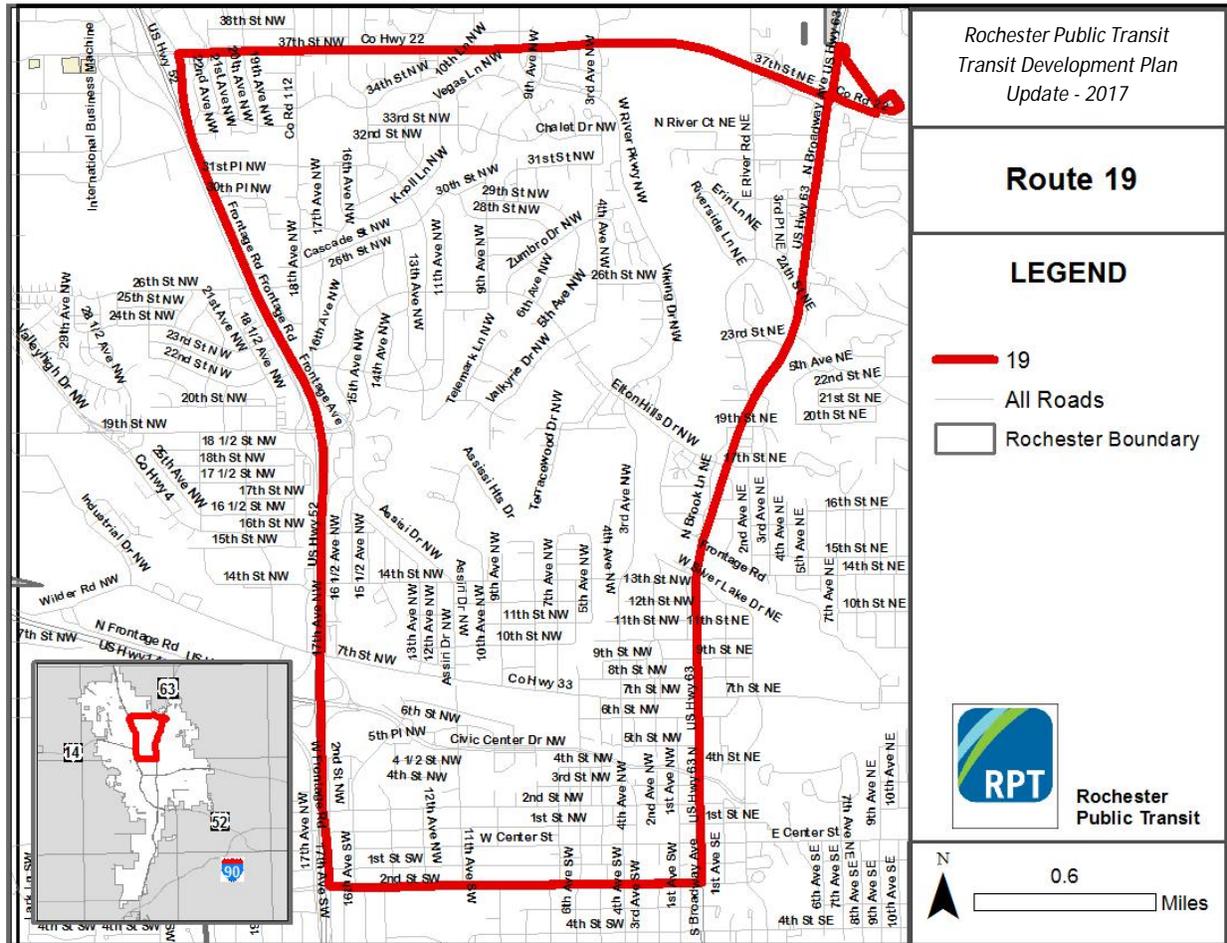
Figure 9-7: Proposed Route 16



9.1.3.7 Route 19

The proposed Route 19 is a replacement for the current Route 1 Direct. Service on this route will operate between the ShopKo North park-and-ride and Downtown Rochester, serving both the Mayo Clinic and the St. Marys campus. Two articulated buses are needed for this service. The proposed Route 19 is presented on Figure 9-8.

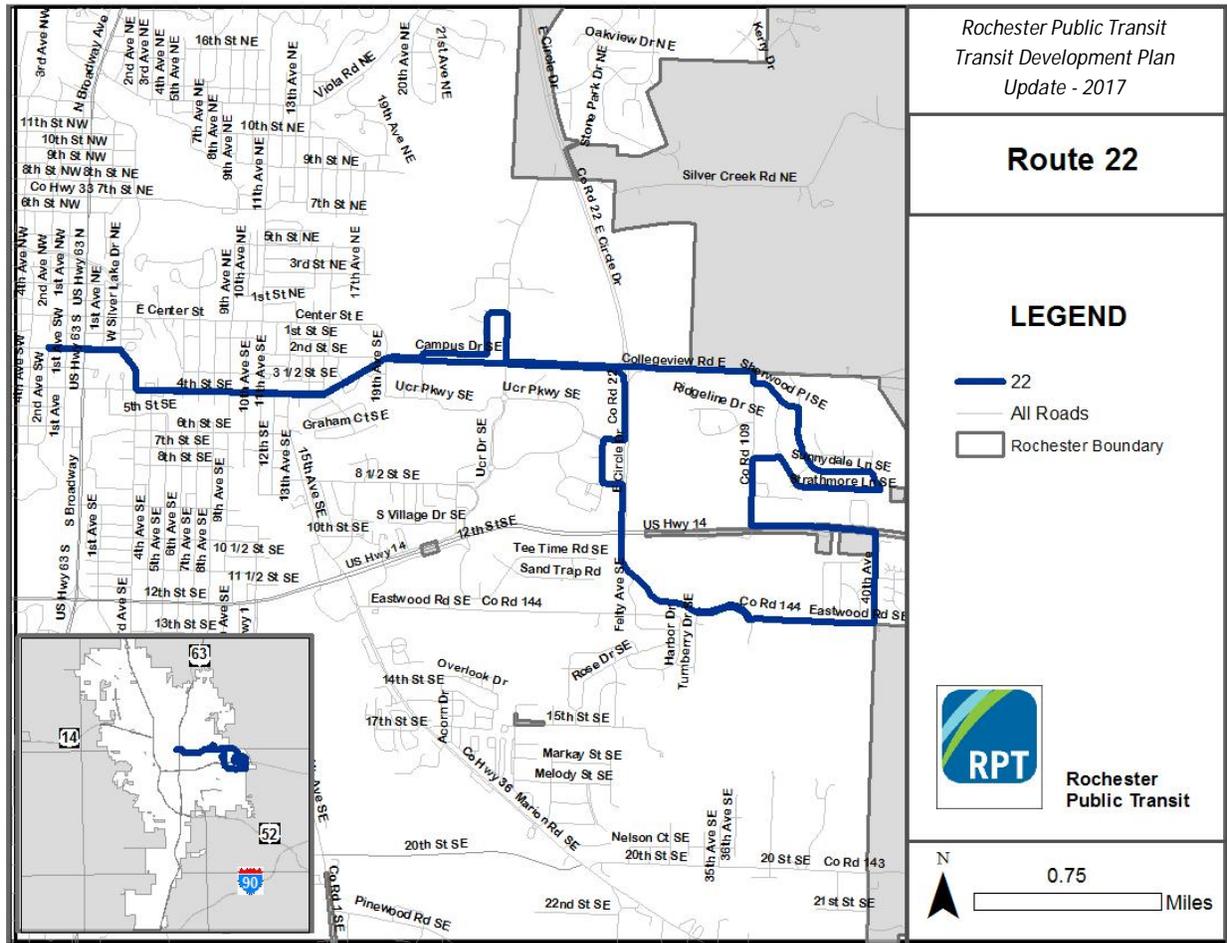
Figure 9-8: Proposed Route 19



9.1.3.8 Route 22

The proposed Route 22 is a replacement for the current Route 3 and is a weekday only route. This route is different than the current Route 3 as it extends the coverage of Route 3 further east to serve neighborhoods that are currently served by Route 17. Route 22 will continue to serve RCTC but the stop location will move to the athletic fields in order to improve on-time performance of the route. Two standard buses are required for this service during peak periods. The proposed Route 22 is presented on Figure 9-9.

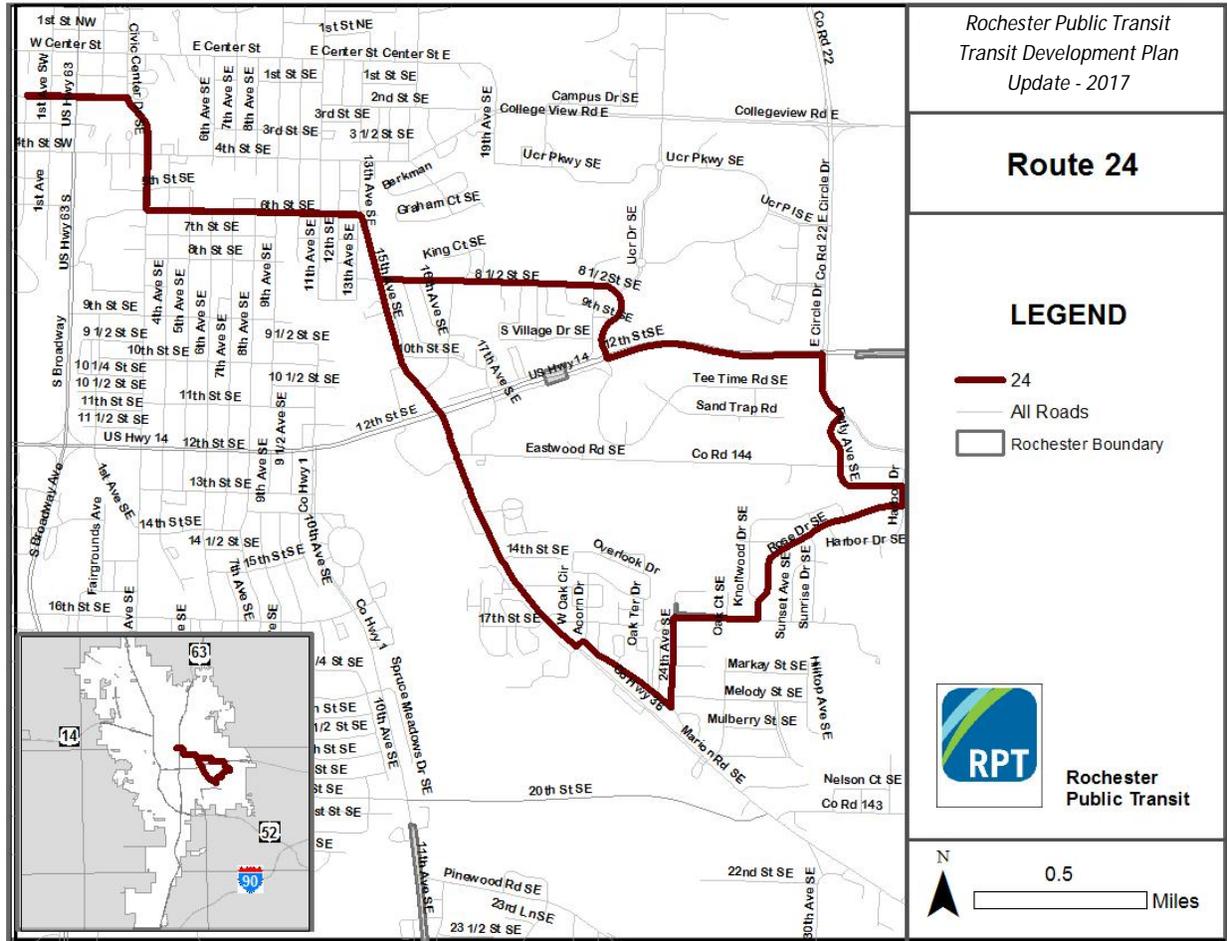
Figure 9-9: Proposed Route 22



9.1.3.9 Route 24

The proposed Route 24 is the replacement to the current Route 4 family of services. Route 24 is a full-time local service route. This route most closely resembles the current Route 4 Middy. This route maintains service throughout the southeast area of Rochester. Two standard buses are required on this route during peak periods. The proposed Route 24 is presented on Figure 9-10.

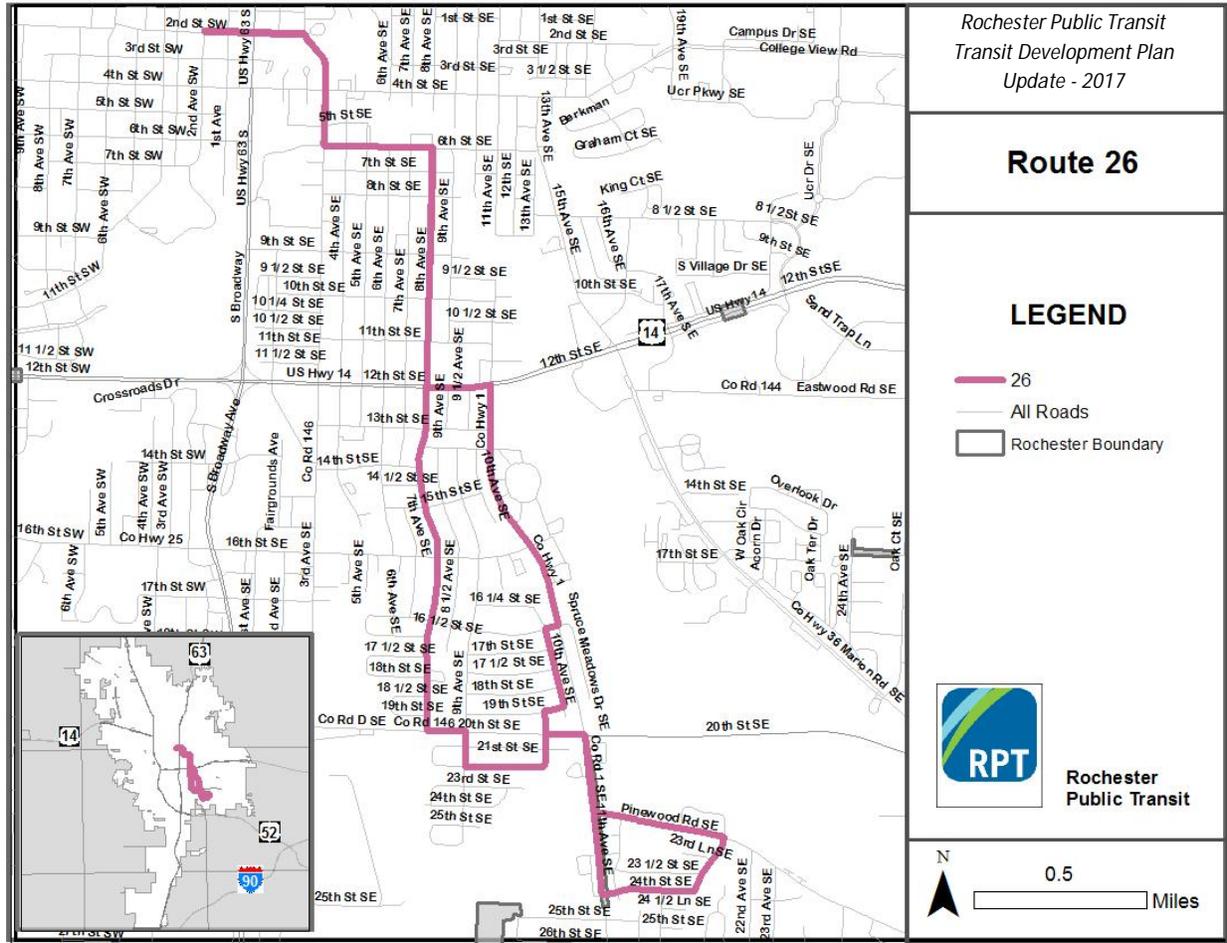
Figure 9-10: Proposed Route 24



9.1.3.10 Route 26

The proposed Route 26 is a replacement for the current Route 5. This route is a full-time service local route. The only change to the route itself is that Pinewood Road loop will be operated all day and the loop will be modified to increase service coverage. Two standard buses are required on this route during peak periods. Route 26 is presented on Figure 9-11.

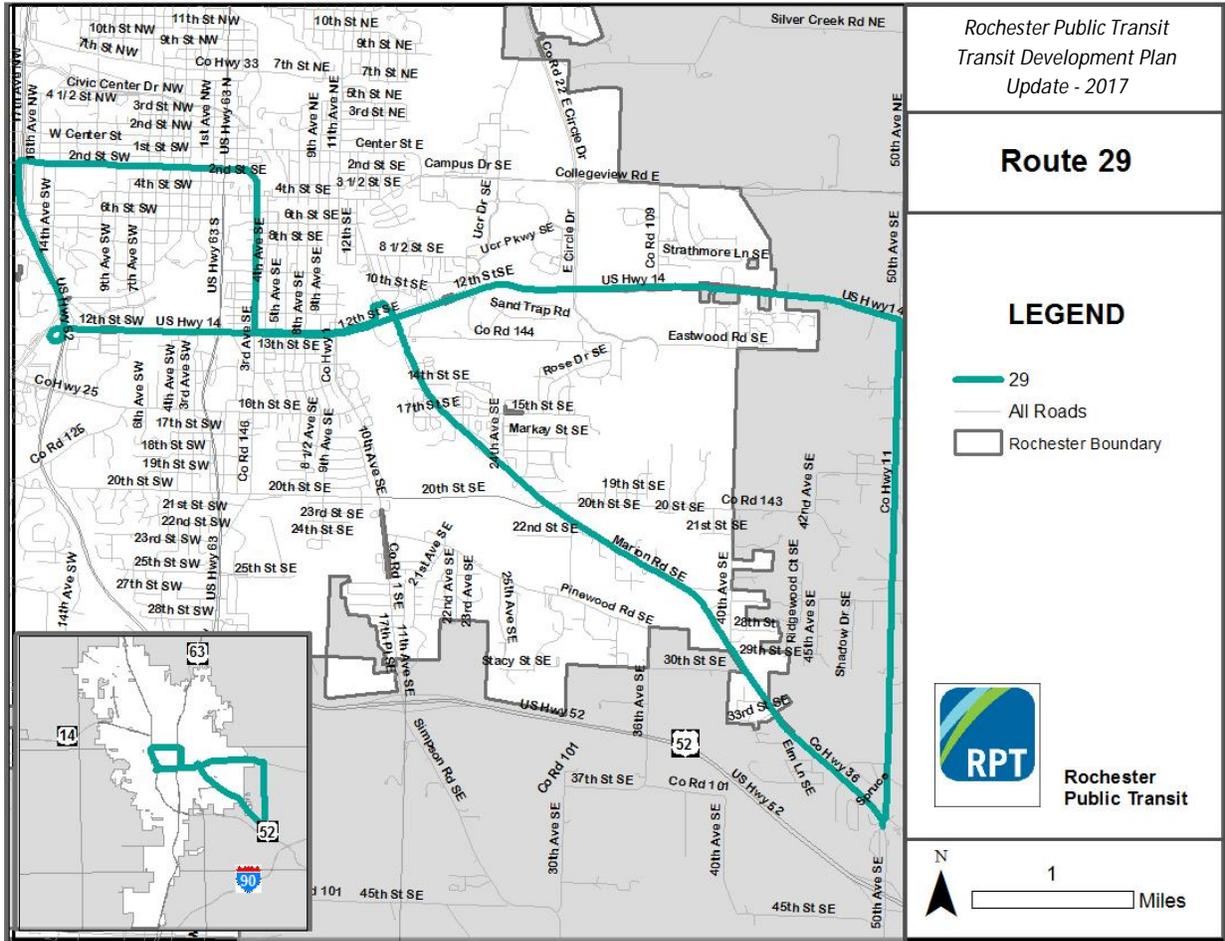
Figure 9-11: Proposed Route 26



9.1.3.11 Route 29

The proposed Route 29 is a replacement for the current Routes 4D and 17 and is classified as a direct route. Route 29 is somewhat of a streamlined version of current Route 17 because many of the neighborhoods served by Route 17 today will be served by the proposed Route 22. This route will operate during peak periods only and utilize a standard sized bus and will require two buses. All trips will serve the Cub Food park-and-ride as well as Trunk Highway 14, 50th Avenue SE, and Marion Road SE. Route 29 is presented on Figure 9-12.

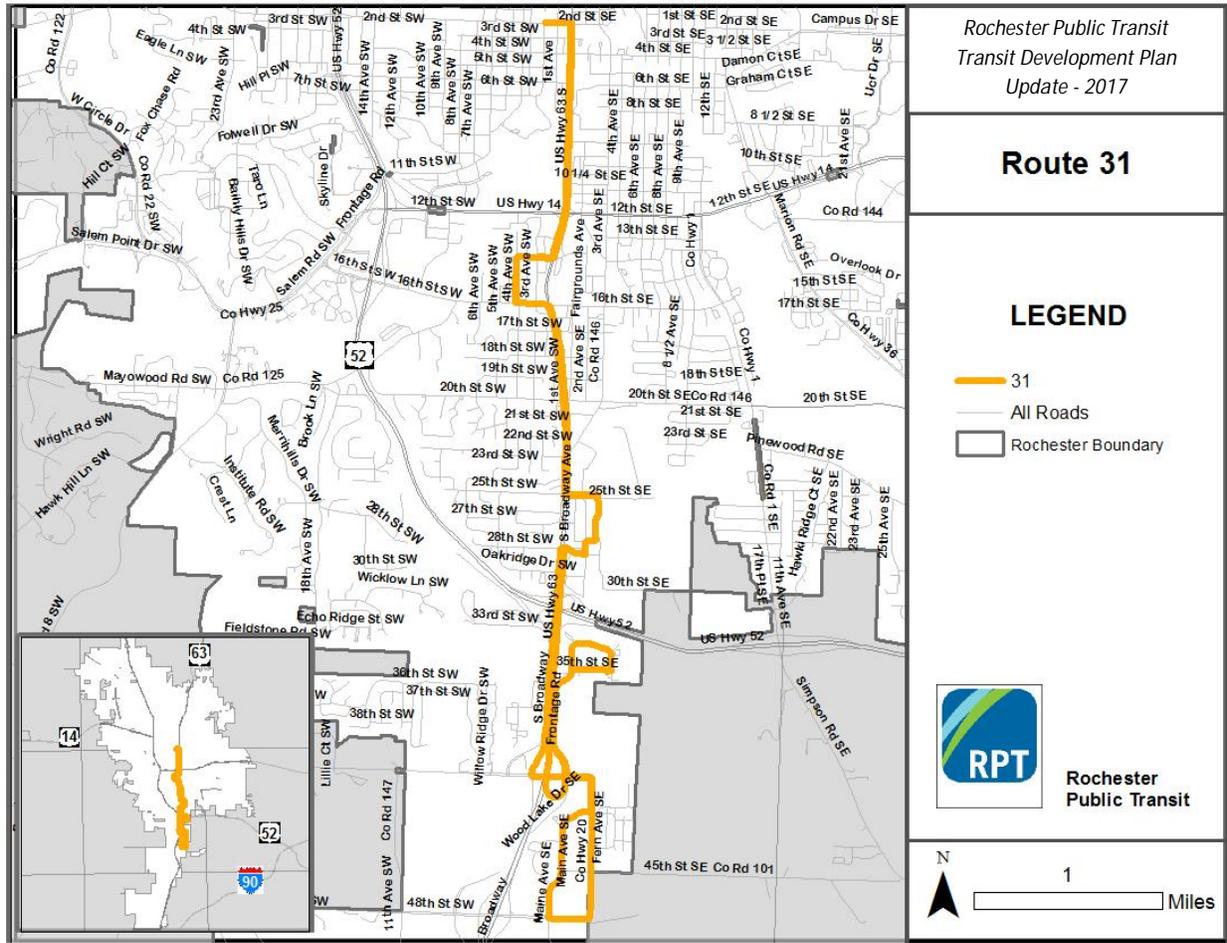
Figure 9-12: Proposed Route 29



9.1.3.12 Route 31

The proposed Route 31 is one of the routes that serve as a replacement for the current Route 6 family of service. Routes 31 and 32 combine to provide high frequency service along the Broadway South corridor. Route 31 is a weekday only local route and the service requires two standard size buses during peak periods. This route serves the South Broadway corridor between Downtown and Target South. Route 31 is presented on Figure 9-13.

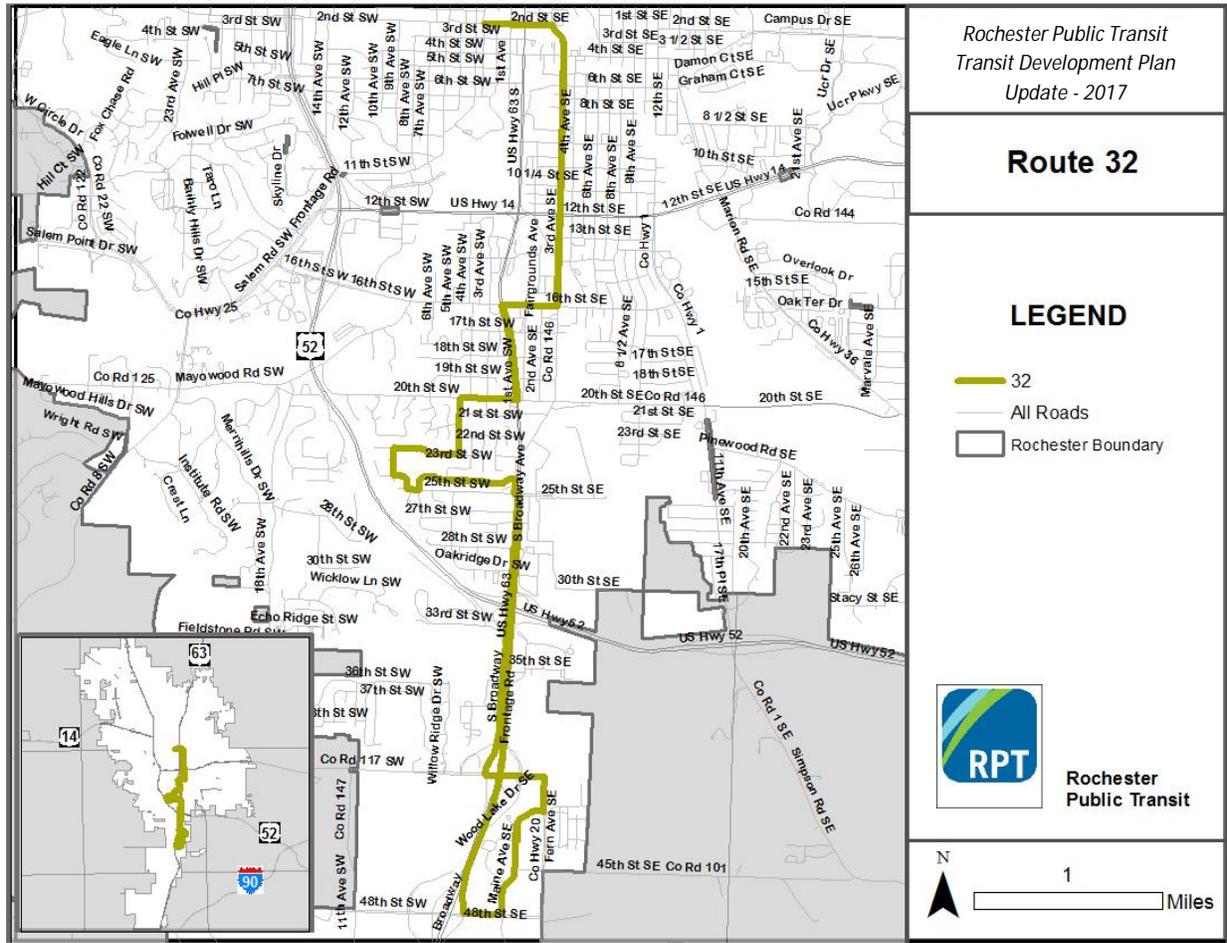
Figure 9-13: Proposed Route 31



9.1.3.13 Route 32

The proposed Route 32 is one of the routes that serve as a replacement for the current Route 6 family of service. Routes 31 and 32 combine to provide high frequency service along the Broadway South corridor. Route 32 is a full-time local route and the service requires two standard size buses during peak periods. This route serves the South Broadway and 3rd Avenue SE corridors between Downtown and Target South. Route 32 is presented on Figure 9-14.

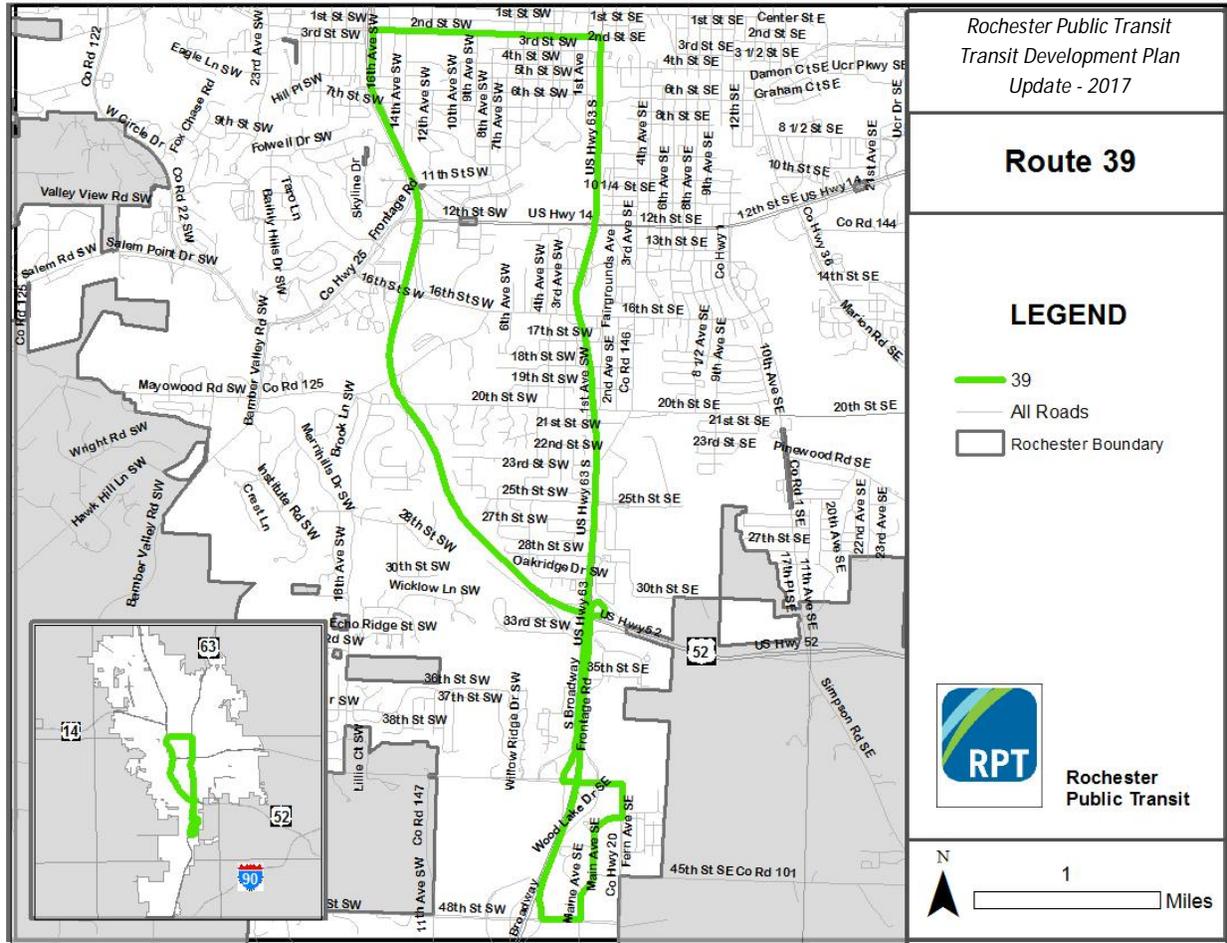
Figure 9-14: Proposed Route 32



9.1.3.15 Route 39

The proposed Route 39 is a direct route that is a replacement for the current Route 15D. This service connects Fairgrounds park-and-ride to Downtown Rochester, serving both the Mayo Clinic and the St. Marys campus. This service will require two standard buses. Proposed Route 37 is presented on Figure 9-16.

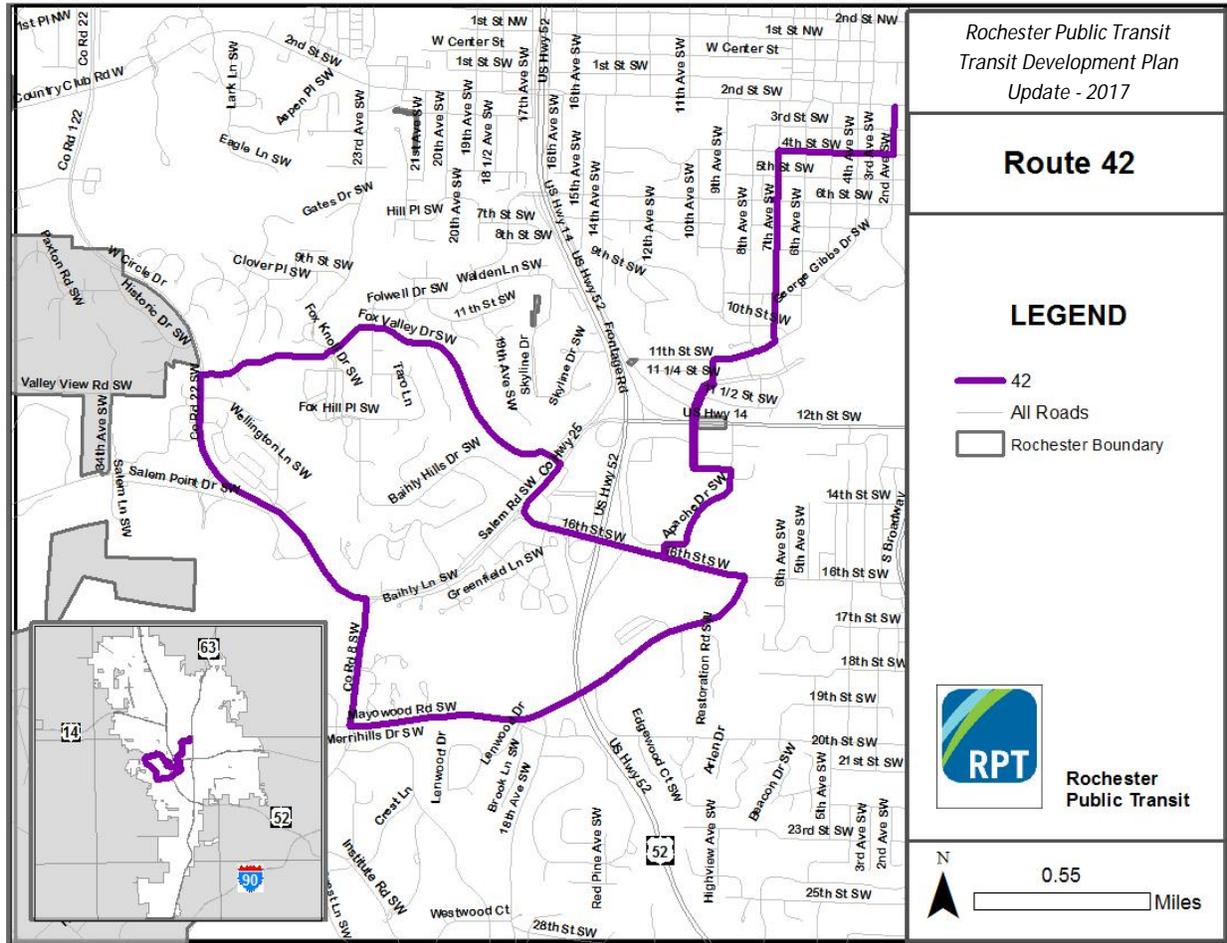
Figure 9-16: Proposed Route 39



9.1.3.16 Route 42

New Route 42 is a replacement for current Routes 7 and 7A and extends service to the Baihly Meadows neighborhood and the Olmsted County History Center. This route is a full-time local service route that will utilize two standard buses during peak periods. Route 42 is presented on Figure 9-17.

