



**City of Rochester,
Minnesota**

Transit Development Plan

Final Report

Prepared for

City of Rochester



Prepared by

**Abrams-Cherwony & Associates, with
Urbitran Associates, Inc.**

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PARTICIPANTS

Mayor Ardele F. Brede

COMMON COUNCIL

Dennis Hansen, President
Steve Kvenold, City Administrator
Amy Blenker
Marcia Marcoux
Jean S. McConnell
Pat Carr
Bob Nowicki
Sandra Means

CITIZENS ADVISORY ON TRANSIT

William Schneider
Mike Lorsung
Ann Curtis
Kaye Fenske
Maggie Hameister
Jeff Vert

TECHNICAL COMMITTEE

Richard Freese, Rochester Public Works
Anthony Knauer, Rochester Public Works
Scott Retzlaff, Rochester Public Works
Dan Holter, Rochester City Lines
Randy Huston, Rochester City Lines
Dave Pesch, Rochester-Olmsted Council of Governments
Jean Meyer, MNDOT
Noel Shughart, MNDOT
Sarah Brodt Lenz, MNDOT

CITY STAFF

Richard Freese, Director of Public Works
Anthony Knauer, Transit and Parking Manager
Scott Retzlaff, Transit and Parking Assistant

Rochester-Olmsted Planning Department

OPERATORS

Rochester City Lines Company Inc.
 Dan Holter, General Manager
 Randy Huston, Operations Manager
Rochester Transportation Systems Inc.

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EXECUTIVE SUMMARY

The Transit Development Plan is an examination of public transportation services operated in Rochester, Minnesota. Public transportation services in Rochester include a regular route bus system and a door-a-door paratransit service. With the exception of one bus route, all service is operated wholly within the city limits. The paratransit system's service area includes the City and four surrounding townships. The objective of the study was to develop specific proposals for the public transportation system that included recommendations with respect to service during the next few years. In addition, financial forecasts were prepared to indicate the magnitude of necessary operating assistance and capital expenditure. During the course of the study, interim reports were prepared to document data collection, analysis and findings as they became available. In this way, comments received on one phase of the work were utilized as timely input into subsequent project tasks.

This Executive Summary will summarize each of these interim reports and then present an overview of the elements comprising the Service Plan for bus service in the Rochester metropolitan area.

Community Characteristics

The City of Rochester is located in Olmsted County, in southeastern Minnesota, approximately 85 miles southeast of the Twin Cities. The city covers 47.9 square miles and is comprised of urban and suburban settings, while the area outside the city is primarily rural in character. The primary urban setting in the area is downtown Rochester. Rochester is traversed by several major corridors, including U.S. Routes 14, 52 and 63. Interstate 90 runs just south of the Rochester city limits in an east-west direction. These corridors provide the primary connections to the Twin Cities, northern and western Wisconsin and northern and eastern Iowa. In addition, Rochester is located on the east-west route of the Dakota Minnesota and Eastern (DM&E) freight railroad.

The economy of Rochester is centered around health care, high technology and agriculture. The most important part of the local economy is the Mayo Clinic, which is located in downtown Rochester and has a staff of over 28,000 employees. The Mayo Clinic comprises two hospitals and their associated diagnostic and medical research facilities. Rochester also supports large service sector employers in terms of the lodging, retail and food service industries. Another large employer is IBM, which employs 4,500 people in a production facility located in the northwestern part of the city. Additionally, there are several medical and computer software industries located in the city, as well as a number of agricultural products processing plants.

The Community Characteristics chapter provided an analysis of the types of destinations and institutions that tend to generate transit demand, as well as of the various factors that affect the need and propensity of an area's population to utilize public transportation. Rochester City's public transit service provides good service coverage to a high percentage of the major traffic generators located in the service area.

Also, by analyzing where the fixed route bus system operates in relation to various socioeconomic characteristics of the service area, it was determined that the public transportation system does serve the areas of Rochester where the need for transit appears to be the greatest.

Existing Conditions

This chapter presented a description of the existing public transit system in the City of Rochester. The demand responsive services operated in the Rochester metropolitan area (i.e., the "ZIPS" services) were also described and discussed.

The City of Rochester existing public transit system operates 36 fixed bus routes serving the Rochester metropolitan area. All of the routes serve downtown Rochester. The City of Rochester bus routes generally operate at a frequency of every 30 minutes during the peak periods and at frequencies of approximately every 60 minutes during the midday period. Most of the evening services operate at a frequency of every 30 minutes. Saturday frequencies of service on the system are all hourly. In terms of span of service, most of the bus routes operate between approximately 6:00AM and 6:00PM on weekdays. The four night service routes continue to operate service until approximately 10:00PM on weekday evenings. Bus routes that only operate at certain times of the day (e.g., the Direct routes) have several distinct spans of service within the service day (e.g., during the AM peak period and then during the PM peak period). Finally, the span of service on Saturdays starts at approximately 8:15AM and ends at approximately 6:30PM.

The City of Rochester existing public transit system utilizes a fare structure that - for most bus routes - charges a flat fare regardless of how far a passenger travels. This base cash fare is \$1.25. However, a different fare structure exists for travel on Route 17, which serves the far southeastern portion of the service area. The system also offers various discounted reduced fare media. Senior citizens, individuals with disabilities, students and youths between six and 18 years old are all provided with various types of discounts. Transfers between routes are free.

The City of Rochester contracts with a private company, Rochester City Lines, Inc., to operate the fixed route system. The public transit program is administered through the City's Public Works Department, Transit and Parking Division. The City and Company agree on the amount of service to be provided and a budget that will be paid by the City, upon final audit, to cover the operating deficit of the services. The operating deficit is the amount by which the operating expenses to provide the agreed upon services exceeds the revenue derived from passenger fares and other charges on the regular routes such as sale of passes and tickets. The City uses federal, state and local funds to cover the primary portion of the deficit. It should be noted that some of these local funds are funding guarantees that are paid by non-City agencies

such as the Mayo Clinic to have certain routes and service provided. With the City's recent bus acquisition and deducting buses that are pending disposal, the current active fleet contains 34 buses. The buses are purchased by the City for use by the Company only on the City's public transit system. The City provides the service planning, operating policies, marketing, operating funds and equipment for public transit.

Through the Zumbro Independent Passenger Service (ZIPS) program, the City of Rochester also provides dial-a-ride, door-to-door service for those persons not able to use regular route bus service. Like the regular route bus service, the demand response service is operated by a private contractor. The private contractor is responsible for the operation of the service including reservation call-taking, scheduling trips, dispatching, providing drivers and vehicle maintenance. In instances where additional services are needed to meet demand, the private carrier has authority to use the services of local taxicabs or private van services. The ZIPS service is complementary ADA paratransit service available to persons who are unable to access that fixed route bus service due to a physical disability. Service is available weekdays from 5:30AM to 10:00PM and from 7:00AM to 7:00PM on Saturdays. Like the bus service, ZIPS does not operate on Sundays or holidays. This service span matches that of the fixed route bus service. ZIPS service utilizes eight vehicles.

During the past seven years, overall public transportation expenses have increased while, at the same time, program revenues have increased at an even faster rate. However, since transportation expenses are higher than program revenues, the net result is that the deficit increased by 72 percent during the period. The State of Minnesota provided the largest share of financial support for transportation service in Rochester. In 2003, the State provided about 57 percent of the funding support. The Federal Transit Administration provided the next largest share at about 25 percent. The final major share was again provided from the State through a special Property Tax Replacement (PTR) program that uses State Motor Vehicle Excise Taxes. This program was started in 2002. It provided about 16 percent of the funding support. It is interesting to note that the City of Rochester's share of funding support in 2003 was about 1.5 percent of the total. Another point to note is that in some years there is an excess amount of revenue above that needed to cover the deficit. This excess revenue is a result of the City exceeding certain financial performance goals set by the State. This excess revenue is used by the City for a local match for capital projects.

Stakeholder Interviews

The consultant team conducted an extensive community participation and outreach program as part of the overall study process. "Stakeholder interviews" were conducted in order to include the knowledge and experience of key local persons and agencies that have an understanding of the institutional history of public transportation services in Rochester and whose constituencies would be impacted by modifications to the transit service. In addition to the stakeholder interviews, an ongoing dialogue has been maintained - and several meetings have been held - with staff at the Department of Public Works at the City of Rochester. This strategy has allowed the consultant team to work in conjunction with the community to develop an understanding of the local issues affecting Rochester public transit from the outset of the project.

The list of stakeholders which were interviewed was developed in conjunction with staff at the Department of Public Works at the City of Rochester. The stakeholder interviews were intended to educate the consultant team on local transportation and development issues that will affect both the existing fixed route transit system as well as the overall planning process. In all, 33 stakeholders from the Rochester area were interviewed for this study. Stakeholders ranged from elected officials to municipal and county employees to representatives of various human service and non-profit agencies in the area. Employers and businesspeople were also interviewed in the process to gauge the needs of workers in the area, and this constitutes an important part of the stakeholder review process. Stakeholder interviews were conducted in Rochester from late January through mid-February, 2005.

Stakeholders were candid in their discussions regarding both the existing fixed route transit services operated by Rochester City Lines as well as some of the issues facing the demand responsive transportation service in the area (i.e., the “ZIPS” service). The stakeholders were asked a series of questions regarding system effectiveness, transportation needs, service provision, service coverage, and funding. The questions were in the following subject areas:

- Current performance of the existing public transit system and its operator
- Transportation needs that are not currently being met
- Opinions regarding specific modifications to the fixed route bus service
- Opinions regarding funding and the overall purpose of the transit system
- Any additional comments

In the aggregate, the stakeholders felt that existing public transit system does a good job of providing transit service and that the system has a positive image throughout the community. The system’s management is professional and responsive, the services are marketed well, and people feel that transit is a valuable resource for the community overall. All of the stakeholders felt that the park-and-ride program was an unqualified success. Of course, there are certainly areas where improvements can be made (e.g., some people mentioned not always having to transfer downtown), but the stakeholders generally felt that any improvements to the transit system that were not “cost neutral” should basically be undertaken only if warranted by the demand.

Resident Survey

One key element of the current Transit Development Plan was to quantify attitudes of regular users towards public transportation services. It was determined that a mail-out/mail-back survey would be the most appropriate method to gather this data from Rochester residents. This technique allows users to complete the survey questionnaire at their convenience without facing the interruption associated with a telephone survey. The process involved several steps (i.e., questionnaire development, sample selection and coding of results) that were performed both prior to and after the conduct of the mail-out/mail-back survey. The questionnaire was mailed to a sample of 2,500 residents during March, 2005. The 801 surveys returned indicates a response rate of 32 percent, which exceeded the target for this survey and is better than the typical 15 to 20 percent response rate for mailed surveys.

In fact, this is the best mail-out/mail-back survey response rate that the consultant team has ever experienced.

The survey results provided mixed opinions from Rochester residents regarding public transit services. One area of concern is the fact that some findings indicated a relatively low level of awareness of the City of Rochester existing public transit system among the residents surveyed. For example, about 24 percent of the residents stated that they did not know where they live relative to a bus route. Also, 46 percent agreed that they were unfamiliar with the bus service and how to use it and 21 percent did not know enough about the service to offer an opinion regarding its quality.

In terms of positive results, five of nine service attributes that were evaluated by respondents who use the City of Rochester existing public transit system were highly rated. That is, the total number of respondents rating the service attribute as excellent, very good or good exceeded 90 percent of all responses. Also, a strong majority of respondents expressed agreement with several statements about a good bus system, such as it is “essential to the growth and prosperity of the City of Rochester”, “can alleviate traffic congestion”, “would be beneficial to the environment”, and “is essential to the well being of the communities served.”

Lastly, when asked to identify the most important improvement that the City of Rochester could make to its services, the most common suggestions included *extended service hours*, *more convenient services* with better connections, *more service to outlying areas*, and *more frequent service*.

Rider Survey

This chapter of the report presented the findings from the opinion survey of current City of Rochester public transit riders. A survey of fixed route riders was undertaken over a one-week period during the week of April 18, 2005. Some weekday trips were also surveyed the following week. Saturday service was surveyed on four days: April 23, April 30, May 7 and May 14. The survey was conducted on all routes from first pull-out to last pull-in. Nearly 100 percent of all weekday and Saturday trips were surveyed. A key dimension of the survey was the use of survey workers to issue and collect survey cards from patrons. Survey workers were instructed to issue a survey card to all boarding passengers. During the survey period, about 2,700 forms were issued and 1,668 weekday and 92 Saturday - or a total of 1,760 - valid surveys were returned. This is an excellent response rate of over 65 percent and is extremely high for this type of survey. Typically, response rates between 20 and 25 percent are attained.

The survey effort was intended to serve two purposes. First, while survey workers were aboard buses distributing survey cards, they recorded passenger boarding and alighting activity by stop location. This information was then processed in terms of boarding and alighting activity by bus route and by bus stop for both inbound and outbound directions. Tables and graphic displays of this information were used in developing service improvement recommendations and were also submitted to the City of Rochester staff for their continuing use.

The second component of this effort was the survey questionnaire that gave riders an opportunity to provide input on the City of Rochester existing public transit services and ideas for service change proposals. Key findings from the rider survey include the fact that the systems' ridership base is disproportionately female and is comprised of an only slightly lower income level when compared to the population of City of Rochester overall. Most walk to get to their bus or to complete their trip to their final destination. About 17.5 percent transfer to another bus to complete their trip. Also, while work is the dominant trip purpose for weekdays, riders frequently use the system for many other trip purposes on Saturday. While many of the riders have been using the bus service for five years or more, there is a large group of new riders that have been riding for less than one year. The results of the survey also indicate an overall level of favorable satisfaction among riders with various attributes of the City of Rochester public transit service. Only one of the nine service attribute categories rated by weekday riders attained a score below the threshold of a favorable response which is a combined total of *excellent*, *very good* and *good* ratings equal to or greater than 90 percent of all responses. That category was "service frequency" that obtained a positive rating of nearly 87 percent; that is still favorable.

Ridership is made up by a large "choice" ridership group (i.e., people who choose to utilize transit even though they own an automobile) that comprise about half of the weekday riders. This is significantly higher than the typical proportion of choice riders for transit systems, which is about 20 percent. This is largely attributable to the high number of Mayo Clinic employees who utilize the park-and-ride routes due to their employer's progressive parking policy, which favors construction of medical facilities downtown instead of large parking structures. The Saturday ridership group is heavily transit dependent with results showing that over 80 percent rely on bus services for their mobility needs. Riders also identified their highest service improvement priorities as *more weekend service* and *more evening service*. They also listed *more frequent service* as the third most important need and in fact listed this improvement as the most important one to attract more riders to bus service.

Peer Group Analysis

This chapter evaluated the Rochester transit system in relation to peers selected from the National Transit Database (NTD). Peer group assessments are used as a way to 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 characteristics of a system perform well, and what areas could use some improvement.

After reviewing the NTD for systems that operate in a similar environment as the City of Rochester transit system, a total of nine systems were selected. Each of the peers was also used for similar analyses in a previous Transit Development Plan for Rochester and/or the 2001 Minnesota Department of Transportation Statewide Transit Plan. The selected peers are as follows:

- Saint Cloud, Minnesota
- Billings, Montana

- Fayetteville, North Carolina
- Sioux Falls, South Dakota
- Muncie, Indiana
- Great Falls, Montana
- Evansville, Indiana
- Battle Creek, Michigan
- Yakima, Washington

As a group, the peers have an average population of 94,631 within their service areas, while the City of Rochester has a service area population of 104,230. General operating statistics for Rochester and its peer transit systems have been obtained for this review. Based on these operating statistics, a number of performance indicators were developed. The performance of Rochester and its peers was presented and compared, first for the fixed-route service mode, and then for paratransit.

Rochester's fixed-route service performed significantly well compared to the peer group in terms of cost efficiency and cost effectiveness. Most notably, Rochester ranked first in fare revenue per passenger and farebox recovery, and had the lowest deficit per passenger. These results were influenced by revenue guarantees on certain Rochester transit routes by the Mayo Clinic. Meanwhile, passenger productivity and service provided per capita ranked mid-range. Rochester compared favorably to its peers in most areas of fixed-route performance.

Rochester's ZIPS paratransit service ranked high compared to its peers in cost effectiveness and cost efficiency. Its cost per mile, cost per passenger mile, and cost per passenger were all better than any of the peers. For passenger productivity, Rochester ranked high as well, coming in first in passengers per hour and third in passengers per mile. However, Rochester ranked near the bottom of the group for use per capita.

Service Standards

To assess the performance and adequacy of the current public transportation system and guide the formulation of route improvement proposals, it was necessary to establish a set of transit performance criteria. Initially, these criteria are used in assessing the present bus service and then they subsequently become the basis for formulating route improvement proposals to bridge the gap between actual and desired performance. This chapter suggested standards for the City of Rochester existing public transit system's fixed route service only. The development of service standards for the system are based on several key factors including:

- Suitability to the characteristics of the City of Rochester bus service territory and requirements.
- Consideration of the cost implications of each standard and availability of funding.
- Utilization of existing service levels and performance as benchmarks.

- Ease of use in that the parameters defined in each standard permits a straightforward evaluation of actual system performance.
- Prevailing practice in the transit industry.

Several points should be made with respect to the development and subsequent application of the service standards. First, reasonable judgment must be utilized in applying the service standards to assess current service. While the standards are quantitative for the most part, they do not represent absolutes that must be met in all cases. For example, unusual situations may arise which warrant special consideration. Second, the service standards may conflict with one another since some yardsticks relate to the benefits derived from transit service while others relate to the costs. Nonetheless, the standards permit the tradeoffs to be delineated and an informed decision made to resolve differences. Third, the standards have been set at reasonable values to reflect current funding conditions. This does not preclude revisions to respond to new policy guidelines and prospective operating conditions. Fourth, the comparison of actual performance with the standards should not be made on a "pass-fail" basis. Instead, results should be viewed in terms of the proportion of the time that the standard is met or the level of attainment. The proposed set of service standards appropriate for the public transit system 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 were presented in this chapter of the report.

Overall, this chapter provided standards for the operation of the City of Rochester existing public transit system. Also, this chapter provided standards for the appearance and provision of passenger amenities and the condition of revenue equipment. Additionally, the chapter addressed how information regarding the public transit system and its individual routes should be communicated to current and prospective passengers, and how passenger feedback could be facilitated and processed. Lastly, the chapter provided standards for measuring the performance of the system and its individual bus routes and what actions to take in response to these measurements. As mentioned above, the standards presented in this chapter are 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 transit policies.

Route Diagnostics Analysis

This chapter of the report documented an analysis of the bus service that is available to the general public in the City of Rochester. The analysis presented overall statistics and different performance results (e.g., farebox recovery and productivity). The focus of this report was to delineate the characteristics of the fixed route bus system utilizing several analytical techniques. With these approaches, each bus route was treated as an individual operating entity. The performance characteristics of each bus route were compared to the other bus routes as well as to the overall system. In some cases, bus routes were assigned to specific categories to contrast performance for different criteria. The route level analysis was quantitative and focused on

financial and productivity measures. The examination also ranked the bus routes, thus reflecting the competitive nature of allocating limited transit resources. The analysis was performed for a one-year period (i.e., 2004) that was representative of recent conditions.

A variety of analytical techniques were utilized to present a “snapshot” of financial, productivity and other types of performance. The techniques provided different perspectives of route performance. In the aggregate, the individual route performance was similar - but not identical - with the different techniques. The procedures were diagnostic in that they provided one input to subsequent service planning steps. Other considerations, many of which are non-quantifiable (e.g., equity and need), will also influence transit decisions. Nonetheless, the range of techniques and the different performance measures facilitated the identification of both deficiencies and opportunities.

Service Adequacy

A previous chapter provided a comprehensive set of suggested service standards for the City of Rochester existing public transit system. The standards dealt with a variety of issues related to the quantity and quality of bus service. In this chapter, performance relative to each element of the suggested service standards was assessed. By utilizing the standards, guidance can be obtained for the development of transit improvement recommendations.

The analysis was organized in the same manner as the service standards. The City of Rochester existing public transit system’s performance in comparison to standards from four major categories (service attributes, operational attributes, passenger comfort and convenience, as well as fiscal condition) was identified and explained. One point to note at the outset is that performance should be reviewed in relation to tradeoffs associated with the different elements comprising the service standards policy. Moreover, the analysis presented in this chapter delineated the competing requirements of providing extensive coverage and frequent service within the practical constraints of reasonable funding. In this regard, certain elements of the service standards policy should be viewed as targets for future considerations. The results of this detailed review of fixed routes were utilized as an important input in the development of an improved route structure.

The City of Rochester existing public transit system attains favorable results in terms of the availability standard. The system provides good coverage from the standpoint of the production end of transit demand. Most areas of the City of Rochester are afforded bus service that is appropriately provided based on the demographic and socioeconomic conditions of the area. In terms of the attraction end of demand, the system provides bus service to nearly all the major generators.

The review of service in regards to the suggested span of service standard indicated that on some routes, the spans of service are not in compliance with the suggested standard. However, the proper response may not simply be to increase the span of service on the various routes to meet the suggested standard. Instead, each individual deficiency should be analyzed to determine if route modifications or improvements could be used to extend service spans or if

current spans should be retained. In most of the cases of routes not meeting the frequency of service standard, the reason for this often reflects other considerations. These considerations may include the desire to minimize vehicle requirements, maximize productivity or improve financial performance. Therefore, it is not a question of simply increasing the frequency on the various routes to meet the suggested standard. Instead, route modifications or other improvements may allow for a streamlining of routes and for optimum service frequencies to be provided throughout the system.

It does not appear that overcrowding is a problem. In fact, based on information from drivers and passengers on overcrowding, the City of Rochester will react by adding service to alleviate the condition. The reliability of bus service is favorable and also not an issue with regard to needed route changes. An inspection of the interior and exterior cleanliness of the fleet was also completed on several tours of the facility. The review found the vehicles in the fleet to be in excellent condition and found the interiors of buses to be generally clean with no instances of worn seats or graffiti. The favorable condition and fine appearance of the fleet is an important asset. Finally, the public information provided by the City of Rochester public transit system to inform the public of the bus service that is provided is extensive and comprehensive. However, one item that could be pursued is a system map showing all routes with a wide distribution to users and potential users. This separate system map would be in addition to the system map that is posted on the public transit web site, displayed in the downtown transit center waiting lobbies and included in a real estate magazine.

In terms of productivity, the performance for two regular weekday routes (Routes 16 and 18), two Direct routes (Routes 4D and 12D) and one Saturday route (Route 26) is classified as *unacceptable*. Routes 16, 18 and 26 were also *unacceptable* in the farebox recovery standard review. However, two routes that were *unacceptable* in the farebox recovery review moved to the *successful* category in this analysis (Routes 17 and 3N). Conversely, two routes classified in the *successful* category in the farebox recovery review moved to the *unacceptable* category in the productivity analysis (Routes 4D and 12D). However, all the routes that are classified as *unacceptable* in either the farebox recovery or the productivity analyses (Routes 16, 17, 18, 26, 3N, 4D and 12D) were closely reviewed in the service improvement portion of this study.

Park and Ride Existing Conditions

This chapter reviewed the utilization of the park and ride lots served by the City of Rochester existing public transit system. As was previously mentioned, the park and ride program is very well received by the community as a whole and lends a very progressive image to the system. The City operates five park and ride lots, contracting with property owners for a total of 512 spaces. The park-and-ride lots are regionally distributed on the fringes of the city along or near major regional highways leading to and from Rochester. The City of Rochester public transit system operates local bus service to these park and ride lots, as well as peak period “direct” express services. The five park-and-ride lot locations, their percentage of typically utilized capacity and the sampled number of bus passenger boardings are as follows:

- ShopKo North - 84 percent; 56 boardings
- Wal-Mart North - 166 percent; 191 boardings
- ShopKo South - 100 percent; 80 boardings
- Bethel Church - 59 percent; 21 boardings
- Cub Foods - 35 percent; 33 boardings

As part of this effort, surveys of park and ride users were undertaken in mid-April, 2005. A total of 366 park-and-ride users returned either a special park-and-ride survey (i.e., 219 returned) or a bus passenger opinion survey (i.e., 147). With the average utilization of the park-and-ride lots being 487 people, this represents an excellent 75 percent response rate. Based on both the survey responses and field observations of the park and ride lots, the following issues should be addressed:

- Improve signage at the lots as well as trailblazer signs leading to the lots;
- Update park and ride information on the City's website;
- Better public information should be available at the bus stops;
- Protected waiting areas should be available to park and ride users;
- Pavement markings or signs should better delineate the park and ride spots;
- A western park and ride lot is needed; and
- Capacity issues exist at the Wal-Mart North and ShopKo South lots.

Service Plan

This section of the report presented the Service Plan for the fixed route public transportation system operated by the City of Rochester. The proposals were developed with consideration given to the results of the ride check surveys (i.e., on-off ridership counts) as well as the adequacy of service analysis conducted for this study. For each bus route the suggested frequency and span of service for each service day were developed, along with the anticipated number of vehicles required to operate the proposed bus route. Finally, the proposed changes were then prioritized and the impacts of the service plan upon the system were also presented.

Route Proposals - In the aggregate, because of the excellent performance of the bus system in many regards, the proposed changes were generally conservative in nature. In addition to some route nomenclature changes, several new growth areas were targeted for expanded or new service. The individual route frequencies and spans of service were typically only moderately adjusted. Most importantly, two new crosstown routes were developed to serve a northern crosstown corridor and a southern crosstown corridor (i.e., they do not serve the downtown transfer area in Rochester). Finally, a new park-and-ride route was proposed in the western part of the City to serve a new commuter parking lot along West Circle Drive near Trunk Highway 14.

The Service Plan for the fixed route bus system operated by for the City by Rochester City Lines cannot simply be implemented immediately. Instead, the proposals for specific bus routes will be “phased in” over a period of three years. The Service Plan will be phased in as follows:

- First, it should be recognized that several bus routes remain essentially unchanged and will continue to operate as they do today. Some of these bus routes, as noted in the previous section, may have minor route alignment modifications or span of service adjustments. These are Routes 1N, 2, 3, 3N, 5, 6D, 7, 7N, 10, 12N, 18D, 55 and the Saturday bus routes.
- During **Year One**, the focus for the City of Rochester public transit system will be on those bus routes that will require some minor operational changes (e.g., loop pattern modifications, etc.) as well as new names. These are Routes 1 Midday, 1 Peak Hour, 6 Midday, 6 Peak Hour, 6 via Golden Hill Peak Hour, 11 Midday and 11 Peak Hour.
- During **Year Two**, the focus for the City of Rochester public transit system will be on those bus routes that will serve areas previously unserved by the bus system but which do not necessarily require a new vehicle in order to provide that service. Another focus is on those routes whose level of service (i.e., span and frequency of service) may have been significantly altered. These are Routes 1D, 4, 5 via Southgate/Pinewood Road, 14, 16 Midday, 16 Peak Hour and 17.
- Finally, during **Year Three** the focus for will be on those bus routes which not only provide service to new areas but which may also require new vehicles with which to provide that service. Also, during the third year of the implementation plan, any bus routes whose changes are dependent upon the modification of another bus route will be addressed. These are Routes 8, 9, 9D (the new park-and-ride route), 12, 13, 15, 18, 19 (the new northern crosstown route) and 20 (the new southern crosstown route). The bus routes whose changes are dependent upon the modification of another bus route are as follows: Routes 8 and 15, Routes 9 and 18 and, finally, Routes 12 and 13.

Finally, it should also be emphasized that the Service Plan as presented is - as previously mentioned - conservative in nature. It is based on the results of the ride check surveys (i.e., on-off ridership counts) as well as the adequacy of service analysis conducted for this study. However, since the completion of these analyses, ridership on the public transit system has been steadily increasing. Therefore, an “enhanced” version of this Service Plan would include the following additional elements:

- During Year Two, **Route 1D** would utilize an additional vehicle, thus allowing this peak period bus route to operate more frequently.
- During Year Two, **Route 4** would utilize an additional vehicle during the peak periods, thus allowing this bus route to operate more frequently.

- During Year Two, **Route 16 Peak Hour** would utilize an additional vehicle, thus allowing this peak period bus route to operate more frequently.
- Finally, during Year Three, **Route 18D** would utilize an additional vehicle, thus allowing this peak period bus route to operate additional service as needed in order to relieve any overcrowding situations that may occur.

Other Proposals - Several elements of the public information program need to be improved and updated. These include:

- A new system map and “ride guide” reflecting the proposed service changes for the bus system. Special area maps - such as for central Rochester - could also be developed.
- New individual route timetables are needed. Special “corridor” timetables - such as for all bus services between central Rochester and Wal-Mart North - could also be developed.
- A large campaign outlining the improvements to the bus system needs to be launched which would introduce the changes to both current riders as well as the general public.

Plan Impacts - The impacts of the basic Service Plan for the public transit system are summarized in the accompanying table:

Summary of Service Plan Impacts - Basic Service Plan

Measure	Current (2005)	End of Year Three	Percent Change
Annual Vehicle Hours	67,641	83,958	24.1 %
Ridership	1,301,107	1,464,944	12.6 %
Peak Buses	27	30	11.1 %
Revenue	\$1,399,767	\$1,598,143	14.2 %

However, as was previously mentioned, an “enhanced” Service Plan was also developed which would require the utilization of additional resources. The impacts of the enhanced Service Plan would be as follows:

Summary of Service Plan Impacts - Enhanced Service Plan

Measure	Current (2005)	End of Year Three	Percent Change
Annual Vehicle Hours	67,641	90,743	34.1 %
Ridership	1,301,107	1,544,565	18.7 %
Peak Buses	27	34	25.9 %
Revenue	\$1,399,767	\$1,657,161	18.4 %

The proposed bus system would be much simpler to comprehend and more consistent. These proposed improvements, when combined with new public information materials and bus stop signage, will help the system attract more riders.

Additional Plan Elements

This section of the report presents additional elements associated with the development of the Transit Development Plan for public transit services in the City of Rochester. These include the Financial Plan (which includes the Capital Improvement Plan), the Marketing and Communications Plan and the Downtown Transfer Area Plan, the Management and Organizational Framework Review and possible improvement options for the paratransit services, ZIPS.

Financial Plan - The table on the following page summarizes the capital funding needs associated with passenger waiting shelters in outlying areas and at the downtown transfer area as well as with proposed signage programs. Because of the implementation schedule described in the Service Plan section of the report, none of these capital items would be required until the third year (i.e., the third phase) of the implementation of the recommended service plan. This should allow for sufficient time to plan for the acquisition of these items.

Other Capital Funding Requirements

Item	Year	Number	Amount
Shelters	3	10	\$50,000
Park-and-Ride Lot Signs	3	2	\$500
Trailblazer Signs	3	50	\$3,750
Bus Stop Signs	3	50	\$7,500
Expanded Downtown Transfer Area	3	4	\$500,000
TOTAL			\$561,750

Further, there is also needs to replace buses as they reach their economic useful life and to obtain new buses for service expansion. The bus replacement program is consistent with the Capital plan identified in the 2006 to 2011 TIP and would cost about \$4.6 million in the next five years. Finally, the City of Rochester should closely monitor the functional capability and size of the existing bus garage facility of the private operator and begin making plans for a City-owned bus garage complex as facility size issues and other problems become apparent. Such facilities are eligible for federal funding.

The operating needs for the proposed expanded services are the approximate funds required to operate service more frequently and/or for a longer span of service. It should be kept in mind that the operating costs are estimated on an annual basis and would be a recurring cost item (i.e., an annual budget item). Additionally, the operating costs are cumulative in that once all of a given year's proposals are implemented the annual additional operating funding required would be the sum of that year's required funding as well as any additional operating funds required for the previous year's proposals. The additional annual operating funding needs required for the expanded transit service are summarized in the accompanying table.

Additional Annual Operating Funding Required for Expanded Transit Service

Year	Annual Hours	Estimated Ridership	Estimated Cost	Estimated Revenue	Estimated Deficit
Current (2005)	67,641	1,301,107	\$3,323,882	\$1,399,767	\$1,924,115
1	67,641	1,308,970	\$3,323,882	\$1,407,588	\$1,916,294
2	68,453	1,330,321	\$3,363,856	\$1,433,405	\$1,930,451
3	83,958	1,464,944	\$4,127,160	\$1,598,143	\$2,529,017
<i>3 (Enhanced Plan)</i>	90,743	1,544,565	\$4,427,263	\$1,657,161	\$2,770,102

Expansion of the system's services depends on the availability of local funding from a variety of sources. The additional annual operating funding required to operate the "enhanced" transit system (i.e., the transit system costs not covered by the revenues generated by the ridership) would total approximately \$846,000. It should be noted that this amount is in constant 2005 dollars. Due to inflation and other expense increase, the actual funding needs may be higher. Also, it is important to keep in mind that - unlike the capital funding needs - the operating funding needs are an ongoing and continuing annual expense. Without this funding, service would not be provided.

Marketing and Communications Plan - In view of the proposed service expansion, the City should have a marketing campaign to inform the public of the changes. The City should also initiate a "branding" campaign to identify a distinct and appropriate name for its transit system. The name "Rochester City Lines", which is name of the private operator, is often the name given to the City's public transit system.

Downtown Transfer Area Plan - The only viable option is to expand the existing Downtown Transfer Area. One option, in which the bus system's schedule is spread out and fewer buses are downtown at any given time, dilutes transfer opportunities for passengers to a great degree and may also increase the waiting times for many passengers. However, it should be kept in mind as a "fallback option". Another option - where an entirely new on-street location is found where 21 bus berths can be accommodated - would mean that the bus routes would move away from their current location. This is not recommended because the current facility is very centrally located and its convenience to all points within downtown Rochester would be extremely difficult to replicate.

A third option - where a new off-street facility could be constructed which would accommodate the local bus routes - would likely be relatively costly. In addition, with the high demand for real estate in such a central location in downtown Rochester, it is not a "given" that the new off-street facility would be able to be located near the existing facility, which is very centrally located and is convenient to all points within downtown Rochester, as was previously mentioned.

Finally, the expansion of the existing facility is also the most viable option for another reason: due to the extensive subway and skyway pedestrian access network throughout downtown Rochester, it is possible for prospective bus passengers to reach the Downtown Transfer Center with very little outdoor walking. Obviously, this is a very positive feature during the winter months, and almost replicates the convenience of a new off-street terminal with climate-controlled facilities.

Management and Organizational Framework Review - The arrangement whereby the City contracts with private operators to provide the public transportation system works well and has afforded the City a great deal of control over the day-to-day operations of its regular fixed route and paratransit systems. Further, it is unusual to find both transit and the municipality's parking authority administered by the same agency of the local government. This is actually a very progressive stance and allows Rochester to form and promulgate parking and public transportation policies that are complementary and therefore can promote and maximize the use of public transportation. However, as the public transportation system expands, it may be necessary to increase the number of staff in the Public Works Department assigned to transit function. These additional staff resources could be used for a number of duties such as:

- More closely monitor the public transit services,
- Address improvements to the park and ride program,
- Continue improvements in the public information program, and
- Address possible coordination opportunities with the various paratransit services in the region.

Fixed Route System - With the current arrangement, the City of Rochester contracts with a private sector provider - Rochester City Lines - to operate the fixed route transit service. The City administers all of the public sector subsidies (i.e., federal, state and local) for transit services. It has been determined that the contractor maintains an adequate maintenance and operations facility, has a comprehensive operator training program, has excellent on-street operations and a clean well maintained bus fleet. In the aggregate, Rochester City Lines is a well-run, professionally operated public transportation company.

The contractual relationship between the City and Rochester City Lines appears to work very well. The contract is very specific in terms of the items that must be reported with each monthly invoice. This information is used by the City staff to review and monitor performance.

Demand Response Service – The City of Rochester contracts with a private sector provider to operate the demand responsive paratransit service. This service is known as the Zumbro Independent Passenger Service (ZIPS). We have been able to determine that the overall operation of the ZIPS demand responsive system is rated as very favorable by its riders and that the service is a well-run by the private operator.

In addition to ZIPS, there are a number of paratransit services that operate within the Rochester area. Therefore, it may be advisable for the City to review the functions of all the operators to determine whether better coordination and even consolidation of certain functions could be achieved. The work in this study did not address this type of review. However, possible coordination of the scheduling and/or dispatching function appears to be candidates for further review. Many areas have established a centralized broker type arrangement that assigns the actual delivery of service to the most appropriate operator.

Park and Ride Plan - The service plan identified a western location for a new park and ride operation for transit in the City of Rochester. This location would be in the vicinity of Trunk Highway 14 West and County Route 22 (West Circle Drive). It is anticipated that this park and ride location will have similar usage as the Shopko South lot or about 80 cars a day. Since this will be a new lot, it should be tailored after the successful program that the City has employed for its current five lots. The criteria for making the current park and ride program successful include:

- Quick trip on a bus from the park and ride site to downtown Rochester;
- Located in an existing parking lot of a business or church that has capacity for cars during the day;
- Good bus service to the site throughout the day;
- Good highway access to the site; and
- Sufficient number of parking spaces.

As pointed out in the Park and Ride chapter, there are several features that the City should implement to improve the program. These include:

- More and better signage identifying the lots as a bus park and ride complex;
- Signs that are so-called trailblazer signs that guide commuters to the lots;
- Protected waiting areas at the lots; and
- Pavement markings that separate the park and ride spaces from the rest of the parking area.

Since the City has developed park and ride lots in all areas of Rochester, the need for future park and ride lot locations will be based on the capacity and utilization of existing lots. For example, if the utilization of the park and ride lot at Wal-Mart in the Northwest part of the City continues to grow, the City may be forced to find an alternate site nearby. One possible location could be in the vicinity of US 52 and 75th Street, NW. Further, to address possible capacity issues at Shopko South, another park and ride lot could be established at US 63 South and 48th Street. The same criteria listed above for current lots should be applied to any future program. However, with the expansion, the City may have to establish its own designated lots in lieu of using a lot with commercial development.

GOALS AND OBJECTIVES

Introduction

This updated set of Goals and Objectives was prepared as part of the 2005 Transit Development Plan for the City of Rochester's public transportation system. The goals and objectives that follow are based on several inputs, which include the following:

- Several elements of the current 2005 Transit Development Plan, including surveys of both bus system riders and residents in the service area, the development of service standards and the adequacy of service analysis. These, combined with the results of the stakeholder interview process, provided an overall view of the attitudes and opinions regarding public transportation in the Rochester area.
- Several discussions with the Review Committee for the current project, which helped refine the perceptions of public transportation's role in Rochester.
- The existing "Goals and Objectives" which were previously prepared for the City of Rochester. The Rochester Citizens Advisory Committee on Transit was instrumental in developing this original set of goals and objectives for public transportation in Rochester. The previous goals and objectives were also prepared in conjunction with city officials, key citizens and a consultant.

A key element in the success of any organization, be it public or private, is the identification of clear, workable goals and objectives. These statements guide the daily operations of the organization - as well as planning for the future - and provide the "yardstick" against which success is measured.

Fixed Route Transit Service operated by Rochester City Lines - *Mission Statement*

To provide an efficient, accessible public transit system that is competitive with the private automobile in terms of cost, convenience and time.

Statements of Goals and Objectives

Goal I To provide an improved public transit system that is competitive with the private automobile. “Competitive” is defined as having attributes that make public transportation a reasonable and convenient alternative to the use of the private automobile. It is recognized that the goal is not necessarily to require that public transportation outperform a comparable trip in a private automobile in terms of cost, convenience and time.

Objectives

- I.A Service design must take into account rider convenience and travel time to be competitive with (i.e., to provide a reasonable alternative for) the private automobile.
- I.B Route times and frequencies should continue to be coordinated with work and school schedules.
- I.C Boarding and alighting locations should be as close as possible to origins and destinations. A location will be considered “served” if it is within one-quarter mile of a bus route.
- I.D Areas of service delivery and user guarantees (e.g., for on-time performance) which will enhance the public perception of transit should be established.
- I.E The maximum travel time by transit should be approximately 45 minutes between any two points in Rochester.
- I.F The ability to travel between points in the service area without necessarily requiring a passenger to transfer in downtown Rochester should be provided for. For example, new “crosstown” bus routes that link major activity centers outside of downtown Rochester should be investigated. These types of new bus routes would also provide the ability to link the primary work trip with the ability to serve other community needs (e.g., day care, shopping, etc.) that expand the overall utility of the transit system.
- I.G 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 primary consideration.

- I.H Specifications for new buses should continue to include passenger comforts and amenities such as the following: padded and upholstered seats; public address systems; front, side and rear destination signs and accessibility features (e.g., low floor buses).
- I.I The accessibility of buses should continue to be monitored, evaluated and improved as possible.
 - I.I.1 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 for transportation.

Objectives

- II.A 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.
- II.B The minimum amount of service to be provided on all routes is two round trips per day.
- II.C 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 safety of transit.
- II.D Comparable service levels (e.g., span of service, etc.) should be provided between the fixed route bus service and the demand responsive paratransit service.

Goal III To increase ridership.

Objectives

- III.A Maintain an ongoing marketing plan which promotes use of the transit system in the markets with the greatest potential.
- III.B Maintain an ongoing education/information program tailored to various consumer groups (e.g., senior citizens, college students, etc.) which provides them with information directly related to their needs and their use of the transit system.
- III.C Operate a “user-friendly” system by utilizing transit service design, public information materials (e.g., individual route timetables, system maps, etc.) and equipment that makes people comfortable using the public transportation system.
- III.D The route nomenclature conventions 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”.
- III.E Evaluate and investigate - on an ongoing basis - the potential for new services and service types (e.g., downtown shuttles, new park-and-ride lots, etc.) throughout the service area.

Goal IV To ensure that transit is included and promoted in decision-making and the development of plans and policies affecting land use and transportation at all levels of government.

Objectives

- IV.A Maintain an educational and “outreach” program with local government employees and 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. Transit should be considered as an alternative to construction of additional roadway and parking facilities.
- IV.B Develop strategies to involve employers in the promotion of the use of transit.

- IV.C The City should recognize the impacts that parking policies have on transit. Therefore, Rochester’s parking policies should include the following:
- IV.C.1 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.
 - IV.C.2 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.
 - IV.C.3 Employers should provide preferential parking to vanpools and carpools.
 - IV.C.4 City Zoning requirements should require less parking if support for transit in the form of employer-sponsored or landlord-sponsored bus passes is provided.
- IV.D 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. For example, both new commercial and residential developments should allow for the ability for public transportation vehicles (i.e., buses) to enter and exit the development without requiring a “u-turn”.
- IV.E Streets on which buses operate should be designated as “Snow Emergency Routes” and given the highest priority for snow removal where feasible.
- IV.F 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 achieve efficiency and economy in the delivery of service through continued evaluation and comparison of performance indicators and the development of innovative methods of service delivery.

Objectives

- V.A 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. These standards should be reviewed annually for evaluation on a trip, route and system basis.
 - V.A.1 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.
 - V.A.2 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.
- V.B 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.

Zumbro Independent Passenger Service (ZIPS) Demand Responsive Service - *Mission Statement*

To provide an efficient, accessible demand responsive paratransit system.

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

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

- I.B 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

- II.A 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.
- II.B 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

- III.A Eligibility for use of the ZIPS demand responsive service must be overseen carefully. If too many people are deemed eligible for ZIPS service, the system would be overwhelmed with trip requests.
- III.B 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.

COMMUNITY CHARACTERISTICS

The City of Rochester is located in Olmsted County, in southeastern Minnesota, approximately 85 miles southeast of the Twin Cities. The city covers 47.9 square miles and is comprised of urban and suburban settings, while the area outside of the city is primarily rural in character. The primary urban setting in the area is downtown Rochester. Rochester is traversed by several major corridors, including U.S. Routes 14, 52, and 63. Interstate 90 runs just south of the Rochester city limits in an east-west direction. (See Figure 1). These corridors provide the primary connections to the Twin Cities, northern and western Wisconsin and northern and eastern Iowa. In addition, Rochester is located on the east-west route of the Dakota Minnesota and Eastern (DM&E) freight railroad.

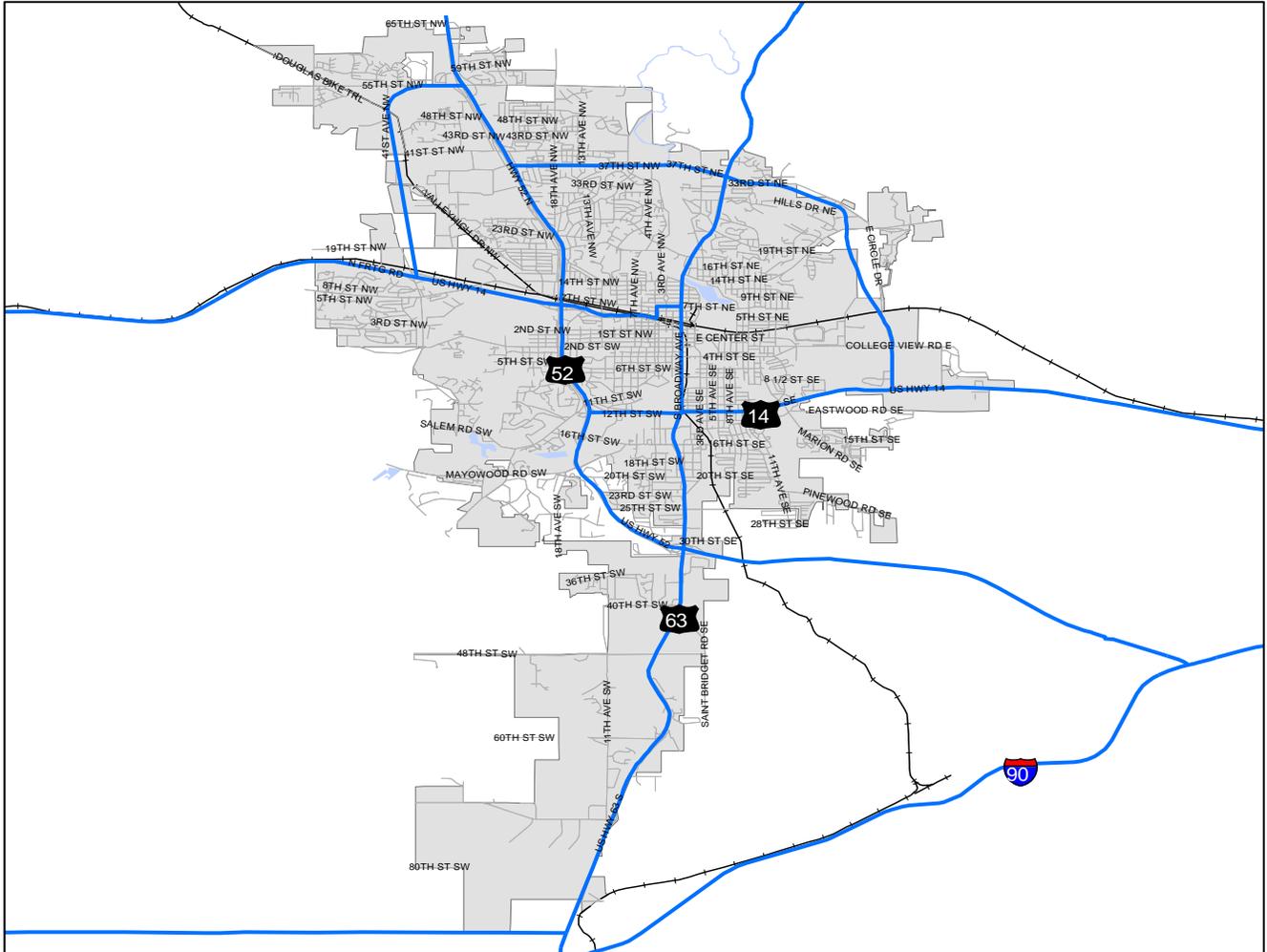
The economy of Rochester is centered around health care, high technology, and agriculture. The most important part of the local economy is the Mayo Foundation, which is located in downtown Rochester and has a staff of over 28,000 employees. The Mayo Foundation comprises three hospitals, which provide diagnostics, research, and testing laboratories. In addition to the medical facilities, Rochester supports a large service industry, which provides lodging, retail, and food services to the patients and families who visit the city each year. Another large employer in the city is IBM, which employs 6,000 people in a production facility located in the northwestern part of the city. Additionally, there are several medical and computer/software industries located in the city as well as a number of agricultural processing plants. Overall, the unemployment rate in Rochester in 2003 was 4.2 percent, which was better than the Minnesota average of 5 percent and the United States average of 6 percent. Commercial building permits have increased by almost 8 percent between 1999 and 2003, while the number of single family and multifamily housing units have more than tripled between 1994 and 2003.

The City of Rochester through the Transit and Parking Division of the Public Works Department provides the administration and oversight of the city's transit system. Regular fixed route services are provided under contract by Rochester City Lines. The service is provided under an annual contract. The company is responsible for day to day operations including drivers, maintenance, storage, dispatch, and customer service. In addition, the City of Rochester, through the Zumbro Independent Passenger Service (ZIPS), also provides complementary ADA paratransit service in the City for those persons not able to use the fixed route bus system. The City Parking and Transit Division administers this service. However, like the fixed route bus service, the paratransit service is operated by a private contractor who is responsible for the complete operation of the service.

The purpose of this chapter is to describe the setting within which the existing Rochester City Lines services are provided. The chapter identifies major transit generators and examines information on socioeconomic characteristics primarily within the City of Rochester.

This information will be used to assess how the Rochester public transit system could most efficiently utilize their resources to address existing and future needs and to provide the background data necessary for developing service improvement proposals.

Figure 1 - Study Area



Major Generators

The following section discusses seven types of major transit generators: major employers; shopping centers; social service agencies; government centers; hospitals; nursing/retirement homes; and high schools and institutions of higher learning.

Individual generators for each of the seven generator types were determined to be key locations based on their ability to attract ridership. Each of these generators was plotted on a base map showing the street network throughout the service area, and the Rochester City Lines bus route network. Definitions of the seven generator types are detailed below.

Major Employers - For the purpose of this analysis, a major employer warranting transit service consideration is defined as any employer with 300 or more employees at a single location. Figure 2 indicates 15 major employers in the service area that meet that meet the 300 or more employee criteria. There are several other employers throughout the service area that employ more than 300 people, such as the Rochester Public School System. However, these employees are distributed throughout the city, and therefore there would not be a specific site which would generate a sufficient number of trips to warrant transit service. The largest single employer in the service area is the Mayo Foundation, which includes the Mayo Clinic, St. Mary's Hospital, and Methodist Hospital. The Mayo Foundation employees 28,216 people. The majority of these employees are located in downtown Rochester. The Mayo Foundation also has two support centers and two family clinics located in the northeast and northwest portions of Rochester. The second largest employer in the service area is IBM, which employs 6,000 people and is located in the northwestern portion of the service area.

As Figure 2 shows, all of the major employers are served by or are within a reasonable distance of the fixed route bus system.

Shopping Centers/Malls - Shopping centers and malls attract both work trips as well as shopping trips, making them an important location for fixed route bus service. For the purpose of this analysis, all major shopping centers and malls in the service area were identified. Figure 3 depicts 14 shopping centers and malls within the fixed route bus service area. As Figure 3 shows, shopping centers and malls are fairly evenly distributed throughout the service area, with a few clusters located in the southeastern and northwestern portions of the service area. Most of the shopping centers and malls are located along U.S. Routes 52 and 63. Additionally, all of the shopping facilities depicted in this figure receive fixed route bus service.

Figure 2 - Major Employers

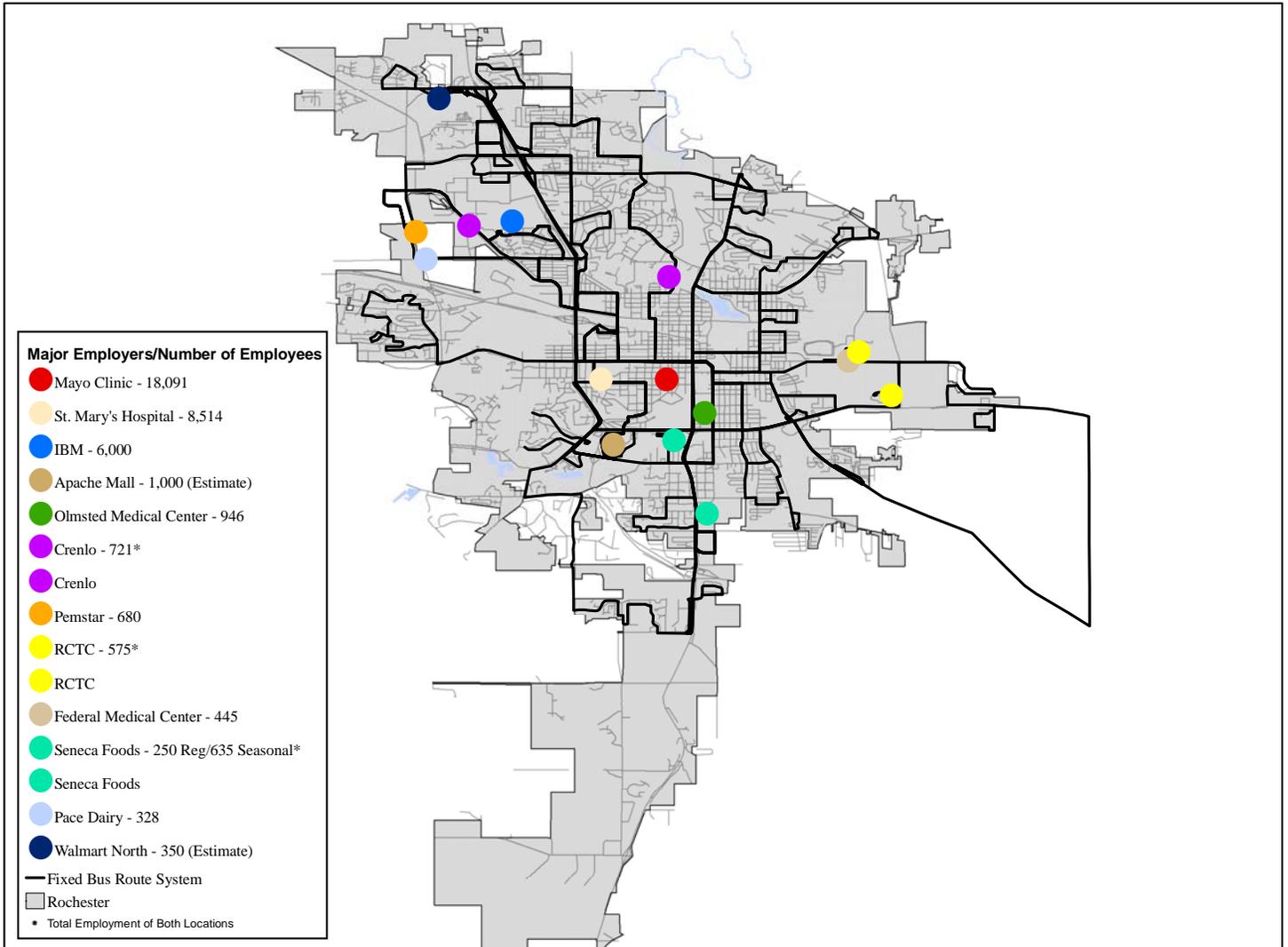
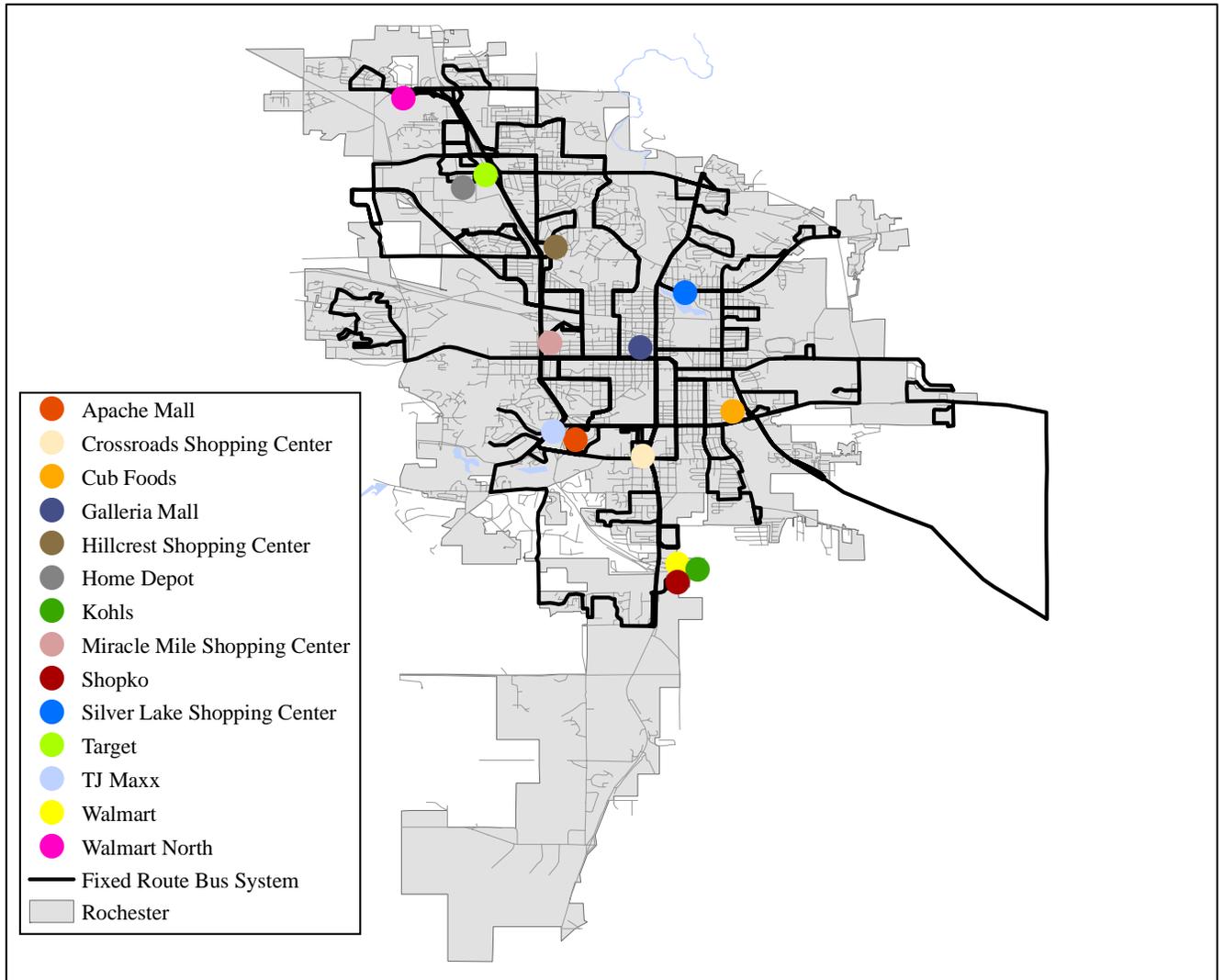


Figure 3 - Shopping Centers/Malls



Health Care/Senior Citizen Facilities - Public transportation is important for providing access to hospitals or clinics, particularly for senior citizens. In addition, such facilities also serve as major employment locations. As shown in Figure 4, there are three major hospitals and one clinic located in the service area. Three of the four health care facilities are located downtown, with the remaining facility located east of the downtown area. All four facilities receive bus service. Senior citizen facilities such as nursing/retirement homes, senior citizen apartment complexes, and senior centers contain a high concentration of seniors, a population that is heavily dependent on public transit and therefore should be considered important sites to serve with fixed-route bus service. As shown in Figure 4, there are 20 senior citizen facilities located in the service area, with all but one of the facilities located along a bus route. The remaining facility, Madonna Meadows, is located about one half mile from the nearest fixed route bus service.

High Schools and Institutions of Higher Learning - These facilities are listed as important transit generators because students at these grade levels typically represent a transit dependent market. Additionally, colleges and universities also represent large employment centers. As shown in Figure 5, there are three high schools located in the service area. Additionally, there are two post-secondary facilities located in the service area. These are the University of Minnesota at Rochester and the Rochester Community and Technical College. Figure 5 shows that fixed route bus service is provided to the three high schools as well as the two colleges.

Government Centers - Government centers attract both work and visitor trips, making them a location that should be served by fixed route bus service. As shown in Figure 5, government offices are located in downtown Rochester and are served by fixed route bus service. Additionally, there are a few county and state office facilities located in the eastern portion of the service area along Campus Drive. These facilities also are served by fixed route bus service.

Social Service Agencies - Social service agencies are another important transit generator because they mainly serve low-income, elderly or disabled residents in an area. These three population groups tend to rely more often on public transportation than the general public at large. As shown in Figure 5, social service agencies are primarily located in the central portion of the downtown area and the northeastern portion of the service area. As the figure shows, all social service agencies are served by fixed route bus service.