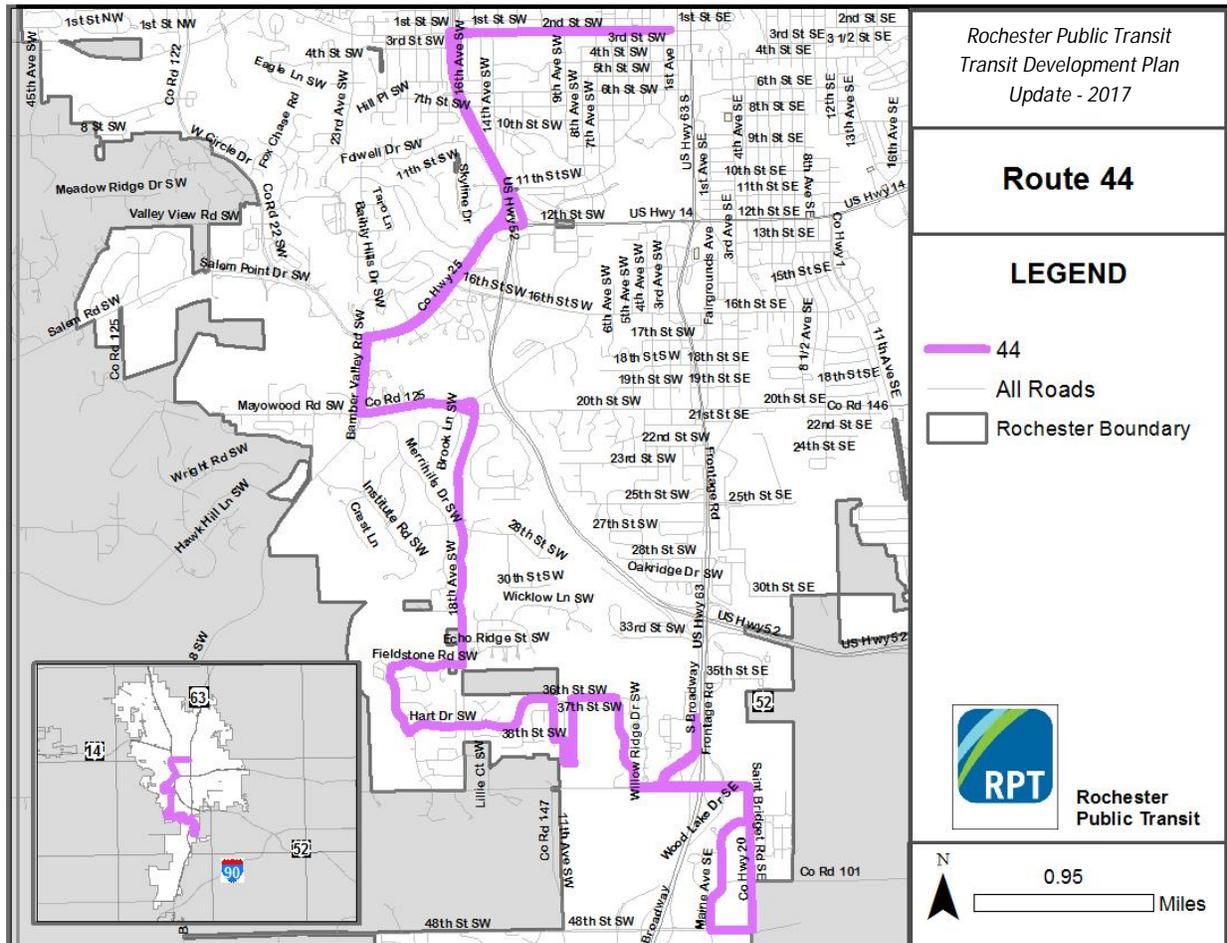
Figure 9-17: Proposed Route 42



9.1.3.17 Route 44

New Route 44 is a replacement of the current Route 14. The current Route 14 only operates during peak periods, the proposed Route 44 will be a weekday only local route, providing service during the peak periods and middays. This route will also serve Days Inn in South Rochester which today is served by the 6 Midday. Route 44 will operate using standard 40-foot buses and will require two of these vehicles during peak periods. Route 44 is presented on Figure 9-18.

Figure 9-18: Proposed Route 44



9.1.3.18 Route 50/52/54

Proposed Routes 50/52/54 are a replacements for the current Route 8. Route 50 is the short-term replacement for Route 8, operating the same alignment as the current Route 8. Longer term, Route 50 will be split into two routes, Routes 52 and 54, to serve various parts of the Country Club area. Routes 50/52/54 are all weekday only local service routes that will utilize standard size buses. Each route will require one bus, resulting in a short term requirement of one bus for Route 50 and a longer term requirement of two buses, one for each route, for Routes 52/54. Routes 52 and 54 are presented on Figures 9-19 and 9-20.

Figure 9-19: Proposed Route 52

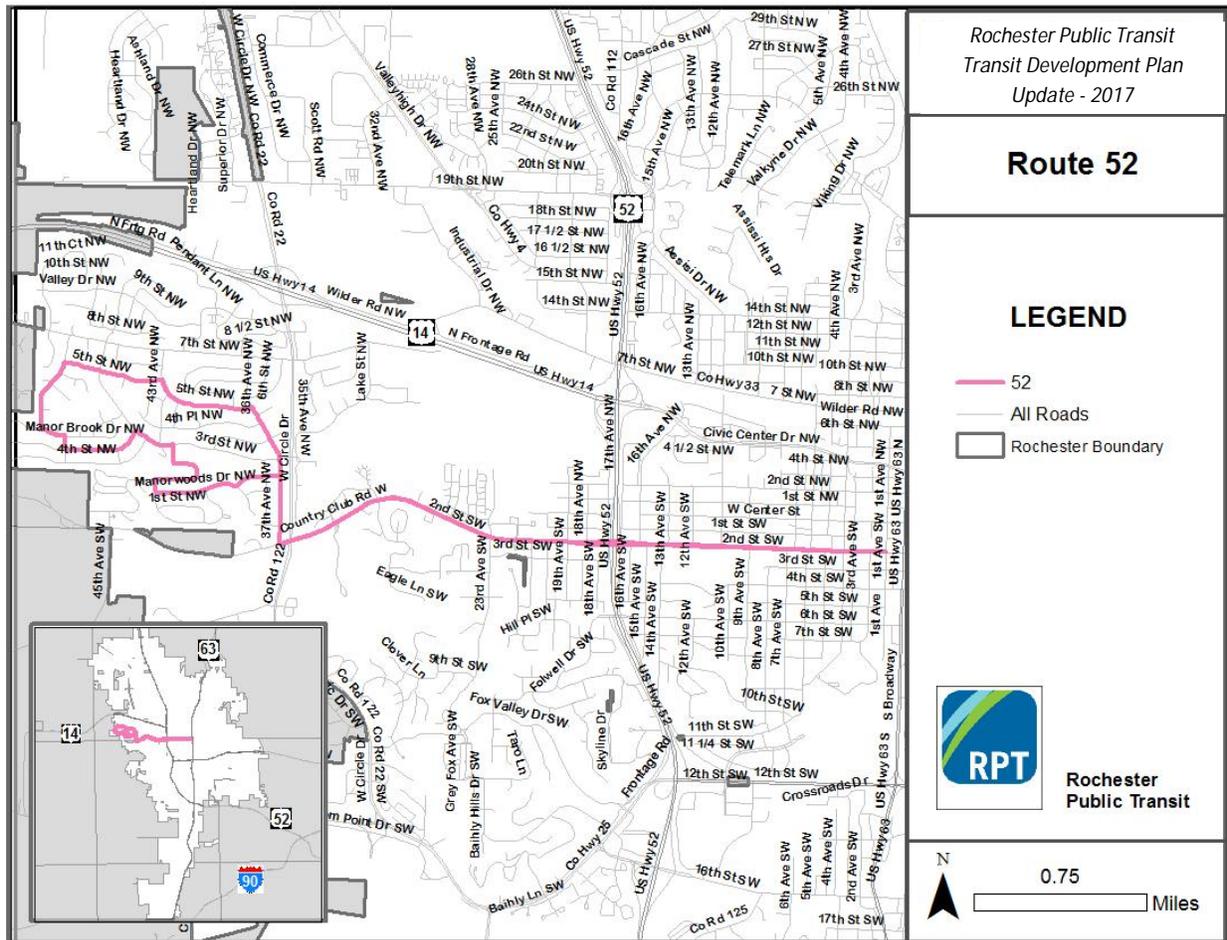
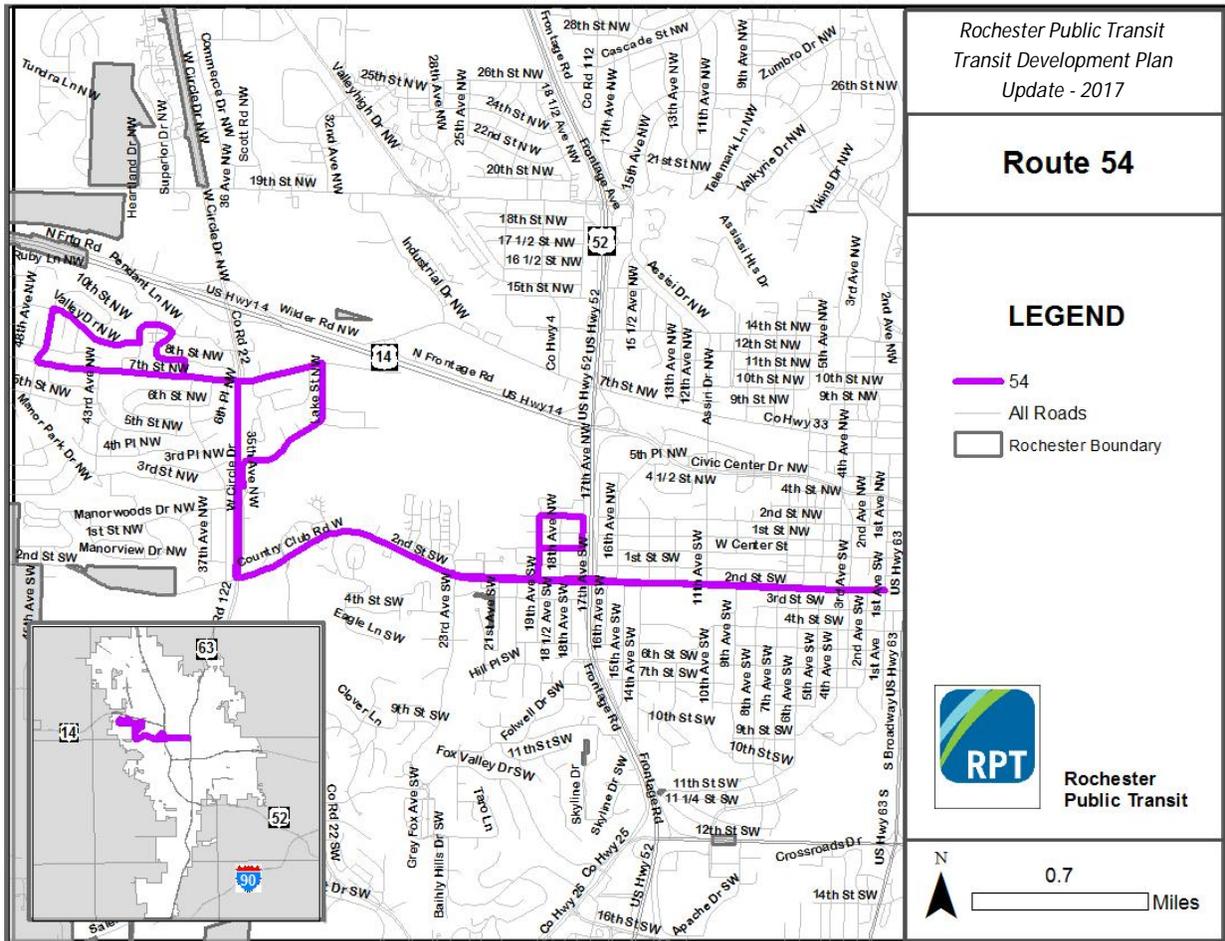


Figure 9-20: Proposed Route 54



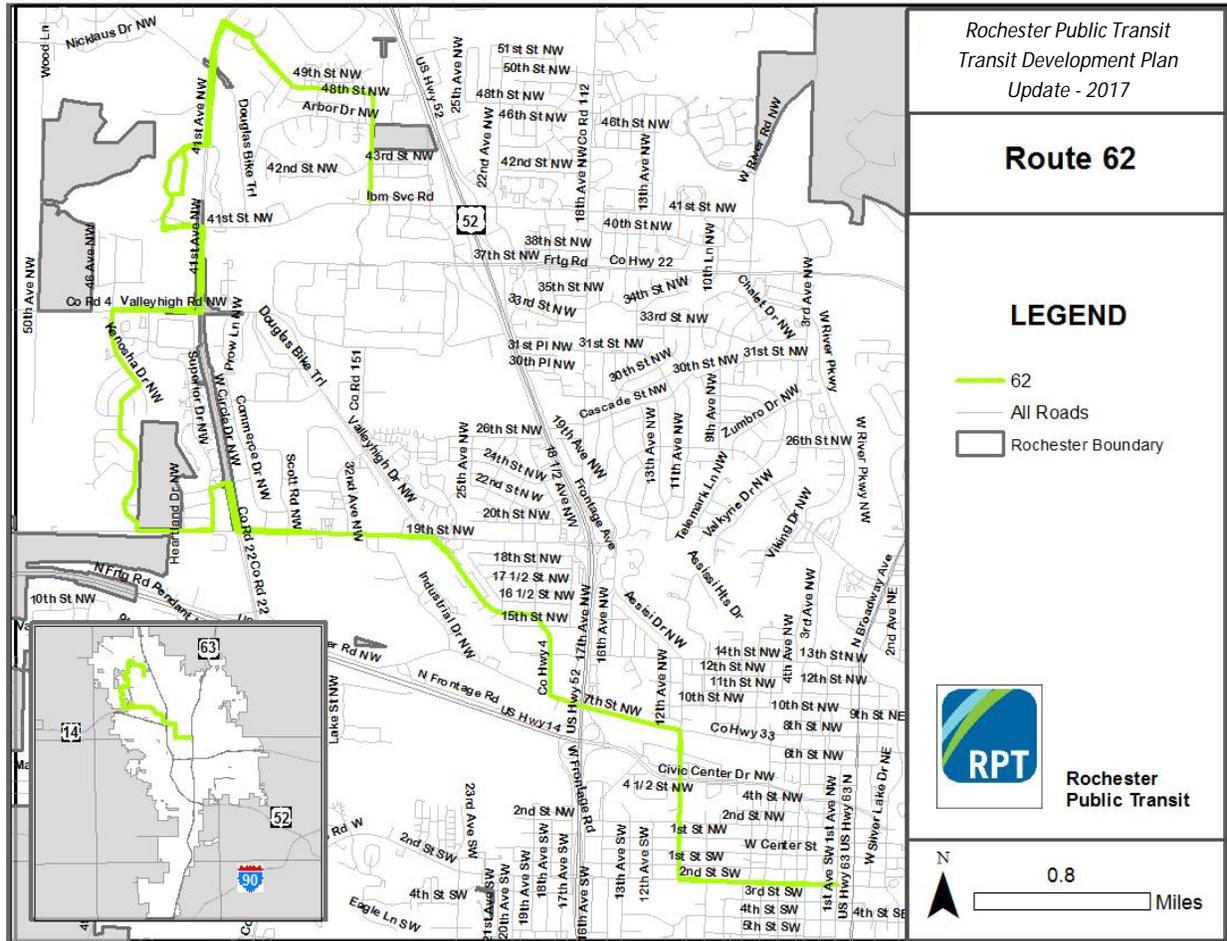
9.1.3.19 Route 59

The proposed Route 59 is a new direct route. This route will serve a new park-and-ride lot on the west side of Rochester at a location to be determined. The route will operate between the park-and-ride lot and Downtown Rochester serving both the Mayo Clinic and the St. Marys campus. This route will require two standard buses. The exact Routing of Route 59 will be determined once the site for a new park-and-ride is determined.

9.1.3.20 Route 62

The proposed Route 62 serves as a replacement of the current Route 9 and also serves neighborhoods served by the current Route 12 family of services. This route is a weekday only local route that will require three standard buses during peak periods. This route is presented on Figure 9-21.

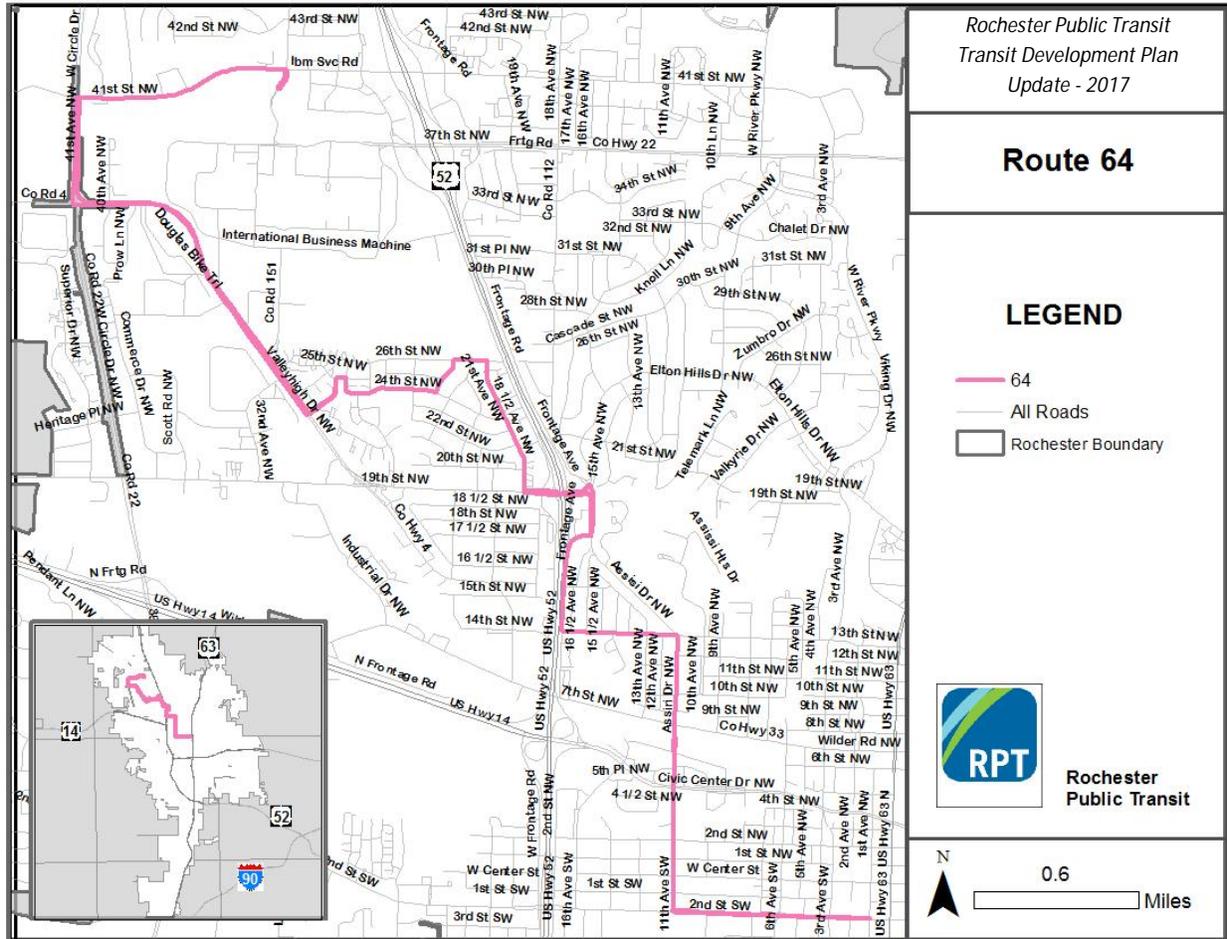
Figure 9-21: Proposed Route 62



9.1.3.21 Route 64

The proposed Route 64 is another route that serves as a replacement of the current Route 9. Routes 64 and 72 together form a high frequency service between Downtown Rochester and the intersection of 19th Avenue NW and Assisi Drive NW. This route is a full-time local route and requires two standard size buses during peak periods. Route 64 is presented on Figure 9-22.

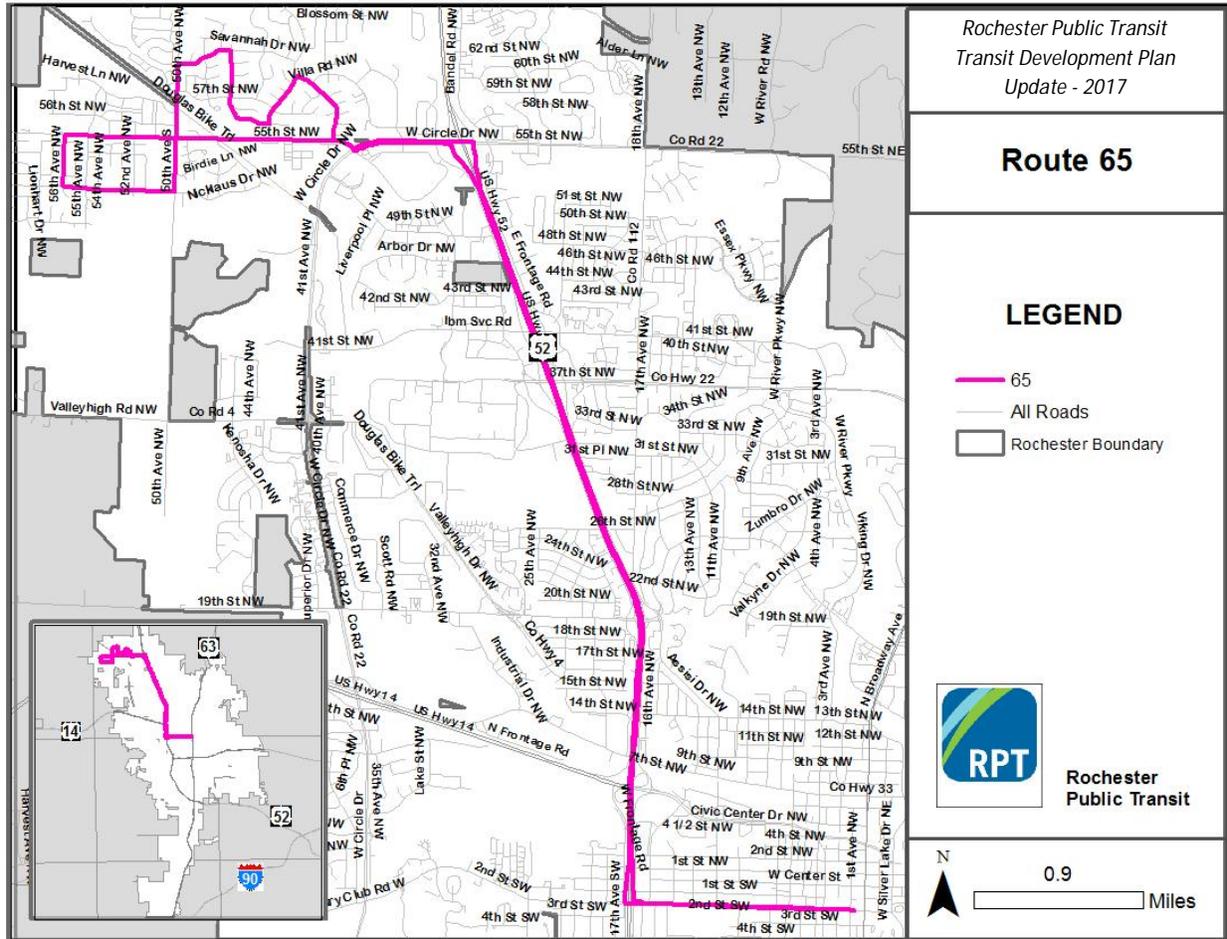
Figure 9-22: Proposed Route 64



9.1.3.22 Route 65

Route 65 is a replacement for the current Route 19. Route 19 currently operates during peak periods only while the proposed Route 65, as weekday only route, will operate during peak periods and middays. This route will require two standard buses during peak periods. Route 65 is presented on Figure 9-23.

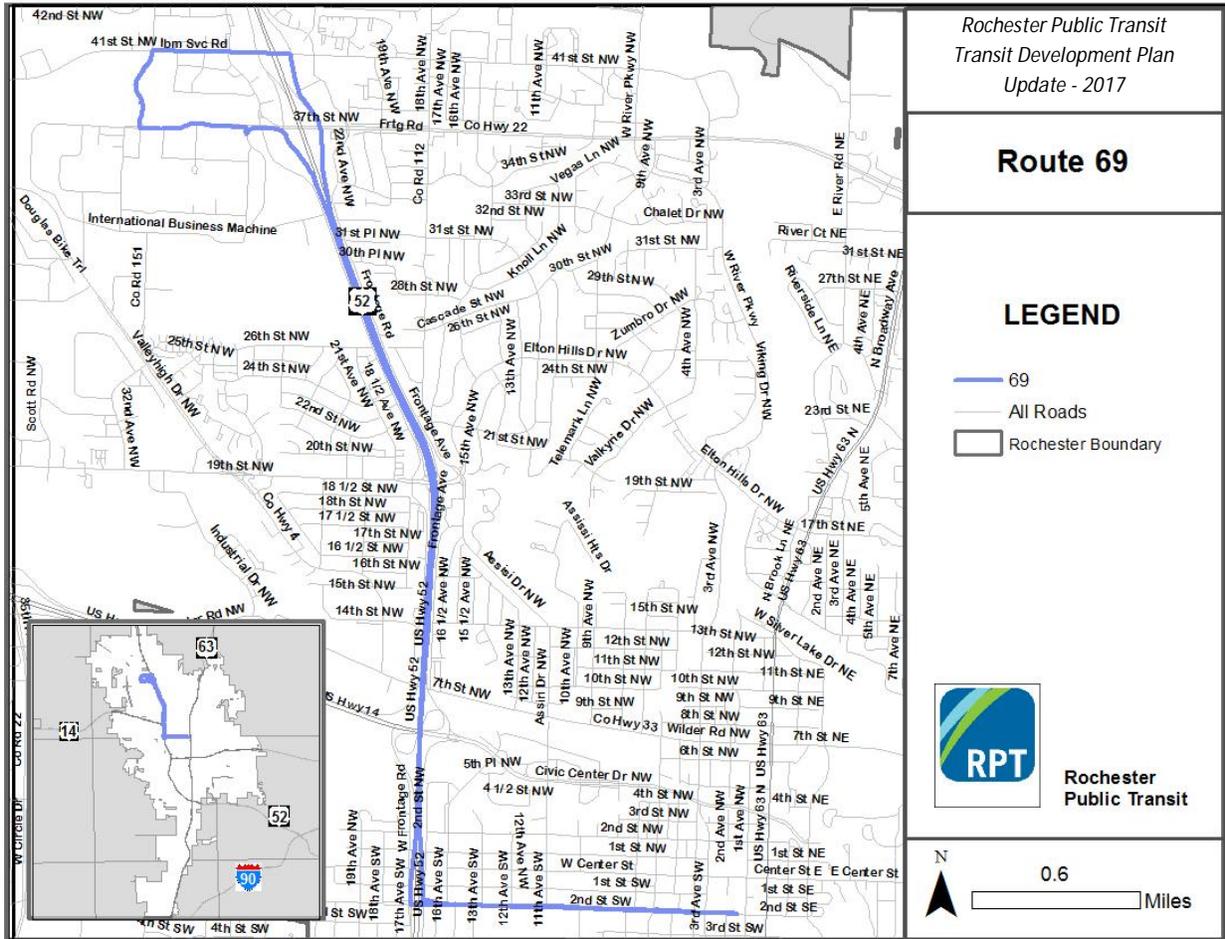
Figure 9-23: Proposed Route 65



9.1.3.23 Route 69

The proposed Route 69 is a replacement for the current Route 18 Direct. Service on this route will operate between the IBM park-and-ride and Downtown Rochester, serving both the Mayo Clinic and the St. Marys campus. Two articulated buses are needed for this service. The proposed Route 69 is presented on Figure 9-24.

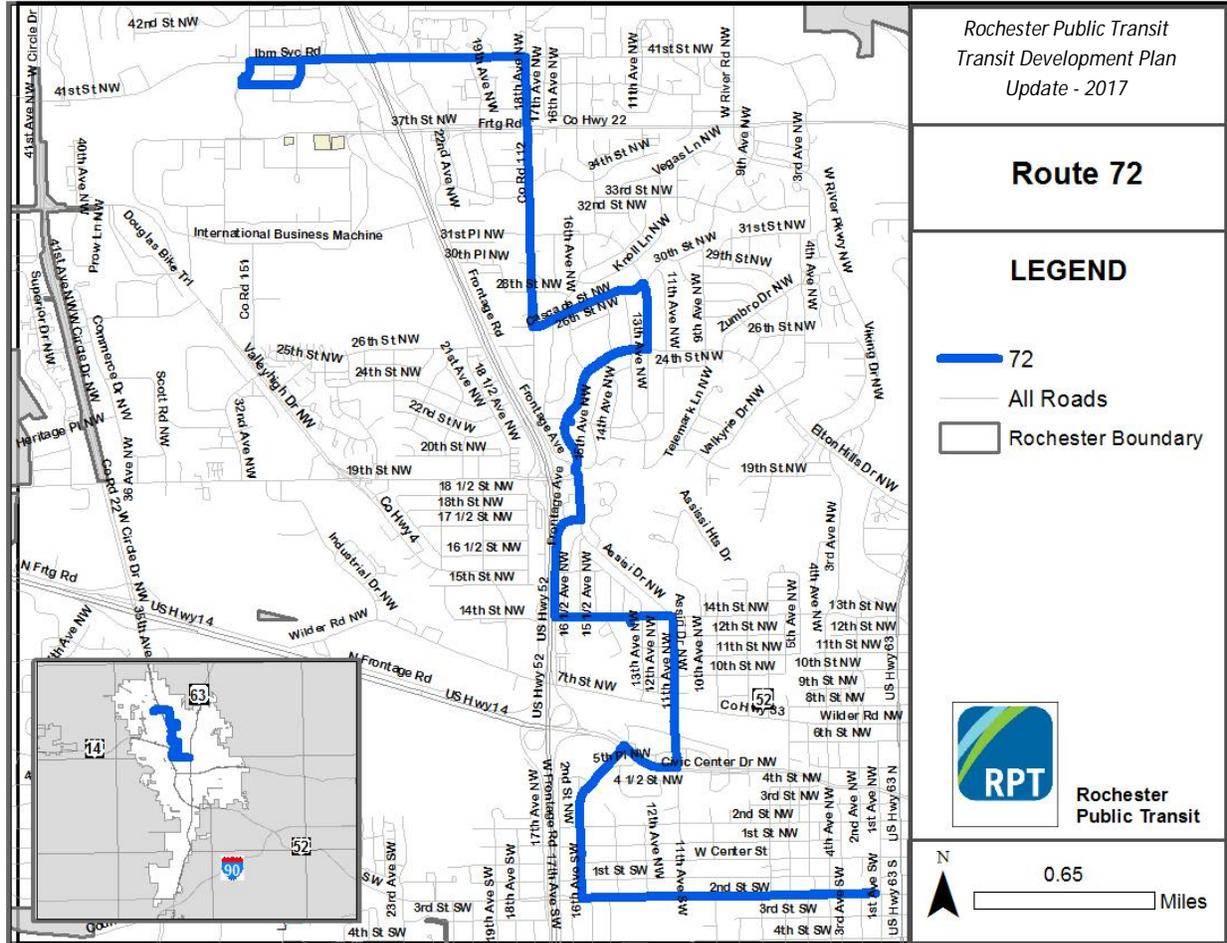
Figure 9-24: Proposed Route 69



9.1.3.24 Route 72

The proposed Route 72 is a replacement for the current Route 10. This route is a full-time local route that will require two standard buses during peak periods. Route 72 is presented on Figure 9-25.