Figure 4 - Hospitals/Clinics and Senior Citizen Facilities

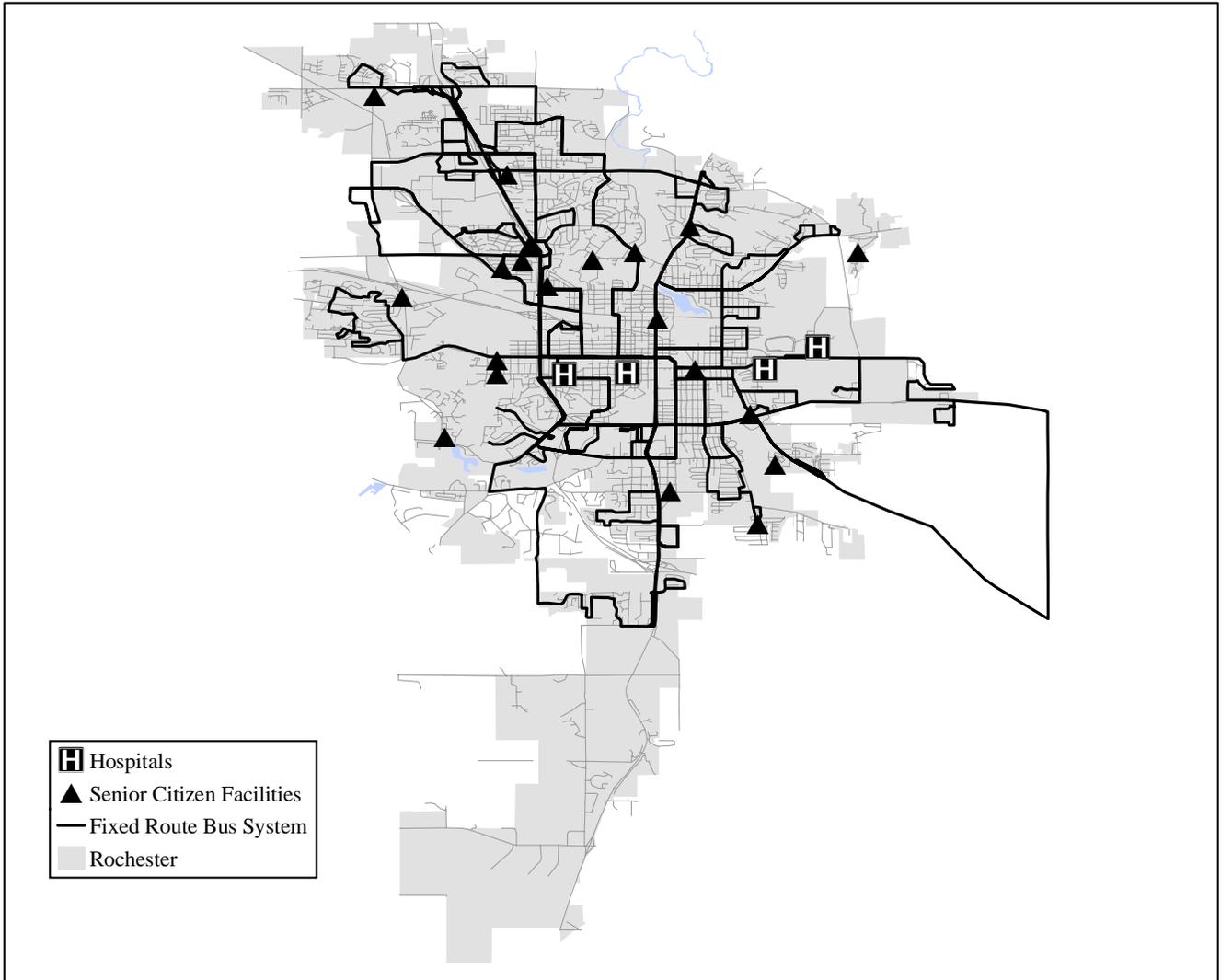
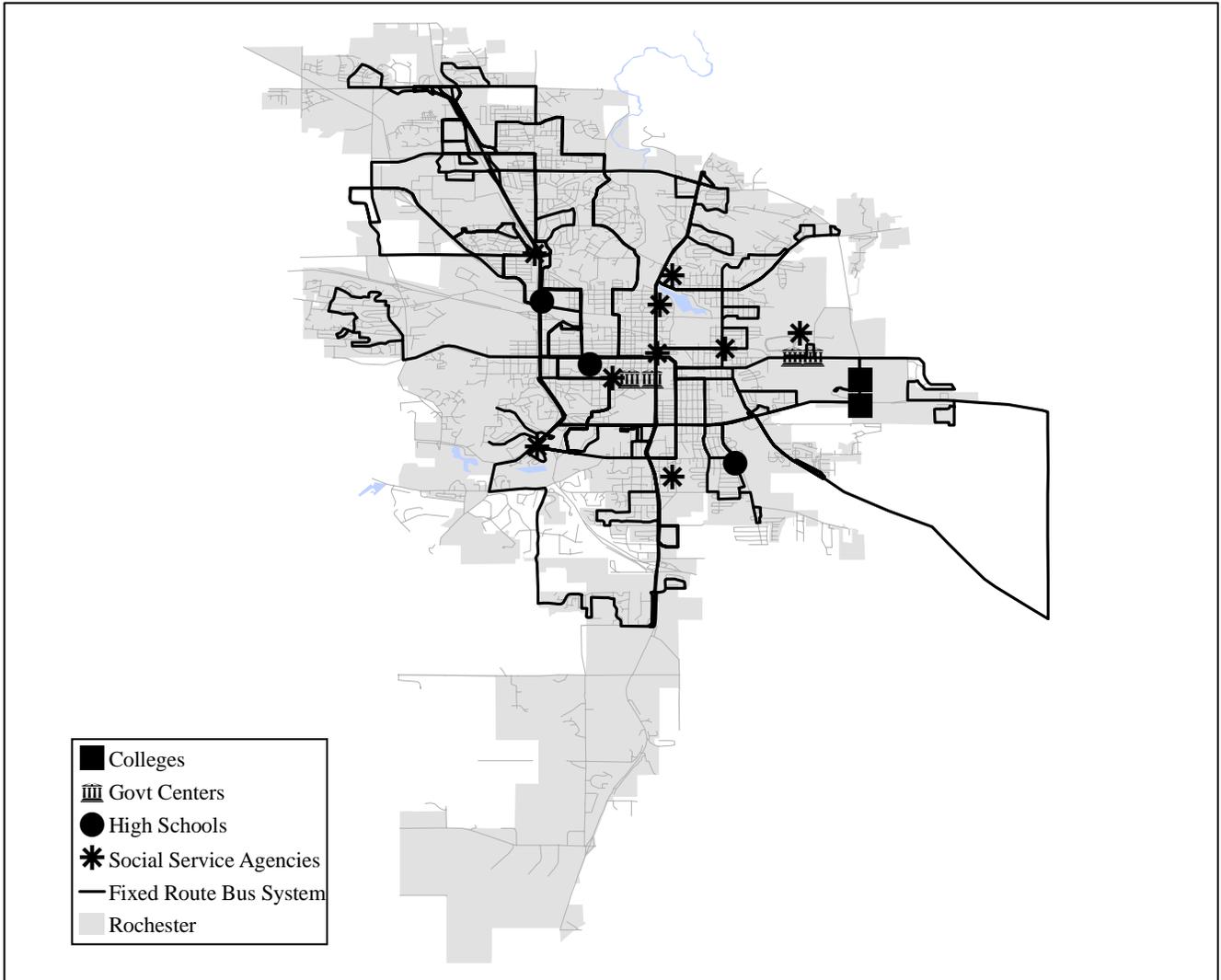


Figure 5 - Other Major Generators



Socioeconomic Characteristics

One of the major elements of any transit analysis is an examination of the socioeconomic factors that influence overall travel and the needs for public transportation within the area served by the transit system. These factors include characteristics about the area population including population size, population density, population age, household income, mobility status, vehicle availability, employment, labor force, and bus ridership.

Socioeconomic data used for the figures in this section are based primarily on the census tract level from the 2000 U.S. Census. In the current analysis, the study area is analyzed using 29 census tracts. Figure 6 graphically depicts these census tracts. It should be noted that in some cases the census tracts extend beyond the service area and into the urbanized area, which is not served by Rochester City Lines fixed route bus service. Thus, the totals for the aggregated data will exceed the totals for the service area.

Population and Population Density - According to 2003 population figures published by the *Rochester Area Economic Development, Inc.*, the population of the City of Rochester was 93,037. This represents an increase of 31.5 percent from the 1990 service area population of 70,745, and an 8.4 percent increase from the 2000 service area population of 85,806.

Table 1 provides the population at a census tract level for each of the census tracts in the service area. As noted above, some of these census tracts include residents who reside beyond the service area. The table indicates that population by census tract ranged from a high of 5,935 in the eastern portion of downtown Rochester (CT 2) to a low of 267 in the northeastern portion of downtown Rochester (CT 8). Figure 7 illustrates the population growth change by census tract between 1990 and 2000. As Figure 7 shows, the most significant population growth occurred in the western, southwestern, northwestern, and central portions of the service area. These areas experienced population growth of 30 percent or higher, with census tract 12.01 exhibiting the largest population increase of 72.6 percent. Conversely, the largest population decline occurred in the northeastern portion of the downtown area (CT 8), which experienced a population loss of almost 66 percent. In addition, some tracts in the downtown area as well as a few tracts northwest and southeast of downtown experienced population losses of up to 9.9 percent.

A critical factor impacting the viability of public transportation service is the density of residential development. Transit tends to attract more riders in denser areas for many reasons, including the fact that densely populated regions tend to include a diversity of income and age groups. Also, denser development patterns make residents much less dependent on automobiles to complete their daily tasks, and the less dependent a population is on automobiles, the more likely they are to use transit. The service area contains 47.8 square miles of land area and has an overall population density of 1,946 persons per square mile.

Figure 6 - Census Tracts

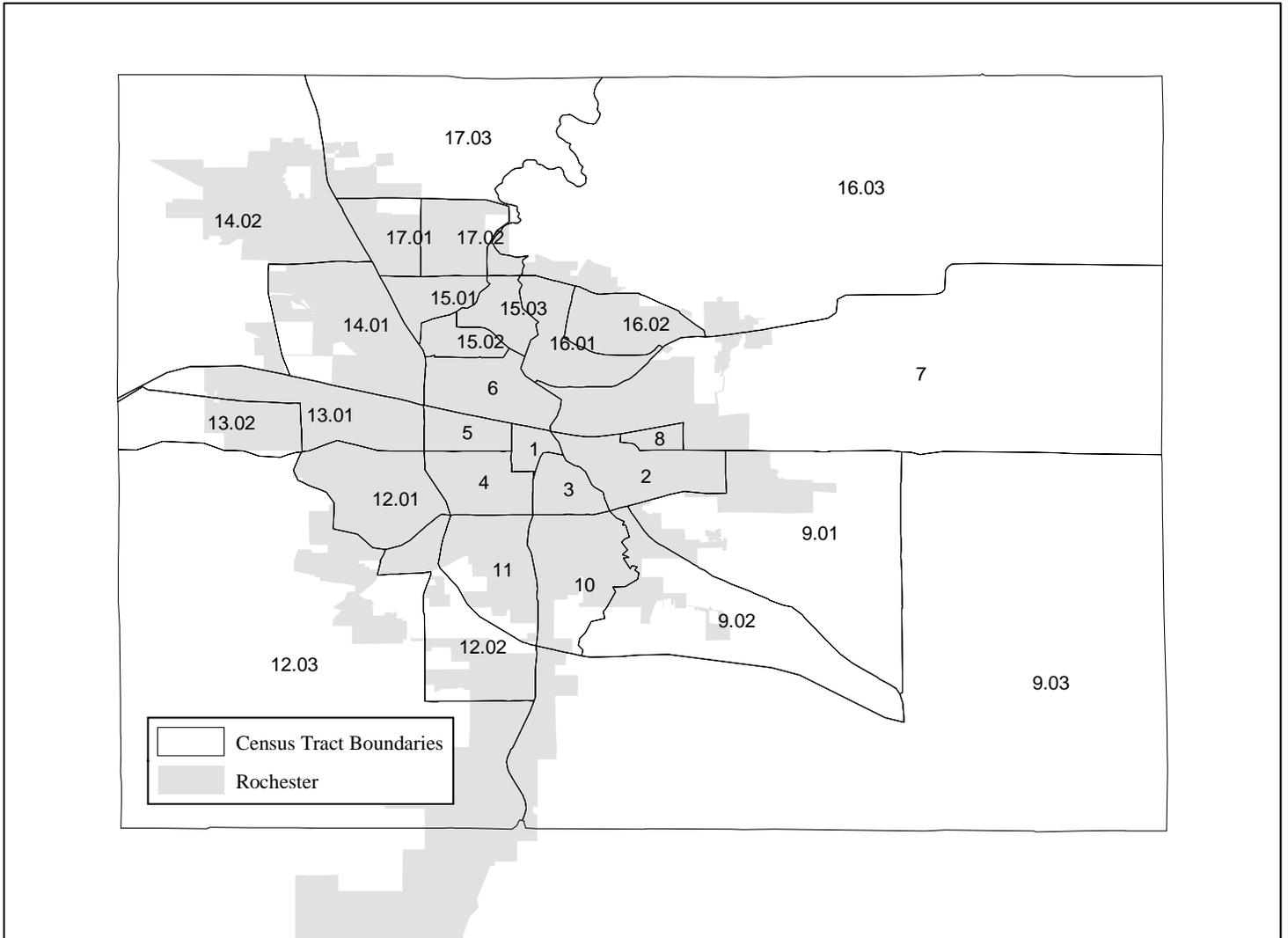


Table 1
1990 - 2000 Population by Census Tract

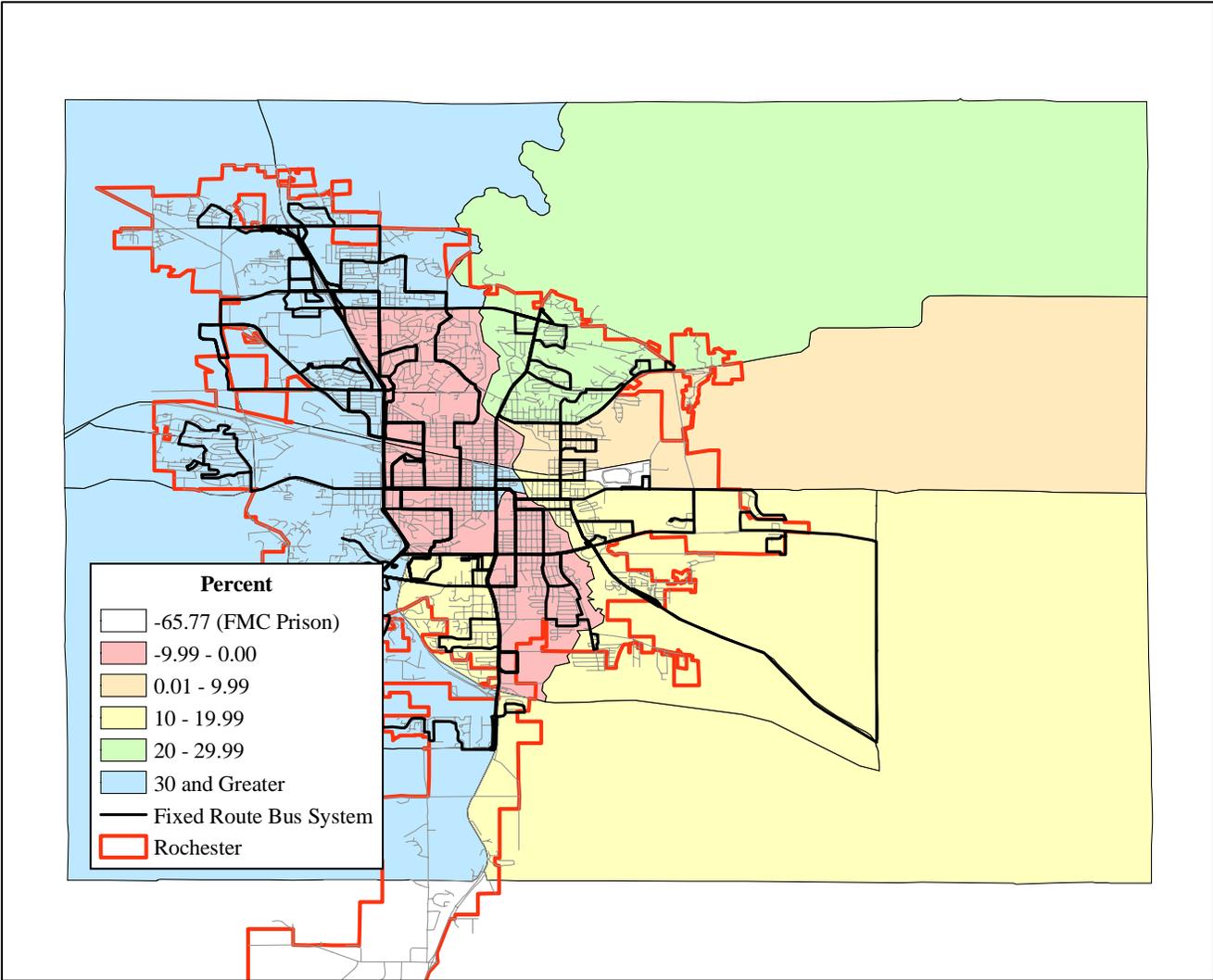
Census Tract	Census Tract Location	2000 Population	1990 Population	Net Change	Percent Change
1	downtown area	1,582	1,210	372	30.7
2	downtown area	5,935	5,338	597	11.2
3	downtown area	3,155	3,449	-294	-8.5
4	downtown area	3,392	3,688	-296	-8.0
5	downtown area	3,310	3,482	-172	-4.9
6	northern area	4,654	4,808	-154	-3.2
7	eastern area	4,138	3,993	145	3.6
8	FMC Prison	267	780	-513	-65.8
9.01	eastern area	3,895	3,431	464	13.5
9.02	southeastern area	3,095	2,722	373	13.7
9.03	southeastern area	2,611	2,299	312	13.6
10	southern area	4,817	5,320	-503	-9.5
11	southern area	3,386	3,046	340	11.2
12.01	western area	3,888	2,252	1,636	72.6
12.02	southwestern area	3,054	1,770	1,284	72.5
12.03	southwestern area	2,603	1,510	1,093	72.4
13.01	northwestern area	2,256	1,522	734	48.2
13.02	northwestern area	3,761	2,537	1,224	48.2
14.01	northwestern area	4,524	2,877	1,647	57.2
14.02	northwestern area	4,916	3,129	1,787	57.1
15.01	northern area	3,006	3,326	-320	-9.6
15.02	northern area	2,466	2,725	-259	-9.5
15.03	northern area	2,401	2,655	-254	-9.6
16.01	northern area	4,942	4,047	895	22.1
16.02	northeastern area	2,938	2,405	533	22.2
16.03	northeastern area	2,829	2,326	503	21.6

**Table 1 (Continued)
1990 - 2000 Population by Census Tract**

Census Tract	Census Tract Location	2000 Population	1990 Population	Net Change	Percent Change
17.01	northern area	4,410	2,940	1,470	50.0
17.02	northern area	4,294	2,862	1,432	50.0
17.03	northern area	2,918	1,955	963	49.3
Totals		99,443*	84,404*	15,039*	17.8%*
City of Rochester		85,806	70,745	15,061	21.3%

* Includes the population located outside of the service area boundaries.

Figure 7 - 1990 - 2000 Population Change



As shown in Figure 8, the census tracts with the highest population densities are located in the central and northern portions of the service area. The population density within these census tracts is in excess of 4,500 persons per square mile. The census tracts with the lowest population densities are primarily located along the periphery of the service area. The population densities within these census tracts is under 1,500 persons per square mile. However, it is important to note that many areas located along the periphery of the service area are located within census tracts that extend into the more rural and less developed portions of Olmsted County. As a result, the overall population density of these census tracts is low even though the portions of these tracts located in Rochester are more suburban in character and exhibit higher population densities. For example, Figure 8 indicates that the eastern portion of the service area (CT 7) along South Broadway Avenue has a population density of less than 1,500 persons per square mile. However, census block group data indicates that many of the areas located along South Broadway that are entirely within the service area exhibit population densities in excess of 3,500 persons per square mile.

While no single measure exists, it is generally recognized that densities in excess of 2,500 persons per square mile are necessary to make fixed route bus service viable. Within the service area, 12 of the 29 census tracts have population densities greater than 2,500 persons per square mile. Presently, all 12 of the census tracts with population densities above 2,500 persons per square mile are served by fixed route bus service.

Senior Citizen Population - There are several “target” market groups for transit. These groups generally have limited transportation mode choices so that, in most cases, they must rely on transit services in order to travel. They are not able to either drive or do not have access to an automobile. Senior citizens (persons 65 years old and older) are one of these groups. There are 9,776 people age 65 and over in the service area. This represents 11.4 percent of the overall service area population. As shown in Figure 9, the largest concentrations of senior citizens are located in the downtown area, and north of Civic Center Drive between U.S. Routes 52 and 63. These areas have senior citizen populations of 16 percent and higher. Additionally, senior citizen populations of between 12 and 15.99 percent are located in the southern portion of the service area between U.S. Routes 14 and 52 as well as the northeastern portion of the service area between U.S. Route 63 and State Route 22. The areas with the lowest percentage of senior citizens are located in the central portion of the downtown area and the northern periphery of the service area. These areas have senior populations between 2.4 and 3.99 percent.

Youth Population - The youth population (persons 18 years old and younger) is considered another captive group, as most of them are unable to drive legally. There are 22,112 persons in the service area under age eighteen. This represents 25.8 percent of the overall service area population. As shown in Figure 10, the northern and western peripheries of the service area have the highest concentrations of people less than 18 years of age. These areas have youth populations of 30 percent and higher.

Figure 8 - Population Density

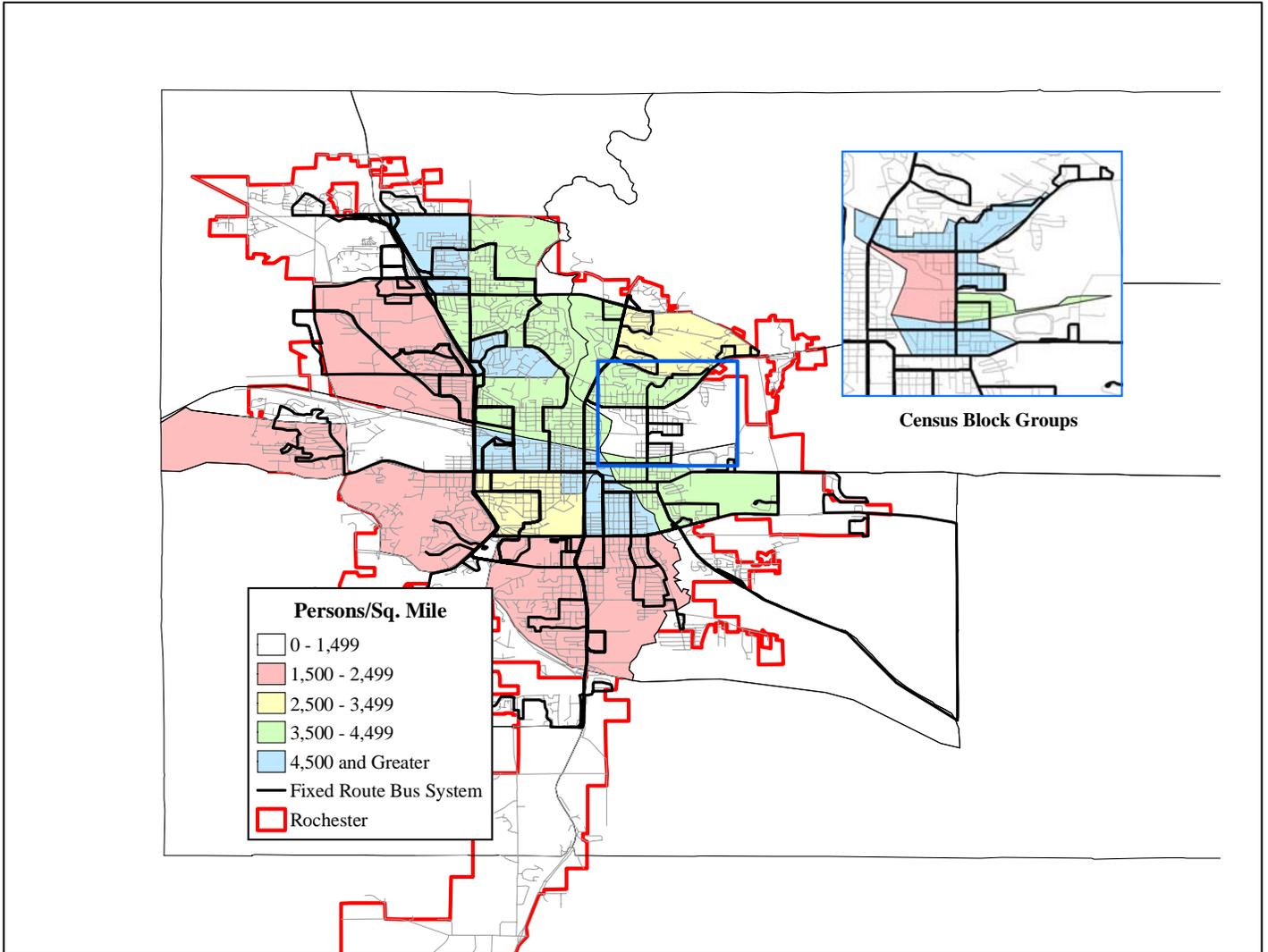


Figure 9 - Percent of Population Age 65 and Older

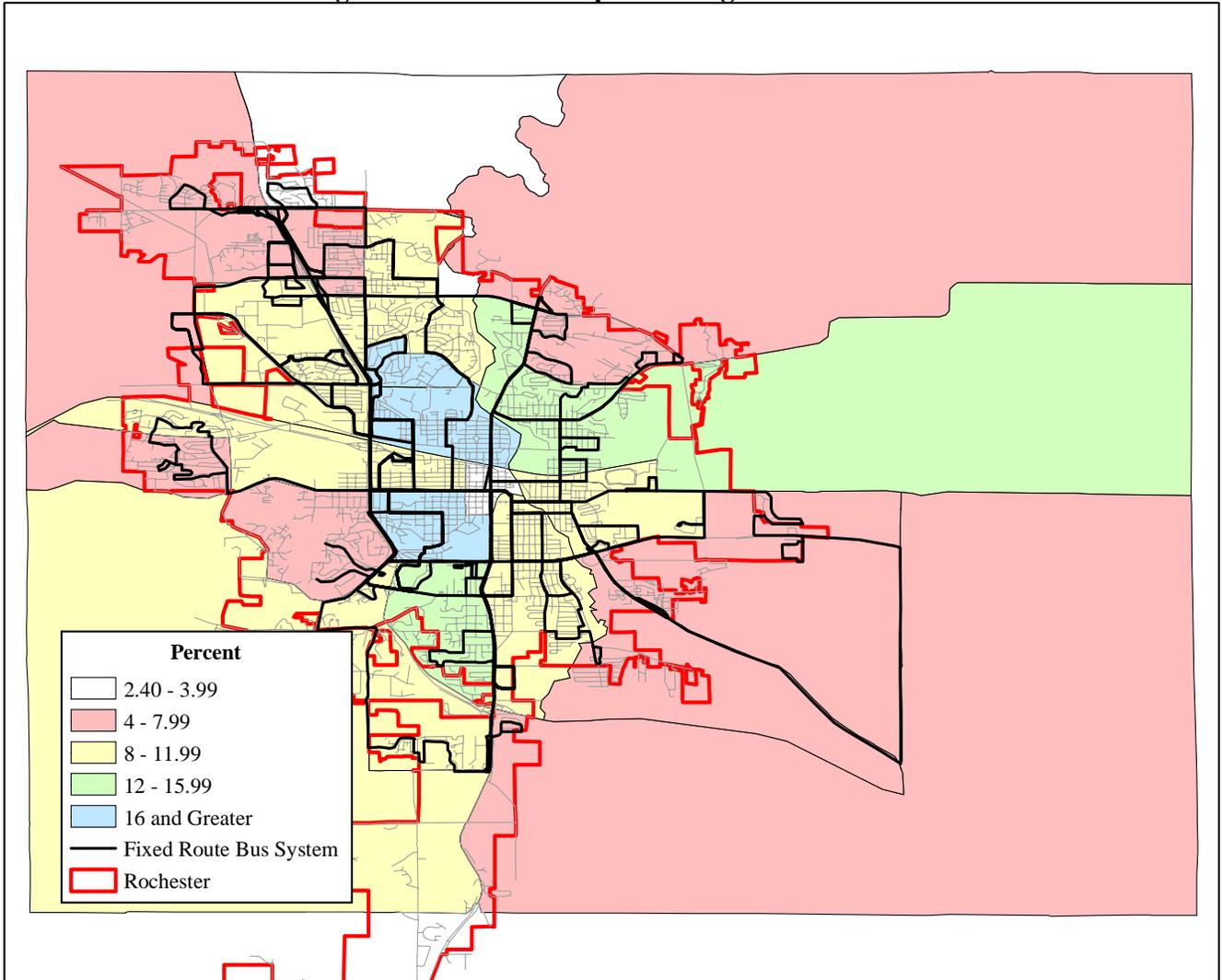
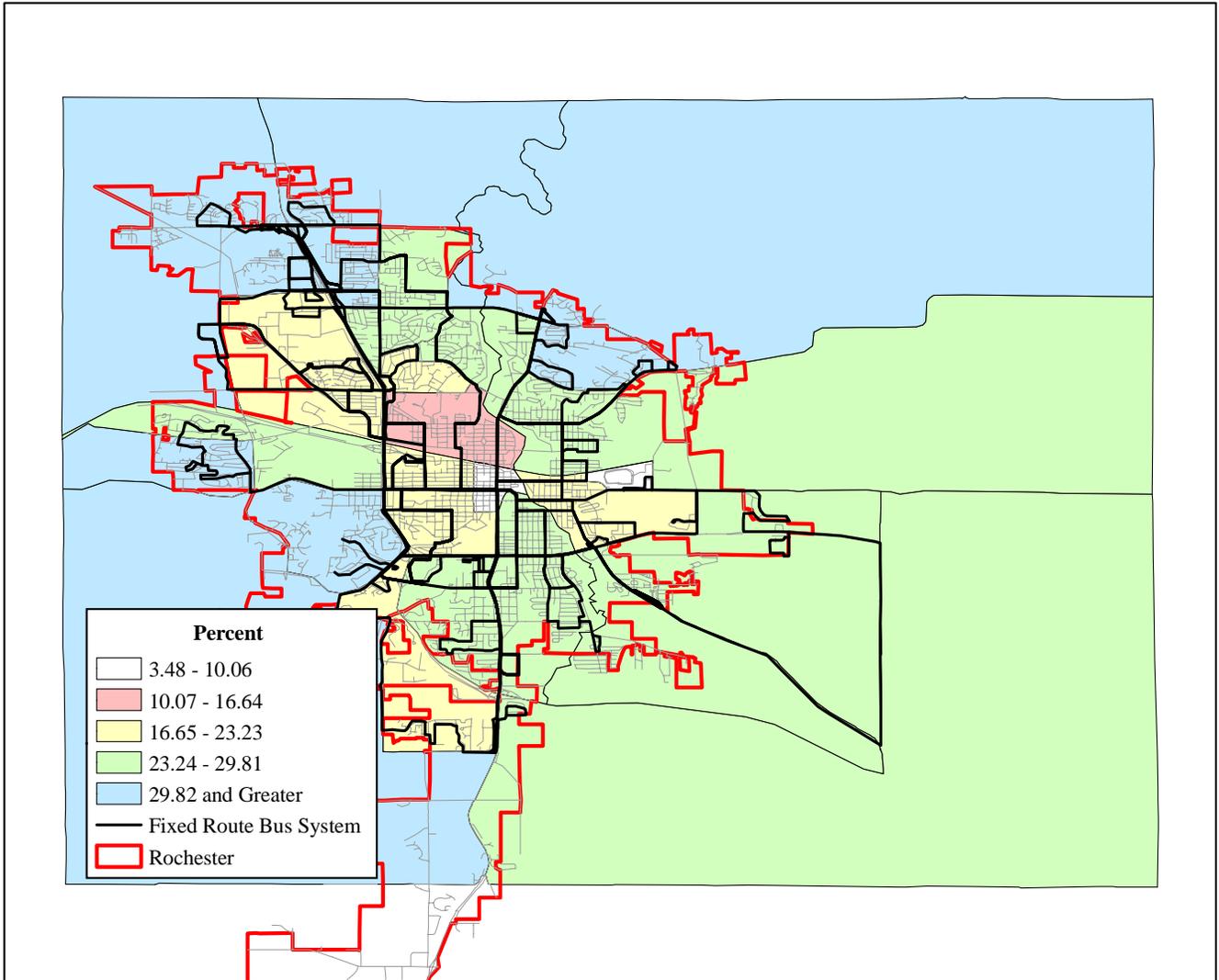


Figure 10 - Percent of Population Age 18 & Younger



The percentage of people less than 18 years of age is lowest in the central and eastern portions of the downtown area, where two census tracts exhibit youth populations below 15 percent.

Mobility Status - Mobility status provides a measure of the number of non-institutionalized persons who have some type of impairment that limits their mobility. This group represents another population that is typically more dependent on public transportation than the general public, since they often cannot drive. There are 21,106 persons in the service area that have some type of mobility limitation. This represents 24.6 percent of the overall service area population. As shown in Figure 11, the largest concentration of mobility impaired residents are located in and around the downtown core. The census tracts that are located in this area have mobility impaired populations of at least 30 percent. Several medical facilities are located in the downtown area as well as numerous ancillary services that cater to patients visiting or staying at these facilities. Additionally, two housing complexes for handicapped residents and five high rise buildings for senior citizens are also located in the downtown area. The census tracts with the lowest percentage of mobility impaired residents are located in the northern and southern portions of the service area.

Household Income - Income is another major factor in determining transit ridership, as people with higher incomes typically tend to ride transit less than persons with lower incomes. The 2000 U.S. Census reported that the median household income for the service area was \$49,090, compared to the State of Minnesota median household income of \$47,111. Figure 12 displays the income distribution of the census tracts in the service area. The figure shows that higher median incomes are located in the peripheries of the service area, while the lowest median incomes are found in the central and eastern portions of the downtown area.

Another important factor impacting the viability of public transportation services is the number of households living below the poverty level. Low income households tend to rely more heavily on public transit service because many are unable to afford an automobile, cannot afford a second automobile for their household, or choose not to use their limited income for an automobile. There are 2,385 households in the service area living below the poverty level, which represents 7 percent of the overall number of households in the service area. As shown in Figure 13, the areas with the highest concentrations of households living below the poverty level are located in the central portion of the service area. The areas with lowest percentage of households living below the poverty level are located in the northern portion of the service area between Civic Center Drive and County Road 22, and the eastern, northwestern, southeastern, southwestern, and western peripheries of the service area. Census tract eight, which is located in the eastern portion of the downtown area does not contain any households.

Figure 11 - Disabled Population, Percentage of Total Population

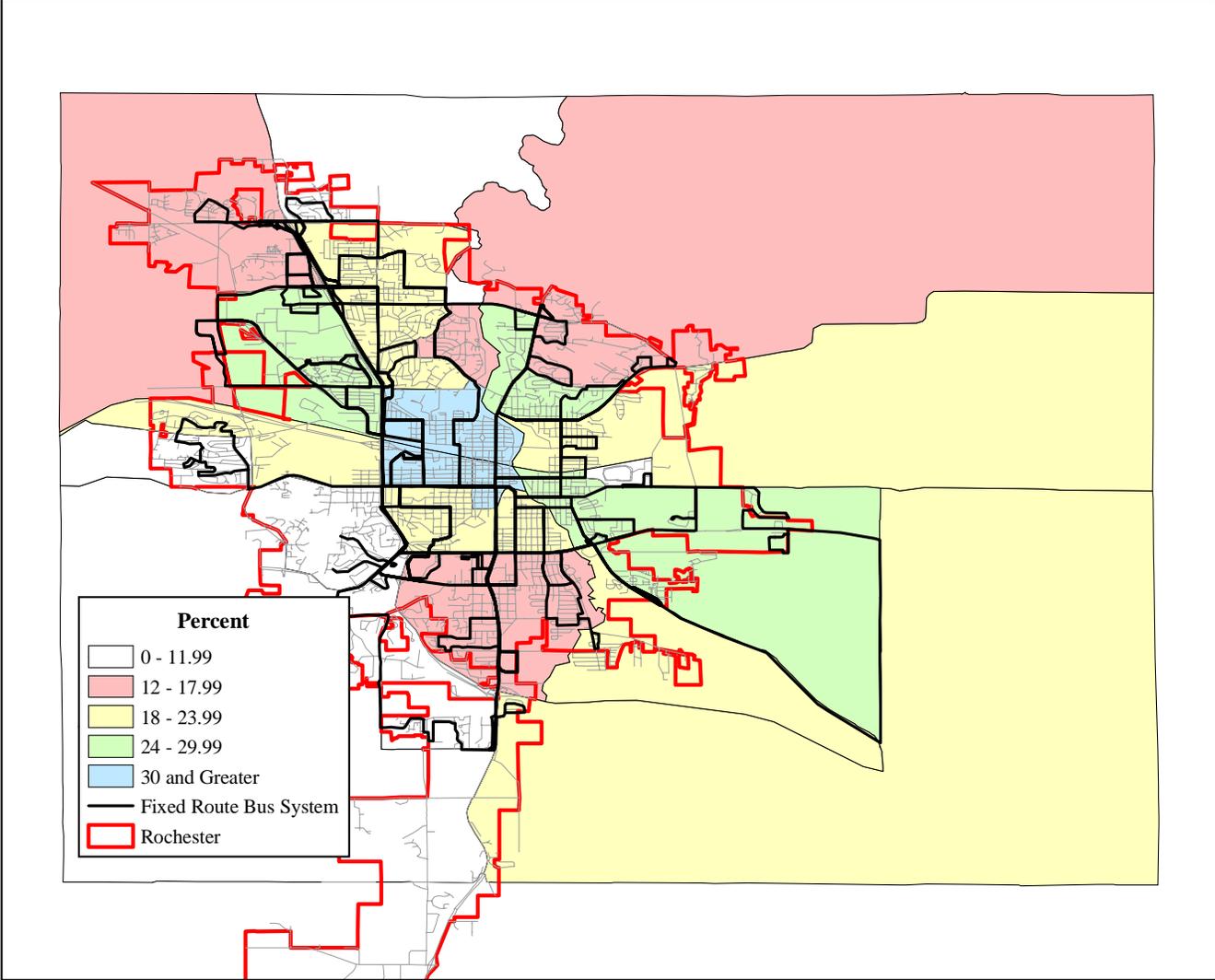


Figure 12 - Median Household Income

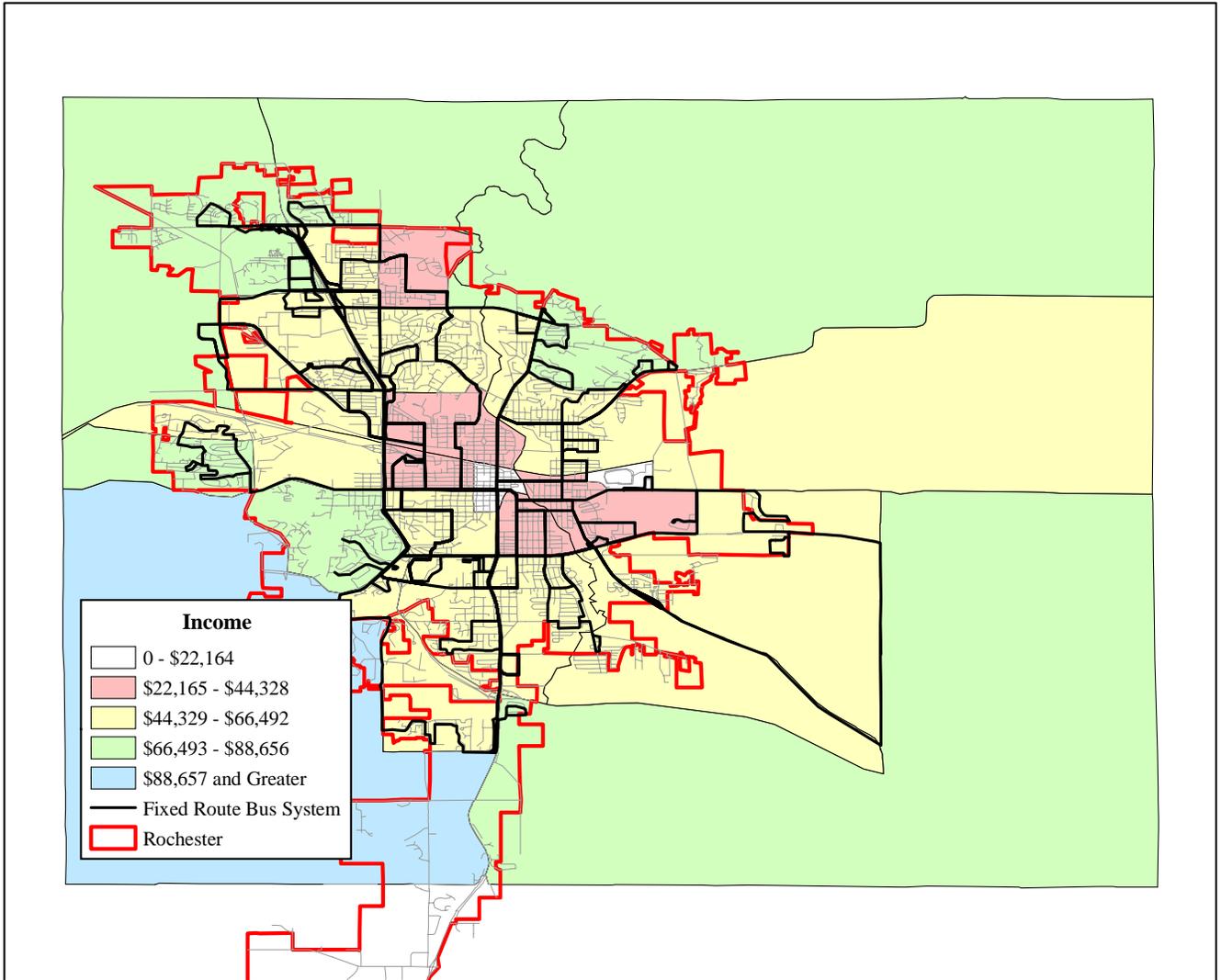
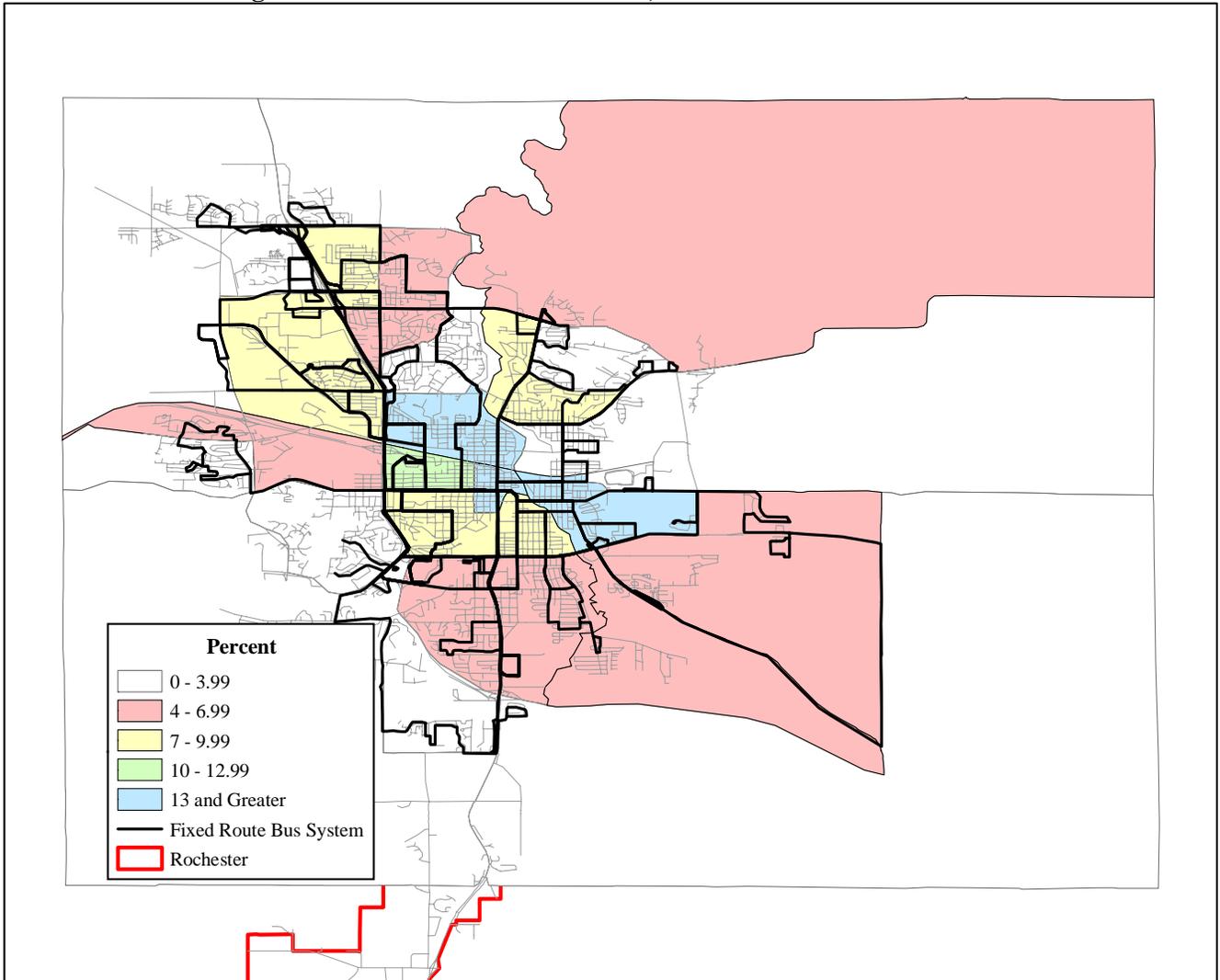


Figure 13 - Low Income Households, Percent of Total Households



Automobile Ownership - Automobile ownership is a key variable in transit analysis since many persons who do not have access to a vehicle are more dependent on public transportation as a mobility option. The availability of automobiles is a good indication of how “captive” a household is to transit. Households with no automobiles are most in need of transit service for basic mobility. In this section household represents one occupied housing unit as measured by the 2000 U.S. Census. In the service area, 8.1 percent of all households have no vehicle available.

Figure 14 shows that the census tracts with the highest percentage of households with no vehicle available are located in the central portion of the service area. The areas with the lowest percentage are primarily located along the peripheries of the service area.

Employment and Labor Force

The service area was examined in terms of work-related activity, which includes employment (i.e., where employees work) and labor force (i.e., where employees live). The information was obtained from the 2000 U.S. Census in which persons were asked about their journey to work.

Employment - Similar to population, employment is examined in terms of existing jobs and their concentration (i.e., employees per square mile). High concentration of employment in an area represents common destinations for transit use. Figure 15 shows the service area employment at aggregate levels. From this figure, employment appears to be concentrated in the eastern portion of the downtown area, and in the eastern, southern, northern, and northwestern portions of the service area. As noted earlier in Figures two and three, these areas are home to some of the largest employers and major shopping centers in the service area. The areas with the lowest number of employees are located in the eastern and western portions of the downtown area, and in the northern and western portions of the service area.

The concentration of jobs in a given area can attract a higher rate of transit trips. Areas with high rates of employment density, or jobs per square mile, tend to include a variety of job types and therefore workers with diverse incomes. Many workers in the lower paying positions may use transit to access employment opportunities at the site. Also, areas with very high employment density tend to have limited parking for employees, and often employees may be expected to pay for parking. This situation often provides an incentive for employees to use transit service to commute to work.

Figure 16 shows the employment density throughout the service area. As the figure shows, the areas with the highest concentration of employment are located in the central portion of the service area, which includes the downtown area, the northern portion of the service area between U.S. Routes 52 and 63, and the eastern portion of the service area in and around the University of Minnesota at Rochester and the Rochester Community Technical College. The areas with the lowest employment densities are located along the periphery of the service area.

Figure 14 - Zero Car Households, Percent of Total Households

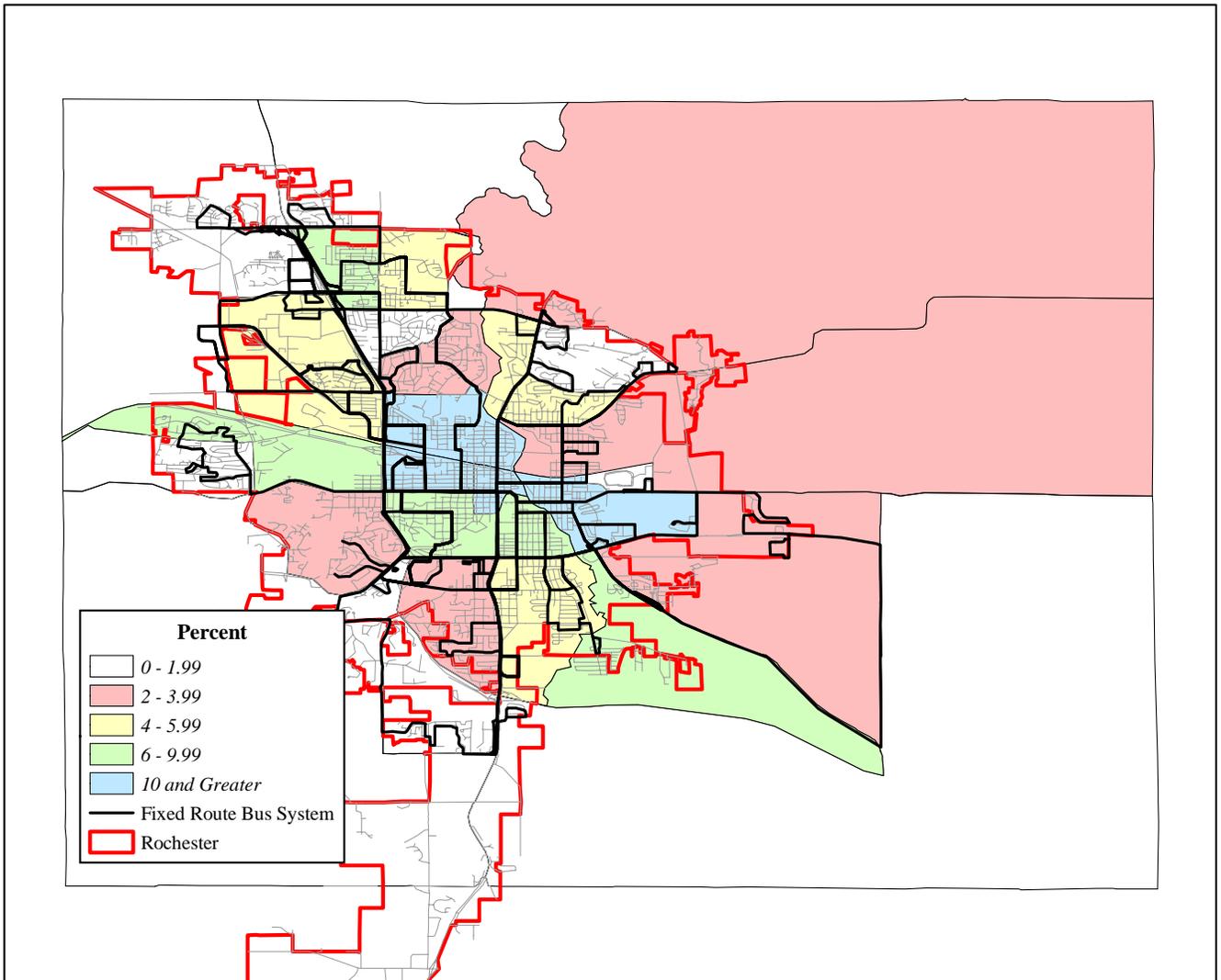


Figure 15 - Employment

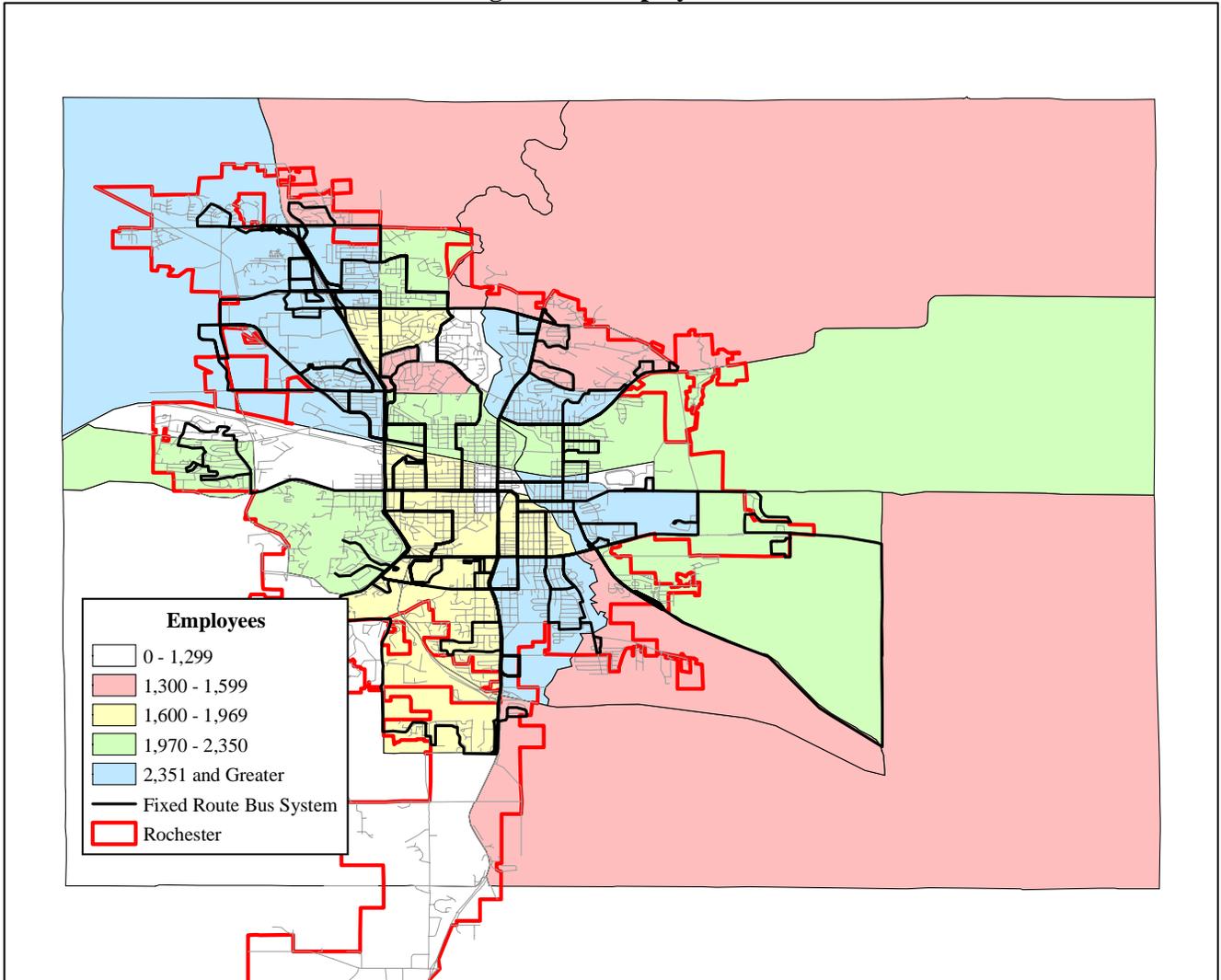
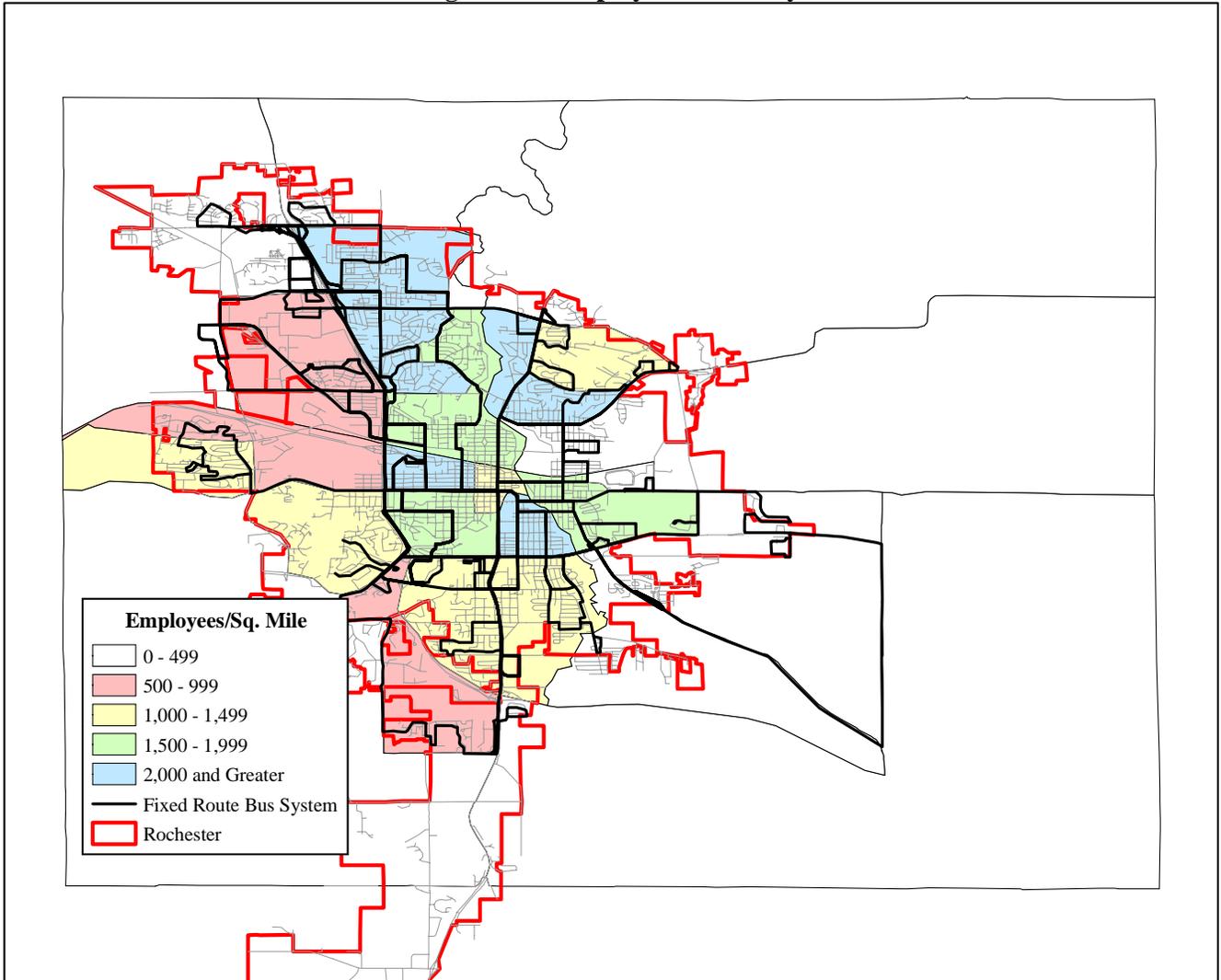


Figure 16 - Employment Density



Labor Force - The labor force consists of those members of the population who are employed. Figure 17 illustrates the distribution of the labor force throughout the service area, and Figure 18 shows the location of labor force population by density. As with the aggregate employment level, the highest aggregate labor force population levels are located in the eastern portion of the downtown area, and in the eastern, southern, northern, and northwestern portions of the service area. The lowest levels of the labor force population are located in the eastern and western portions of the downtown area, and in the northern and western portions of the service area. Further, as with employment density, the highest concentrations of labor force density are evident in the central portion of the service area, which includes the downtown area, and the eastern and northern portions of the service area.

Journey-To-Work Practices - This section presents a discussion of work trips in terms of travel mode, length of trip and work location. As the chart on the following page, 76 percent of the residents of the City of Rochester drive to work by themselves. A small percentage of the city’s population (4.2%), use public transportation to commute to work. More people walked to work in the service area than took public transportation.

Journey-to-Work Data

Journey-To-Work Mode	% of Rochester Residents
Drive Alone	76.0
Carpool	10.9
Bus	4.2
Walk	4.7
Work at Home	3.1
Other Means	1.1

Figure 19 depicts the percentage of bus ridership within each census tract. As shown in the figure, areas along the northern and southern portions of U.S. Route 63 corridor and the central portion of the downtown area have bus ridership levels higher than 6.25 percent. These figures are important because people who use transit service for their work commutes are more likely to use the service for other purposes as well. The areas with the lowest rider ship levels are located along the peripheries of the service area as well as the eastern and southwestern portions of the downtown area. These areas have rider ship levels of less than 1.57 percent.