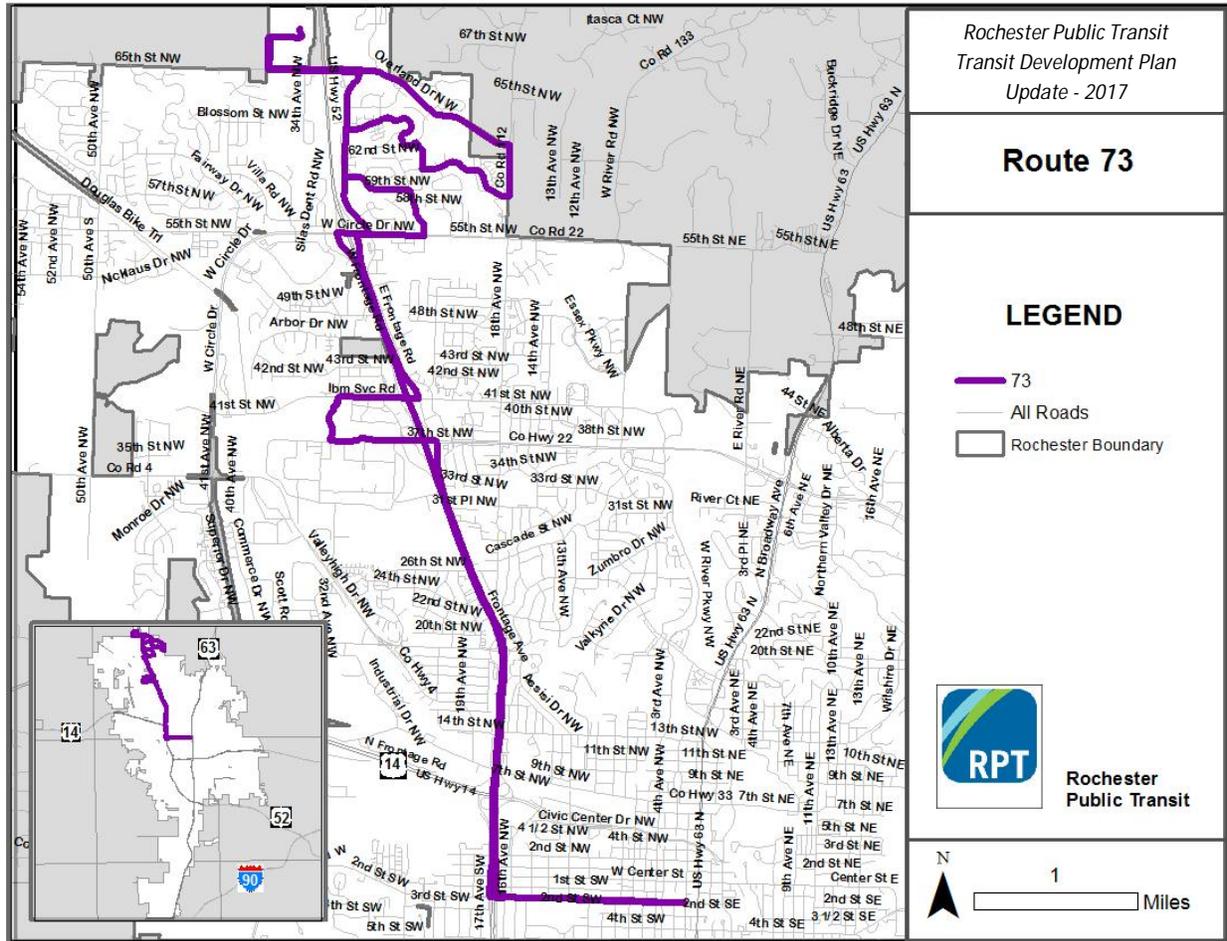
Figure 9-25: Proposed Route 72



9.1.3.25 Route 73

The proposed Route 73 is a replacement to the current Route 12 family of services, focused on the northern portion of the Route 12 area. This route is a weekday only local route that will require two standard size buses during peak periods. Route 73 is presented on Figure 9-26.

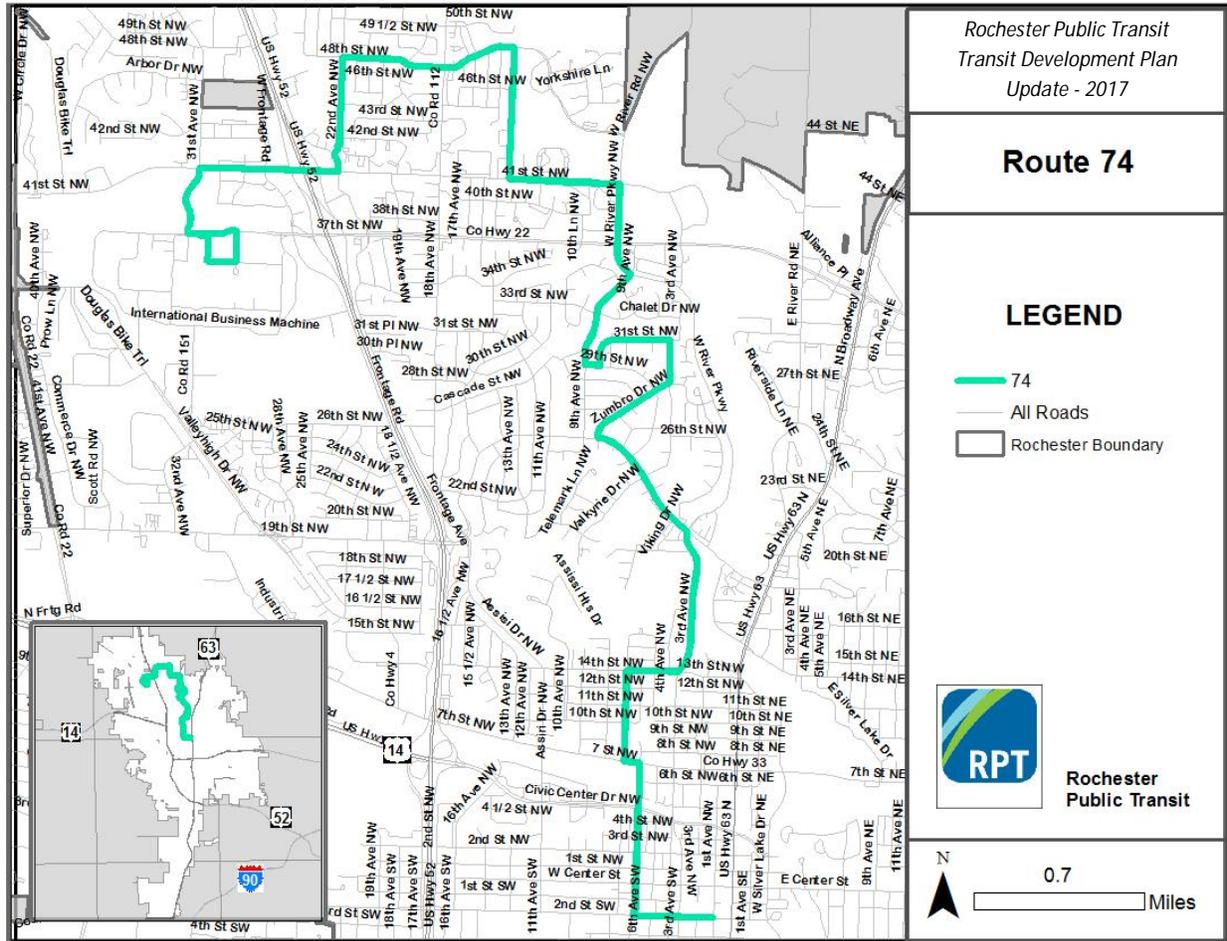
Figure 9-26: Proposed Route 73



9.1.3.26 Route 74

The proposed Route 74 is a replacement for the current Route 11. This route will serve Zumbro Drive on all trips. Route 74 is a full-time local route that will operate with three standard buses during peak periods. Route 74 is presented on Figure 9-27.

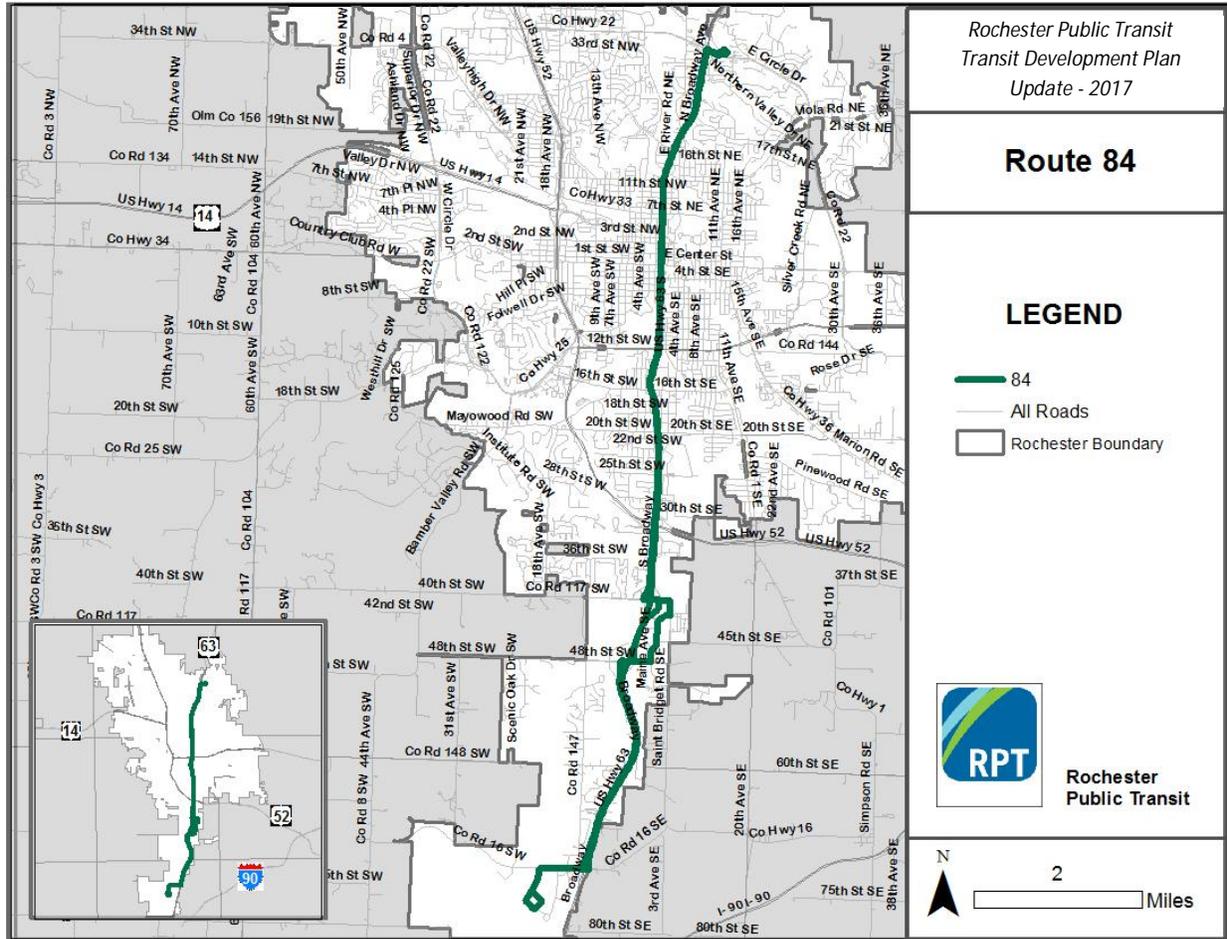
Figure 9-27: Proposed Route 74



9.1.3.27 Route 84

The proposed Route 84 is a new weekday only Bus Rapid Transit (BRT) service operating along the Broadway corridor between Rochester International Airport and ShopKo North. While this is a long route, it will make limited stops and operate through Downtown Rochester. Ideally the Bus Rapid Transit services will have transit priority treatments including signal priority or physical treatments to improve bus speeds. This BRT route will operate with five articulated buses during peak periods. Route 84 is presented on Figure 9-28.

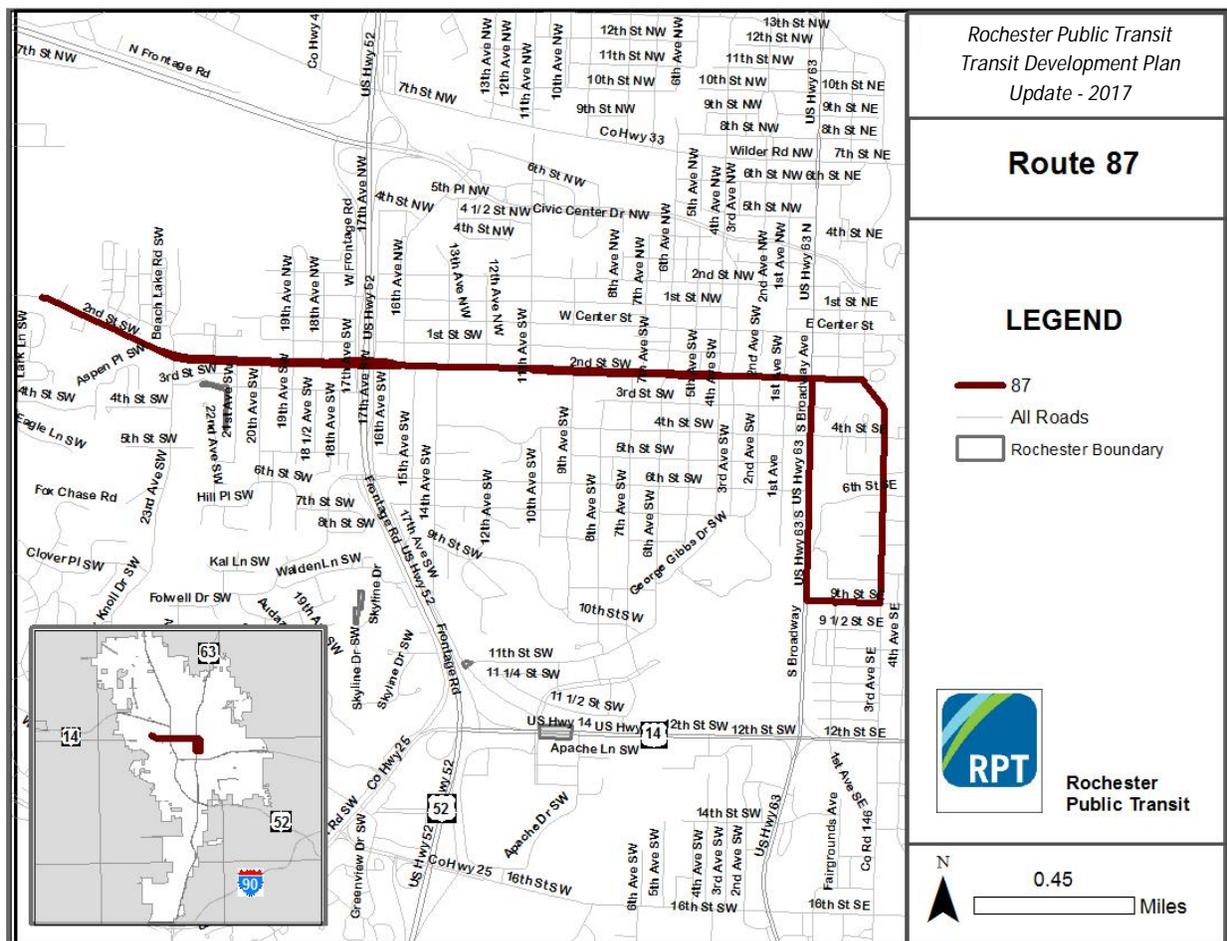
Figure 9-28: Proposed Route 84



9.1.3.28 Route 87

The proposed Route 87 is a new weekday only Bus Rapid Transit (BRT) service operating along the 2nd Street SW/3rd Avenue SE corridor between the Mayo parking lot on Country Club Road and KMart. This route is intended to be a replacement to the Mayo Clinic shuttles. While this is a long route, it will make limited stops and operate through Downtown Rochester. Ideally the Bus Rapid Transit services will have transit priority treatments including signal priority or physical treatments to improve bus speeds. This BRT route will operate with two articulated buses during peak periods and three articulated buses during middays. The midday service requires more vehicles than the peak service for two reasons; the first is because the high number of bus services using 2nd Street SW will allow for frequent service along the key portion of the corridor (between St Marys and the Mayo Clinic), and second is that this route could replace the Mayo Clinic shuttles which require a greater frequency during the midday. Route 87 is presented on Figure 9-29.

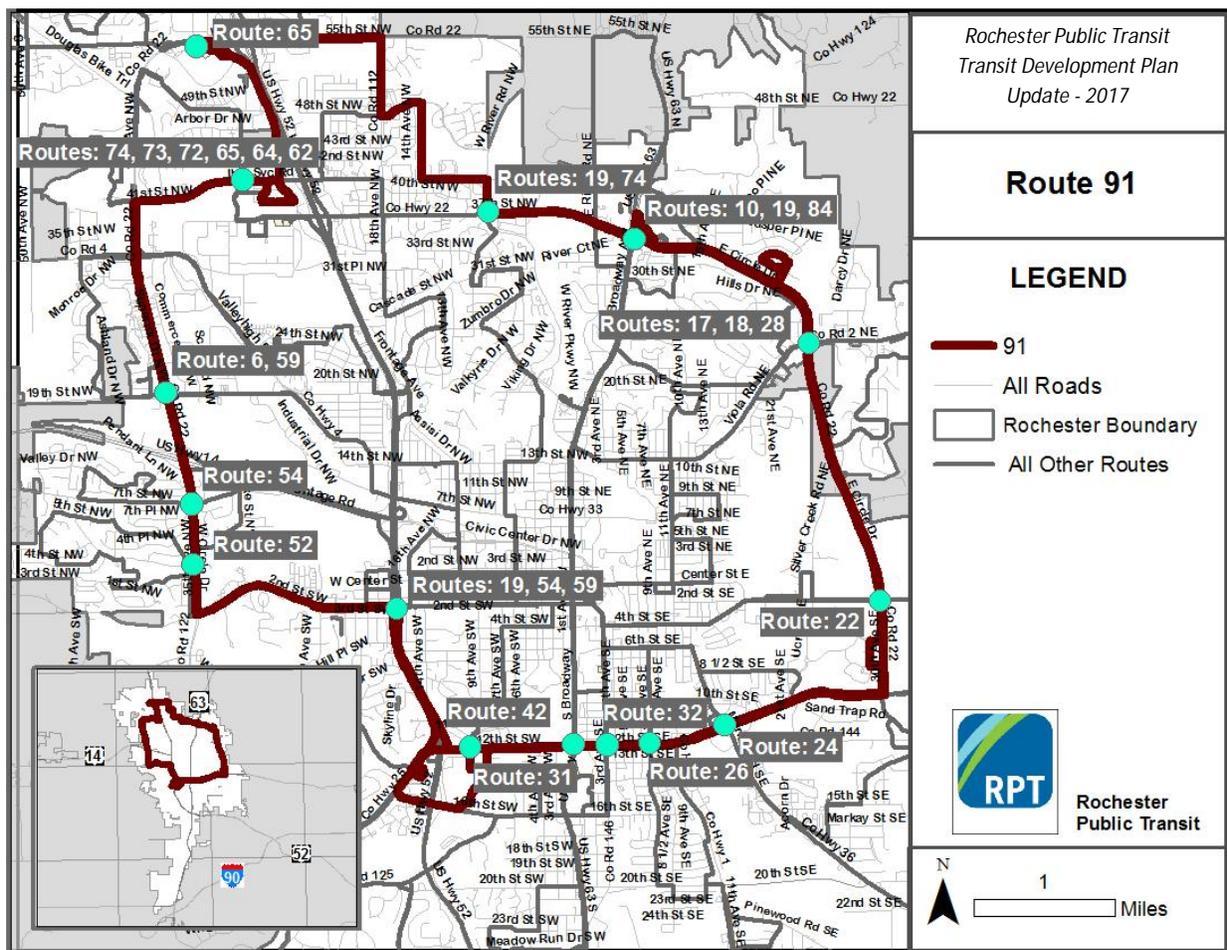
Figure 9-29: Proposed Route 87



9.1.3.29 Route 91

The proposed Route 91 is a new crosstown service along Circle Drive. This route will be implemented in phases and will eventually become a full circumferential route serving all quadrants of Rochester. In the first phase this route will operate between the IBM park-and-ride and RCTC. The second phase will extend service from RCTC to the Apache Mall/TJ Maxx shopping center. The final phase will complete the circle by implementing the segment between TJ Maxx and the IBM park-and-ride. The implementation plan presents the phasing plan for this route, but it is important to note that implementation of subsequent phases is contingent on the route meeting ridership targets. This route is a full-time local service and in the first phase will require one standard 40-foot bus. Subsequent phases will require a second bus. Route 91 is presented on Figure 9-30.

Figure 9-30: Proposed Route 91



9.1.3.30 Shopper Shuttle

The current Shopper Shuttle routes (current Route 55) should be maintained. These routes provide connections between senior apartment complexes and shopping centers during midday periods two-days per week. These routes better serve patrons who are mobility impaired by operating into the

parking lots to provide service closer to the doors of apartments and retail establishments. Since these services operate during midday periods, and operate only two days per week, there is no impact to the number of peak buses and very little cost impact. To be consistent with the proposed nomenclature, the Tuesday route should be renumbered Route 75 and the Friday route should be renumbered Route 45.

9.2 Public Outreach

Public outreach to present the service concepts was conducted in October 2016. Outreach consisted of public open houses where consultant and City of Rochester staff presented the route concepts and answered questions regarding the route concepts. The study team did collect comments from the public and made modifications to routes based on these comments. A total of 37 people participated in the public open houses. The open houses were held:

- Monday, October 17, 4:30-7:00 pm, John Marshall High School, Room 2-100A Rocket Center
- Tuesday, October 18, 4:30-7:00 pm, Mayo High School, Room 1-109 Cafeteria
- Wednesday, October 19, 4:30-7:00 pm, Century High School, Cafeteria, north new section
- Thursday, October 20, 5:00-7:00pm, City Hall, Conference Room 104
- Tuesday October 25, 4:30-7:00 pm, Bamber Valley Elementary School, Room 501 Music

The public presentations, along with maps that present the service alternatives, were posted on RPT's internet website. A total of 14 comments were received through the website.

Part of outreach included meetings with First Transit staff. These meetings were conducted as part of the monthly safety meetings. All of First Transit operators and maintainers participated in the meetings.

Besides speaking with the public at the open houses, the study team presented to Rochester's Committee of the Whole on Monday October 17th, 2016. This presentation allowed the committee to see and react to the concepts presented in this Transit Development Plan.

In addition, over the fall and winter of 2016-2017, RPT staff have presented the TDP at other meetings by request of other groups, such as: 125 LIVE (formerly the Senior Center); the Olmsted County Human Rights Commission; the Mayo Clinic Parking and Transportation Committee; the Olmsted County Vital Aging Committee; the City's Department of Public Works employees; and the Community Networking Group.

10 Implementation Plan

The Transit Development Plan will be implemented over a period of five years. This will allow for manageable growth of Rochester Public Transit (RPT) services. This will also manage capital costs and the procurement process for obtaining vehicles. The year by year implementation schedule is presented in the following sections. Table 10-1 presents the overall impact, in terms of revenue hours and bus requirements for RPT and ZIPS. The spares ratio is expected to decline from about 21% today to approximately 19%.

Table 10-1: Revenue Hours and Vehicles per Year Based on the Implementation Plan

Year	RPT					ZIPS				
	Revenue Hours	Peak Buses	Spare Buses	Total Buses	Spares Ratio	Revenue Hours	Peak Buses	Spare Buses	Total Buses	Spares Ratio
2016 (current)	71,289	38	8	46	21.05%	17,724	5	1	6	0.20
2017/Year 1	83,596	43	8	51	18.60%	18,256	6	1	7	0.17
2018/Year 2	87,330	61	12	73	19.67%	18,804	6	1	7	0.17
2019/Year 3	107,830	69	14	83	20.29%	19,368	7	1	8	0.14
2020/Year 4	126,330	71	14	85	19.72%	19,949	7	1	8	0.14
2021/Year 5	130,330	72	14	86	19.44%	20,547	7	1	8	0.14
5 Year Change	59,041	34	6	40		2,823	2	0	2	

10.1 Year 1

In the first year the focus of the service plan will be to improve the current system. RPT will continue to operate the current route network. Service will operate one hour earlier and one hour later on evenings and on Saturday. This means that on weekdays regular service will operate roughly between 5:30AM and 7:00PM and evening service will continue to operate between 7:00PM and 10:30PM. Saturday service will operate between 7:00AM and 7:00PM. Sunday service will also be implemented utilizing the extended Saturday routes and schedules. As shown on Table 10-1, these expansions will increase service levels by 12,306 revenue hours.

10.2 Year 2

The RPT network will be restructured in the second year. Most of the route improvements would be implemented in this year, with the exception of the route changes in the Country Club area west of Downtown Rochester (50 series bus routes) and Bus Rapid Transit services (80 series bus routes). The new Route 90 crosstown service will be implemented this year. Frequency and span for each service will be as described in Chapter 9. While the current Route 8 will not change in Year 2, it will be renamed Route 50 to be consistent with the proposed route nomenclature scheme that will be implemented in Year 2. Year 2 adds 3,734 revenue hours. As part of restructuring, the Shopper Route (current Route 55) should be maintained, continuing to operate two days per week. The Tuesday route should be renumbered Route 75 and the Friday Route should be renumbered 45.

10.3 Year 3

In year 3 the service restructuring would be completed by changes to the Country Club area. The Country Club area route would be modified into two routes. The year 3 modifications will add 20,500 revenue hours.

10.4 Year 4

Year 4 enhancement would be a new Bus Rapid Transit (BRT) service operating between the Mayo Clinic West Parking Lot and Kmart near the intersection of 3rd Avenue SE and 9th Street SE operating primarily along 2nd Street SW. The year 4 additions will add 18,500 revenue hours.

10.5 Year 5

In the fifth year a second BRT service would be implemented that would serve Broadway corridor between ShopKo North and the airport to the south. This will add 4,000 revenue hours.

10.6 Beyond Year 5

While this Transit Development Plan covers a period of five years, it will set the stage for further growth in the region. Below are some of the growth areas that RPT will need to monitor to determine the need for service growth:

10.6.1 Growth Related to DMC

The Destination Medical Center (DMC) planning process is being conducted to facilitate growth of Mayo Clinic in Rochester. Growth of Mayo Clinic will support job growth in Downtown Rochester as well as at satellite and support facilities throughout the Rochester area. The DMC plans are based on growth in transit ridership and mode share as the number of parking spaces in Downtown Rochester is not expected to grow significantly. Therefore it is expected that any expansion of Mayo Clinic will result in increased ridership for RPT.

To meet the ridership growth RPT may need to expand services. This may include additional peak period and off-peak capacity on the proposed network, either by more frequent service or additional articulated buses. Additional new routes to serve new neighborhoods that may develop to serve Mayo Clinic employees may be needed. More routes may need to operate during the evening and weekends to meet the needs of employees whose shifts do not coincide with current services. Since not all the jobs will be located in downtown, additional crosstown routes may be needed to serve the satellite facilities. These improvements, designed to meet the needs of Mayo employees, would result in improved service for the community as a whole.

10.6.2 Park-and-Ride

Related to growth of employment in Downtown Rochester and DMC is the need for additional park-and-ride locations and the expansion of current park-and-ride lots. The five year plan does include one new park-and-ride lot and the expansion of others. While this will meet part of the need, growth in the region additional park-and-ride lots will be needed longer term. Any new large park-and-ride lot will require direct routes to connect to Downtown Rochester. The city should also consider smaller park-and-ride locations throughout the city that can be served effectively by regular RPT local routes.

Beyond additional park-and-rides and associated Direct routes, current Direct routes may require span changes to meet the needs of downtown employees and the changing shift times. This may include midday services, earlier morning service and later evening services.

10.6.3 New Development Areas

As the Rochester community continues to grow, new areas will develop that may require service. This would include services further north along US 52, north of 65th Street. Another area would be local service to the airport and the Willow Creek area. As the city grows and annexes new territories for development, bus services may be needed.

10.7 Ridership Impacts

The modified route network will affect ridership on RPT routes. Below are the assumptions used for estimating ridership for each route in the RPT system:

- Background ridership growth of 2 percent per year based on recent ridership trends
- Ridecheck data collected as part of the TDP was used to distribute ridership from existing routes to the proposed routes, as well as by time of day
- Ridership changes were calculated based on fare and frequency changes using a 0.3 elasticity⁹ applied to frequency and fare changes

Overall, this analysis provides a conservative estimate of ridership impacts for RPT. Average weekday, average Saturday and average Sunday, and annual ridership projections can be found in Table 10-2. These ridership figures are used to calculate fares that are presented in the financial plan, Chapter 15.

Table 10-2: RPT Ridership Impacts

	2017	2018	2019	2020	2021
Average Weekday Ridership	7,070	9,111	9,355	10,602	12,762
Average Saturday Ridership	643	847	864	881	899
Average Sunday Ridership	482	675	688	702	716
Annual Ridership	1,858,867	2,399,772	2,463,470	2,783,122	3,335,328

⁹ From Patronage Impact of Changes in Transit Fares and Services, US Department of Transportation Urban Mass Transportation Administration, 1980

11 Park-and-Ride

This chapter provides estimates of the future demand and capacity for park-and-ride in Rochester, Minnesota. These estimates, part of the Rochester Public Transit (RPT) Transit Development Program (TDP), are based on current use and projected levels of development and transit market shares. Land development forecasts are based on longer term (2040) development assumptions with assumed near-term staging estimates.

11.1 Background

This chapter provides estimates of the future demand and capacity for park-and-ride in Rochester, Minnesota. These estimates, part of the Rochester Public Transit (RPT) Transit Development Program (TDP), are based on current use and projected levels of development and transit market shares. Land development forecasts are based on longer term (2040) development assumptions with assumed near-term staging estimates.

11.2 Data Sources and Methods

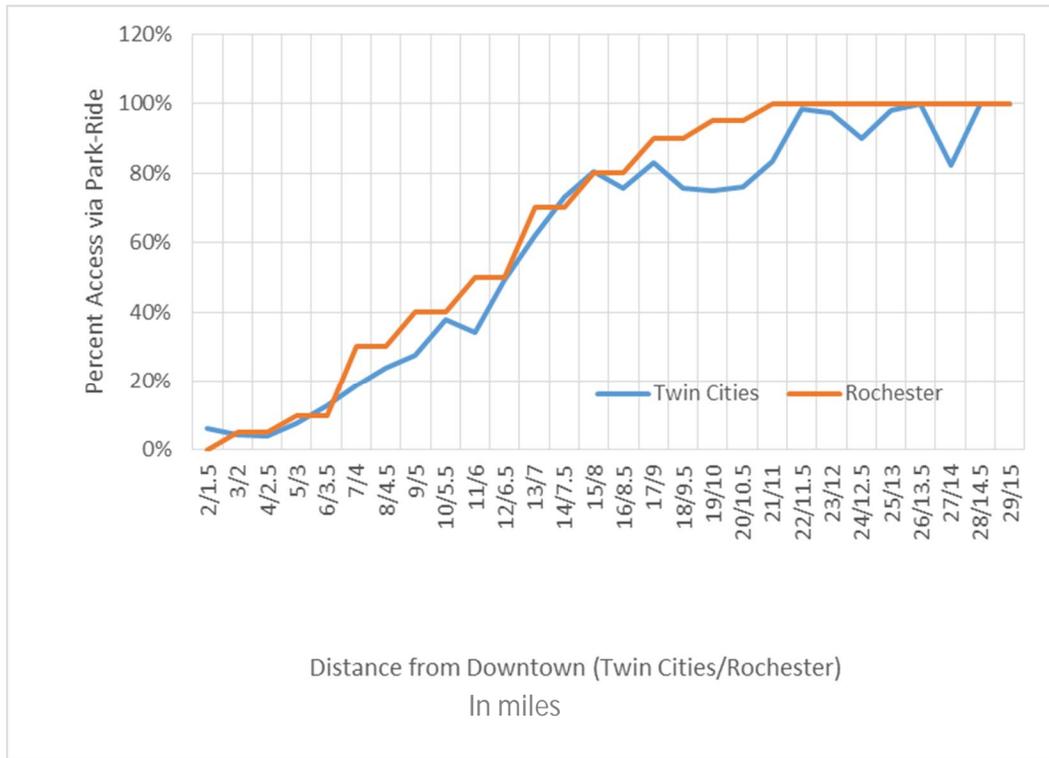
Estimates of park-and-ride demand for the Rochester Transit Development Plan developed considering several sources of information. The analysis considers information on two key markets: the regional commuter market from outside the Rochester area, and the commuters from within the Rochester area served by Rochester Public Transit (RPT).

The existing market demand was assumed as park-and-ride occupancy data provided by RPT, along with analysis of existing commuter flows from the U.S. Census (Census Transportation Planning Package and LEHD/LODES commuter origin-destination information). Corridor level flows also considered published results from the Minnesota Department of Transportation's Southeast Minnesota Travel Survey (<http://www.dot.state.mn.us/transit/reports/system-studies/southeast-mn-travel.html>), which used a purchased anonymous cellular dataset.

The increment of growth from 2015 to 2040 was developed by reviewing travel patterns generated by the Rochester Olmsted Council of Governments (ROCOG) travel demand model. The model is currently being used to test 2040 land development scenarios for the Rochester Comprehensive Plan. The preferred land use scenario has not been confirmed as of this date, but it is expected to contain elements of mixed use development and transit oriented development, along with policy-driven transit market shares, which is sufficiently comparable to one of the initially tested scenarios used in this analysis. The amount of transit market captured by park-and-ride services are estimated as a function of distance from downtown Rochester, as described in a subsequent section.

Another component of the estimates is the percentage of transit users who will use park-and-ride. This value reflects that park-and-ride is a less attractive option for commuters very near to the downtown destination, where commute distances are short and the density of local bus routes makes walking a more logical mode of transit access. For this study, a relationship was used, based on data from the Twin Cities area (2010 Transit On Board Survey) was scaled to the size of the Rochester geography (Figure 11-1) and park-and-ride totals. The curve is used to estimate park-and-ride market share when applied to work trip and distances (in miles) using zones from the ROCOG travel demand model zones.

Figure 11-1: Mode of Access v. Distance from Downtown Area



The 2040 growth forecasts were allocated to provide an estimate of near-term versus long-term development for the purpose of the TDP. The Rochester Comprehensive Plan is currently being updated, and land use analysis, including growth staging, has not been finalized. The amount of 2040 growth expected to occur by a given year is assumed to include slower initial growth, with increased growth in subsequent years. Similarly, transit market share for work trips was assumed to increase over time as transit services and transit-supportive policies are implemented. These assumptions are shown in Table 11-1.