Figure 17 - Labor Force

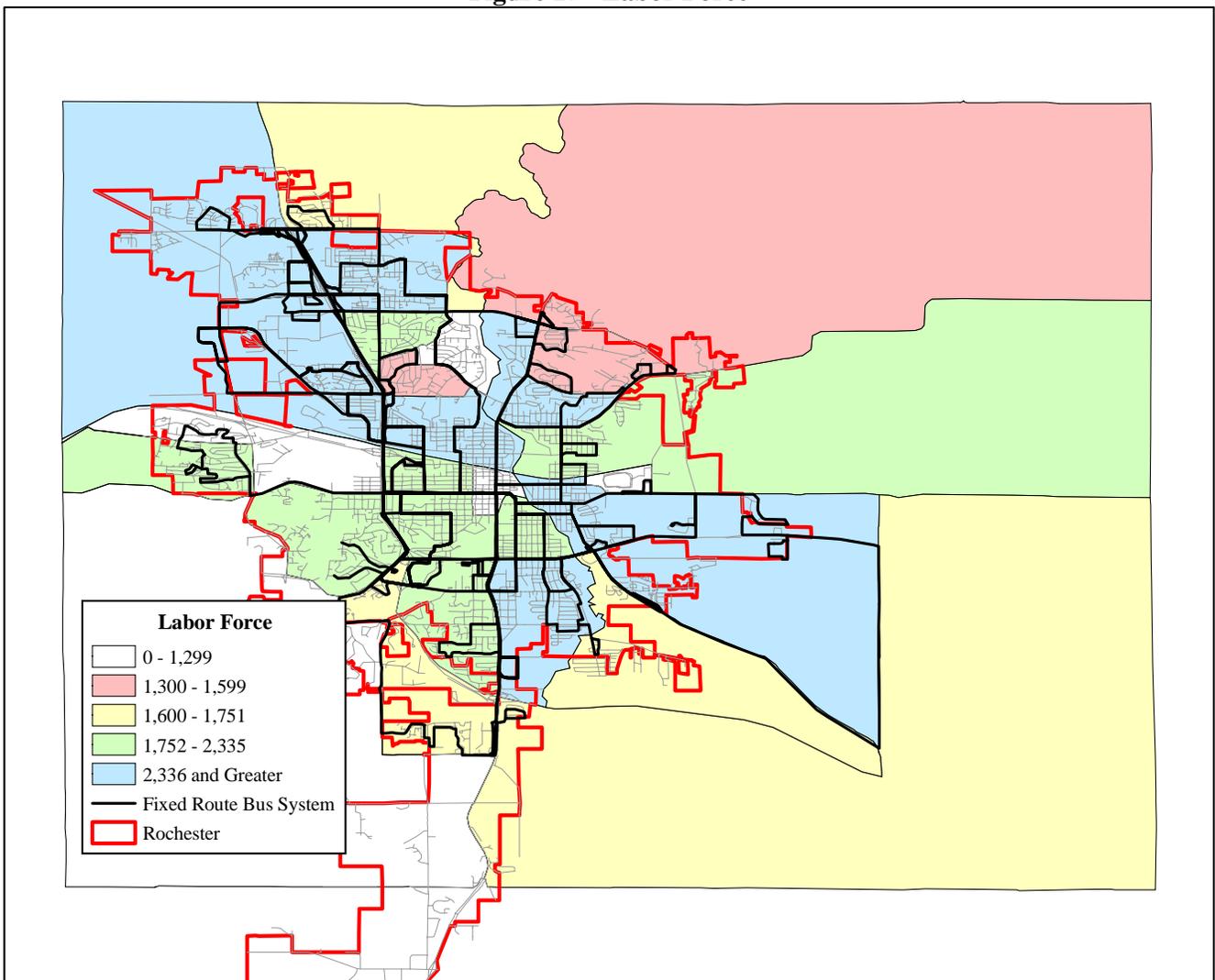


Figure 18 - Labor Force Density

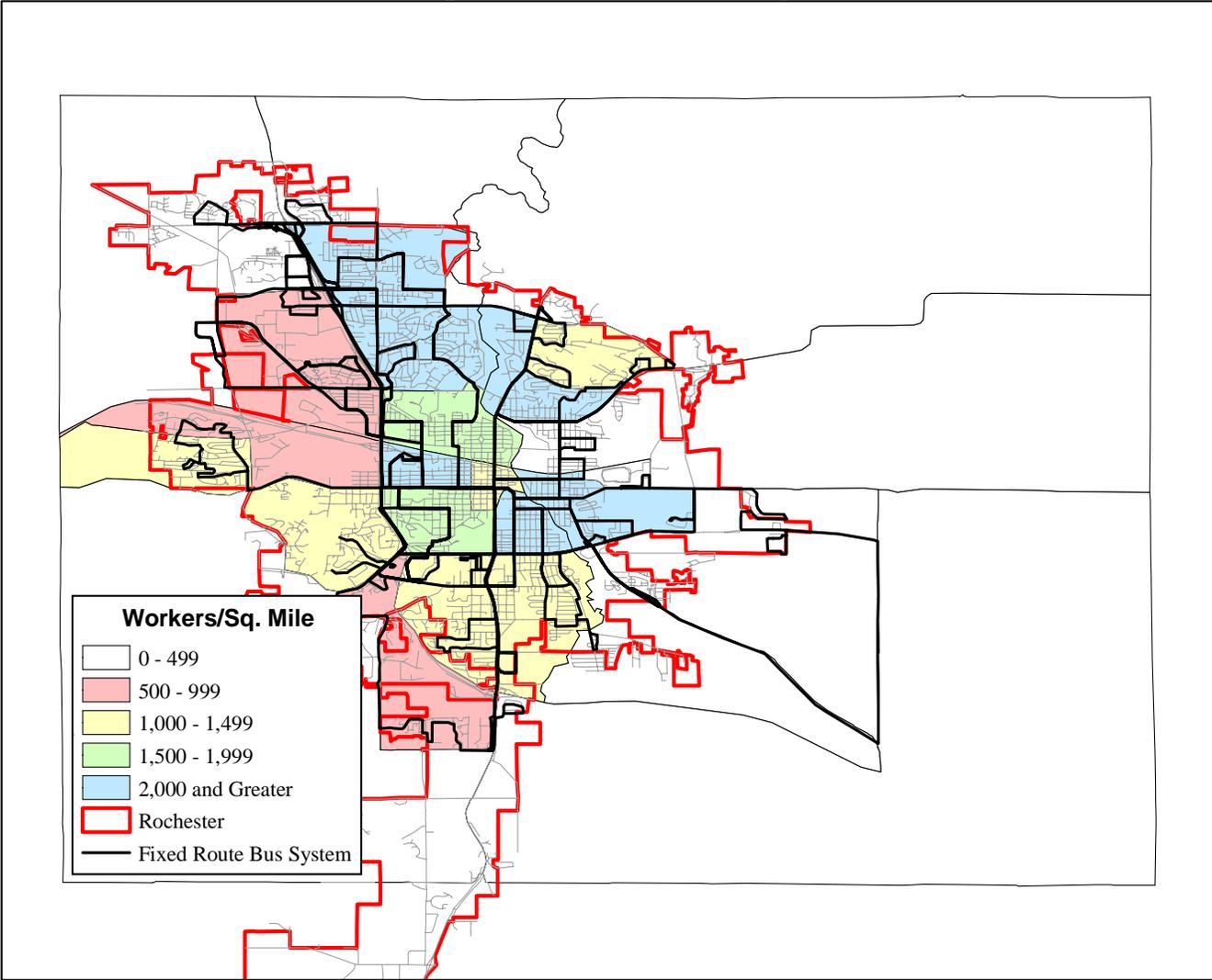
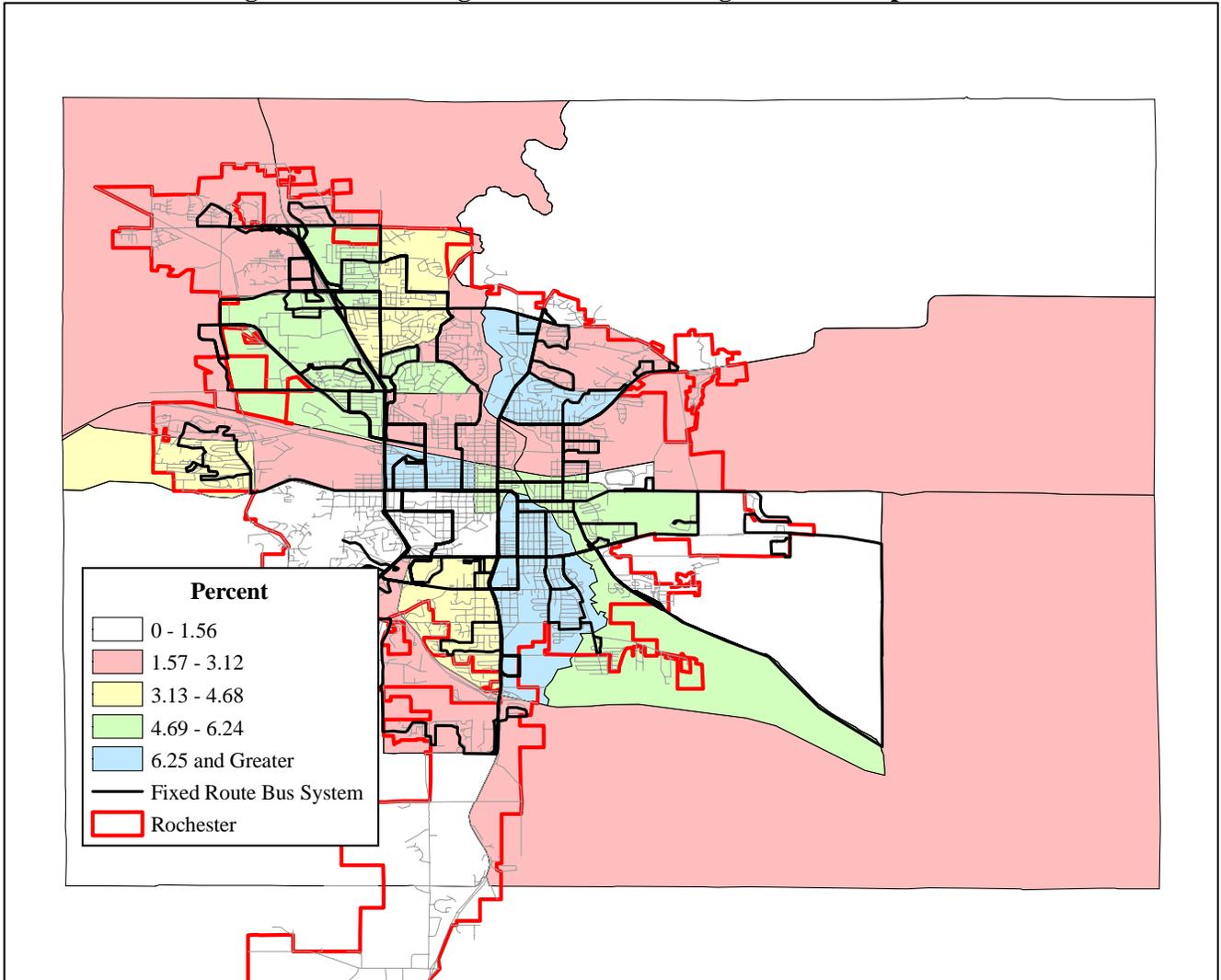


Figure 19 - Percentage of Commuters Using Public Transportation



As shown below, the percentage of service area residents age 16 and over that worked within the City of Rochester is far greater than the percentage that worked outside of the city. Less than 10 percent of service area residents worked outside of the City of Rochester. Further, only 3.8 percent of the service area residents worked outside of Olmsted County, and less than 1 percent worked outside the state of Minnesota.

Service Area Residents

Work In	Number	Percent
Worked in Rochester	40,880	91.5
Worked outside of Rochester	3,784	8.5
Worked Outside of Olmstead County	1,702	3.8
Worked Outside of Minnesota	184	0.4

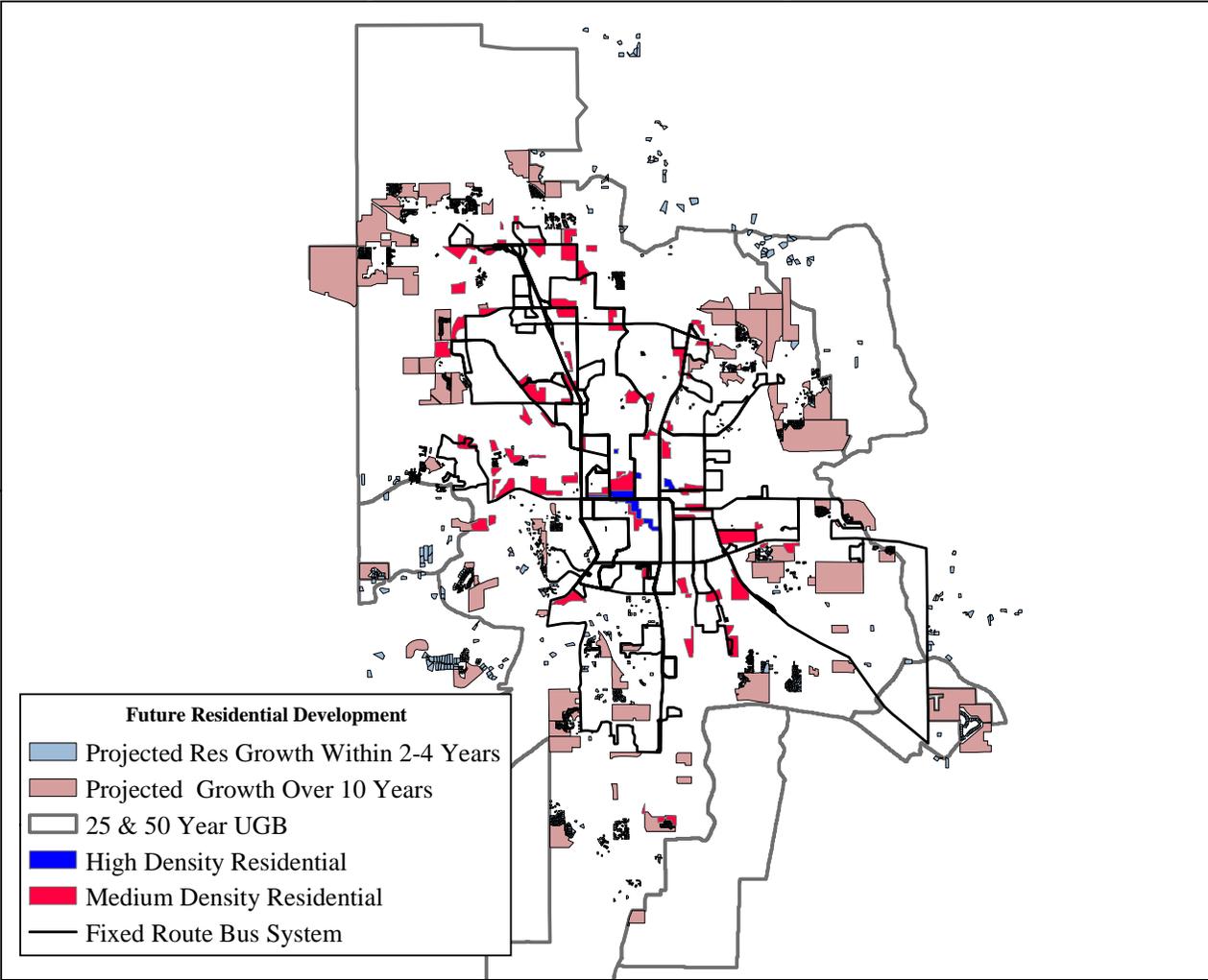
As shown in the table below, the majority service area residents traveled to work in less than 30 minutes, which is to be expected given the fact that most residents both live and work in the service area.

Trip Length

Travel Time (Minutes)	Number	Percent
Less Than 30 Minutes	39,854	92.1
30 to 44 Minutes	1,699	3.9
45 to 59 Minutes	660	1.5
60 or More Minutes	1,073	2.5

Future Development - Figure 20 displays proposed residential development within the service area. Based on information that was provided by the Rochester/Olmsted Planning Department, the majority of residential development over the next 10 years is expected to occur along the periphery of the service area as well as in and around the downtown area. Most of the residential growth will be located within the Rochester Urban Growth Boundary (UGB); however, a significant number of residential developments will be located beyond the present fixed route bus system. Additionally, medium and high density housing is expected to be located

Figure 20 - Proposed Residential Development



in and around the downtown area as well as in the northern and southeastern portions of the service area. Most of these higher density housing units will be located along the fixed route bus system. Figure 21 shows the land use designations for areas within the Rochester Urban Growth Boundary. Based on information also supplied by the Rochester/Olmsted Planning Department, the areas expected to experience the most intensive development are primarily located in and around the downtown area, and those areas located along the U.S. Routes 14, 52, and 63 corridors. The white areas presented in the figure are designated for low density residential development.

Needs Assessment

This section presents an overview of the likelihood of transit use and a composite measure of transit need. An assessment of transit need was performed to identify those areas with the greatest need and potential demand for public transportation. A total of eight variables were used to rate each census tract in terms of transit potential. These variables include both rate and aggregate measures of transit need. Rates, such as percentage of seniors in total population, are useful in understanding the composition of an area. Aggregate measures, such as total population, indicate the absolute potential for travel in general, and transit trip-making in particular.

The eight variables used to analyze the transit need for the service area are: population (2000), population density(2000), senior population percentage (+65), youth population percentage (-18), percentage of low income households, percentage of zero car households, labor force density, and employment density.

For all of the variables, higher values are indicative of greater need. For example, a census tract with high population density or a high number of zero car households exhibits greater transit need.

Figure 22 presents the Transit Needs Score by census tract for the service area, and illustrates that the areas attaining the highest scores (400 and greater) are located in the central and northwestern portions of the service area. These areas are characterized with high total population, high population density, and a large transit dependent population. The areas with the lowest transit needs scores are primarily located along the periphery of the service area. It should be noted that the current fixed route bus system serves most of the areas that exhibit the greatest need.

Figure 21 - Rochester 2020 Land Use Plan

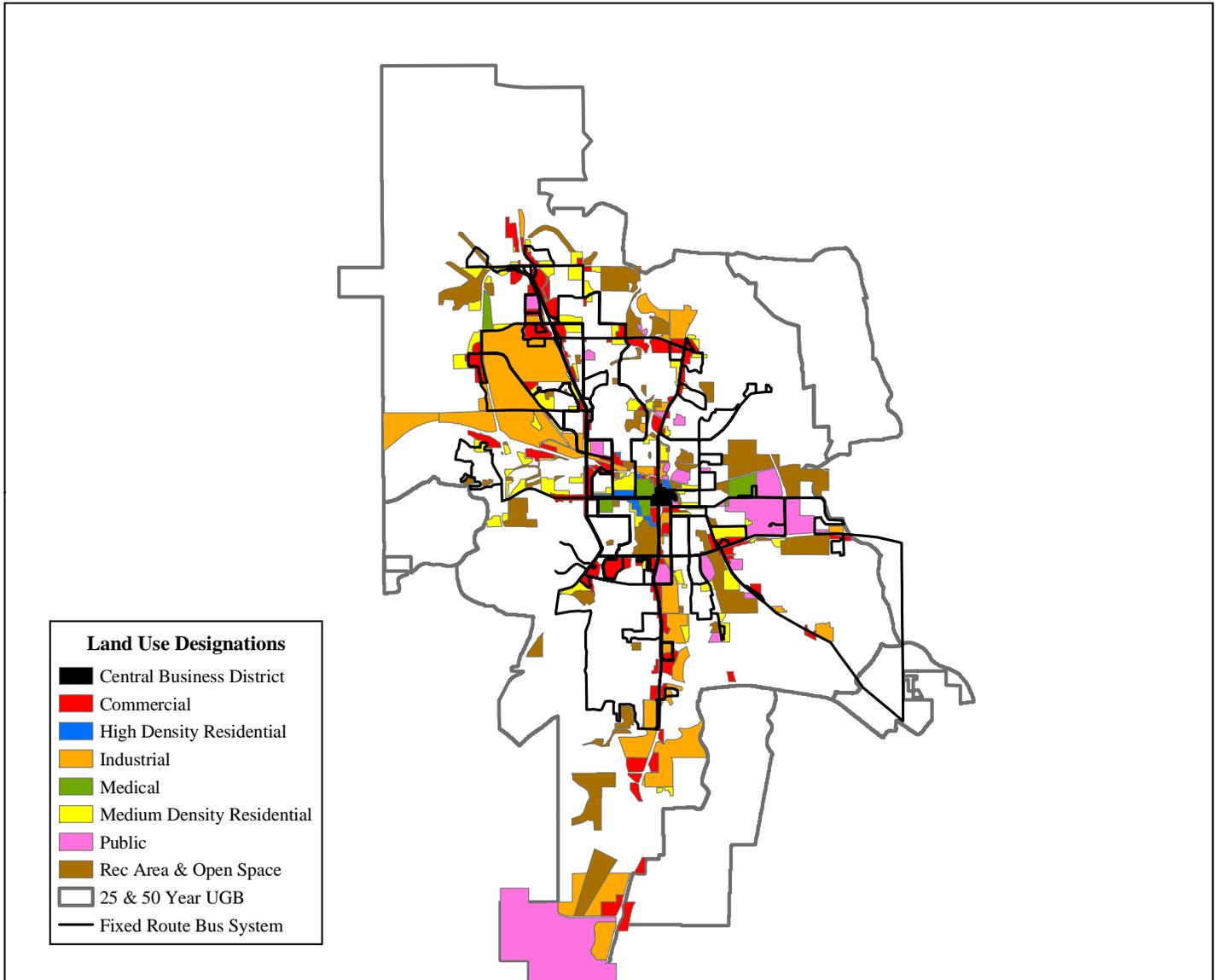
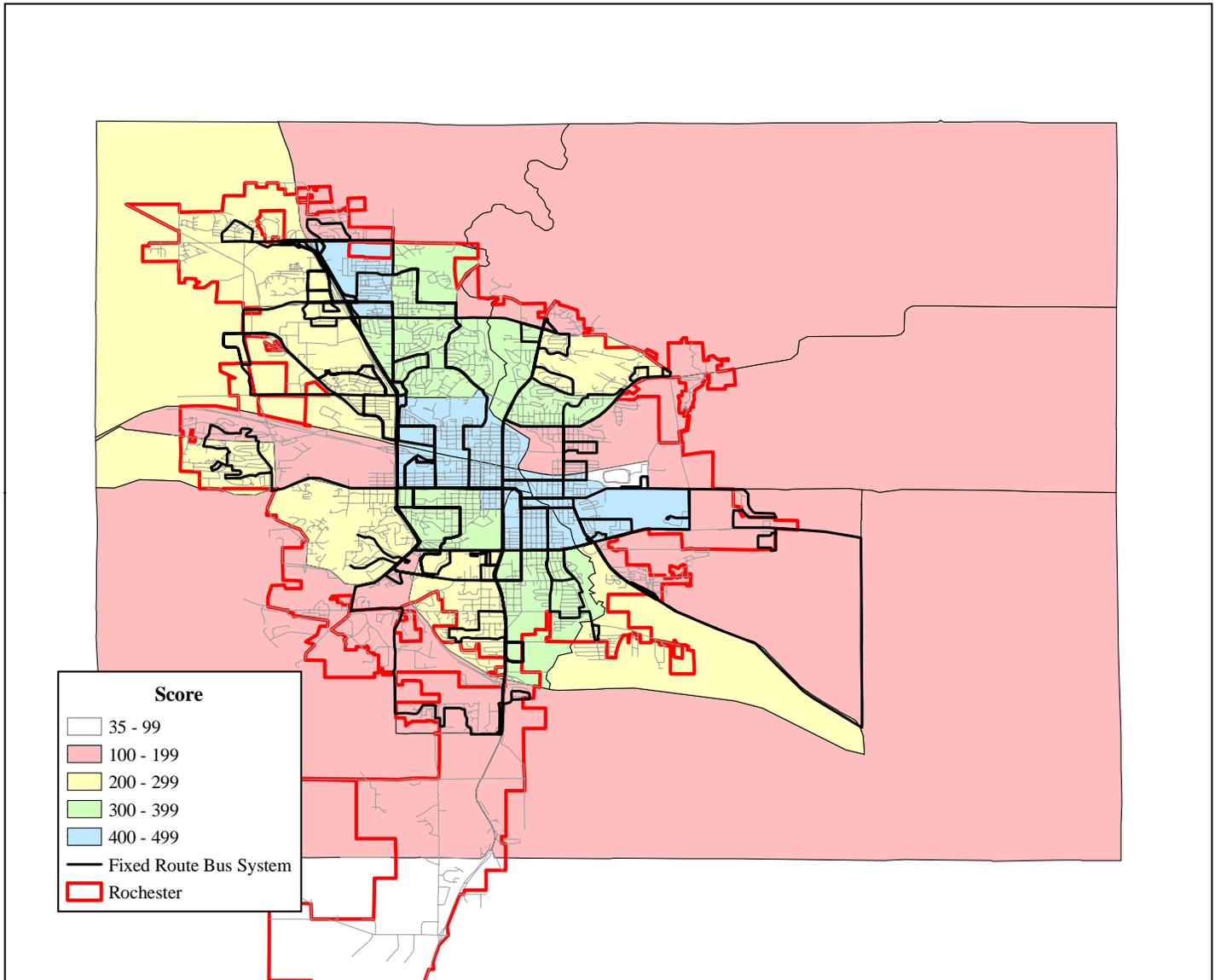


Figure 22 - Transit Needs Score



Summary

This chapter provided an analysis of the types of destinations and institutions that tend to generate transit demand as well as the various factors that affect the need and propensity of an area population to use transit. As shown in the Major Generators section of this chapter, the Rochester City Lines bus service provides good service coverage to a high percentage of the major transit generators located in the service area. Also, by including the fixed bus route system on the various figures depicting the socioeconomic characteristics of the service area, it can be observed that the fixed route bus system does serve the areas of the service area where the need for transit appears to be greatest.

EXISTING CONDITIONS

This report presents a description of the existing Rochester City Lines bus system. The focus of this existing public transportation services report is on the scheduled, fixed-route bus transit services operated by Rochester City Lines. The demand responsive services operated in the Rochester metropolitan area (i.e., the “ZIPS” services) are also described and discussed.

Description of Fixed Route Network

This section provides a detailed description of the Rochester City Lines fixed route public transportation system including the routes, frequency and span of service for the fixed route services.

Route Descriptions - Rochester City Lines operates 36 fixed bus routes serving the Rochester metropolitan area. Each of these bus routes operate under a set schedule along a fixed route. Together, these bus routes comprise the Rochester City Lines bus system and are described in more detail in the paragraphs below. Table 2 provides the terminal points for each of these fixed routes. All the routes serve downtown Rochester.

There are several types of bus routes operated by Rochester City Lines; in addition to the basic fixed route weekday bus service, there are routes that operate only during the weekday peak periods, routes that operate only during the weekday evening hours and routes that operate only on Saturdays. There are also special “Shopper Routes” which operate very limited service on two weekdays.

The five bus routes that operate solely during the weekday peak periods are typically designated with a “D” suffix and are known as “Direct” routes because they operate “express service” directly between outlying park-and-ride lots and downtown Rochester with limited stops in between. However, it should be noted that one “Direct” route - Route 12D - operates during both the weekday AM peak period and during the weekday midday period, but not during the weekday PM peak period. The four bus routes that operate solely during the weekday evening hours are designated with an “N” suffix because they are “Night” routes. All six of the bus routes which are numbered in the 20-series (e.g., 21, 22, etc.) are operated solely on Saturdays. The two special “Shopper Routes” are designated “55 North” and “55 South” and are only operated during the midday period on selected weekdays and serve to connect senior citizen housing complexes with shopping areas throughout Rochester. Finally, it should be kept in mind that the 19 basic weekday bus routes may vary in terms of when they operate. For example, some operate only during the peak periods (but are not park-and-ride “Direct” routes) and some may only operate during the weekday midday period.

**Table 2
Description of Rochester City Lines Bus Routes**

Route	Between	And
1	Downtown	ShopKo North/Northern Valley Drive/10th Avenue NE
1D	Downtown	ShopKo North Park-and-Ride Lot
1N	Downtown	ShopKo North Park-and-Ride Lot
2	Downtown	Northern Valley Drive & Viola Road
3	Downtown	University Center (RCTC)
3N	Downtown	University Center (RCTC)
4	Downtown	Parkside Store
4D	Downtown	Cub Foods Park-and-Ride Lot
5	Downtown	9 th Avenue & 22 nd Street SE/18 th Avenue & Pinewood Road
6	Downtown	Mills Fleet Farm
6A	Downtown	ShopKo South
6B	Downtown	ShopKo South
6D	Downtown	ShopKo South Park-and-Ride Lot
7	Downtown	Greenview Drive SW & Salem Road
7A	Downtown	Apache Mall
7N	Downtown	ShopKo South/Apache Mall
8	Downtown	3 rd Street & 49 th Avenue NW
9	Downtown	Superior Drive Support Center
10	Downtown	Mayo Northwest Family Medicine
11	Downtown	Mayo Northwest Family Medicine
12	Downtown	59 th Street NW/Fairway Drive/Wal-Mart North
12D	Downtown	Wal-Mart North Park-and-Ride Lot
12N	Downtown	Wal-Mart North/Menards North

Table 2 (Continued)
Description of Rochester City Lines Bus Routes

Route	Between	And
14	Downtown	40 th Street SW & Willow Heights Drive
16	Downtown	Century High School/Mayo Clinic Notheast
17	Downtown	Burr Oak School
18	Downtown	Mayo Family Medicine Northwest/Wal-Mart North
18D	Downtown	Wal-Mart North Park-and-Ride Lot
21	Downtown	ShopKo North
22	Downtown	Parkside
23	Downtown	ShopKo South/Wal-Mart South
24	Downtown	Apache Mall
25	Downtown	Wal-Mart North/Sam's Club
26	Downtown	Wal-Mart North
55 North	Downtown	Wal-Mart North
55 South	Downtown	K-Mart/T.J. Maxx Plaza

All of the Rochester City Lines bus routes are part of a radial route structure. As Table 2 shows, the heart of this radial route network is in downtown Rochester, with all of the 36 bus routes emanating from the on-street transit center located along 2nd Street Southwest. Figure 23 provides a graphical display of the fixed route network in the Rochester metropolitan area.

Frequency of Service - As shown in Table 3, Rochester City Lines' bus routes generally operate at a frequency of every 30 minutes during the peak periods and at frequencies of approximately every 60 minutes during the midday period. Most of the evening services operate at a frequency of every 30 minutes. Saturday frequencies of service on the Rochester City Lines system are all hourly.

Span of Service - As shown in Table 4, most of the Rochester City Lines bus routes operate between approximately 6:00AM and 6:00PM on weekdays. The four night service routes continue to operate service until approximately 10:00PM on weekday evenings. Bus routes which only operate at certain times of the day (e.g., the Direct routes) have several distinct spans of service within the service day (e.g., during the AM peak period and then during the PM peak period) and these are indicated in Table 4. The Shopper Routes only operate on specific weekdays: Route 55 North only operates during the midday period on Tuesdays, while Route 55 South only operates during the midday period on Fridays. Finally, the span of service on Saturdays starts at approximately 8:15AM and ends at approximately 6:30PM.

Fare Structure - Rochester City Lines utilizes a fare structure which - for most bus routes - charges a flat fare regardless of how far a passenger travels. This base cash fare is \$1.25. However, a different fare structure exists for travel on Route 17, which serves the far southeastern portion of the service area. Rochester City Lines also offers various discounted reduced fare media. The accompanying table provides the details of the fare structure. As the table shows, senior citizens, individuals with disabilities, students and youths between six and 18 years old are all provided with various types of discounts. Transfers between Rochester City Lines routes are free.

As shown in Table 5, the different multiple ride fare media offer various levels of discount from the base cash fare. As with most public transportation systems, the Monthly Pass provides the deepest discount for regular adult passengers, at an estimated 43 percent. This discount figure is based on the assumption of a passenger using the pass to make 42 trips per month (two trips per workday and 21 workdays per month). Some riders may use the system more often and would therefore receive a greater effective discount. Although offering a lower level of discount, the 20-Ride and 10-Ride tickets can be convenient for certain passengers due to affordability and riding habits. These passes offer a discount of 28 percent and 20 percent for regular adult passengers, respectively.

As shown in Table 5, the reduced fares for certain eligible groups are available only during the off-peak periods.

Table 3
Frequency of Rochester City Lines Service
(Frequency of Service in Minutes)

Route	Weekday				Saturday
	AM Peak	Midday	PM Peak	Evening	
1	30	60	30	--	--
1D	30	--	30	--	--
1N	--	--	--	30	--
2	30	60	30	--	--
3	30	30	30	--	--
3N	--	--	--	2 trips	--
4	30	60	30	--	--
4D	30	--	30	--	--
5	30	60	30	--	--
6	--	60*	--	--	--
6A	30	1 trip	30	--	--
6B	40*	--	30	--	--
6D	30	--	30	--	--
7	60	60	60	--	--
7A	--	60	60	--	--
7N	--	--	--	30	--
8	60	2 trips	50*	--	--
9	30	60	30	--	--
10	25*	60	25*	--	--
11	30	60	30	--	--
12	30	--	30	--	--

* Indicates the effective headway; actual frequency between departures varies.

Table 3 (Continued)
Frequency of Rochester City Lines Service
(Frequency of Service in Minutes)

Route	Weekday				Saturday
	AM Peak	Midday	PM Peak	Evening	
12D	23*	23*	--	--	--
12N	--	--	--	30	--
14	2 trips	--	45*	--	--
16	45*	45	60	--	--
17	30	--	2 trips	--	--
18	40*	--	30	--	--
18D	20*	--	25*	--	--
21	--	--	--	--	60
22	--	--	--	--	60
23	--	--	--	--	60
24	--	--	--	--	60
25	--	--	--	--	60
26	--	--	--	--	60
55 North	--	83*	--	--	--
55 South	--	70*	--	--	--

* Indicates the effective headway; actual frequency between departures varies.

**Table 4
Span of Rochester City Lines Service**

Route	Weekday		Saturday	
	Start	End	Start	End
1	6:22AM	6:26PM	--	--
1D	6:00AM 3:05PM	8:50AM 5:50PM	--	--
1N	6:07PM	10:10PM	--	--
2	6:10AM	6:34PM	--	--
3	6:45AM	6:10PM	--	--
3N	7:15PM	10:10PM	--	--
4	6:15AM	6:30PM	--	--
4D	5:50AM 3:15PM	7:50AM 5:00PM	--	--
5	5:25AM	6:15PM	--	--
6	10:15AM	2:40PM	--	--
6A	5:53AM 10:13AM 3:13PM	8:10AM 10:40AM 6:40PM	--	--
6B	6:00AM 3:05PM	9:40AM 6:00PM	--	--
6D	6:02AM 3:05PM	7:50AM 5:52PM	--	--
7	6:42AM	6:10PM	--	--
7A	9:12AM	5:40PM	--	--
7N	6:07PM	10:05PM	--	--
8	6:00AM 12:00PM 3:00PM	8:40AM 2:40PM 6:40PM	--	--
9	5:45AM	6:36PM	--	--

**Table 4 (Continued)
Span of Rochester City Lines Service**

Route	Weekday		Saturday	
	Start	End	Start	End
10	5:30AM	6:38PM	--	--
11	6:04AM	6:35PM	--	--
12	6:02AM 3:15PM	8:38AM 6:53PM	--	--
12D	8:15AM	3:15PM	--	--
12N	6:40PM	10:26PM	--	--
14	6:00AM 4:10PM	7:40AM 6:30PM	--	--
16	6:15AM	6:48PM	--	--
17	6:00AM 4:15PM	8:00AM 6:00PM	--	--
18	5:30AM 3:25PM	8:42AM 6:00PM	--	--
18D	5:35AM 3:10PM	8:20AM 6:17PM	--	--
21	--	--	8:15AM	6:25PM
22	--	--	8:45AM	6:10PM
23	--	--	8:45AM	6:10PM
24	--	--	9:15AM	6:40PM
25	--	--	8:17AM	6:10PM
26	--	--	8:15AM	6:24PM
55 North (Tuesdays Only)	9:15AM	3:07PM	--	--
55 South (Fridays Only)	9:05AM	2:07PM	--	--

**Table 5
Current Rochester City Lines Fare Structure**

Fare Type	Base Fare Zone	Route 17
Adult Fares		
Single Ride Cash	\$1.25	\$2.00
10-Ride Ticket	\$10.00	\$16.00
20-Ride Ticket	\$18.00	\$24.00
Monthly Pass	\$30.00	\$40.00
Transfers	Free	Free
Student Fares		
September-December Semester	\$60.00	\$60.00
January-May Semester	\$75.00	\$75.00
June-August Semester	\$45.00	\$45.00
Transfers	Free	Free
Youth Fares (Ages 6-18)		
Single Ride Cash	\$0.60	\$1.00
10-Ride Ticket	\$5.00	\$8.00
Transfers	Free	Free
Off-Peak Reduced Fares (People Age 65+, Medicare Card holders, ZIPS Card holders, Disabled People)		
Single Ride Cash	\$0.60	\$1.00
10-Ride Ticket	\$5.00	\$8.00
Transfers	Free	Free
<i>Up to three children 5 years and younger are free with each fare paying adult.</i>		

Fixed Route System Operation

The City of Rochester utilizes the services of private company, Rochester Bus Lines, Inc., to provide and operate the fixed route public transportation services described above. The Company is a public transit system, among other things, operating a public bus service under authority of a Common Carrier Certificate issued to the Company by the Minnesota Transportation Regulations Board. The City and Company agree on the amount of service to be provided and a budget that will be paid by the City, upon final audit, to cover the operating deficit of the services. The operating deficit is the amount by which the operating expenses to provide the agreed upon services exceeds the revenue derived from passenger fares and other charges on the regular routes such as sale of passes and tickets. The City uses federal, state and local funds to cover the primary portion of the deficit. It should be noted that some of these local funds are funding guarantees that are paid by non-City agencies such as the Mayo Clinic to have certain routes and service provided. Routes 1D, 4D, 6D, 18D and 55 are examples of payment guarantee routes.

The payment by the City to the Company is about 1/12 of the estimated deficit every month based on the Company completing a detailed invoice that includes the following four statements:

- Operating Expense
- Transit Income
- Transit Miles by Vehicle
- Summary of Vehicle Repair Expenses

Statistical data are also provided that include:

- Number of rides by type of fare by route and by month
- Number of bus miles and bus hours by route
- Number of fares sold and revenue derived by fare type

Any changes in service can be made upon mutual agreement of both the City and the Company.

The Parking and Transit Division of the City's Public Works Department is responsible for controlling and monitoring the services provided by Rochester City Lines, Inc. The Transit portion of this Division has about one and one-half full time staff equivalents whose time are devoted exclusively to mass transit.

Fleet Inventory - With the City's recent bus acquisition and deducting buses that are pending disposal, the current Rochester City Lines active fleet contains 34 buses as listed in Table 6 below. It should be noted that these buses are purchased by the City for use by the Company only on the City's fixed route bus service.

**Table 6
Rochester Bus Fleet
(February 2005)**

Bus Model	Year	Size (Feet)	Number
Flxible	1989	35	3
Gillig Phantom	1995	35	3
Gillig Low Floor	1999	35	4
Gillig Low Floor	2000	40	4
Gillig Low Floor	2003	40	8
Gillig Low Floor	2004	40	6
Gillig Low Floor	2005	40	6
TOTAL			34

The average age of the fleet is about four years with only the three 1989 Flxible buses exceeding the 12 years replacement age suggested by the Federal Transit Administration (FTA).

Based on current services, 27 buses are needed to provide peak period service. Therefore, the active fleet size with seven spare buses represents a spare ratio of 27%. This is high in terms of the 20% spare ratio guideline of the FTA for systems with fleet sizes of 50 buses or more. The FTA expects and allows smaller systems to have a higher spare ratio but offers no suggestion.

We believe that the Rochester Transit spare ratio is reasonable, especially considering that three vehicles in the active fleet are about 16 years old, which is four years older than the suggested FTA 12 year old replacement guideline.

Administrative and Maintenance Facility - Rochester City Lines fixed route operation is administered and operated from a garage facility located on 1825 North Broadway in Rochester. All bus operations, maintenance and administrative functions are performed at this facility.

Passenger Amenities - The City has an extensive bus waiting shelter program with shelters located at 61 different bus stop locations. All of the current sites are within the City of Rochester. These shelters are owned by the City with the City responsible for most vandalism repair, litter pick-up and glass cleaning.

At the downtown transfer area, several shelters are located along 2nd Street SW and along 2nd Avenue SW. Indoor transit information centers are located on both sides of 2nd Street between 1st Avenue SW and 2nd Avenue SW. Passengers can wait indoors at these locations for their bus. The bus shelters at the downtown transfer area are marked with bus routes that serve the particular stop. The bus stop signs along the routes, the bus shelters and the two downtown information centers comprise the on-the-street amenities for the fixed route bus service patrons.

Description of Demand Response Service

Through the Zumbro Independent Passenger Service (ZIPS) program, the City of Rochester provides dial-a-ride, door-to-door service in the City for those persons not able to use regular route bus service. The City Parking and Transit Division administers this service. However, like the bus service, the demand response service is operated by a private contractor. The private contractor is responsible for the complete operation of the service including reservation call-taking, scheduling trips, dispatching, providing drivers and vehicle maintenance. In instances where additional services are needed to meet demand, the private carrier has authority to use the services of local taxicabs or private van services. However, use of such additional service is small, with only about three percent of the total passenger trips made using taxicabs and private vans.

The ZIPS service is complementary ADA paratransit service available to persons living within the Rochester City Lines service area but who are unable to access that fixed route bus service due to a physical disability.

The ZIPS service area includes the City of Rochester and four surrounding townships of Cascade, Haverhill, Marion and Rochester. Service is available weekdays from 5:30AM to 10:00PM and from 7:00AM to 7:00PM on Saturdays. Like the bus service, ZIPS does not operate on Sundays or holidays. This service span matches that of the fixed route bus service.

The fare for the ADA paratransit service is five rides for \$10.00 or \$2.00 per ride. Tickets for using the service may be purchased from the ZIPS driver. It should be noted that ZIPS has a stringent “no show” policy where clients are charged \$5.00 for each time they schedule an appointment and are not available when the bus arrives. A continual pattern of “no show” is cause for suspension.

Reservations for eligible clients can be made by at least one day in advance of the trip.

ZIPS System Operation

The City of Rochester utilizes the services of a private company, CAM Transportation, Inc., to provide and operate the demand response public transportation services described above. A company named RTS, Inc. was the initial successful bidder for the ZIPS service in 2000. However, in the final year of the five year contract, RTS, Inc. assigned the contract to CAM Transportation with approval by the City.

The Company is paid a fee of \$36.11 per vehicle hour for the service that it provides plus expenses for major vehicle repairs, which must be fully documented. The Company is also responsible for the indoor storage and vehicle maintenance of the fleet of vehicles that are used in the ZIPS services. The eight vehicles used in the service are provided to the Company by the City. The Company must equip the vehicles with two-way communications equipment.

The payment by the City to the Company is monthly and is based on an invoice showing hours of service provided and any expenses for major vehicle maintenance. The Company must also supply the City with statistical data that include:

- Number of miles, hours, passengers, wheelchair passengers and special program passengers by vehicle by day
- Total number of hours, gallons of fuel and quarts of oil
- Total number of trip requests denied and reason for any denial
- Total miles by vehicle per month
- Summary of all maintenance and repairs per vehicle

The Parking and Transit Division of the City's Public Works Department is responsible for controlling and monitoring the services provided by CAM Transportation. As noted before, the Transit portion of this Division has about one and one-half full time staff equivalents whose time is devoted exclusively to the fixed route bus and the ZIPS services.

Fleet Inventory - The current ZIPS active fleet contains eight vehicles as listed in Table 7 below:

**Table 7
ZIPS Fleet
(February 2005)**

Bus Model	Year	Number
Orion II	1989	1
Orion II	2000	2
Orion II	2001	2
Body on Chassis	2004	2
Body on Chassis	2005	1
TOTAL		8

The average age of the fleet is about 4.5 years with the 1989 Orion II exceeding the eight years replacement age suggested by the Federal Transit Administration.

Administrative and Maintenance Facility - CAM Transportation's ZIPS operation is administered and operated from a garage facility located at 3731 Enterprise Drive SW in Rochester. All operations, maintenance and administrative functions are performed at this facility.

Operating Performance - Information was obtained for a six year review period (1999 to 2004) for the ZIPS service. As can be seen in Table 8 below, passengers increased during the review period by about 7.4 percent. However, service also increased during this period in terms of service hours by about 16.2 percent. One of the reasons for the increase in service hours is the fact that there was a greater number of wheelchair trips provided in 2004 versus those in 1999 -- 10,857 in 2004 versus 8,941 in 1999, over 21 percent more.

**Table 8
ZIPS Operating Performance**

Calender Year	Passengers	Service Hours	Passengers/ Hour
2004	43,812	12,551	3.49
2003	48,245	12,328	3.91
2002	44,218	11,559	3.83
2001	42,744	10,962	3.90
2000	43,065	10,541	4.09
1999	40,812	10,797	3.78
% Change 1999-2004	7.4	16.2	8.3

Financial Performance

The financial performance of the transportation services (fixed route bus and ZIPS) provided by the City of Rochester is presented in Table 9. Information is presented for seven years (1997 to 2003) for total expenses, revenue and funding.

During the seven year span, expenses have increased from about \$1.8 million in 1997 to \$3.3 million in 2003, or an 80.9 percent increase. At the same time, program revenues have increased from \$0.7 million in 1997 to nearly \$1.4 million in 2003, or an increase of 95.3 percent. The net result is that the deficit only increased by 72 percent during the period.

The State of Minnesota provided the largest share of financial support for transportation service in Rochester. In 2003, the State provided about 57 percent of the funding support. The Federal Transit Administration provided the next largest share at about 25 percent. The final major share was again provided from the State through a special Property Tax Replacement (PTR) program that uses State Motor Vehicle Excise Taxes. This program was started in 2002. It provided about 16 percent of the funding support. It is interesting to note that the City of Rochester's share of funding support in 2003 was \$31,780, or about 1.5 percent of the total.

Another point to note is that in some years there is an excess amount of revenue above that needed to cover the deficit. This excess revenue is a result of the City exceeding certain financial performance goals set by the State. This excess revenue is used by the City for a local match for capital projects.

**Table 9
Rochester Transit Expense/Revenue/Funding 1997-2003**

	1997	1998	1999	2000	2001	2002	2003	% Change 1997 to 2003
Expenses	\$ 1,828,378	\$2,032,125	\$2,233,720	\$2,633,156	\$2,959,044	\$3,056,941	\$3,308,346	80.9
Program Revenue	\$699,626	\$820,416	\$1,021,695	\$1,105,576	\$1,249,947	\$1,232,691	\$1,366,610	95.3
Deficit	\$1,128,752	\$1,211,709	\$1,212,025	\$1,527,580	\$1,709,097	\$1,824,250	\$1,941,736	72.0
Funding								
FTA	\$294,376	\$286,017	\$287,183	\$287,000	\$358,480	\$435,241	\$518,019	76.0
State of MN	\$814,153	\$952,795	\$1,015,980	\$1,071,942	\$1,098,755	\$1,163,112	\$1,171,350	43.9
PTR/GMT						\$306,582	\$324,977	--
City of Rochester			\$1,915	\$115,243	\$181,825	\$655	\$31,780	--
Olmstead County	\$25,072	\$38,867	\$42,279	\$46,547	\$61,438	--	--	--
ISD 535	\$8,412	\$9,126	\$6,054	\$6,848	\$8,599	\$8,655	\$2,199	--
Total								
Excess Revenue	\$13,261	\$75,096	\$141,386	--	--	\$89,995	\$106,509	--
Other Expenses								

STAKEHOLDER INTERVIEWS

The consultant study team is conducting an extensive community participation and outreach program as part of the overall study process. At the outset of the study, several outreach efforts were made to be able to immediately incorporate local experience into the planning effort. “Stakeholder interviews” were conducted in order to include the knowledge and experience of key local persons and agencies that have an understanding of the institutional history of public transportation services in Rochester and whose constituencies would be impacted by modifications to the transit service. In addition to the stakeholder interviews, an ongoing dialogue has been maintained - and several meetings have been held - with staff at the Department of Public Works at the City of Rochester. This strategy has allowed the consultant study team to work in conjunction with the community to develop an understanding of the local issues affecting Rochester public transit from the outset of the project.

List of Stakeholders - The list of stakeholders which were interviewed was developed in conjunction with staff at the Department of Public Works at the City of Rochester. The stakeholder interviews are intended to educate the consultant study team on local transportation and development issues that will affect both the existing fixed route transit system (i.e., Rochester City Lines) as well as the overall planning process. In all, 33 stakeholders from the Rochester area were interviewed for this study.

Stakeholders ranged from elected officials to municipal and county employees to representatives of various human service and non-profit agencies in the area. Employers and businesspeople were also interviewed in the process to gauge the needs of workers in the area, and this constitutes an important part of the stakeholder review process. The stakeholders in the Rochester area were:

- Ardell F. Brede, Mayor of Rochester
- Bruce Fairchild, Sunstone Hotel Investors
- Ron Buzzard, Intercultural Mutual Assistance Association
- Chuck Canfield, former Mayor of Rochester
- Bill Snyder, Transit Advisory Committee
- Gary Hayden, Mayo Clinic Facilities Engineering (retired)
- Sandra Means, City Council Member
- Cory Langren, IBM
- Pat Carr, City Council Member
- John Hunziker, former Council President
- Jeff Kappers, Rochester School District
- Dean Stenehjem, Rochester Area Family YMCA
- Ann McGuire, Rochester School District Transition to Adult Program

- Douglas A. Knott, City of Rochester Development Administrator
- Mike Podulke, Olmsted County Board
- John Wade, Rochester Area Chamber of Commerce
- Gary W. Smith, Rochester Area Economic Development, Inc. (RAEDI)
- Jeff Vert, Southeastern Minnesota Center for Independent Living (SEMCIL)
- Paul Wilson, County Commission Member
- Bob Nowicki, City Council Member
- Jean McConnell, City Council Member
- Ed Hruska, City Council Member
- Mike Lorsung, Mayo Clinic Support Center Northwest
- Wayne D. Flock, Downtown Business Alliance
- Sandy Woodford, Downtown Business Alliance
- Mary Ann Morris, Mayo Clinic Administration
- Kim Boyle, Area Agency on Aging
- Denny Hansen, City Council President
- Maggie Hammeister, Transit Advisory Committee
- Kaye Fenske, Ability Building Center
- Steve Kvenvold, City Administrator
- Marcia Marcoux, City Council Member
- Ann Curtis, Transit Advisory Committee

Stakeholder Interview Summary - Stakeholder interviews were conducted in Rochester from January 31st through February 2nd, 2005.

Stakeholders were candid in their discussions regarding both the existing fixed route transit services operated by Rochester City Lines as well as some of the issues facing the demand responsive transportation service in the area (i.e., the “ZIPS” service). The stakeholders were asked a series of questions regarding system effectiveness, transportation needs, service provision, service coverage, and funding. The questions were in the following subject areas:

- Current performance of Rochester City Lines service and its operator
- Transportation needs that are not currently being met
- Opinions regarding specific modifications to the fixed route bus service
- Opinions regarding funding and the overall purpose of the transit system
- Any additional comments

Current Performance of System - Overall, the stakeholders generally agree that the Rochester City Lines service is well operated. People feel that Rochester City Lines provides a good service considering the size of the metropolitan area and that service tends to operate reliably and efficiently. Some people mentioned that the service seems to be very “work-trip oriented” and that they would like to see more community-wide service, especially to areas which have affordable housing. These stakeholders felt that the transit system does what it has set out to do well, but that the system needs to be more flexible and provide more service to overcome its inadequacies. Several stakeholders felt that the transit system is providing an adequate service because they rarely receive complaints about it. Only one stakeholder felt that the design of the transit service was poor and that the routes had not kept pace with the changes in the city.

In terms of the vehicle fleet utilized by Rochester City Lines, many of the stakeholders commented that the system does a good job keeping the vehicles clean and well-kept. People feel that the bus fleet is - in the aggregate - clean, modern, comfortable and attractive. However, some stakeholders felt that Rochester City Lines needed to accelerate its program to make the entire bus fleet accessible to the disabled; at the time the interviews were conducted, not every bus in the Rochester City Lines bus fleet was equipped with wheelchair lifts. However, the entire Rochester City Lines bus fleet became 100 percent accessible in March of 2005.

In general, the vast majority of the stakeholders felt that the management of the system is professional and responsive to the needs and requests of the community and its leaders. Several stakeholders felt that the management of the bus system is receptive to complaints and comments from the riders and that it was generally easy to get in contact with the appropriate people both at Rochester City Lines and at the Department of Public Works. Only one stakeholder felt that the system was poorly managed.

In terms of the marketing of the transit system, many stakeholders indicated seeing and hearing both television and radio advertisements for the bus system. However, some felt that sometimes the marketing efforts for Rochester City Lines were “under the radar” and that the system could more aggressively market itself. One stakeholder pointed out that they had never seen a system route map. Some stakeholders felt that even though the system’s management makes a concerted effort to distribute information about transit service to various outlets, “word of mouth” still tended to be the primary way by which people learn about the bus service.

In terms of the image of Rochester City Lines, the transit system has both an excellent image and reputation throughout the community. The service is viewed as “effective and efficient” and it is generally perceived as a way of ameliorating the need for more parking in downtown Rochester. Because such a large cross-section of people utilize the bus service (e.g., one stakeholder mentioned all the “professional people” who work downtown and ride the bus system) it is not saddled with the stigma of being seen as the “transportation of last resort”, which is a problem for many transit systems in cities of a similar size. Only one stakeholder indicated that the image of the system was “low because people have no choice but to ride”.

When asked if there were any other issues regarding the performance of the Rochester City Lines bus system, some stakeholders did mention that the current configuration of the system - where all transfers must essentially be made in downtown Rochester - could be inconvenient sometimes. One stakeholder specifically mentioned that more time should be allowed in downtown Rochester for transfers.

In terms of the demand responsive paratransit service (i.e., the “ZIPS” service), many stakeholders either had not heard any complaints about the service or felt they knew very little about it to be able to comment. However, one stakeholder felt that ZIPS service was somewhat inconsistent in terms of the reliability of its scheduled pick-up and drop-off times. This stakeholder felt that the ZIPS service was more oriented to providing a “niche service” to people who could not afford the R & S Taxi Service.

In terms of the Park-and-Ride services operated by the City, most stakeholders felt that the remote parking lots and their connecting bus services were a good idea and helped to reduce both congestion and the need for more parking downtown. However, some stakeholders did indicate that the park-and-ride services should operate longer hours and that they should be marketed more effectively.

When asked about the current downtown transfer center, most stakeholders felt that it functions well and that it was centrally located near both the Mayo Clinic and the downtown pedestrian distribution systems (i.e., the subway and skyway). Several stakeholders expressed the desire for an off-street transfer facility with amenities such as restrooms and enclosed waiting areas. However, they did recognize that - given the availability of real estate in downtown Rochester - a new off-street facility would likely not be as centrally located as the current transfer center.

Unmet Transportation Needs - In terms of the unmet transportation needs in the community, the stakeholders generally agree that they would like to see more Rochester City Lines service overall; in fact, several of the stakeholders recommended service on Sundays. One stakeholder specifically mentioned service to areas where affordable housing was located. Other very common themes in terms of the unmet needs of the community were the ability to serve job centers and commercial areas on the fringes of the metropolitan area or in currently unserved areas and the ability to complete some trips without always having to transfer downtown. Interestingly, several stakeholders mentioned the lack of competition in the area’s taxicab business as being somewhat of an issue. Finally, some stakeholders felt that some type of transportation service for younger “at risk” adolescents (e.g., similar to a dial-a-ride service) should be explored.

Opinions regarding specific modifications to bus service - The stakeholders were asked if they thought that more “crosstown” trips (i.e., not via downtown Rochester) should be provided to better serve outlying employment centers. Some stakeholders offered no opinion on the matter, but most thought that - while it would be beneficial and useful for certain passengers who must always transfer downtown - this type of service should only be provided where the demand warrants it. A few stakeholders did offer some suggestions for possible crosstown corridors (e.g., 37th Street, Apache Mall-RCTC, etc.) but most felt that this type of service should be demand-driven.

The stakeholders were also asked about pursuing a policy that provided for peak hour service to every neighborhood in Rochester. Most of the stakeholders interviewed that had an opinion on this matter indicated that, while this may in fact be a laudable goal, the financial realities are such that this type of service availability may not be practical. There was a general consensus that the provision of bus service should be based on the demand for such service.

The stakeholders were also asked about providing more evening and weekend services. Once again, most of the stakeholders interviewed that had an opinion on this matter indicated that this type of service would indeed improve the “quality of life” in the area, but many also expressed reservations about the feasibility of providing more service in terms of the community’s ability to financially support it. Some stakeholders indicated that if the downtown area were to become a “24 hour” community, then longer spans of service would certainly need to be operated. Several stakeholders felt that providing Sunday service should be studied, and one stakeholder even stated that the expansion of service could be prioritized with an extension of the weekday span of service being implemented before the provision of Sunday service. One other stakeholder also stated that it would be nice to have service “around the clock” seven days a week, but they recognized that this was not likely.

There was almost unanimous agreement amongst the stakeholders that the park-and-ride lots are useful and beneficial to the community. When asked if they felt that more park-and-ride lots should be opened, many of the stakeholders that had an opinion on the matter felt that some new lots may be needed as downtown employment grows, but that - once again - the need for lots should be based on demand. A few stakeholders did indicate that the sites for any possible future park-and-ride lots should be determined as soon as possible, even if funding for actually opening a lot and providing bus service there was not yet available.

When asked about developing service options for addressing the transportation needs of workers on second and third shifts, many stakeholders felt that this was a pressing need for people in service sector jobs with varying hours or in “welfare-to-work” programs where they do not have the seniority to select their shifts. Several stakeholders commented that this issue was related to the general provision of service longer into the evening hours. Many stakeholders again felt that - although it “would be nice” to be able to provide such service - the ability to operate such a service would depend on both the demand for the service and the ability to find funding. One stakeholder indicated that some type of “dial up” or demand responsive service might be more appropriate for this market.

Opinions regarding funding and the purpose of the transit system - When asked if they felt that a good bus system is essential to the growth and prosperity of Rochester, most stakeholders either “strongly agreed” or “agreed” with this statement. Similar sentiments were also indicated when the stakeholders were asked if they felt that a good bus system should be beneficial to the environment, if they felt that a bus system is essential for the well being of the people within the community it serves, and if they felt that a good bus system helps alleviate traffic congestion in a community. Most of the stakeholders interviewed also either “strongly disagreed” or “disagreed” with the statement that “local bus service should only be oriented to people who don’t have a car available”. In other words, most stakeholders felt that bus service was not just for people who did not have an automobile.

Most stakeholders generally tended to agree that more public funds should be provided to improve bus service, although several stakeholders did disagree with this statement. Some also indicated that they “don’t know” if more public funds should be utilized to improve the bus system. Most stakeholders also generally tended to agree that local bus service has not kept pace with growth in Rochester, although a notable number did disagree with this statement as well. However, it should be noted that recent expansion of the system has been “frozen” for approximately two years pending the results of the Transit Development Plan. Finally, there were some mixed results in terms of whether there is a relationship between parking fees in downtown Rochester and transit utilization. Several stakeholders felt that the “relationship” was really between the general availability of parking in downtown Rochester and the use of transit. Even though parking may be viewed as expensive, several stakeholders felt people are still willing to drive if they can get a parking spot. These stakeholders felt that the reason people ride the bus is because “they simply cannot get parking downtown at any price”.

Additional comments - Several stakeholders had additional comments that were not necessarily related to any of the previously covered topic areas. Some of these comments or themes are presented in this section of the report. The number of times a comment was mentioned is also presented.

- The use of public transit has more to do with the availability of parking - or lack thereof - and the price of gasoline than any other factors (*mentioned by two people*)
- Provide a free downtown shuttle or a “free fare zone” in the downtown area (*mentioned by two people*)
- Better public information (e.g., maps, schedules, etc.) is needed (*mentioned by two people*)
- The possible growth in downtown Rochester (e.g., due to the genomics project) should be factored into any planning efforts (*mentioned by three people*)

- More service must be provided in the northwestern portion of the city *(mentioned by three people)*
- Consider how decentralized “back office” functions can be provided with bus service *(mentioned by one person)*
- Explore the use of “personal rapid transit” technology *(mentioned by one person)*
- Loop routes are too circuitous - more direct routes are needed *(mentioned by five people)*
- Utilize minibuses as neighborhood feeders to sub-regional hubs; then provide express services to downtown *(mentioned by two people)*
- Better fare and fare discount programs must be explored *(mentioned by two people)*
- Too many buses are operated by various entities (e.g., hotels, the Mayo Clinic, etc.) and these resources should be combined to reduce congestion *(mentioned by three people)*
- There are real issues between ZIPS drivers and the dispatchers and this affects the quality and provision of service to ZIPS passengers *(mentioned by three people)*
- The entire bus fleet should be accessible *(mentioned by two people)*

“Discussion Questions” Survey - As part of the stakeholder interview process, a questionnaire was also given to the various stakeholders for them to be able to provide some additional input to the planning process. Of the 33 surveys which were distributed, 14 were returned (i.e., approximately a 43 percent return rate). The results from this questionnaire are summarized in this portion of the report. A “master summary” of the survey showing both the form itself as well as the percentage of responses for each appropriate question (i.e., those where the respondents could simply select from a list of options) is included in the Appendix to this report. For the more complex questions (i.e., those where the respondents were asked to rate the importance of an item on a sliding scale or to indicate an answer without the use of multiple choice categories), summary tables are included with the discussion of the responses in this section of the report.

1. **Knowledge of Local Bus Service** - None of the respondents indicated that they knew nothing about the bus service; the responses were basically split between being slightly knowledgeable (eight people) and being knowledgeable (six people) about the bus system.

2. **Frequency of Use** - Most respondents (ten people) indicated that they had not ridden on Rochester City Lines in the last month. One person each indicated that they rode two, three, five and six times during the last month.

3. **Function of Public Transit** - The survey respondents were asked to rate transit functions on a scale of 1 through 5, with “1” being the most important. Seven respondents felt that a public transit system should serve people who do not have a car available to them warranted a “1” rating; three respondents felt this warranted a “2” rating.

Seven respondents felt that a public transit system should provide an alternative to the automobile for selected trips warranted a “2” rating; while three respondents felt this warranted a “1” rating.

The results for this question are summarized in the accompanying table.

Question 3
The Primary Function Of The Public Transit System Should Be

Function	Very Important			Not Important	
	1	2	3	4	5
To Serve persons that do not have a car available to them	7	3	2	1	1
To provide alternative to the automobile for selected trips (e.g., work trips)	3	7	1	2	1
Other					
To get from point A to point B in a timely manner	1				

4. **Service Orientation of Public Transit** - The survey respondents were asked to rate the service orientation of transit on a scale of 1 through 5, with “1” being the most important. Seven of the survey respondents felt that the primary orientation should be to households with a low level of auto ownership warranted a “1” rating; three respondents felt this warranted a “2” rating; and two respondents each indicated a “3” rating or a “4” rating.

Seven of the survey respondents felt that the primary orientation should be to the elderly or disabled warranted a “1” rating; three respondents each felt this warranted a “2” rating or a “3” rating.

Five respondents felt that the primary orientation should be to students warranted a “2” rating; four respondents felt this warranted a “1” rating; and two respondents each indicated a “3” rating or a “4” rating.

Six respondents felt that the primary orientation should be to employment trips warranted a “2” rating; five respondents felt this warranted a “1” rating; and two respondents indicated a “4” rating.

Six respondents felt that the primary orientation should be to shopping trips warranted a “3” rating; three respondents felt this warranted a “2” rating; and two respondents each indicated a “4” rating or a “5” rating.

Five respondents each felt that the primary orientation should be to high density urbanized areas warranted a “1” rating or a “2” rating; and three respondents felt this warranted a “3” rating.

Five respondents felt that the primary orientation should be to low density suburban and rural areas warranted a “3” rating; four respondents felt this warranted a “4” rating; three respondents indicated a “2” rating; and two respondents indicated a “5” rating.

The results for this question are summarized in the table below.