Table 11-1: Growth and Transit Market Share Assumptions

Year	Percent of 2040 Growth Occurring by Year	Percent Work Trips by Transit
Current	n/a	8%
2020	10%	10%
2025	25%	12%
2030	45%	15%
2035	70%	19%
2040	100%	23%

11.3 Existing Conditions

RPT is served by five park-and-ride lots (Figure 11-2), generally serving each of the quadrants of service used by RPT. Based on recent data collected by RPT, the system, overall, is at capacity, with several of

the lots exceeding capacity (demand in excess of the designated spaces) at shared-lot facilities as indicated in Table 11-2.

Figure 11-2 Existing Park-and-Ride Lots

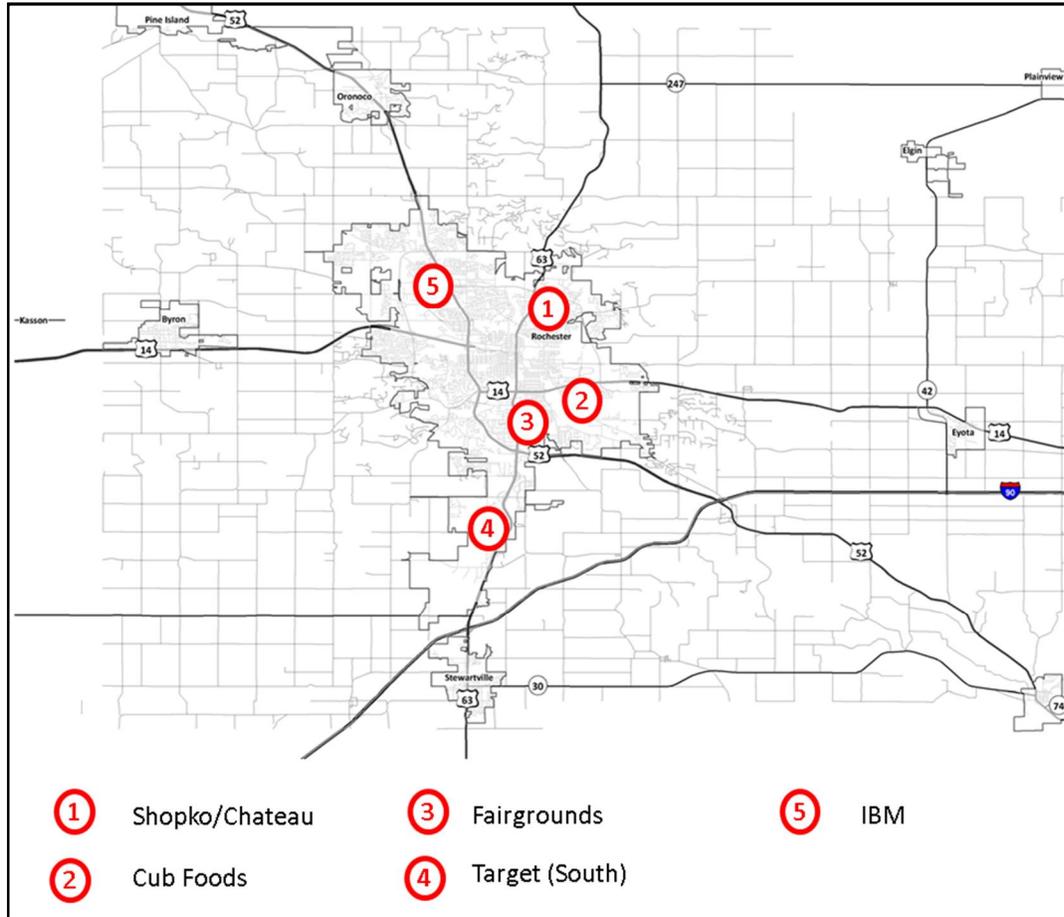


Table 11-2: Current Park-and-Ride Lot Occupancy

Location	Sector	Vehicles in Lot	Spaces Available	Percent Occupied
Shopko/ Chateau	Northeast	248	160	155%
Cub Foods	Southeast	41	50	82%
Fairgrounds	Southwest	194	230	84%
Target (South)	Southwest	218	190	115%
IBM (Total)	Northwest	614	667	92%
Total All Lots		1,315	1,297	101%

Source: Rochester Public Transit, January, 2016

The Minnesota Department of Transportation is conducting a study of transit markets in Southeast Minnesota. This study included an assessment of work trip patterns using US Census data and project-specific cellular data. Figure 11-3 shows commuter markets in the area, which includes a significant commuter market from beyond the RPT service boundaries. Major commuter flows follow the key highways serving Rochester (U.S. 14, U.S. 52, and U.S. 63).

Figure 11-3 Home-based Work Trip Patterns



RPT conducted a survey--which included home location, work location and shopping patterns--at two of its park-and-ride lots. SRF reviewed the data to gain a general understanding of the amount of locally-generated park-and-ride use compared to the longer-distance regional commuter market. Approximately 40 percent of the park-and-ride market is from beyond exurban communities beyond or near the Rochester boundary (Table 11-3). This information was used to corroborate results of the park-and-ride estimation model. It is important to note that the Walmart North park-and-ride was discontinued in June 2015, replaced by the larger IBM park-and-ride lot.

Table 11-3: Surveyed Park-and-Ride Locations

Location	Total Surveyed	Regional	
		(non-Rochester) Home Locations	Percent Regional
WalMart North	279	115	41%
WalMart South	104	45	43%
Cub Foods	35	9	26%
Total	418	169	40%

Source: Rochester Public Transit (conducted February and March, 2015)

11.4 Short-Term/Long Term Park-and-Ride Demand

The applied park-and-ride estimation model indicates a strong growth in park-and-ride demand between now and the year 2025, and with no currently programmed new capacity this will result in an increasingly unserved demand (Table 11-4). Inputs into this model included ROCOG existing and future travel model using draft comprehensive plan land uses, distances to downtown core from model zones, assumed transit market share increases consistent with the downtown Rochester Master Plan, existing park-and-ride demand from inside and outside the Rochester area. Staging is based on some basic growth assumptions from comprehensive plan. As previously noted in Table 11-3, the park-and-ride system is at capacity, and in the northeast quadrant there already exists a deficit 90 spaces. By the year 2025 a total deficit of 1,600 spaces could be possible.

The future deficit will be driven by both the continued growth of the Rochester area, and by the planned increase in transit market share; in fact, providing sufficient park-and-ride capacity will be required in order to meet the transit market share goals. The park-and-ride demand includes commuters from outside of the Rochester area, as well as those within Rochester proper.

Table 11-4: Park-and-Ride Supply/Demand Estimates

Sector	Capacity*	Existing		2020		2025	
		Demand	Surplus/ (Deficit)	Demand	Surplus/ (Deficit)	Demand	Surplus/ (Deficit)
Northeast	160	250	(90)	325	(165)	425	(265)
Southeast	50	40	10	200	(150)	425	(375)
Southwest	420	410	10	500	(80)	650	(230)
Northwest	670	615	55	925	(255)	1,400	(730)
Total	1,300	1,315	(15)	1,950	(650)	2,900	(1,600)

*rounded

Table 11-5 shows the demand growth in five-year increments, including the long-term estimate to 2040. This analysis assumes that development and transit market share will increase at a higher rate in subsequent time periods as the inertia of development and transit improvements increases. The sector-based increases result from the forecast patterns of land development within the urban area (draft as of February, 2016), as well by the estimated level of exurban regional commuters from surrounding communities. In both cases, higher growth is continued to be expected in the north and western areas, including surrounding communities in Olmsted County and along U.S. 52.

Table 11-5: Five-Year Increment Growth Estimates (by Sector)¹⁰

Demand Growth					
Sector	2015-2020	2020-2025	2025-2030	Post 2030 (to 2040)	Total Growth
Northeast	75	100	150	375	700
Southeast	150	225	325	850	1,550
Southwest	100	150	175	500	925
Northwest	300	475	625	1,700	3,100
Total	625	950	1,275	3,425	6,275

The ROCOG travel demand model was used to define general corridor travelsheds, with the estimated park-and-ride demand for each travelshed shown in Table 11-6. The three largest areas of growth are expected to occur in the U.S. 52 north corridor, the broad US 52 southeast/U.S. 63 southwest, and the U.S. 14 west corridor. Of these corridors, there is no current park-and-ride facility directly serving the U.S. 14 market. This is generally depicted in Figure 11-4. The location and sizing of the DMC peripheral parking is not explicitly considered in the analysis. DMC-related implementation planning is currently underway and will determine the extent to which parking demand is accommodated within the core, at the periphery of downtown, or at the regional park-and-ride facilities in Rochester. This analysis includes the initial DMC vision that would require 6275 regional park-and-ride spaces to be served by Rochester Public Transit.

Table 11-6: Five-Year Increment Growth Estimates (by Corridor)

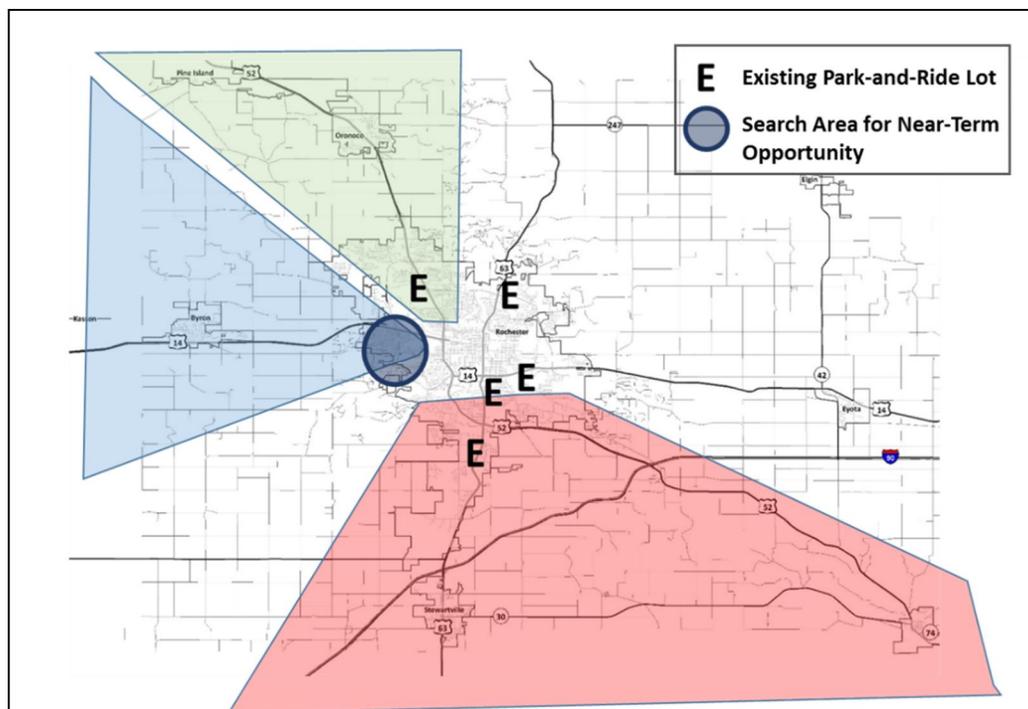
Demand Growth					
	2015-2020	2020-2025	2025-2030	Post 2030	Total Growth
US 63/N. Broadway	50	100	125	325	600
US 14 (East)	75	100	150	400	725
US 52/US 63/S. Broadway	150	225	300	850	1,525
CR 25/CR 22/CR 8	50	50	75	225	400
US 14 (West)	125	175	250	675	1,225
US 52 (North)	175	275	350	975	1,775
Grand Total	625	925	1,250	3,450	6,250

¹⁰ Subtotals are all rounded to the nearest 25 to reflect the uncertainty and high-level nature of the analysis

11.5 Conclusions/Observations

- The existing park-and-ride lots served by Rochester Public Transit are all near, at, or over capacity.
- Demand for the park-and-ride services comes from both local Rochester commuters as well as regional commuters from nearby communities. The increasing density of routes and walk accessibility in areas closer to downtown push drive access further from downtown.
- Land development plans, as currently being updated for the Rochester Comprehensive Plan, could decrease the amount of drive-access transit by providing more walk-accessible transit-oriented development.
- Park-and-ride demand will be triggered by both the continued development of the Rochester area, as well as plans and policies to increase transit use in the region (increasing park-and-ride services is one of those strategies).
- Phased development of new park-and-ride capacity will be needed to respond to downtown growth and increasing transit market share.
- There is no park-and-ride lot in the western side of the city. An effort should be made to find opportunities to locate one in the U.S. 14 west corridor to serve near-term and long term demand (Figure 11-4).

Figure 11-4: Corridor/Park-and-Ride Locations



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12 Capital Plan

The capital program includes vehicles, facilities, and enhancements to support RPT operations. The Capital Plan described in this section provides an overview of capital items needed to support RPT service through 2021. The RPT capital plan is funded through a combination of federal and state funding sources. The capital plan is described below. Many of the elements of the capital plan were supplied by City of Rochester staff. Costs and revenues associated with the capital plan are presented as part of the financial plan in Chapter 15.

12.1 Vehicles

The primary capital needs to support RPT and ZIPS services are buses. This includes new buses to replace existing buses that have reached the end of their useful life as well as expansion buses to support new services. RPT uses a 15-year schedule for bus replacements and ZIPS uses a seven year schedule. The vehicle replacement and expansion need is based on looking at the service needs for each year and comparing that to the current fleet list and the projected replacement dates for each vehicle. This TDP introduces higher capacity articulated buses for busier routes. The Table below provides the vehicle replacement and expansion schedule for RPT and ZIPS.

Table 12-1: Vehicle Replacement and Expansion Program

Bus Type		Current	2017	2018	2019	2020	2021
Replace	Standard Transit Bus	0	5	4	4	6	5
	ZIPS Bus	0	1	2	1	0	2
Expansion	Standard Transit Bus	0	5	22	1	2	1
	Articulated Transit Bus	0	0	0	9	0	0
	ZIPS Bus	0	1	0	1	0	0
Total	Standard Transit Bus	0	10	26	5	8	6
	Articulated Transit Bus	0	0	0	9	0	0
	ZIPS Bus	0	2	2	1	0	2

Note: the start date for each year is July of the calendar year

12.2 PWTOC

The Public Works and Transit Operations Center (PWTOC) is where RPT buses are stored and maintained. This facility also is where the transit program administration is located. This is a facility shared with other public works department functions as well as the police department. The facility can currently store and maintain up to 60 standard size buses. This facility was designed to be expanded and there are plans to expand the PWTOC by another 32 buses, bringing the total capacity to 92 buses. The projected fleet plan is to for 86 total buses by 2021 consisting of 77 standard size buses and 9 articulated buses. The table below presents the projected fleet size compared to storage capacity. Based on this table the PTWOC will need to be expanded by 2019 to support fleet growth. Even after the expansion, if service continues to grow, the facility will need to expand further sometime after 2021.

Table 12-2: Fleet Size versus Storage Capacity by Year

Bus Type	2017	2018	2019	2020	2021
Standard Transit Bus	51	73	74	76	77
Articulated Transit Bus (1.5 standard bus equivalent)	0	0	9	9	9
Total Buses	51	73	83	85	86
Standard Bus Equivalents	51	73	88	90	91
Available Capacity without Expansion	9	-13	-28	-30	-31
Available Capacity with Expansion	41	19	4	2	1

Note: the start date for each year is July of the calendar year

ZIPS buses are also stored at the PWTOC. These vehicles are parked along the western wall of the facility and do not impact the overall storage capacity of the PWTOC. The impact of adding an additional ZIPS bus to the fleet will also not impact the capacity of the PWTOC.

The plans for expanding the facility do include the possibility of converting or adding compressed natural gas (CNG) as a bus fueling source. After considerable study of CNG, including preliminary design estimates for a CNG fueling station and code modifications to maintenance areas, the City Council decided to wait and monitor improvements in all-electric buses.

12.3 Park-and-Ride

Chapter 11 presents the recommendations for park-and-ride lots. These recommendations are to expand current park-and-ride lots as well as establishing a new park-and-ride near Trunk Highway 14 on the western end of Rochester. Beyond the five year timeframe of this TDP additional park-and-ride lots will be needed.

12.4 Transit Centers

Transit centers are locations that are served by numerous bus routes. Often, routes are scheduled so they meet all other routes at the transit center. Currently, Rochester has one transit center in Downtown Rochester. The recommendations regarding transit centers are to continue to improve the current transit center and create satellite transit centers. Included in the improvements to the Downtown Transit Center are improvements to the stops near the St. Marys campus along with the current Downtown Transit Center location. Two new satellite transit centers are proposed, one in the vicinity of the IBM park-and-ride and the second near Target South.

12.4.1 Downtown

The Downtown Transit Center is located at the intersection of 2nd Street and 2nd Avenue SW. Bus routes are scheduled to arrive and depart from this location within a few minutes of each other to facilitate transfers. The impact is that this transit center can get very congested, especially during rush hours when RPT is operating service more frequently and has more routes in service. Also, during rush hours Rochester City Lines (RCL) commuter buses are operating which contribute to bus congestion in the center of Rochester.

The first recommendation for the Downtown Transit Center is to stagger the times when buses arrive at the transit center. All bus routes will not arrive at the same time; rather there will be four "pulse" times

per hour when buses arrive and depart during rush hours and two “pulse” times during the midday when buses arrive and depart. During each “pulse” half of the bus routes in operation will serve the transit center. The staggering of routes supports the operating plan of having bus routes provide frequent service along key corridors. Direct routes, whose purpose is to connect outlying park-and-ride lots to Downtown employers, will not need to be scheduled based on the “pulse” system and will operate independent of the “pulse”. It is also recommended that RCL commuter buses be relocated out of the Downtown Transit Center area to reduce congestion in the downtown core. The proposed pulse times for each route are presented on the table below.

Table 12-3: Proposed Pulse Times

	:00	:15	:30	:45
Weekday Peak	12, 16, 24, 31, 42, 44, 52, 62, 65, 72	10, 15, 22, 26, 32, 54, 64, 73, 74	12, 16, 24, 31, 42, 44, 52, 62, 65, 72	10, 15, 22, 26, 32, 54, 64, 73, 74
Weekday Off-Peak		10, 15, 22, 26, 32, 64, 73, 74		12, 16, 24, 31, 42, 50, 62, 65, 72
Evening/Weekend		10, 32, 64, 74		16, 24, 42, 72

The other improvement is to continue investing in the facilities at the Downtown Transit Center. This recommendation is to maintain the transit center at the current site and make improvements that are consistent with recommendations from the DMC planning process. At the very least electronic fare card kiosks for passengers to purchase fare media should be installed at this transit center. RPT should also consider installing digital maps showing real-time bus-tracking and perhaps next arrival times, to replace the easily outdated and expensive printed maps in the Downtown Transit Center lobbies.

12.4.2 St. Marys Transit Station

The St. Marys Transit Station would be a series of improvements at the St. Marys Campus on the west end of Downtown Rochester. These improvements will provide better customer amenities that support the transit network at this very high volume bus stop. The TDP recommendation is to continue investing in the St. Marys Transit Station and provide electronic fare media kiosks to allow passengers to purchase fare media.

12.4.3 Northwest Transit Center

The first new satellite transit center would be a northwest transit center. This transit center would be located in the vicinity of the IBM park-and-ride or near Target North. This transit center will be served by Routes 62, 64, 69, 72, 74, and 91. This facility will allow passengers to transfer between routes without having to go into Downtown Rochester and supports crosstown movements in the region. Long term this transit center could be served by neighborhood routes in northwest Rochester that would connect to a frequent service into Downtown.

The transit center should have a higher level of amenity than just a bus stop sign or a standard bus shelter; rather it should have a comfortable waiting environment for passengers who may be waiting for up to a half hour between buses. Also, this transit center should have electronic fare card kiosks for passengers to purchase fare media.

12.4.4 South Transit Center

The second new satellite transit center would be a south transit center. This transit center would be located in the vicinity of Target South. This transit center will be served by Routes 31, 32, 39, 44, and 84. This facility will allow passengers to transfer between routes without having to go into Downtown Rochester and supports crosstown movements in the region. Long term this transit center could be served by neighborhood routes in southern Rochester, and points beyond, that would connect to the BRT service into Downtown.

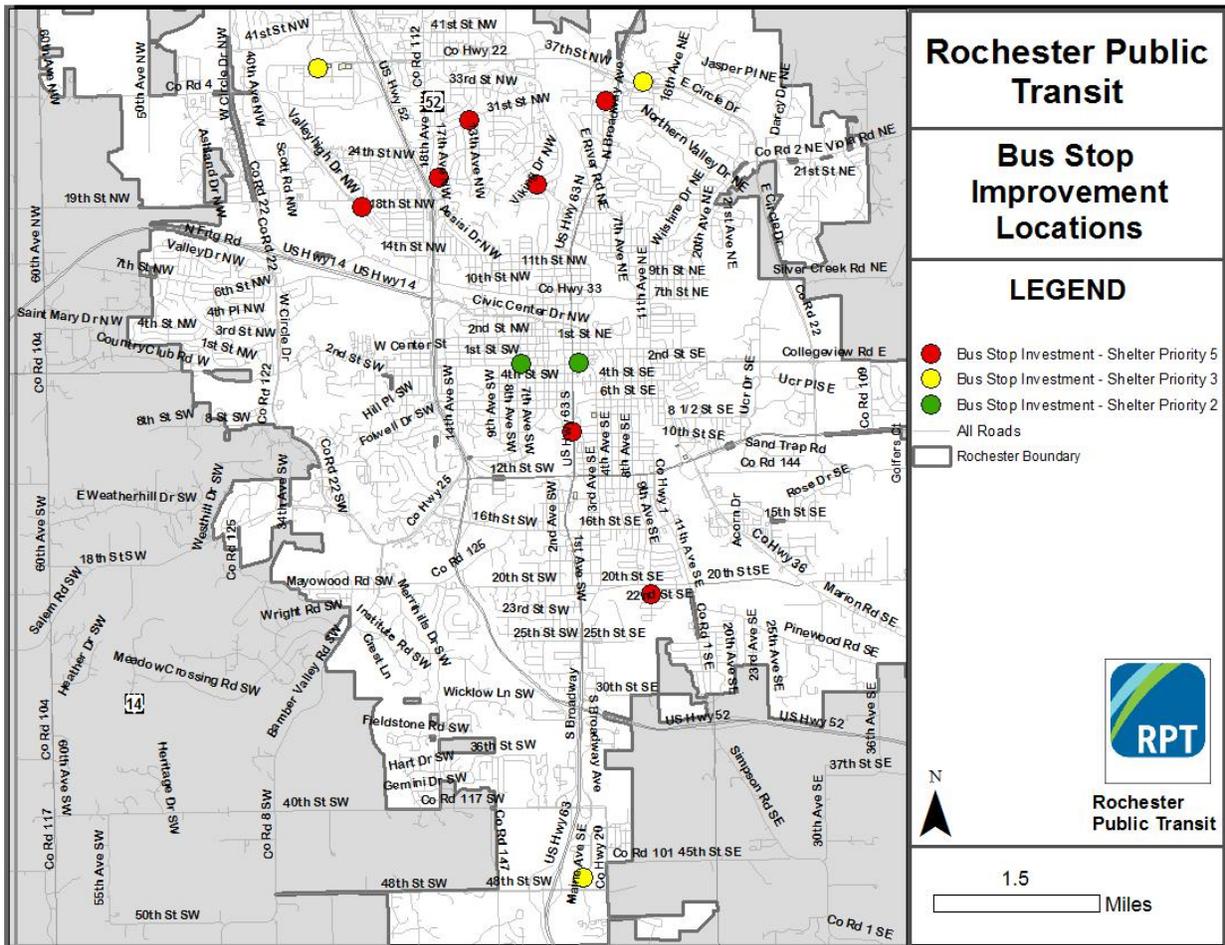
The transit center should have a higher level of amenity than just a bus stop sign or a standard bus shelter, rather it should have a comfortable waiting environment for passengers who may be waiting for up to a half hour between buses. Also, this transit center should have electronic fare card kiosks for passengers to purchase fare media.

12.5 Bus Stop Access and Enhancements

Access to bus stops and the bus stop waiting environment is important way to encourage transit ridership. Without a safe and accessible path to a bus stop, potential riders will not be able to access the RPT system. It is important for every bus stop to have sidewalk access that connects to locations that passengers are coming from or going to. The City of Rochester does have a requirement for new and improved sidewalks associated with property being developed or redeveloped which does enhance access to the transit system. It is important that any sidewalk be accessible not only to pedestrians, but also those who use mobility devices such as walkers and wheelchairs.

Besides providing access to bus stops, the waiting environment at the bus stop is also important. Chapter 5 presents systemwide guidelines which include bus stop guidelines. These include the need for bus stops to have signage that conveys information regarding the bus system such as phone numbers and web addresses. Amenities should be installed at bus stops based on these guidelines. Currently, the RPT capital plan has funding for the installation of two additional bus shelters each year. Placement of these shelters should be based on the guidelines presented in Chapter 5 and the priorities for bus shelter locations are presented on Figure 12-1.

Figure 12-1: Bus Stop Shelter Location Priorities



12.6 Intelligent Transportation Systems (ITS)

Technology improvements are vital to support growth in the transit network. AVL systems provide real-time bus location information both to transit managers as well as the public. Currently RPT has plans to improve the AVL system by installing bus stop annunciators which provide audible announcement of the next bus stop location onboard the bus. Transit Signal Priority (TSP) is proposed along two corridors in 2018, along 2nd Street SW between Trunk Highway 52 and Broadway, and the Broadway North corridor between 2nd Street SW and 19th Street NE. The investment in TSP should be expanded as part of the implementation of BRT and other corridors or intersections should be considered for the deployment of TSP.

13 Marketing

Marketing is an important element of attracting riders to RPT services going forward and to this end RPT has already hired a marketing coordinator to lead the effort. The marketing effort should be multi-faceted to take advantage of both traditional methods – printed maps, guides, schedules -- and up to the minute social media and ITS applications. Additionally, person to person outreach should be a significant component of an overall marketing approach.

Below are concepts that either make significant changes to current materials or that are new; existing materials like the ZIPs guide, which will continue to be used, are not described below.

Printed Materials

Rochester currently uses a booklet format to present its route and schedule information, which has a few notable drawbacks. The booklet itself is substantial as it has schedules for every route plus additional information on the bus system. It has a small map for the system which is very difficult to use and which does not show the routes in relationship to the street map of the city. Finally, because there are so many routes and route variations at present, something that will change with the new plan, it is hard for prospective or new users to understand.

All of the materials in print should also be made available on the system website.

System Map

A substantial change is recommended. Rochester should develop a single, large scale, folding system map, printed in multi-colors with the routes shown over a street map of the city. The map would have insets for downtown and for the new satellite hubs, and in downtown would show both the routings of the buses as well as their downtown stops. On the back, if space permits there could be individual schedules for each route and if not, then there could be information on how to use the bus, fares, how to contact the bus system, ADA information and how to get a guide to ZIPS, and other key information.

Route Guides

Individual route guides should be printed, and should include a route map and schedule with several time points. Other information could have a phone number and web address for more information, a fare schedule, or other information. The maps should show where transfers can be made to other routes.

Special Park-and-Ride Guides

Park-and-ride is a major component of the system that will increase in importance as downtown development takes root and plans to limit parking are incorporated into the overall transportation program of the city. A special guide to using park-and-ride and direct bus routes should be developed, one that can be used both for individuals looking for more information and also can be used as part of an outreach program to employers.

School Guides

Special guides and maps showing routes in relation to middle and high schools should be developed and used as an outreach tool to students in an effort to encourage more bus riding. A separate study will be looking at the potential for integration of at least some school routes with the transit system and a guide will be critical to any changes which are made as a result.

Bus Stops and Stations

A great deal of information can be conveyed at bus stops, in shelters, and at the park-and-ride locations around the city.

- Bus Stop signs should be made up of two parts, one showing the location's designation as a stop and has contact information, and a second smaller element that specifically identifies the routes which stop at the location.
- Shelters should have a large sized map of the system for ready reference which displays both sides, particularly if the second side has schedule information. [ITS real time information should be incorporated into the shelters and will be noted below]
- Park-and-ride locations should be significantly upgraded to feature small shelter/stations with system maps and park-and-ride maps and schedule and real time information.

Social Media and ITS Technologies

A lot has changed since the completion of the 2006 TDP, and people are getting a lot of their information from social media sites. Basic information has to be available on these platforms. Furthermore, the use of ITS technologies coupled with these sites allows the system to provide up to the minute information on operations including real time for the buses, detours or other changes, et al. Thus, RPT should use the following to provide a constant stream of information to users and interested parties, and at the same time should update its current website:

- Facebook is now a common application used around the country to provide basic information, to report news items about the buses, to advertise promotions, to recognize staff or riders, and generally to make the system user friendly.
- Twitter accounts are used to send immediate notifications about changes in service, delays, etc. but also to provide interesting items and links to other sites with more information for riders.
- Real Time Tracking should be extended to more locations. RPT already has real time tracking of its buses, as can be seen downtown and on line, but can take the next step by incorporating real time data on monitors at key sheltered stop locations, at all of the park-and-ride lots, and at the new peripheral transfer locations.

Community Outreach and Promotion

RPT can increase its visibility in the community with the following activities:

- Employer Outreach is already a major component of the system vis a vis the Mayo Clinic, but should be enlarged to reach other major employers in the city. These sessions are particularly valuable given the need to move people out of their cars and onto the bus as development continues and parking becomes more difficult downtown.
- A Speakers Bureau is used by many systems to get their message out to the community. A power point presentation or video along with other media should be developed and used to reach organizations in the community. Staff and other interested parties can be trained with regard to content for the sessions and can then be assigned to speak before community groups. Staff will need to develop advertising to bring the Speaker's Bureau to the community's attention, and it may require calls from the marketing coordinator to spread the word.
- Pop-Up Sessions are an opportunity to bring information to the public at a variety of locations around the community. They were used successfully as a part of this project to solicit input from individuals who would drop by to talk about the buses and what they like or don't like, or what they would like to see done to improve their trip(s). Pop-Ups use a display board and also have all of the maps, schedules, and brochures from the system to give to people.
- Other Promotions can be found by talking with other bus operators, looking at ATA materials, and going through the websites of other systems. Some ideas to consider that have had success include bus wraps, merchant discounts/promotions, and interior advertising. One operator did once a month historical bus tours of its city, with the tours conducted not only by transit staff but also by the head of the historical society, city planner, and others. Some have the Santa bus during the holiday season, with a Santa popping up on various bus routes giving out small gifts from the system (pens, free trips, keychains, etc.). All of these promotions are done to raise the awareness of the buses, to engender goodwill through fun activities, and to encourage people to try riding at least once.

14 Organizational/Staffing Plan

Public Transportation service in Rochester is delivered through the City's Department of Public Works under the aegis of the Transit and Parking Division. Planning and administration is done by city staff, while operations and maintenance is provided by contractors, First Transit for the fixed route system (and all maintenance), and R & S Transport Inc. the subcontractor that provides ZIPS paratransit service.

There are four city staff involved in the administration, contract oversight, planning, and management of grants for the system, headed by the Transit and Parking Manager. When this project began there were two staff reporting to him, the Parking and Transit Assistant and a Transit Planner. Since then, the system has added a Marketing Coordinator to the staff, a welcome addition and one that would have been recommended by this project.

There are two more transit administration positions planned in the FY '17 budget: an operations manager and a grants specialist. These two positions would support grant administration and writing as well as oversight of operations. Also, the parking contractor (Lanier) may add a Transportation Management Specialist position, to offer and market transit and parking options to downtown employers.

With these four staff and the assistance of other city departments for items including payroll and accounting, the system is appropriately staffed and well-run.

The city's Transit Manager is the primary link to the two operators. First Transit provides a General Manager, an Operations and Maintenance Manager, and supervisors and drivers. R&S Transport has its own manager, dispatchers and schedulers, and coordinates well with First Transit and the city transit staff.

From observation, review of procedures and materials, and discussions it appears that the organization is in excellent shape, well-organized and managed, and that it covers all of the necessary bases to keep the program at its current level of excellence.

15 Financial Plan

The financial plan presents the costs and revenues for Rochester Public Transit fixed route services, ZIPS paratransit service, and the capital program. The operating costs include contract cost for operating services RPT and ZIPS service along with costs incurred to administer the transit programs. Capital costs are based on projects identified in Chapter 12. Revenues present the expected funding from each revenue source including fares, federal sources, state sources, and local sources.

15.1 Operating Costs and Revenues

There are four categories of operating costs; RPT fixed route costs, ZIPS costs, park-and-ride costs, and administration costs. Table 15-1 presents the cost basis for calculating operating costs and Table 15-2 presents operating costs for the transit program.

Fixed route costs are based on three factors; revenue hours of service, revenue miles, and total buses. Revenue hour projections are presented in Chapter 9, which multiplied by the contractor rates. The contractor rates are variable with one rate charged for the first 74,000 revenue hours and a second lower rate charged for operations beyond 74,000 hours. Revenue miles include maintenance items and fuel costs and are based on projections of distances buses will travel. Items such as insurance and vehicle registration are based on the total number of buses.

ZIPS paratransit costs are based on a similar calculus to the RPT fixed routes. Contractor cost per hour is based on the operating contract. Revenue hours are based on current revenue hours that are increased by 3% per year based on increased service demands on the ZIPS system.

Chapter 14 presents an organizational and staffing plan that states that there is not a requirement to increase staff within the next five years to support the transit program. Therefore the costs for administration are estimated to grow by 3% per year.

Park-and-ride costs are fixed costs for land leases and maintenance. These costs are averaged by lot location and projected through the life of the plan. A 3% percent growth factor is applied each year for the park-and-ride unit costs.

Operating revenues are divided into five categories; fares and passes, advertising, state funding sources, Federal Section 5307 sources, and local sources. Fares and passes are based on ridership and include all fare and pass types, including agency fares and fare scholarships, as well as funding agreements for operating certain routes. Advertising is revenue that the transit program receives for advertising on buses and public information sources, which is approximately \$100,000 per year. State sources, which are approximately 66% of operating costs are funds received from the State of Minnesota. Federal Section 5307 is formula urbanized funding which is approximately 6% of fixed route operating costs. Local sources, which come from the City of Rochester general fund, make up the funding difference.