Question 4
The Primary Service Orientation Should Be To

Orientation	Very Important			Not Important	
	1	2	3	4	5
Households with a low level of auto ownership	7	3	2	2	0
Elderly and persons with disabilities	7	3	3	0	1
Students	4	5	2	2	1
Employment trips	5	6	1	2	0
Shopping trips	1	3	6	2	2
High density urbanized areas	5	5	3	0	1
Low density suburban and rural areas	0	3	5	4	2
Other High density suburban areas	1				
Churches			1		

5. Primary Benefits of Public Transit - The survey respondents were asked to rate the primary benefits of transit to Rochester on a scale of 1 through 5, with “1” being the most important. Five respondents felt that the primary benefit to the city should be reduced travel costs to the consumer warranted a “2” rating; three respondents felt this warranted a “3” rating; and three respondents each indicated a “1” rating or a “4” rating. Five respondents each felt that the primary benefit to the city should be service to major employers warranted a “1” rating or a “2” rating; and two respondents indicated a “5” rating.

Nine respondents (a majority) felt that the primary benefit to the city should be increased mobility for people without a car warranted a “1” rating; two respondents each indicated a “2” rating or a “5” rating.

Seven survey respondents felt that the primary benefit to the city should be reduced energy consumption warranted a “1” rating; five respondents felt this warranted a “2” rating.

Six respondents each felt that the primary benefit to the city should be reduced land area devoted to parking warranted a “1” rating or a “2” rating.

Eight respondents (a majority) felt that the primary benefit to the city should be a choice of travel modes warranted a “3” rating; and four respondents indicated a “2” rating.

Six respondents felt that the primary benefit to the city should be reduced traffic congestion warranted a “1” rating; four respondents indicated a “3” rating; and three respondents indicated a “2” rating.

Six respondents felt that the primary benefit to the city should be an improved environment warranted a “1” rating; three respondents each indicated a “3” rating or a “4” rating.

The results for this question are summarized in the accompanying table.

Question 5
The Primary Benefits That A Transit System Should Offer To Rochester Are

Benefits	Very Important			Not Important	
	1	2	3	4	5
Reduced travel costs to the customer	2	5	4	2	1
Service to major employers	5	5	1	1	2
Increased mobility for persons who generally do not have a car available	9	2	0	1	2
Reduced energy consumption	7	5	0	1	1
Reduced area devoted to parking	6	6	1	1	0
Choice of travel modes	1	4	8	0	1
Reduced traffic congestion	6	3	4	0	1
Improved environment (e.g., reduced air and noise pollution)	6	1	3	3	1
Other	0	0	0	0	0

- 6. Time Service Should Be Provided** - The survey respondents were asked to indicate what they thought the span of service should be for each service day. Although the responses varied greatly, the single most common response for weekdays was that service should be provided between 5:30AM and 10:00PM; for Saturdays it was that service should operate between 7:00AM and 8:00PM; and on Sundays it was that service should operate between 8:00AM and 4:00PM.

The results for this question are summarized in the accompanying tables.

Question 6

Please Indicate the Times of Day You Think Transit Service Should Be Provided

Weekday Hours	Responses
5:00 AM – 11:00 AM	1
5:30 AM – 10:00 PM	3
5:30 AM – 12:00 AM	1
6:00 AM – 6:00 PM	2
6:00 AM – 8:00 PM	2
6:00 AM – 9:00 PM	1
6:00 AM – 10:00 PM	1
6:00 AM – 11:00 PM	1
12:00 AM – 12:00 AM	1

Saturday Hours	Responses	Sunday Hours	Responses
5:30 AM – 10:00 PM	1	5:30 AM – 10:00 PM	1
7:00 AM – 5:30 PM	1	7:30 AM – 10:00 PM	1
7:00 AM – 8:00 PM	2	8:00 AM – 4:00 PM	2
7:30 AM – 6:00 PM	1	8:00 AM – 8:00 PM	1
7:30 AM – 10:00 PM	1	8:00 AM – 12:00 PM	1
8:00 AM – 7:00 PM	1	10:00 AM – 5:00 PM	1
8:00 AM – 12:00 AM	1	11:00 AM – 4:00 PM	1
9:00 AM – 7:00 PM	1	12:00 AM – 6:00 PM	1
10:00 AM – 5:00 AM	1	12:00 AM – 11:00 PM	1
12:00 AM – 12:00 AM	1		

7. **Maximum Waiting Time** - The survey respondents were asked to indicate what they felt the maximum headway (i.e., minutes between buses) on a bus route should be for certain time periods. Once again, the responses varied, but the most common responses for each time period are as follows: during weekday peak hours most respondents felt the frequency of service should not exceed 30 minutes; during weekday middays most respondents also felt the frequency of service should not exceed 30 minutes; during weekday evenings the number of respondents who indicated that the frequency of service should not exceed 30 minutes tied those who indicated that the frequency of service should not exceed 60 minutes; during Saturdays most respondents felt the frequency of service should not exceed 60 minutes; and during Sundays most respondents also felt the frequency of service should not exceed 60 minutes.

The results for this question are summarized in the accompanying tables.

Question 7

Please Indicate What You Think Should Be The Maximum Number of Minutes Between Buses On A Transit Route Per Each Time Period

Weekday Peak Hours	Responses	Weekday Midday	Responses	Weekday Evenings	Responses
10	1	10	1	10	1
15	4	20	1	20	1
20	3	30	6	30	5
30	6	40	2	40	1
		45	3	45	1
		60	1	60	5

Saturdays	Responses	Sundays	Responses
10	1	10	1
30	3	30	1
45	2	45	2
60	5	60	5
90	1	90	1

8. **Reasonable Ride Time** - The respondents were asked to indicate what they felt a reasonable amount of time was a person should have to spend on a bus to accomplish certain types of trips. Once again, the responses varied, but the most common responses for each type of trip are as follows: between downtown and outlying residential areas most respondents felt the time spent on a bus should not exceed 30 minutes; on “crosstown” trips most respondents also felt the time spent on a bus should not exceed 30 minutes.

The results for this question are summarized in the accompanying table.

Question 8
What Is A Reasonable Amount Of Time A Person Should Have To Ride A Bus To Get
Between The Following Locations?

Between downtown and outlying residential areas (in minutes)	Responses	Across town (e.g., between Mayo High School and IBM) (in minutes)	Responses
15	3	20	3
20	3	25	1
30	6	30	6
45	1	35	2
60	1	45	2

9. **Maximum Walking Distance** - The respondents were asked to indicate what they felt the maximum walking distance to a bus stop should be. Seven of the respondents indicated two to four blocks; four respondents indicated four to six blocks; and three respondents indicated zero to two blocks. No one indicated that more than six blocks was an acceptable maximum walking distance to a bus stop.
10. **Maximum Time Between Desired and Scheduled Pick-Up Times** - The respondents were asked to indicate what they felt the maximum time differential between the desired pick-up time and the pick-up time offered by the dispatcher when making a ZIPS Dial-A-Ride service reservation should be. Five respondents each indicated either no more than a half hour or between a half hour and an hour; and three respondents indicated one to two hours. No one indicated that any amount of time over two hours was acceptable.
11. **Advance Reservation Time Requirement** - The respondents were asked to indicate how far in advance they thought a rider should be required to call to arrange a ride on the ZIPS Dial-A-Ride service. Six of the respondents each indicated either “the day before” or “four hours”; and two respondents indicated two hours. No one indicated that any amount of time less than two hours was acceptable.

- 12. Important Changes to the Transit System** - The respondents were asked to select from a range of possible improvement options which three they felt would be most beneficial to the transit system. The three most commonly chosen responses were “more coverage of the city with bus routes” (which was mentioned eight times); “night service on all routes” (which was mentioned six times); and “more public information” (which was mentioned five times). It should be noted that “more frequent service” was also very popular, being mentioned four times.

The other improvements cited by the respondents for this question were as follows: “none needed” was mentioned once; “extension of routes to development beyond the city limits” was mentioned three times; “lower fares and more public funding” was mentioned once; “better identification of bus stops” was mentioned once; “night service on weekends” was mentioned once; “service on Sundays” was mentioned three times; “improved ZIPS service” was mentioned once; “crosstown bus routes” was mentioned once; and “try to connect spokes on outer ring to avoid some transfers” was also mentioned once.

- 13. Factors Affecting Choice To Utilize Transit** - The survey respondents were asked to rate the importance of several factors affecting their choice of whether or not to utilize public transportation on a scale of 1 through 5, with “1” being the most important. Ten respondents (a majority) felt that the convenience of using the transit system warranted a “1” rating; three respondents felt this warranted a “2” rating.

Four respondents each felt that the cost of using the transit system warranted a “1” rating, a “2” rating or a “3” rating; the remaining two respondents felt this warranted a “4” rating.

Five respondents felt that the availability of parking warranted a “1” rating; four respondents felt this warranted a “3” rating; and three respondents felt this warranted a “4” rating.

Finally, five respondents each felt that the travel time warranted a “1” rating or a “2” rating; three respondents felt this warranted a “3” rating.

The results for this question are summarized in the accompanying table.

Question 13

What Factors Do You Feel Most Affect Your Choices As To Whether To Use Transit?

Factors	Very Important			Not Important	
	1	2	3	4	5
Convenience	10	3	0	0	0
Cost	4	4	4	2	0
Parking availability	5	1	4	3	0
Travel time	5	5	3	0	0
Other Service crosstown		1			

14. Importance of Capital Improvements - The survey respondents were asked to rate the importance of several capital improvement projects on a scale of 1 through 5, with “1” being the most important. Seven of the respondents felt that the continued replacement of the bus fleet warranted a “1” rating; four respondents felt this warranted a “2” rating; and two respondents felt this warranted a “3” rating.

Five of the respondents each felt that the introduction of electronic fare payment warranted a “3” rating or a “4” rating; three respondents felt this warranted a “2” rating.

Six of the respondents each felt that more passenger waiting shelters warranted a “2” rating or a “3” rating.

Six of the respondents each felt that more park-and-ride facilities warranted a “2” rating or a “3” rating.

Six of the respondents felt that the introduction of electronic “real time” schedule information systems warranted a “3” rating; four respondents felt this warranted a “1” rating; and two respondents each felt this warranted a “2” rating or a “4” rating.

Finally, eight respondents (a majority) felt that the introduction of exclusive bus and/or carpool lanes warranted a low “5” rating; five respondents felt this warranted a “4” rating.

The results for this question are summarized in the accompanying table.

Question 14

Please Rate The Following Capital Improvements To Local Transit As To Importance

Capital Improvements	Very Important			Not Important	
	1	2	3	4	5
Continued replacement of bus fleet	7	4	2	1	0
Electronic fare payment (e.g., contactless cards, etc.)	3	5	0	5	0
More passenger waiting shelters	1	6	6	1	0
More park and ride facilities	1	6	6	0	0
Electronic real time schedule information system	4	2	6	2	0
Exclusive bus/carpool lanes	0	0	1	5	8
Other	0	0	0	0	0

15. Effectiveness of Public Information Media - The survey respondents were asked to rate the effectiveness of several means of communicating bus service information on a scale of 1 through 5, with “1” being the most effective. Five of the respondents felt that a website warranted a “2” rating; four respondents felt this warranted a “3” rating; and three respondents felt this warranted a “1” rating.

Seven of the respondents (a majority) felt that live telephone information specialists warranted a “2” rating; and two respondents each felt this warranted a “1” rating, a “3” rating or a “4” rating.

Six respondents felt that automated telephone information warranted a “3” rating; and two respondents each felt this warranted a “1” rating, a “2” rating or a “5” rating.

Six of the respondents felt that the newspaper warranted a “2” rating; and five respondents felt this warranted a “3” rating.

Five of the respondents felt that radio and/or television advertising warranted a “2” rating; three respondents felt this warranted a “3” rating; and two respondents each felt this warranted a “1” rating or a “4” rating.

Finally, three of the respondents each felt that direct mail warranted a “1” rating or a “2” rating; and two respondents felt this warranted a “4” rating.

The results for this question are summarized in the accompanying table.

Question 15

Please Rate The Following Means Of Communicating Bus Service Information To The Public In Terms Of Effectiveness and Accessibility

Media	Very Important			Not Important	
	1	2	3	4	5
Website based	3	5	4	0	1
Live telephone information specialists	2	7	2	2	0
Automated telephone information	2	2	6	1	2
Newspaper	0	6	5	1	1
Radio/television	2	5	3	2	0
Direct mail	3	3	1	2	1

16. **Supportive Land Use Design** - The respondents were asked whether or not they agreed with the policy that land use design which supports transit use (e.g., by density) should receive development credits such as reduced fees and zoning variances. An overwhelming number of the respondents (i.e., 13) thought this would be a good policy to pursue.
17. **Pedestrian Connections** - The respondents were asked whether or not they thought sidewalks and other types of pedestrian connection were elements of good “transit friendly” design. Once again, an overwhelming number of the respondents (i.e., 13) agreed with this assertion.
18. **Priority for Downtown Parking** - The respondents were asked whether or not they thought that the first priority for downtown parking should be customers and visitors, with more emphasis on providing transit service and park-and-ride lots in outlying areas to employees. Eleven of the respondents (a majority) agreed with this policy; the remainder did not. One respondent specifically indicated that public transportation should be available to all members of the community and not be prioritized on any basis.

- 19. Financing of Transit Service** - The respondents were asked to indicate which combination of financing mechanisms should be utilized to fund public transportation in Rochester. All fourteen of the respondents indicated that transit should be funded by a combination of user fees, city funds, state funds and federal funds. No one selected “user fees only”, “user fees, city funds and state funds” or “state funds and federal funds”.
- 20. Funding of City’s Share of Transit** - The respondents were asked how they thought Rochester should fund its share of the public transportation budget. Nine of the respondents each indicated that transit funding should come from either the “general fund” or from a “parking space tax”; and three respondents indicated a “special levy”. No one indicated that the city should not fund public transportation.
- 21. Farebox Recovery Goal** - The respondents were asked to indicate what they thought the farebox recovery rate (i.e., the percentage of operating costs paid for by passenger fares) should be for both regular route service and for the ZIPS service. Although the responses varied widely, the most common response for both types of service was “50 percent”.

The results for this question are summarized in the accompanying table.

Question 21
What Percentage Of The Expenses Do You Feel Should Be Returned Through The Fare Box For Each System?

Regular Route	Responses	ZIPS Dial-A-Ride	Responses
30	1	20	1
44	1	25	1
50	5	30	2
60	1	35	1
67	1	50	3
90	1	90	1

- 22. Opinion Regarding Current Fare Levels** - The respondents were asked to indicate what they felt regarding the equity of fare levels for certain types of passengers.

The accompanying table summarizes the results for this question.

Question 22
Attitude Regarding Current Fare Levels

Fare Type	Amount	Percent Responding			
		“Too Low”	“Just Right”	“Too High”	“No Opinion”
Adult Single Ride	\$1.25	15.4	76.9	7.7	0.0
Elderly/Disabled Single Ride	\$0.60	38.5	46.1	7.7	7.7
6-18 Years Old Single Ride	\$0.60	30.8	53.8	15.4	0.0
Adult 10-Ride	\$10.00	23.1	69.2	7.7	0.0
Elderly/Disabled 10-Ride	\$5.00	38.5	53.8	0.0	7.7
Unlimited Monthly	\$30.00	15.4	76.9	7.7	0.0
Unlimited Semester	\$45.00	15.4	53.8	23.1	7.7
Unlimited Annual	\$336.00	23.1	53.8	15.4	7.7
ZIPS 5-Ride	\$10.00	28.6	50.0	7.1	14.3

As can be seen in the accompanying table, the majority of respondents felt that the fare levels were essentially “just right”.

23. Additional comments - Several respondents had additional comments that were not necessarily related to any of the previously covered topic areas. These comments are presented in this section of the report. Each of these comments was mentioned once.

- Five minutes should be allowed to transfer between buses downtown.
- Bus routes need to adapt to meet Rochester’s growth and the increased amount of time it takes to get around town due to traffic congestion.
- It is “troubling” to see individuals getting tax breaks for buying sport utility vehicles and yet the general public is unwilling to fund public transportation.
- Variable pricing schemes (e.g., time-of-day) should be tried.
- Given the changing environment of increasing fuel costs, the system should expect that the “cost shift responsibility” must come, in some part, from the user.
- The “goal” for Rochester City Lines should be 100 percent accessible service seven days a week.
- Public Works is very responsive to the needs of the community.
- Transit use should be encouraged by marketing low cost passes.

Summary - In the aggregate, the stakeholders feel that public transit does a good job of providing transit service and that it has a positive image throughout the community. Of course, there are certainly areas where improvements can be made, but the stakeholders generally felt that any improvements to the transit system which were not “cost neutral” should basically be undertaken only if warranted by the demand.

HOUSEHOLD SURVEY

One key element of the current Transit Development Plan is to quantify attitudes of regular users towards public transportation services. It was determined that a mail-out/mail-back survey would be the most appropriate method to gather this data from Rochester City residents. This technique allows users to complete the survey questionnaire at their convenience without facing an interruption associated with a telephone survey. The process involved several steps that were performed both prior to and after the conduct of the mail-out/mail-back survey. Each of these topics, including questionnaire development, sample selection and coding of results are discussed below.

Survey Preparation

The initial step in survey preparation was drafting survey questions. For some questions, all possible responses were identified while other questions were open-ended. The amount of information to be gathered was weighed against the length of the survey form. Typically, longer questionnaires result in a reduced response rate. The questions were developed in cooperation with Rochester City Lines and City of Rochester staff. The development of the survey instrument considered the screening of adult residents, the topics to be covered and the questions to obtain the necessary information. The form used in the mail-out/mail-back survey is included as an appendix to this report; a letter was also sent to each resident advising them of the survey and informing them of the importance of their response. It should be noted that the introduction letter was signed by the Mayor of the City of Rochester.

Sample Selection - The objective of the survey is to acquire a sufficient sample size of residents that results in acceptable accuracy. The survey actually obtained 801 valid survey forms. Based upon the relationship between sample size and error, the survey has an allowable error rate of less than 4.0 percent at a 95 percent confidence interval. The implication of this relationship is that the survey measure of an attribute (i.e., personal use of bus service) plus or minus 4.0 percent will include the actual measure of the attribute in the study area 95 percent of the time. In essence, this defines how close the survey results from a sample of adult residents are to those that would have been obtained if all adults in Rochester had been surveyed.

The next important step in the conduct of the survey was the selection of a random sample. The requirement of randomness is that the probability of selecting a particular household be equal for all households in the study area. Households to be sampled were determined from a random sample of households selected by a professional direct mail communications firm. The actual mail-out/mail-back questionnaire was mailed to a sample of 2,500 residents during the third week of March 2005. The response rate of 801 versus 2,500 mailed is just over 32 percent, which exceeded the target for this survey and is better than the typical response rate for mailed surveys (15 to 20 percent).

Coding - The number of surveys judged to be valid was determined by carefully scrutinizing each survey form for accuracy and consistency. The next step was to convert all responses to codes for subsequent computer processing. The survey form included in the appendix was used to identify appropriate codes for each question. The coded data were processed for each question. The subsequent sections present the results and key findings of the survey.

Survey Results

This section presents the results for the 21 questions that were asked in the mail-out/mail-back survey. For many of the items presented in the charts and paragraphs below, the actual number of responses differ from the total 801 valid survey forms since on some forms, all questions were not answered. It is surmised that in some cases the resident did not know an answer and/or was unsure of the meaning of the question.

Bus Service Utilization - The initial question asked the resident if they had used the bus system in the past year. This question was included to determine the experience of the resident using Rochester City Lines services. Results showed that 213 residents or about 27 percent of the sample used Rochester City Lines service in the past year. The vast majority of respondents were non-users. In fact, as indicated in a follow-on question, only 20 percent of the survey respondents indicated that anyone in their immediate household uses Rochester City Lines services once a month or more. Therefore, the results of this mail-out/mail-back survey provide input from those residents who generally are not Rochester City Lines users.

Proximity to Bus Service - Residents were then asked how close they live to a Rochester City Lines bus route. Of the 801 respondents, 84 (10.5 percent) answered that they lived either *right on a bus route or within one block*. The overwhelming majority of respondents, 440 (55 percent), answered that they lived *between one and five blocks of a bus route*. Fifty-three residents, or seven percent, stated that they lived *more than five blocks from a bus route*. Less than one percent of the respondents (19) lived *one mile or more from a bus route*. There were 192 residents or 24 percent that answered that they were *unsure* of the location of the nearest bus route. The fact that close to a quarter of the residents surveyed stated that they do not know where they live relative to a Rochester City Lines bus route suggests some lack of awareness among the general public of the Rochester City Lines system. Thirteen surveys had no response to the question.

Length of Residence - The next question asked how long the resident had lived in Rochester. This question shows that residents of Rochester have deep roots in the community. The largest number by far, 397, or 50 percent, had lived in Rochester for 25 years or more. The next highest number of respondents, 120 (15 percent), had lived in Rochester between one and five years. The remaining respondents gave the following answers: six to ten years, 74 (9 percent); 11 to 15 years, 60 (8 percent); 16 to 20 years, 58 (7 percent); 21 to 25 years, 69 (9 percent). Eight surveys contained no response.

Importance of Local Bus Service in Community - The next question asked the opinion regarding importance of local bus service and offered one of five possible responses. As seen below, 687 residents or 86.3 percent of the responding sample stated that bus service is *very important, important* or *somewhat important*. A comparatively small total of 20 residents, or 2.5 percent, stated local bus service is *not important*. Another 89 residents, or 11 percent, stated that they did not know enough about the issue to provide an answer. This indicates strong support of local bus service.

Importance of Local Bus Service	Number Responding	Percent Responding
Very Important	352	44.2
Important	251	31.5
Somewhat Important	84	10.6
Not Important	20	2.5
Don't Know	89	11.2
Total	796	100.0

Knowledge of Local Bus Service - This question was designed to measure the awareness by residents of the local bus service. Of the 796 responses received, 595 or 75 percent, claimed they were *slightly knowledgeable about* or *don't know anything about* Rochester City Lines bus service. The remaining 20 percent (155) of responses claimed they were *knowledgeable* about Rochester City Lines. This indicates some lack of general awareness among Rochester residents of the services offered by Rochester City Lines and the role those services provide.

Reasons for Not Using Bus Service - The next series of questions were used to determine the circumstances, opinions or perceptions that keep residents from using the local bus service. Respondents were asked to agree or disagree with each possible reason for not using bus service. As seen in the accompanying table, the *availability of an automobile* is by far the most often cited reason for not considering use of bus service as an alternative. Other major factors for not considering bus use (each cited by more than 40 percent of the respondents) are *make multiple stops*, *don't have information on service*, *don't like waiting for bus*, and *am unfamiliar with the bus service and how to use it*. Of these five major factors, only the two that involve information on service can be directly influenced by Rochester City Lines. On the other side of this question, *fares are too expensive*, *safety of bus service* and *traveling with strangers* are not considered influencing factors, with less than 15 percent of the respondents citing each one. Another interesting observation is that *no service when I want to travel* is more influential than *no service where I want to travel*.

Reasons for not Using Bus Service	Agree (%)	Disagree (%)
I have a car available	98.1	1.9
I don't live near a bus stop	31.4	68.6
No service to where I want to go	21.8	78.2
No service when I want to go	39.7	60.3
I don't like traveling with strangers	14.8	85.2
Bus service is too slow	27.8	72.2
I don't like waiting for a bus	48.1	51.9
I don't have information on service	50.9	49.1
I don't feel safe on a public bus	5.7	94.3
Bus service fares are too expensive	9.1	90.9
I make multiple stops (e.g., day care)	70.7	29.3
I am unfamiliar with bus service and how to use it	46.4	53.6

Best Place for Rochester City Lines Information - To assist Rochester in its efforts to market new or existing services, the residents were asked to indicate the best way for Rochester City Lines to reach them with information on promotions and services. Nine different responses were listed and space was provided for a write-in answer. More than one response could be selected. The table below indicates that the *newspaper* is the most common choice, noted by just under half of the residents who responded to this question. The second most popular choice is *direct mail*, with 40 percent. This is followed by *TV*, with about 36 percent of the respondents, *schedules/brochures* with about 30 percent, and *radio* with about 27 percent. Each of the other

media was cited by less than fifteen percent of the respondents. The most frequent write-in response was *e-mail*, which was suggested by six residents.

By comparison, both weekday and Saturday riders listed *schedules/brochures* as the dominant source for transit information. The weekday riders listed *newspapers* as a far distant second choice. *Direct mail* was noted as the least important choice by the riders. In contrast, *direct mail* was the second most important choice by the households comprised mostly of non-transit users. In summary, the non-transit users want the transit information provided to them via *newspapers, direct mail* or *TV*. Transit users want the information mostly via specific transit information (i.e., *schedule/brochures*).

Source for Service Information	Number Responding	Percent Responding
Newspapers	376	46.9
Radio	219	27.3
TV	287	35.8
Schedules/Brochures	237	29.6
Friends/Relatives	41	5.1
Telephone	48	6.0
Bus Drivers	39	4.9
Website	97	12.1
Direct Mail	322	40.2
Other	15	1.9

Factors Influencing Bus Use - The next set of questions was used to determine how important certain factors are in influencing the respondents to use bus service. Respondents were asked to strongly agree, agree, disagree, or strongly disagree that each factor plays an influential role. As seen in the accompanying chart, there are a number of factors that two-thirds or more of the respondents strongly agreed or agreed would influence them to use bus service. Of these factors, the most highly rated factor was *comparable trip time to car*, cited by 73 percent of the respondents. The next most highly rated factor was *more frequent service*, closely followed by *service closer to my home*. The factors that were rated as least important include *more Park-n-Ride service, more door-to-door service, service closer to shopping, and having more Saturday service*. However, about half of the respondents still strongly agreed or agreed that these are influential factors.

For the rider survey, the most important factor to influence ridership was *more frequent service*. Riders were not given *comparable trip time to car* as one of the choices. Therefore, both the rider and the resident are consistent in identifying *more frequent service* as a critical influencing factor for transit usage. In both surveys, *more Park-n-Ride service* was listed as one of the least important factors.

Influencing Factors	Very Important(%)	Important(%)	Not Important(%)
Service closer to my home	39.9	28.9	31.1
Service closer to my work	35.2	24.3	40.6
Service closer to shopping	19.1	31.6	49.3
More frequent service	32.0	38.7	29.3
More information	27.0	39.8	33.1
Cost of the service	17.1	41.0	41.9
Having more evening service	25.5	31.4	43.1
Having more Saturday service	23.4	31.6	45.0
Having more Sunday service	22.0	43.0	34.9
More door-to-door service	15.8	30.3	53.9
More Park-n-Ride service	12.1	32.8	55.1
Better Connections	22.6	41.4	36.0
Comparable Trip Time to Car	31.5	41.4	27.1

Purpose for Using Bus Service - The next question asked residents for what trip purpose they would most likely use bus service. As seen below, *work* was the most often cited purpose for which the respondents would use Rochester City Lines services (55 percent of respondents). *Medical/dental* was the second most often cited trip purpose followed by *shopping*. Use of Rochester City Lines service for *school* was the least likely trip purpose. This low rating is a result of the survey focusing only on residents that are 18 years of age and older. The most frequent write-in response in the “other” category was *car not working*, which was suggested by three residents. An important fact is that only 119 respondents, or about fifteen percent, stated that there was no trip purpose for which they would use bus service. Therefore, there is an opportunity for Rochester City Lines attract about 85 percent of Rochester residents to use bus service.

Trip Purpose for Most Likely Using Bus Service	Number Responding	Percent Responding
Work	435	55.3
School	15	1.9
Shopping	67	8.5
Personal Business	34	4.3
Medical/Dental	79	10.0
Recreational/Social	28	3.6
Other	10	1.3
None	119	15.1
Total	787	100.0

Ride Time - In a related question, residents were asked what they would consider to be a reasonable ride time on a bus to the locations they described above. Ten to 15 minutes is the ride time that many, 38 percent (301) of respondents, indicated was reasonable. Another 27 percent (219) indicated that 16 to 20 minutes was reasonable, while 14 percent (108) indicated that they were willing to ride up to 30 minutes to their destination. Very few respondents (two percent) consider a ride time of more than 30 minutes reasonable.

Reasonable Ride Time	Number Responding	Percent Responding
Less than 10 minutes	27	3.4
10 to 15 minutes	301	37.6
16 to 20 minutes	219	27.4
21 to 30 minutes	108	13.5
More than 30 minutes	15	1.9
No Response	130	16.3
Total	800	100.0

Perception of Local Bus Service - The survey asked what each respondent's perception of Rochester City Lines local bus service was. The majority (nearly 70 percent) of respondents have a positive perception of Rochester City Lines service. Nearly eight percent of the respondents view local bus service as excellent, 26 percent view local bus service as very good, and 35 percent view the service as good. Of the remaining respondents, nine percent view service as fair, two percent view service as poor, while 21 percent have neither a positive or negative perception.

Perception of Local Bus Service	Number Responding	Percent Responding
Excellent	60	7.6
Very Good	203	25.8
Good	277	35.2
Fair	67	8.5
Poor	18	2.3
Don't Know	162	20.6
Total	787	100.0

Respondents were also asked to explain their response to this question. The reasons are summarized in the chart below.

Of those with an excellent perception of local bus service, 29 respondents provided their reason. Of these, 66 percent indicated positive experiences with Rochester City Lines service (e.g., on-time, convenient, dependable), while 35 percent indicated positive experiences with Rochester City Lines drivers.

Perception = Excellent		
Reason for Perception	Number Responding	Percent Responding
Service Related	19	65.5
Driver Related	10	34.5
Word-of-Mouth	2	6.9
Other	2	6.9
Total	29	(a)
<i>(a) Multiple reasons possible</i>		

Of the respondents with a very good perception of local bus service, 103 provided a reason for their response. Of these 60 percent indicated a positive experience (e.g., on-time, convenient, dependable) with Rochester City Lines service. Twenty percent indicated that their perception is based on word-of-mouth from a friend, co-worker or relative who use Rochester City Lines service. Positive experiences with drivers (11 percent) and the cleanliness of vehicles (10 percent) were the reasons stated by most of the other respondents. Only three percent of the respondents indicated affordability of the service as the reason for their perception.

Perception = Very Good		
Reason for Perception	Number Responding	Percent Responding
Service Related	62	60.2
Word-of-Mouth	21	20.4
Driver Related	11	10.7
Cleanliness/Appearance	10	9.7
Affordable	3	2.9
Other	12	11.7
Total	103	(a)
<i>(a) Multiple reasons possible</i>		

Respondents with a good perception of local bus service provided the greatest variety of reasons for their perception. Although most reasons stated were positive, a number also indicated some negative comments as well as suggesting some improvements. Twenty-eight of the respondents indicated positive experiences (e.g., on-time, convenient, dependable) with Rochester City Lines bus service. More than 18 percent of the respondents indicated that there is not enough service (i.e., service not provided to their area, not frequent enough, or not during the days and hours that they would be likely to use it). Approximately 13 percent of the respondents indicated that their perception was based on positive experiences from friends, co-workers, or relatives, while about 12 percent indicated that they have not heard complaints from people they know who use Rochester City Lines bus service. Of the remaining responses, seven percent indicated a negative experience related to service and four percent indicated a negative experience related to a driver, even though their overall perception is good. Three percent cited positive experiences with drivers and two percent indicated a positive impression of Rochester City Line’s vehicle cleanliness and appearance.

Perception = Good		
Reason for Perception	Number Responding	Percent Responding
Service Related – Positive	29	27.9
Not Enough Service	19	18.3
Word-of-Mouth	13	12.5
Not Heard Complaints	12	11.5
Service Related - Negative	7	6.7
Driver Related – Negative	4	3.8
Driver Related – Positive	3	2.9
Cleanliness/Appearance	2	1.9
Other	19	18.3
Total	104	(a)
<i>(a) Multiple reasons possible</i>		

Of the 27 respondents who cited a reason for the fair perception of local bus service, 41 percent indicated a service related reason (e.g., service quality, frequency and convenience) for their perception. Another 26 percent indicated that there was not enough service. The remaining respondents indicated that their perceptions were based on the word-of-mouth experiences of someone they know, were related to the level of funding the city provides Rochester City Lines, or were related to their experiences with Rochester City Lines drivers.

Perception = Fair		
Reason for Perception	Number Responding	Percent Responding
Service Related	11	40.7
Not Enough Service	7	25.9
Word-of-Mouth	2	7.4
Funding Related	1	3.7
Driver Related	1	3.7
Other	5	18.5
Total	27	(a)
<i>(a) Multiple reasons possible</i>		

Only 16 respondents indicated the reason for their poor perception of local bus service. The reasons indicated were poor experiences with drivers (31 percent), not enough service provided (25 percent), inconvenient service (19 percent), and poor quality service (19 percent).

Perception = Poor		
Reason for Perception	Number Responding	Percent Responding
Driver Related	5	31.3
Not Enough Service	4	25.0
Inconvenient	3	18.8
Service Poor Quality	3	18.8
Other	1	6.3
Total	16	(a)
<i>(a) Multiple reasons possible</i>		

Rating of Rochester City Lines Service and Performance - This question was aimed at only those who have used Rochester City Lines bus service. This group was asked to rate overall service and performance for the same performance measures that were used in the bus rider survey. The question provided a list of possible ratings to choose from. Users were asked to rate the performance of Rochester City Lines in nine different categories. As seen in the chart below, differences occur between the specific responses in the various categories. For example, driver courtesy obtains the largest percentage of *excellent* responses (44 percent) while Park-n-Ride services receives the smallest percentage (14 percent).

Performance Attribute	All Responses in Percents				
	Excellent	Very Good	Good	Fair	Poor
Interior Cleanliness	37.9	44.4	15.4	1.8	0.6
Driver Courtesy	44.1	34.1	18.2	2.9	0.6
Service Information	27.9	36.4	27.3	5.5	3.0
Buses are On-Time	31.0	37.5	23.2	7.1	1.2
Service Frequency	19.4	29.1	28.5	19.4	3.6
Places Served	20.7	36.6	25.0	14.0	3.7
Service in General	28.5	46.1	19.4	5.5	0.6
Cost of Ride	17.6	37.0	32.7	10.3	2.4
Park-n-Ride Services	14.0	31.6	38.6	13.2	2.6

For other similar surveys, a response is considered favorable if the total number of responses in the *excellent*, *very good* or *good* categories is greater than or equal to 90 percent of all responses. As shown above, the total of *excellent*, *very good* and *good* responses was more than 90 percent in five of the nine evaluation areas. The highest combined total was 98 percent, for interior cleanliness. This was followed by 96 percent for driver courtesy and 94 percent for service in general. The attribute with the lowest total of *excellent*, *very good* and *good* responses was service frequency, with 77 percent. This was followed by places served at 82 percent and Park-n-Ride service at about 84 percent.

In comparison, the responses from the weekday rider survey showed a similar result in that all areas except for service frequency had a total positive score of 90 percent or more. However, the residents gave Rochester City Lines performance lower rating than the bus riders. This is a favorable result in that those that use the service gave the system a better rating than those that generally do not. However, even with the slightly lower rating by the residents, the Rochester City Lines system and the service that it provides is viewed very favorably by them.

Statements Regarding a Transit System - Eight statements were listed in the questionnaire for which the residents were asked their opinion. They were given five response choices – *Strongly Agree*, *Agree*, *Disagree*, *Strongly Disagree* and *Don't Know*. The overall results are provided in the chart on the following page.

Statement	All Responses in Percents				
	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
A good bus system is essential to the growth and prosperity of the City of Rochester	52.3	41.2	3.0	0.4	3.2
Local bus service has not kept pace with growth in Rochester	8.2	24.4	25.2	2.9	39.4
More public funds should be provided to improve service	11.3	32.1	19.6	6.4	30.6
Local bus service should be oriented only to people who don't have a car available	3.6	8.3	53.2	30.3	4.7
A good bus system should be beneficial to the environment	37.6	57.7	1.4	0.5	2.7
A bus system is essential for the well being of the people within the community it serves	36.7	55.8	3.2	0.9	3.4
A good bus system helps alleviate traffic congestion in a community	47.8	45.5	2.7	0.5	3.5

Some of the key observations from the responses of the residents include:

- There is substantial agreement (*strongly agree* and *agree*) on the following:
 - A good bus system would be beneficial to the environment (95 percent)
 - A good bus system is essential to the growth and prosperity of the City of Rochester (94 percent)
 - A bus system is essential to the well being of people within the community it serves (93 percent)
 - A good bus system helps alleviate traffic congestion in a community (93 percent)

- There is substantial disagreement (*disagree or strongly disagree*) that bus service should only be oriented to those who do not have a car available.
- A large number of residents were unable to respond and cited *don't know* on whether local bus service has kept pace with growth in Rochester (39 percent) and whether more funds should be provided to improve bus service (31 percent). For those that responded to these two statements, more people agreed than disagreed:
 - 33 percent *agree or strongly agree* that local bus service has not kept pace with growth versus 28 percent that *disagree or strongly disagree*
 - 43 percent *agree or strongly agree* that more public funds should be provided to improve bus service versus 26 percent that *disagree or strongly disagree*

It is a positive sign of community support that more residents agree than disagree that more public funds should be provided to improve local bus service.

Changes and Improvements to Rochester City Lines – The residents surveyed were asked what changes or improvements to the bus system they would like to see. A total of 327 respondents suggested changes or improvements. The highest percentage of respondents (19 percent) suggested extended service hours, especially in the evening to accommodate those working a later shift. The next most popular response was for more convenient routes and better connections (15.6 percent), with many specifically mentioning the inconvenience they experience in making transfers. The third ranked response (10.7 percent) was service to areas not currently served, including suburbs, outlying areas, and new residential areas. Also mentioned by more than thirty respondents were more frequent service and more weekend service. More than twenty respondents suggested better public information and increased training for drivers in the areas of safety and courtesy. The following improvements were suggested as well: improve the condition of vehicles, improve shelters and bus stops, better on-time service and lower fares. A total of 30 respondents made suggestions for improvement that did not fit into any of the above categories; these are counted as “Other.” Forty-four respondents had no suggestions for improvement.

From the rider survey, more evening service was tied with more weekend service as the most important improvement area. The second most noted improvement in the resident survey, more convenient routes/better connections, was not even listed in any of the top 12 categories in the rider survey. This result may imply that many residents do not understand the Rochester City Lines services. Another interesting comparison is the fact that the riders list more weekend service as a significant improvement area and tied with more evening service with the most responses. While more weekend service was noted by the residents, it was not high on the list and ranked in fifth place.

Suggestions for Improvement	Number of Responses	Percent of Total
Extended Service Hours (esp. evenings)	62	19.0
More Convenient Routes/Better Connections	51	15.6
Service to Additional Areas	35	10.7
More Frequent Service	34	10.4
More Weekend Service	31	9.5
Better Public Information	27	8.3
Driver Courtesy/Safety/Training	23	7.0
Improve Condition of Vehicles	13	4.0
Better Shelters/Stops	9	2.8
On-Time Service	7	2.1
Fares	6	1.8
Other	30	9.2
Don't Know/None	44	13.5
Total	327	(a)
<i>(a) Some respondents specified more than one answer.</i>		

Destinations to which local bus service should be provided - Residents were asked to identify specific destinations that they felt should be served by local bus service. A total of 279 respondents indicated destinations they felt should be served. The highest percentage of respondents (36.2 percent) mentioned shopping destinations, with Apache Mall and Wal-Mart often mentioned by name. The next highest percentage (20.8 percent) mentioned major employment centers; many specified the Mayo Clinic and IBM. The third most popular response (15.1 percent) was medical facilities, with St. Mary's Hospital often mentioned specifically. Forty respondents mentioned "downtown" with no other specifics given. Thirty respondents mentioned entertainment and recreation, including movies and restaurants. Twenty-five respondents suggested destinations not currently served, including suburbs and outlying areas. Other frequently mentioned destinations included schools, churches, airport and government offices. The remaining respondents had no specific suggestions, or made suggestions that could not be categorized; they are counted as "Other."

Specific Destinations	Number of Responses	Percent of Total
Shopping (esp. Apache Mall and Wal-Mart)	101	36.2
Major Employment Centers (esp. Mayo Clinic and IBM)	58	20.8
Medical Facilities (esp. St. Mary's Hospital)	42	15.1
Downtown	40	14.3
Entertainment/Recreation	30	10.8
Additional Service Areas (suburbs, outlying areas))	25	9.0
Schools	24	8.6
Churches	13	4.7
Airport	10	3.6
Government Offices	7	2.5
Other/Not Sure	88	31.5
Total	279	(a)
<i>(a) Some respondents specified more than one answer.</i>		

Use of Local Tax Dollars to Expand or Improve Public Transportation

The residents surveyed were asked whether or not they favor a small increase in public funding to pay for expanded or improved public transportation services. Of the 765 residents that responded, 284 (37 percent) stated that they would be in favor of such a proposal by answering *yes*. Another 215 people, or about 28 percent answered *no* while the remaining 266 people, or 35 percent, answered *don't know*. The results from several other recent surveys where similar questions were asked are summarized in the following chart and compared to the results from this survey.

As the chart on the following page shows, the results, when compared to other surveys, are somewhat mixed. The portion of survey respondents in favor of increased public funding is moderately lower than the group average of 43.9 percent, and is higher only than the results received at one of the other systems. However, the percentage of Rochester survey respondents expressing disapproval of increased public funding is only moderately lower than the group average and is the fourth highest among the survey results shown. The number of respondents answering *don't know* is significantly higher than the group average and is the third highest among the survey results. As with a number of other responses discussed earlier, this may indicate ambivalence towards the Rochester City Lines system among Rochester residents.

This could make it difficult for Rochester City Lines to gain support if it seeks increased public funding.

System	Figures in Percents		
	Yes	No	Don't Know
Charleston, WV	31	54	15
Mankato, MN	55	30	15
St. Cloud, MN	59	27	14
Lancaster, PA	37	51	12
Stevens Point, WI	40	27	33
Berks County, PA	43	22	36
Erie County, PA	42	20	38
Group Average	43.9	33.0	23.3
City of Rochester, MN	37.1	28.1	34.8

Sample Demographics

To understand the characteristics of the sample surveyed, respondents were asked certain socioeconomic and demographic questions. These questions concerned the respondent's gender, age, occupation, and annual household income. The remainder of this section provides the resulting statistics for the sample of Rochester residents surveyed.

Gender - The survey sample consisted of 519 female respondents (66 percent of those who identified their gender) and 271 males (34 percent). A decisive female majority is typical for this type of survey.

Age Group - The respondents were asked to identify the age group in which they belong. As shown in the accompanying chart, the ages of the survey respondents were skewed toward the higher age groups with the *45 to 64 years old* age group representing the largest category. The second largest group included those *30 to 44 years old*. The *18 to 29 years old* age group produced the smallest number of responses.

Respondent's Age	Number Responding	Percent Responding
18 to 29	98	12.4
30 to 44	200	25.3
45 to 64	349	44.1
65 and above	145	18.3
Total	792	100.0

Occupation - Survey respondents were asked to identify their occupation. The general occupation category of the residents contacted and the response rates are listed below. As can be seen, the largest portion of the respondents is *manager/professional*, followed by the *technical/skilled* and *retired* categories. The smallest is student, which again reflects the orientation of the survey to respondents age 18 and over.

Respondent's Occupation	Number Responding	Percent Responding
Manager/Professional	191	24.3
Technical/Skilled	165	21.0
Student	19	2.4
Homemaker	51	6.5
Clerical	73	9.3
Retired	158	20.1
Service Industry	51	6.5
Other	78	9.9
Total	786	100.0

Household Income - Survey respondents were then asked to indicate the range in which their annual household income belongs. Approximately 90 people did not answer this question. As shown in the chart on the following page, the respondents who answered the question tended to have relatively high annual household incomes. Over 50 percent reported total annual household incomes of \$45,000 and above and another 22 percent were in the \$30,000 - \$44,999 range. Meanwhile, just 4.6 percent reported less than \$10,000.

Family Income of Survey Respondent	Number Responding	Percent Responding	City of Rochester Overall (%)
Less than \$10,000	33	4.6	6.0
\$10,000 to \$19,999	57	8.0	10.4
\$20,000 to \$29,999	104	14.6	11.6
\$30,000 to \$44,999	154	21.6	17.7
\$45,000 and above	366	51.3	54.3
Total	714	100.0	100.0

The table also indicates income levels for the City of Rochester based on the 2000 U.S. Census. It can be seen that the results from the resident survey and the U.S. Census data are very similar. This helps confirm that the results of the survey are a good representation of the views of all residents of the City of Rochester.

Summary

The survey results provide mixed opinions from Rochester residents regarding Rochester City Lines services. One area of concern is the fact that some findings indicated a relatively low level of awareness of Rochester City Lines services among the residents surveyed. For example, about 24 percent of the residents stated that they did not know where they live relative to a Rochester City Lines bus route. Also, 46 percent agreed that they were unfamiliar with the bus service and how to use it and 21 percent did not know enough about Rochester City Lines service to offer an opinion regarding its quality.

In terms of positive results, five of nine service attributes that were evaluated by respondents who use Rochester City Lines were highly rated. That is, the total number of respondents rating the service attribute as excellent, very good or good exceeded 90 percent of all responses. Also, a strong majority of respondents expressed agreement with several statements about a good bus system, such as it is “essential to the growth and prosperity of the City of Rochester”, “can alleviate traffic congestion”, “would be beneficial to the environment”, and “is essential to the well being of the communities served.”

Lastly, when asked to identify the most important improvement that Rochester City Lines could make to its services, the most common suggestions included extended service hours, more convenient services with better connections, more service to outlying areas, and more frequent service.

RIDER SURVEY

The study to determine the most effective ways to improve Rochester City Lines transportation services in the City of Rochester includes an extensive community participation program designed to elicit input from current and potential passengers, the general public as well as community leaders and key policy decision makers. The community participation program includes three separate components, including an opinion survey of current Rochester City Lines riders, interviews with community leaders and stakeholders as well as a mail-out/mail-back survey of City of Rochester residents. This interim report presents the findings from the opinion survey of current Rochester City Lines riders.

Survey Description

A survey of Rochester City Lines fixed route riders was undertaken over a one-week period during the week of April 18, 2005. Some weekday trips were also surveyed the following week. Saturday service was surveyed on four days: April 23, April 30, May 7 and May 14. The survey was conducted on all Rochester City Lines routes from first pull-out to last pull-in. Nearly 100 percent of all Rochester City Lines weekday and Saturday trips were surveyed.

A key dimension of the survey was the use of survey workers to issue and collect survey cards from patrons. Survey workers were instructed to issue a survey card to all boarding passengers.

The survey effort was intended to serve two purposes. First, while survey workers were aboard Rochester City Lines buses distributing survey cards, they recorded passenger boarding and alighting activity by stop location. This information has been processed in terms of boarding and alighting activity by bus route and by bus stop for both inbound and outbound directions. Tables and graphic displays of this information will be used in developing service improvement recommendations and will also be submitted to Rochester City Lines for their continuing use.

The second component of this effort was the survey questionnaire that gave riders an opportunity to provide input on Rochester City Lines services and ideas for service change proposals. This section describes the conduct and content of the survey.

The Direct services operated by Rochester City Lines were treated differently. For the Direct routes that leave the Park-n-Ride lot and travel non-stop to downtown Rochester, the survey workers only identified the number of passengers that boarded the bus for each trip. They also handed out a survey card to those that boarded at the Park-n-Ride lot. However, the survey card contained many different questions that were focused on their specific use of the Park-n-Ride services. The results from the special survey for the Park-n-Ride users are presented in a separate report.

Survey Method - Due to the participation of the survey workers, a major effort was undertaken before the survey to assure a complete understanding of the survey procedures. Survey workers were required to attend a training session at which the survey procedures were explained in detail. On each day of the survey, survey workers were issued a survey kit that included a supply of survey cards and pencils. The survey materials were placed in an envelope that also contained survey instructions.

Survey cards were issued to riders on both the inbound and the outbound direction. Riders were provided the option to complete the survey card while on the bus or to take the card with them to complete it later. If the rider did not complete the survey while on the trip they were issued the card, they could return it to any other survey worker or a bus driver on a subsequent trip. Completing the survey while on the bus was facilitated by providing pencils to riders and printing the survey forms on hard card stock paper.. Riders were also instructed to complete only one survey throughout the survey period.

Survey Questions - The survey card, which is presented in Figure 24, consisted of 19 questions. With the exception of three open-ended questions, riders were only required to check off a box to answer most questions. The first group of questions concerned the riders' riding habits. This included questions related to what bus route they were on when they received the survey, how bus stops were accessed, length of time riding, trip purpose, the frequency of riding, changes in the riding habit and trip time. The next group of questions requested attitudinal information regarding their view of the existing bus service and potential improvements. The final group of questions focused on socioeconomic characteristics of the respondent. These questions asked for information pertaining to key factors influencing travel habits including age, automobile ownership, automobile availability and family income.

Survey Response - During the survey period, about 2,700 forms were issued and 1,668 weekday and 92 Saturday or a total of 1,760 valid surveys were returned. This is a response rate of over 65 percent that is extremely high for this type of survey. Typically, response rates between 20 and 25 percent are attained.

Survey Results

After the completion of the survey, responses from the 1,760 completed surveys were tabulated. Responses for the weekday and Saturday were evaluated separately. Results from each of the survey questions are presented in this section of the report. The key findings for each question are identified and discussed.

Figure 24
Rochester City Lines – Rider Survey - 2005

Dear Customers: We'd like to learn more about you and your travel needs to help the City of Rochester plan its future services. Please read each question and mark the most appropriate answer. Please mark only one response to each question and please complete only one survey form during this survey week. After you finish answering all questions, please return the completed survey form to the survey worker or to the bus driver on your next trip.

1. **On what bus route did you receive this survey?** Route # _____
2. **How did you get to this bus?** Another Bus (Route # _____)
 Walked (How many blocks? ___) Automobile Other
3. **How will you complete your trip?** Another Bus (Route # _____)
 Walked (How many blocks? ___) Automobile Other
4. **How long have you been riding Rochester City Lines?**
 Less than a year 1-2 years 3-4 years 5+ years
5. **What is the purpose of this trip today?** School Work
 Shopping Personal Business Medical/Dental
 Social/Recreation Other
6. **How many one way bus trips do you make each week?**
 (Count a round trip as two trips.) 1 or less
 2-5 times/week 6-9 times/week 10 or more/week
7. **Compared to last year, are you riding:** More Less Same
8. **How many minutes will you ride the bus on this trip?** _____
9. **How do you rate bus service for each of the following?**

	EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
Interior Cleanliness	<input type="checkbox"/>				
Driver Courtesy	<input type="checkbox"/>				
Service Information	<input type="checkbox"/>				
Buses are On-Time	<input type="checkbox"/>				
Service Frequency	<input type="checkbox"/>				
Places Served	<input type="checkbox"/>				
Service in General	<input type="checkbox"/>				
Cost of Ride	<input type="checkbox"/>				
Park-n-Ride Service	<input type="checkbox"/>				
10. **What would be the best source of information about local bus service?** Newspapers Radio TV Drivers
 Telephone Schedules/Brochures Friends/Relatives
 Direct Mail Website Downtown Transfer Center
11. **In your judgement, how important are the following factors in influencing more people to use public transit services?**

	VERY IMPORTANT	IMPORTANT	NOT IMPORTANT
More Frequent Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better Connections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More Weekend Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More Evening Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More Direct Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More Park-n-Ride Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower Fares	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. **Could you have made this trip if this service were not available?** Yes No Yes, but with inconvenience
13. **Do you have a valid driver's license?** Yes No
14. **Was a car available for this trip?** Yes No
15. **How many vehicles does your household own or lease?**
 None One Two Three or more
16. **Your sex:** Male Female
17. **Your age:** Under 18 18-29 30-44 45-64 65+
18. **What is your approximate total annual family income?**
 Under \$10,000 \$10,000-\$19,999 \$20,000-\$29,999
 \$30,000-\$44,999 More than \$45,000
19. **What is the single most important improvement that you would suggest for local bus service?** _____

After completing this card, return it to the survey worker or return it to the driver on your next bus trip. Thank you for your help.

Bus Route and Survey Response - Riders were asked to identify the route that they received the survey. As seen in Table 10, of the 24 routes that are listed, there are seven weekday routes that provided five percent or more of the total responses. For these seven routes, the portion of each routes ridership to the annual ridership for all weekday routes, excluding the

Direct routes that were provided a different survey form, were reviewed. As seen below, the percent of total ridership on these routes is similar to the proportion of the percent of riders that completed the survey forms. It can be concluded that from this result and the fact that the sample size was large, the survey results are representative of Rochester City Lines entire ridership.

Routes	Percent of Systemwide Ridership	Percent of Total Survey Responses
11	12.0	12.2
9	11.4	10.1
10	10.3	9.0
5	7.7	7.2
2	5.8	7.0
4	6.7	5.1
12	5.1	5.8

For the Saturday survey, as seen in Table 10, over half the responses were from two routes, Routes 24 and 25. This is also consistent with total ridership data that shows that these two routes have the highest Saturday ridership.

Mode of Accessing Bus - Riders were asked to identify how they got to the bus they were riding. They were given several choices from which to select their response. One possible response was “walked”, which if selected, the rider was asked to list number of blocks they had to walk. Responses are presented in the chart below for both weekday and Saturdays. The chart breaks down the group of riders who walk to the bus by the length of their walk and provides the percentage for the subgroup.

Table 10
Survey Responses By Route
Weekday

Route	Percent of Survey Responses	Route	Percent of Survey Responses
11	12.2	6B	2.4
9	10.1	16	2.3
10	9.0	17	2.0
5	7.2	6	1.8
2	7.0	18	1.8
12	5.8	7A	1.5
4	5.1	18D	1.5
3	4.9	55	1.0
8	4.8	7N	0.9
7	3.0	1	0.6
6A	3.4	12N	0.6
14	2.5	4D	0.4

Saturday

Route	Percent of Survey Responses
25	30.4
24	20.2
21	18.0
26	11.2
22	10.1
23	10.1

As the chart shows, about 74 percent on weekdays and nearly 84 percent on Saturday of Rochester City Lines riders walk to the bus stop to access their bus. Of this group, nearly 80 percent of weekday riders and 55 percent of Saturday riders who walk to the bus, walked only two blocks or less to access Rochester City Lines service. This represents a relatively short walking distance for this group of Rochester City Lines riders. It also indicates that there is less service coverage on Saturday and residents have to walk further on Saturday to access the bus. From the weekday survey, only 11.6 percent of the riders who walked to the bus they were on had to walk four blocks or more. This is a relatively small percent of the users and indicates extensive coverage of bus routes throughout the City. On Saturday, nearly 29 percent of the users of bus service that walk to the bus stop must walk four blocks or more. This again illustrates the limited coverage of the six Saturday routes.

Mode to Access Bus	Weekday Percent	Saturday Percent
Another Bus	16.1	10.9
Walked	74.0	83.7
	<i>Subgroup</i>	<i>Subgroup</i>
<i>Walked less than 1 block</i>	9.9	3.4
<i>Walked 1 blocks</i>	41.4	32.2
<i>Walked 2 blocks</i>	27.5	18.7
<i>Walked 3 blocks</i>	9.6	16.9
<i>Walked 4 or more blocks</i>	11.6	28.8
<i>Subtotal</i>	100.0	100.0
Automobile	6.3	2.2
Other	3.6	3.2
TOTAL	100.0	100.0

A total of 16.1 percent of weekday and 10.9 percent of the Saturday riders indicated that they accessed the bus they were on by transferring from another Rochester City Lines bus. Those riders who transferred from another Rochester City Lines bus were asked to identify the route from which they transferred. The chart below provides the results for the weekday routes with the highest transfer activity and indicates the number of people and the percent of total transfers. Except for Routes 1 and 7, these routes that people transferred from to arrive on the route in which they were surveyed were the routes with the highest ridership.

Route Transferred From	Number of People	Percent of Total Transfers
9	30	11.3
2	30	11.3
11	27	9.9
4	25	9.4
1	20	7.3
10	19	7.0
5	14	5.2
7	14	5.2

The Saturday transfer activity was small with only 10.9 percent of surveyed riders accessing the surveyed trip via another bus.

Mode to Complete Trip - Riders were asked to identify how they would complete their trip after leaving the bus. They were given several choices from which to select their response. As in the above question, one possible response was “walk”, which if selected, the rider was asked to list number of blocks. Responses are listed in the chart below.

Mode to Complete Trip	Weekday Percent	Saturday Percent
Another Bus	18.8	26.1
Walked	70.2	61.7
	<i>Subgroup</i>	<i>Subgroup</i>
<i>Walked less than 1 block</i>	<i>9.1</i>	<i>6.5</i>
<i>Walked 1 blocks</i>	<i>44.0</i>	<i>19.3</i>
<i>Walked 2 blocks</i>	<i>24.4</i>	<i>19.4</i>
<i>Walked 3 blocks</i>	<i>12.4</i>	<i>16.1</i>
<i>Walked 4 or more blocks</i>	<i>10.1</i>	<i>38.7</i>
<i>Subtotal</i>	<i>100.0</i>	<i>100.0</i>
Automobile	5.3	2.2
Other	5.7	9.0
TOTAL	100.0	100.0

The chart shows that on weekdays, 70.2 percent of Rochester City Lines riders walk to their final destination after they leave the Rochester City Lines bus. This is less than the 74.0 percent of riders who walk to access the bus. The distances that Rochester City Lines riders walk to complete their trip is similar to the distances walked to access the bus. Approximately 77.5 percent of those who walk, walk two blocks or less to complete their trip. Further, only 10.1 percent walk four or more blocks. Again, these relatively short walking distances demonstrates the extensive coverage of the Rochester City Lines route structure during weekdays.

On weekdays, the number of people that used another bus to complete their trip is nearly 19 percent compared to about 16 percent that used a bus to get to the bus that they received a survey card on. This result indicates that the Rochester City Lines system has an overall transfer rate of about 17.5 percent that is a normal transfer rate for a bus system comprised of radial routes.

Those riders who transferred to another Rochester City Lines bus were asked to identify the route that they transferred to. The chart below provides the results for the weekday routes with the highest transfer activity and indicates the number of people and the percent of total transfers. Except for Routes 1, 3 and 7, these routes that people transferred to, to complete their trip were the routes with the highest ridership.

Route Transferred To	Number of People	Percent of Total Transfers
9	40	15.3
11	31	9.9
12	25	7.9
1	24	7.8
3	20	6.5
7	20	6.5
5	18	5.9
4	17	5.6

The Saturday results are similar compared to weekday results but are different compared to the access mode to the current bus. About 61.7 percent walk to complete their trip. About 26.1 percent of the Saturday riders use another bus to complete their trip. This compares to 10.9 percent that used another bus to access the bus that they were surveyed. On Saturday, about 55 percent of the riders who walk from the bus walked two blocks or less to complete their trip. Nearly 39 percent had to walk four blocks or more. This represents a relatively long walking distance for this group of Rochester City Lines riders. It also indicates that there is less service coverage on Saturday and residents have to walk further to complete their trip.

Length of Time Riding Rochester City Lines - The next question asked how long the passenger has been riding Rochester City Lines buses. The accompanying chart shows that about one-third of weekday riders and about 37 percent of the Saturday users have been riding for *five years or more*. This is a large number of long-term riders. Surveys performed by the consultant at other systems generally indicated that fewer than one third of the riders had been riding for that extended length of time. However, even with the large number of long time users, there is a significant number (26.0 percent weekday and 38.9 percent of Saturday riders) that have been riding for *less than a year*. This indicates that transit ridership in City of Rochester is not stable and experiences significant turnover, that is, each year some people stop riding while others become new riders. This emphasizes the need to continually provide public information on transit services and perform marketing activities to attract new riders.

Length of Time Riding	Weekday Percent	Saturday Percent
Less than a year	26.0	38.9
1-2 years	21.3	11.1
3 to 4 years	19.7	13.3
5 years or more	33.0	36.7
Total	100.0	100.0

Trip Purpose - Riders were asked to identify the purpose of the trip they were making that day. The chart below shows that *work* is the most common trip purpose on weekdays on the Rochester City Lines system and comprises about 71.9 percent of the weekday riders. *School* is the second most common weekday trip purpose among Rochester City Lines riders representing 12.5 percent of the trips. The remaining weekday trip purposes are minor with none exceeding five percent. In fact, all other trip purposes account for only about 16 percent of the total weekday trips.

There is a different story on Saturday. *Shopping* is the dominant trip purpose with 41.3 percent of the total trips. Trips for *work* purposes represents only about 21.7 percent of the total Saturday trips on the Rochester City Lines system. On Saturday, *Social/Recreation* and *Personal Business* are both important trip purposes.

Trip Purpose	Weekday Percent	Saturday Percent
Work	71.9	21.7
School	12.5	1.1
Personal Business	4.7	9.8
Shopping	4.1	41.3
Medical/Dental	2.2	1.1
Social/Recreation	1.8	13.0
Other	2.8	12.0
Total	100.0	100.0

Frequency of Use - The next question asked how many trips the passenger makes on Rochester City Lines services in a week. The chart below shows that on weekdays 35.5 percent ride Rochester City Lines buses *10 or more times per week*. An additional 25.0 percent ride *six to nine times a week* for a total of 60.5 percent of riders who could be considered frequent riders. This is consistent with the fact that slightly over 80 percent of riders indicated in the previous question that their trip is work or school. Those traveling to and from work or school tend to make two one-way trips on several days throughout the week. Only 11.3 percent are infrequent riders, or those who make *one trip or less per week*. The remaining 28.2 percent are occasional riders who ride Rochester City Lines service *two to five times per week*. Again, these findings are consistent with the number of riders indicating trip purposes other than work or school. Riders traveling for purposes other than school or work tend to travel on fewer days throughout the week.

As seen below, on Saturday frequent use of the bus service is much less with the dominant ridership group using the service five times or less per week (58.3 %).

Frequency of Use	Weekday Percent	Saturday Percent
1 or Less	11.3	18.7
2 to 5 Times	28.2	39.6
6 to 9 Times	25.0	16.4
10 or More	35.5	25.3
Total	100.0	100.0

Riding Trend - Riders were asked how the frequency at which they are currently riding Rochester City Lines compares with the previous year. The chart below shows that 41.6 percent of weekday and 48.2 percent of Saturday users are riding *more* now than last year, while only 6.8 weekday and 5.9 percent Saturday said *less*. The remainder, 51.6 percent weekday and 45.9 percent Saturday indicated that they are riding *about the same*.