Table 15-1: Operating Cost Basis

	Current	2018	2019	2020	2021
Administration	\$1,398,392	\$1,440,344	\$1,483,554	\$1,528,061	\$1,573,903
Cost for each Park and Ride	\$47,280	\$48,698	\$50,159	\$51,664	\$53,214
RPT per Mile Cost	\$1.24	\$1.28	\$1.31	\$1.35	\$1.39
RPT per Bus	\$4,108	\$4,232	\$4,359	\$4,489	\$4,624
RPT Contract (first 74,000 revenue hours)	\$64.27	\$65.99	\$67.74	\$69.47	\$71.17
RPT Contract (more than 74,000 revenue hours)	\$38.95	\$39.99	\$41.00	\$42.00	\$42.93
ZIPS per Mile Cost	\$0.28	\$0.29	\$0.30	\$0.30	\$0.31
ZIPS per Paratransit Vehicle	\$2,886	\$2,972	\$3,061	\$3,153	\$3,248
ZIPS Contract (revenue hours)	\$42.06	\$42.16	\$43.42	\$43.50	\$44.83

Table 15-2: Projected Operating Costs and Revenues

	Current ¹¹	2018	2019	2020	2021
<i>Operating Costs</i>					
Administration	\$1,398,392	\$1,440,344	\$1,483,554	\$1,528,061	\$1,573,903
Park and Ride Cost	\$236,400	\$292,190	\$300,956	\$309,985	\$319,284
RPT Mileage Cost	\$1,238,600	\$1,618,138	\$2,639,394	\$2,777,224	\$2,999,990
RPT Vehicle Cost	\$209,530	\$308,913	\$361,767	\$381,598	\$397,671
RPT Contract (first 74000 revenue hours)	\$5,372,357	\$4,883,260	\$5,012,760	\$5,140,780	\$5,266,580
RPT Contract (more than 74000 revenue hours)	\$0	\$533,067	\$1,387,030	\$2,197,860	\$2,418,247
ZIPS Mileage Cost	\$83,420	\$88,500	\$93,890	\$99,608	\$105,674
ZIPS Vehicle Cost	\$20,200	\$20,806	\$21,430	\$25,226	\$25,983
ZIPS Contract	\$745,489	\$769,673	\$816,470	\$842,508	\$894,314
Total Cost	\$9,304,388	\$9,954,891	\$12,117,251	\$13,302,850	\$14,001,646
<i>Operating Revenues</i>					
Cash and Pass Fares	\$2,577,617	\$2,937,010	\$3,791,639	\$3,892,283	\$4,397,333
Advertising	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
State Funding Sources	\$6,359,900	\$6,636,594	\$8,078,167	\$8,868,567	\$9,334,430
Federal Section 5307	\$302,678	\$298,647	\$363,518	\$399,085	\$420,049
Local Sources	-\$35,807	-\$17,360	-\$216,073	\$42,915	-\$250,167
Total Revenue	\$9,304,388	\$9,954,891	\$12,117,251	\$13,302,850	\$14,001,646

¹¹ From 2017 Transit Budget

15.2 Fare Policy

The TDP does not recommend any changes to the current fare policy or fare levels. Fares should be evaluated to ensure that sufficient revenue is generated by fares, ideally at least 25% of operating costs. Fare revenue would include pass revenues and revenues received for service contracts.

Various stakeholders in Rochester have mentioned that a low-income pass should be provided for residents in Rochester that are at or below the poverty level. This program would be modeled after a similar program in Lincoln, Nebraska. Similar to Rochester, the transit operation is a municipal operation and is called StarTran. In Lincoln a low-income 31-day pass is sold for \$8.00 for fixed route and \$16.00 for paratransit, compared to a regular 31-day pass cost of \$17.00 for fixed route and \$34.00 for paratransit. These passes are sold through a number of social and human service organizations and agencies. Approximately 24% of passengers use this pass. Based on discussions with City of Lincoln staff, the city provides the subsidy for the low-income pass, providing revenue to StarTran to make up the difference in fare revenue. The City of Rochester could pursue this pass option if a mechanism is developed to reimburse the transit program for lost fare revenue, then a low-income pass could be considered for RPT.

15.3 Capital Costs and Revenues

The costs and revenues associated with capital improvements are presented below on Table 15-3. The projects listed are presented in the capital plan, Chapter 12. Chapter 12 highlights the number of bus purchases each year. Bus purchases are funded the year before the vehicle goes in service to allow enough time for the bus to be delivered and placed into service. Capital projects are funded by a combination of federal, state, and a variety of local funding sources. The local sources include the local tax levy, reserve funding, retained earnings, and an operating transfer. Capital costs vary from year to year based on projects that are proposed to be funded that year.

Table 15-3: Projected Capital Costs and Funding Sources

Project	Funding Source	2017	2018	2019	2020	2021
Replacement Fixed Route Buses	State	\$362,964	\$368,408	\$560,902	\$474,430	\$481,546
	Tax levy	\$1,451,856	\$1,473,634	\$2,243,607	\$1,897,718	\$1,926,184
	Project total	\$1,814,820	\$1,842,042	\$2,804,509	\$2,372,148	\$2,407,730
Expansion Fixed Route Buses	State	\$1,814,820	\$8,104,976	\$6,308,027	\$759,088	\$385,237
	Tax levy	\$453,705	\$2,026,244	\$1,577,007	\$189,772	\$96,309
	Project total	\$2,268,525	\$10,131,220	\$7,885,034	\$948,860	\$481,546
Bus Shelters	Project reserves	\$34,000	\$0	\$0	\$0	\$0
	Tax levy	\$6,000	\$20,000	\$20,000	\$20,000	\$20,000
	Project total	\$40,000	\$20,000	\$20,000	\$20,000	\$20,000
Downtown Transit Center Improvements	Tax levy	\$50,000	\$0	\$0	\$0	\$0
	Project total	\$50,000	\$0	\$0	\$0	\$0
St. Marys Transit Center	Federal	\$96,000	\$200,000	\$200,000	\$0	\$0
	Project reserves	\$24,000	\$50,000	\$50,000	\$0	\$0
	Project total	\$120,000	\$250,000	\$250,000	\$0	\$0
ZIPS Paratransit Bus Replacement	Federal	\$0	\$262,400	\$134,480	\$0	\$0
	State	\$256,000	\$0	\$0	\$0	\$0
	Tax levy	\$64,000	\$65,600	\$33,620	\$0	\$0
	Project total	\$320,000	\$328,000	\$168,100	\$0	\$0
ZIPS Paratransit Bus Expansion	Federal	\$128,000	\$0	\$134,400	\$0	\$0
	Tax levy	\$32,000	\$0	\$33,600	\$0	\$0
	Project total	\$160,000	\$0	\$168,000	\$0	\$0
Expansion of PWTOC	State	\$400,000	\$4,000,000	\$0	\$0	\$0
	Tax levy	\$100,000	\$1,000,000	\$0	\$0	\$0
	Project total	\$500,000	\$5,000,000	\$0	\$0	\$0
Transit Signal Priority	Project reserves	\$0	\$20,000	\$0	\$0	\$0
	State	\$0	\$80,000	\$0	\$0	\$0
	Project total	\$0	\$100,000	\$0	\$0	\$0
Electronic Fare Card Kiosk	Project reserves	\$20,000	\$0	\$0	\$0	\$0
	State	\$80,000	\$0	\$0	\$0	\$0
	Project total	\$100,000	\$0	\$0	\$0	\$0
GPS/AVL Improvements	State	\$20,000	\$0	\$0	\$0	\$0
	Tax levy	\$80,000	\$0	\$0	\$0	\$0
	Project Total	\$100,000	\$0	\$0	\$0	\$0
Northwest Transit Hub	Federal	\$0	\$0	\$120,000	\$0	\$0
	Tax levy	\$0	\$0	\$30,000	\$0	\$0
	Project total	\$0	\$0	\$150,000	\$0	\$0
Park-and-ride Construction and Improvement	Federal	\$0	\$800,000	\$0	\$12,800,000	\$0
	Retained earnings	\$0	\$200,000	\$0	\$3,200,000	\$0
	Project total	\$0	\$1,000,000	\$0	\$16,000,000	\$0
Bus Stop Signs	Tax levy	\$0	\$40,000	\$0	\$0	\$0
Total Capital	Federal	\$224,000	\$1,262,400	\$588,880	\$12,800,000	\$0
	Project reserves	\$78,000	\$70,000	\$50,000	\$0	\$0
	Retained earnings	\$0	\$200,000	\$0	\$3,200,000	\$0
	State	\$2,933,784	\$12,553,384	\$6,868,929	\$1,233,518	\$866,783
	Tax levy	\$2,237,561	\$4,625,478	\$3,937,834	\$2,107,490	\$2,042,493
	Project Total	\$5,473,345	\$18,711,262	\$11,445,643	\$19,341,008	\$2,909,276

16 Title VI Analysis

As part of the 2017-2021 Transit Development Plan (TDP), Rochester Public Transit has proposed service changes to a number of its existing and several new fixed bus routes. At full build-out, in year five of the TDP, there would be 28 routes operating weekdays, evenings, and weekends. These changes will be referred to herein as the 5-Year Service Plan. Such would represent an approximate doubling of Rochester Public Transit revenue hours and include adding service to and restructuring current routes and introducing service to previously unserved areas. The 5-Year Service Plan would begin taking effect in 2017, with additional iterative service changes the four years following.

For transit agencies operating 50 or more fixed-route vehicles in peak-hour service in urbanized areas with a population of 200,000 or more, the Federal Transit Administration (FTA) requires the completion of Title VI Service Equity Analyses for proposed service changes that meet the agency's major service change threshold. Rochester Public Transit is currently below both of the thresholds requiring this analysis. However, due to the scale and scope of the proposed changes, the City of Rochester determined that a Service Equity Analysis would be appropriate to ensure that the benefits and burdens of the proposed changes are shared equitably between all population groups.

16.1 Title VI Principles and Definitions

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs receiving federal financial assistance. Title VI states, "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

In 1994, President Clinton issued Executive Order 12898, which states that each federal agency "shall make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." Through this Executive Order, Title VI was identified as one of several Federal laws that should be applied "to prevent minority communities and low-income communities from being subject to disproportionately high and adverse environmental effects."

To provide direction to recipients of federal funding, the FTA issued Circular 4702.1B, *Title VI Requirements and Guidelines for Federal Transit Administration Recipients*, in 2012, which replaced Circular 4702.1A issued in 2007. This document outlines Title VI evaluation procedures for recipients of FTA-administered transit program funds and includes guidance for a variety of equity evaluations.

16.1.1 Minority

The FTA defines a minority person as one who self-identifies as American Indian/Alaska Native, Asian, Black or African American, Hispanic or Latino, and/or Native Hawaiian/Pacific Islander. For the purposes of this evaluation, non-minority persons were defined as those who self-identify as white and not Hispanic or Latino. All other persons, including those identifying as two or more races and/or ethnicities,

were defined as minority persons. The distribution of minority populations within one-quarter mile of the existing and proposed route alignments (the “service change area”) is shown in Table 16-1.

16.1.2 Low-Income

While low-income populations are not an explicitly protected class under Title VI, the FTA recognizes the inherent overlap between Title VI and Environmental Justice principles and requires transit providers to evaluate the impact of service and fare changes to low-income populations and to identify any disproportionate burden placed on those populations by the proposed changes. The FTA defines a low-income person as one whose household income is at or below the poverty guidelines set by the Department of Health and Human Services (DHHS). DHHS poverty guidelines are based on household size and the number of related children less than 18 years of age.

However, FTA Circular 4702.1B also allows for low-income populations to be defined using other established thresholds that are at least as inclusive as those developed by DHHS. Correspondingly, this analysis uses 2015 U.S. Census Bureau poverty thresholds, a more sophisticated measure of poverty that takes into account not only family size and the number of related children present, but also, for one- and two-person units, whether elderly or not. The U.S. Census Bureau’s poverty thresholds are used for statistical purposes, while DHHS’s poverty guidelines are used for administrative purposes.¹² The U.S. Census Bureau 2015 poverty thresholds by family size and presence of related children under 18 years are shown in Figure 16-1.

The distribution of low-income and non-low-income populations within one-quarter mile of the existing and proposed route alignments (the “service change area”), based on the above 2015 poverty thresholds, is shown in Figure 16-2.

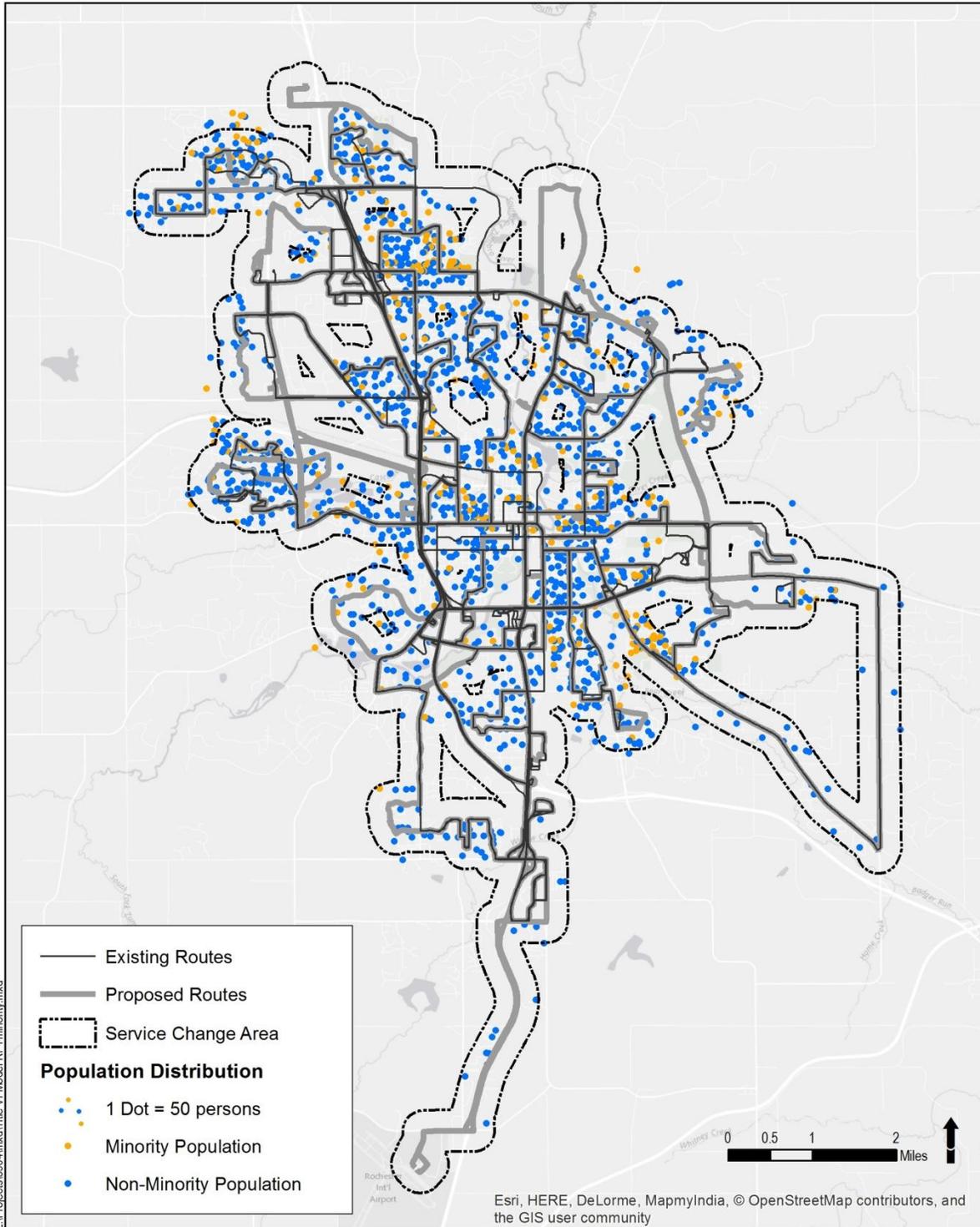
¹² The distinctions between poverty thresholds and poverty guidelines are described further at <https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty#programs>; and <http://www.irp.wisc.edu/faqs/faq1.htm>.

Table 16-1: U.S. Census Bureau Poverty Thresholds (in Dollars), 2015

Size of family unit	Weighted average poverty thresholds	Related children under 18 years								
		None	One	Two	Three	Four	Five	Six	Seven	Eight or more
One person (unrelated individual)	12,082									
Under 65 years	12,331	12,331								
65 years and over	11,367	11,367								
Two people	15,391									
Householder under 65 years	15,952	15,871	16,337							
Householder 65 years and over	14,342	14,326	16,275							
Three people	18,871	18,540	19,078	19,096						
Four people	24,257	24,447	24,847	24,036	24,120					
Five people	28,741	29,482	29,911	28,995	28,286	27,853				
Six people	32,542	33,909	34,044	33,342	32,670	31,670	31,078			
Seven people	36,998	39,017	39,260	38,421	37,835	36,745	35,473	34,077		
Eight people	41,029	43,637	44,023	43,230	42,536	41,551	40,300	38,999	38,668	
Nine people or more	49,177	52,493	52,747	52,046	51,457	50,490	49,159	47,956	47,658	45,822

Source: U.S. Census Bureau, 2015.

Figure 16-1: Distribution of Minority and Non-Minority Population



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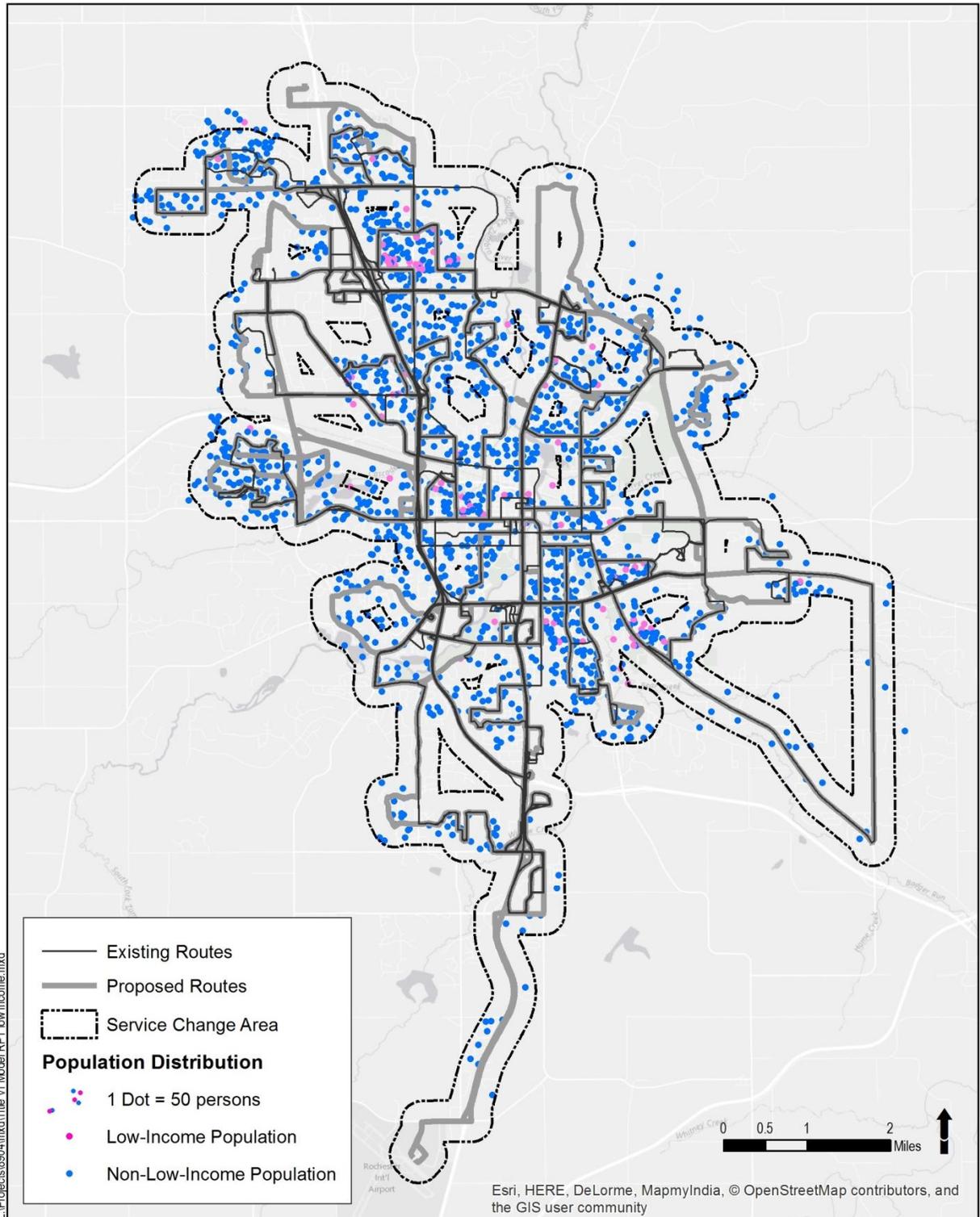


Distribution of Minority and Non-Minority Population

Transit Development Plan: 5-Year Service Plan
Rochester Public Transit

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Figure 16-2: Distribution of Low-Income and Non-Low Income Population



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Distribution of Low-Income and Non-Low-Income Population

Transit Development Plan: 5-Year Service Plan
Rochester Public Transit

16.2 Service Equity Analysis Methodology

A geographic information systems (GIS)-based approach was employed in this analysis to measure the location and magnitude of proposed service changes and compare the distribution of impacts and benefits to minority, non-minority, low-income, and non-low-income populations. The analysis consists of five steps:

1. Model current and proposed service levels.
2. Spatially allocate current and proposed transit service levels to population groups based on intersection between service area buffer and census block centroid.
3. Calculate the percent change in service between the current and proposed service levels for each census block.
4. Calculate the average percent change in service for all minority/low-income and non-minority/non-low-income populations within the quarter-mile service area buffer for the current and proposed transit service.
5. Compare the average percent changes for each population group to determine the relative level of impact.

This analysis used the number of trips available to each census block as a measure of overall transit service levels. Common improvements to transit service, such as increased frequency and increased span of service, will result in an increase in the number of trips available. The addition of service to a new area will also result in an increase in the number of trips available to the surrounding areas.

16.2.1 Modeling Current and Proposed Service Levels

Two networks were modeled to represent the current service levels and the proposed service levels. The current service level network represents the conditions as of January 2017. The proposed service level network represents the conditions after the service changes proposed in the 5-Year Service Plan are fully implemented at the end of 2021.

16.2.2 Assigning Transit Trips to Census Blocks

Demographic information is available at the census block level from the 2010 U.S. Decennial Census. However, demographic information is available only at the census block group level from the 2015 American Community Survey (ACS) 5-year Estimates. Census block groups and census blocks differ in their geographic makeup. Census blocks are the smallest geographic unit used by the U.S. Census Bureau and are bounded by roadways or water features in urban areas. A census block group is typically made up of a cluster of approximately 40 blocks. Due to their size, it can be difficult to identify location-specific impacts using only block group data.

In order to provide more granularity and detail to the analysis, minority and low-income populations were estimated at the census block level using a combination of 2015 ACS data and 2010 Decennial Census data. The 2015 ACS populations for each block group were allocated to their corresponding blocks using the proportion of total population for that block and block group found in the 2010 Decennial Census. For example, if the 2010 data showed that a block contained 10 percent of the total

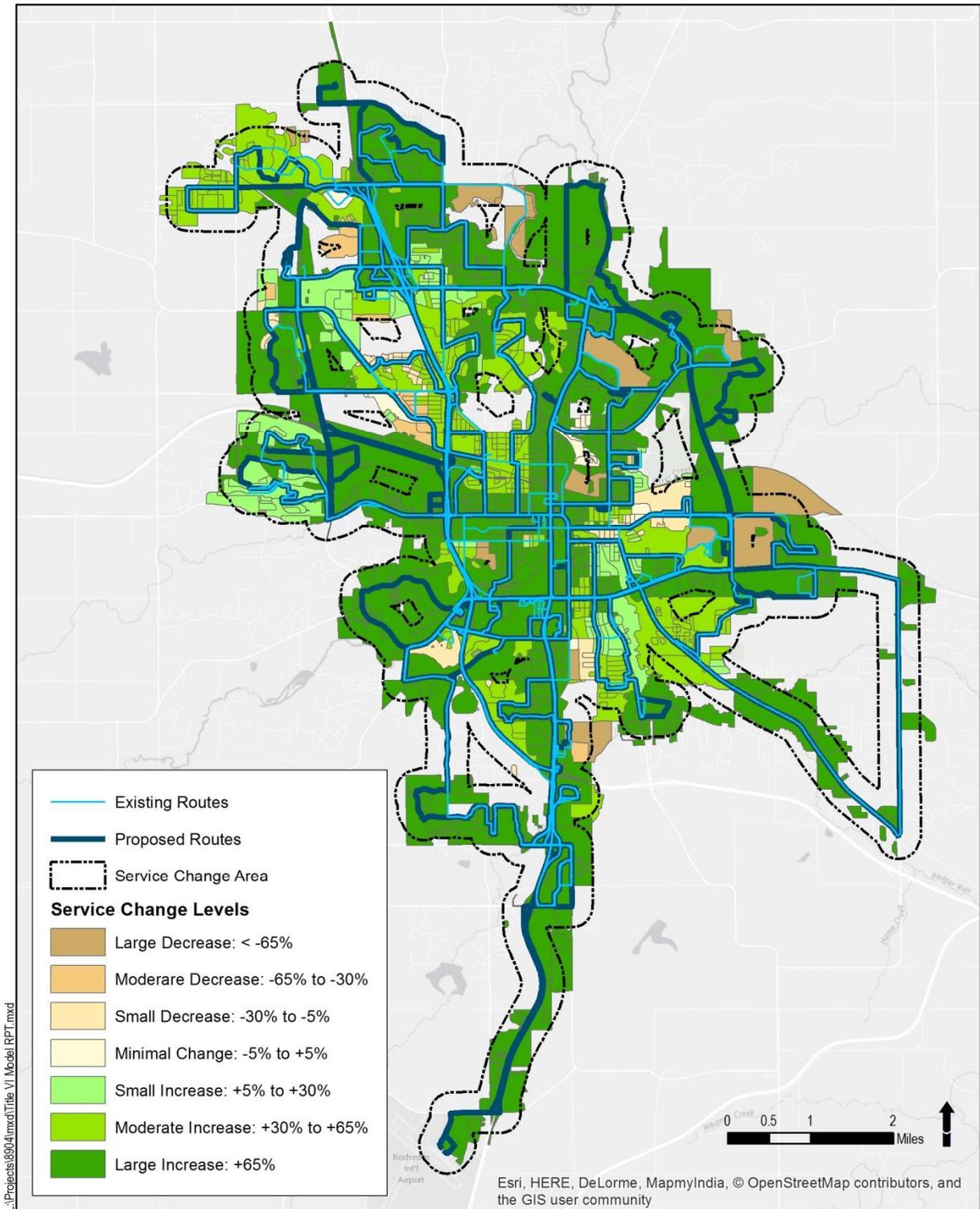
population within its parent block group, it was assumed that this block contains 10 percent of the minority and low-income populations estimated in the 2015 data. While this approach assumes that the percentage of minority and low-income populations are uniform throughout the block group, it allows for a more precise analysis than using the block groups as a whole. This approach also allows for the identification of zero-population areas within each block group.

16.2.3 Calculating Change in Service Level by Census Block

The absolute change in service level was calculated for each census block by subtracting the current number of weekly trips available from the proposed number of weekly trips available. After the absolute change was calculated, the percent change in service was calculated by dividing the change in weekly trips by the existing number of weekly trips. To minimize artificial skewing from newly served areas, all percent changes greater than 100 percent, including those that are incalculable due to zero existing service, were adjusted to a maximum value of 100 percent.

The percent change in service level by census block is shown in Figure 16-3. Areas with zero population are excluded from the figure. Moreover, census blocks whose centroid does not intersect the service area are not shown.

Figure 16-3: Service Level Change Impacts



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Change in Existing Level of Service

Transit Development Plan: 5-Year Service Plan
Rochester Public Transit

16.2.4 Determining Average Percent Change in Service

The average percent change in service for each target population was calculated by weighting the percent change in each census block by the target population served in that census block. For example, the average percent change in service for minority populations was completed by multiplying each census block's minority population by the percent change in service for that block, summing the results for the blocks in the service change area, and dividing that sum by the total minority population for the blocks in the service change area.

The formula used for these analyses is shown below:

$$Avg \% \Delta = \frac{\sum Population_i \times Percent\ Change_i}{\sum Population_i}$$

Where:

Population_i = Target population of census block *i*.

Percent Change_i = Percent change in service levels for census block *i*.

In this manner, the weighted percent change was calculated individually for the total population, minority population, non-minority population, low-income population, and non-low-income population. Using this method, the impacts of the service changes for each census block are proportionate to both the demographics of the census blocks and the degree of service level change.

16.2.5 Comparing the Change in Service for each Population Group

The final step of the evaluation process was to calculate a comparison index by taking the ratio between the average percent change for minority/low-income populations and the average percent change for non-minority/non-low-income populations. In this case, a comparison index value below 1.0 indicates that minority/low-income populations experience a smaller increase in service than non-minority/non-low-income populations.

The determination of the threshold at which a comparison index value shows a potential disparate impact or disproportionate burden is defined individually by each transit agency. As noted previously, Rochester Public Transit does not meet the thresholds requiring the establishment of this threshold. However, many transit agencies across the country use a variation of the "four-fifths rule." This generally states that the benefits distributed to the minority/low-income populations should be at least 80 percent of the benefits distributed to the non-minority/non-low-income populations. Using this approach as guidance, a comparison index of 0.80 or less was used as the threshold for potential disparate impacts or disproportionate burdens.

16.2.6 Evaluation of Impacts

In total, 99,154 people live in census blocks within the area that is experiencing a change in service. This population includes 21,781 minority persons, 77,373 non-minority persons, 10,517 low-income persons, and 86,517 non-low-income persons. It should be noted that the ACS cannot determine low-income status for persons residing in group quarters. These include, but are not limited to, populations living in dormitories, group homes, nursing facilities, and correctional facilities. For this reason, the combined total of low-income and non-low-income populations is 97,034, slightly less than that estimated population as a whole. The average percent change in service levels for each target population group and a comparison index showing the relative change between groups is summarized in Table 16-2.

Table 16-2: Average Service Level Change by Population Group

Population Group	Population of Service Change Area	Average Percent Service Change	Comparison Index
Minority	21,781	64.0%	0.99
Non-Minority	77,373	64.8%	
Low-Income	10,517	63.2%	0.97
Non-Low-Income	86,517	65.1%	
Total	99,154	64.6%	-

The proposed service changes result in an overall increase in transit service availability for all population groups. The average individual in the service change area experiences a 64.6 percent increase in transit service.

The average minority individual in the service change area experiences a 64.0 percent increase in transit service. This value is slightly lower than the average increase of 64.8 percent for non-minority individuals, resulting in a comparison index of 0.99. This result is higher than the common threshold value of 0.80. Therefore, this analysis identifies no potential for disparate impact to minority populations as a result of the proposed service changes.

The average low-income individual in the service change area experiences a 63.2 percent increase in transit service. This value is lower than the average increase of 65.1 percent for non-low-income individuals, resulting in a comparison index of 0.97. This result is higher than the common threshold value of 0.80. Therefore, this analysis identifies no potential for disproportionate burdens to low-income populations as a result of the proposed service changes.

16.3 Summary and Next Steps

Federal funding recipients such as Rochester Public Transit are required to follow the guidance and requirements under FTA Circular 4702.1B to ensure an equitable distribution of benefits and burdens to protected and non-protected populations groups. While the completion of service equity analyses for major service changes are not strictly required for Rochester Public Transit, it was determined that it would be appropriate to conduct a service equity analysis for the proposed changes outlined in the 5-

Year Service Plan. This review finds that the proposed service changes will not result in disparate impacts to minority populations or disproportionate burdens to low-income populations based on thresholds commonly used by other transit agencies.

Appendix

Initial Public Outreach

Rochester Transit Development Plan

Summary of Outreach Activities

DRAFT 1.0

City of Rochester



In conjunction with:



December 2015

SRF No. 8904

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Stakeholder Outreach Plan

It is essential to gain an understanding of existing conditions and needs from a diverse set of transit stakeholders in order to develop an effective plan for future transit services. The consultant team, in collaboration with City of Rochester staff, used a variety of tools and techniques to gather meaningful input to the transit development plan. Engagement strategies involved City of Rochester and transit operations staff (including bus operators and supervisors), elected officials, members of the business and academic community, transit advisory committee, agency leaders, current passengers as well as the broader community. The project team incorporated a mix of outreach sessions, personal interviews, focused meetings, on-line and social media opportunities and surveys to gather input on current and future transit service needs and test the reasonableness of potential service modifications. An inventory of outreach activities is summarized in this section.

Online Engagement

Decision Maker Survey

As part of the outreach effort the consultant team worked with city staff to develop a survey for key area stakeholders to generate input to the overall strategic planning and visioning components of the study. In particular, this survey was directed toward elected officials and appointed members of various commissions and boards that make decisions related to transit development in Rochester. The objective of this survey is less about specific route planning, and service critiques, and more focused on understanding the mission, vision, and values of the transit system, and how financial resources should be prioritized in the future. This survey was distributed online via a link to a Survey Monkey website. If there are key decision-makers that needed to be contacted individually to provide input on the project, the option was presented to contact them via direct outreach or a conference call. The list of decision makers was provided by city/transit agency staff for survey distribution.

Community Surveys

An online community survey gathered input on transit needs, opportunities, and limitations of transit within the community. General community surveys help establish the value the community places on transit services and can provide insight for guiding future investments. The survey addressed current and future travel modes and patterns of household members, awareness of current services, effectiveness of marketing approaches and overall interest and willingness to support expanded community transit services. The consultant team worked with city/transit agency staff to develop the survey and post it on a Survey Monkey website. This survey was distributed by city/transit agency staff, advertised on buses, and promoted on social media. The survey was also distributed specifically to Mayo Clinic employees, and

included a few additional questions related to Mayo Clinic's transportation needs for those participants. This survey was distributed by Mayo Clinic staff. The community surveys were coordinated with the on-board survey effort so that they were completed around the same time.