Riding Habit Compared to Last Year	Weekday Percent	Saturday Percent
More	41.6	48.2
Less	6.8	5.9
About the Same	51.6	45.9
Total	100.0	100.0

Travel Time - An open-ended question asked the riders to list the number of minutes that they will ride the bus on this trip. As seen below, for weekday service about 4 in 10 riders indicated that their trip time exceeded 20 minutes. Another 23.9 percent said that it lasted between 15 and 20 minutes. Therefore, about two thirds of the weekday users indicated that their trip time exceeded 15 minutes. On Saturday, the trip times were much shorter with only 39.3 percent indicating that their trip exceeded 15 minutes. In fact on Saturday, 36.6 percent of the riders indicated that their trip time was nine minutes or less. On weekdays, only 10.2 percent indicated this short trip time.

Trip Travel Minutes	Weekday Percent	Saturday Percent
5 minutes or less	6.5	6.3
6 to 9 minutes	3.7	30.3
10 to 14 minutes	25.5	24.1
15 to 20 minutes	23.9	20.3
More than 20 minutes	40.4	19.0
Total	100.0	100.0

Service Evaluation - The next question asked riders to rate the performance of Rochester City Lines in nine different categories. The chart on the following page provides a breakdown of the responses for weekday services. The chart shows that differences occur between the specific responses in the various categories. For example, “service frequency” receives the smallest percentage of *excellent* responses (35.0 percent) with “driver courtesy” receiving the largest percentage of *excellent* responses (59.5 percent). For this type of survey, a response is considered favorable if the combined total of responses in the *excellent*, *very good* or *good* categories is greater than or equal to 90 percent of all responses. The accompanying chart also provides the total for these three ratings for each of the nine categories. The chart shows that all but one of the nine categories attains this threshold for a favorable rating. “Service frequency” receives a total score in the *excellent*, *very good* and *good* categories of 86.7 percent. The next lowest score for these three ratings was “places served” with a rating of 91.5 percent. The best score was 98.4 percent for “interior cleanliness” followed by “driver courtesy” (97.6 percent).

Category	Weekday Rating - All Figures in Percent (%)					
	Excellent	Very Good	Good	<i>Total Favorable</i>	Fair	Poor
Interior cleanliness	49.1	36.8	12.5	98.4	1.3	0.3
Driver courtesy	59.5	29.0	9.1	97.6	2.1	0.3
Service information	44.1	35.3	17.9	97.3	2.1	0.6
Buses are on-time	39.6	36.8	17.5	93.9	5.2	0.9
Service frequency	35.0	29.3	22.4	86.7	9.9	3.4
Places served	35.9	33.1	22.5	91.5	6.9	1.6
Service in general	42.8	39.8	14.7	97.3	2.1	0.6
Cost of ride	47.9	26.9	19.2	94.0	4.9	1.1
Park-n-Ride Service	44.9	29.7	21.8	96.4	2.0	1.6

A similar evaluation was developed for Saturday service with the results listed below.

Category	Saturday Rating - All Figures in Percent (%)					
	Excellent	Very Good	Good	Total Favorable	Fair	Poor
Interior cleanliness	46.7	37.0	14.1	97.8	1.1	1.1
Driver courtesy	57.1	27.5	12.1	96.7	2.2	1.1
Service information	42.8	28.6	17.6	89.0	11.0	0.0
Buses are on-time	35.8	34.8	20.7	92.3	7.6	1.1
Service frequency	30.7	28.6	20.9	80.2	16.5	3.3
Places served	36.4	26.2	25.0	87.6	11.3	1.1
Service in general	39.3	36.0	20.2	95.5	4.5	0.0
Cost of ride	34.5	30.0	23.3	87.8	7.8	4.4
Park-n-Ride Service	32.2	33.8	24.8	90.8	1.5	7.7

The riders using Saturday services were more critical of the bus services, although most ratings were still very favorable. Again, service frequency received the lowest number of the *excellent*, *very good* and *good* ratings. Service information, places served and cost of the ride also had total ratings below the 90 percent threshold. However, compared with other systems where we have done similar surveys, these results for Saturday are even better than the others. The weekday performance is outstanding.

Best Place for City Transit Information - To assist the City in their efforts to market new or existing services, the survey asked riders to indicate the best way for the City to reach them with information. The riders were given several options to choose from and were asked to identify only one source. The chart on the following page provides the results.

Information Source	Percent Weekday Responding	Percent Saturday Responding
Schedules/Brochures	31.4	31.0
Newspapers	11.8	13.9
Website	11.4	4.6
Drivers	10.7	5.7
TV	9.7	16.1
Radio	9.4	5.7
Downtown Transfer Center	7.1	15.0
Telephone	3.4	6.9
Friends/Relatives	3.1	0.0
Direct Mail	2.0	1.1
Total	100.0	100.0

The chart shows *schedules/brochures* as the most common source for both weekday and Saturday riders. On weekdays, five other sources had very similar responses that ranged from 11.8 percent to 9.4 percent and included *Newspapers, Website, Drivers, TV and Radio*. On *Saturday*, *TV* was the second choice followed by *Downtown Transfer Center and Newspapers*. Results from the survey of City of Rochester residents conducted as part of this study effort showed that 46.9 percent of respondents named *Newspaper* as the best source in which to reach them with Rochester City Lines information. That survey focused on the opinion of non-riders and asked passengers to identify all applicable responses. *Direct Mail* was the next choice followed by *TV and Schedules/Brochures*.

The fact that the *Downtown Transfer Center* was identified by 7.1 percent of weekday and 15.0 percent of Saturday riders indicated that it is a valuable place for distribution of public information including maps, schedules and brochures.

The City's Public Transit *Website* was identified by 11.4 percent of the riders as the best source of information. A similar amount, 12.1 percent of the respondents to the resident survey identified the website as an effective way to reach them with information. This demonstrates the importance of the *Website* in attracting current and non-riders to use the system.

Influencing Factors - Riders were then asked to provide their judgment on whether or not they agreed that certain service improvements would influence more people to use Rochester City Lines service. Riders were presented with eight improvement categories and were asked if they were *very important, important or not important* in influencing more people to use Rochester City Lines. The results provide a useful gauge in determining the areas in which service improvement proposals should focus. The chart on the following page provides the results for weekday service.

Influencing Factors	Weekday Ratings – All Figures in Percent (%)			
	Very Important	Important	Total Important	Not Important
More frequent service	61.5	33.4	94.9	5.1
More information	34.8	52.0	86.8	13.2
Better connections	43.5	46.4	89.9	10.1
More weekend service	46.2	35.6	81.8	18.2
More evening service	50.7	35.9	86.6	13.4
More direct service	38.3	46.6	84.9	15.1
More Park-n-Ride Service	27.8	49.4	77.2	22.8
Lower fares	27.5	47.6	75.1	24.9

The influencing factor that draws the most agreement from weekday riders is “more frequent service”. A total of 94.9 percent of the riders state that this service improvement is either *very important or important*. It is the only improvement proposal that 90 percent or more agree in terms of its importance. “Lower fares” and “more Park-n-Ride service” are listed as the least important influencing factors.

A similar question was asked in the Rochester resident survey. In this survey, “comparable trip time to a car” and “more frequent service” was listed as the most important factors in getting the non-transit user to use bus service. More “Park-n-Ride service” was noted as the least likely to influence them to use bus service.

Riders were also given the opportunity to specify any other factors they feel would influence more ridership on Rochester City Lines services. A total of 21 weekday riders offered additional suggestions. Of the 21 riders who offered an answer, seven suggested *Sunday service* and four suggested *earlier service*. No other suggestion was offered by more than three riders.

Similar results for Saturday are shown in the chart on the following page.

Influencing Factors	Saturday Rating – All Figures in Percent (%)			
	Very Important	Important	Total Important	Not Important
More frequent service	65.9	29.4	95.3	4.7
More information	41.0	50.6	91.4	8.4
Better connections	46.2	50.0	96.2	3.8
More weekend service	81.4	15.1	96.5	3.5
More evening service	75.9	19.3	95.2	4.8
More direct service	48.7	41.5	90.2	9.8
More Park-n-Ride Service	38.5	34.6	74.1	26.9
Lower fares	37.0	40.8	77.8	22.2

The Saturday riders indicated that “more weekend service” was the most important factor to influence more usage of bus service. In fact, 81.4 percent indicated that “more weekend service” was *very important*. Similar to the weekday results, “lower fares” and “more Park-n-Ride service” are listed as the least important influencing factors.

Extent of Transit Dependency - The next series of questions related to the dependency of Rochester City Lines riders on transit service. This series of questions helps to determine the level at which Rochester City Lines's ridership base is made up of discretionary (i.e., choice riders) or non-discretionary (i.e., captive) riders. A ridership base that is heavily transit dependent indicates that only certain population groups are using the service rather than a cross-section of the population in the service area. However, in Rochester this determination may be more difficult. It has been learned that many transit riders use the service because of the lack of available parking in downtown Rochester. While these riders may be captive in one sense, they are not captive in the traditional sense (i.e., there was no other way for them to make the trip). Therefore, several questions are needed to fully understand the transit riders in Rochester.

The first of these questions asked riders to indicate whether or not they could have made their trip if transit services were not available. The accompanying chart shows that only 24.1 percent of the weekday riders and 10.1 percent of the Saturday riders indicated that they could have made the trip without Rochester City Lines. A total of 25.9 percent of the weekday riders and 57.3 percent of the Saturday riders stated that they could not have made the trip without Rochester City Lines. The remaining 50.0 percent weekday and 32.6 percent Saturday said that they could have made the trip without Rochester City Lines service, but it would be

inconvenient. The last group and part of the middle group can be considered dependent or “captive” users.

The difference between the responses of the Saturday riders versus the weekday ones indicates that those that use the transit service on Saturday are far more “captive” type riders than weekday users. On Saturday there is not the same downtown parking problem as there is on weekdays. Therefore, on Saturdays those that answered “Yes, but with inconvenience” answered the question based on other factors than downtown parking. Therefore, most of these Saturday riders are “captive riders” in the traditional sense.

Able to Make Trip without Rochester City Lines service	Percent Weekday Responding	Percent Saturday Responding
Yes	24.1	10.1
No	25.9	57.3
Yes, but with inconvenience	50.0	32.6
Total	100.0	100.0

The next question designed to further gauge the level of transit dependency among Rochester City Lines riders asked whether or not the rider has a valid driver’s license. The chart below shows that about 30.1 percent weekday and 48.3 percent Saturday riders of Rochester City Lines riders do not have a valid driver’s license. This is consistent with the difference between weekday and Saturday users noted in the above question.

Driver’s License	Percent Weekday Responding	Percent Saturday Responding
Yes	69.9	51.7
No	30.1	48.3
Total	100.0	100.0

Riders were then asked if a car was available to them to make their trip. The chart on the following page shows that approximately 41.7 percent of weekday users and 86.2 percent of Saturday Rochester City Lines users did not have a car available to them to make their current trip. This confirms the response to the question which asked the Saturday riders if they could have made their trip without Rochester City Lines service to which 89.9 percent stated that they *could not have made the current trip at all* (57.3 percent) or *could have only made it with inconvenience* (32.6 percent). The response for the weekday users indicates that at least 41.7 percent were “captive riders” in the traditional sense.

Car Available for Trip	Percent Weekday Responding	Percent Saturday Responding
Yes	58.3	13.8
No	41.7	86.2
Total	100.0	100.0

The final question in the transit dependency area requested information regarding the number of automobiles owned by the rider's household. As seen in the accompanying chart, 52.7 percent of the weekday user's households and 74.4 percent of the Saturday user's households have no more than one car. This is another indicator of the high level of transit dependency of Saturday riders versus weekday riders.

Vehicles Owned by Household	Percent Weekday Responding	Percent Saturday Responding
None	17.5	45.5
One	35.2	28.9
Two	33.3	17.8
Three or More	14.0	7.8
Total	100.0	100.0

This series of questions consistently demonstrated that about 50 percent of the weekday riders and at least 80 percent of Saturday riders could be considered transit dependent in the traditional sense. The level of transit dependent ridership on Saturday is consistent with the levels of transit dependency (i.e., about 80 percent are captive riders) found at other similar size transit systems for their entire service (i.e., weekday and weekend). The fact that about 50 percent of Rochester City Lines weekday riders are "choice" riders is unusual and can be attributed to several factors including the limited availability of weekday parking in the downtown.

Socioeconomic/Demographic Measures - The final series of questions concerned the socioeconomic and demographic characteristics of the rider. This information allows for comparisons with the Rochester City Lines's ridership base to the population of City of Rochester as a whole.

The first of these questions asked the rider to identify their sex. According to the survey results, 62.0 percent of weekday and 60.7 percent of Saturday Rochester City Lines users are

female and 38.0 percent weekday and 39.3 percent Saturday are *male*. A decisive female majority is typical of the make up of the ridership base at transit systems.

The next question asked the rider to identify the age group in which they belong. The following chart provides the breakdown of Rochester City Lines weekday and Saturday riders compared to the results from the 2000 U.S. Census for Rochester City residents. Weekday and Saturday ridership age group are similar with both reflecting relatively low under 18 and over 65 ridership groups. The highest single weekday age group among Rochester City Lines riders is the *45 to 64 years old* range with 35.1 percent of the weekday riders. This is also the almost twice the rate of that age group in the City overall where *45 to 64 year olds* make up only 20.1 percent of the population. The percentage of *30 to 44 year olds* among Rochester City Lines weekday riders is comparable to the percentage of the overall City population made up by this group. It is surprising that the senior citizen population segment (*65 years old and above*) accounts for only 4.4 percent of the weekday riders. This group generally comprises a much larger segment of the typical transit ridership. In fact, the percentage of Rochester City Lines riders in this age group is nearly one-third the rate of the overall City population that senior citizens comprise. These results indicate that, on average, Rochester City Lines's ridership base is more middle aged than the population of the City as a whole – 62 percent of the weekday riders are between 30 and 64 years old while only 45.6 percent of the total population are in this age group.

Age Group	Weekday Percent	Saturday Percent	City of Rochester Overall
Under 18	6.8	14.6	25.9
18 to 29	26.8	33.8	17.1
30 to 44	26.9	21.3	25.5
45 to 64	35.1	23.6	20.1
65 and Over	4.4	6.7	11.4
Total	100.0	100.0	100.0

The chart also shows that only 6.8 percent of Rochester City Lines riders are under 18 which is nearly one-fourth of the rate of 25.9 percent which those under 18 represent in the City population overall. This is due to the fact that those under 18 generally use school bus transportation to travel to and from school.

Riders were then asked to note their total family income. The survey provided a series of income ranges and riders were asked to mark the appropriate box. Approximately 10 percent did not answer this question that is similar to the 11 percent refusal rate experienced on the resident survey. For those that did respond, the chart below summarizes the results. There are several major finding from this information. First, the weekday riders have total annual family incomes similar to the overall City population income levels in the middle income ranges -- \$10,000 to \$44,999. The difference occurs where the total family income levels of riders are *under \$10,000* which is 15.8 percent compared with 6.0 percent for the City overall. Also, the City has more of its population in the higher income levels, *more than \$45,000*, than those in the rider survey – 54.3 percent City compared to 41.8 percent weekday riders. However, the 41.8 percent is still a significant number of relatively higher income weekday riders. In fact, this is a larger portion of higher income weekday riders than we have found on any survey we have conducted for similar size systems.

Another major finding is the difference between the income levels of the weekday and Saturday users. The income levels of Saturday users are more in line with the income levels we have found in rider surveys of similar size systems. This is demonstrated by the results that 58.1 percent of the Saturday riders live in households with total incomes of less than \$20,000. This compares with only 25.5 percent of the weekday riders and 16.4 percent of the City of Rochester overall.

Annual Family Income Range	Weekday Percent	Saturday Percent	City of Rochester Overall
Under \$10,000	15.8	40.8	6.0
\$10,000 to \$19,999	10.7	17.3	10.4
\$20,000 to \$29,999	14.4	12.3	11.6
\$30,000 to \$44,999	17.3	16.0	17.7
More than \$45,000	41.8	13.6	54.3
Total	100.0	100.0	100.0

Rochester City Lines Improvements - The final question was an open-ended question that asked the rider to identify the single most important improvement that they would like to see Rochester City Lines accomplish. A total of 667 comments were received representing approximately 38 percent of the 1760 respondents. This is a significant high rate of response

given the open-ended nature of the question and clearly indicates the areas of concern among riders. The chart below lists improvements that were identified by 15 or more people.

As the chart shows, *more weekend service and more evening service* are listed most frequently (107 responses for each one) as the most important improvement among riders. The next highest response related to *more frequent service* (101 responses). Besides *more weekend service*, 59 people cited separately the need for Sunday service as important. Besides *more evening service*, 23 riders listed *later evening service* as their most important improvement. It is obvious that weekend and evening services are the two major issues for the riders. *Improved on-time performance* was suggested by 36 riders.

Most Important Improvement	Number
More weekend service	107
More evening service	107
More frequent service	101
Sunday service	59
Improve on-time performance	36
Later evening service	23
More direct service	21
Reduce crowded buses	21
More professional/friendlier drivers	18
Earlier weekday service	17
Lower fares	17
Expand service area	15
Others	125
Total	667

There are three other points that are worth mentioning from these results. First, there were only a few complaints regarding problems with the services such as *more professional/friendlier drivers* (mentioned by 18 riders or about 1 percent of the total respondents) and *cleaner buses* (mentioned by 3 riders). Second, a large number of riders commented to *reduce overcrowded buses* (mentioned by 21 riders). It is unusual to have a system the size of Rochester City Lines have an overcrowded bus problem. Finally, only 15 people, or less than one percent of those that responded, stated to *expand service area*. This is a

small number of responses from people that wanted service expanded to more areas compared with responses in similar surveys. In fact, only two people noted a specific area for expansion.

Summary

Key findings from the rider survey include the fact that Rochester City Lines's ridership base is disproportionately female and is comprised of an only slightly lower income level when compared to the population of City of Rochester overall. Most walk to get to their bus or to complete their trip to their final destination. About 17.5 percent transfer to another bus to complete their trip. Also, while work is the dominant trip purpose for weekdays, Rochester City Lines riders frequently use the system for many other trip purposes on Saturday. While many of the riders have been using the bus service for five years or more, there is a large group of new riders that have been riding for less than one year. The results of the survey also indicate an overall level of favorable satisfaction among riders with various attributes of Rochester City Lines service. Only one of the nine service attribute categories rated by weekday riders attained a score below the threshold of a favorable response which is a combined total of *excellent*, *very good* and *good* ratings equal to or greater than 90 percent of all responses. That category was "service frequency" that obtained a positive rating of nearly 87 percent, that is still favorable. Ridership is made up by a large "choice" ridership group that comprise about half of the weekday riders. The Saturday ridership group is heavily transit dependent with results showing that over 80 percent rely on Rochester City Lines services for their mobility needs. Riders also identified their highest service improvement priorities as *more weekend service* and *more evening service*. They also listed *more frequent service* as the third most important need and in fact listed this improvement as the most important one to attract more riders to bus service.

PEER GROUP ANALYSIS

This chapter evaluates the City of Rochester, Minnesota transit system in relation to peers selected from the National Transit Database. Peer group assessments are used as a way to 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 characteristics of a system perform well, and what areas could use some improvement.

Peer Group Selection Process

The methodology for selecting systems for a peer group analysis is to find similar systems with respect to two sets of data:

- **Service area characteristics**, including population size, service area, and other special characteristics such as the existence of a major university. According to data collected from the City of Rochester's National Transit Database (NTD) for FY2002, 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 being home to the Mayo Clinic.
- **Basic level of service criteria**, including vehicle revenue miles, vehicle revenue hours, and the number of peak vehicles.

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 proper use of 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.

Generally speaking, the peer group process compares the subject system, in this case the City of Rochester's transit system, to its peers for the most recent available year's data. This comparison has been completed using data from the FY2002 National Transit Database (NTD) for Rochester and the peer systems. It is recognized that there may have been notable changes in the system and its operations since that time.

Selected Peer Group

After reviewing the NTD for systems that operate in a similar environment as the City of Rochester transit system, a total of nine systems were selected. Each of the peers was also used for similar analyses in a previous Transit Development Plan for Rochester and/or the 2001 MNDOT Statewide Transit Plan. The selected peers are as follows:

- St. Cloud, Minnesota
- Billings, Montana
- Fayetteville, N. Carolina
- Sioux Falls, S. Dakota
- Muncie, Indiana
- Great Falls, Montana
- Evansville, Indiana
- Battle Creek, Michigan
- Yakima, Washington

As a group, the peers have an average population of 94,631 within their service areas, while the City of Rochester has a service area population of 104,230, as noted above. General operating statistics for Rochester and its peer transit systems have been obtained for this review. Based on these operating statistics, a number of performance indicators were developed. The performance of Rochester and its peers is presented and compared below, first for the fixed-route service mode, and then for paratransit.

Fixed-Route Service

The 2002 operating statistics for Rochester and its fixed-route peer systems are presented in Table 11. The resulting performance indicators are shown in Table 12, and discussed below. In the discussion, Rochester's performance is compared to the peer group average, and also is ranked among the total group of ten systems.

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

- Revenue Miles per Capita: Rochester had 7.43 revenue miles per capita,
- Revenue Hours per Capita: Rochester had 0.51 revenue hours per capita, compared to the peer group average of 0.56. Once again, Rochester ranked as number six out of the ten systems.

Table 11
2002 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
St. Cloud, MN	91,305	914,147	64,477	1,511,674	\$3,210,542	\$613,195	\$2,597,347
Billings, MT	81,151	629,191	39,069	646,120	\$2,585,259	\$171,370	\$2,413,889
Fayetteville, NC	124,319	725,094	55,973	1,130,327	\$2,778,885	\$504,129	\$2,274,756
Sioux Falls, SD	135,000	712,175	50,882	673,859	\$2,415,139	\$326,453	\$2,088,686
Muncie, IN	72,880	828,895	61,450	1,287,737	\$3,904,920	\$257,988	\$3,646,932
Great Falls, MT	64,387	420,369	33,528	553,334	\$1,766,889	\$141,921	\$1,624,968
Evansville, IN	126,597	1,051,476	84,620	1,342,372	\$4,096,187	\$174,643	\$3,921,544
Battle Creek, MI	83,000	449,580	29,736	539,664	\$2,080,410	\$273,036	\$1,807,374
Yakima, WA	73,040	633,503	45,734	1,090,335	\$3,768,008	\$297,686	\$3,470,322
Average	94,631	707,159	51,719	975,047	\$2,956,249	\$306,713	\$2,649,535
Rochester, MN	104,230	774,906	52,669	1,170,620	\$2,684,126	\$1,082,646	\$1,601,480
Difference	10.14%	9.58%	1.84%	20.06%	-9.21%	252.98%	-39.56%

Table 12
2002 Performance - 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
St. Cloud, MN	10.01	0.71	16.56	1.65	23.45	14.18
Billings, MT	7.75	0.48	7.96	1.03	16.54	16.10
Fayetteville, NC	5.83	0.45	9.09	1.56	20.19	12.95
Sioux Falls, SD	5.28	0.38	4.99	0.95	13.24	14.00
Muncie, IN	11.37	0.84	17.67	1.55	20.96	13.49
Great Falls, MT	6.53	0.52	8.59	1.32	16.50	12.54
Evansville, IN	8.31	0.67	10.60	1.28	15.86	12.43
Battle Creek, MI	5.42	0.36	6.50	1.20	18.15	15.12
Yakima, WA	8.67	0.63	14.93	1.72	23.84	13.85
Average	7.69	0.56	10.77	1.36	18.75	13.9
Rochester, MN	7.43	0.51	11.23	1.51	22.66	14.71
Difference	-3.27%	-9.61%	4.32%	10.95%	20.87%	6.22%

System	Op. Cost per Mile	Op. Cost per Hour	Op. Cost per Passenger	Revenue per Passenger	Deficit per Passenger	Farebox Recovery
St. Cloud, MN	\$3.51	\$49.79	\$2.12	\$0.41	\$1.72	19.10%
Billings, MT	\$4.11	\$66.17	\$4.00	\$0.27	\$3.74	6.63%
Fayetteville, NC	\$3.83	\$49.65	\$2.46	\$0.45	\$2.01	18.14%
Sioux Falls, SD	\$3.39	\$47.47	\$3.58	\$0.48	\$3.10	13.52%
Muncie, IN	\$4.71	\$63.55	\$3.03	\$0.20	\$2.83	6.61%
Great Falls, MT	\$4.20	\$52.70	\$3.19	\$0.26	\$2.94	8.03%
Evansville, IN	\$3.90	\$48.41	\$3.05	\$0.13	\$2.92	4.26%
Battle Creek, MI	\$4.63	\$69.96	\$3.86	\$0.51	\$3.35	13.12%
Yakima, WA	\$5.95	\$82.39	\$3.46	\$0.27	\$3.18	7.90%
Average	\$4.25	\$58.90	\$3.20	\$0.33	\$2.87	10.81%
Rochester, MN	\$3.46	\$50.96	\$2.29	\$0.92	\$1.37	40.34%
Difference	-18.46%	-13.47%	-28.24%	180.52%	-52.26%	273.04%

- Passengers per Capita: Rochester had 11.2 passengers per capita, compared to the peer group average of 10.8. Rochester ranked fourth.

Rochester was below the peer group average in terms of the amount of revenue hours and revenue miles provided per capita. However, it was above the average in the number of passengers carried per capita.

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

- Passengers per Revenue Mile: Rochester had 1.5 passengers per mile, compared
- Passengers per Revenue Hour: Rochester had 22.7 passengers per hour, compared to the peer group average of 18.7. Rochester ranked third.

Rochester carried about the same number of passengers per revenue hour as the peer group average, but exceeded the peer group average for passengers per revenue mile.

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 14.7 miles per hour, compared to the peer group average of 13.9. Rochester ranked third.

Rochester's operating speed was moderately higher than the peer group average.

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

- Operating Cost per Revenue Mile: Rochester's cost per mile was \$3.46, compared to the peer group average of \$4.25. Rochester's cost per mile was second to the lowest.
- Operating Cost per Revenue Hour: Rochester's cost per hour was \$50.96, compared to the peer group average of \$58.90. Rochester's cost per hour was fourth lowest. Rochester's cost per revenue mile and cost per revenue hour were both below the peer group average.

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

- Operating Cost per Passenger: Rochester's cost per passenger was \$2.29, compared to the peer group average of \$3.20. Rochester's cost per passenger was second to the lowest.
- Fare Revenue per Passenger: Rochester's revenue per passenger was \$0.92, level of revenue on several of Rochester's bus routes, which was included in this calculation as fare revenue.

- Deficit per Passenger: Rochester's deficit per passenger was \$1.37, compared to the peer group average of \$2.87. Rochester's deficit per passenger was the lowest of the ten. Again, Rochester's performance was influenced by the Mayo Clinic's revenue guarantees noted above.
- Farebox Recovery (Revenue per Cost): Rochester's farebox recovery was 40 percent, compared to the peer group average of only 11 percent. Rochester achieved by far the highest farebox recovery of the peer group, reflecting at least in part the Mayo Clinic's fare revenue guarantee policy.

Rochester's cost per passenger was well below the peer group average. At the same time, Rochester's results for revenue per passenger, deficit per passenger, and farebox recovery were substantially better than the peer group. However, the latter results all include a certain revenue guarantee on several of Rochester's transit routes by the Mayo Clinic.

In summary, Rochester's fixed-route service performed significantly well compared to the peer group in terms of cost efficiency and cost effectiveness. Most notably, Rochester ranked first in fare revenue per passenger and farebox recovery, and had the lowest deficit per passenger. These results were influenced by revenue guarantees on certain Rochester transit routes by the Mayo Clinic. Meanwhile, passenger productivity and service provided per capita ranked mid-range. Rochester compared favorably to its peers in most areas of fixed-route performance.

Paratransit Service

The 2002 operating statistics for Rochester's ZIPS and its paratransit peer systems are presented in Table 13. The resulting performance indicators are shown in Table 14, and discussed below. Similar to the fixed-route discussion above, Rochester's performance is compared to the peer group average, and also is ranked among the total group of ten systems. However, the set of performance indicators selected for the paratransit analysis differs somewhat from fixed-route, in light of the specific service characteristics.

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

- Revenue Miles per Capita: Rochester had 1.50 revenue miles per capita, compared to the peer group average of 3.11. Rochester ranked ninth out of the ten systems.

- Revenue Hours per Capita: Rochester had 0.10 revenue hours per capita, compared to the peer group average of 0.26. Rochester ranked last out of the peer systems.
- Passengers per Capita: Rochester had 0.51 passengers per capita, compared to the peer group average of 0.73. Rochester ranked eighth out of the ten systems.

Table 13
2002 Operating Statistics – Paratransit
City of Rochester and Peer Systems

System	Population	Total Miles	Total Hours	Revenue Miles	Revenue Hours	Passenger Trips	Passenger Miles	Operating Cost
St. Cloud, MN	91,305	410,786	34,518	378,334	31,565	117,543	548,933	\$1,488,944
Billings, MT	81,151	206,453	17,926	166,079	14,997	65,285	389,764	\$692,893
Fayetteville, NC	124,319	626,845	28,596	626,845	28,596	62,793	588,690	\$1,081,012
Sioux Falls, SD	135,000	536,199	49,852	516,138	47,961	109,161	503,591	\$1,877,343
Muncie, IN	72,880	337,109	29,279	296,656	25,766	76,513	266,265	\$1,028,867
Great Falls, MT	64,387	110,197	22,095	72,926	14,711	34,501	78,120	\$314,764
Evansville, IN	126,597	247,876	18,580	217,228	15,496	43,396	116,816	\$560,362
Battle Creek, MI	83,000	253,634	21,510	240,304	20,596	37,657	193,180	\$979,788
Yakima, WA	73,040	325,403	32,652	229,175	18,331	58,852	333,840	\$761,015
Average	94,631	339,389	28,334	304,854	24,224	67,300	335,467	\$976,110
Rochester, MN	104,230	160,793	11,183	156,136	10,824	52,679	349,122	\$395,007
Difference	10.14%	-52.62%	-60.53%	-48.78%	-55.32%	-21.73%	4.07%	-59.53%

Table 14
2002 Performance – Paratransit
City of Rochester and Peer Systems

System	Rev. Miles per Capita	Rev. Hours per Capita	Passengers per Capita	Passengers per Rev. Mile	Passengers per Tot. Hour	Average Trip Length
St. Cloud, MN	4.14	0.35	1.29	0.31	3.41	4.67
Billings, MT	2.05	0.18	0.80	0.39	3.64	5.97
Fayetteville, NC	5.04	0.23	0.51	0.10	2.20	9.38
Sioux Falls, SD	3.82	0.36	0.81	0.21	2.19	4.61
Muncie, IN	4.07	0.35	1.05	0.26	2.61	3.48
Great Falls, MT	1.13	0.23	0.54	0.47	1.56	2.26
Evansville, IN	1.72	0.12	0.34	0.20	2.34	2.69
Battle Creek, MI	2.90	0.25	0.45	0.16	1.75	5.13
Yakima, WA	3.14	0.25	0.81	0.26	1.80	5.67
Average	3.11	0.26	0.73	0.26	2.39	4.87
Rochester, MN	1.50	0.10	0.51	0.34	4.71	6.63
Difference	-51.86%	-59.70%	-31.01%	28.68%	97.22%	35.97%

System	Cost per Rev. Mile	Cost per Tot. Hour	Cost per Passenger	Cost per Pass. Mile	Rev. Miles per Hour	Total Miles per Rev. Miles	Total Hours per Rev. Hours
St. Cloud, MN	\$3.94	\$43.14	\$12.67	\$2.71	11.99	1.09	1.09
Billings, MT	\$4.17	\$38.65	\$10.61	\$1.78	11.07	1.24	1.20
Fayetteville, NC	\$1.72	\$37.80	\$17.22	\$1.84	21.92	1.00	1.00
Sioux Falls, SD	\$3.64	\$37.66	\$17.20	\$3.73	10.76	1.04	1.04
Muncie, IN	\$3.47	\$35.14	\$13.45	\$3.86	11.51	1.14	1.14
Great Falls, MT	\$4.32	\$14.25	\$9.12	\$4.03	4.96	1.51	1.50
Evansville, IN	\$2.58	\$30.16	\$12.91	\$4.80	14.02	1.14	1.20
Battle Creek, MI	\$4.08	\$45.55	\$26.02	\$5.07	11.67	1.06	1.04
Yakima, WA	\$3.32	\$23.31	\$12.93	\$2.28	12.50	1.42	1.78
Average	\$3.47	\$33.96	\$14.68	\$3.34	12.27	1.18	1.22
Rochester, MN	\$2.53	\$35.32	\$7.50	\$1.13	14.42	1.03	1.03
Difference	-27.10%	4.01%	-48.92%	-66.17%	17.59%	-12.82%	-15.40%

ZIPS was at or near the low end of the peer group in terms of the amount of revenue hours and revenue miles provided per capita, as well as the number of passengers carried per capita.

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

- Passengers per Revenue Mile: Rochester had 0.34 passengers per mile, compared to the peer group average of 0.26. Rochester ranked third.
- Passengers per Total Hour: Rochester had 4.71 passengers per hour, compared to the peer group average of 2.39. Rochester ranked first in the group of ten.

ZIPS carried more passengers per revenue mile and per revenue hour than most systems in the peer group.

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 6.63 miles, somewhat longer than the peer group average of 4.87.

ZIPS passengers traveled further on each trip than passengers riding most of the other peer systems.

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

- Operating Cost per Revenue Mile: Rochester's cost per mile was \$2.53, compared to the peer group average of \$3.47. Rochester had the second lowest cost per mile of the group.
- Operating Cost per Total Hour: Rochester's cost per hour was \$35.32, compared to the peer group average of \$33.96. Rochester's cost per hour ranked fourth lowest.

ZIPS' cost per revenue mile and cost per revenue hour were both below the peer group average.

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

- Operating Cost per Passenger: Rochester's cost per passenger was \$7.50, compared to the peer group average of \$14.68. Rochester's cost per passenger was the lowest of the group.
- Operating Cost per Passenger Mile: Rochester's cost per passenger mile was \$1.13, compared to the peer group average of \$3.34. Rochester's cost per passenger mile ranked lowest of the ten.

ZIPS' cost per passenger was about half of the peer group average, while its cost per passenger mile was just one-third of the peer group average.

Resource Utilization – These three measures relate to usage of the vehicle fleet, in terms of operating speed and efficiency of scheduling:

- Revenue Miles per Revenue Hour (Operating Speed): Rochester's paratransit operating speed was 14.42 revenue miles per hour, compared to the peer group average of 12.27. This was the second highest of the group.
- Total Miles to Revenue Miles: Rochester operated 1.03 total miles for every paratransit revenue mile, which compared favorably to the peer group average of 1.18. Rochester ranked number two.
- Total Hours to Revenue Hours: Rochester also operated 1.03 total hours for each revenue hour, compared to the peer group average of 1.22. Again, Rochester ranked the second highest.

ZIPS' operating speed was higher than the peer group average. In addition, almost all miles and hours operated were in revenue service, which compared favorably to the peer group average.

In summary, Rochester's ZIPS paratransit service ranked high compared to its peers in cost effectiveness and cost efficiency. Its cost per mile, cost per passenger mile, and cost per passenger were all better than any of the peers. For passenger productivity, Rochester ranked high as well, coming in first in passengers per hour and third in passengers per mile. However, Rochester ranked near the bottom of the group for use per capita.

SERVICE STANDARDS

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 present bus service and then they subsequently become the basis for formulating route improvement proposals to bridge the gap between actual and desired performance. This chapter suggests standards for Rochester City Lines's fixed route bus system only.

The development of service standards for Rochester City Lines is based on several key factors including:

- Suitability to the characteristics of the Rochester City Lines service territory and requirements.
- Consideration of the cost implications of each standard and availability of funding.
- Utilization of existing service levels and performance as benchmarks.
- Ease of use in that the parameters defined in each standard permit a straightforward evaluation of actual system performance.
- Prevailing practice in the transit industry.

Several points should be made with respect to the development and subsequent application of the service standards. First, reasonable judgment must be utilized in applying the service standards to assess current Rochester City Lines service. While the standards are quantitative for the most part, they do not represent absolutes that must be met in all cases. For example, unusual situations may arise which warrant special consideration. Second, the service standards may conflict with one another since some yardsticks relate to the benefits derived from transit service while others relate to the costs. Nonetheless, the standards permit the tradeoffs to be delineated and an informed decision made to resolve differences. Third, the standards have been set at reasonable values to reflect current funding conditions. This does not preclude revisions to respond to new policy guidelines and prospective operating conditions. Fourth, the comparison of actual performance with the standards should not be made on a "pass-fail" basis. Instead, results should be viewed in terms of the proportion of the time that the standard is met or the level of attainment. Finally, the service standards will be applied to Rochester City Lines's bus operations as part of 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 standards appropriate for Rochester City Lines 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.

Service Attributes

This category deals with routes and schedules and includes standards 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.

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 City Lines service, this standard has been divided into two separate components that reflect travel concentrations, trip purpose and the need for bus service. Availability standards 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. As pointed out in the rider survey, about 50 percent of the transit users in Rochester are choice riders that have an automobile available to make the trip but choose transit for other reasons. At most other comparable size communities, the choice rider is only about 15 to 20 percent of the total. A main reason why choice riders in Rochester use transit is the fact that convenient parking in downtown Rochester is limited. Therefore, if they drive downtown, they would have to park far away from their downtown destination and walk many blocks. In a sense, these people are also captive riders.

With this background, the determination of which residential neighborhoods should be candidates for service is a more a function of just the population density of the area. Areas with high population density would exhibit the greater need for transit. In other comparable size communities, both density and income levels are used to define where residential service should exist. Typically, areas with high density and low income levels warrant service.

It has been determined that any portion 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 chart below describes, the greater the density, the more the routes should be spaced together.

Route Service Guide

Population Density (Population/Sq. Mile)	Route Service
Under 1,500	Not Required
1,500 to 2,500	Peak Only
Above 2,500	1/4 mile

The route service guide and its application is just that, a guide. It is not an exact measurement. In some areas, the street pattern is not uniform or major generators are further apart than the guide indicates. Rochester City Lines bus service may not and should probably 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 deserve 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 employees at one site are large enough to warrant consideration for service. This standard applies to individual employers. Groups of employers in a concentrated area, as in *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 warrant consideration for Rochester City Lines bus service. Mixed-use retail and office complexes can also be included within this category.

Colleges/Schools - Students often comprise a major segment of the transportation dependent population 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 post-secondary schools have been included in the availability standard. Those institutions with an enrollment of at least 1,000 students warrant 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 City Lines 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 warrant public transit service.

The categories of generators listed above represent the "destination" end of the transit trip. Combined with the availability standards for the other trip end (production), they provide a comprehensive view of service requirements within the Rochester City Lines service area.

Route Structure - The above section identified where Rochester City Lines 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.

- **Directness** - This standard 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 City Lines 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 City Lines'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 (airline) 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.

As mentioned earlier, service standards 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.

The second component of the directness standard 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 lines exceeds 25 percent of the total ridership on each of them, the standard recommends that interlining or some similar form of link be considered. Also, transfer connections should be scheduled as closely as possible in order to minimize waiting times. Passengers should be required to wait no longer than 15 minutes and preferably ten minutes or less.

- **Route Branching/Turn Backs** - This service standard 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 standard for Rochester City Lines should be to limit route branches or turn backs to no more than two for each route. This standard will reinforce for passengers the impression that the bus service is simple and easy to use.

Service Provision - The two previous sections identified the areas and destinations where Rochester City Lines 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 City Lines system. Rochester City Lines provides four categories of service that must be addressed in these areas – Regular, Night, Directs and Special routes.

- 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 operated on Saturdays. 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. Service oriented to non-work or school travel can start later and end sooner. A general guide for an appropriate span of service on Sunday in a metropolitan area the size of Rochester is that service should exist on an "as needed" basis. In fact, none of the transit systems used in the peer analysis review provide Sunday service. The chart below provides the suggested span of service for Rochester City Lines Regular, Night, Directs and Special routes.

Span of Service

Service Day	Regular	Night	Directs	Special
Weekday	6:00AM to 6:00PM	6:00PM to 10:00PM	6:00AM to 9:00AM 3:00PM to 6:00PM	Midday Only
Saturday	8:00AM to 6:00PM	None	None	None
Sunday	As Needed			

The span, like other standards, 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.

- Frequency** - This standard 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 standards which are discussed later. If passenger loads are so light that an excessive time is needed between vehicles to meet loading standards, then headways should be set on the basis of policy considerations. For periods in which service is operated, the following headways are suggested for Rochester City Lines for Regular, Night, Directs and Special routes.

Policy Headway (Minutes)

Route Type	Weekdays			Weekends	
	Peak	Base	Nights	Saturday	Sunday
	6 AM - 9 AM 3 PM - 6 PM	9 AM - 3 PM	After 6 PM	8 AM - 6 PM	As Needed
Regular	30	60	-	60	-
Nights	-	-	60	-	-
Directs	30	-	-	-	-
Special	-	60	-	-	-

As with all standards, this headway matrix should be considered a guide, not an absolute measure. Further, headways should be designed, wherever possible, to conform with regularly recurring clock face 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 City Lines 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.

Operational Attributes

The next four service standards; speed, loading, bus stop spacing and dependability are concerned primarily with the quality of Rochester City Lines operations. These standards greatly affect the convenience of the service for the system's passengers and also influences system operating costs.

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 City Lines 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 chart below shows average running speeds that should be expected in the three different operating environments.

Running Speed (MPH)

Service Area/Type	Speed (MPH)
City	10 - 14
Suburban	14 - 22
Directs	14 - 22

Loading - To ensure that most passengers will be provided a seat on a Rochester City Lines bus for at least a major portion of the trip, loading standards must be established and schedules devised that reflect passenger volumes. This standard 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 standards 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:

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 appropriate

As shown in the above chart, the recommended loading standard for Rochester City Lines 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 standard allows for standees on peak period Regular routes, no rider should be expected to stand for more than 10 minutes.

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 standard must consider the density of the service area and the characteristics of the land uses served. The bus stop spacing standard suggested for Rochester City Lines is summarized in the chart below.

Bus Stop Spacing

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

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 standard 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 City Lines 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 standard is that a consistent policy should be pursued with respect to location.

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 City Lines 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 City Lines's dependability. The first group of measures indicates the level of dependability of Rochester City Lines 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. For Rochester City Lines, the missed trip standard is established at 99.5 percent. This indicates that only one out of every 200 scheduled trips can be missed to meet the standard. Since it is easier to recover from service disruptions at the garage than in the field, an even more stringent standard of 99.8 percent is appropriate for missed pull-outs. This permits one missed pull-out in 500. Rochester City Lines should have sufficient spare buses and extra board bus drivers to ensure that both the trip and pull-out standards are met. The final measure concerning the dependability of Rochester City Lines vehicles is the number of miles operated between service disruption road calls. A general guide for Rochester City Lines should be 4,000 miles between road calls.

Another way to measure dependability is to examine how well the service operated by Rochester City Lines 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 standard consists of two parts: (1) the definition of "on-time"; and (2) the proportion of buses that operate within the "on-time" range. For purposes of assessing Rochester City Lines's dependability, "on-time" is established at zero minutes early to five minutes late. This allows the bus a 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.

The standard for Rochester City Lines schedule adherence is established at 90 percent during peak service periods and 95 percent during off-peak hours. Therefore, 18 out of 20 peak bus trips and 19 out of 20 off-peak bus trips should operate within the "on-time" range.

Passenger Comfort and Convenience

The next set of standards deals with increasing system utilization by providing a comfortable and functional environment. Standards in this category deal primarily with Rochester City Lines's equipment and communications. The standards address bus shelters, bus stop signs, revenue equipment and public information.

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 chart 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.

Bus Shelter Location Priority Guide

Daily Boardings	Headway in Minutes (Peak)		
	Over 60	31 - 60	30 or less
Over 50	Priority 1	Priority 2	Priority 3
25 – 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.

Bus Stop Signs - All bus stops in the system should be identified by a bus stop sign bearing the Rochester City Lines logo, telephone information number and web page address. All bus stop signs should be of a uniform style and, if possible, include the route numbers of buses that stop at that location. All bus stops prescribed by the bus stop spacing standard should be marked with such a sign. Areas where flag stops are used do not need bus stop signs. However, this policy should be explained in the service information regarding routes on which flag stops are used.

Revenue Equipment - In order to maximize the pleasure and comfort of the bus rider, and thereby spur demand, Rochester City Lines should provide attractive and comfortable vehicles. This standard is primarily a matter of maintenance and suggests that within each Rochester City Lines 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. 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, telephone information number and web page address.

Buses 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.

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 City Lines's telephone information number.

A system map of the service area showing all of Rochester City Lines'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 City Lines routes through a single telephone number. 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 City Lines name and the phone information number. Passengers should be able to provide

feedback to the person answering that number, or that person should be able to directly transfer the phone call to the employee who handles such matters. Passengers should not be told that they must hang up and make another phone call to a different number.

Fiscal Condition

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

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 standard is established for Rochester City Lines. 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?

Farebox Recovery - One of Rochester City Lines'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. The first relates to systemwide performance; a systemwide farebox recovery standard of 35 percent is suggested for Regular and Night routes, 50 percent for Direct routes, 20 percent for Specials and 35 percent for Saturday service. These are based on the system farebox recovery rates for Calendar Year 2004 and include the revenue associated sponsorships. The second farebox recovery measure looks at the performance of each individual Rochester City Lines 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 standard for its route category. The chart below provides guidelines for evaluating route performance against the suggested standard.

Route Farebox Recovery Guide

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

For the Regular individual route standard, routes with a farebox recovery of 80 percent of the suggested farebox recovery standard (80% of 35 percent) or a 28 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 standard (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 standard (below 21 percent farebox recovery) are problem bus lines and candidates for modification or elimination. Application of the route level standard will also help control the operating deficit and ensure that transit resources are used in an efficient manner.

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 City Lines.

Similar to farebox recovery, there are two measures for passengers per vehicle hour. The first relates to systemwide performance; a systemwide passengers per vehicle hour standard of 18 for Regular routes, 20 for Direct routes, 5 for Specials and Nights and 15 percent for Saturday service is suggested.

The second passengers per vehicle hour measure looks at the performance of each individual Rochester City Lines route. Each bus route's passengers per vehicle hour rate should be calculated. Individual route performance should then be compared to the suggested systemwide standard for the appropriate route category. The chart below provides guidelines for evaluating route performance against the suggested standard.

Percent of Suggested Standard

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

For the individual Regular route standard, routes above 80 percent of the suggested passenger per vehicle hour standard (14.4 passenger 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 standard (10.8 - 14.3 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 standard (below 10.8 passengers per vehicle hour) are problem bus lines and candidates for modification or elimination. Application of the route level standard will also help control the operating deficit and ensure that transit resources are used in an efficient manner.

Evaluation of New Services - A difficult issue transit operators face is how to evaluate new services, which includes new routes or extensions to existing routes. 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 standard 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 six months should be adequate to help determine whether or not the service change should be made permanent.

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.

Summary

This chapter has provided standards for the operation of the Rochester City Lines system. Also, this chapter provided standards for the appearance and provision of passenger amenities and the condition of Rochester City Lines revenue equipment. Additionally, the chapter addressed how information regarding the Rochester City Lines system and its individual routes should be communicated to Rochester City Lines's current and prospective passengers, and how passenger feedback could be facilitated and processed. Lastly, the chapter provided standards for measuring the performance of Rochester City Lines's system and its individual bus routes and what actions to take in response to these measurements. As mentioned above, the standards presented in this chapter are 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 City Lines policies.

ROUTE DIAGNOSTICS

The Transit Development Plan is an examination of bus service provided by the Rochester City Lines within the current service area. With the exception of Route 17, all service is operated wholly within the city limits. The objective of the study is to develop specific proposals for the public transportation system which will include recommendations with respect to service during the next few years. In addition, financial forecasts will be prepared to indicate the magnitude of necessary subsidy and capital expenditure. During the course of the study, interim reports will be prepared to document data collection, analysis and findings as they become available. In this way, comments received on one phase of the work can be timely input to other project tasks.

This interim report documents the analysis of bus service that are available to the general public within the City of Rochester. The analysis presents overall statistics and different performance results (e.g., farebox recovery and productivity). The focus of this report is to delineate the characteristics of the Rochester City Lines' fixed route bus system utilizing several analytical techniques. With these approaches, each bus route is treated as an individual operating entity. The performance characteristics of each bus route are compared to the other bus routes as well as to the overall system. In some cases, bus routes are assigned to specific categories to contrast performance for different criteria. The route level analysis is quantitative and focuses on financial and productivity measures. The examination also ranks the Rochester City Lines bus routes, thus reflecting the competitive nature of allocating limited transit resources. The analysis was performed for a one year period which is representative of recent conditions.

Analysis Overview

An initial decision regarding the analysis was the time period for which data would be assembled, manipulated, analyzed and results reported. It was felt that the analysis should be based on recent conditions at current service levels. Accordingly, data were gathered for the past year (i.e., 2004) since it is a useful and recent benchmark to assess performance by service type and individual bus route. Information was obtained for a typical weekday (i.e., Monday through Friday) and Saturday and extrapolated to annual conditions. The analysis was performed for each of five service types which are currently used by Rochester City Line to classify service.

- **Regular** - The majority of all Rochester City Lines operate from one outlying location to the downtown terminal with buses stopping along the way. Service on these routes is operated between the morning and afternoon peak periods and consists of an extensive network of 21 bus routes. These routes are local service in that riders can board and alight throughout the route's entire alignment.
- **Direct** - Rochester City Lines also operates express bus service to downtown on six routes which serve park-ride lots in some of the same neighborhoods as the regular routes. These six routes collect and distribute passengers over a limited portion of the route. On most of the route, buses operate non-stop to offer a relatively high speed service.
- **Night** - Rochester City Lines reduces the service coverage during evening hours. Only four routes operate during this period when ridership is less. Similar to the other routes, these bus lines link various communities to downtown.
- **Shopper** - A single route which is only operated on two weekdays and connects downtown with outlying shopping areas.
- **Saturday** - Similar to weekday evenings, Rochester City Lines operates less service with only certain communities served. Six routes afford transit service on Saturday.

The discussion above indicates the five service types examined which comprise the 37 routes comprising the Rochester City Lines bus network. All routes are radial in that they terminate in downtown and the Mayo Clinic. As noted previously, the focus is on the individual bus routes; however, the five service types exhibit different characteristics.

Data Assembly

The service and route level analysis requires considerable information on operating, financial and patronage statistics. Five statistics were input to the process and included vehicle hours, vehicle miles, vehicles assigned, farebox revenue and boardings. For the most part, detailed information is available since Rochester City Lines compiles data for its operation although some manipulation was required to establish a recent one year period. Presented below is a brief description of the key information that was compiled by service type and route.

- **Vehicle Hours** - For its bus routes, Rochester City Lines compiles information both on revenue hours (which excludes deadhead movements) as well as on vehicle hours. Transit staff were able to compile the necessary data (i.e., revenue plus deadhead hours) for weekday and Saturday operating periods. As noted above, these results were extrapolated to reflect recent annual conditions.

- **Vehicle Miles** - The results for this operating statistic were computed in a similar manner to that utilized for vehicle hours.
- **Peak Vehicles** - As the name implies, this statistic reflects the number of buses or vehicles in service during a typical day. It is derived from the number of vehicles operated during the peak service period on weekdays. It represents the maximum number of vehicles assigned to each route during the entire service span.
- **Passengers** - Rochester City Lines has driver record ridership by each bus trip. These data are compiled daily and comprise a data base which is used to tabulate ridership by route for each day. Data was summarized for the recent one year period.
- **Revenue** - As part of its routine passenger counting program, drivers record ridership by fare category. In turn, this permits average fare to be computed for each route. The route level revenue is merely the product of ridership and average fare. An unusual feature of the Rochester City Lines is that certain bus routes are financially sponsored by the Mayo Clinic and various retailers and businesses. These payments are included in the estimate of revenue by individual bus route.

The five data items were compiled for each route and service type for the analysis period. Another data item was the number of weekly one-way bus trips which were obtained from Rochester City Lines schedule for five weekdays and one Saturday.

The only remaining variable in the analysis was the cost of providing each service type and individual bus route. In the current analysis, a cost allocation model technique was employed in which the cost of service was related to the hours, miles and peak vehicle assigned. A model was calibrated for the Rochester City Lines bus system. The cost and operating statistics were obtained from monthly cost summaries by major account for 2004. These costs include expenditures of the private operator as well as the administrative expenditures of the City. A more complete description of these models is presented later in the text.

Performance By Service Type

Rochester City Lines provides a broad mix of service to the general public. Since some of these types of service may be suggested for modifications, it is helpful to document and describe their performance. It also indicates the composition of the different services and their contribution to the entire system's financial performance. As noted previously, these findings are a prelude to the primary thrust of this report which is the analysis of individual bus routes.

The exhibit below presents the overall results for each of the five service types.

Results By Service Type

Service Type	Revenue (\$)	Cost (\$)	Deficit (\$)	Farebox Recovery (%)	Passengers/ Hour
Regular	849,390	2,327,280	1,477,890	36.50	18.52
Direct	234,420	467,110	232,690	50.19	19.74
Night	129,000	150,900	21,900	85.49	4.40
Special	9,380	42,850	33,470	21.89	5.21
Saturday	26,590	75,150	48,560	35.38	14.24
System	1,248,780	3,063,290	3,063,290	40.77	17.38

The results indicate the importance of each category of the fixed route bus system in terms of its contribution to revenue, cost and ridership. Of the \$1.25 million of revenue in 2004, riders paid about \$940,420 in fares or a about 72 percent of system operating revenue. The Mayo Clinic along with other businesses contributed \$344,360 through a sponsorship program for certain routes. The sponsored routes included most of the direct and night routes as well as Route 55. Typically, these are routes where ridership levels and performance would not warrant service. Policy and other considerations have led funding that supplements riders' fares for these bus routes.

In terms of farebox recovery, the riders and sponsors pay about one dollar for every \$2.45 of costs (i.e., 40.77 percent). The results vary by service type which would be even more pronounced when only fares are considered. This reflects the factors that influence costs as well as productivity and features of the fare structure. Productivity was measured in two ways. The first is the traditional measure where boardings are divided by vehicle hours of service. The values reflect mode split and the turnover of seats.

Diagnostic Techniques

The discussion above provides an overview of the results by service type and the associated data assembly and manipulation. At this stage, the analysis focuses on the 37 bus routes operated by Rochester City Lines. Five procedures were utilized to assess current route performance and provide different perspectives of gauging route level efficiency and effectiveness as summarized below:

- **Cost Centers** - This technique establishes the revenue, cost and resulting deficit of each bus route. Emphasis is placed on farebox recovery, which is the percentage of operating costs that is covered from fares. A major element of this effort is the development of a financial model that relates operating costs to service levels. In the current analysis, a three-variable cost model was utilized in which the cost of a bus route was related to vehicle hours, vehicle miles and peak vehicles.
- **Contribution Analysis** - This procedure also places emphasis on the financial results of each bus route. The deficit is examined in terms of both relative amounts (i.e., farebox recovery) and absolute amounts (i.e., each route's contribution to the system deficit). This method allows each route to be assigned to one of four categories which reflect the route's performance in each measure and whether it is better or worse than the system average.
- **Strategic Planning** - This analysis procedure gauges route performance for two criteria. The first measure is deficit per passenger, which indicates the extent of route subsidy for each boarding passenger. The second factor is the market share of each route, which has been defined as the ratio of each route's passengers to the average route for the system. Values greater than one denote routes with a relatively large market shares while values lower than one indicate routes with relatively small market shares.
- **Ordinal Ranking** - This bus route evaluation procedure numerically ranks all Rochester City Lines bus routes from best to worst for five performance indices. Two measures relate to productivity while another three present deficit relative to operating and passenger statistics. In turn, these results are combined for each group of criteria to arrive at a combined score and overall rank.
- **Supply and Demand Review** - The concluding analytical technique is a review of the relative balance between Rochester City Lines' supply of service and the resulting performance. The number of weekly bus trips operated is compared to the passengers per hour and farebox recovery.

The discussion above provides a brief summary of each technique that was utilized in the current analysis. As noted previously, the results are for 2004 that reflects the current route structure and service levels. Several points are worth noting at the outset. First, the techniques are diagnostic in that they indicate the need for more detailed analysis to remedy deficiencies and exploit opportunities. Second, they examine route level performance from a variety of perspectives to assure a comprehensive review of efficiency and effectiveness. Finally, the diagnostics review is only one input to the service development process, since issues such as need and equity must also be considered. Nonetheless, the current analysis provides a timely input to the preparation of service proposals.

Cost Centers

The primary objective of the cost centers analysis approach is that fixed route system operating, patronage, revenue and cost statistics can be disaggregated by individual route. Utilizing these statistics, deficit and various measures (e.g., farebox recovery) can be computed. With the exception of cost, all necessary data items can be obtained from Rochester City Lines' records and data collection activities as noted previously. On the other hand, route-by-route costs are more difficult to ascertain. Transit expenditures are recorded by expense accounts that "track" costs for the entire bus system.

To convert systemwide expenses to individual routes, a two-step process is required. First, a cost allocation model is quantified based on operating and financial experience. In the case of Rochester City Lines, this results in a three-variable formula that relates the cost of providing bus service to the hours, miles and peak vehicles. Second, each operating statistic for each bus route is multiplied by the appropriate unit cost to determine route operating costs.

Cost Allocation Model - The basic concept underlying the cost allocation model for Rochester City Lines is that each operating expense is influenced or driven by one or more operating statistics or resource levels. Consideration of the nature of various operating expenses identified three major resources that "drive" each particular expense item. These resources are: (1) vehicle hours; (2) vehicle miles; and (3) peak vehicle. The "three-variable" model is preferred over a more complex formula including numerous other variables since it is easier to develop and apply while still maintaining a high degree of accuracy. Also, the three-variable model is superior to a single unit cost factor since it provides more accurate results and is sensitive to the different characteristics of each route. This is particularly important at Rochester City Lines, where operating speed and vehicle utilization can vary widely by route.

The model proposed for analyzing the Rochester City Lines bus system is termed a fully allocated cost formula. The method receives its name since all costs for bus service are included in the model's development. No distinction is made between fixed and variable expenditures. This is consistent with the objective of the analysis, which is to compare financial performance by route. Most costs allocated to peak vehicle are typically fixed expenses which do not vary by the amount of service provided.

The fully allocated formula for the Rochester City Lines system could be readily converted to variable costs by eliminating those expenses allocated to peak vehicle. In turn, this would then result in a variable cost model with only two resource levels - vehicle hours and vehicle miles. This, in turn, could be used to estimate the incremental costs of service changes.

Model Calibration - The primary source of data for the Rochester City Lines cost allocation model was annual financial information compiled by the transit system. To assure a recent picture of costs, the model was calibrated for 2004 since it represents a complete fiscal year for which data are available. The costs include expenditures of both the private operator and the City. During this period, the contractor incurred costs of approximately \$2.8 million which included wages and benefits of drivers and mechanics which represents a substantial portion of operating costs. The City of Rochester spent about \$225,140 to administer the transit program or about 7.3percent of transit operating costs.

As noted previously, the cost data was based on monthly information compiled as part of the routine cost documentation. The cost formula for the Rochester City Lines bus service is calibrated by performing the following three tasks:

- Assign each individual expense in the system financial statement to one of the three selected resources that influence costs.
- Sum the costs assigned to each resource to obtain the overall cost allocated to the resource.
- Divide the overall resource cost by the quantity of the resource used by the system. These calculations produce the unit cost of each resource, which are the coefficients of the cost model.

The allocation of each expense item is made on the basis of judgement, although the relationship between the expense item and variable is typically quite evident. It should be noted that some statistical analyses have been performed on the data from other transit systems that confirm the allocation process. This cost allocation process also reflects the prevailing practice within the industry.

For example, operators' wages are allocated to vehicle hours since bus operators are hourly employees. The operating expense of their wages and fringe benefits was also assigned to vehicle hours. Some costs, such as mechanics' compensation, fuel and replacement parts are a direct function of vehicle miles operated. In addition, vehicle insurance costs are a function of accident exposure in terms of miles of service. Many of the expense accounts do not vary as a function of either vehicle hours or vehicle miles. For example, the cost resulting from providing an operating base and vehicle storage is determined by the number of peak vehicles in service. Also, administrative expenses of the contractor and the City vary with the number of vehicles required to operate the bus system.

The results of this allocation process Rochester City Lines' bus system are presented below:

Fully Allocated Cost Model

Basis For Allocation	Amount (Dollars)	Percent	Operating Statistic	Unit Cost (Dollars)
Vehicle Hours	1,483,050	48.4	67,515	21.97
Vehicle Miles	921,200	30.1	940,650	0.98
Peak Vehicles	659,040	21.5	27	16,107.77
Total	3,063,290	100.0		

Approximately 49 percent of all bus system expenses were assigned to vehicle hours. Vehicle miles account for about 30 percent of all of the bus system expenses with peak vehicles assigned about 23 percent of all costs. The costs attributable to vehicle hours result in a cost of \$21.97 per vehicle hour. The cost allocated to vehicle miles of operation yields a unit cost of \$0.98 per vehicle mile, while the costs attributable to each peak vehicle over the course of a year produced a unit cost of \$16,108.

Utilizing the three-variable analysis results in the following cost allocation formula for the Rochester City Lines' bus system:

$$C = 21.97 * H + 0.98 * M + 16,107.77 * V$$

where:

C = Cost

H = Vehicle Hours

M = Vehicle Miles

V = Peak Vehicles

The calibrated three-variable cost formula differs substantially from the traditional transit industry yardstick for measuring cost. This traditional approach is to compute a simple cost per mile or hour statistic. For the fiscal year, systemwide average unit costs of approximately \$45.37 per vehicle hour or \$3.26 per vehicle mile. The use of both vehicle hours and vehicle miles permits the cost allocation model to be sensitive to operating speed. As shown in Figure 25, there is a wide range of operating speeds on bus routes. This is consistent with the different service types operated by Rochester City Lines and suggests the need for the three-variable approach.

Route Financial Performance - The previous sections described the data collection procedures for establishing a database of route information and the calibration of a three-variable cost model. The next step was to apply the cost model to the route level operating statistics to establish the cost of each bus route.