My Sidewalk

In addition to the general community on-line survey, the online engagement tool called My Sidewalk provides opportunity for people to further engage and provide input online. My Sidewalk offers the ability for two-way dialogue through the duration of the project where members of the public can review project materials, ask questions, and engage with agency staff. The purpose of the My Sidewalk page is to obtain input at critical points in the project, and educate the public on transit operations and governance. The My Sidewalk page was set up by the consultant team and posted on City of Rochester and Rochester Transit System websites and social media accounts. Ongoing interaction on the My Sidewalk page was performed by city/transit agency staff. Timing of the My Sidewalk website going live corresponded with other online engagement efforts, and will continue through the duration of the project

On Board Survey

As a key part of public input to the Rochester Transit Development Plan, an on-board survey was conducted among riders of Rochester Public Transit in September 2015. Where other surveys intended to obtain feedback from a broad cross-section of the Rochester community, the onboard survey sought feedback from existing transit users on transit needs, opportunities, and limitations of transit within the community. The onboard survey was distributed over the course of two weekdays and data was collected with assistance from contracted workers.

Meetings

Focused Discussions

The consultant team addressed key topics with stakeholders in a series of meetings and discussions to define the transit markets and gain an understanding of how well current services meet local needs, what the most important new travel markets are and how can non-users become attracted to transit. As part of this effort the consultant team first met with city staff and members of the Citizens Advisory on Transit to review and update the goals and objectives guiding current transit investments. Participants also included other key stakeholders and community leaders in focused discussion sessions defining the study needs and issues to address in the updated transit development plan.

Pop-Up Meetings

The consultant team also engaged transit users with interactive exercises and discussions at pop-up meetings. Pop-up meetings were held at various locations in downtown Rochester (bus transfer points) where there is a steady amount of pedestrian and transit passenger traffic. Abridged paper surveys, links to online engagement venues, and interactive exercises were made available for the public to use. The pop-up meetings were held on the same dates as the focused discussions.

Public Meetings

Two open house-style public meetings are included in the outreach efforts of this project. The first meeting, held in October 2015, served as a venue to gather early input on the project (an extension of the focused discussion and pop-up meetings), and a second meeting will be to gather feedback on draft recommendations of transit concepts. The first open house meeting was around the same time as the focused discussions. City/transit agency staff were responsible for identifying appropriate venues for these meetings. A summary of input from the second open house meeting will be included as a future addendum to this memo.

Special Population Outreach

The consultant team also met with key population groups where a non-traditional input session was necessary. During the initial phase of outreach, the project team conducted an open house meeting at Ability Building Center of Rochester, a center that provides a variety of services to people with disabilities. The project team also met with the Community Network Group, a consortium of policy makers and social service agency leaders, to participate in a work session on transit. Additional opportunities for special population outreach will be evaluated on an ongoing basis.

Technical Memo

The results of all of the stakeholder outreach are summarized in this memo to help guide development and evaluation of transit service modification options. This document highlights issues identified in the outreach process that will be addressed in the development of the new transit plan. Full data sets from surveys and records of comments will also be provided to City of Rochester staff and all members of the project team.

Decision Maker Survey

As a key component of the Rochester Transit Development Plan, a survey was conducted among “decision-makers” in the Rochester community. As best as can be determined from the data, the largest number of respondents are engaged in social services, whether for a public or non-profit agency. A total of 66 valid surveys were collected from September-November 2015.

Survey Text

A full version of the decision maker survey is attached in Appendix A of this memo.

Decision Maker Survey Report

Evaluation of Transit Services

Question #1: Used Public Transit

Respondents were asked if they had ridden on Rochester Public Transit in the previous six months. 15 of the 66 respondents (23 percent) indicated that they had used public transit, while 51 (77 percent) did not.

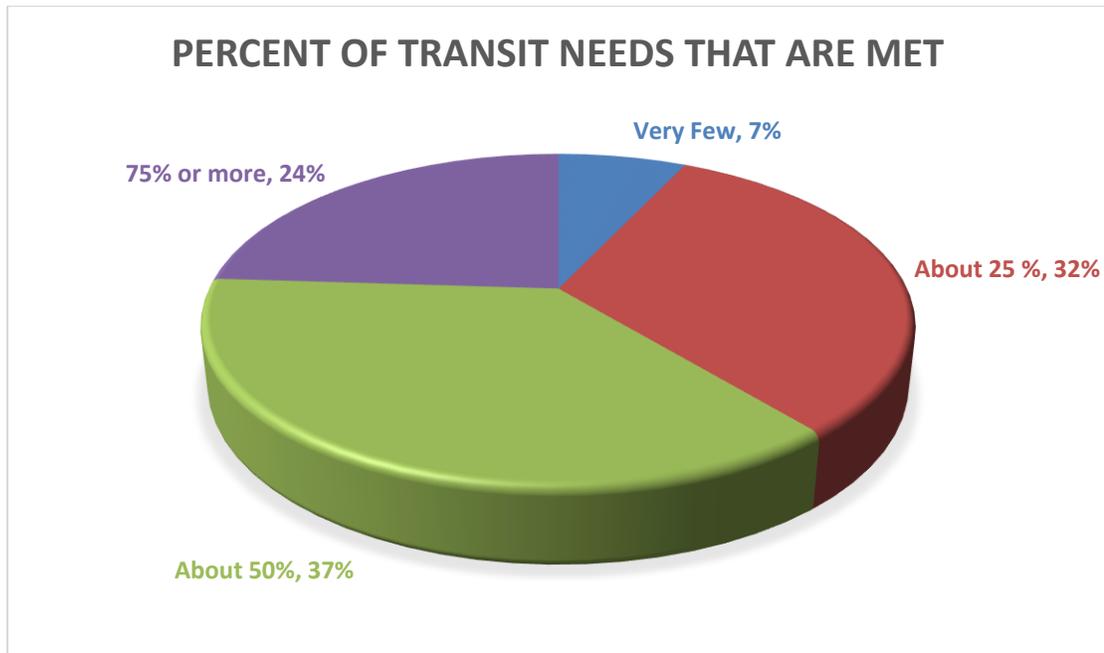
Question #2: Meeting Community Transit Needs

The respondents were asked, “How well would you say that Rochester Public Transit meets the transit needs of the area? Does it meet:

- 75 percent or more of transit needs
- 50 percent of transit needs
- 25 percent of transit needs
- Very few transit needs

A plurality of respondents (37 percent) said that 50 percent of the city’s transit needs are being met. 24 percent said that more than 50 percent, while 39 percent said that fewer than 50 percent of these needs are being met (see Figure 1).

Figure 1. Percent of Transit Needs Being Met



Question #3: Transit Needs That Are Being Met, or Are Not Being Met

Respondents were then asked to describe, “What transit needs are being met, and which are not being met?”

42 of the 66 respondents (64 percent) answered the question, citing specific needs that are being met, or not. The 42 respondents cited a total of 63 needs that are being met, or that are not being met, or exactly 1.5 discrete responses per respondent. 55 of the 63 discrete responses (88 percent) describe needs that are not being met, and eight of the responses (12 percent) are classified as needs that are being met.

Transit Needs That Are Being Met

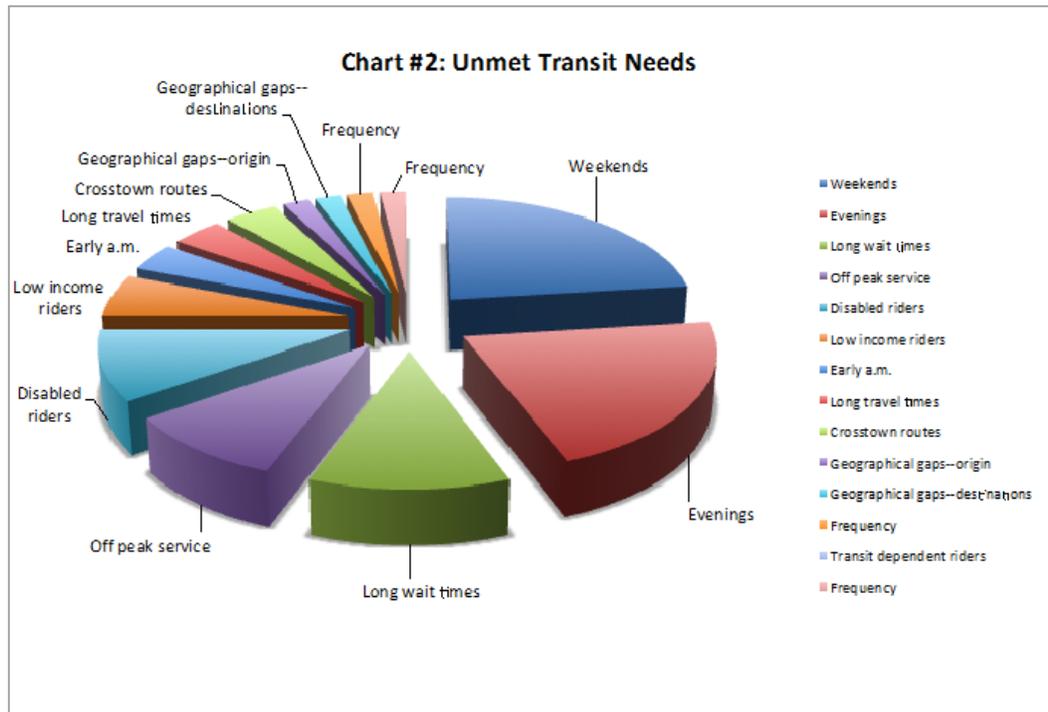
The eight positive responses all said that the following transit needs are being met:

- The transit needs of Mayo Clinic employees (6 responses)
- The needs of people who work downtown and/or who work from 8 a.m. to 5 p.m. (1 mention each)

Transit Needs That Are Not Being Met

55 of 63 responses from 42 respondents cited transit needs that are not being met. They cited the following unmet transit needs. The percentages shown here are among the total number of 55 mentions of unmet needs. See Figure 2 for a detailed summary.

Figure 2. Unmet Transit Needs



A summary of the unmet transit needs cited by respondents is presented in Table 1.

Table 1. Unmet Travel Needs

Need	Number and Percent of Responses	Verbatim Responses
Weekend service	12 mentions (22% of 55 unmet needs mentioned)	<ul style="list-style-type: none"> • Evening and Sunday needs not being met.” • “No transit on Sundays is a huge barrier for some...”
Evening service	11 mentions (20%)	<ul style="list-style-type: none"> • “Need to cover third shift workers—need extended coverage until midnight...and extended service on Saturday and Sunday.”
Long wait and travel times/ need more frequent service on existing routes	9 (16%)	<ul style="list-style-type: none"> • “Continual complaints about the length of time clients wait to be picked up.”
Off peak—i.e. did not specifically say “early” or “evening” or “weekend”	5 (9%)	<ul style="list-style-type: none"> • “Hours of operation limit use of transit for many who work non-traditional hours.”
Services for people with disabilities	5 (9%)	<ul style="list-style-type: none"> • “I work with persons with disabilities, and the public transit system overall does not meet their needs.” • “For those who need specialized transportation, very few options exist (and) they are very expensive with very limited availability.”

Need	Number and Percent of Responses	Verbatim Responses
Services for low income residents	3 (5%)	• “Transit (is) unreliable for those who are working low wage jobs.”
Earlier service	2 (4%)	• “Early morning transit hours are often not available.”
Crosstown routes without going downtown	2 (4%)	• “Not willing to go downtown to wait for transfers.”
Geographical gaps, bus needs to serve more neighborhoods	2 (4%)	• “The bus needs to come through more neighborhoods.”
Other	5 (9%)	See below (unmet needs)

Other Unmet Needs

As shown in Table 2, 5 responses (9 percent) cite a variety of “other” unmet transit needs. They include:

- Difficult to ride transit to medical appointments
- Service for transit-dependent population is not good
- Geographical gaps in destinations served
- Transit is not readily available
- Transit service to neighboring communities

Question #4: Attitudes toward Transit and Transit Services

Respondents were asked if they agree strongly, agree, disagree, disagree strongly or have a neutral opinion concerning various statements about transit services. The respondents were most agreeable to two statements.

- “It is important to have a public transit system in Rochester”—97 percent agree or agree strongly
- “A strong public transit system is important to businesses”—93 percent of respondents agree or agree strongly

The respondents were less agreeable to other statements about bus service—statements such as “vehicles appear clean and well-maintained” and “Rochester Public Transit runs on time.”

The statements are listed below in order of the percent of decision makers who agree strongly or agree with the statement in question (see Table 2).

Table 2. Attitudes Toward Transit

Statement	Percent of Decision-Makers Who Agree or Agree Strongly
It is important to have a public transit system in Rochester	97%
A strong public transit system is important to businesses	93%
Rochester Public Transit vehicles appear clean and well-maintained	63%
Rochester Public Transit facilities are attractive, clean and well-maintained	61%
Personal safety is a significant concern among bus users	52%
Bus drivers provide good customer service	51%
Bus service within Rochester appears to be well used	51%
Rochester Public Transit runs on time	41%
Most people in the community understand the importance of public transit	37%
Rochester Public Transit is responsive to community needs and suggestions	25%
The bus system is easy to use	20%

The respondents to the Decision-Maker Survey responded least favorably to the statements “The bus system is easy to use” and “Rochester Public Transit is responsive to community needs and suggestions.”

Strategies for Improving Transit Services

Question #7: Priorities among Groups of Transit Riders

In answer to Question #3 above, 9 of 55 (16 percent) of responses identifying unmet transit needs cited specific groups of riders who they believe are not receiving adequate service today. They include people with disabilities (9 percent), low-income residents (5 percent) and transit-dependent populations (2 percent).

Question #7 goes on to ask, how important is it to serve the following transit user groups? Figure 3 shows that these “decision-makers” believe that transit should strive to provide the highest quality of service to 1) those who are dependent on transit, 2) people with disabilities, and 3) seniors.

Question #5: Transit Investment

Respondents were asked, what is the right level of public investment in transit in Rochester? Figure 2 shows that 93 percent of the respondents said that transit investment should be increased. They were about equally divided between advocating a “moderate increase” versus a “significant increase.”

Figure 3. Question #7 Summary

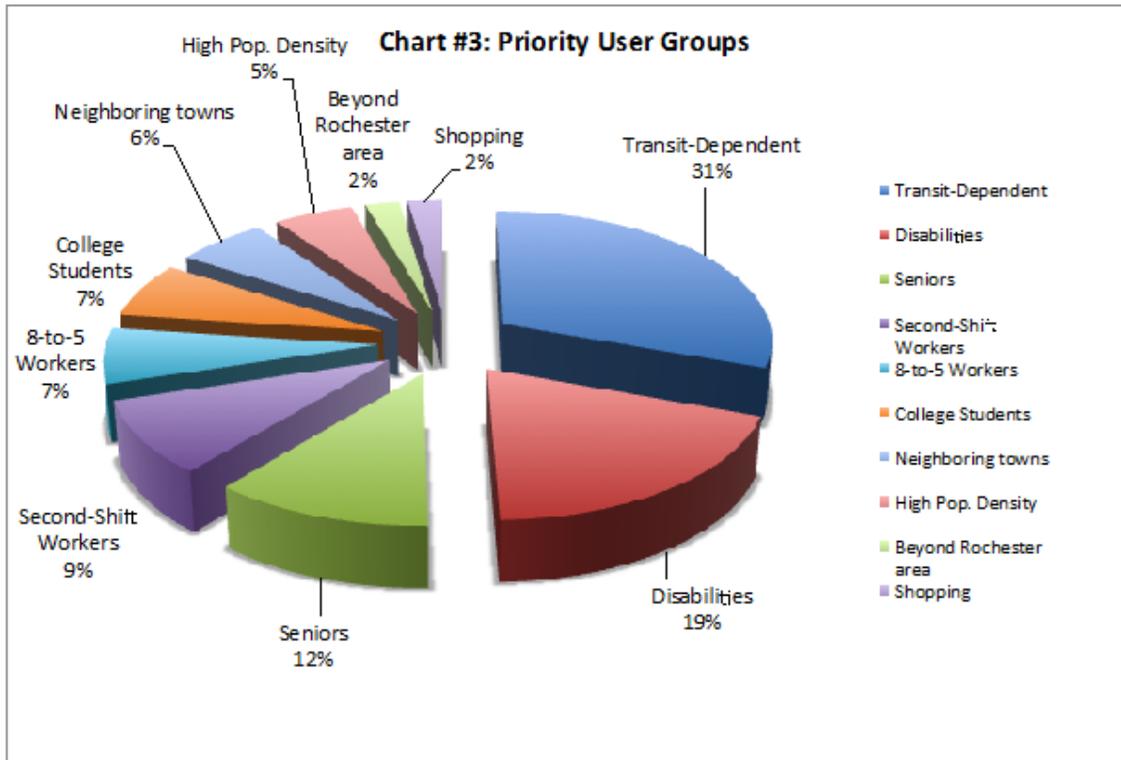
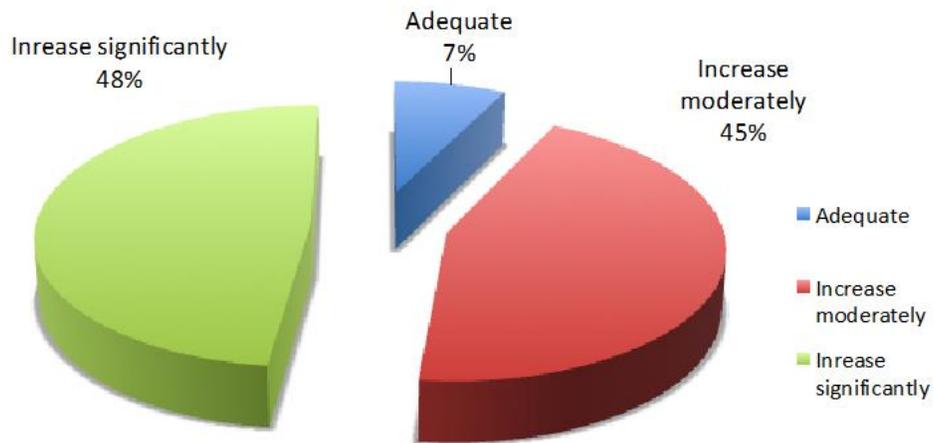


Figure 4. Question #5 Summary

Chart #4: Transit Investment



Questions #6, 8 and 9: Strategies for Increasing Transit Ridership

Respondents were asked to prioritize transit investments to increase transit ridership. Question #6 gave them four alternatives, and asked them to prioritize the four alternatives from the first priority to the fourth (see Table 3). Question #8 gave them twelve alternatives and asked them to prioritize these alternatives on a scale of 1 to 5, with 1 being likely to be among the least successful strategies and 5 likely to be among the most successful strategies. From the first list in Question #6, respondents prefer the strategy of extending the span of service earlier and later in the day.

Table 3. Increasing Ridership – Part One

Priority	#1 Priority
Extend the span of service so more buses run earlier or later in the day.	72%
Add a modest level of transit service on Sundays	53
Make current routes run more frequently—every 15 minutes instead of every 30 minutes, etc.	40
Expand the service area to provide reasonable access to more city residents	39

From the much longer list of alternative strategies in Question #8, the respondents preferred 1) weekend service, 2) crosstown service without traveling downtown, 3) greater frequency on existing routes, and 4) using different types of vehicles (see Table 4).

Table 4. Increasing Ridership -- Part Two

Priority	Priority Rating
Add more weekend service	#1 priority 45% rated "most successful"—2% rated "least successful" = rating of +43
Add service that connects crosstown areas without traveling downtown	#2 priority 48% rated "most successful"—7% rated "least successful" = rating of +41
Increase frequency on current bus routes	#3 priority 34% rated "most successful"—2% rated "least successful" = rating of +32
Use different types of vehicles such as smaller buses, larger buses, trolley, rail, etc.	#4 priority 24%—0% = +24
Expand employer incentives to ride transit	#5 priority 19% rated "most"—10% rated "least" = +9
Add longer distance service to outlying communities	#6 priority 17% rated "most"—12% rated "least" = +5
Add park and ride lots with shuttles to downtown	#7 priority 15—12 = +3
Make major stops more attractive and provide next bus arrival information	#8 priority (tied) 7% rated "most"—10% rated "least" = -3
Significantly reduce fare level	#8 priority (tie) 5%—8% = -3
Add downtown circulator routes	#10 priority 5%—10% = -5
Operate more service on-demand (like a taxi)	#11 priority 19% rated "most"—24% "least" = -5
Keep system as-is, just market it better	#12 priority 0%—50% = -50

In Question 9, respondents were asked to elaborate on what they considered to be the #1 priority. A total of 27 responses was received. Following are the various priorities, listed in rank order from the most mentions to the fewest (see Table 5).

Table 5. Recommended Strategies

Rank	Strategy	Mentions	Description
1.	Increase weekend service	9	“Many people don’t have cars, and their life doesn’t end on Friday and start back up again on Monday. They still need a way to around and contribute to the community.”
2.	Crosstown service without going downtown	5	“Add service that connects crosstown areas. This will help reduce the amount of time riding the bus....”
3.	Increase frequency within existing routes	3	“Increasing the frequency of routes. One hour between some routes makes the system unusable.”
4.	Use smaller/different buses	2	“Alternate types of vehicles to meet the needs of all riders.”

The other eight priorities listed in Question #8 each received one mention in Question #9.

Summary of Priorities

Respondents were asked to identify unmet needs in Question #3, and to rate or rank strategies for improving the bus service in Questions #6, #7, #8 and #9. Table #7 (next page) provides a composite list of priorities across all five relevant questions. The top priorities are 1) weekend service, 2) crosstown service, 3) evening service, 4) increased frequency and 5) early morning service. But, there are more than 25 different priorities that received some type of support from these decision makers.

Comparison of Preferred Strategies in Decision-Maker and Community Surveys

There is substantial agreement on the top four to five priorities for improving transit service among the decision-makers and the public (as identified in the Community Survey). But there is a significant difference of opinion on the rank-ordering of those priorities themselves. **The public ranks evening service as its greatest need, while the decision-makers rank weekend service as their greatest need.** Each group has the other’s #1 choice at #3.

This difference reflects a difference in philosophies. Should the bus service have as its top priority providing service to the largest possible numbers of riders—which means 8-to-5 workers downtown and at the Mayo Clinic? Or, should bus service focus on the needs of transit-dependent populations?

For the former, the greatest need is to expand service into the early evening so that people who get off work sometime after 5 p.m. can ride the bus home. For the latter, the greatest need is to enable those who are transit-dependent to go to church, and shopping, and many other errands—as well as getting to work and back home again—over the weekend.

An overall summary of survey feedback on investment priorities is shown in Table 6.

Table 6. Prioritization Summary

Needs/Strategies Composite List	#3: Unmet Needs	#6: Invest Strategies	#7: User Groups	#8: Ridership Strategies	#9: Ridership Strategies
#1 Priority: Weekend Service	#1	#2		#1	#1
#2 Priority: Crosstown routes	#8		#1	#2	#2
#3 Priority: Evening Service	#2 (#4 off-peak)	#1			
#4 Priority: Increase Frequency		#3		#3	#3
#5 Priority: Early A.M. Service	#7 (#4 off-peak)	#1			
#6 Priority: Focus on serving persons with disabilities	#5		#2		
#7 Priority: Different sized vehicles				#4	#4
#8 Priority: Focus on serving transit-dependent users			#1		
#9 Priority: Fill gaps in point of origin; serve more neighborhoods	#9	#4			
#10 Priority: Service to neighboring communities—e.g. Byron, Stewartville			#7	#6	
#11 Priority: Shorter travel times	#3				
#12 Priority: Focus on serving seniors			#3		
#13 Priority: Focus on serving second shift workers			#4		
#14 Priority: Focus on serving 8-to-5 workers			#5		
#15 Priority: Employer incentives				#5	
#16 Priority: Focus on serving low income residents	#6				

Needs/Strategies Composite List	#3: Unmet Needs	#6: Invest Strategies	#7: User Groups	#8: Ridership Strategies	#9: Ridership Strategies
#17 Priority: Focus on serving to college students			#6		
#18 Priority: More park and rides				#7	
#19 Priority: More, better shelters				#8	
#20 Priority: focus on serving areas of high population density			#8		
#21 Priority: Fill gaps in destinations	#9				
#22 Priority: Service to other metros—e.g. Twin Cities, Chicago			#9		
#23 Priority: Service shopping trips			#9		
#24 Priority: Reduce fares				#9	
#25 Priority: Downtown circulators				#10	

Community Survey

As a key outreach component of the Rochester Transit Development Plan, a survey was conducted among members of the Rochester community. A total of 326 valid surveys was collected from September-November 2015.

Survey Text

A copy of the community survey is attached in Appendix B.

Community Survey Report

Questions #1 and #2: Respondent Profile

- Respondents were asked if they had ridden on Rochester Public Transit in the previous six months. 150 of the 326 respondents (46 percent) said that, Yes, they had ridden the bus in the previous six months. 176 respondents (54 percent) responded that, No, they had not ridden the bus in the previous six months.
- Respondents were also asked if they currently work at the Mayo Clinic or Mayo Clinic Health System. 120 respondents (37 percent) work at the Mayo Clinic or Mayo Clinic Health System, and 206 (63 percent) do not.

Table 7. Respondent Profile

	Mayo Employee	Not Mayo Employee	Sub-Totals
Used Transit in Past 6 Months	60 (50% of Mayo employees used transit)	90 (44% of not-Mayo employees used transit)	150 Use Transit (46% of the total sample)
Did Not Use Transit in Past 6 Months	60 (50% of Mayo employees did not use transit)	116 (56% of not-Mayo employees did not use transit)	176 Did Not Use Transit (54 percent of the total sample)
Sub-Totals	120 Mayo Employees (37% of the total sample)	206 Not Mayo Employees (63% of the total sample)	Total Sample 326 respondents

This profile (see Table 7) describes the 326 respondents to the survey. It is not assumed to be representative of the Rochester community broadly defined, nor of transit users.

Question #5: Attitudes toward Transit and Transit Services

Respondents were asked if they agree strongly, agree, disagree, disagree strongly or have a neutral opinion concerning various statements about transit services. Both riders and the total sample were most agreeable to general, policy-level statements such as:

- “It is important to have a public transit system in Rochester”—81 percent of all respondents agree or agree strongly; 95 percent of riders agree or agree strongly
- “A strong public transit system is important to businesses”—91 percent of all respondents agree or agree strongly

All respondents taken as a whole were substantially less agreeable to a series of more finite statements about bus service—statements such as “Vehicles appear clean and well-maintained” and “Rochester Public Transit runs on time.” Riders are more agreeable to most such statements, however, by a double digit margin on most questions. For example, just 48 percent of all respondents agree that “Rochester Public Transit runs on time” but 63 percent of riders agree with this statement.

There are two exceptions to this pattern:

- 57 percent of all respondents agree that “Rochester public transit facilities are attractive, clean and well-maintained,” and 56 percent of riders agree with this statement.
- 46 percent of all respondents agree that “Personal safety is a significant concern among bus users,” while 50 percent of riders agree with this statement.

The statements are listed in Table 8 in order of the number of all respondents (right-hand column) who agree strongly or agree with the statement in question.

Table 8. Attitudes toward Transit

Statement	Percent Riders Who Agree or Agree Strongly	Percent Total Sample Who Agree or Agree Strongly
It is important to have a public transit system in Rochester	95%	81%
A strong public transit system is important to businesses	84	78
Rochester Public Transit vehicles appear clean and well-maintained	77	49
Rochester Public Transit facilities are attractive, clean and well-maintained	56	49
Bus drivers provide good customer service	69	48
Personal safety is a significant concern among bus users	50	46
Rochester Public Transit runs on time	63	40

Statement	Percent Riders Who Agree or Agree Strongly	Percent Total Sample Who Agree or Agree Strongly
Bus service within Rochester appears to be well used	61	39
Most people in the community understand the importance of public transit	47	34
The bus system is easy to use	56	31
Rochester Public Transit is responsive to community needs and suggestions	23	15

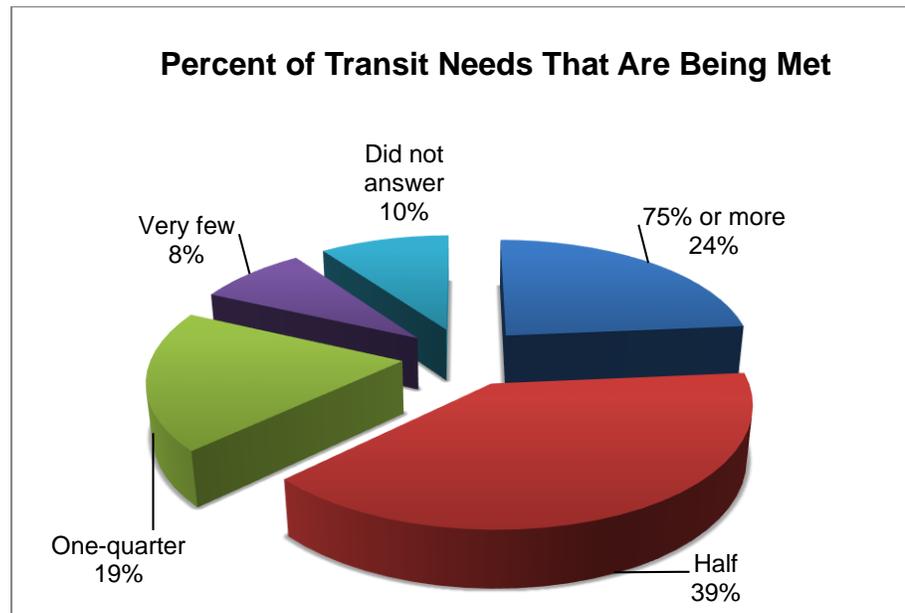
Question #3: Meeting Community Transit Needs

The respondents were asked, “How well would you say that Rochester Public Transit meets the transit needs of the area? Does it meet:

- 75 percent or more of transit needs
- 50 percent of transit needs
- 25 percent of transit needs
- Very few transit needs

A summary of responses is shown in Figure 5.

Figure 5. Transit Needs



Riders are slightly more favorable in their response to this question. 63 percent of the total sample responded that 50 percent or more (50 percent plus 75 percent or more) of transit needs are being met.

Question 4: Transit Needs That Are Being Met, or Are Not Being Met

Respondents were then asked to describe, “What transit needs are being met, and which are not being met?”

- 201 of the 326 respondents (62 percent) answered the question, citing specific needs that are being met, or not.
- The 201 respondents cited a total of 299 needs that are being met, or that are not being met, or almost exactly 1.5 discrete responses per respondent.
- 256 of the 299 responses (86 percent) are classified as needs that are not being met, and 43 of the responses (14 percent) are classified as needs that are being met.

Transit Needs That Are Being Met

28 of the 43 positive responses (65 percent) state that transit needs are being met for people who are riding to:

- Work
- Specifically, to work downtown
- And also, specifically, to work at the Mayo Clinic
- 10 other respondents cited riders who work “8 to 5,” are “commuting” or riding during “business hours”

In short, 88 percent of positive responses cite commuting to work downtown and/or at the Mayo Clinic during business hours, from 8 a.m. to 5 p.m., as a strength of the system.

Transit Needs That Are Not Being Met

256 of 299 responses from 201 respondents cited transit needs that are not being met. They feature the following unmet transit needs. The percentages shown in Figure 6 and detailed in Table 9 are among the total number of 256 mentions of unmet needs.

Figure 6. Unmet Transit Needs

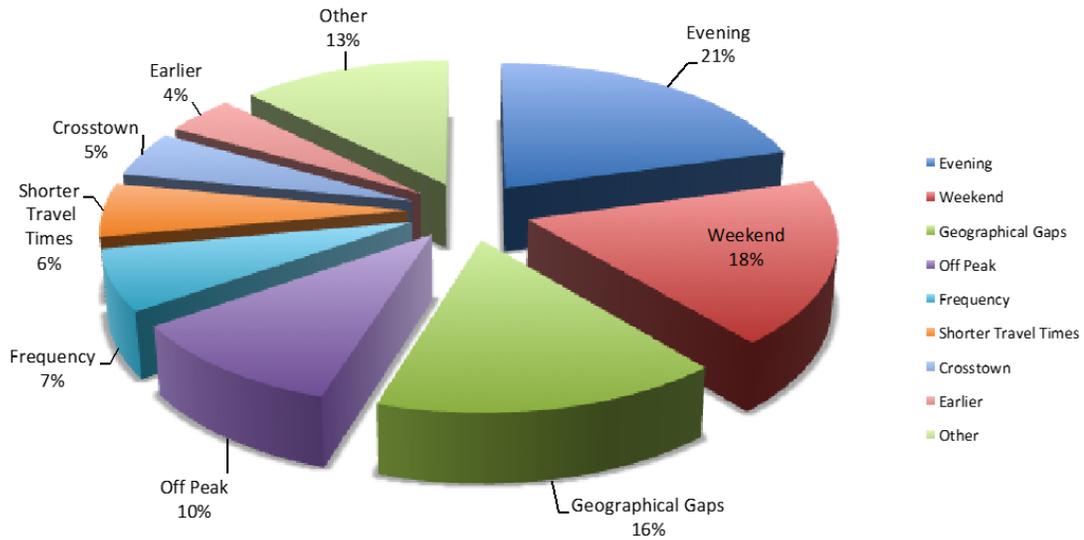


Table 9. Unmet Needs

Need	Number and Percent of Responses	Verbatims
Evening service	49 mentions (19% of 256 unmet needs mentioned)	<p>“The times the bus runs are inconvenient. Why does the 11 bus stop running at 6:15?”</p> <p>“I work 12 hour shifts at St. Mary’s and Methodist and when I get off work at 7:30 p.m. there is no bus service to take met me home.”</p>
Weekend service	43 mentions (17%)	<p>“Those who need transportation on Sunday have to find other options.”</p> <p>“Those of us who work on Sundays are dead in the water.”</p>
Geographical gaps, including origination and destinations	38 (15%)	<p>“There are “not nearly enough bus routes.”</p> <p>“There are subdivisions in Rochester that have little or no service.”</p>
Off peak—i.e. did not specifically say “early” or “evening” or “weekend”	25 (10%)	<p>“Very little service off peak. If I miss one, I have to wait 20-30 minutes.”</p> <p>“The currently limited bus schedule prohibits people from taking or maintaining jobs that they desperately need.”</p>
Frequency within current route hours	16 (6%)	<p>“Buses only come every 30 minutes and sometimes during the day particular areas of routes are cut out, that’s not very convenient.”</p>

Need	Number and Percent of Responses	Verbatims
Time—trips take too long, wait times	14 (5%)	“Wait times between busses are too long—should be 10 minutes or less.”
Crosstown routes (without going/transferring downtown)	12 (5%)	“If you need to get someplace midday or need to go crosstown (say, from SW to NW), the system does not work at all.” “I would reconsider using the bus system if there were direct routes to and from more locations in Rochester, routes that by-pass downtown.”
Earlier service	10 (4%)	“The early morning...service is abysmal. There are thousands of nurses whose shifts start at 7 a.m. (They) cannot utilize the bus”
Other	30	See below

Other Unmet Needs

As shown in Figure 6, 30 responses (13 percent) cite a variety of “other” unmet transit needs. All of the following were mentioned two or more but fewer than ten times (from less than 1 percent to about 3 percent of mentions of unmet transit needs). They include:

- The need for schedule information in easier-to-use formats including in a real time app that tells riders precisely when the next bus will arrive at their location. “I’m not sure when the next bus will arrive.” “The bus schedule is unbelievably hard to read.”
- Others cited specific categories of riders who are underserved, and/or specific destinations that are underserved, such as daycare. “More options for seniors and those with disabilities (are needed).” “Access to downtown is good, but access to community services for transit-dependent people is poor.”
- Some wanted more park and rides.
- Others want more bus shelters at more bus stops.
- Several want connections to rail services that connect to other metro areas such as the Twin Cities or Chicago.
- Others wanted to reduce the cost of riding transit.