The results of the cost centers analysis are presented in Table 15, which indicates the revenue, cost and necessary subsidy for the one year analysis period. The first method utilized to rate bus routes and to categorize their financial performance is to examine their farebox recovery. Farebox recovery is the amount of revenue collected from patrons and sponsors for each bus route expressed as a percentage of that bus route's operating cost. Rochester City Lines achieves an overall farebox recovery rate of 40.77 percent. This implies a subsidy of about sixty cents for every dollar of costs. This is relatively high performance for a small system even if the sponsored funds was not considered. In fact, two bus lines operate generate a surplus in which the fares paid and sponsored amount exceeds costs. Of 37 bus routes, 15 bus routes have a farebox recovery rate higher than the system average while 22 bus routes have a farebox recovery rate lower than the system average.

One concluding point is that the comparison of individual route performance relative to the system average is a common feature of the diagnostic techniques, although the criteria and measures differ.

Contribution Analysis

The next method utilized to rate the system's bus routes and to categorize their financial performance is to examine both their farebox recovery rates and deficit amounts in combination. As can be seen in Figure 26, Rochester City Lines' system deficit grows larger as each bus route's operating cost and revenue are accounted for. By considering the bus routes in descending order of farebox recovery, the system's operating cost continues to increase but aggregate revenue begins to "flatten out", thus contributing to a mounting deficit.

Each bus route was rated relative to the system average. For example, as shown in Table 16, the farebox recovery rates of all of the Rochester City Lines' bus routes were indicated as being either "better" or "worse" than the system average. In a similar manner, the bus routes were rated with respect to their contribution to the deficit. For ease of presentation, the deficit

Figure 25
Distribution of Operating Speed

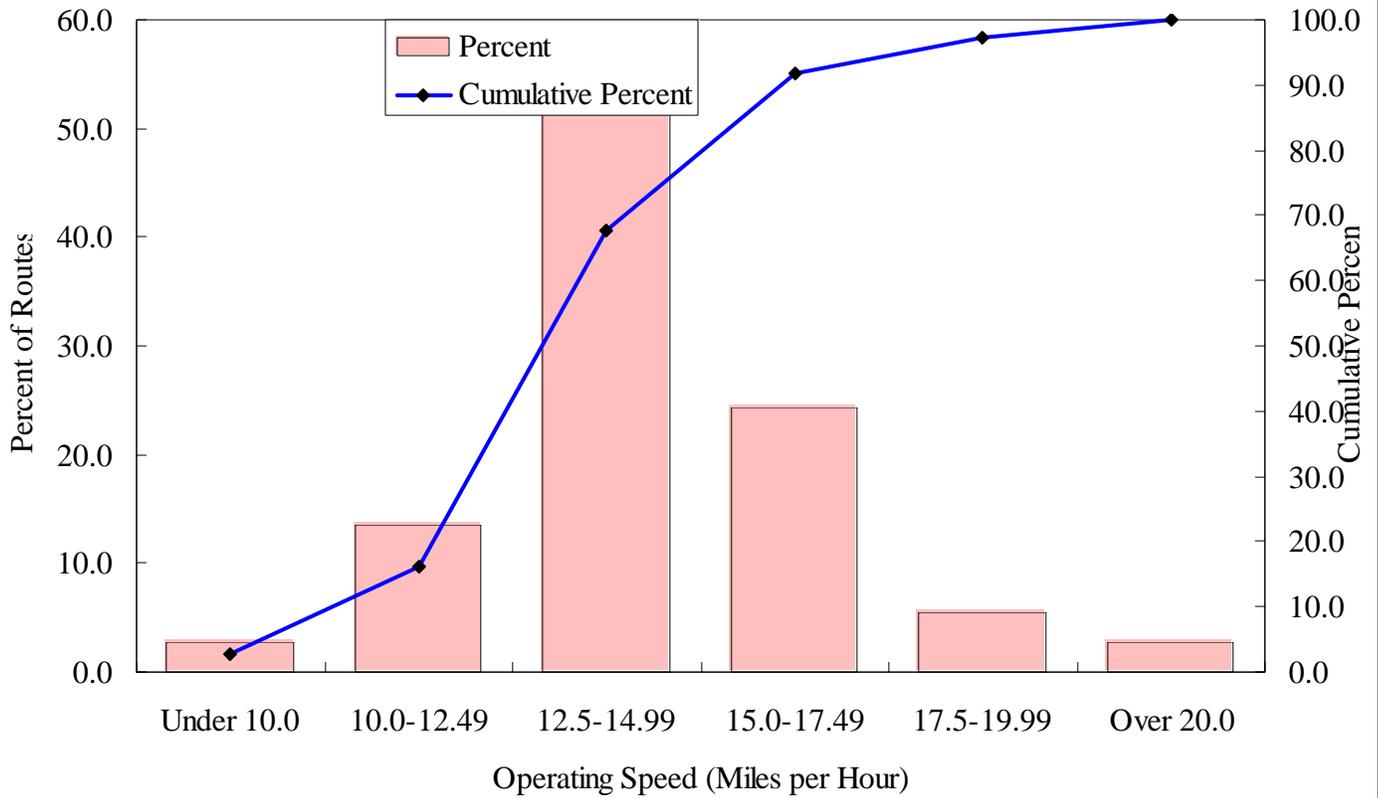


Table 15
Financial Results By Route

<u>Route</u>	<u>Revenue</u>	<u>Cost</u>	<u>Deficit</u>	<u>Farebox Recovery (Percent)</u>	<u>Rank</u>	<u>Percent Better</u>	<u>Percent Worse</u>
<i>Regular</i>							
1	69,030	114,670	45,640	60.20	7	47.67	
2	49,590	121,850	72,260	40.70	16		-0.17
3	34,540	146,970	112,430	23.50	30		-42.35
4	56,570	128,090	71,520	44.16	13	8.34	
5	64,150	138,480	74,330	46.32	12	13.63	
6	50,510	28,290	-22,220	178.54	1	337.97	
6A	20,940	91,220	70,280	22.96	31		-43.69
6B	21,280	88,850	67,570	23.95	29		-41.25
6S	2,870	10,260	7,390	27.97	25		-31.38
7	45,630	127,880	82,250	35.68	21		-12.47
8	41,460	79,400	37,940	52.22	9	28.09	
9	94,800	239,460	144,660	39.59	18		-2.89
10IN	44,230	116,510	72,280	37.96	19		-6.88
10OUT	45,570	120,220	74,650	37.91	20		-7.02
11IN	55,420	116,130	60,710	47.72	10	17.06	
11OUT	48,270	114,170	65,900	42.28	14	3.71	
12	45,300	169,520	124,220	26.72	27		-34.45
14	15,780	65,130	49,350	24.23	28		-40.57
16	17,360	134,950	117,590	12.86	35		-68.44
17	14,780	73,060	58,280	20.23	34		-50.38
18	11,310	102,170	90,860	11.07	36		-72.85
<i>Direct</i>							
1D	28,570	89,830	61,260	31.80	23		-21.98
4D	36,110	46,640	10,530	77.42	4	89.92	
6D	54,550	75,180	20,630	72.56	5	77.99	
12D	76,090	160,080	83,990	47.53	11	16.60	
18D	39,100	95,380	56,280	40.99	15	0.56	
<i>Night</i>							
1N	42,520	52,800	10,280	80.53	3	97.54	
3N	1,060	9,900	8,840	10.71	37		-73.74
7N	9,300	23,450	14,150	39.66	17		-2.72
12N	76,120	64,750	-11,370	117.56	2	188.38	
<i>Shopper</i>							
55	9,380	42,850	33,470	21.89	32		-46.30
<i>Saturday</i>							
21	3,740	10,620	6,880	35.22	22		-13.61
22	2,650	9,530	6,880	27.81	26		-31.79
23	5,220	9,480	4,260	55.06	8	35.07	
24	6,010	9,530	3,520	63.06	6	54.70	
25	5,720	20,150	14,430	28.39	24		-30.37
26	3,250	15,840	12,590	20.52	33		-49.67
<i>System</i>	1,248,780	3,063,290	1,814,510	40.77			

() Denotes surplus

Figure 26
Cumulative Effect of Contribution on Deficit

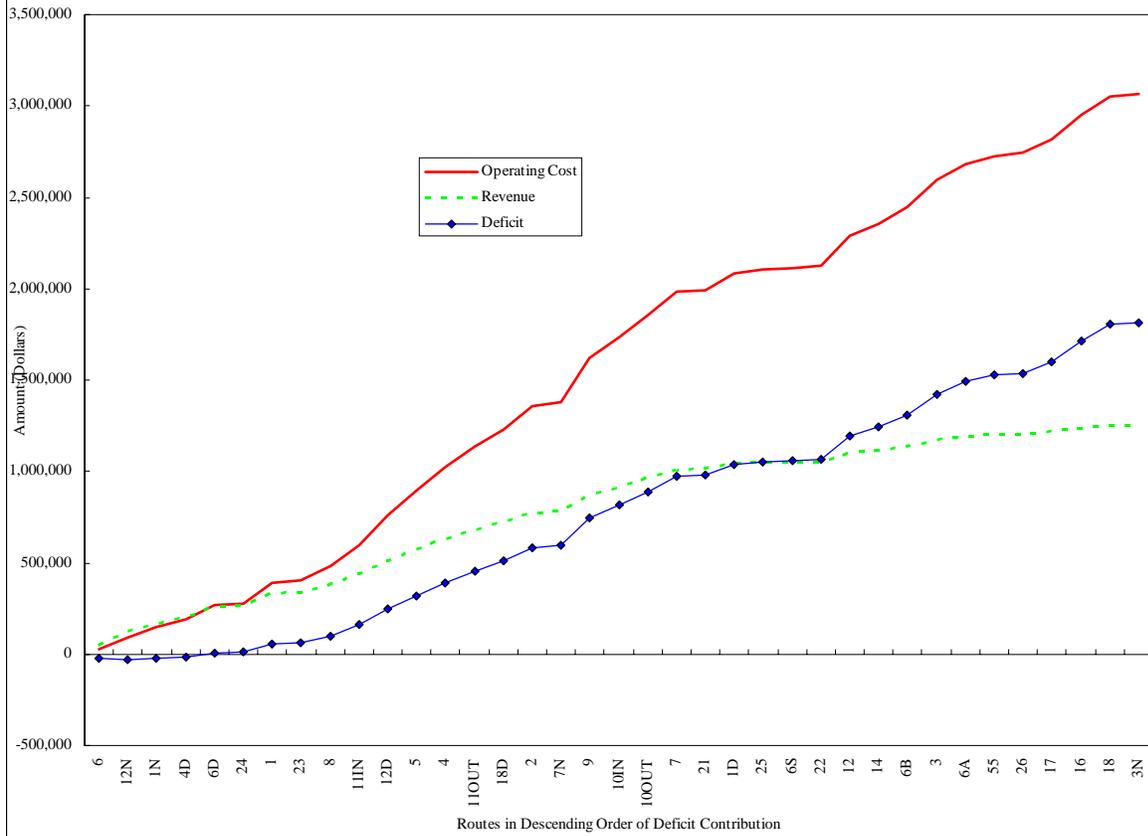


Table 16
Farebox Recovery And Contribution To Deficit

<u>Route</u>	<u>Farebox Recovery (%)</u>		<u>Contribution To Deficit</u>		<u>Category</u>
	<u>Value</u>	<u>Rating</u>	<u>Value</u>	<u>Rating</u>	
<i>Regular</i>					
1	60.20	Better	0.93	Better	1
2	40.70	Worse	1.47	Worse	4
3	23.50	Worse	2.29	Worse	4
4	44.16	Better	1.46	Worse	3
5	46.32	Better	1.52	Worse	3
6	178.54	Better	-0.45	Better	1
6A	22.96	Worse	1.43	Worse	4
6B	23.95	Worse	1.38	Worse	4
6S	27.97	Worse	0.15	Better	2
7	35.68	Worse	1.68	Worse	4
8	52.22	Better	0.77	Better	1
9	39.59	Worse	2.95	Worse	4
10IN	37.96	Worse	1.47	Worse	4
10OUT	37.91	Worse	1.52	Worse	4
11IN	47.72	Better	1.24	Worse	3
11OUT	42.28	Better	1.34	Worse	3
12	26.72	Worse	2.53	Worse	4
14	24.23	Worse	1.01	Worse	4
16	12.86	Worse	2.40	Worse	4
17	20.23	Worse	1.19	Worse	4
18	11.07	Worse	1.85	Worse	4
<i>Direct</i>					
1D	31.80	Worse	1.25	Worse	4
4D	77.42	Better	0.21	Better	1
6D	72.56	Better	0.42	Better	1
12D	47.53	Better	1.71	Worse	3
18D	40.99	Better	1.15	Worse	3
<i>Night</i>					
1N	80.53	Better	0.21	Better	1
3N	10.71	Worse	0.18	Better	2
7N	39.66	Worse	0.29	Better	2
12N	117.56	Better	-0.23	Better	1
<i>Shopper</i>					
55	21.89	Worse	0.68	Better	2
<i>Saturday</i>					
21	35.22	Worse	0.14	Better	2
22	27.81	Worse	0.14	Better	2
23	55.06	Better	0.09	Better	1
24	63.06	Better	0.07	Better	1
25	28.39	Worse	0.29	Better	2
26	20.52	Worse	0.26	Better	2
<i>System</i>	40.77		37.00		

() Denotes surplus

amounts have been calculated relative to each route contributing 1/37th of the deficit. For example, on average each bus route should contribute about 2.70 percent of the system deficit (i.e., 100 percent divided by 37) or \$49,040 of the annual systemwide deficit. However, whether a route actually contributes more or less to the cumulative deficit is reflected in Table 16.

All 37 Rochester City Lines bus routes have been rated relative to their deficit contribution and farebox recovery. By utilizing this two-way stratification, four route categories were determined as follows:

Stratification System

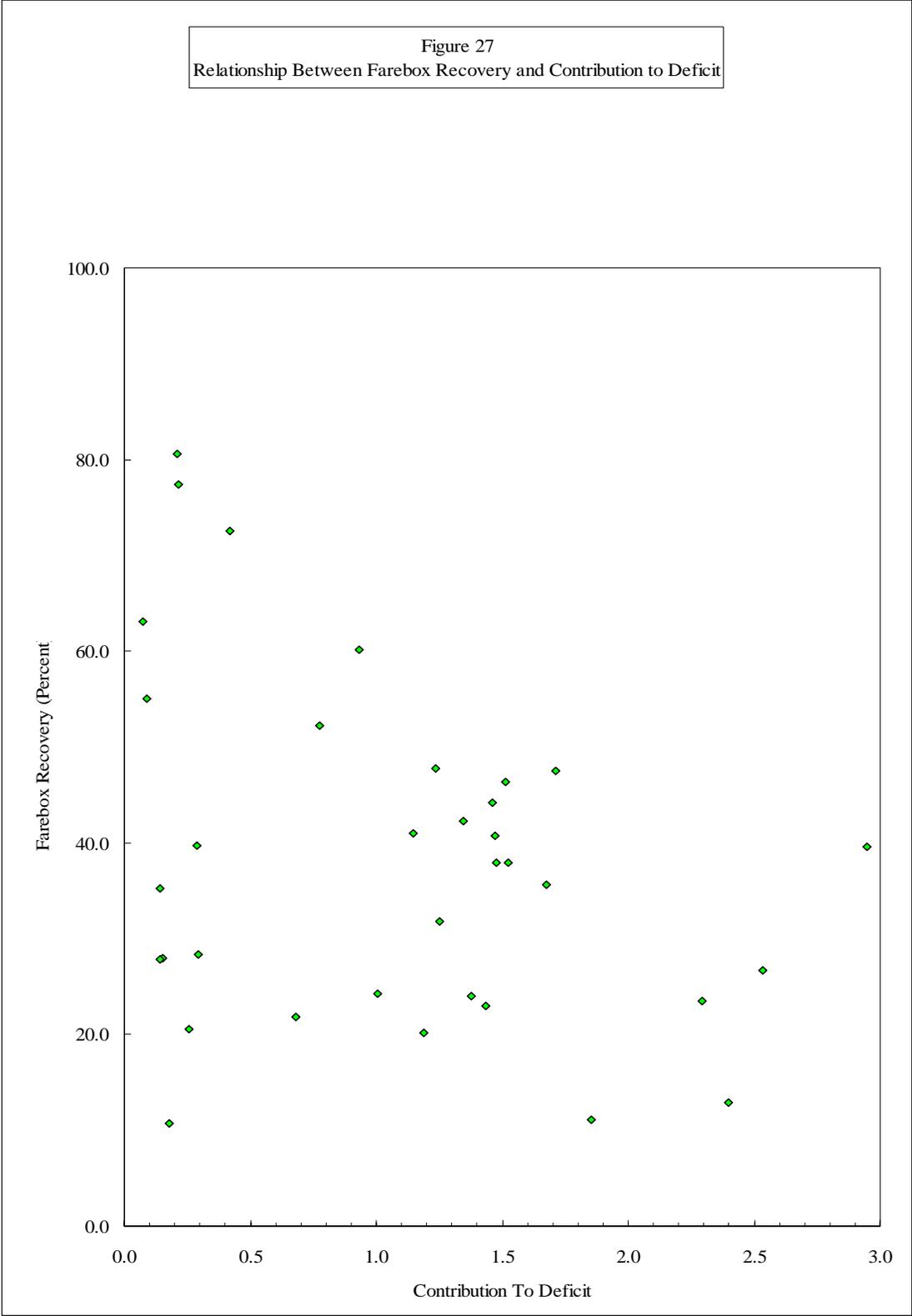
Farebox Recovery	Contribution to Deficit	Category
Better	Better	1
Worse	Better	2
Better	Worse	3
Worse	Worse	4

Placed in the first category are those bus routes that have a superior rating in terms of both relative and absolute measures of deficit such as Route 1. As shown in Table 16, nine bus routes fall into this category. On the other hand, the 14 bus routes which fall into the fourth category attain poor ratings for both measures, such as Route 2. For these bus routes, consideration should be given to changes which can more closely balance the supply and demand characteristics of the service. It should be recognized that the deficit contribution is consistent with the farebox recovery for both of these categories.

The other two categories reflect mixed results. For example, Category 2 routes have relatively low farebox recovery values, but only contribute a modest amount to the deficit. This would suggest limited service on these routes. As shown in Table 16, 8 Rochester City Lines bus routes fall into this category, with a low farebox recovery value while contributing only a modest amount to the deficit. The results for the third category are reversed from those for the second group. While the farebox recovery is favorable, the deficit contribution is relatively high. Six Rochester City Lines bus routes fall into this rating level.

The results, as graphically depicted in Figure 27, would seem to suggest a wide disparity in performance for both financial measures. This disparity would be even greater if the sponsored amount was not considered.

Figure 27
Relationship Between Farebox Recovery and Contribution to Deficit



Strategic Planning

This diagnostic tool examines each route on the basis of its deficit per passenger and each route's share of Rochester City Lines' ridership. This is a transit adaptation of strategic planning in the private sector. As noted above, one criterion used in the analysis is route deficit on a per passenger basis. The importance of this statistic is that it represents the subsidy provided each boarding passenger. It reflects the level of service and the resulting costs as well as patronage and the present fare structure.

As seen in Table 17, deficit per passenger varies widely among the 37 bus routes. Only two of the Rochester City Lines bus routes attain a farebox recovery rate over 100 percent; therefore, 35 routes receive some level of tax subsidy every time a person boards a bus. As with many of the analysis techniques, the results indicate a wide range of performance.

Similar to the previous analysis, routes have been classified for two performance criteria. With this analysis, Rochester City Lines bus routes are classified on the basis of deficit and ridership levels. The former uses deficit per passenger where a rating of low or high is assigned relative to the systemwide average deficit per passenger. To define a relative measure of ridership, market share has been used. It represents the ratio of each route's ridership to the average route ridership for the system. A value greater than one indicates high relative ridership while values less than one denote low ridership.

The need for a ridership measure is apparent from the cumulative distribution of riders by route. Ridership levels typically vary between routes, and therefore this distribution is not uniform. It would suggest that portions of the bus system reflect the desire to provide service where the demand alone would not warrant these levels of service. This analytical technique attempts to classify routes in terms of ridership levels and the subsidy attributed to each patron. As shown in Table 17, all routes have been rated relative to deficit per passenger and market share. Based on this two-way stratification system, four route categories were determined as follows:

Stratification System

Deficit per Passenger	Market Share	Category
High	High	1
Low	High	2
High	Low	3
Low	Low	4

Table 17

Deficit And Ridership Levels

	<u>Route</u>	<u>Deficit Per Passenger</u>		<u>Market Share</u>		<u>Category</u>
		<u>Value (\$)</u>	<u>Rating</u>	<u>Value</u>	<u>Rating</u>	
<i>Regular</i>	1	0.57	Low	2.52	High	2
	2	1.29	Low	1.77	High	2
	3	2.76	High	1.28	High	1
	4	1.10	Low	2.06	High	2
	5	0.99	Low	2.36	High	2
	6	-1.40	Low	0.50	Low	4
	6A	2.34	High	0.95	Low	3
	6B	2.21	High	0.96	Low	3
	6S	1.79	High	0.13	Low	3
	7	1.57	High	1.66	High	1
	8	0.82	Low	1.46	High	2
	9	1.31	Low	3.49	High	2
	10IN	1.46	Low	1.56	High	2
	10OUT	1.46	Low	1.61	High	2
	11IN	0.98	Low	1.94	High	2
	11OUT	1.23	Low	1.69	High	2
	12	2.51	High	1.56	High	1
	14	2.68	High	0.58	Low	3
16	5.69	High	0.65	Low	3	
17	3.16	High	0.58	Low	3	
18	7.61	High	0.38	Low	3	
	<i>Direct</i>					
	1D	2.43	High	0.80	Low	3
	4D	1.78	High	0.19	Low	3
	6D	0.84	Low	0.78	Low	4
	12D	3.15	High	0.84	Low	3
	18D	0.60	Low	2.96	High	2
	<i>Night</i>					
	1N	2.27	High	0.14	Low	3
	3N	5.94	High	0.05	Low	3
	7N	3.58	High	0.12	Low	3
	12N	-1.26	Low	0.28	Low	4
	<i>Shopper</i>					
	55	4.62	High	0.23	Low	3
	<i>Saturday</i>					
	21	1.61	High	0.13	Low	3
	22	2.30	High	0.09	Low	3
	23	0.77	Low	0.18	Low	4
	24	0.57	Low	0.19	Low	4
	25	2.33	High	0.20	Low	3
	26	3.60	High	0.11	Low	3
	<i>System</i>	1.55		37.00		

() Denotes surplus

Category 1 bus routes are those which have high relative ridership levels and yet incur a large deficit for each passenger carried. The net impact is typically a large deficit to operate the route. Three Rochester City Lines bus routes fall into this less desirable category. A preferred situation is Category 2, where route ridership is high, but the deficit per passenger is low. As shown in Table 17, eleven bus routes fall into this category. The third category exhibits high deficit per passenger, but the level of service and number of passengers is low; these different performance levels offset one another. This situation may not necessarily place a significant financial burden on the transit system. Eighteen bus routes or about half of the system's bus lines fall into this classification category. Category 4 bus routes also do not place a significant financial burden on the transit system. Deficit per passenger and route ridership levels are both relatively low. Five of the Rochester City Lines bus routes fall into this category.

The route classification is graphically depicted in Figure 28. As with the other classification system, the two-way stratification provides a framework for gauging performance. The results show a desirable inverse relationship between market share and deficit per passenger. Nonetheless, there are some routes that fall far from this inverse relationship.

Ordinal Ranking

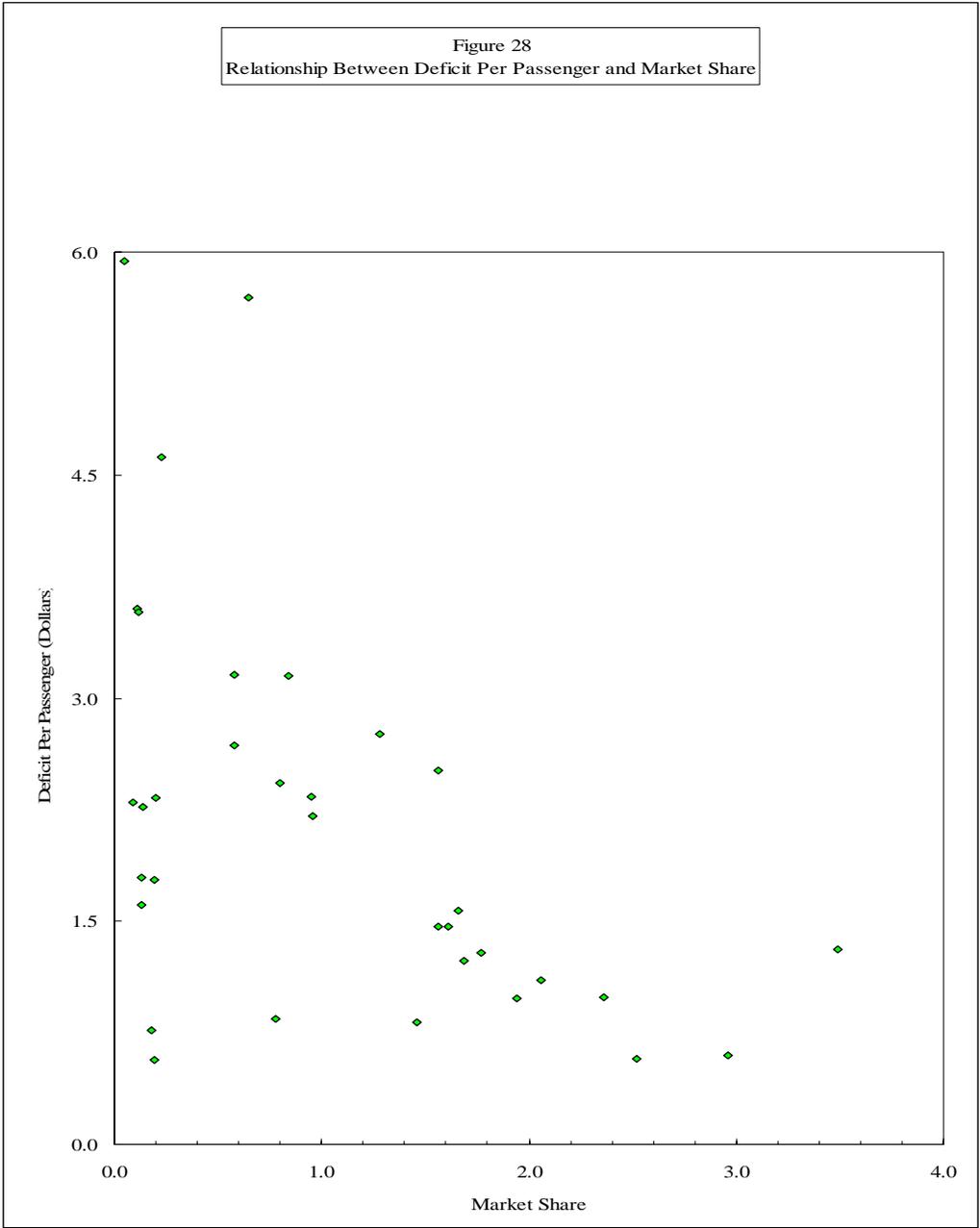
Another type of evaluation procedure is termed ordinal ranking since all 37 Rochester City Lines bus routes are ranked from best to worst for several performance indices. In turn, these results are combined to provide an overall assessment of route performance. The application of this route evaluation technique consists of three sequential steps. The first is the selection of measures or criteria to gauge each bus route's performance. In the current analysis, these indices have been grouped into two broad categories to assess productivity and deficit.

In all cases, the criteria are specified as rates in that they compare ridership and deficit relative to various operating statistics. This definition of each evaluation yardstick permits routes with different service levels and requirements to be readily compared. As with other evaluation measures, these results are informative and useful inputs to the planning process.

The next step in the route diagnostic process is to rank the routes from best to worst performance for each of the five evaluation criteria. In the case of the productivity (passenger) measures, higher route values indicate favorable performance with these routes assigned low rankings. The route with the highest productivity value and exhibiting the best performance would be assigned a rank of one.

Conversely, routes that exhibit relatively low productivity results would denote deficient performance. For example, the route with the lowest productivity value would exhibit the worst performance and therefore would be ranked 37th. In a similar fashion, each of the routes comprising the Rochester City Lines bus system were ranked for three deficit measures. One difference is that for these measures, low values indicate better relative performance while high values would denote relatively poor performance.

Figure 28
Relationship Between Deficit Per Passenger and Market Share



The concluding step in the ordinal ranking process is to combine results for the individual criteria into aggregate ratings for productivity and deficit requirements. For the two productivity measures, the ranks for each route were summed to determine a score. In turn, this score was used to establish an overall ranking for each route for the three productivity measures. Similarly, scores and ranks were computed for the three deficit indices.

Productivity Results - For the Rochester City Lines route review, two distinct measures were specified. Both of the measures relate to service productivity in that they gauge the ability of each route to attract patrons relative to the resources necessary to provide bus service. Consistent with factors that influence costs, productivity measures utilized were passengers per vehicle hour and passengers per vehicle mile.

As seen in Table 18, each of these measures were calculated and each bus route was ranked. The accompanying table illustrates the range of results, which vary substantially. Table 18 also illustrates how the rankings were then combined to generate an overall score, which itself was ranked. In terms of passenger productivity, the most productive route appears to be Route 18D with the least productive route being Route 1N.

Productivity Results (Passengers)

Measure	Best	Worst
Passenger Per Vehicle Hour	56.86	3.24
Passengers Per Vehicle Mile	2.65	0.20

Deficit Results - In a similar fashion, three subsidy measures were specified. The first two record the deficit - or amount of tax subsidy - by route relating to vehicle hour and vehicle mile. The third criterion is the ratio of subsidy (or deficit) per peak vehicle; the last is the subsidy per passenger. It should be recognized that the subsidy per passenger not only relates to route performance but also measures the equity in distributing funds to support the bus system. Also, the deficit in the current analysis is computed with allowance made for sponsored amounts.

All but two bus routes requires operating assistance to supplement farebox revenue (i.e., riders' fares and sponsored amounts) with the deficit amounts by route determined from the financial analysis. These two routes exhibit a surplus and the resulting performance measures are shown in parenthesis. The ordinal ranking evaluation relies on the deficit required relative to the key operating statistics (Table 19). The subsidy per passenger measures the equity in distributing public funds to the transit system in terms of patrons and was discussed as part of the strategic planning analysis. Consistent with the previous analyses, each route is rated relative to each other.

Table 18

Passenger Productivity Score And Rank

Route	Vehicle Mile		Vehicle Hour		Combined	
	Value	Rank	Value	Rank	Score	Rank
<i>Regular</i>						
1	2.34	2	30.95	2	4	2
2	1.54	10	19.88	11	21	10
3	0.90	24	11.45	27	51	25
4	1.59	7	22.58	8	15	7
5	1.70	5	23.20	6	11	5
6	1.21	17	22.77	7	24	12
6A	1.08	19	16.76	18	37	19
6B	1.25	16	16.60	19	35	17
6S	1.08	18	13.89	24	42	20
7	1.33	14	17.83	15	29	15
8	2.10	3	25.79	3	6	3
9	1.61	6	19.76	12	18	8
10IN	1.51	12	18.12	13	25	13
10OUT	1.51	11	17.84	14	25	13
11IN	1.80	4	23.29	5	9	4
11OUT	1.57	9	20.98	10	19	9
12	0.92	22	15.97	20	42	20
14	1.03	20	17.41	16	36	18
16	0.50	32	6.50	32	64	31
17	0.87	25	14.47	21	46	24
18	0.52	31	8.55	29	60	29
<i>Direct</i>						
1D	0.92	23	14.37	22	45	23
4D	0.70	27	9.33	28	55	28
6D	1.29	15	16.88	17	32	16
12D	0.48	33	7.78	31	64	31
18D	2.65	1	56.86	1	2	1
<i>Night</i>						
1N	0.20	37	3.24	37	74	37
3N	0.38	36	5.43	34	70	35
7N	0.44	34	5.92	33	67	34
12N	0.41	35	4.57	36	71	36
<i>Shopper</i>						
55	0.58	29	5.21	35	64	31
<i>Saturday</i>						
21	1.03	21	14.28	23	44	22
22	0.77	26	11.48	26	52	26
23	1.45	13	21.40	9	22	11
24	1.58	8	23.73	4	12	6
25	0.67	28	12.24	25	53	27
26	0.53	30	8.16	30	60	29
<i>System</i>						
	1.25		17.38			

Table 19

	Route	Deficit Score And Rank							
		Vehicle Mile		Vehicle Hour		Passenger		Combined	
		Value	Rank	Value	Rank	Value	Rank	Score	Rank
Regular	1	1.33	8	17.67	8	0.57	4	20	6
	2	1.99	22	25.63	18	1.29	13	53	16
	3	2.48	30	31.62	27	2.76	29	86	29
	4	1.74	16	24.74	16	1.10	11	43	12
	5	1.69	14	23.01	13	0.99	10	37	10
	6	-1.68	1	-31.79	1	-1.40	1	3	1
	6A	2.52	31	39.13	33	2.34	25	89	31
	6B	2.76	34	36.68	31	2.21	21	86	29
	6S	1.94	21	24.88	17	1.79	20	58	19
	7	2.08	23	27.92	24	1.57	17	64	25
	8	1.72	15	21.12	9	0.82	7	31	8
	9	2.10	24	25.80	20	1.31	14	58	19
	10IN	2.20	25	26.47	23	1.46	15	63	23
	10OUT	2.21	26	26.12	21	1.46	16	63	23
	11IN	1.77	18	22.94	11	0.98	9	38	11
	11OUT	1.92	20	25.74	19	1.23	12	51	15
	12	2.32	29	40.02	34	2.51	27	90	32
	14	2.77	35	46.60	36	2.68	28	99	34
	16	2.82	36	37.04	32	5.69	35	103	36
	17	2.76	33	45.78	35	3.16	31	99	34
	18	3.93	37	65.04	37	7.61	37	111	37
	Direct								
	1D	2.24	28	34.85	30	2.43	26	84	28
	4D	1.24	7	16.58	7	1.78	19	33	9
	6D	1.08	5	14.12	5	0.84	8	18	4
	12D	1.52	9	24.49	15	3.15	30	54	18
	18D	1.59	12	34.09	29	0.60	5	46	14
	Night								
	1N	0.46	3	7.36	3	2.27	22	28	7
	3N	2.23	27	32.26	28	5.94	36	91	33
	7N	1.58	11	21.18	10	3.58	32	53	16
	12N	-0.52	2	-5.77	2	-1.26	2	6	2
	Shopper								
	55	2.67	32	24.06	14	4.62	34	80	27
	Saturday								
	21	1.66	13	23.01	12	1.61	18	43	12
	22	1.76	17	26.46	22	2.30	23	62	22
	23	1.11	6	16.38	6	0.77	6	18	4
	24	0.90	4	13.54	4	0.57	3	11	3
	25	1.57	10	28.46	25	2.33	24	59	21
	26	1.92	19	29.35	26	3.60	33	78	26
	System	1.93		26.88		1.55			

() Denotes surplus

As shown in the accompanying table, and similar to the results exhibited for productivity, route performance varies substantially. Typically, the Rochester City Lines' routes receive similar results for many deficit measures; although some significant differences are noted.

Deficit Results (Dollars)

Measure	Best	Worst
Per Vehicle Hour	(31.79)	65.04
Per Vehicle Mile	(1.68)	3.93
Per Passenger	(1.40)	7.61

In the aggregate, a generally consistent pattern of route performance emerges, although some differences are noted. Typically, routes that attain a particular rating in terms of productivity achieve a similar performance level for the deficit measures. Differences are attributable to different operating speeds and average fare. The latter also includes the sponsored amounts which has the impact of raising the average fare.

Supply and Demand Review

The concluding analytical technique is a review of the relative balance between the Rochester Bus Lines' bus service and the resulting demand (Table 20). This analysis compares the number of bus trips to two performance measures - passengers per vehicle hour and farebox recovery. As shown in Figure 29, the weekly trips are reviewed in relation to passenger productivity. The most desirable pattern would be weekly trips directly proportional to passengers per hour. In essence, bus routes with high passengers per hour should have a relatively high number of weekly trips. Conversely, low passengers per hour should result in fewer numbers of weekly trips.

In the aggregate, the pattern appears to be somewhat linear, indicating that there does appear to be a relationship between the supply of service and the passenger productivity. This suggests that service levels are established in response to demand, but also consideration of policy levels as reflected in the financial support from the Mayo Clinic. In a similar manner, as shown in Figure 30, farebox recovery is more dispersed than passengers per vehicle hour.

When the passengers per hour and farebox recovery values are computed as ratios relative to the supply of transit service are analyzed, it is apparent that there are opportunities for a closer relative "balance" between the supply of transit service and the demand for such service. As seen in Table 20 - and as illustrated by Figures 29 and 30 many of the Rochester City Lines system's bus routes do not fall within within a range of about one-sixth of the system average for

Table 20

Service Supply Characteristics

Route	Passengers Per Hour		Farebox Recovery	
	Ratio	Rating	Ratio	Rating
Regular				
1	30.95	Low	60.20	3.24
2	19.88	High	40.70	High
3	11.45	High	23.50	High
4	22.58	Low	44.16	Medium
5	23.20	Medium	46.32	High
6	22.77	Low	178.54	Low
6A	16.76	Medium	22.96	High
6B	16.60	Medium	23.95	High
6S	13.89	Low	27.97	Low
7	17.83	High	35.68	High
8	25.79	Low	52.22	Low
9	19.76	High	39.59	High
10IN	18.12	High	37.96	High
10OUT	17.84	High	37.91	High
11IN	23.29	Medium	47.72	High
11OUT	20.98	Medium	42.28	High
12	15.97	Low	26.72	High
14	17.41	Low	24.23	Low
16	6.50	High	12.86	High
17	14.47	Low	20.23	Low
18	8.55	High	11.07	High
Direct				
1D	14.37	Medium	31.80	Medium
4D	9.33	Medium	77.42	Low
6D	16.88	Low	72.56	Low
12D	7.78	High	47.53	High
18D	56.86	Low	40.99	Low
Night				
1N	3.24	High	80.53	Low
3N	5.43	Low	10.71	Low
7N	5.92	High	39.66	Low
12N	4.57	High	117.56	Low
Shopper				
55	5.21	Medium	21.89	Low
Saturday				
21	14.28	Low	35.22	Low
22	11.48	Low	27.81	Low
23	21.40	Low	55.06	Low
24	23.73	Low	63.06	Low
25	12.24	Low	28.39	Low
26	8.16	Low	20.52	Low
System				
		8.07		3.20
	Average	8.07		3.20
	Std. Dev.	6.44		2.74
		9.28		3.68
		6.86		2.72

Figure 29
Service Supply Characteristics -- Passengers Per Hour

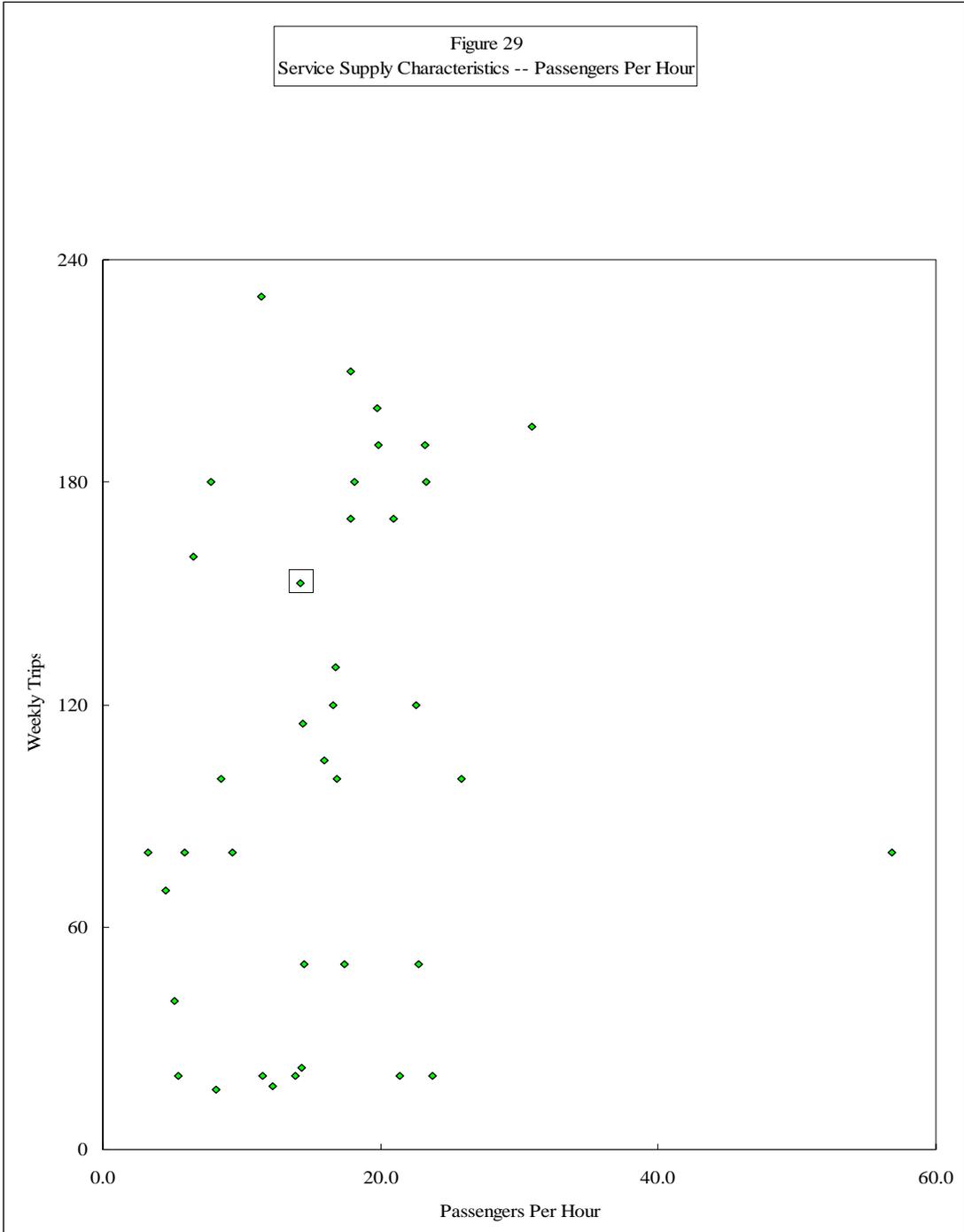
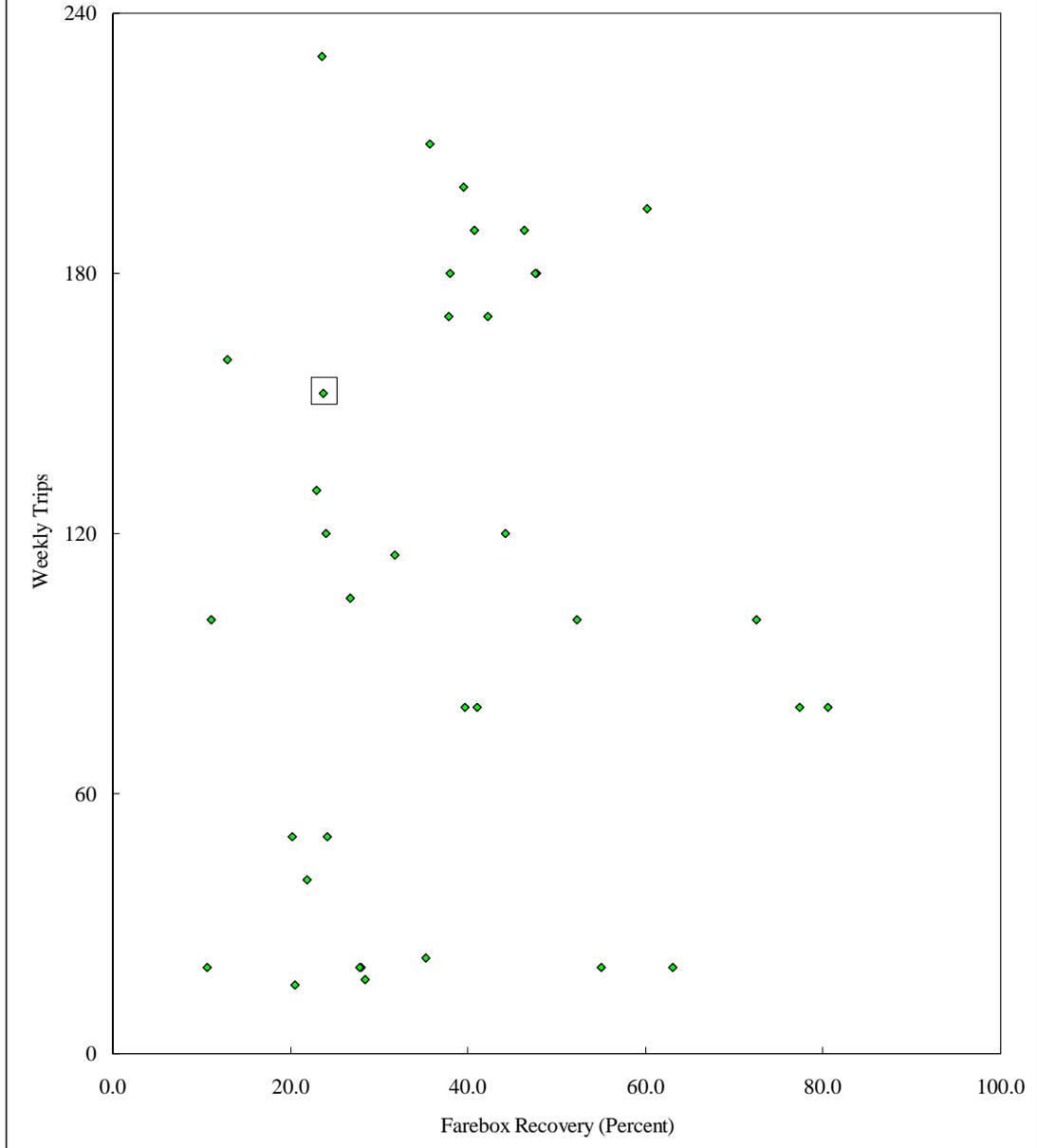


Figure 30
Service Supply Characteristics -- Farebox Recovery



both the farebox recovery and passenger per hour ratios. As noted previously, there are opportunities to bring some routes in closer compatibility.

Summary

This interim report has presented performance results for the Rochester City Lines' bus routes for a recent one year period (i.e., 2004). A variety of analytical techniques have been utilized to present a "snapshot" of financial, productivity and other types of performance. The techniques provide different perspectives of route performance. In the aggregate, the individual route performance is similar - but not identical - with the different techniques. The procedures are diagnostic in that they provide one input to subsequent service planning steps. Other considerations, many of which are non-quantifiable (such as equity and need) will also influence transit decisions. Nonetheless, the range of techniques and the different performance measures will facilitate identification of both deficiencies and opportunities.

ADEQUACY OF SERVICE

A previous report provided a comprehensive set of suggested service standards for the Rochester City Lines system. The standards dealt with a variety of issues related to the quantity and quality of bus service. In this chapter, Rochester City Lines' performance relative to each element of the suggested service standards is assessed. By utilizing the standards, guidance can be obtained for the development of transit improvement recommendations.

The analysis is organized in the same manner as the service standards. Rochester City Lines' performance in comparison to standards from four major categories (service attributes, operational attributes, passenger comfort and convenience, as well as fiscal condition) is identified and explained. One point to note at the outset is that Rochester City Lines' performance should be reviewed in relation to tradeoffs associated with the different elements comprising the service standards policy. Moreover, the analysis presented in this chapter delineates the competing requirements of providing extensive coverage and frequent service within in the practical constraints of reasonable funding. In this regard, certain elements of the service standards policy should be viewed as targets for future considerations. The results of this detailed review of Rochester City Lines' fixed routes will become an important input in the development of an improved route structure.

Service Attributes

This category of standards concerns routes and schedules and includes standards related to service availability, route design and service provision. The analysis of the adequacy of Rochester City Lines' current routes in comparison to these standards will determine whether or not Rochester City Lines' service is provided where transit service should be provided throughout the City of Rochester. This part of the analysis will also show if the bus routes serving those destinations are designed appropriately and whether those routes operate when they should and as often as they should.

Availability - This category deals with allocating transit resources to provide the best possible coverage of the service area. The discussion below concerns the application of the service availability standards to the present Rochester City Lines fixed route bus system.

There are two components of the service availability standard for Rochester City Lines routes. One component concerns the location of routes relative to the population that produces transit trips. The other relates transit service to the activity centers that attract transit patrons. Both of these components of Rochester City Lines' service have been assessed.

Production End - In the City of Rochester, the determination of which residential neighborhoods should be candidates for service is a function of the population density of the area. Areas with high population density would exhibit the greater need for transit. It has been determined that any portion of the City of Rochester that has a population density of 1,500 persons per square mile has the concentrations necessary to support reasonable transit utilization levels. For those areas within the City that have a population density of 1,500 to 2,500 persons per square mile only, peak period only service is warranted. Higher density areas warrant fixed route service throughout the day.

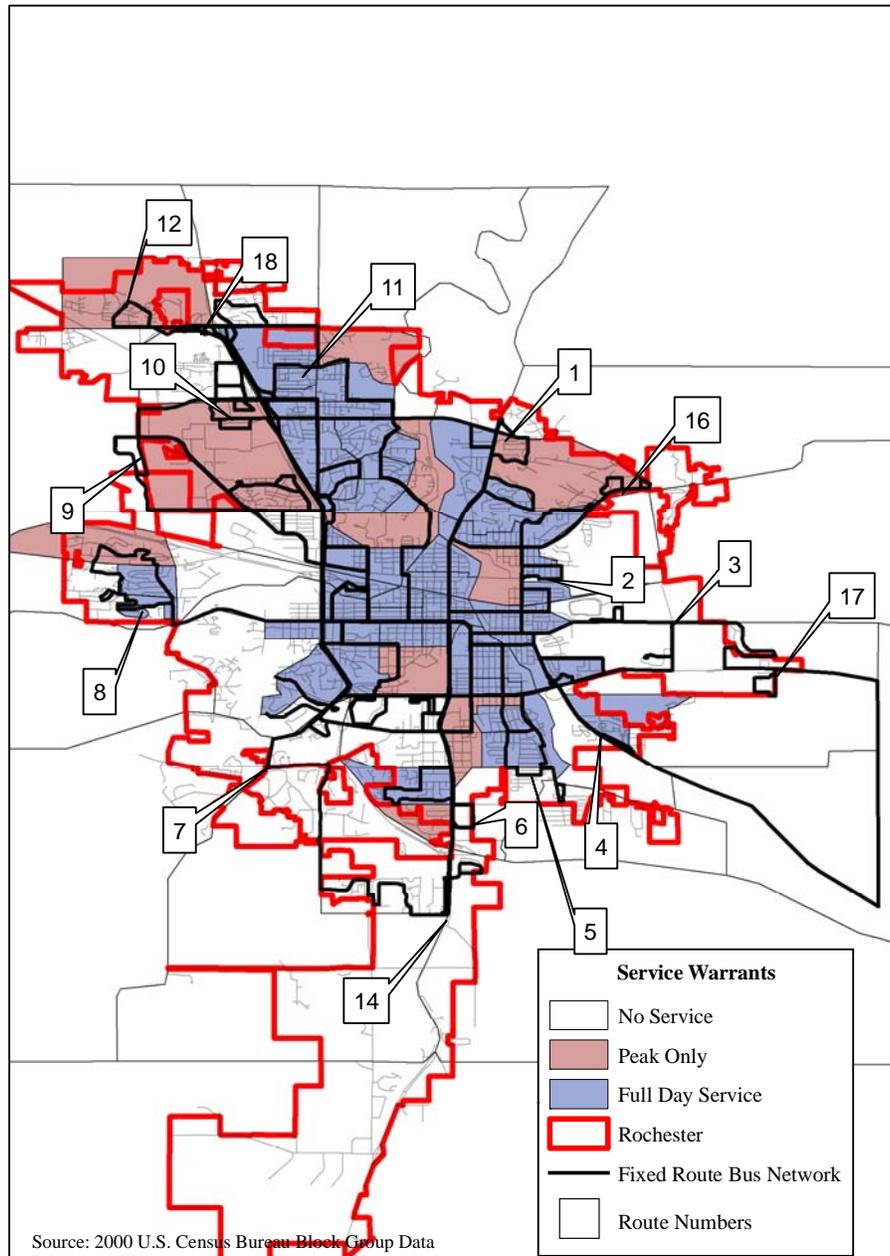
Figure 31 presents the 2000 U.S. Census population density data for the City of Rochester in terms of blocks groups. The current Rochester City Lines route structure is overlaid on the population density information. The results show that all areas in the City with a population density of 1,500 persons per square mile or more are served by at least one bus route. Therefore, this service standard is met. In fact, the results indicate that the service provided by Rochester City Lines in several cases exceeds the standard. For example, while Routes 14 and 17 provide only peak period service, the area that they serve has a density of less than 1,500 persons per square mile. Service based on the standard indicates that service is not required in the outer areas served by these two routes. In fact, the results presented in the route diagnostics section of this report indicate that Routes 14 and 17 are among the worse performing Rochester City Lines routes.

It must be noted that the City of Rochester is a fast growing City. As pointed out in the Community Characteristics section of this report, the City has grown by 21.3 percent from 1990 to 2000. The latest population figures indicate that the City has grown another 8.4 percent from 2000 to 2003 to 93,037 people. Much of the growth is occurring in the outer portions of the City. Therefore, the outer portions of the two routes noted above, as well as the outer portions of other routes, are serving these growth areas.

Attraction End - The service standards developed for Rochester City Lines established the types of major activity centers that warrant transit service. The following section discusses Rochester City Lines service relative to the major activity sites in the region. Figures depicting Rochester City Lines' compliance with these attraction end coverage standards were included in the Community Characteristics report.

Employers - The service availability standard calls for fixed route service to major employers, which is defined as employers with 300 or more employees at one location. All of these major employers are either served directly or are within walking distance from a Rochester City Lines bus route.

Figure 31 - Service Warrants



Shopping Centers/Malls - There are 14 shopping centers and malls in the service area that meet the service availability threshold of 100,000 square feet of leased retail space. All 14 are served by Rochester City Lines fixed route service.

Hospitals/Nursing and Senior Citizen Homes - All three major hospitals and one clinic are served by Rochester City Lines fixed route bus service. Additionally, 19 of the 20 senior citizen facilities also receive Rochester City Lines fixed route bus service. The unserved facility, Madonna Meadows, is located about one half mile from the nearest bus route.

Colleges/Universities - The availability standard calls for Rochester City Lines fixed route service to high schools and post-secondary educational facilities. Rochester City Lines serves all three high schools and the Rochester Community and Technical College.

Social Service Agencies/Government Centers - The suggested coverage standard calls for fixed route service to all government agency and social service offices that serve more than 100 clients per day. Government and social service agencies are primarily located in the central portion of the City. As shown in the Community Characteristics section of this report, all of these type centers are served by fixed route bus service.

In summary, the Rochester City Lines system attains favorable results in terms of the availability standard. Rochester City Lines provides good coverage from the standpoint of the production end of transit demand. Most areas of the City of Rochester are afforded bus service that is appropriately provided based on the demographic and socioeconomic conditions of the area. In terms of the attraction end of demand, Rochester City Lines provides bus service to nearly all the major generators. Only one exception was noted. The unserved facility, Madonna Meadows, is located in the southwest portion of the City and about one half mile from Route 7.

Route Structure - This category deals with the structure of the bus routes used to provide service coverage. The discussion below concerns the application of the standards for route structure to the present Rochester City Lines fixed route bus system. There are two components of the route structure standard for Rochester City Lines routes. One component concerns the directness of route design. The second component relates to the number of trip variations contained in the schedule of each route. Both of these components of Rochester City Lines' bus routes have been assessed.

- **Directness** - There are two procedures used to assess the directness of the Rochester City Lines bus system. The first concerns how straight or circuitous each route is. The standard calls for each route's path to be no more than 1.70 times the straight line distance between its terminal points. Some allowances are made in areas where roadway or topographical restrictions require Rochester City Lines to operate a less direct alignment and where certain communities or neighborhoods have rather limited access in terms of suitable streets on which to operate transit vehicles. With a standard directness ratio of 1.70, coverage and accessibility are awarded a somewhat higher priority than directness. To assess the directness of Rochester City Lines routes, route miles and the straight distance between terminal points were measured on a base map of the area. Table 21 provides data regarding the directness of the system as a whole and on an individual route basis. The table shows that the overall route directness ratio for the Rochester City Lines fixed route network varies widely by service type.

For example, the Direct Routes have the best directness factor at 1.23. The Night routes have the highest at 1.62. The directness ratio for Saturday routes is also high at 1.59. The weekday regular routes have a directness ratio of either 1.49 or 1.54. The reason for the variation is that Route 14 has a different routing for the AM and PM periods.

For the weekday regular routes, five of the 18 routes exceed the 1.7 directness ratio – Route 7, 11, 14PM, 17 and 18. All the Direct Routes meet the standard. One Night route (Route 7N) and two Saturday routes (Routes 24 and 25) exceed the directness standard. Since the Night and Saturday routes are established to provide coverage throughout the City, the routes sacrifice directness to provide coverage. Therefore, having indirect services during evening hours and on Saturday is more acceptable. However, indirect weekday regular service is an issue that will be reviewed in subsequent phases of this study.

The second method of assessing directness examines the level of passenger transfer activity among routes. No more than 25 percent, or one out of every four, of all Rochester City Lines riders should find it necessary to utilize more than one bus to complete a trip. The results from the Rider Survey were used to determine the level of transfer activity on the Rochester City Lines system. The results indicate that about 17.5 percent of the riders transfer to complete their trip. This meets this element of the directness standard.

Table 21
Route Directness Ratio by Route

Route	Route Path Distance	Straight Line Distance	Ratio
Weekday Regular Routes			
1	4.23	2.80	1.51
2	3.33	2.40	1.39
3	3.33	2.40	1.39
4	3.05	2.70	1.13
5	3.30	2.40	1.38
6	5.46	4.00	1.37
6A	4.38	2.80	1.56
6B	3.00	2.80	1.07
7	3.75	1.90	1.97
8	4.50	3.50	1.29
9	6.70	4.30	1.56
10 In/10 Out	5.50	3.60	1.53
11 In/11 Out	6.70	3.80	1.76
12	9.00	5.30	1.70
14 AM/PM	5.20/8.20	4.00	1.30/2.05
16	5.00	3.00	1.67
17	11.00	6.00	1.83
18	9.25	4.80	1.92
Subtotal	96.68/99.68	64.90	1.49/1.54

Table 21 (Continued)
Route Directness Ratio by Route

Route	Route Path Distance	Straight Line Distance	Ratio
Direct Routes			
1D	3.20	2.80	1.14
4D	3.00	1.90	1.58
6D	3.00	2.80	1.07
12D	6.35	4.80	1.32
18D	5.50	4.80	1.15
Subtotal	21.05	17.10	1.23
Night Routes			
1N	3.20	2.80	1.07
3N	3.33	2.40	1.39
7N	6.70	2.80	2.39
12N	7.50	4.80	1.56
Subtotal	20.73	12.80	1.62
Saturday Routes			
21	4.30	2.80	1.54
22	3.20	2.70	1.19
23	3.50	2.80	1.25
24	3.40	1.80	1.89
25	9.80	4.70	2.09
26	6.90	4.70	1.47
Subtotal	31.10	19.50	1.59
TOTAL	172.56	114.30	1.51

- **Complexity** - A route structure that 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 route complexity standard suggests that Rochester City Lines limit variations such as by time of day, by off line deviations and turnbacks from the main route to no more than two for each route. An analysis of Rochester City Lines' public timetables was used to determine the number of route variations for each bus route. Table 22 provides the results of the analysis. The table shows that five Rochester City Lines weekday regular routes and three Direct Routes have route changes by AM versus PM periods. Except for the small AM/PM variation in Route 4, nearly the entire route path of the other four routes will operate in the reverse direction in the PM period compared with the AM period. The AM/PM variation in the three Direct Routes also is effective for nearly the entire route path. These changes in direction between the AM and PM periods are aimed at providing the riders a quicker trip to and from downtown Rochester. As shown in Table 22, Routes 1 and 6 each have three variations in addition to the AM/PM route direction change. Route 1 serves Rocky Creek Drive and the Northern Valley Drive area on eight daily trips. On four of these trips the route also serves the Northern Heights and 10th Avenue NE area. On one trip the route serves the Northern Heights and 10th Avenue NE area and not the Rocky Creek Drive and Northern Valley Drive area. The remaining nine trips serve the ShopKo North and not the other two areas. The variations in Route 6 are even more extensive. Route 6 is termed a midday route. It operates five trips between 10:15AM and 2:40PM. Four of the trips are the same and the fifth excludes service to Mills Fleet Farm and Channel 1 Food Bank. Route 6A is a peak period only route that provides six AM and seven PM round trips over an alignment similar to Route 6 but not the same. Route 6B is also a peak period only route that provides six AM and six PM round trips over an alignment similar to Routes 6 and 6A but not the same.

It is important to note that, in many instances, variations or turnbacks exist for logical reasons. For example, certain trips turnback in the early AM hours before reaching a retail establishment that has not yet opened for the business day. Other variations exist to provide some level of service to destinations that may only need limited or peak period service, such as an industrial park. Although all of these variations seem useful or sensible, they can create a complicated schedule. Trip variations that result in a portion of the main route being unserved are especially inconvenient for passengers. The system becomes difficult to comprehend and use if a passenger must carefully check a schedule to determine whether or not a bus will serve a marked stop on a particular trip.

In the case of the routes mentioned above, the different route variations, including the reverse alignment during the AM and PM periods, will be examined and ways to simplify these route structures will be pursued in subsequent phases of this planning effort.

**Table 22
Number of Route Variations by Route**

Route	Routing Variations
Weekday Regular Routes	
1	3 + AM/PM
2	AM/PM
3	1 (Summer)
4	1 + AM/PM
5	1
6, 6A, 6B	3 + AM/PM
7	1
8	0
9	1
10 In/10 Out	1
11 In/11 Out	1
12	1
14AM/PM	AM/PM
16	0
17	1
18	0
Other Routes	
1D, 4D and 6D	AM/PM
12D and 18D	0
1N, 3N, 7N and 12N	0
21, 22, 23, 24, 25 and 26	0

Service Provision - This category deals with when and how often service should be provided on the various Rochester City Lines bus routes. The discussion below concerns the application of the service provision standards to the present Rochester City Lines fixed route bus system. There are two components of the service provision standard for Rochester City Lines routes. One component concerns span of service, or the hours during which Rochester City Lines service should be available. The other relates to the frequency of service, or the amount of time between buses at a particular bus stop. Both of these components of current service are assessed.

- **Span** - The duration of time each route should operate varies by route type and by day of the week (i.e., weekday, Saturday or Sunday). This policy element should be viewed together with other standards such as financial and productivity performance. For the purpose of this service adequacy analysis, start or end times within fifteen (15) minutes of the suggested standard are considered to be meeting the standard.

Regular and Saturday Routes - The span of service standard for Rochester City Lines Regular routes suggests twelve hours of service (6:00AM to 6:00PM) on weekdays and ten hours of service (8:00AM to 6:00PM) on Saturday. The standard calls for Sunday service on an as needed basis. Two of Rochester City Line's Regular routes do not meet this standard for the weekday span. These include Routes 3 and 7 that start too late to meet the standard. In addition, all of the six Saturday routes do not meet the span of service standard for Saturday due to their starting too late in the morning to meet the standard. All of the weekday regular routes and Saturday routes end after 6:00PM and therefore comply with the standard.

Direct Routes - The service provision standard for Direct Routes suggests service spanning 6:00AM to 9:00AM and again between 3:00PM and 6:00PM. Route 1D complies with the standard in both the AM and PM periods. Route 4D ends too early in both the AM and PM periods. Both 6D and 18D end too early in the AM period. Route 12D is operated mostly in the midday period, unlike the other four Direct routes.

Night Services - The span of service standard for Rochester City Line's night services suggests a span of four hours (6:00PM - 10:00PM). The only Rochester City Lines night route of the four night routes that doesn't meet the standard is Route 3N. This route starts too late (i.e., 7:15PM).

The review of Rochester City Lines service in regards to the suggested span of service standard indicates that on some Rochester City Line's routes, the spans of service are not in compliance with the suggested standard. However, the proper response may not simply be to increase the span of service on the various routes to meet the suggested standard. Instead, each individual deficiency should be

analyzed to determine if route modifications or improvements could be used to extend service spans or if current spans should be retained. The current route productivity (on-off counts by trip) as well as the rider and non-rider surveys are tools to be used to make these determinations.

- **Frequency** - Frequency of service standards have been established for Rochester City Lines routes. This policy element should be viewed together with other standards such as financial and productivity performance. These suggested standards are described below.

Regular and Saturday Routes - The frequency of service standard for Rochester City Lines' regular routes has been established at a minimum of 30 minutes during the weekday AM and PM peak periods (6:00AM - 9:00AM and 3:00PM - 6:00PM) and a minimum of 60 minutes during the base period (9:00 AM - 3:00 PM). On Saturday, the standard suggests service at a 60-minute frequency throughout the service day. The Table in the Existing Conditions section provides this frequency information.

The Table shows that six of Rochester City Lines' 16 weekday regular routes do not meet the standard for weekday peak and midday frequency. Routes 1 through 12 are the core routes of the Rochester City Lines weekday system. Of these routes, only Routes 7 and 8 do not meet the peak period frequency standard. Route 8 also does not meet the midday standard. The other four weekday regular routes (Routes 14, 16, 17 and 18) do not meet the peak and midday frequency standard.

All the six Saturday routes operate on a 60-minute headway and are therefore in compliance with the standard.

Direct Routes - The service provision standard for Direct Routes suggests service every 30 minutes spanning 6:00AM to 9:00AM and again between 3:00PM and 6:00PM. Routes 1D, 4D, 6D and 18D comply with the standard in both the AM and PM periods. Route 12D primarily provides midday service. However, the service that it provides meets the 30-minute headway standard.

Night Services - The frequency of service standard for Rochester City Lines' night services suggests a 60-minute headway. Three of the night routes (Routes 1N, 7N and 12N) exceed the standard and provide a 30- minute headway during the evening period. Only Rochester City Lines' Route 3N does not meet the standard by providing only two trips during the period.

In most of the cases listed above of Rochester City Lines routes not meeting the frequency of service standard, the reason for this often reflects other considerations. These considerations may include the desire to minimize vehicle requirements, maximize productivity or improve financial performance. Therefore, it is not a question of simply increasing the frequency on the various routes to meet the suggested standard. Instead, route modifications or other improvements may allow for a streamlining of routes and for optimum service frequencies to be provided throughout the system. The current route productivity (on-off counts by trip) as well as the rider and non-rider surveys are tools to be used to make these determinations.

Operational Attributes

This section presents Rochester City Lines' performance in areas related primarily to the patron's experience while using the system. Operational characteristics are reviewed in terms of speed, loading, bus stop spacing and dependability.

Running Speed - The running speed of a bus, which excludes layover and deadhead, is the most meaningful measure of speed for the passenger. The recommended Rochester City Lines standard calls for running speeds that vary according to areas in which the service is being operated. The standard suggests average running speeds of 10 - 14 miles per hour (mph) in the City of Rochester, 14 - 22 mph in suburban areas of the City and 14 - 22 mph for the Direct Routes. Table 23 provides the daily vehicle miles and hours for each of Rochester City Lines weekday regular routes and the calculated running speed for 2005 operations.

None of the routes have running speeds below the 10 mph limit. However, several routes exceed the 14 mph upper limit for City routes. These include Routes 6, 6A, 12, 14, 17 and 18. Except for Route 12, a major portion of each route serves a suburban area of the City where higher speeds are possible. For Route 12, a portion of the route is operated over Highway 52 where higher speeds are also possible.

Table 24 provides the daily vehicle miles and hours for Rochester City Lines Directs Routes, Night routes and Saturday routes and the calculated running speed for 2005 operations.

As seen in Table 24, two of the five Direct Routes have running speeds below the standard. These two routes operate mostly in the City, with only a small portion of the route on Highway 52. Speeds for the Night and Saturday routes are all above the lower limit and are reasonable for the areas that they serve.

Table 23
Running Speed of Weekday Regular Routes

Route	Daily Vehicle Miles	Daily Vehicle Hours	Running Speed (MPH)
1	134.75	10.17	13.2
2	142.8	11.10	12.9
3	178.8	14.00	12.8
4	161.5	11.38	14.2
5	142.8	10.65	13.6
6	52.0	2.75	18.9
6A	110.0	7.07	15.6
6B	96.4	7.25	13.3
7	155.8	11.60	13.4
8	87.0	7.07	12.3
9	271.2	22.08	12.3
10 In/10 Out	261.9	22.00	11.9
11 In/11 Out	269.8	20.50	13.2
12	211.1	12.22	17.3
14	70.2	4.17	16.8
16	164.0	12.50	13.1
17	82.0	5.25	16.6
18	91.1	5.50	16.6

**Table 24
Running Speed of Other Routes**

Route	Daily Vehicle Miles	Daily Vehicle Hours	Running Speed (MPH)
Direct Routes			
1D	120.25	6.92	15.6
4D	33.3	2.50	13.3
6D	75.1	5.75	13.1
12D	218.1	13.50	16.2
18D	139.52	6.50	21.5
Night Routes			
1N	88.9	5.50	16.2
3N	15.6	1.08	14.4
7N	73.2	5.46	13.4
12N	70.2	7.75	11.2
Saturday Routes			
21	79.5	5.75	13.8
22	75.0	5.00	15.0
23	74.0	5.00	14.8
24	75.0	5.00	15.0
25	177.0	9.75	18.2
26	126.0	8.25	15.3

Loading - The passenger loading standard for Rochester City Lines suggests that passenger loads equaling 125 percent of the vehicle's seated capacity are acceptable on Regular Weekday routes during the peak periods. On a full size bus with 40 seats, this would translate into approximately 50 passengers on the bus at one time. This means that some standing passengers are acceptable on these trips. On all other routes and during all other periods, every passenger should be provided a seated ride. Services that do not meet this standard are considered overcrowded and schedule enhancements should be made to address the issue.

To determine if overcrowding exists on any Rochester City Lines services, data from on-board ride checks performed the week of April 18, 2005 were reviewed. The review showed that only Route 8 had one trip with a standing load. Passengers were able to have a seat on trips for all other routes. However, there were ten total trips where the passenger load exceeded 30 passengers. In some instances for the trips listed in Table 25 below, some riders may stand for a portion of the trip.

**Table 25
Maximum Loads Exceeding 30 Passengers**

Route	Trip Time	Peak Load
1	7:11AM	32
4	7:42AM	31
4	5:13PM	32
5	7:12AM	37
6A	4:13PM	36
8	7:00AM	49
11	7:02AM	33
11	5:15PM	40
18D	7:30AM	37
18D	7:40AM	32

While the above loads are high, it does not appear that overcrowding is a problem. In fact, based on information from drivers and passengers on overcrowding, Rochester City Lines will react by adding service to alleviate the condition.

Bus Stop Spacing - The spacing of bus stops should take into consideration both passenger convenience and speed of operation. The spacing standard should also reflect the intensity of development and the location of major generators along the route path. According to the suggested standard, densely developed urban areas should have seven or eight bus stops per mile, which usually translates to one every other block. The standard also suggests that there be five or six bus stops per mile in the inner suburban areas and four to five bus stops per mile in the outer suburban areas. In the rural areas, a flag stop arrangement is appropriate. To determine whether or not the spacing of Rochester City Lines bus stops meets the suggested standard, all routes were driven and the bus stop spacing was observed. It was observed that throughout the densely developed areas of the City of Rochester and the outer suburban areas, bus stops were appropriately spaced.

Dependability - There are several ways to evaluate the dependability of Rochester City Lines' services. The first relates to the dependability of Rochester City Lines vehicles and staff to actually operate its scheduled service. Measures of actual versus scheduled service are expressed as the percentage of scheduled trips actually operated, percentage of scheduled bus pull-outs that are actually made and the miles between road calls. For Rochester City Lines, the missed trip standard is established at 99.5 percent. The standard for missed pull-outs is even more stringent at 99.8 percent. The second measure concerning the dependability of Rochester City Lines service is the number of miles operated between service disruption road calls. A general guide for Rochester City Lines should be 4,000 miles between road calls.

According to our observations of the service during the survey week, discussions with passengers and discussions with Rochester City Lines management staff, it is determined that missed pull-outs and missed trips are not a problem. Based on these observations and discussions, Rochester City Lines' performance meets this element of the dependability standard. Also, based on discussions with Rochester City Lines management staff, the bus system failures requiring road calls were minimal and far exceeded the 4,000 mile standard.

The final component of the dependability standard deals with how well Rochester City Lines buses operate in accordance with published schedules. In the current analysis, on time has been defined as zero minutes early to five minutes late. Buses outside this acceptable band, whether early or late, are considered to be not on time. The on-time performance standard for Rochester City Lines suggests that during the peak periods, 90 percent of all buses should arrive within the acceptable band. During off peak periods, 95 percent of buses on all routes should arrive within the acceptable band.

One of the most important ways to judge a system's on time performance is to gauge the perception of the passengers concerning the system's performance in this regard. An on-board opinion survey was conducted of Rochester City Lines passengers during the week of April 18, 2005. Passengers were asked to rate Rochester City Line's on-time performance as *excellent*, *very good*, *good*, *fair* or *poor*. A total of 93.9 percent of the weekday passengers and 92.3 percent of Saturday passengers provided the rating of *excellent*, *very good* or *good*. In surveys like this, performance is typically deemed successful if a combined total of 90 percent of the

passengers surveyed provide one of the favorable ratings. Rochester City Lines' passengers give Rochester City Lines a rating that exceeds that benchmark for both weekday and Saturday service.

Another review of on-time performance was made during the on-off count survey. Survey workers marked the time that each bus reached a time point listed on the schedule. The survey worker recorded time was compared with the scheduled time. Results were tabulated and confirm the findings from the rider survey responses. The on-time survey worker results indicated that about 90 percent of the peak period and 86 percent of the off-peak period trips were on time. Considering possible inaccuracies in the watch that the survey workers were using to record the actual time, these results compare favorably with the rider survey results.

In summary, the reliability of Rochester City Lines bus service is favorable and not an issue with regard to needed route changes.

Passenger Comfort and Convenience

There are four elements of the Rochester City Lines system that are reviewed in terms of passenger comfort. These standards involve elements that relate primarily to the hardware aspects of the system and include waiting shelters, bus stop signs, revenue equipment and public information.

Waiting Shelters - The standard for bus shelters recommends that Rochester City Lines install a shelter at each stop location with 25 or more daily passenger boardings. Rochester City Lines has seven bus waiting shelters at its downtown hub at the 100 Block of 2nd Street SW. In addition to these seven, Rochester City Lines has a total of 54 additional bus-waiting shelters installed at various bus stops throughout its system. The City of Rochester owns most of these shelters and is responsible for most vandalism repair. Rochester City Lines is responsible for the upkeep (litter pick-up and glass cleaning) for most of these shelters. All observed shelters were in good repair and were free of graffiti.

Based on the on-off count survey, there were six locations besides the downtown hub that had 25 or more passenger boardings in one day. These six locations are stops at the Rochester Community and Technical College, Eastridge Estates, ABC, JM High School, Wal-Mart South and Apache Mall. Each of these locations has a passenger waiting shelter or at least a protected building entrance that the passenger could wait for the bus in.

On both sides of the downtown transit hub at the 100 Block of 2nd Street, there are indoor waiting areas. Passengers may wait inside for a bus at these locations. These inside waiting areas are also linked with the Skyway system so that riders can travel inside various buildings in downtown Rochester to reach their bus stop.

The performance of the City of Rochester and Rochester City Lines in the area of passenger waiting shelters is very favorable.

Bus Stop Signs - The Rochester City Lines schedules state that a rider should be at the bus stop before the scheduled time for the bus to pass the stop. Therefore, it is important that bus stops within the City are consistently marked with bus stop signs. To determine whether or not this is the case, most Rochester City Lines route were driven and observations were made. Within the inner core of the City of Rochester, bus stops were consistently marked. Outside the core area, the signs are less prominent. Further, comments from some riders indicated that the routing on certain routes is confusing in that in the AM period the route will travel along a street in one direction that will change to the other direction in the PM period. Bus stop signage does not help this confusion.

Revenue Equipment - An inspection of the interior and exterior cleanliness of the Rochester City Lines fleet was completed on several tours of the facility. The review found the vehicles in Rochester City Line's fleet to be in excellent condition and found the interiors of buses to be generally clean with no instances of worn seats or graffiti. The favorable condition and fine appearance of the fleet is an important asset.

Public Information - The public information standard relates to the development of an information program that, in addition to responding to patron inquiries, also aggressively educates the public about the bus system and how to use it. Related elements include design and availability of public timetables, a system map, telephone information as well as a complaint processing mechanism. Rochester City Lines' performance relative to the various aspects of the public information standard indicates favorable results.

Rochester City Lines publishes a single brochure for all routes. The brochure includes a complete weekday and weekend schedule for all the routes and provides arrival times at various time points along each route. A map of each route is displayed along with the appropriate schedule. Also included in each brochure is fare information and instructions for waiting, boarding and exiting a bus. This brochure is a convenient way of providing bus service information to existing and potential riders.

However, the missing ingredient to public information materials is a system map. There are system maps posted at the two downtown inside waiting areas. However, there are no system maps available for the public use in reviewing the entire Rochester City Lines system. A system map is a highly useful document that every transit system should publish and make readily available.

Copies of the schedule brochure is available on the bus, at the Rochester City Lines office, at the two downtown inside waiting areas and at several other locations throughout the City.

Rochester City Lines also operates a customer information telephone center available for passenger inquiries throughout the service day on weekdays and on Saturdays. The telephone center number is provided on the Rochester City Lines brochure.

Finally, the City maintains a web site where information can be obtained on route and schedules for all Rochester City Lines services.

Except for the lack of a system map, the public information provided by Rochester City Lines to inform the public of the bus service that is provided is extensive and comprehensive.

Fiscal Condition

Three sets of standards have been developed to define the Rochester City Lines financial situation. The first, fare structure, is analyzed on a systemwide basis. The other standards, farebox recovery and passenger productivity, are defined for both the overall system as well as individual routes.

Fare Structure - No quantitative standard has been established for the Rochester City Lines fare structure. Rather, qualitative criteria that pertain to such matters as equity, ease of administration and understanding as well as revenue generation are addressed. A review of how the Rochester City Lines fare structure meets these criteria is discussed below:

Equity - Rochester City Lines presently employs a fare structure with a \$1.25 adult cash fare with a separate fare for those using Route 17 (i.e., \$2.00 cash fare). There are three types of multi-trip discounted fare media, the Monthly Pass, the 20-Ride Ticket and the 10-Ride Ticket. The fare structure also includes a free transfer to be used for travel on the next available bus to complete a trip. Except for certain peak weekday hours, senior citizens and persons with disabilities can ride the Rochester City Lines services for \$0.60 and have the availability of a 10-Ride Ticket for \$5.00. Youth between the ages of 6 and 18 years have the same fare options as the senior citizen during non-peak hours. Finally, Rochester City Lines offers students of RCTC a semester pass.

The present fare structure is equitable since those that travel on the longest route in the system (Route 17) pay a premium fare. There are also discounts offered to those that are typically the least able to afford higher fees.

Administrative Ease - In terms of administrative ease, the present fare structure is relatively simple. A passenger may pay the fare in one of three ways – cash fare, ticket or pass. The necessary resources associated with collecting and processing these three different fares is easy.

Patron Comprehension - Rochester City Lines fare structure is explained on the back page of the bus route schedule brochure. It is a flat-rate structure that tends to be more attractive to the patron and more easily marketed. Therefore, using a bus route schedule, a first time user should be able to determine what fare he or she will be expected to pay and what the options are for discounted fares.

Fiscal Integrity - This fare structure evaluation criterion deals with the amount of revenue obtained from riders in relation to the cost of providing service. During the calendar year of 2004, approximately 40.77 percent of Rochester City Lines total operating cost for the fixed route bus system was derived from fares and sponsorships. It should be noted that Rochester City Lines has sponsorships, such as from the Mayo Clinic, that provide funding for certain routes. Without the sponsorships, the farebox recovery ratio would still be at about 30 percent. As shown on the prior Peer Group chapter, the performance by Rochester City Lines in this area is outstanding. The decision regarding what level of fares constitutes a reasonable portion of revenue should be primarily based on policy considerations. Funding availability must be addressed while considering what the riding public can reasonably be expected to pay for service. Other regional benefits that may be derived from promoting transit use (e.g., reduced traffic congestion, air pollution and less need for downtown parking) should also be taken into account. Overall, the current fare levels appear reasonable in light of farebox recovery results.

Promotion of Transit Use - The fare structure offers discounts for those wishing to obtain tickets or passes. The 10-Ride Ticket offers a 25 percent discount to adults while the 20-Ride Ticket offers a nearly a 30 percent discount. The monthly pass offers over a 40 percent discount when assuming a rider makes two trips per day for 21 weekdays per month. In fact, the rider using a monthly pass will have reached the break-even point of the adult cash fare in just 12 days. These discount programs are more generous than found at other transit systems and can be used as a promotional tool.

Based on the review of the criteria discussed above, the present fare structure attains favorable results for all five measures within this standard. The only issue is the fact that the multi-trip fare programs offer a large discount that is greater than found at other systems.

Farebox Recovery - The proportion of operating costs that is covered by fare revenue is another measure of fiscal condition. Farebox recovery standards are set for each of Rochester City Lines' route categories and the individual routes comprising each category. Based on Rochester City Lines' recent performance in this regard, the service standards suggest that the system should strive for a systemwide ratio of 35.0 percent for Regular, Night and Saturday routes, 50.0 percent for Direct Routes and 20.0 percent for the Specials. With a trend of operating costs increasing at a higher rate than revenue, it will remain a challenge for Rochester City Lines to consistently meet this goal. Recommendations for how Rochester City Lines can potentially increase revenue collection at a higher rate than costs will be addressed in the development of service improvement proposals.

The farebox recovery standard for individual Rochester City Lines routes suggests that routes with farebox recovery ratios over 80 percent of the standard for its route category are considered *successful*. Routes with farebox recovery ratios between 60 and 79 percent of the category standard are *acceptable*. Routes with farebox recovery ratios less than 60 percent of the category standard are candidates for major changes or elimination, as summarized below.

Successful	Acceptable	Unacceptable
80% or higher	60.0% - 79.9%	Below 60.0%

Table 26 examines individual routes in terms of farebox recovery in comparison to the route category goal. The table shows that all but three weekday regular routes are considered *acceptable* or *successful* under the standard. These routes are Routes 16, 17 and 18.

For the other routes on the table, only one Night route (Route 3N) and one Saturday route (Route 26) fall in the *unacceptable* category.

It should be noted that ten routes obtain sponsorships that provide financial support that add to the farebox revenue. In many cases these sponsorships, such as those from the Mayo Clinic, enable passengers that use the bus route to ride for free. The sponsorship routes are 1D, 1N, 4D, 6, 6D, 7N, 12D, 12N, 18D and 55. Without this financial support, all the sponsorship routes except for Route 1D would drop to the *unacceptable* category. However, since many passengers ride free due the sponsorships, the revenue from these sources is appropriate to be included as farebox revenue.

**Table 26
Farebox Recovery Performance By Route**

Route	Farebox Recovery Rate	Percent of Category Goal	Rating
Weekday Regular Routes (35)			
1	60.20	172.0	Successful
2	40.70	116.3	Successful
3	23.50	67.1	Acceptable
4	44.16	126.3	Successful
5	46.32	132.2	Successful
6	178.54	510.0	Successful
6A	22.96	65.7	Acceptable
6B	23.95	68.6	Acceptable
7	35.68	101.9	Successful
8	52.22	149.2	Successful
9	39.59	113.1	Successful
10 In/10 Out	37.94	108.04	Successful
11 In/11 Out	45.00	128.6	Successful
12	26.72	76.3	Acceptable
14	24.23	69.2	Acceptable
16	12.86	36.7	Unacceptable
17	20.23	57.8	Unacceptable
18	11.07	31.6	Unacceptable
Subtotal	36.5	104.3	-

Table 26 (Continued)
Farebox Recovery Performance By Route

Route	Farebox Recovery Rate	Percent of Category Goal	Rating
Direct Routes (50%)			
1D	31.80	63.6	Acceptable
4D	77.42	154.8	Successful
6D	72.56	145.1	Successful
12D	47.53	95.1	Successful
18D	40.99	82.0	Successful
Subtotal	50.19	100.4	-
Night Routes (35%)			
1N	80.53	230.1	Successful
3N	10.71	30.6	Unacceptable
7N	39.66	113.3	Successful
12N	117.56	335.9	Successful
Subtotal	85.49	244.3	-
Saturday Routes (35%)			
21	35.22	100.6	Successful
22	27.81	79.5	Acceptable
23	55.06	157.3	Successful
24	63.06	180.2	Successful
25	28.39	81.1	Successful
26	20.52	58.6	Unacceptable
Subtotal	35.38	101.1	-
Special Route (20%)			
55	21.89	109.5	Successful
TOTAL	40.77	-	-

Productivity - Similar to farebox recovery, this standard is evaluated at both the system and individual route level. The standard suggests that Rochester City Lines have a productivity level of 18.0 passengers per hour among regular weekday routes, 20.0 for Direct routes, 15.0 for Saturday routes and 5.0 for Special and Nights routes. Rochester City Lines calendar year 2004 systemwide performance of was 17.38 passengers per hour. Recommendations for how Rochester City Lines can potentially increase productivity rates systemwide will be addressed in the development of service improvement proposals.

As with farebox recovery, the productivity value for each individual route is measured and compared to the standard for its applicable category. The productivity standard for individual Rochester City Lines routes suggests that routes with passengers per hour rates over 80 percent of the category standard are considered *successful*. Routes with passengers per hour rates between 60 and 79 percent of the standard are *acceptable* but should be monitored for potential revenue generating or cost containment modifications. Routes with passengers per hour rates less than 60 percent of the standard are considered *unacceptable* and are candidates for major changes or elimination.

Table 27 examines individual routes in terms of productivity in comparison to the route category goal. The table shows that the productivity performance for two regular weekday routes (Routes 16 and 18), two Direct routes (Routes 4D and 12D) and one Saturday route (Route 26) is classified as *unacceptable*. Routes 16, 18 and 26 were also *unacceptable* in the farebox recovery standard review. However, two routes that were *unacceptable* in the farebox recovery review moved to the *successful* category in this analysis (Routes 17 and 3N). Conversely, two routes classified in the *successful* category in the farebox recovery review moved to the *unacceptable* category in the productivity analysis (Routes 4D and 12D). However, all the routes that are classified as *unacceptable* in either the farebox recovery or the productivity analyses (Routes 16, 17, 18, 26, 3N, 4D and 12D) will be closely reviewed in the service improvement portion of this study.

Table 27
Productivity Performance By Route

Route	Passengers Per Hour	Percent of Category Goal	Rating
Weekday Regular Routes (18 passengers)			
1	30.95	171.9	Successful
2	19.88	110.4	Successful
3	11.45	63.6	Acceptable
4	22.58	125.4	Successful
5	23.20	128.9	Successful
6	22.77	126.5	Successful
6A	16.76	93.1	Successful
6B	16.60	92.2	Successful
7	17.83	99.1	Successful
8	25.79	143.3	Successful
9	19.76	109.8	Successful
10 In/10 Out	17.98	99.9	Successful
11 In/11 Out	22.14	123.0	Successful
12	15.97	88.7	Successful
14	17.41	96.7	Successful
16	6.50	36.1	Unacceptable
17	14.47	80.3	Successful
18	8.55	47.5	Unacceptable
Subtotal	18.52	104.3	-

**Table 27 (Continued)
Productivity Performance By Route**

Route	Passengers Per Hour	Percent of Category Goal	Rating
Direct Routes (20 passengers/hour)			
1D	14.37	71.9	Acceptable
4D	9.33	46.7	Unacceptable
6D	16.88	84.4	Successful
12D	7.78	38.9	Unacceptable
18D	56.86	284.3	Successful
Subtotal	19.74	98.7	-
Night Routes (5 passengers/hour)			
1N	3.24	64.8	Acceptable
3N	5.43	108.6	Successful
7N	5.92	118.4	Successful
12N	4.57	91.4	Successful
Subtotal	4.40	88.0	-
Saturday Routes (15 passengers/hour)			
21	14.28	95.2	Successful
22	11.48	76.5	Acceptable
23	21.40	142.7	Successful
24	23.73	158.2	Successful
25	12.24	81.6	Successful
26	8.16	54.4	Unacceptable
Subtotal	14.24	94.9	-
Special Route (5 passengers/hour)			
55	5.21	104.2	Successful
TOTAL	17.38	-	-

PARK AND RIDE EXISTING CONDITIONS

The City of Rochester operates five park and ride lots, contracting with property owners for a total of 512 spaces. The park and ride lots are regionally distributed on the fringes of the city along or near major regional highways leading to and from Rochester as shown on Figure 32. Rochester City Lines operates local service to these park and rides, as well as peak period “direct” express services. The five park and ride locations are as follows:

- Northeast – Highway 63 North/Shopko North
- Northwest – Wal Mart Park and Ride
- South – Highway 63 South/Shopko South
- Southeast – 3rd Avenue SE/Bethel Lutheran Church
- Southeast – Highway 14 East/Cub Foods

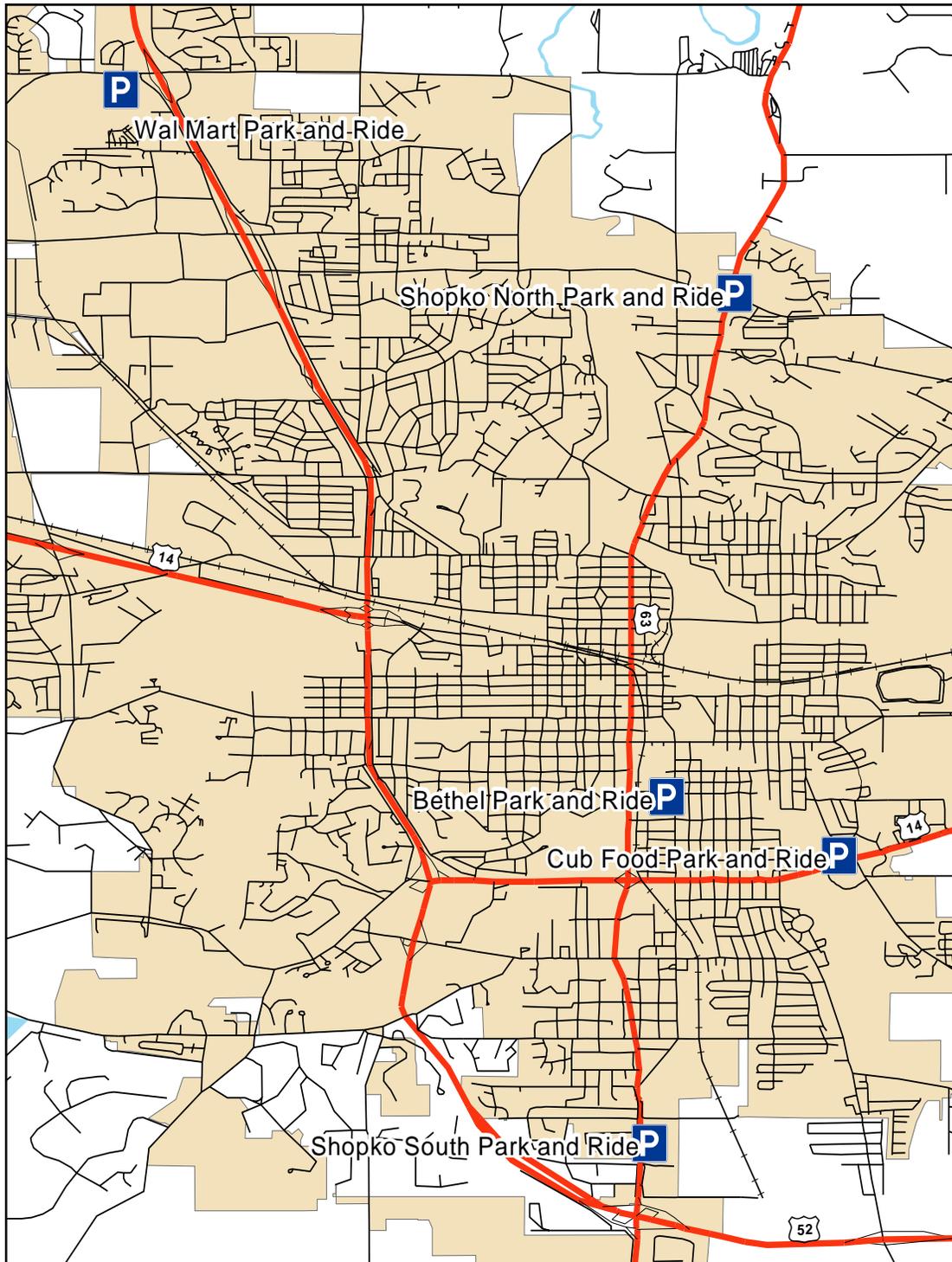
Site Selection Criteria - The selection of park and ride lot locations is based on seven criteria as follows:

- **Geographic Distribution** - As seen in Figure 1, the park and ride lots are distributed along major roadways and are laid out to serve commuters to Rochester from most directions.
- **Space Availability** - The City of Rochester only approaches lot owners who they perceive to have excess weekday parking capacity.
- **Security and Lighting** - The City will not use park and ride lots that they perceive to be unsafe.
- **Access to Other Services** - The City believes that shopping or other services adjacent to park and ride lots increase the attractiveness of the park and ride program and encourage ridership.
- **Snow Removal and Maintenance** - In selecting a location, the City ensures that snow removal and maintenance is the responsibility of the lot owner.
- **Bus Travel Time to Final Destination** - In order to be attractive to users, the bus travel time needs to be competitive with the private automobile, so siting by major streets and good access/egress are a criteria used in the selection process.
- **Bus Frequency** - The City believes that all day bus service is necessary so that people who work half or shortened days will still be able to get to and from the park and ride, so lots need to be placed in locations adjacent to regular non-direct bus services.

Governance - Each park and ride lot is governed by a memorandum of understanding (MOU) or formal agreement between the City of Rochester and the park and ride lot owner. Each agreement specifies the number of parking spaces available for park and ride uses, and requires that the owners maintain the park and ride lots. Four of the lots are governed by a memorandum of understanding that specifies that the lot owner shall give the City of Rochester 30 days notice if they desire to terminate the park and ride agreement. The City does not pay to use these four lots.

Only one of the park and ride locations has a formal agreement rather than a MOU, the Bethel Park and Ride. The City of Rochester leases the lot from Bethel Lutheran Church for \$10 per car, up to \$850 per month for all 97 spaces, for the use of the park and ride. Park and ride users are charged \$25 per month for a parking pass at the Bethel Park and Ride lot, according to the Landowner Reimbursement section of the Rochester Park and Ride Program summary. The formal agreement is renewed each year and covers the entire year.

Figure 32: Park and Ride Locations



Physical Characteristics and Utilization of Individual Park and Ride Lots

This section of the report provides information about the individual park and ride lots. Information in this section comes from site visits, public information, data provided by the City of Rochester, and passenger counts taken between April 19 and April 22, 2005.

Northeast - Highway 63 North/Shopko North (Figure 33) – This park and ride lot is located in the Shopko North shopping center at the intersection of Highway 63 and East Circle Drive/37th Street NE. The park and ride is located adjacent to the new stores that have been constructed on the site, across from the movie theater. This park and ride is the most convenient park and ride for people coming from locations along Highway 63 north of Rochester such as Zumbro Falls, Lake City, and Wabasha; as well as northern portions of the City of Rochester.

The park and ride lot is in good condition. No passenger waiting areas are provided at this park and ride lot. A bus stop sign has been installed at this lot. There are no signs or pavement markings indicating which spaces are available for park and ride use, as shown in Figure 33. There is no signage at the bus stop, nor trailblazer signs guiding motorists to the park and ride.

Figure 33: Shopko North Park and Ride Lot



The memorandum of understanding relating to this park and ride lot allows for up to 80 vehicles to use this parking lot for park and ride. As shown in Table 28, this lot was over 80% full during the three survey days in April.

Table 28: Shopko North Park and Ride Utilization

Day	Date and Time	Number of Occupied Spaces	Percent Utilization
Day 1	Monday April 18 2005 11:30 AM	65	81%
Day 2	Wednesday April 20 2005 11:00 AM	64	80%
Day 3	Friday April 22 2005 1:00 PM	71	88%
Average Utilization		67	84%

Only one RCL bus route (Route 1) provides service to this park and ride but this route has local, direct, and nighttime services. The Route 1 Direct provides peak period express service between the park and ride and Downtown Rochester, while the local Route 1 provides all day local service. Route 1 Night provides service to the park and ride after 6:00 PM until about 10:00 PM. Table 29 presents the ridership counts taken during the survey period on the AM inbound trips from this park and ride, and shows that all but three people used the direct services.

Table 29: Inbound Boardings at Shopko North Park and Ride

Trip Time	Route	Boardings
6:03 AM	1D	0
6:33 AM	1D	11
7:03 AM	1D	16
7:33 AM	1D	25
8:03 AM	1D	0
8:33 AM	1D	1
9:15 AM	1	1
10:15 AM	1	2
Route 1 Direct Total		53
Grand Total (All Services)		56

Northwest - Wal Mart Park and Ride (Figure 34) – This park and ride lot is located in the Wal Mart Shopping Center near the interchange of Highway 52 and 55th Street Northwest. The park and ride is located adjacent to the shopping center ring road across from the Wells Fargo Bank. This is the main park and ride location for people commuting into Rochester from the northwest including such places as Zumbrota, Cannon Falls, and the Twin Cities.

This park and ride is identified by one sign located along the ring road, which states this general area of the parking lot is for park and ride. The sign also provides the telephone number to call for bus information. There are no bus stop signs or shelters near the park and ride although there are two bus shelters located in the shopping center near the Wal Mart store entrance. Park and ride passengers board and alight in the vicinity of the park and ride sign. There are no pavement markings or signs stating which parking spaces are available for use for the park and rides; however, observed patterns show that users park as close as they can to the park and ride sign in the lot. The pavement condition in the park and ride is very good and it appears to be well maintained, as shown in Figure 34.

Figure 34: Wal-Mart Park and Ride



The Memorandum of Understanding governing this park and ride is for 155 parking spaces; however this lot was over-utilized, as shown in Table 30, during the survey period.

Table 30: Wal Mart Park and Ride Utilization

Day	Date and Time	Number of Occupied Spaces	Percent Utilization
Day 1	Monday April 18 2005 10:45 AM	215	139%
Day 2	Wednesday April 20 2005 10:40 AM	275	177%
Day 3	Thursday April 21 2005 11:00 AM	285	184%
Average Utilization		258	166%

Rochester City Lines provides five services to this park and ride; Route 12 and Route 18 Direct during peak periods, and the Route 18 and Route 12 Direct during the midday. The direct routes provide express service between the park and ride and Downtown Rochester. Nighttime service is provided to this park and ride by Route 12N, which operates between 6:30 and 10:30 PM. Table 31 presents the inbound bus boardings at the Wal Mart Park and Ride. This table shows that of 191 bus passengers, 153 ride the Route 18D service.

Table 31: Inbound Boardings at Wal Mart Park and Ride

Trip Time	Route	Boardings
5:35 AM	18D	3
6:02 AM	12	7
6:05 AM	18D	14
6:15 AM	12	3
6:35 AM	18D	14
6:55 AM	18D	18
7:05 AM	18D	21
7:15 AM	12	8
7:30 AM	18D	37
7:40 AM	18D	32
7:45 AM	12	5
8:05 AM	18D	14
8:15 AM	12D	4
8:35 AM	12D	1
9:20 AM	12D	2
9:45 AM	12D	1
10:05 AM	12D	1
10:50 AM	12D	2
3:55 PM	18	3
11:25 PM	18	1
Route 12 Direct Total		11
Route 18 Direct Total		153
Grand Total (All Services)		191

South - Highway 63 South/Shopko South Park and Ride (Figure 35) – This park and ride lot is located in the Shopko South shopping center near the interchange of Highway 63 and Highway 52 in the southern portion of Rochester. The park and ride is located in the center of the parking lot adjacent to the Shopko access road. This park and ride is the most convenient park and ride for people coming from locations along Highway 63 south of Rochester, Highway 52 south and east of Rochester, and Interstate 90.

There is one park and ride sign in the lot which is located on the access road adjacent to the bus stop. There are no protected waiting areas for park and ride users. The only amenity provided at this park and ride is a trash receptacle located near the bus stop. There are no signs or pavement markings that tell which parking spaces or parking areas are designated for park and ride. The lot itself is in good condition as shown in Figure 35.

The memorandum of understanding for this park and ride lot allows for up to 80 vehicles. As shown in Table 32, this lot was nearly full during the April survey period.

Table 32: Shopko South Park and Ride Utilization

Day	Date and Time	Number of Occupied Spaces	Percent Utilization
Day 1	Monday April 18 2005 12:20 PM	75	94%
Day 2	Tuesday April 19 2005 3:00 PM	87	109%
Day3	Thursday April 21 2005 10:45 AM	78	98%
Average Utilization		80	100%

Figure 35: Shopko South Park and Ride



Two Rochester City Lines bus routes provide services to this park and ride, Route 6 and Route 7N. Route 6 has local and direct services. The Route 6 Direct provides peak period express service between the park and ride and Downtown Rochester, the Route 6 Local provides midday local service, Routes 6A and 6B provide peak period local service. Route 7N is a nighttime only route that provides service to this park and ride lot between 6:00 and 10:00 PM. Table 33 presents the number of people boarding buses in the morning at the Shopko South Park and Ride and shows that almost 70% of people used Route 6D, the direct service designed for park and ride.

Table 33: Inbound Boardings at Shopko South Park and Ride

Trip Time	Route	Boardings
6:02 AM	6D	18
6:13 AM	6A	5
6:30 AM	6B	3
6:32 AM	6D	7
6:43 AM	6A	3
7:00 AM	6B	3
7:02 AM	6D	13
7:13 AM	6A	7
7:32 AM	6D	17
7:43 AM	6A	2
8:15 AM	6B	2
Route 6 Direct Total		55
Grand Total (All Services)		80

Southeast - 3rd Avenue SE/Bethel Lutheran Church Park and Ride (Figure 36) – This park and ride lot is located at the Bethel Lutheran Church parking lot across 3rd Avenue from the church behind K-Mart, at the intersection 3rd Avenue and 8th Street SE. This park and ride location is the closest to Downtown Rochester.

During field inspection of this park and ride lot, no identifying signs were observed in the lot. There were some reserved parking signs identifying the spaces that are not available to park and ride users. Park and ride users use the bus services and stops along 3rd Avenue, where there is a park and ride sign in the southbound direction and a bus shelter in the northbound direction. The lot itself is well maintained, with little or no issues with pavement condition.

The park and ride utilizes most of the church parking lot, with 97 spaces allotted under the rental agreement between the City and Bethel Lutheran Church. This lot was underutilized during the survey period, as shown in Table 34.

Figure 36: Bethel Lutheran Church Park and Ride



Table 34: Bethel Lutheran Church Park and Ride Utilization

Day	Date and Time	Number of Occupied Spaces	Percent Utilization
Day 1	Tuesday April 19 2005 2:25 PM	54	56%
Day 2	Thursday April 21 2005 10:30 AM	57	59%
Day3	Friday April 22 2005 12:15 PM	61	62%
Average Utilization		57	59%

Rochester City Lines has five bus routes serving this park and ride: the Route 4 Direct, Route 6B, and Route 17 during peak periods, the Route 6 during middays, and the Route 7N during evenings. The direct route provides express service between the park and ride and Downtown Rochester during peak periods; however most AM Route 4 Direct trips are run in conjunction with Route 17. The Route 7N provides service between 6:10 PM and 10:00 PM. Table 35 shows the number of boardings going towards Downtown Rochester at the stop closest to the park and ride. This table shows that approximately half of park and ride users utilize the 4D/17 bus route while the other half utilize local services.

Table 35: Inbound Boardings at Bethel Lutheran Church Park and Ride

Trip Time	Route	Boardings
5:50 AM	4D	0
6:00 AM	6B	2
6:00 AM	4D/17	5
6:30 AM	6B	4
6:30 AM	4D/17	5
7:00 AM	6B	1
7:00 AM	4D/17	0
7:30 AM	6B	1
8:15 AM	6B	2
12:30 PM	6	1
Route 4 Direct/Route 17 Total		10
Grand Total (All Services)		21

Southeast - Highway 14 East/Cub Foods Park and Ride (Figures 37 and 38) – This park and ride lot is located in the Cub Foods shopping center at the intersection of Highway 14 and 15th Ave SE. The park and ride is located in the southeast corner of the parking lot adjacent to the car wash. This park and ride is the most convenient park and ride for people coming from locations along Highway 14 east of Rochester such as Eyota, Dover, St Charles, and Winona, as well as eastern portions of the City of Rochester.

During field inspection of this park and ride lot, one park and ride lot identification sign was found, while there were no bus stop signs in the vicinity of the park and ride. The park and ride sign is shown in Figure 37. Staff at Rochester City Lines mentioned that buses that serve this park and ride enter the parking lot and pick up and drop off passengers in a central location within the park and ride area. There are no signs or pavement markings that tell which parking spaces or parking areas are designated for park and ride. There were some “No Overnight Parking” signs in the lot. The lot itself is in poor condition with repaving needed.

The memorandum of understanding relating to this park and ride lot allows for up to 100 park and ride vehicles. As shown in Table 36, this lot was only about 1/3 full during the survey period.

Table 36: Cub Foods Park and Ride Utilization

Day	Date and Time	Number of Occupied Spaces	Percent Utilization
Day 1	Tuesday April 19 2005 2:40 PM	34	34%
Day 2	Thursday April 21 2005 10:35 AM	37	37%
Day3	Friday April 22 2005 12:20 PM	35	35%
Average Utilization		35	35%

Figure 37: Cub Foods Park and Ride Signage



Figure 38: Cub Foods Park and Ride



Four Rochester City Line routes serve this park and ride: the Route 4 Direct and Route 17 during peak periods, Route 4 during middays, and Route 3N in the evening. The Route 4 Direct provides express service between the park and ride and Downtown Rochester during peak periods; however most AM Route 4 Direct trips are interlined with Route 17. The Route 3N service has only two trips, one that departs Downtown Rochester at 7:15 PM and another that departs at 9:50 PM.

Table 37: Inbound Boardings at Cub Foods Park and Ride

Trip Time	Route	Boardings
5:50 AM	4D	0
6:00 AM	4D/17	11
6:30 AM	4D/17	8
7:00 AM	4D/17	11
7:42 AM	4	1
8:12 AM	4	1
4:15 PM	4	1
Route 4 Direct/Route 17 Total		30
Grand Total (All Services)		33

Park and Ride User Survey

A Survey of park and ride users was conducted between Tuesday April 19, 2005 and Friday April 22, 2005. Survey forms were distributed to park and ride users who ride the “Direct” park and ride express buses between park and ride lots and downtown Rochester. During the same time period that these surveys were conducted, bus passenger opinion surveys were also conducted on the non-direct routes in the system, and park and ride users who use those buses filled out passenger opinion surveys forms. The number of surveys returned is presented for each park and ride in Table 38. The 366 returned surveys represent a sample size of 75% of the average daily park and ride utilization. The returns by lot ranged from a low of 64.9% at Bethel to a high of 96.5% at Cub Foods. A copy of the park and ride survey given out on the “Direct” buses is presented in Figure 39.

Table 38: Park and Ride Survey Response

Park and Ride Lot	Average Utilization	Park and Ride Surveys	Bus Passenger Opinion Surveys Returned by Park and Ride Users	Total Number of Surveys Returned	Survey Return Rate
Bethel	57	0	37	37	64.9%
Cub Foods	35	2	19	21	60.0%
Shopko North	57	55	0	55	96.5%
Shopko South	80	55	18	73	91.3%
Wal Mart	258	107	73	180	69.8%
Total	487	219	147	366	75.2%

Figure 39 - Rochester, MN Park and Ride Survey – 2005

Dear Park and Ride Customers: We need your help in planning our services. Please complete the following survey and return it to the driver today or the next time your ride. Thank you!

1. Where is your home location? (address or nearest intersection) _____
2. Where is your work location? (address, nearest intersection, or building name) _____
3. What bus route will you take? _____
4. How far is it to your final destination from your bus stop?
____ Blocks
5. How many minutes will this trip take from your original starting point to your final destination? _____ Minutes
6. What would be your approximate door to door travel time if you drove? _____ Minutes
7. Why do you use the park and ride for this trip?
 - No parking at destination
 - Cost of parking at destination
 - More convenient than parking at my destination
 - Prefer not to drive/prefer to take bus
 - Too much traffic congestion
 - Other
 (specify): _____
8. How many days per week do you park at this park and ride?
_____ days
9. How did you learn about the park and ride?
 - From employer City of Rochester/City Bus
 - Friend/Co-worker Newspaper Advertising
 - TV Advertising Radio Advertising
 - Other(specify): _____

10. For how long have you used park and ride?
 - 0 to 6 months 6 months to 1 year 1 to 2 years
 - Over 2 years
11. How many times per week do you shop at the stores where this park and ride is located? _____
12. Please rate the following items in terms of the park and ride's quality and condition and importance (with 1 as lowest and 5 as highest)?

	<u>Quality and Condition</u>	<u>Importance</u>
Availability of parking	1 2 3 4 5	1 2 3 4 5
Adjacent shopping facilities	1 2 3 4 5	1 2 3 4 5
Safety/Security/Ease of use	1 2 3 4 5	1 2 3 4 5
Signs identifying park and ride	1 2 3 4 5	1 2 3 4 5
Traffic congestion in the area	1 2 3 4 5	1 2 3 4 5
Frequency of buses	1 2 3 4 5	1 2 3 4 5
13. If a bus shelter at the park and ride was provided, would you use it or continue to wait in your car?
 - Use waiting area Continue waiting in your car
14. How many vehicles does your household own or lease?
 - None One Two Three or more
15. Your sex: Male Female
16. Your age: Under 18 years 18-29 years 30-44 years
 45-64 years 65+ years
17. What is your approximate total annual family income?
 - Under \$10,000 \$10,000 - \$19,999 \$20,000 - \$29,999
 - \$30,000 - \$44,999 More than \$45,000
18. Any comments about park and ride you would like to provide?

The following pages describe the response to the questions on the park and ride survey.

Question 1: Where is your home location? - Most respondents to this question come from areas in and around Rochester. Some came from other locations throughout Southeast Minnesota, Iowa, and Wisconsin. More details about the responses to this question are covered in the Journey to Work section of this report, which follows. Specific origins are also presented in Table 39.

Table 39
Origins of Rochester Park and Ride Users

Origin Location	Shopko North Park and Ride	Wal Mart Park and Ride	Shopko South Park and Ride	Cub Foods Park and Ride	Total
East Rochester	2	0	2	0	4
Northeast Rochester	35	0	0	0	35
Northwest Rochester	7	80	3	0	90
South Rochester	1	0	0	0	1
Southeast Rochester	0	0	4	0	4
Southwest Rochester	0	0	10	0	10
Adams	0	0	1	0	1
Albert Lea	0	0	1	0	1
Austin	0	0	2	0	2
Blooming Prairie	1	0	0	0	1
Chatfield	0	0	3	0	3
Elgin	2	0	0	1	3
Eyota	0	0	2	1	3
Hastings	0	1	0	0	1
Hayfield	0	0	1	0	1
High Forest	0	0	1	0	1
Hylands	0	1	0	0	1
Kasson	0	2	0	0	2
Kenyon	0	1	0	0	1
Lake City	2	0	0	0	2
Le Roy	0	0	1	0	1
Lewiston	0	0	1	0	1
Mazeppa	0	2	0	0	2
Oronoco	0	5	0	0	5
Ostrander	0	0	1	0	1
Pine Island	1	7	0	0	8
Preston	1	0	0	0	1
St. Charles	0	0	1	0	1
Simpson	0	0	1	0	1
Spring Valley	0	0	6	0	6
Stewartville	0	0	7	0	7
Wabasha	1	0	0	0	1
Wanamingo	0	2	0	0	2
Winona	0	0	1	0	1
Zumbro Falls	2	0	0	0	2
Zumbrota	0	3	0	0	3
Iowa	0	0	4	0	4
Wisconsin	0	0	2	0	2
Out of Town	0	1	0	0	1
Total	55	105	55	2	217

Question 2: Where is your work location? - An overview of the work locations of park and ride users is presented below (Table 40). This table shows that almost 60% of park and ride users work at the Mayo Clinic's downtown location, while another 27% work at Saint Mary's. Specific work locations are presented in Table 41.

Table 40: Work Locations of Park and Ride Users

Destination	Number	Percent
Mayo Clinic – Downtown	128	58.4%
Saint Mary's Hospital	60	27.4%
Methodist Hospital	8	3.7%
Other Downtown Location	21	9.6%
Other Location	2	0.9%
Total	219	100.0%

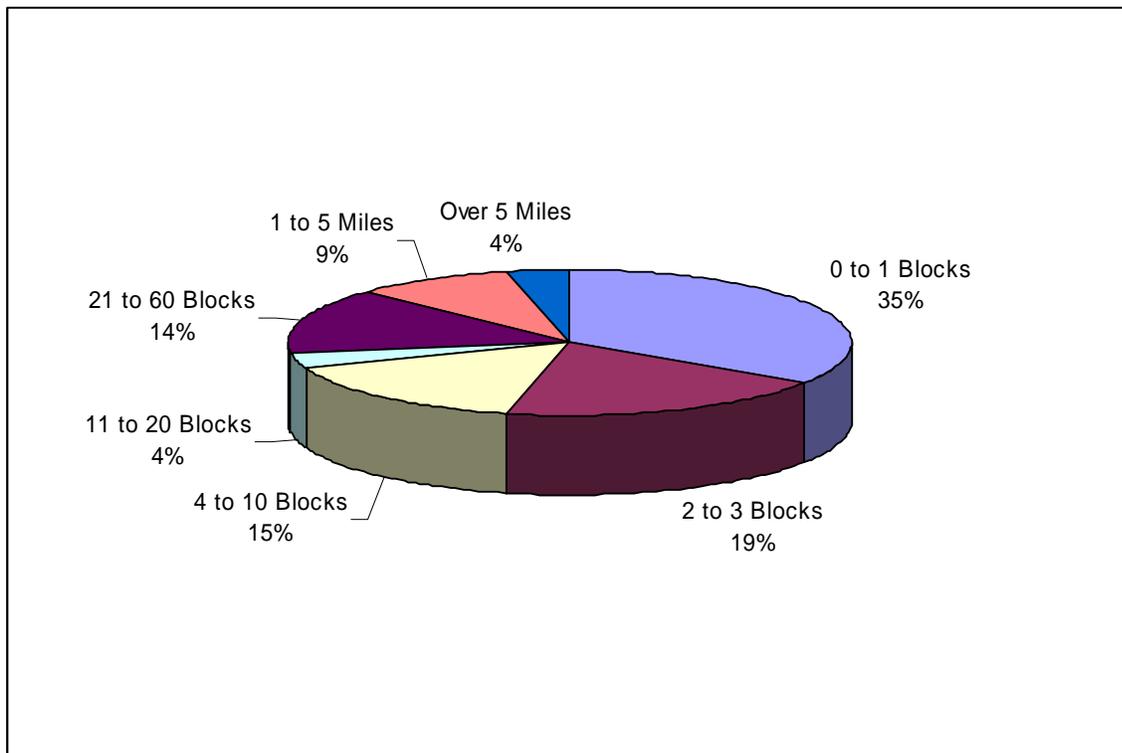
**Table 41
Destination of Rochester Park and Ride Users**

Destination Location	Shopko North Park and Ride	Wal Mart Park and Ride	Shopko South Park and Ride	Cub Foods Park and Ride	Total
15 1 st Street SW	0	1	0	0	1
2 nd Avenue and 2 nd Street	0	1	0	0	1
3 rd Avenue and 3 rd Street	0	1	0	0	1
Between 1 st & 2 nd Street	1	0	0	0	1
Alfred Smith	0	1	0	0	1
Apave Street Subway	1	0	0	0	1
Arby's North	0	0	1	0	1
Center Place	0	4	2	0	6
Charter House	1	1	0	0	2
Downtown	1	1	0	0	2
Galleria Mall	0	1	0	0	1
HI-CP	0	1	0	0	1
Mayo Clinic - Downtown	30	63	34	1	128
Methodist Hospital	2	4	2	0	8
RMH	0	0	1	0	1
Saint Mary's	19	26	14	1	60
Sunrise Town Home	0	1	0	0	1
Valley Fair Theme Park	0	0	1	0	1
Wells Fargo	0	1	0	0	1
Total	55	107	55	2	219

Question 3: What bus route will you take? - As the surveys were handed out onboard the direct bus routes, people who responded to this question for the most part responded that they will take the direct bus route. People who returned rider surveys responded that they were on a local bus that served the park and ride. Overall, the direct buses carried more of the park and ride passengers during the survey period.

Question 4: How far it is to your final destination from your bus stop? - A total of 194 people responded to this question. The responses to this question are presented in Figure 40. Approximately 54% have a short walk of zero to three blocks from the bus stop to their work location, while 13% of respondents said they have to travel 1 or more miles from the bus stop to their work location. It is likely that people who work an excessive distance from the bus stop misunderstood the question given the preponderance of downtown work locations cited in question 2. Clearly most people who use the park and ride bus services have a short walk to their work location.

Figure 40: Distance from Bus Stop to Work Locations



Question 5: How many minutes will this trip take from your original starting point to your final destination? - Figure 41 presents the response to this question. About 30% of park and ride users say that this trip takes them approximately 10 to 15 minutes. About 19% of people stated that this trip is shorter than 10 minutes. About 2% of people stated that the trip is an hour or longer.

Question 6: What would be your approximate door to door travel time if you drove?
- About 45% of people responded that it would take between 10 and 20 minutes if they were to drive to make this trip. About 20% stated that this current trip is less than 10 minutes. This is shown below in Figure 42.

Figure 41: Current Travel Time Using the Bus

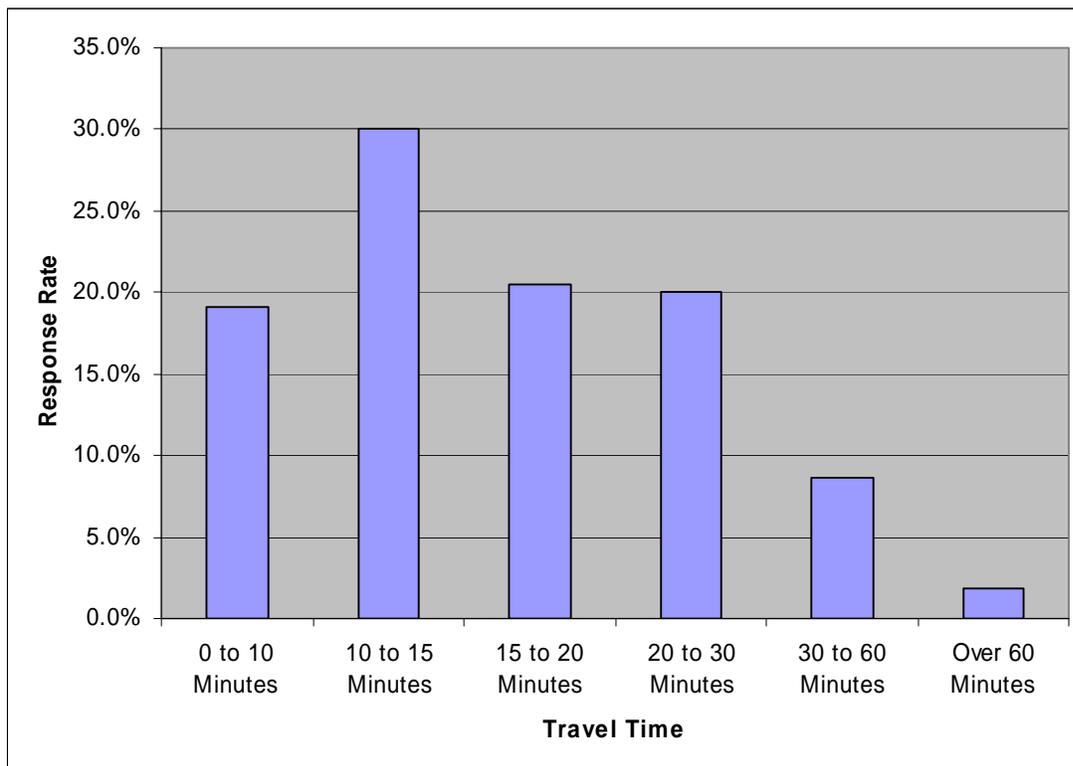
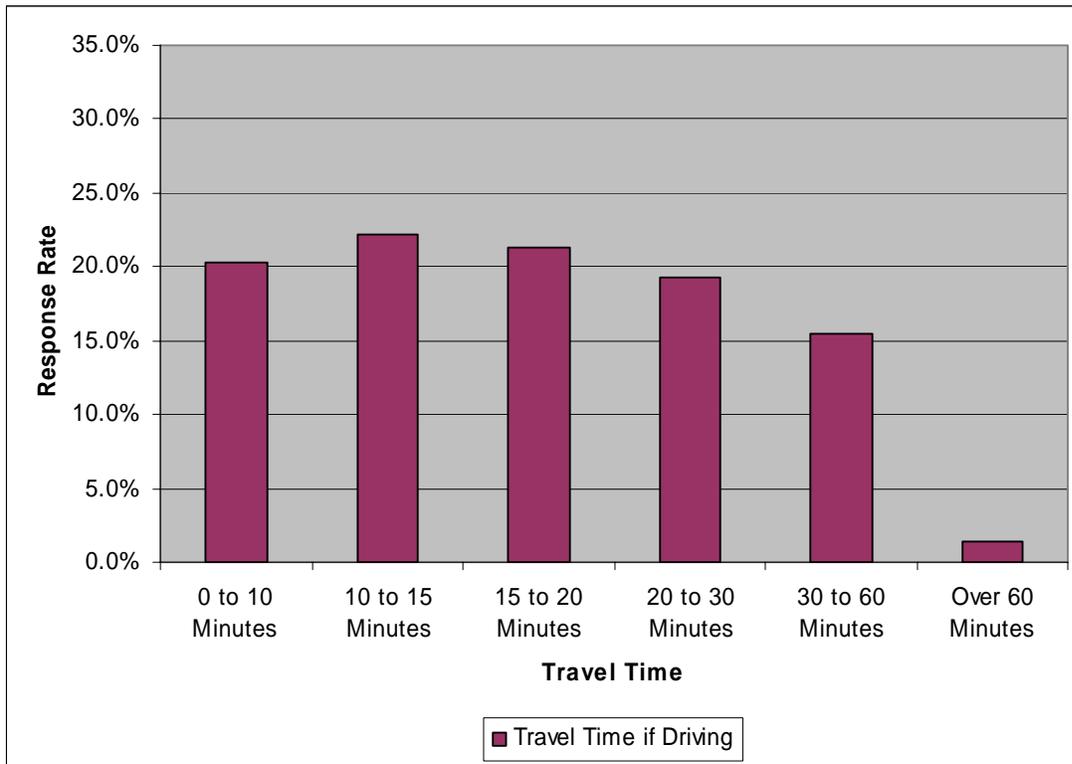
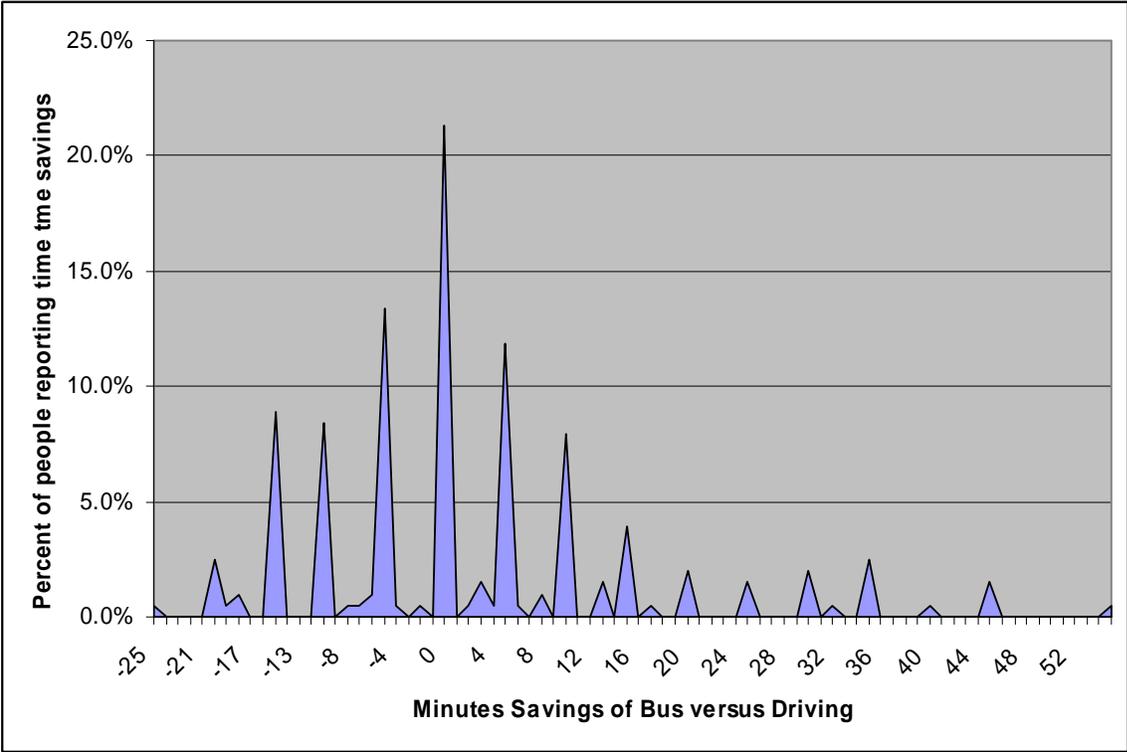


Figure 42: Travel Time if Passenger Drove



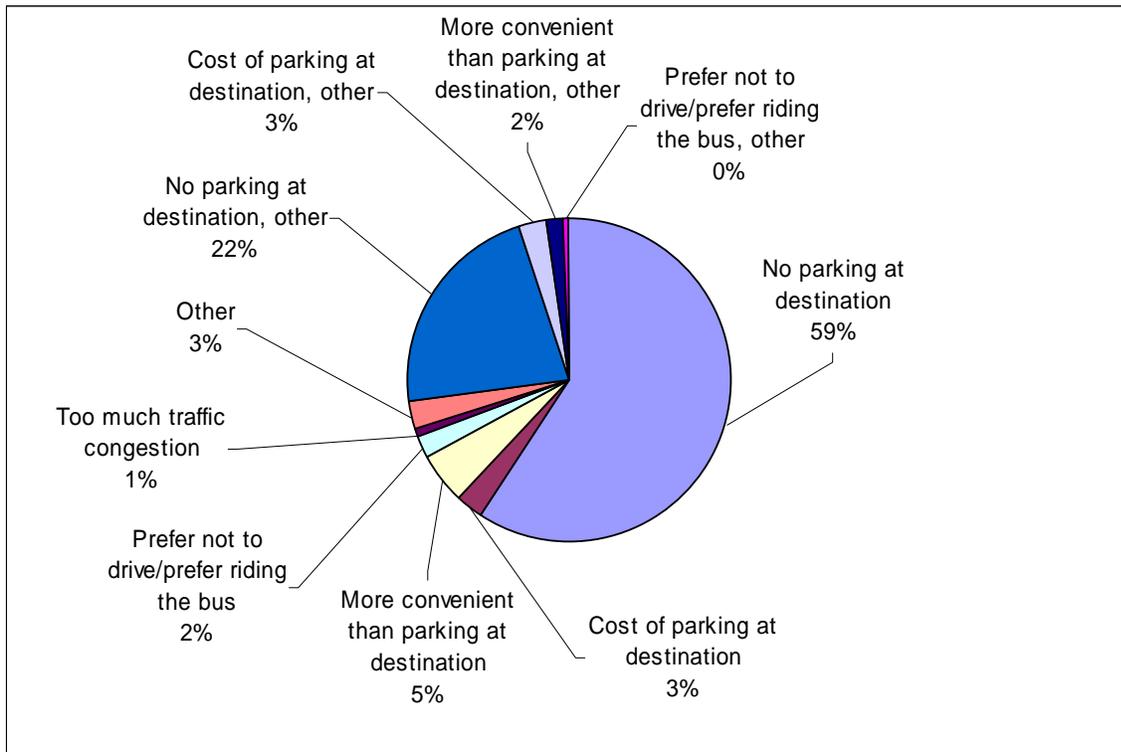
Combining the responses of question 5 and 6 for each respondent, about 40% of the people did state that it takes longer to drive to their office than it would take on the bus (Figure 43). Another 21% of people feel that the amount of time it would take to drive and park at their destination is the same as the amount of time it takes via park and ride buses. For those who responded to both questions, the responses ranged from the bus being 55 minutes faster than the car, to being 25 minutes slower, and the bus is on average of 2 minutes and 9 seconds faster than the automobile. About 85% of park and ride users stated that the time saved by taking the bus is within +/-15 minutes. Time savings is mainly because of time it takes to find parking and walk to the office in Rochester, as parking is not readily available for people who work downtown.