Question 10: Geographical Gaps

The third most frequently mentioned unmet transit need (above) is “geographical gaps”—places where the buses do not run, including places of origin as well as destinations.

Question 10 followed up on this topic asking, “Where in Rochester...is currently unserved by transit (but) should have regular bus service?” Areas that were named more than one time are shown in Table 10.

Table 10. Geographic Gaps

Streets, Avenues, Drives, Areas of Town	Destinations
- 2 nd St. SW	- Airport
- 65 th Street	- Hy-Vee
- Circle Drive and West Circle Drive	- Menard's North
- Pinewood Road	- Byron
- Salem Road	
- Downtown	
- Northwest	
- Southeast	
- Edges of town/outer area, recently built	

Question 7: Additional Obstacles to Riding Transit

Respondents were asked if selected conditions make transit difficult to use. There is very little difference between riders and non-riders on these parameters (see Table 11).

Table 11. Transit Barriers

Condition	Percent Riders Who Perceive a Problem	Percent Total Sample Who Perceive a Problem
Poor snow removal at stops and/or shelters	39%	35%
Dangerous pedestrian crossings	35	33
Lack of sidewalks	23	25
Poorly maintained sidewalks	23	18
None of the above	39	26

Respondents were then asked if they can identify any locations where these conditions occur (see Table 12).

Table 12. Locations of Transit Barriers

Poor Snow removal	Dangerous Pedestrian Crossing	Lack of Sidewalks	Poorly Maintained Sidewalks
Several respondents indicated that the problem is very widespread. Route #11 and 3 rd Ave. SE each were mentioned twice.	None mentioned more than one time. Two respondents stated that any crossing can be dangerous due to distracted and impatient drivers.	No single location was mentioned more than one time. One respondent said, "Stops near shopping center" where transit riders "need to pass (through) parking areas." Another said, "Anywhere outside of downtown,"	None named more than once.

Question 9: How Well Are Various Groups Served by Public Transit?

Do the various unmet needs and obstacles to transit ridership fall on all transit riders equally? Or, might some (or many) fall disproportionately on specific groups of riders? Respondents were asked how well various groups are being served by transit. The following table (Table 13) shows the percentage of respondents who thought that each of the various groups was being poorly served, as defined by a 1 ("poorly") or 2 rating on a scale of 5 ("very well").

Table 13. Transit Users who are Mostly Poorly Served

Description	Percent rating service for this groups as a 1 ("poorly") or 2 on a scale of 5 ("very well")
Second shift commuters	77%
People making shopping trips	51
People without reliable access to an automobile	45
Older adults/Seniors	41
People with disabilities	38
College students	25
People in areas of high population density	14
8 to 5 commuters	6

Questions 6, 11 and 12: Strategies for Increasing Transit Ridership

Respondents were asked to prioritize transit investments to increase transit ridership. Question #6 gave them four alternatives, and asked them to prioritize the four alternatives

from the first priority to the fourth. From this list, all respondents and riders alike prefer the strategy of extending the span of service earlier and later in the day (see Table 14).

Table 14. Investment Priorities for Increasing Transit Ridership

Priority	#1 Priority Among All Respondents	#1 Priority Among Riders
Extend the span of service so more buses run earlier or later in the day.	43%	35%
Make current routes run more frequently—every 15 minutes instead of every 30 minutes, etc.	26	28
Expand the service area to provide access to more city residents	27	20
Add a modest level of transit service on Sundays	12	17

In Question #11, a list of eleven strategies was provided, and respondents were asked to rate each one on a scale of 1 (likely to be least successful) to 5 (likely to be most successful). Riders and non-riders alike favored the same priorities—1) crosstown service, 2) increased frequency, 3) more weekend service. But, note that the top priority from Question #6 — early morning and evening service—was not provided as an option in Question #12 (see Table 15).

Table 15. Priorities for Increasing Transit Ridership

Priority	Priority Rating Among All Respondents	Priority Rating Among Riders Only
Add service that connects crosstown areas without traveling downtown	#1 priority 37% rated “most successful”— 1% rated “least successful” = rating of +36	#1 priority 28%--1% = +27
Increase frequency on current bus routes	#2 priority 26% rated “most successful”— 3% rated “least successful” = rating of +23	#2 priority 29%--3% = +26
Add more weekend service	#3 priority 26% rated “most successful”— 4% rated “least” successful = rating of +22	#3 priority 26%--1% = +25
Make major stops more attractive and provide next bus arrival information	#4 priority 24% rated “most”—3% rated “least” = +21	#4 priority 23%--3% = +20

Priority	Priority Rating Among All Respondents	Priority Rating Among Riders Only
Expand employer incentives to ride transit	#5 priority 27% rated “most” –7% rated “least” = +20	#6 priority 21%–6% = +15
Add park and ride lots with shuttles to downtown	#6 priority 25–7 = +18	#5 priority 21%–5% = +16
Use different types of vehicles such as smaller buses, larger buses, trolley, rail, etc.	#7 priority 27%–9% = +18	#7 priority 22%–7% = +15
Add downtown circulator routes	#8 priority 19%–6% = +13	#8 priority 16%–6% = +10
Significantly reduce fare level	#9 priority 11%–10% = +1	#9 priority 6%–4% = +2
Operate more service on-demand (like taxi)	#10 priority 7%–25% = -18	#10 priority 5%–24% = -19
Keep system as-is, just market it better	#11 priority 6%–42% = -36	#11 priority 7%–30% = -23

In Question 12, respondents were asked to elaborate on what they considered to be the #1 priority. Their various priorities, listed in rank order from the most mentions to the fewest, are shown in Table 16. Clearly, many chose to elaborate on a priority other than what they had selected in Question 11, as this list contains some significant departures from that shown in Table 15.

Table 16. Recommended Strategies

Rank	Strategy	Mentions	Description
1.	Increase frequency within existing routes	30	“I would ride the bus more if there were more times, and more times on weekends.”
2.	Better scheduling information (10 mentions) + real-time digital app (10 mentions)	20	“Arrival information should be real-time.” “GPS notification of where buses are so you know if you missed and how long you have to wait.”
3.	Increase weekend service	17	“If you don’t have access to a vehicle your life is severely limited on the weekend.” “We need more bus routes on Saturday and Sunday.”

Rank	Strategy	Mentions	Description
4.	Crosstown service without going downtown	17	“Add service that connects crosstown areas without traveling downtown.” “Crosstown stops without going downtown to save time.”
5.	Evening service	14	“Evening service could also help (reduce) DUIs.”
6.	Fill geographical gaps (at point of origin)	11	NE neighborhoods, North Valley Drive, 65 th Street, 19 th Street NW, SE, NW “We need more stops and more shelters.”
7.	Use smaller/different buses	11	“Use different types of transportation vehicles.”
8.	More park and rides	9	“Please consider adding additional park and ride lots in NW Rochester.”
9.	More and better shelters	7	“The main concern that I have is shelter boxes for one to stand in while waiting for the bus.” “Provide shelter at each stop.”
10.	Reduce cost	6	“Reduce fares for low income residents.”
11.	Increase employee incentives	6	“My employer subsidizes my bus pass (and) I ride the bus most days.”
12.	Early morning service	4	“Early morning and later evening service.”
13.	Off peak service	3	“Add some earlier and later bus times.”
14.	Electronic card reader	3	
15.	Shorter travel and wait times	2	
16.	Transit to other metropolitan areas such as Twin Cities and Chicago	2	
17.	Event services (concerts, plays, etc.)	2	
18.	Downtown circulators	2	
19.	Fill geographical gaps (at destinations)	2	
20.	Downtown stops that encourage healthy walking	2	

Rank	Strategy	Mentions	Description
21.	Move stops away from areas that are too crowded—St. Mary’s, downtown	2	

Priorities and Other Comments Mentioned in Response to Question 13

Additional comments on transit priorities from the previous questions are shown in Table 17.

Table 17. Additional Comments on Priorities

Priorities already included in Question 6 and/or Question 12	Priorities not previously included in Question 6 and/or Question 12, and other comments
1. Evening service—7 mentions	1. Quality of bus drivers: there were 6 positive mentions, and 5 mentions that were critical of the drivers
2. Better schedule information, including a real-time digital schedule app—6 mentions	2. Transit should primarily serve the transit-dependent—11 mentions
3. Increase frequency within existing routes—5 mentions	3. “Rochester Public Transit seems to do an OK job, but I sure don’t like how they came in and kicked out Rochester City Lines. That whole thing was just wrong.”—4 mentions
4. Add bus routes to fill geographical gaps—5 mentions	4. Should utilize trolley service—3 mentions
5. Increase weekend service—4 mentions	5. Certain bus stops are too crowded (with traffic)—e.g. St. Mary’s hospital and certain downtown locations—2 mentions
6. More and better shelters—2 mentions	6. Want service to Twin Cities and Chicago—2 mentions
7. Use different sized buses—2 mentions	

Summary of Priorities

Respondents were asked to identify unmet needs in Question 4, and to rate or rank strategies for improving the bus service in Questions 6, 11, 12 and 13. Here we combine the responses to these questions in a composite list (see Table 18).

Table 18. Rank Order of Priorities across All Questions

Needs/Strategies Composite List	#4: Unmet Needs	#6: Invest Strategies	#11: Rider Strategies	#12: Preferred Strategies	#13: Final Comments
#1 Priority: Evening Service	#1 (#4 off-peak)	#1		#5 (#13 off-peak)	#1
#2 Priority: Increase Frequency	#5	#2	#2	#1	#3
#3 Priority: Weekend Service	#2	#4	#3	#3	#5
#4 Priority: Better schedule info, perhaps real-time digital app	#9		#4	#2	#2
#5 Priority: Crosstown routes	#7		#1	#4	
#6 Priority: Fill gaps in point of origin	#3	#3		#6	#4
#7 Priority: Early A.M. Service	#8 (#4 off-peak)	#1		#12 (#13 off-peak)	
#8 Priority: Fill gaps in destinations	#3	#3		#17	#4
#9 Priority: More, better shelters	#11		#4	#9	#6
#10 Priority: Different sized vehicles			#7	#7	#7
#11 Priority: More park and rides	#10		#6	#8	
#12 Priority: Reduce fares	#13		#9	#10	
#13 Priority: Employer incentives			#5	#11	
#14 Priority: Shorter travel times	#6			#14	
#15 Priority: Downtown circulators			#8	#16	
#16 Priority: On-demand service			#10		
#17 Priority: Service to other metros	#12			#15	
#18 Priority: As is, market better			#11		

Differentials

We have shared differentials results for transit riders versus the full survey sample (and, by inference, non-riders) on selected questions. As a generalization, the differentials between riders and non-riders, and between other sub-groups of the full survey sample, were found not to be significant and thus are generally not reported.

On-Board Survey

Survey Report

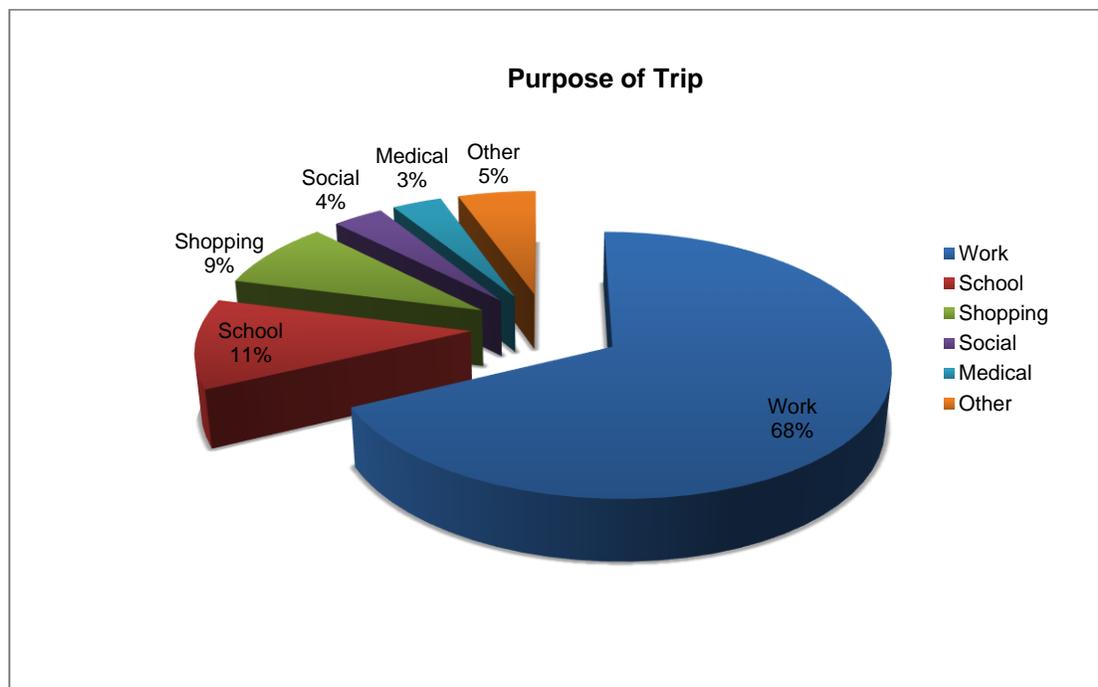
As part of the Transit Development Plan effort, an onboard survey was conducted in September 2015. A total of 1,286 surveys were collected.

Why Respondents Ride the Bus

About two-thirds of respondents rode the bus that day in order to get to work, while the other one-third was traveling to other locations—school (11 percent), shopping (8.5 percent), medical services (3.5 percent), social or recreational activities (also 3.5 percent) and “other” (5.5 percent).

Among 55 responses of “Other,” 15 said they were going home, seven were going to volunteer, five were going to work, three each were going to the grocery store and to a bank, two each were going to the Social Security office, “a meeting,” a movie, a medical appointment, or to get a Driver’s License. A summary of trip purposes is presented in Figure 7.

Figure 7. Trip Purpose

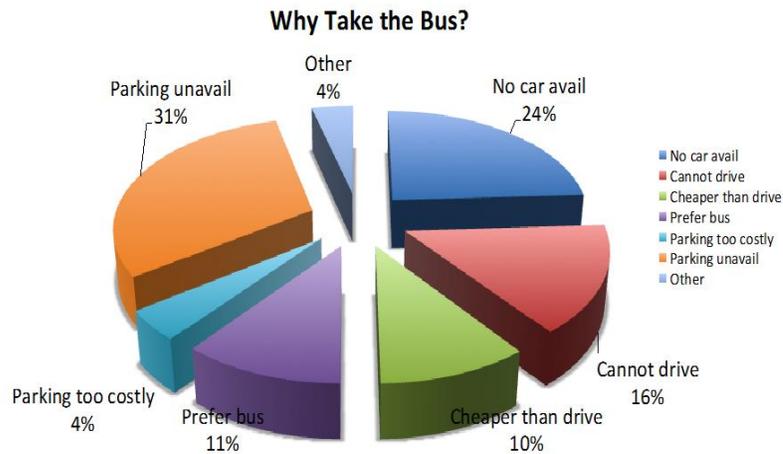


Respondents were asked if they could have made this trip if the bus was not available. 49.1 percent said yes, they could make this trip by some other means. 50.9 percent said no, they could not make this trip without the bus.

More than 50 percent of those riding to work said yes, they could make this trip by different means. ***Just 29.5 percent of those riding for other purposes said they had an alternative way of making this trip if the bus were not available.***

Respondents were asked why they rode the bus on the day they were surveyed (see Figure 8).

Figure 8. Reason for Taking the Bus



Responses to this question differed significantly depending on whether the respondent was riding to work or riding other destinations (see Table 19).

Table 19. Reason for Taking the Bus

Why Take the Bus?	For Trips to Work N = 865*	For Trips Elsewhere N = 410*	Total N = only those who answered the specific question*
Parking is unavailable	367 (42.4%)	28 (6.8%)	395 (30.9%)
No car available	158 (18.3%)	151 (36.8%)	309 (24.2%)
Cannot drive	86 (9.9%)	112 (27.3%)	198 (15.5%)
Prefer to ride the bus	107 (12.4%)	33 (8%)	140 (10.9%)
Bus is cheaper than driving	90 (10.4%)	41 (10%)	131 (10.2%)
Parking is too expensive	44 (5.1%)	11 (2.7%)	55 (4.3%)
Other	36 (4.2%)	15 (3.6%)	51 (4%)

Those riding to work are vastly more likely to be motivated by the lack of auto parking (42.4 percent). Those riding elsewhere are much more likely to have no car available or to be unable to drive (64.1 percent total).

Transit Behavior

As noted above, two-thirds of the respondents (67.8 percent) used the bus the day they were surveyed to get to work. More than 90 percent originated within the Rochester city limits (90.7 percent), and most of the final destinations also were within the city limits (94.3 percent). ***A “typical” rider, meaning in each case about three-quarters of riders (varying from 68 to 82 percent), reported being able to complete his or her trip in the following manner.***

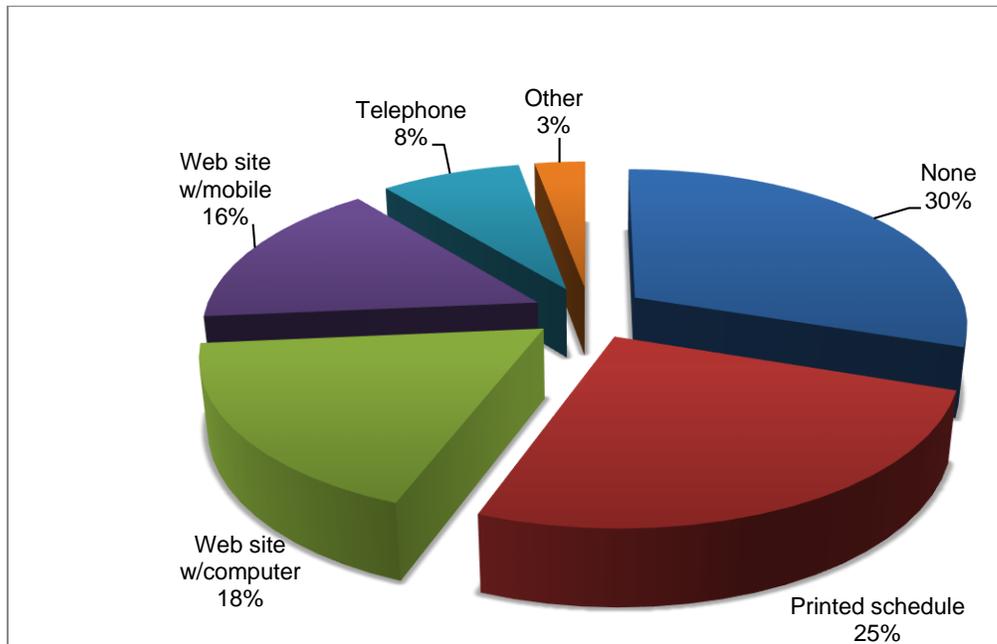
- 78.7 percent walked to the bus stop.
- 76.3 percent, after disembarking, walked from the bus stop to their final destination.
- 81.8 percent did ***not*** transfer to a second bus to complete their trip.
- 68.4 percent made exactly two one-way bus trips on the day they were surveyed. 71 percent of those riding to (or from) work made exactly two one-way trips. Only 46 percent of those riding for other purposes made two trips. 11.5 percent of the latter made one one-way trip, while about 20 percent made three or more one-way trips.)

About half (44 to 58 percent) of the respondents reported the following transit experiences.

- 50.4 percent use the bus four to five days per week. (56 percent of those riding to work use the bus four to five days a week. Only 32 percent of those riding for other purposes ride as many as four or five days a week.
- 58.3 percent have been using the bus for up to three years. 41.7 percent have been using the bus for four years or more.
- 43.7 percent are using the bus more than a year ago. (92.8 percent are using it as much or more than a year ago.) Respondents riding the bus riding for purposes other than work are more likely to report that they are riding more than a year ago than are those who are riding to work.

Respondents were asked what sources of information they use to get route and schedule information (see Figure 9).

Figure 9. Sources of Transit Information



Satisfaction with Transit Services

Riders are generally “very satisfied” with transit service. Across a variety of parameters, anywhere from a low of 55 percent to a high of 80 percent of respondents reported that they are “very satisfied” with their services. A high of 80.5 percent, for example, are “very satisfied” with safety and security while on the bus. A low of 55 percent are “very satisfied” with the places served by the bus and the cleanliness of bus facilities.

The other services are rated somewhere between these two extremes.

Differences between those riding to work and those riding elsewhere are small, but persistent. As a generalization, those riding to work are 4 to 6 percentage points more likely to say they are “very satisfied” with each of the various services than those riding elsewhere.

There are four exceptions:

- The cost of the ride—those riding to work are 9 percentage points more likely to say they are “very satisfied.” (The differential tends in the same direction, toward those who ride to work, but by a greater margin than on any of the other “satisfaction” questions.)
- Cleanliness of RPT facilities, getting information about RPT services, park-and-ride services —those riding elsewhere are about one percentage point more likely to be “very satisfied” with these “services.”

In the following tables (Tables 20-22), the percentages attributed to those who are riding to work and those who are riding elsewhere are based on the entire survey sample in which N = 1286. The “total” (in the right hand column), however, is based on the number of respondents who answered the specific question, not on the entire survey sample. This varied from 1,160 to 1,213 for most questions.

Table 20. Customer Satisfaction

Parameter	Percent Riding to Work and Very Satisfied* N = 865	Percent Riding Elsewhere and Very Satisfied* N = 410	Total Very Satisfied* N = only those who answered the specific question
Safety and security while on the bus	78 percent	74 percent	80.5 percent
Cleanliness of the bus	75 percent	71 percent	77.5 percent
The courtesy of RPT staff	74 percent	68 percent	76.2 percent
Safety, security while waiting at bus stops	73 percent	69 percent	75.8 percent
<i>The cost of a ride</i>	<i>65.5 percent</i>	<i>56 percent</i>	<i>66.7 percent</i>
<i>Getting information about RPT services when you need it</i>	<i>61.3 percent</i>	<i>62.2 percent</i>	<i>65.5 percent</i>
Buses arriving at the stop on time	62 percent	58 percent	63.8 percent
The on performance of the bus (gets to where you're going on time)	56 percent	52 percent	59.1 percent
<i>Park and Ride services</i>	<i>39.3 percent</i>	<i>40.9 percent</i>	<i>55.4 percent</i>
The places served by the bus	53 percent	48 percent	55 percent
<i>Cleanliness of RPT facilities</i>	<i>49.8 percent</i>	<i>50.5 percent</i>	<i>55 percent</i>

An unusually small number of respondents answered the question about park and ride services—only 930, or 72 percent of the total sample. At least 90 percent of the sample answered each of the other satisfaction questions. We infer that many who do not use park and ride services decided not to answer that question.

Respondents were asked if they would recommend riding the bus to others. 83.8 percent of all respondents answered “Yes.” 82 percent of those who ride to work and 73 percent of those who ride elsewhere said “Yes.”

Improvements to Transit Services

The respondents were asked “Which of the following potential changes to service are needed?” Across the entire sample, those changes with the greatest support are:

- More frequent service on existing routes—14.5 percent of all responses/mentions
- More frequent night service in existing routes—13.3 percent
- More routes offering night service—12.1 percent
- Sunday service—11.2 percent

The responses differed somewhat between those riding to work, and those riding elsewhere, as shown in Table 21. As with the satisfaction questions, N = the entire survey sample in the subsets of those riding to work and those riding elsewhere. The right hand column of the table, showing the total sample, uses only those respondents who answered each question as N. Further, in the total column, we show the percent of each potential improvement as a percent of **mentions** rather than of respondents.

Table 21. Transit Improvements

Potential Change to Transit Service	Percent of Respondents Riding to Work who Support this Change,* N = 865	Percent of Respondents Riding Elsewhere who Support this Change,* N = 410	Percent of Total Mentions,* N = only those answering the specific question
More frequent service on existing routes	43.7 percent	34.9 percent	14.5 percent
More frequent night service	37.1	38.3	13.3
<i>More routes offering night service</i>	30.9	41	12.1
<i>Sunday service</i>	29.9	48.5	11.2
<i>More Saturday service</i>	22.4	38.5	9.8
Service to more places	16	21.7	6.3
Earlier service on existing routes	19	13.2	6.1
<i>Holiday service</i>	11.9	25.6	5.8
<i>Better connections</i>	10.4	21.2	4.9
<i>More direct service</i>	11	16.6	4.5
<i>Lower fares</i>	8.9	20.7	4.5
<i>Better information about buses</i>	8.4	18.5	4.1
Other	8.6	7.6	2.8

The table shows clearly that those riding elsewhere are much more supportive of changes to the bus service than are those who ride to work. On eight of the 13 potential changes to bus service, those riding elsewhere are more than 10 percentage points more likely to advocate for the change.

Shown in Table 22 is a rank ordering of the top ten potential changes by each of the two sub-groups and by the total sample, showing the difference in emphasis among the three samples.

Table 22. Ranking of Transit Improvements

Respondents Riding to Work Percentage = respondents who endorsed this action N = 865	Respondents Riding Elsewhere Percentage = respondents who endorsed this action N = 410	All Respondents Percentage is of all mentions of needed transit improvements N = only those who answered the specific question
1. More frequent service on existing routes—43.7 percent of respondents	1. Sunday service—48.5 percent	1. More frequent service on existing routes—14.5 percent of mentions
2. More frequent night service on existing routes—37.1	2. More routes offering night service—41	2. More frequent night service on existing routes—13.3 percent of mentions
3. More routes offering night service—30.9	3. Saturday service—38.5	3. More routes offering night service—12.1
4. Sunday service—29.9	4. More frequent night service on existing routes—38.3	4. Sunday service—11.2
5. Saturday service—22.4	5. More frequent service on existing routes—34.9	5. More Saturday service—9.8
6. Earlier service on existing routes—19	6. Holiday service—25.6	6. Service to more places—6.3
7. Service to more places—16	7. Service to more places—21.7	7. Earlier service on existing routes—6.1
8. Holiday service—11.9	8. Better connections—21.2	8. Holiday service—5.8
9. More direct service—11	9. Lower fares—20.7	9. Better connections—4.9
10. Better connection—10.4	10. Better information about buses—18.5	10 (tie). More direct service—4.5
		10 (tie). Lower fares—4.5

Differentials

We have already noted differentials between *those who ride to work and those who ride elsewhere*. This independent variable is by far the most significant driver of differential responses. We have already seen that 82 percent of those who ride to work would recommend the bus to others versus 73 percent of those who ride elsewhere, a differential of nine percentage points.

- 88 percent of male riders would recommend the bus to others versus 82 percent of females, a differential of six percentage points.
- There is a larger differential on the variable of **age**. The youngest riders (18 or under, and 19 to 26) recommend the bus to others in 76 percent of cases. Older riders (26 to 64) recommended the bus in 92.5 percent of cases.

We also explored possible differentials based on gender. We looked, for example, at the question of the respondents feeling of safety and security while waiting for the bus at bus stops. 73 percent of males were very satisfied with their safety and security at bus stops, while 78.8 percent of females were very satisfied on this parameter.

Similarly, 73.9 percent of male respondents feel safe and secure while riding on the bus, while 85.8 percent of females feel safe and secure while doing so.

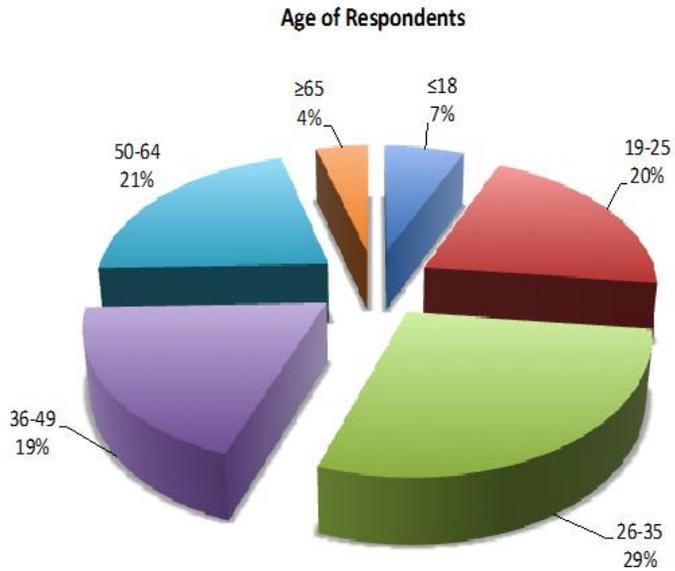
On many other questions there is no meaningful differential based on gender. 62.5 percent of males are very satisfied with the on-time performance of the bus, for example, while 61.8 percent of females are very satisfied on this parameter.

Demographics

Almost two-thirds of the respondents (63.5 percent) are female while about one-third (36.5 percent) are male.

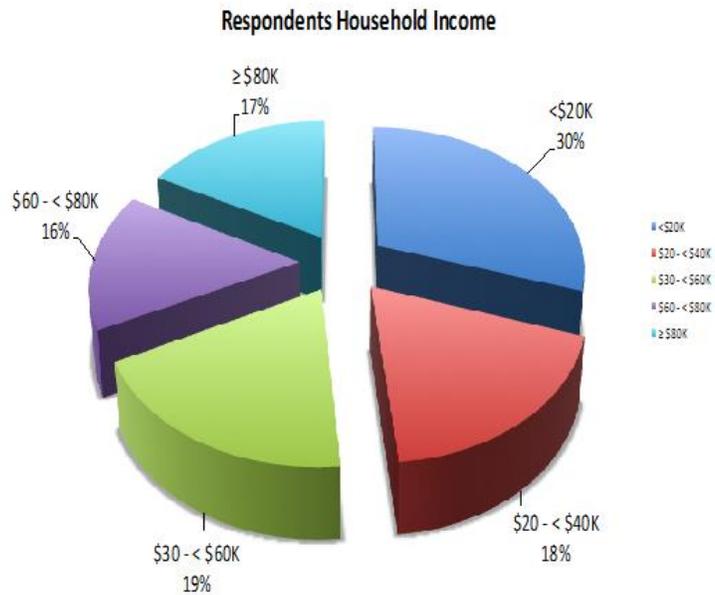
6.5 percent of respondents are 18 years of age or younger, and just 4.2 percent are 65 years of age or older. Among the remaining 89.3 percent of respondents, about half (49 percent) are under 35 years of age and slightly less than half (40 percent) are 35 years of age or older. The median age is just a little younger than 35 years of age (see Figure 10).

Figure 10. Respondent Age



A little more than 30 percent of respondents reported a household income of less than \$20,000, and another 18 percent are between \$20,000 and \$40,000. The median household income is somewhere between \$40,000 and \$50,000.

Figure 11. Household Income



Conclusion and Summary

The on-board survey produced 1,286 valid responses. The riders are generally satisfied with transit service on most parameters, but least satisfied with “places served by transit” and by the cleanliness of RPT facilities.

The respondents endorsed a variety of what they judged would be improvements to transit services, specifically:

- More frequent service on existing routes—14.5 percent of all responses/mentions. Those riding to work were most likely to support this service expansion.
- More frequent night service in existing routes—13.3 percent
- More routes offering night service—12.1 percent
- Sunday service—11.2 percent. Those riding to destinations other than work were most likely to support this service expansion.

Other Outreach

As a key part of public input to the Rochester Transit Development Plan, a variety of qualitative meetings and discussions was held on October 27 and 28, 2015. These events included:

- Meeting with Community Network Group, consisting of representatives of social service agencies
- Two focused discussions with various city and transit leaders, service providers and others
- Meeting of the Citizen's Advisory Commission
- An open house meeting open to the general public, and one open house meeting at Ability Building Center
- Meeting of the Technical Committee of the TDP
- Pop-up meetings in downtown Rochester

A discussion guide from the small group meetings is attached in Appendix C.

Figure 12. Community Network Group Meeting



Qualitative Outreach Summary

A persistent theme across all of these groups and discussions is that Rochester Public Transit serves 8 a.m. or 9 a.m.-to-5 p.m. workers in the downtown Rochester area, including the

Mayo Clinic, very well. It does not serve the needs of other riders—and, specifically, transit-dependent riders—well at all.

- “We don’t have a public transit system,” one participant said. “We have an employee shuttle for people who work downtown.” This is of course hyperbole, but it makes the point.
- “Affluent areas with 8-to-5 workers are served very well.”
- RPT is “a good bus system... (but) for limited use.”

Much of the discussion centered on shortcomings of the current service. Some participants provided context for the complaints. Several said that public transit has not “kept up” with changes in the community. The workforce, for example, is increasingly working hours other than 8-to-5, working locations other than down town, and not all as well-paid as in the past.

Another said, “Our system hasn’t changed to match changes in the community—more seniors, more racial and ethnic minorities, more people who want to live a ‘low-car’ lifestyle.”

Perhaps the biggest change is the continuing growth of employment in the downtown area, primarily at Mayo Clinic. One respondent said, “There will be 50,000 new workers downtown in the next 20 years—and no new traffic lanes. You can’t get all those workers downtown in cars. You have to have transit.”

- “Transit is no longer a transportation mode only for people who can’t afford a car.”
- Transit is not just transportation. “Transit is a huge part of economic development.”

Obstacles to Transit Usage

Many of the shortcomings of Rochester Public Transit rise to the level of obstacles that discourage or even prevent people from riding the bus. These include the lack of service to the person’s origin and/or destination, and the length of some trips of up to 1.5 to 2 hours.

More broadly, several respondents also mentioned a “car culture” as an obstacle to people riding transit and to the development of a more robust transit system. “We need to change the culture,” one participant said, “into one in which people think of using the bus instead of their cars.”

Several participants noted that “it is cheaper to buy a parking pass than it is to ride transit.” Several others wanted a dual pass that could be used either for transit or for parking.

Another more general obstacle to bus usage is the location of some social service agencies. Several agencies have in recent years “located in terrible places to serve with mass transit.” They were “looking only at property cost, not total cost, which includes transportation.”

Perhaps we should “have incentives for nonprofits to locate in places that are easier to serve with transit.”

As indicated above, several of the following needs and shortcomings represent significant obstacles to people riding the bus.

Needs and Shortcomings of Current Service

Among the most frequently-voiced complaints are the following, listed approximately in order of the frequency with which the specific complaint was made. It was our understanding that these shortcomings apply in a vast majority of cases to transit-dependent riders rather than to those who are not transit-dependent, and one participant estimated that about 40 percent of Rochester residents are transit-dependent.

1. A lack of service before 8 a.m. and after 5 p.m. “We need more bus routes at night—as late as midnight.” “People can’t take certain jobs because the bus doesn’t run through their entire shift.” Mayo employees, however, do not need later service, according to a Mayo spokesperson. This is because Mayo parking restrictions end at 1:30 p.m. In addition, internal Mayo surveys have not indicated that more employees would ride if late-night service were available.
2. A lack of service on Saturday and Sunday.
3. Infrequent service during the mid-day hours.
4. Cost of the service. Those in extreme poverty cannot afford to ride the bus even at a discounted fair. “We want extremely poor people to ride for free. There has been no increase in public assistance in recent years, and they can’t afford even a reduced fare.”
5. Safety and accessibility of bus stops and of accesses to bus stops for vulnerable riders. More or different bus stops are needed so that the walk to the bus stop is not so long. This includes bus stops that “are on the wrong side of the road. This forces riders to cross busy streets, which is tough with a wheelchair or a walker.” One discussion group identified a number of such difficult crossings:
 - 4th St. SE
 - 12th St. SW and SE, at Broadway
 - Broadway (generally)
 - East and West Circle Drives
 - Valley High Drive NW

6. Some trips take too long to be a practical alternative for many riders. This including waits for a transfer bus that are too long. “Minors who are mothers of infants identify long trips with an infant—1.5 to 2 hours each way—as a barrier to attending school.”

Many of the respondents attribute the long waits and long trips to the “hub and spoke” design of the system, which requires many riders to go from peripheral areas to the downtown area in order to transfer back out to another peripheral destination. So, many participants said that crosstown routes are needed.

On the other hand, analysis shows that less than 20 percent of riders use transfers. This could mean that the dissatisfaction with the hub-and-spoke simply is not widespread. Or, it could mean that “frustration with transferring downtown could be an obstacle that deters some people from riding RPT at all.”

7. Transit should serve more destinations including grocery stores, medical services, schools, places of work and day care locations.
8. Geographic gaps: Some geographic areas are poorly served all around.
 - 3rd Ave. SE south to 20th St. SE and all the way down to Marion Road SE
 - Also Route 7 needs to be extended beyond the Frontage Road “to cover the largest currently unserved part of the city.”
 - In the Northwest, along Frontage Road, between 37th St. and 41st St. NW (Cimarron neighborhood)
 - For schools, 41st St. NW between West River Road and US 52
 - Another participant mentioned 41st St. NW and West Circle Drive near the Hy-Vee as poorly served, generally
 - 48th St. S
 - 55th St. NW, east of West Circle Drive
 - 65th St. NW
 - In the Southeast, Marion Road and 11th Ave. SE
 - Woodlake Drive SE
9. Information about bus routes and schedules is hard to understand and use, especially for those who do not speak English.
10. Transfer policy could be more generous, “allowing for more time to make the transfer.”

Who is Poorly Served

Most of the foregoing shortcomings affect people who are transit-dependent more than or rather than those who have the option of driving a car. Those with disabilities—those who use wheelchairs or walkers, and/or are frail, and/or vulnerable are disproportionately affected by most of these shortcomings. But, in addition to this, certain other populations were singled out as well.

- Students who live within two-miles of their school, for example, are ineligible to ride the school bus. Many of these students ride RPT. Transferring downtown to ride back out to local schools is a deterrent to these students using the bus.
- Seniors who are transit-dependent, many of whom also are frail
- Recent immigrants, who may have difficulty navigating the system due to language barriers

One respondent said that to use the transit system, one needs to have a computer, an iPhone, money for fares and command of the English language. Many in Rochester are lacking one or another of these requirements.

Recommended Improvements to the Transit System

In the case of many of the shortcomings listed above, the “fix” is implied. The Community Network Group, however, listed its priorities for such improvements. We thought it interesting to list these side by side so as to highlight the differences between the two lists, though the differences for many of the items was not significant.

- The lack of weekend service was the second most-frequently mentioned shortcoming, but was only the fifth most-mentioned as an improvement that the respondents would like to see.
- Lack of service to certain destinations was the seventh most-mentioned shortcoming, but the fourth most-mentioned of potential improvements to the system.
- Geographic gaps in service (points of origin) was the eighth most-mentioned shortcoming, but was barely mentioned when the discussion shifted to “desired improvements.”

The first two “desired improvements” listed on the right side of the table below (see Table 23) were mentioned with almost identical frequency. The first of the desired improvements also combines two of the shortcomings. The desires for more frequent service and for more service before 8 a.m. and after 5 p.m. were frequently mentioned in tandem.

Table 23. Shortcomings and Improvements

Shortcomings of Rochester Public Transit (This is a repeat of the complaints listed above)	Desired Improvements
<ol style="list-style-type: none"> 1. Lack of service before 8 a.m. and after 5 p.m. 2. Lack of weekend service 3. Infrequent mid-day service 4. Cost of the service 5. Safety and accessibility of bus stops 6. Trips take too long 7. Lack of service to many destinations 8. Geographic gaps in service to points of origin 9. Difficulty of using and understanding route and schedule information 10. Transfer policies 	<ol style="list-style-type: none"> 1A. More frequent service (reduce waits), and more service before and after 8 a.m. to 5 p.m. 1B. Discontinue hub-and-spoke design; provide more crosstown service to reduce travel time 3. Lower cost services such as a free pass for those in extreme poverty and family pricing plans 4. More routes—specifically to serve more destinations; there was less concern in this discussion about lack of service to points of origin 5. Weekend and holiday service 6. Provide information in languages other than English 7. Enhance safety of bus stops and shelters in terms of accessibility—e.g. locate shelters so that riders need not cross busy streets and roads 8. Address the needs of students who are ineligible for the school bus 9. Transfer remain valid for a longer time 10. Partner/integrate with private services, hotel shuttles, etc.

Planning Exercises

At pop-up meetings and open houses, there were several interactive exercises made available to participants. The following is a summary of responses that complimented discussions, survey responses, and written comments received from participants.

How Well Do Current Transit Services Meet Travel Needs in Rochester?

One of the planning exercises asked participants how well they thought Rochester Public Transit met travel needs in Rochester. Four different types of trips and user groups were presented. Participants were asked to then use different colored stickers to indicate their thoughts on the topic.

- A red sticker indicated that needs were not met very well
- A yellow sticker indicated that Rochester Public Transit only met the minimum needs
- A green sticker indicated that needs were met very well.

The following are responses from each user group:

General Purpose Travel in Rochester

General purpose travel within the City of Rochester includes social, shopping, and health care related travel.

- 8 participants indicated that general purpose travel needs were met “very well”
- 7 participants indicated that Rochester Public Transit only met basic needs for general purpose travel. Two participants wrote in comments that this is because “service does not run late enough,” and that the “general focus is for downtown trips.”
- 4 participants indicated that Rochester Public Transit does not meet travel needs well.

Commuters:

Commuters are people traveling to and from work. Participants provided feedback on how well Rochester Public Transit serves those that commute downtown and those that commute elsewhere in Rochester.

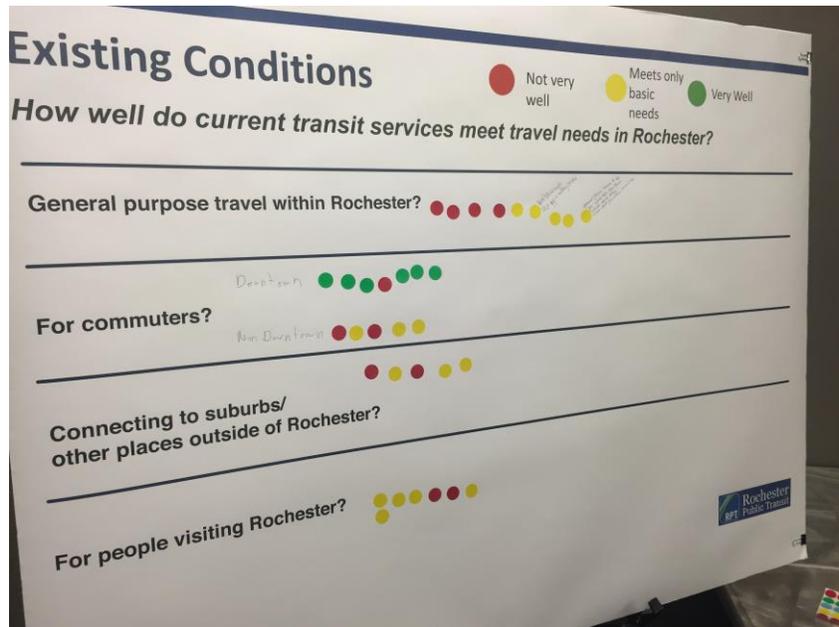
Downtown Commuters

- 9 participants indicated that downtown commuters were served very well
- 1 participant indicated that Rochester Public Transit only met basic needs for downtown commuting.
- 1 participant indicated that downtown commuting needs were not met well.

Other Commuters

- No participants indicated that people commuting outside of downtown were served well.
- 4 participants indicated that only basic needs were met by Rochester Public Transit.
- 3 participants indicated that transit needs were not met well.

Figure 13. Travel Needs Exercise in Progress



Suburbs/Locations outside of Rochester

Participants were also asked about traveling to places outside of the Rochester city limits.

- No participants indicated that travel needs outside of Rochester were served well
- 5 participants indicated that only basic needs were met
- 5 participants indicated that needs were not met very well. One participant wrote in a comment that service to Fleet Farm and Willow Creek Townhomes was unserved.

Visitors

Participants were asked how well Rochester Public Transit meets travel needs for those visiting Rochester.

- 1 participant indicated that needs of visitors were met very well
- 6 participants indicated that only basic travel needs were met
- 4 participants indicated that travel needs were not met very well.

Do You Ride Rochester Public Transit? Why or Why Not?

Another planning exercise offered open house participants an opportunity to write the reasons why they ride the bus. For those that were not transit users, or would use transit more often, participants could write in the reasons why they do not use Rochester Public Transit. Comments are recorded below.

The reasons why I ride the bus are:

- My parents are too busy with their jobs, and transit gets me in the habit of waking up early
- I ride the bus because of my disability; I don't drive
- To go to work
- To go shopping and bowling
- I am unable to drive
- I feel safe, and the bus gets me where I want to go, I understand the system
- To get to ABC, downtown, and home
- I am currently restricted from driving
- I would use the bus even if I had a car
- I cannot afford a car
- I use the bus to get downtown, but not anywhere else because the routes do not go where I need to go.
- So I don't have to drive and I can get some down time before and after work
- It is too hard for me to walk in bad weather
- It is affordable (x2)
- It is convenient and the schedule is predictable
- Lets me get to my volunteer job
- #5 is the best route for me to get to school (x2)
- I ride the bus because it is the most convenient mode of transportation, reliable and easy to ride
- Pleasant bus drivers (x2)
- Easy commute from downtown to TJ Maxx Plaza
- I do not have a car

I don't ride the bus, here is why:

- I own a vehicle (x2)
- Not enough routes where I live – NW of 37th Street
- I live outside of Rochester
- The routes do not go where I need to go
- Buses do not run late enough
- Buses do not run on weekends
- I have to transfer downtown and that takes me a long time
- Not enough time to transfer buses downtown (missed connections)
- Bus route numbers are confusing
- Need my car for work (trip by car 10 min, bus is 30), often work later than buses run

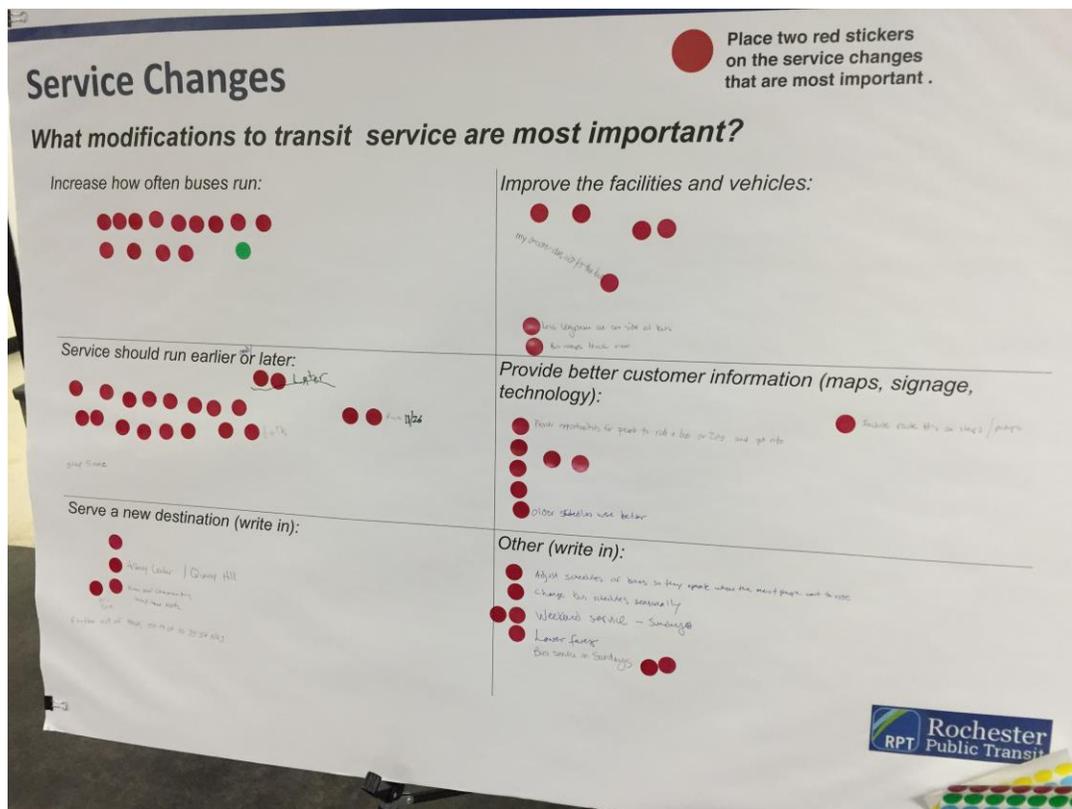
What Modifications to Transit Service Are Most Important?

Complimenting some of the questions asked in the online surveys, open house participants were given the opportunity to prioritize changes to transit service, and vote using colored stickers. A summary of responses is shown in Table 24.

Table 24. Transit Improvements

Recommendation	# of Votes	Comments
Increase how often buses run	16	- More on Saturdays/Sundays please
Service should run earlier or later	23	- Route 11 and 26 - Both earlier and later
Serve a new destination (write-in)	6	- Hy-Vee on West Circle Drive (x2) - Rural areas on the NW side of town - History Center and Quarry Hill - Wal-Mart North - New NW communities - NW area from 55th to 75th streets
Improve vehicles and facilities	11	- Shelters, need more - Shelters - Bigger buses - My scooter does not fit on the bus - Need shelter at Bowlocity - Less leg room on one side of the bus - Bus wraps block view
Provide better customer information (maps, signage, and technology)	11	- ZIPS information - More Schedule info - Maps and signs in bigger print - Provide opportunity for people to ride bus or ZIPS and get information - Older schedules were better - Include route numbers on signs and maps
Other	11	- Adjust the schedules of buses so that they operate when the most people want to ride - Change bus schedules seasonally - Add weekend service – Sundays - Lower fares - Bus service on Sundays - Run on time (x4) - It is nice to have a bus schedule so that I know when/where the buses run - Quieter buses

Figure 14. Transit Improvement Exercise in Progress



What Does the Ideal Transit System Look Like to You?

Participants were given the opportunity to state what the components of an ideal transit system are, and make general recommendations for improvements. The comments received are summarized below.

Comments:

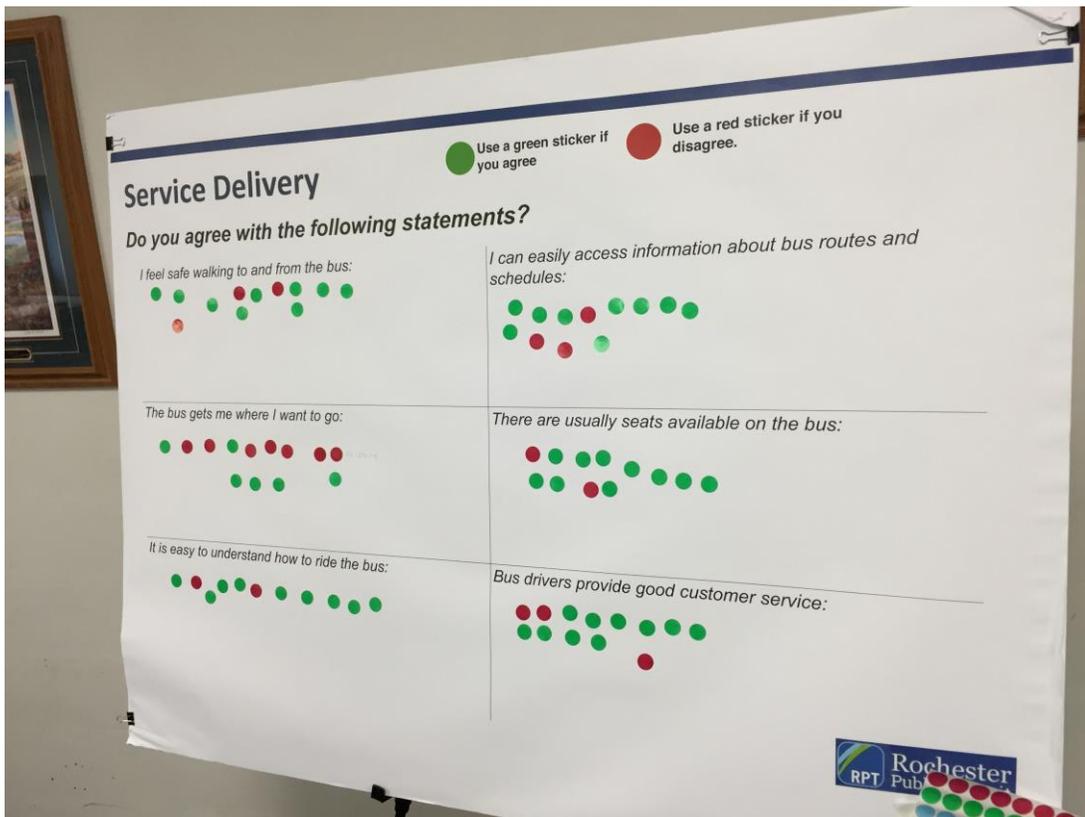
- It is hard to get around places when I have to get to a specific place
- Need friendlier drivers that understand the needs of people with disabilities.
- Service available 24/7
- Nights and weekends
- Need to look at affordable options for people with disabilities and special transportation needs. Look at what other communities do, what are best practices, is anyone doing something innovative, and are there grants available?
- Please remember that there are many people in the Rochester area that do not work or play downtown. I live in Rochester, what about me? RPT is for the community.
- One that serves the needs of the poor that do not have cars – later hours and weekend service
- Make the buses less confusing – for example, why do we need so many #6 buses
- Buses travel too slow, find ways to make them faster
- Buses in Minneapolis run on Sundays

- More service on weekends
- Service on Sundays (x 11)
- Added park-and-rides for people that have jobs downtown
- 6M should run later in the day
- Smart cards instead of punch cards
- Routes that cover more places
- #4 bus should run later
- I have to walk 10 blocks from Broadway Center to pick up kids
- Buses should run at least every 15 min

Transit Service Quality/Delivery

Open house participants were also able to provide feedback on the quality of Rochester Public Transit service in various capacities.

Figure 15. Quality of Transit Service Exercise in Progress



This includes customer service, safety, and the usefulness of the bus in Rochester. Participants were asked if they agree with various statements, and could place a green sticker or red sticker on a display board to indicate their agreement. The responses are summarized as follows:

Do you agree with the following statements?

I feel safe walking to and from the bus:

Agree: 15

Disagree: 3

The bus gets me where I want to go:

Agree: 11

Disagree: 7

It is easy to understand how to ride the bus:

Agree: 12

Disagree: 4

I can easily access information about bus routes and schedules:

Agree: 13

Disagree: 3

There are usually seats available on the bus:

Agree: 13

Disagree: 3

Bus drivers provide good customer service:

Agree: 13

Disagree: 3

General Comments

At all outreach sessions, participants with lengthier comments were invited to provide feedback on comment cards. The following is a record of comments received on comment cards.

Rochester Public Transit Comments

1. I like riding the bus because I see my friends on there. The bus drivers are very nice and know me. It makes it easy to get to and from home and work.
2. In the middle of the day, buses need to run more than once an hour. There needs to be a bus shelter in front of the Willows Condo because it gets really cold in the winter.

3. Too much swearing (off campus school students); not enough enforcement by drivers of “no profanity” rule.
4. Route #8 needs additional routes between 8-12; last route out is 8 o’clock hour and doesn’t resume until 12 p.m.; prevents people from ABC in working different shifts. Sunday routes would be beneficial.
5. It would be nice if the buses ran by the new Hy-Vee, so I can get to work on time and maybe a little early.
6. Need more opportunities and locations to pick up paper schedules.
7. It would greatly benefit many to have extended hours for bus service as well as weekend hours available. For NW Rochester, out towards Century High School, as well as the new developments really need access. ZIPS on the weekend especially Sundays for church.
8. In the bus schedule, I can’t always locate my destination, so then I have to call and ask and sometimes the person on the other line doesn’t know or gives me the wrong information (i.e., destination, times, and/or route).
9. The poor need transportation that is affordable to get to work in the service jobs like hotels, bars, and restaurants that are open until 2:00 AM.
10. More coverage SW.
11. We should encourage businesses (hotels, attractions, etc.) to promote what bus route they are on.
12. Later bus routes remembering the people who work late shifts; lower rates – Rochester is higher than many cities; routes on Sunday and more on Saturday.
13. Drivers should be able to communicate with each other; buses on pull-in/pull-out do not pick up riders and they should.
14. Add bar codes to bus passes so people can take a picture of it and scan the picture on their phone at the fare box if they lost their card (like boarding pass at airport).
15. New, bigger buses to address crowding.
16. If all of you would please try to keep all of your service the same, if not even better, but most of all thank all of you then.
17. I like riding the bus. They are very nice and help when I need it.
18. Cajun restaurant across from hotel/motel needs shelter or bench; near Kwik Trip/Wal-Mart South.
19. ZIPS service:
 - Pick-up window is too long. I have to get picked up an hour before I actually need to.
 - Tues. /Thurs. works well, Mon., Wed. and Fri., take too much time.
20. As an employer, we depend on our staff to get to and from our work sites. Many of our residential homes are in newer areas in Rochester, like NW of Wal-Mart North (Gibbs area) or farther southeast. If an employee doesn’t have a car or license, they need an affordable transportation system they depend on. Sunday service too!

21. Please find a way to offer more service in “non-traditional” hours and days. With DMC expansion, service work employment is growing and this is evening/weekends. This demographic also needs public transportation.
22. Buses should run till at least 9 PM; Sunday morning service at least till noon, so people could get to church. This town is big and growing, it needs to expand and be more frequent.
23. Need expanded, late night (after 7 PM) and Sunday routes; downtown employers need more people who can ride/work those times.
24. No hour long runs-in dead times; later nights (on southeast area-right now 3N 7:15 & 10:10); Sundays; More on Saturday; kids get to school Riverside & Kellogg quicker & ALC. Lives on Park Lane, off Marion Rd.

Appendix A: Decision Maker Survey

Welcome!

Thank you for your assistance in helping the City of Rochester update the community's Transit Development Plan, and develop improvements for Rochester Public Transit. We are reaching out to community leaders and key transit stakeholders to provide feedback on transit service in the Rochester area.

Please participate in this brief survey to provide meaningful feedback on the project. The survey will remain open until November 6, 2015. The results of the survey will be part of the Transit Development Plan, and will be posted on the Rochester Public Transit website.

To begin the survey, please click "next" below and follow the instructions. The survey will take an about 5 minutes to complete.

Tell Us About Yourself

1. Have you used Rochester Public Transit in the past six months?

Yes

No

Transit Needs

2. Considering your constituents, customers, employees, and/or professional colleagues, how well would you say Rochester Public Transit meets transit needs in the area?

- 75% or more of transit needs are being met
- 50% of transit needs are being met
- 25% of transit needs are being met
- Very few transit needs are being met

3. Optional: Briefly describe what transit needs are being met/not being met:

Support for Transit Investment

5. Please select the statement that best matches your opinion on public transit investment:

- The level of public investment in Rochester Public Transit is adequate right now, and should not be increased.
- The level of public investment in Rochester Public Transit should be moderately increased
- The level of public investment in Rochester Public Transit should be significantly increased.

6. To increase transit ridership, how would you prioritize the following investments in public transit if additional funding became available? Rank from 1 to 4, with 1 being the top priority.

Make current routes run more frequently (Every 15 minutes instead of every 30 minutes, etc.) so that wait time is decreased.

Extend the span of service so more buses run earlier or later in the day (most routes currently end before 7 pm)

Add a modest level of transit service on Sundays (no service currently operated on Sundays and holidays)

Expand the service area of Rochester Public Transit to provide reasonable access to more city residents (currently 85% have reasonable access).

7. How should public transit be oriented in Rochester and its surrounding communities? Please indicate how important it is to serve the following transit user groups (Scale of 1-5, 1 being not important at all, 5 being very important)

	1	2	3	4	5
People without reliable access to an automobile	<input type="radio"/>				
Older adults / Seniors	<input type="radio"/>				
People with disabilities	<input type="radio"/>				
College students	<input type="radio"/>				
8 to 5 commuters	<input type="radio"/>				
Second shift commuters	<input type="radio"/>				
People making shopping trips	<input type="radio"/>				
People in areas of high population density	<input type="radio"/>				
Rural communities around Rochester	<input type="radio"/>				
People traveling to communities outside of the Rochester region (Mankato, La Crosse, Minneapolis – Saint Paul)	<input type="radio"/>				

Growing Ridership

8. Please indicate which strategies for increasing transit ridership would be most successful in Rochester. Rate each one a scale of 1-5 with 1 being the least successful and 5 being the most successful.

	1 (least successful)	2	3	4	5 (most successful)
Add service that connects crosstown areas without traveling downtown	<input type="radio"/>				
Add more weekend service	<input type="radio"/>				
Operate more service on-demand (like a taxi)	<input type="radio"/>				
Keep system as-is just market it better	<input type="radio"/>				
Increase frequency on current bus routes	<input type="radio"/>				
Add park and ride lots with shuttles to downtown	<input type="radio"/>				
Add downtown circulator routes	<input type="radio"/>				
Expand employer incentives to ride transit	<input type="radio"/>				
Significantly reduce fare level	<input type="radio"/>				
Use different types of vehicles (such as smaller buses, larger buses, trolley, rail, etc.)	<input type="radio"/>				
Make major stops more attractive and provide next bus arrival information	<input type="radio"/>				
Add longer distance service to outlying communities	<input type="radio"/>				

Other (please specify)

9. Of the strategies mentioned in the previous question, which would you say is the **most important and why?**

Outreach

10. In late October we will be reaching out to stakeholders and community leaders to gather additional input on the Transit Development Plan. Would you be willing to participate in an interview or small group discussion at this time? If so, please provide your contact information in the field below.

Name

Company

Email Address

Phone Number

Thank you!

Thank you for your participation, please click "Done" below to submit your responses.

Appendix B: Community Survey

Welcome!

Thank you for your assistance in helping the City of Rochester update the community's Transit Development Plan, and develop improvements for Rochester Public Transit. We are interested in learning more about you and your travel needs to help us plan and prioritize future transit services.

Please participate in this brief survey to provide meaningful feedback on the project. The survey will remain open through mid-November. The results of the survey will be part of the Transit Development Plan, and will be posted on the Rochester Public Transit website.

To begin the survey, please click "next" below and follow the instructions. The survey will take an about 5 minutes to complete.

Tell Us About Yourself

1. Have you used Rochester Public Transit in the past six months?

Yes

No

2. Do you currently work at the Mayo Clinic/Mayo Clinic Health System?

Yes

No

Transit Needs

3. How well would you say that Rochester Public Transit meets transit needs in the area?

- 75% or more of transit needs are being met
- 50% of transit needs are being met
- 25% of transit needs are being met
- Very few transit needs are being met

4. Optional: Briefly describe what transit needs are being met/not being met:

Increasing Ridership

6. To increase transit ridership, how would you prioritize the following investments in public transit if additional funding became available? Rank from 1 to 4, with 1 being the top priority.

Make current routes run more frequently (Every 15 minutes instead of every 30 minutes, etc.) so that wait time is decreased.

Extend the span of service so more buses run earlier or later in the day (most routes currently end before 7 pm).

Add a modest level of transit service on Sundays (no service currently operated on Sundays and holidays)

Expand the service area of Rochester Public Transit to provide reasonable access to more city residents (currently 85% have reasonable access).

7. Do you think any of the following items make transit difficult to use?

Lack of sidewalks

Dangerous pedestrian crossings

Poorly maintained sidewalks

Poor snow removal at stops and/or shelters

None of the above

8. Can you give an example of where a lack of sidewalks, dangerous pedestrian crossings, poorly maintained sidewalks, or poor snow removal at stops and shelters negatively impact transit use?

Lack of sidewalks

Dangerous pedestrian crossings

Poorly maintained sidewalks

Poor snow removal at stops and/or shelters

Transit Service

9. How well are the following groups served by Rochester Public Transit? (1 = poorly, 5 = very well)

	1	2	3	4	5
People without reliable access to an automobile	<input type="radio"/>				
Older adults / Seniors	<input type="radio"/>				
People with disabilities	<input type="radio"/>				
College students	<input type="radio"/>				
8 to 5 commuters	<input type="radio"/>				
Second shift commuters	<input type="radio"/>				
People making shopping trips	<input type="radio"/>				
People in areas of high population density	<input type="radio"/>				

10. Is there anywhere in the Rochester area that is currently unserved by transit that should have regular bus service?

11. Please indicate which strategies for increasing transit ridership would be most successful in Rochester. Rate each one a scale of 1-5 with 1 being the least successful and 5 being the most successful.

	1 (least successful)	2	3	4	5 (most successful)
Add service that connects crosstown areas without traveling downtown	<input type="radio"/>				
Add more weekend service	<input type="radio"/>				
Operate more service on-demand (like a taxi)	<input type="radio"/>				
Keep system as-is just market it better	<input type="radio"/>				
Increase frequency on current bus routes	<input type="radio"/>				
Add park and ride lots with shuttles to downtown	<input type="radio"/>				
Add downtown circulator routes	<input type="radio"/>				
Expand employer incentives to ride transit	<input type="radio"/>				
Significantly reduce fare level	<input type="radio"/>				
Use different types of vehicles (such as smaller buses, larger buses, trolley, rail, etc.)	<input type="radio"/>				
Make major stops more attractive and provide next bus arrival information	<input type="radio"/>				

Other (please specify)

12. Of the strategies mentioned in Question 11, which would you say is the **most important and why?**

13. Do you have any additional comments or feedback about Rochester Public Transit?

Thank you!

Thank you for your participation, please click "Done" below to submit your responses.

Appendix C: Focused Discussion Guide

**Rochester Transit Plan Development
Stakeholder Meeting Agenda and Discussion Guide
October 2015**

1. Introductions

2. Project Background

3. Discussion

Performance of Rochester Public Transit

How would you assess the performance of Rochester Public Transit in the following areas?

- Span of service—how many days, and how early and late the buses run
- Route and stop locations, and spacing within the service area
- Frequency of operation—how often the buses operate on a given route
- User fare levels and general fare structure
- Condition of vehicles and facilities
- Understanding of customers, and providing good customer information
- Public perceptions of efficiency, reliability, convenience and customer service

How well are the following groups served by Rochester Public Transit?

- People who lack access to an automobile
- Older adults/seniors
- People with disabilities
- College students
- Middle and high school students
- 8 to 5 commuters
- 2nd shift commuters
- People making shopping trips
- Areas of high population density
- People in neighboring communities
- People traveling outside of the Rochester region

Which of these would you characterize as a key strength of Rochester Public Transit? Why?

Which of these would you characterize as areas for improvement? Are they significant barriers to transit use?

Which of these represents the best opportunity to increase transit ridership? Why?

Facilities and Equipment

Are Rochester Public Transit facilities—bus stops, shelters and vehicles—kept up to community standards?

Service Area and Unmet Needs

Are there any geographic areas, or demographic groups that are in need of improved transit service?

What is changing in the community that might suggest changes to transit services? What are they?

What percent of the community's transit needs are met? 25%? 50%? 75%? 100%? Why do you say that?

Which of the following represents the best opportunity for increasing transit ridership?

- Add longer distance service to neighboring communities
- Add service that connects crosstown areas without going downtown
- Add more weekend service
- Operate more service on-demand (like a taxi)
- Use different types of vehicles
- Keep system as-is, but market better
- Increase frequency on existing routes
- Add park and ride lots with shuttles to downtown
- Add downtown circulator buses
- Expand employer incentives
- Reduce fares
- Make stops more attractive

How Important Is Transit to the Community

Who currently uses transit? What are the primary purposes of transit use? Who benefits its availability?

Is the public investment in transit services worth it? Does the community get a good return on its investment? What is the general perception among community leaders of the value of transit?

How do you assess community support for a potential expansion of transit services? What are some reasons why people may support such an expansion? What are some reasons people may not support an expansion?

Oversight and Coordination of Services

Are there any special challenges as it relates to policy and financing?