Figure 43: Travel Time Savings Taking Using Park and Ride



Question 7: Why do you use park and ride for this trip? - The most common reason that users use park and ride lots is that there is no parking at the work destination, with 59% of the users giving this as their sole response to question 7 of the survey, and another 22% giving this response plus other, for a total of 81%. Nineteen percent had multiple reasons for using the park and ride. Another 3% had other reasons for using park and ride as shown in Figure 44

Figure 44: Why Park and Ride is Used



Question 8: How many days per week do you use park and ride? - Figure 45 displays the percentage for each number of days per week. A majority of park and ride users, 68%, use the park and ride 5 days a week, while another 17% use it 4 days per week. Approximately 1% of all users use park and ride lots more than 5 days per week, while 14% use the lot 3 or fewer days per week.

Question 9: How did you learn about park and ride? - The single largest response on how park and ride users learned about park and ride is from their employer. Almost 81% of users learned about park and ride from their employer, with this number jumping to 90% when you include “other” responses that mention employee or Mayo orientation, and those users who put down multiple sources that included employers. None of the 219 responses said that they learned about park and ride from advertising. The survey responses show that information that television, radio, or newspaper advertising has not contributed to park and ride usage, while employers, particularly the hospitals, have done a very good job of educating their employees about park and ride options in Rochester. “Word of mouth” sources, such as from friends, co-workers, and bus drivers have also been good sources for informing customers about park and ride. Table 42 provides an overview of responses to question 9.

Figure 45: Number of Days per Week Using Park and Ride

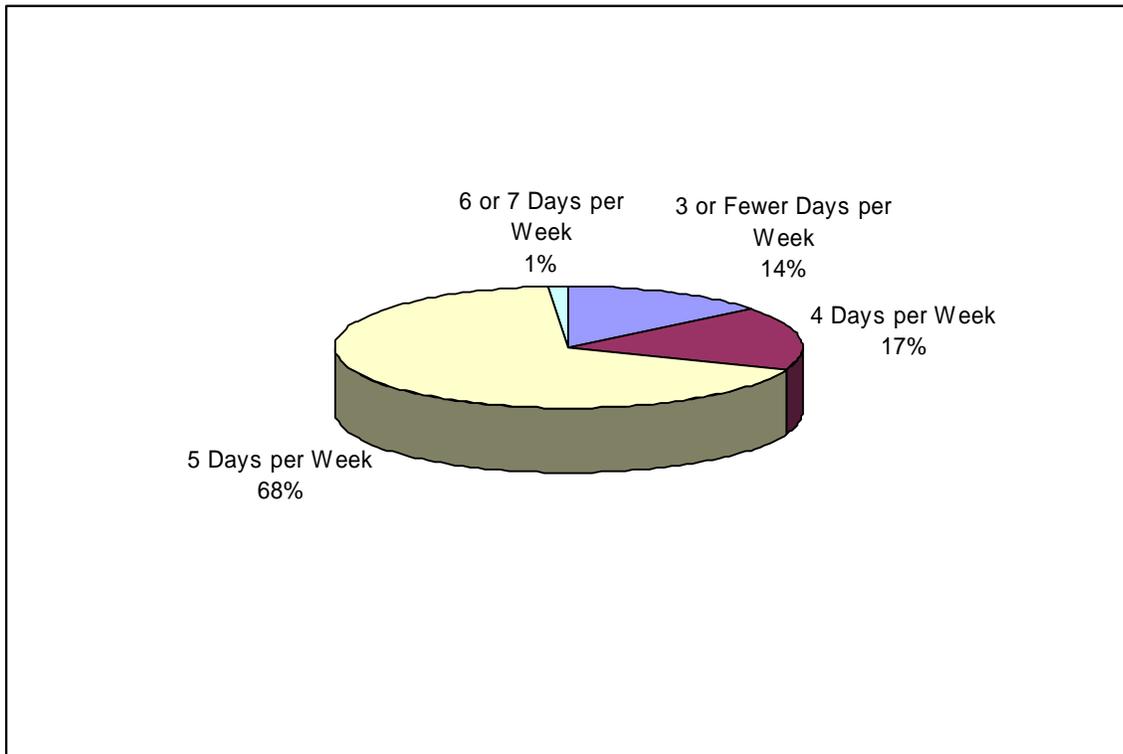
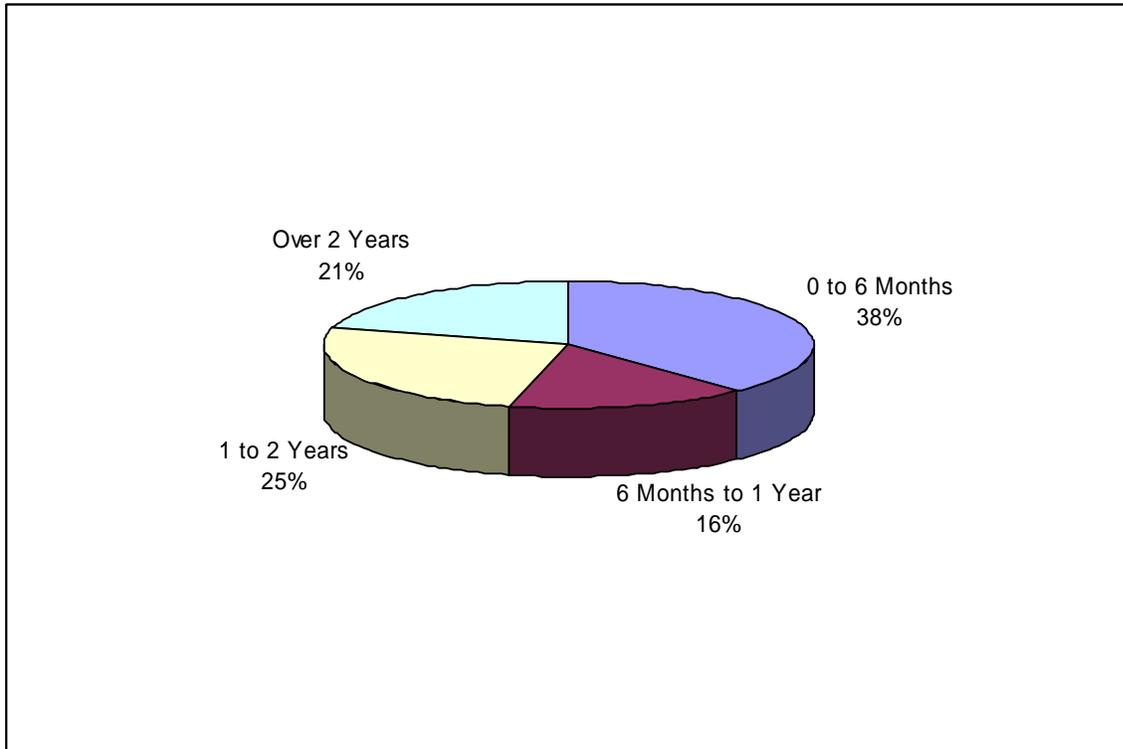


Table 42: How Users Learned about Park and Ride

Response	Number	Percentage
From Employer	177	80.8%
City of Rochester/City Bus	11	5.0%
Friend/Co-Worker	8	3.7%
From Employer, Friend/Co-Worker	10	4.6%
From Employer, City of Rochester/City Bus	3	1.4%
City of Rochester/City Bus, Friend/Co-Worker	1	0.5%
Friend/Co-Worker, Hospital Orientation	1	0.5%
From Employer, City of Rochester/City Bus, Friend/Co-Worker	2	0.9%
Other	6	2.7%
Total	219	100.0%
Employer as at least a partial source	197	90.0%

Question 10: How long have you used park and ride? - Figure 46 provides the percentage for each time range for the responses received. The highest percent of people have been using the park and ride lots less than 6 months. A smaller percent of people, 21%, have been using the park and ride lots for over 2 years. The responses clearly show most people use park and ride as a temporary measure until they receive parking privileges in downtown.

Figure 46: How Long Users Have Used Park and Ride



Question 11: How many days per week do you shop at stores where this park and ride is located? - The response to this question is presented below in Table 43 for all users. About 69% of the park and ride users do use the shopping facilities at least once a week, and all the respondents generate a total of 263 shopping trips per week, for an average of 1.22 shopping trips per week for each park and ride user. Table 44 provides an overview of shopping trips generated each week by park and ride users by lot, and shows that the shopping trip rate is by far the highest for the Wal-Mart lot.

Table 43: Use of Shopping Facilities at Park and Ride

Number of Shopping Trips	Response	Percent	Shopping Trips Generated per Week
Zero times per week	67	31.2%	0
One time per week	78	36.3%	78
Two times per week	41	19.1%	82
Three times per week	18	8.4%	54
Four times per week	6	2.8%	24
Five times per week	5	2.3%	25
Total	215	100.0%	263
Shopping trips per park and ride user per week			1.22

Table 44: Shopping Trips Generated by Each Park and Ride

Park and Ride Lots	Average Daily Utilization	Shopping Trips per Person per Week	Total Park and Ride Shopping Trips Generated per Week
Bethel Park and Ride	57	0.00	0
Cub Foods Park and Ride	35	0.50	18
Shopko North Park and Ride	67	0.87	58
Shopko South Park and Ride	80	0.76	81
Wal Mart Park and Ride	258	1.65	426
Total			583

Question 12: Quality and Condition/Importance Rating of Park and Ride - Rankings for quality and condition as well as importance are on a 1 to 5 scale, with higher rankings signifying a more positive opinion and a low number is a more negative opinion. The quality and condition rankings are presented in Figure 47. For the most part, people have a positive opinion of the quality and condition of the park and ride lots. The category that people felt the most negative about is the quality of signs identifying the park and ride lots.

Figure 48 provides the rankings on the importance of each category at the park and ride lot. This table shows that people feel that availability of parking, safety, and frequency of bus service is very important, while signage and shopping are not as important.

Figure 47: Quality and Condition of Park and Ride

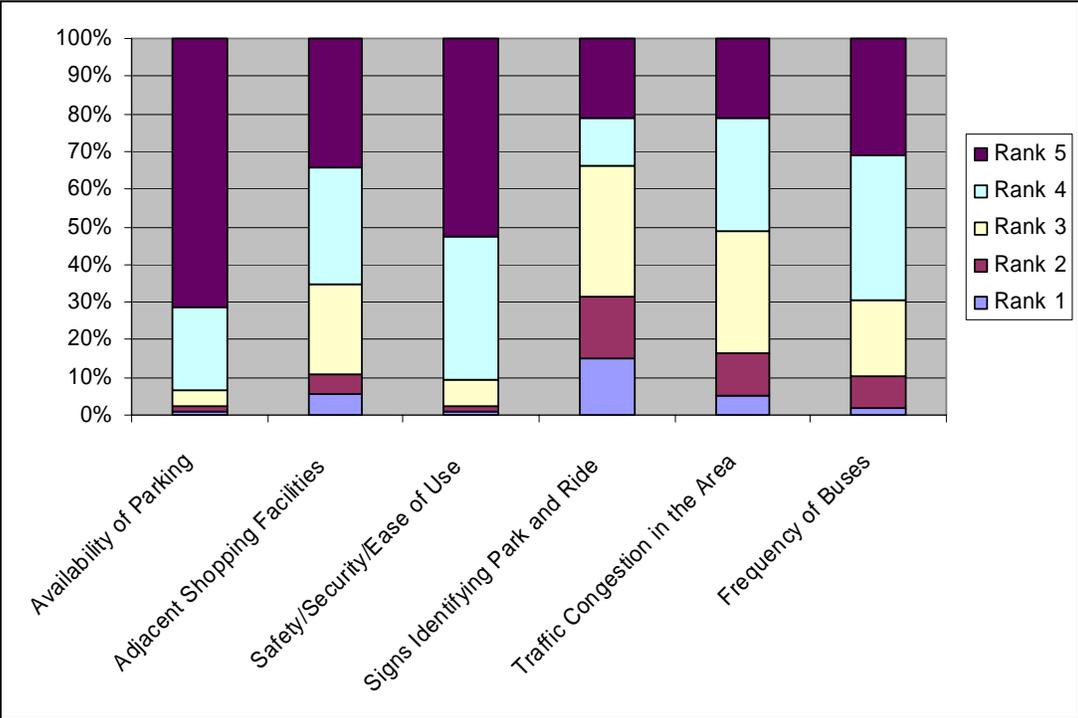
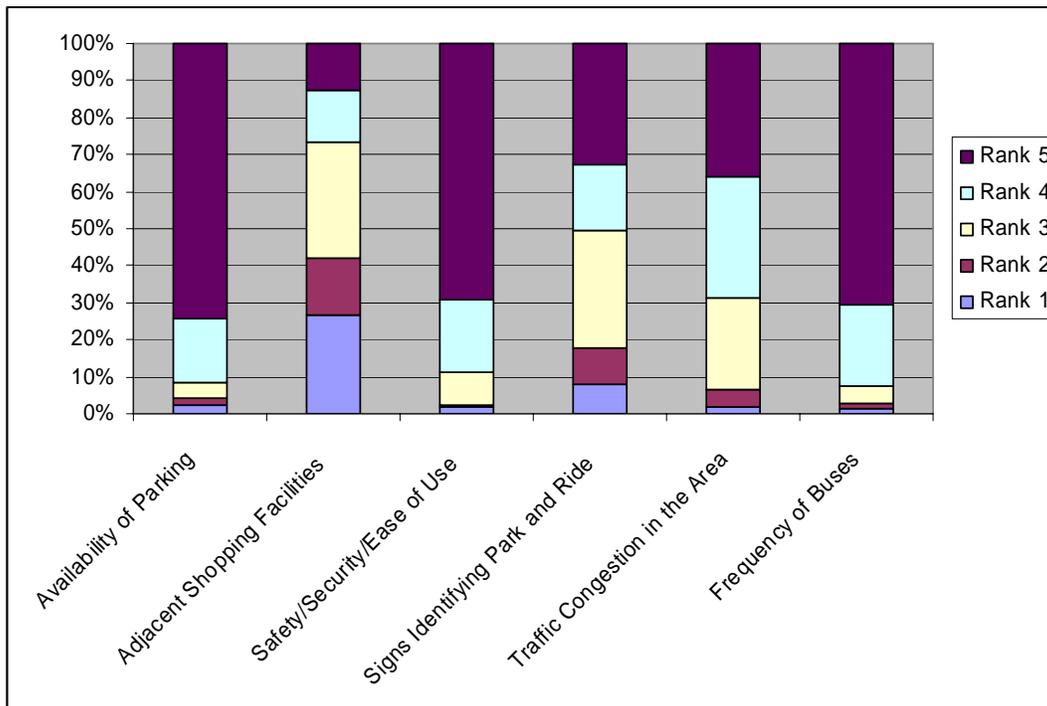


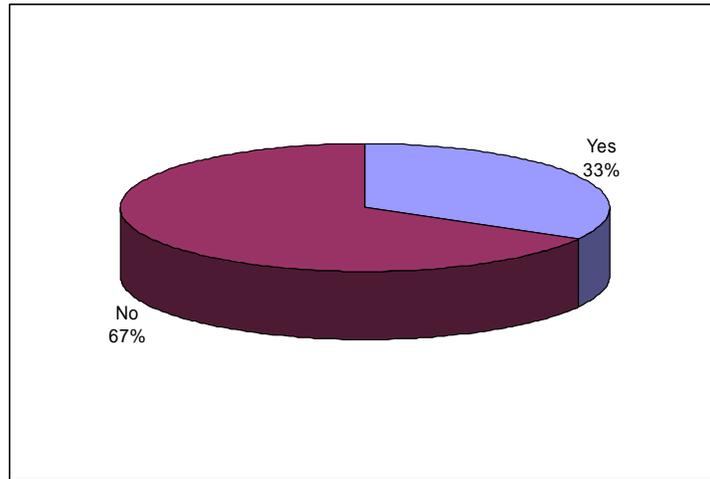
Figure 48: Importance of Elements at the Park and Ride



Question 13: If a bus shelter at the park and ride was provided, would you use it? -

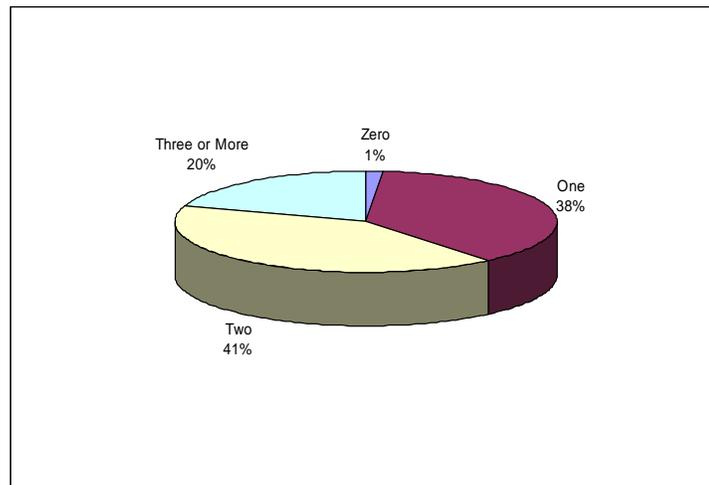
Figure 49 provides the results of this question. Of the people who responded to this question, about 2/3 of them would not make use of a sheltered waiting space. While this number is high, the results say they vary by individual park and ride location, and users of the Wal Mart park and ride were more likely to use a waiting area, with 52% stating that they would. A number of the open-ended passenger comments at this park and ride echoed this statement, e.g. adding a shelter is a very important improvement for this park and ride. At other park and rides, people are a lot less likely to use a waiting area, with 20% at the Shopko North park and ride stating that they would use a shelter, and only 9% at the Shopko South stating that they would use a shelter.

Figure 49: Users Use of a Sheltered Waiting Area if Provided



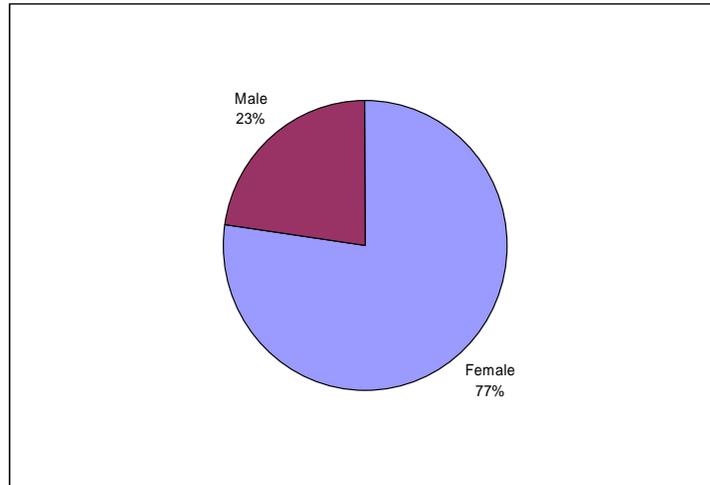
Question 14: How many vehicles does your household own or lease? - A majority of park and ride users have either 1 or 2 vehicles in their household. This is shown in Figure 50. Only about 1% of all park and ride users have zero cars in their household. This is based on a sample size of 226 responses.

Figure 50: Vehicle Ownership



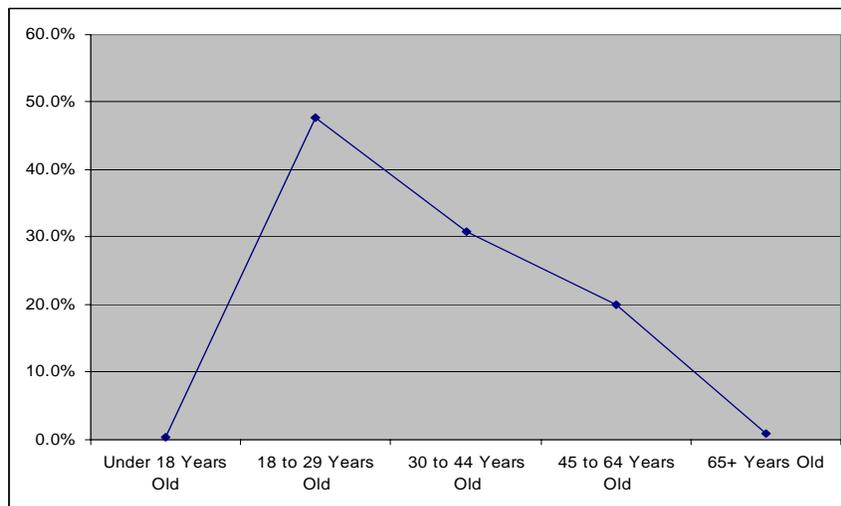
Question 15: Your Sex - Figure 51 presents the sex of park and ride users. Out of 225 people who responded to this question, 77% of them are female, with the other 23% being male.

Figure 51: Sex of Park and Ride Users



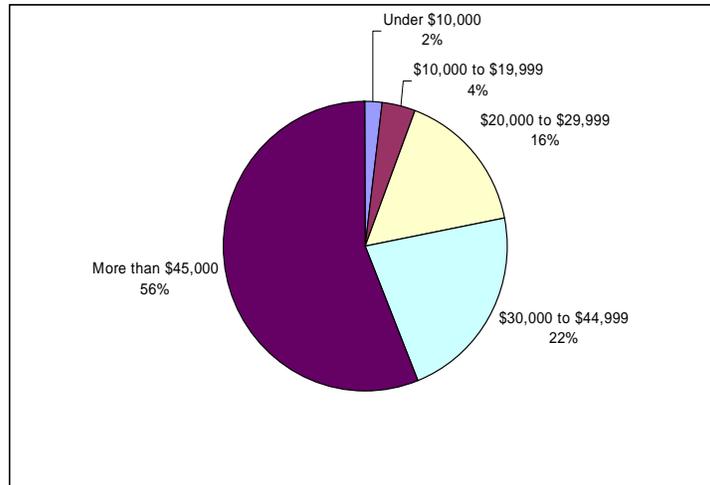
Question 16: Your age (Figure 52) - About 98 percent of the users are 18-64, which corresponds to the general age group of the workforce as expected for a commuter park and ride program. Within this group, 50% of all users are young workers between 18 and 29 years old. Less than one percent of users are either under 18 or over 65. A total of 224 people responded to this question.

Figure 52: Age of Park and Ride Users



Question 17: What is your approximate total annual family income? - Park and ride users tend to be higher income bus riders. Figure 53 shows that 56% of the 205 users who responded to this question have a household income that is higher than \$45,000. Only about 6% of users have a household income of less than \$20,000.

Figure 53: Income of Park and Ride Users



Question 18: Comments - The final question of the survey asked users if they have any comments. A total of 87 surveys were returned where comments have been made. Many of the comments were very complimentary of park and ride services and the operation of transit service in Rochester. An overview of the type of comments is presented below in Table 45. Table 46, which is shown on the following page, provides a list of all comments received.

Table 45: Overview of Survey Comments from Opinion Survey

Comment Category	Frequency
General thank you/compliment	33
More service	28
Late driver	5
Other driver complaint	5
Amenities – Shelters	3
Crowded conditions	3
Problems with snow removal	2
Routing comments	2
More ergonomic seats	1
Park and ride is important	1
Difficult to cross 2 nd St SW by St. Mary's	1
Commuter bus is nice option	1
Moved park and ride location is inconvenient and dirty	1
Importance of gas costs	1

**Table 46
Comment Verbatim**

Excellent Already
A different radio station
Bus drivers always friendly
I am very thankful to be able to use it
Nice service
Would take 12N/12D more, but work 9 AM to 6PM, inconvenient park and ride times, so may continue to take 1D
Great service great drivers, very nice
very convenient
Close by park and ride is very important
I think it is a great service. The main reason I do not use it is the flexibility of travel in the afternoon
It would be nice if regular 1N buses actually went through the Shopko Park and Ride. Thank you for your service
Need more frequent and earlier buses (earlier than 3:10) in case I get off work earlier
Bus drivers are courteous and professional
I am very please with the park and ride system. Our driver is always on time & very friendly (7:03 am 1D) but I do think more times should be available in early afternoon (times when I've had to leave early - it has been a real pain to make it back to Shopko
Would like Route 2 to include my street or have pickup @13th Ave & 19th St
Park and ride is a great benefit for me - no hassle parking- would love to be able to catch bus that goes by my house from Plainview
Elgin
Great service
Parking spaces need to be cleaned and better marked. New location is dirtier and more inconvenient
Very convenient and reliable
very nice polite drivers
It would be nice to have one additional 6D after 7:30 AM
Appreciate the courteous drivers
love bus drivers - very polite - waits for people knows are
It is very convenient for me and save on stress of finding parking on my own
The driver is great
it would be nice if frequency would increase
Driver is an aggressive driver
I just started at this job so I haven't had a lot of time to evaluate. Bus drivers very helpful
frequency of buses to/from St Mary's; also a direct bus from Shopko South up Hwy 52
Brad rocks, he is always on time
Some buses that come to St Mary's in the afternoon hours
Friday's I get off at noon and it takes an hour until I'm out of town, no directs at that time
very good service
I appreciate it
In the wintertime it would be nice if a path could be be shoveled to the bus – some days we went through a snow bank
Thank you
Thank you for service. I do think the driver could be a little more friendly & not honk at other cars as frequently, he also drives someone is running for the bus
When off at odd time 30 min to get to my vehicle is too long and hourly access seems to take forever
Our driver is great! Always on time & dependable
Great driver very prompt
It would be nice to have a midday run more frequently sometimes I take half days and it takes forever to get to my car
Thank you! Is it possible to come more frequently? I enjoy the newer buses; they feel safer and more comfortable.

Table 46 (Continued)
Comment Verbatim

on-time service, route 18D 5:05 PM is frequently late, except for week of survey
more frequent trips for park and ride service during midday hours

Timely service

Better seats that are ergonomically correct

Thank you for park and ride its really convenient. The 7:30 AM bus has people standing. Maybe 7:30 and 7:35 bus. Bus at 7:40 is too late

It's a nice option to the bus that comes from Zumbrota for shopping, different times, etc

There are supposed to be 2 18D buses at 7:30 AM but one comes at 7:20 and only 1 comes at 7:30

Wish buses could be consistent. 5:05 rarely comes on time. Drivers usually great!

Thank you!

liked the 2 7:30 AM buses

The bus provides timely and reliable service, thanks

Buses too full. Wish they were more frequent

Park and ride buses are a huge help! Thanks! Wouldn't mind a few more at peak hours

I don't like standing on a moving bus

We need a shelter!

Its nice that there is 2 buses now at 6:30

Thanks for 2nd bus @ Wal Mart N. @ 6:30 & 6:35 AM

Great service - friendly staff! Thanks! 2 additional buses were a great help @ 6:30 and 7:30

Sometimes the buses drive away when you are almost to the bus

I think the 12N should come on the 1/2 hour instead of the quarter hours except 7:00, 7:30, 8:00 PM

Bus 18D @ 4:18 is always late or it does not show

Bus shelters would be really nice

I would like to stagger bus frequency to 10 minutes later than 5 minutes - example: 6:35 and 6:40 18D should be 6:35 and 6:45

Great service. More people should appreciate it. Getting across 2nd St SW after work to catch 18D is difficult!

Add another stop between 7:40 and 8:00 and between 4:40 and 5:00

18D at 4:10 PM is usually late

Afternoon 4:12 bus late and parks in street to pick up all the time, in last 4 months

Thank you!

Thanks for the great job!

Great service; great driver - very friendly and generally I feel safe riding with each

adding the extra buses has really been wonderful

lack of maintained sidewalks from Harborage into Northwest Plaza is a problem during winter

Bus is full often & standing room only @ times but a little better since adding extra routes. Wish direct routes were all day not just early AM and late PM

18D 7:40 am Bus driver is very good - thank you

Great and Safe

**Table 46 (Continued)
Comment Verbatim**

the 18D - 5:35 bus - would work better if it left at 5:40 instead - for the people who work till 5:30 like me
 With today's gas market - the gas savings and less wear and tear on my car is important to me
 Thank you for Rochester, MN park and ride, the drivers are very good and helpful
 A bus shelter is very important in the winter, I think we need it the most
 More direct buses to park and rides
 More frequent direct buses would be nice. The one to IBM takes too long
 Would like to see another express bus @ 8:30 - I don't start work until 9:00 am. Also I usually miss the 5:35 18D because I get off of work until 5:30
 Appreciate the service. Hopefully will be able to use more service in the future
 Provides a good service for those with no parking privileges at Mayo

Journey to Work

Table 47 compares the origins of the park and ride survey respondents to the origins of all Rochester employees, the latter based on journey to work data from the 2000 U.S. Census. This table shows that most of the users originate around Rochester (68%) and that areas west of Rochester appear underrepresented among park and ride users in comparison to the journey to work data (4.1% versus 11.1%). However, looking at this table, the number of park and ride users is very small compared to total commuting from most towns.

Table 47: Origin of Rochester Commuters

Corridor Direction	Journey to Work Data		Park and Ride Opinion Survey Response	
	Count	Percent	Count	Percent
Highway 14 East of Rochester	4,311	6.0%	7	3.2%
Interstate 90 East of Rochester	90	0.1%	2	0.9%
Highway 63 Northeast of Rochester	1,714	2.4%	7	3.2%
Highway 52 Northwest of Rochester	4,354	6.0%	20	9.2%
Highway 52 South of Rochester	2,154	3.0%	3	1.4%
Highway 63 South of Rochester	3,383	4.7%	14	6.5%
Highway 14 West of Rochester	6,077	8.4%	4	1.8%
Interstate 90 West of Rochester	1,965	2.7%	5	2.3%
City of Rochester and Surrounding Townships	47,265	65.5%	148	68.2%
Iowa	370	0.5%	4	1.8%
Wisconsin	244	0.3%	2	0.9%
Other States	214	0.3%	1	0.5%
Total	72,141	100.0%	217	100.0%

Park and Ride Issues

Based on field observations of the park and ride lots and survey responses the following issues have been identified in regards to the park and ride program:

- Based on recent surveys, all park and ride lots are at or near capacity except for the Cub Foods lot in the southeast.
- The park and ride lots are not well signed, nor are there trailblazer signs guiding commuters to the lots.
- The information about park and rides has been updated on City of Rochester websites.
- There is a lack of public information at bus stops including timetables and route maps.
- There are no protected waiting spaces for park and ride users. Based on survey response, Wal-Mart park and ride passengers would make use of one.
- There are no pavement markings or signs separating the designated park and ride areas from the rest of the parking lot.
- There is no park and ride lot serving commuters from the west side and towns west of Rochester.
- There are significant capacity issues at the Wal-Mart Park and Ride and the Shopko South Park and Ride.
- Park and ride success is strongly connected to the parking policies of one employer, the Mayo Clinic.
- To overcome some of the above noted problems, the City may have to consider stand alone park and ride facilities.

SERVICE PLAN

This section of the report presents the Service Plan for the fixed route public transportation system operated by Rochester City Lines. The document begins with “General Recommendations” for the entire transit system; bus service proposals are then presented on a route-by-route basis for the weekday bus routes, with proposals for new routes following those for existing bus routes. The proposals were developed with consideration given to the results of the ride check surveys (i.e., on-off ridership counts) as well as the adequacy of service analysis conducted for this study. For each Rochester City Lines bus route the suggested frequency and span of service for each service day are also presented, along with the anticipated number of vehicles required to operate the proposed bus route. A map of each bus route indicating the proposed route alignment is also presented. Finally, the proposed changes are then prioritized and the impacts of the service plan upon the Rochester City Lines system are also presented. The proposed service plan for the Rochester City Lines fixed route bus system is as follows:

General Recommendations

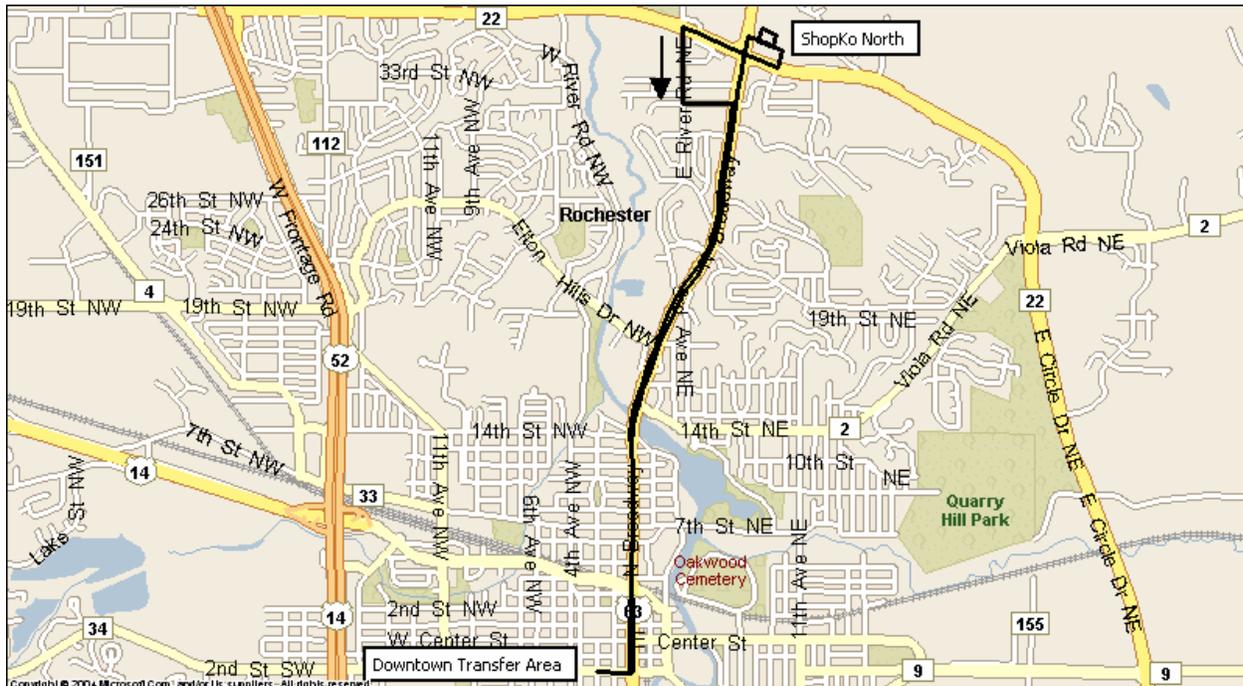
To increase the consistency and user-friendliness of the transit system, portions of bus routes which are operated “on request” should be operated on a regular schedule. Although it is relatively easy for a passenger who boarded at the Downtown Transfer Area to request service to a particular area from the driver, it is more difficult for a boarding passenger at one of the “on request” stops to determine whether or not they are able to simply wait at the bus stop for the next trip or if they have to schedule a pick-up by calling Rochester City Lines so the next trip will, in fact, divert and pick them up. Elimination of the “on request” service areas will remove any uncertainty associated with the use of the transit system in these areas. In addition, trips whose last few stops are listed as “on request” should simply operate to the end of the line on that trip and then return to the Rochester City Lines bus garage.

Also, it should be noted that in several cases routes which serve park-and-ride lots have differing morning and afternoon loop patterns or directions; this is done so that the park-and-ride lot is always the first stop outbound in the afternoon and the last stop inbound in the morning. On routes where the primary orientation is to peak period service to and from the park-and-ride lots (e.g., the “direct” routes or other routes only operated during the peak periods), this service pattern will be retained.

Route 1

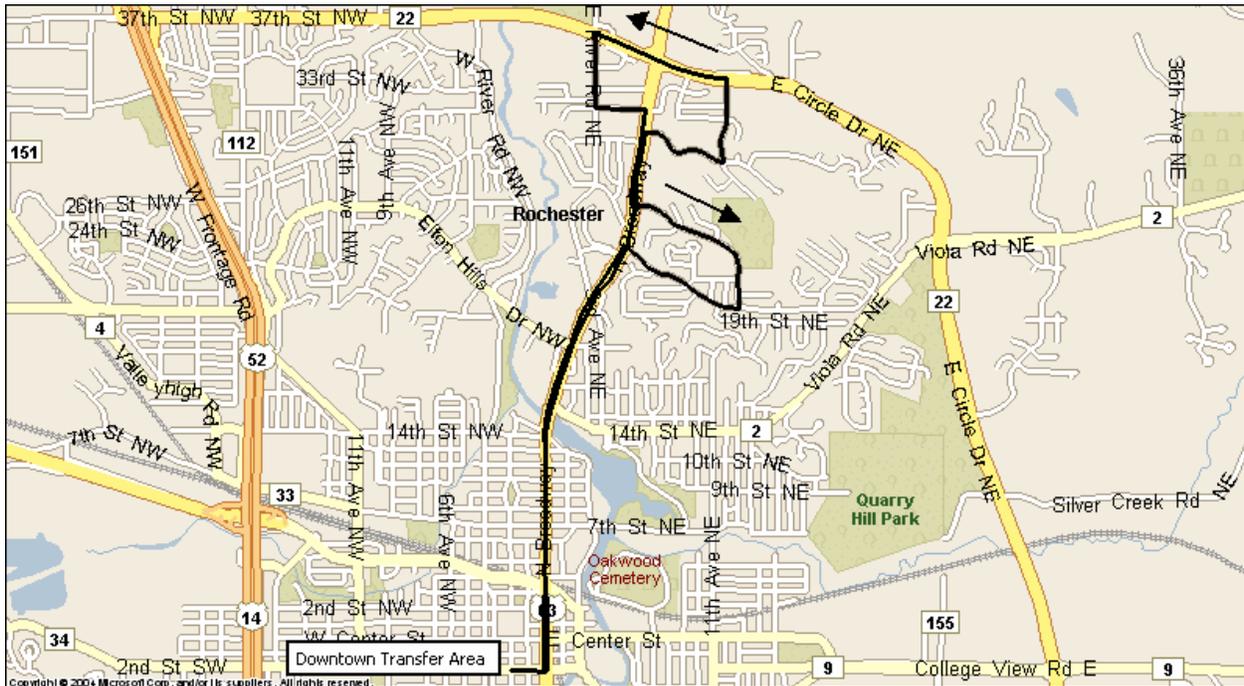
As shown in Figure 54, all midday trips on Route 1 (including the 2:45PM departure from Downtown) will serve ShopKo North and not serve either the “A” or “B” loops. The ride check survey data did not show any ridership on the “A” loop on this trip. All midday trips on this bus route will now be referred to as “*Route 1 Midday*”.

Figure 54 – Route 1 Midday



As shown in Figure 55, all morning and afternoon peak period trips will operate as follows: the “A” loop will be served first, and then the “B” loop will also be served. To increase the consistency and regularity of the route, the “B” loop will always be served in the clockwise (i.e., the current morning peak period) direction. This pattern appears to be the one that will be most efficient in terms of time; the current schedule indicates that the peak period trips can, in fact, complete this route in about one half hour. The peak period service on Route 1 will continue to not serve ShopKo North, since the store’s park-and-ride lot is served by another route (i.e., the current Route 1D) during this time period. Finally, the peak period service on Route 1 should be called “*Route 1 Peak Hour*” in order to distinguish it from the midday service.

Figure 55 – Route 1 Peak Hour



As shown in Figure 56, Route 1D will be extended as follows: in the morning peak period, service will be provided to Zumbro Ridge, Viking Hills and then the ShopKo North park-and-ride lot before heading back downtown via North Broadway; during the afternoon peak period, service will operate via North Broadway first to the ShopKo North park-and-ride lot, then to Viking Hills and finally to Zumbro Ridge before returning back downtown via U.S. Route 52. In this way, the ShopKo North park-and-ride lot is always the first stop outbound in the afternoon and the last stop inbound in the morning, which is the same service pattern utilized for the other bus routes serving park-and-ride lots. Both Zumbro Ridge and Viking Hills are new service areas for the Rochester City Lines bus system. It should be noted that Zumbro Ridge is not within the Rochester city limits, and that the intersection of U.S. Route 63 and 55th Street NE may require a traffic signal to safely allow for left turns.

Finally, as shown in Figure 57, Route 1N remains unchanged.

Figure 56 – Route 1D

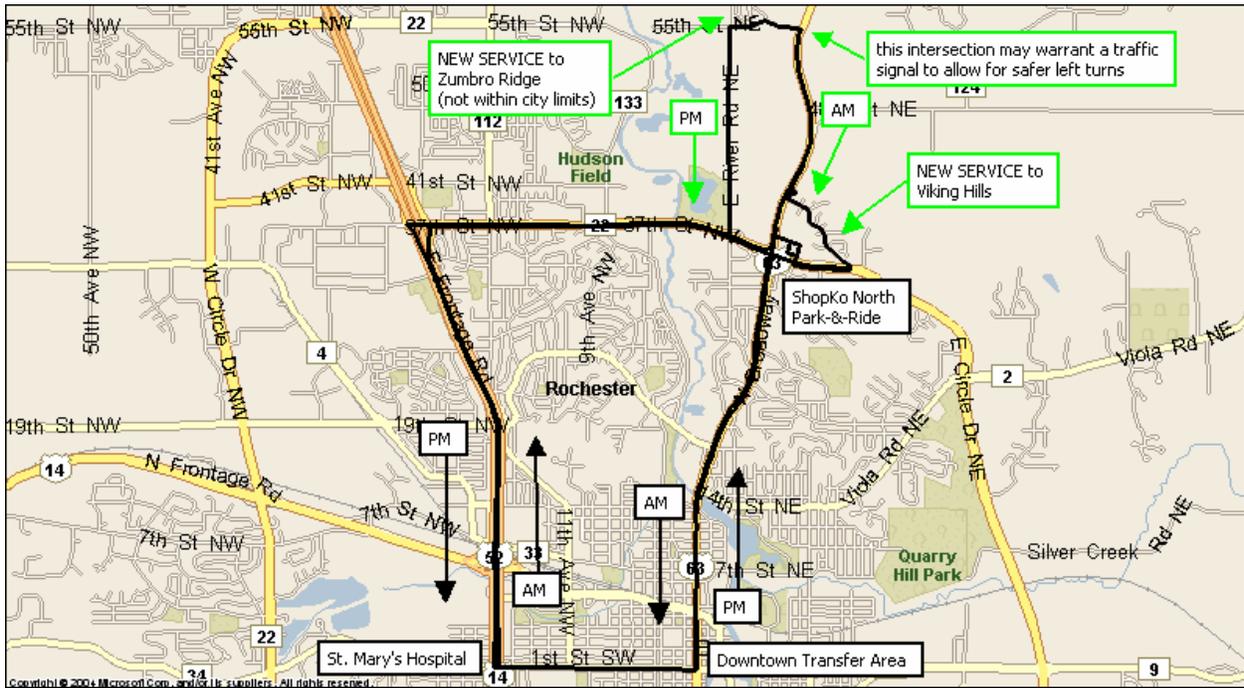
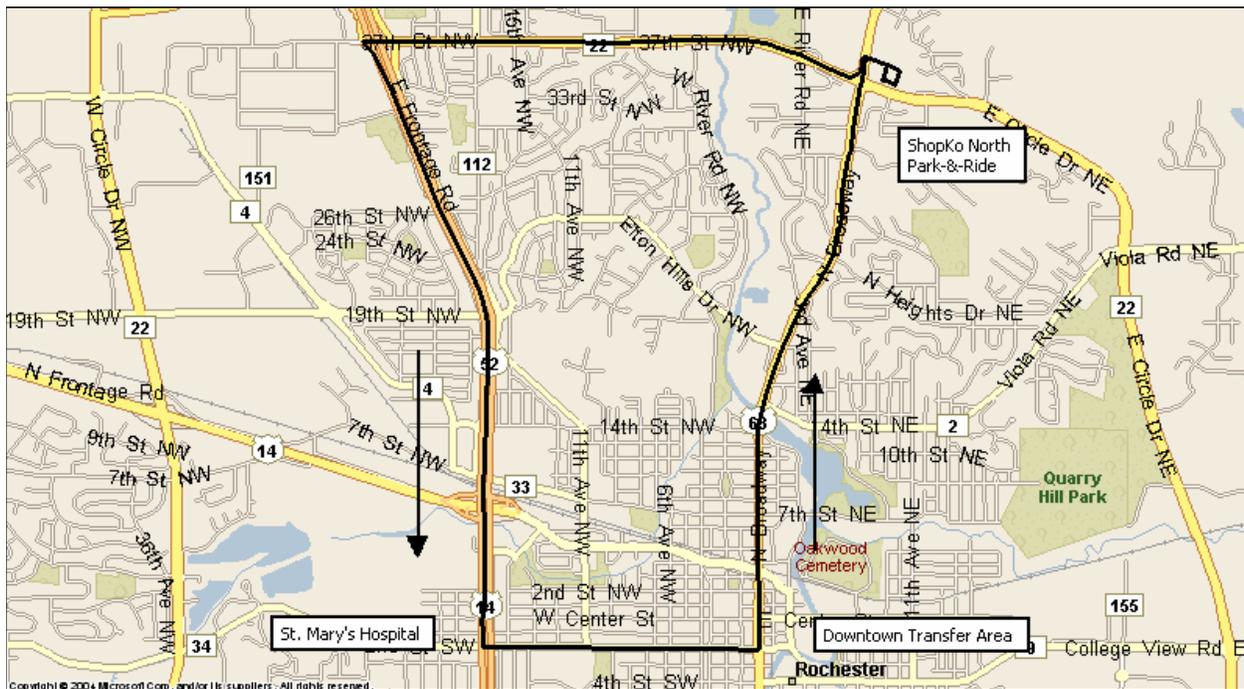


Figure 57 – Route 1N



Frequency and Span of Service - Route 1 (both the *Peak Hour* and *Midday* versions) has a cycle time of 30 minutes. In general, peak period service will operate every half hour, while the midday service will operate hourly. The modified Route 1D now has a cycle time of 45 minutes; service will operate every 45 minutes during the peak periods. Finally, Route 1N has a cycle time of 30 minutes and will continue to operate every half hour during the evening period.

Route 1 will continue to operate from 6:22AM to 6:26PM. Route 1 Peak Hour will operate from 6:22AM to 8:45AM and from 4:15PM to 6:26PM; Route 1 Midday service will operate from 8:45AM to 4:15PM. It should be noted that Route 1 Midday will continue to operate half hourly service during the “shoulders” of the peak periods. Route 1D will operate from 6:00AM to 9:00AM and from 3:05PM to 6:05PM. Route 1N will continue to operate from 6:07PM to 10:10PM.

Number of Vehicles Required - Route 1 will require two buses during the peak periods (i.e., one for Route 1 Peak Hour and one for Route 1D) and “half” of one bus during the midday period (i.e., although the cycle time is 30 minutes, service will operate hourly). Route 1N will require one bus during the evening period.

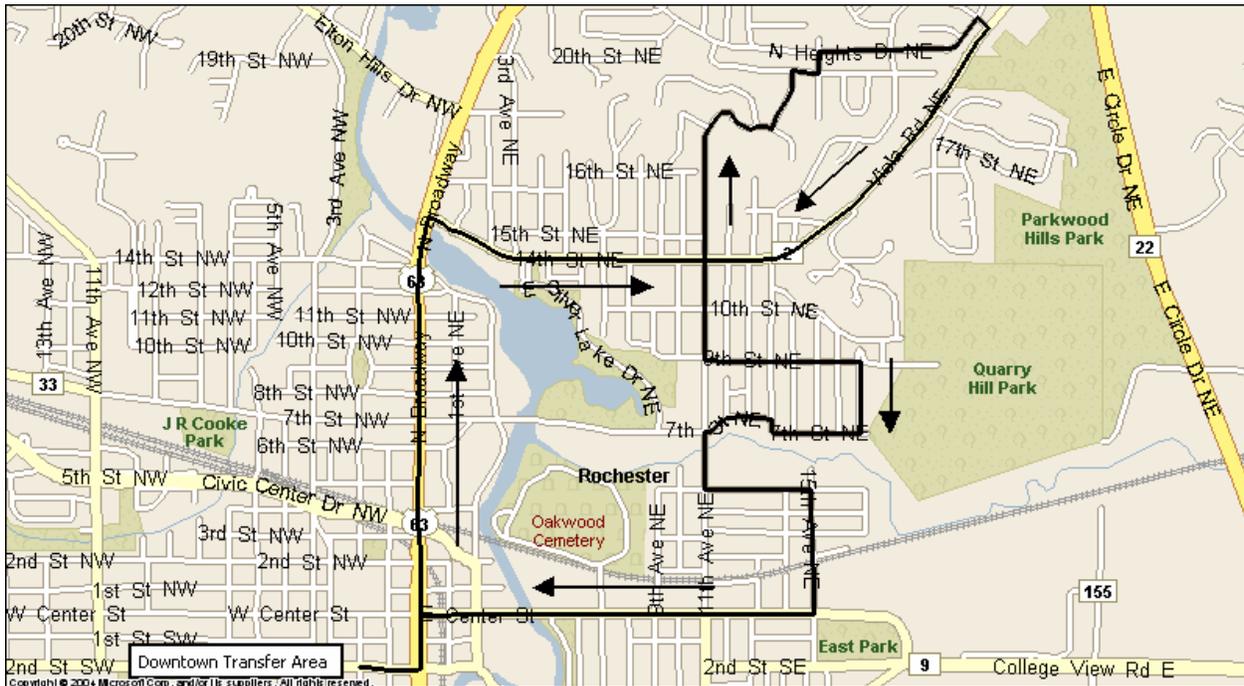
Route 2

Route 2 should always operate its morning route pattern to be more consistent, as shown in Figure 58. The assumption here is that the morning trip to work is perceived as more important to most commuters and that the afternoon trip can be a little less direct if the route is made more consistent throughout the day. It should also be kept in mind that if someone were intent on making their afternoon trip as direct as possible, they could utilize Route 16 (which operates bi-directional service along 11th Avenue NE and Viola Road) and walk a few blocks to reach all of the areas directly served by Route 2.

Frequency and Span of Service - Route 2 has a cycle time of 30 minutes. Peak period service will operate every half hour, while the midday service will operate hourly. Route 2 will operate from 6:10AM to 6:45PM.

Number of Vehicles Required - Route 2 will require one bus during the peak periods and “half” of one bus during the midday period (i.e., although the cycle time is 30 minutes, service will operate hourly).

Figure 58 – Route 2



Route 3

As shown in Figure 59, there are no proposed changes for Route 3; the inbound diversion to the Human Services Campus should be retained. As seen in Figure 60, Route 3N also remains unchanged; there is some evening ridership along 8 ½ Street.

Frequency and Span of Service - Route 3 has a cycle time of 30 minutes. Service operates every half hour throughout the day. Route 3 will operate from 6:45AM to 6:10PM. Route 3N will continue to operate two trips (i.e., at 7:15PM and 9:50PM) during the evening period.

Number of Vehicles Required - Route 3 will require one bus throughout the entire service day. Route 3N requires a portion of a bus during the evening period (i.e., although its cycle time is 30 minutes, only two trips are operated).

Figure 59 – Route 3

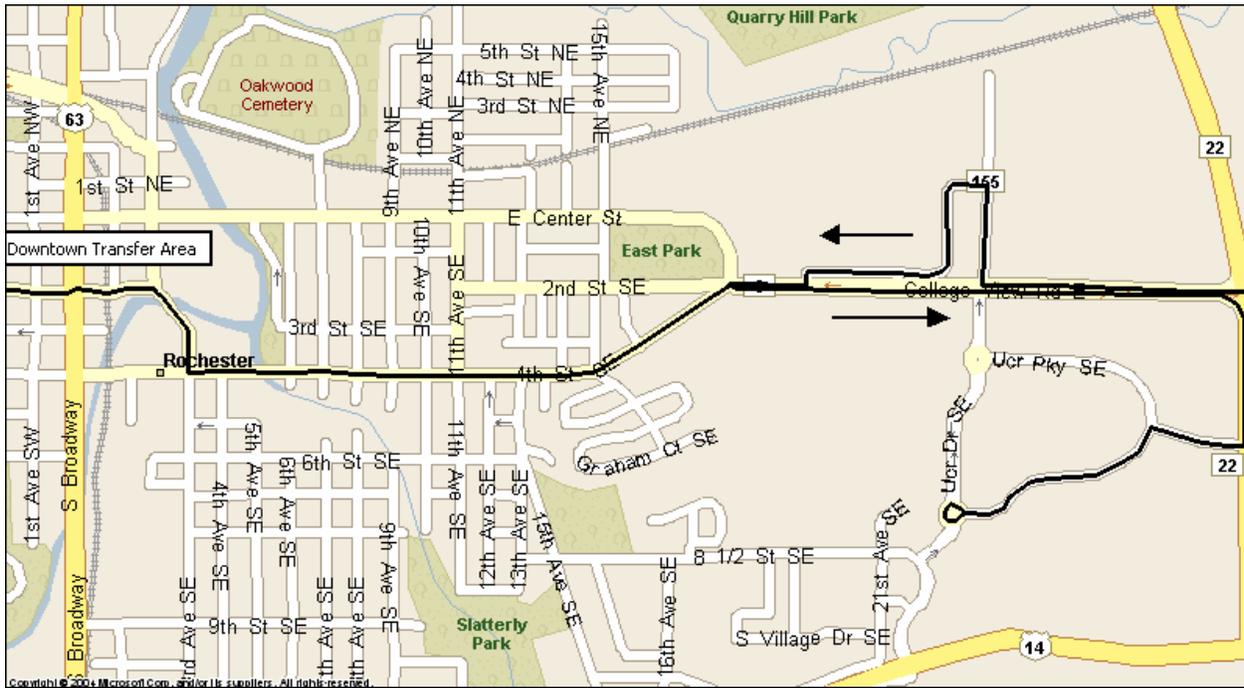
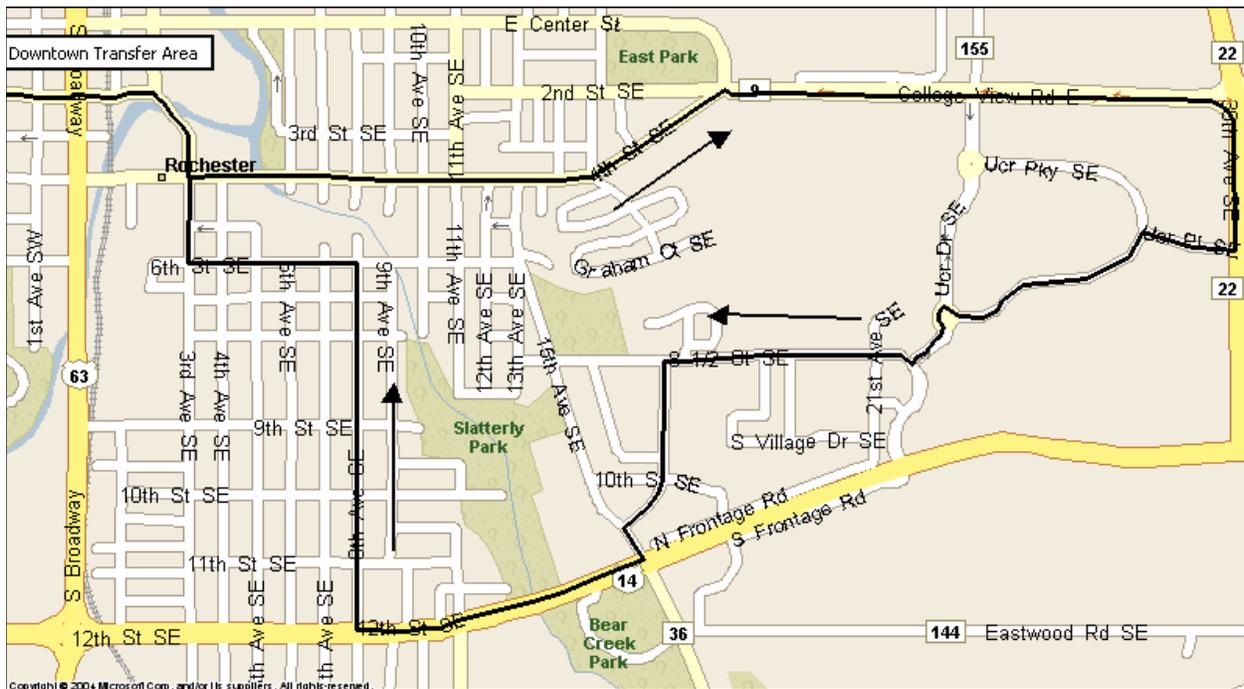


Figure 60 – Route 3N



Route 4

The 17th Street/19th Avenue diversion should be eliminated; it is operated only five times a day and this area is within walking distance of the “trunk line” portion of Route 4.

For consistency, Route 4 trips should always operate the Homestead loop on the inbound trip and in a counter-clockwise direction, as shown in Figure 61. Once again, the assumption here is that the morning trip to work is perceived as more important to most commuters and that the afternoon trip can be a little less direct if the route is made more consistent throughout the day.

According to the ride check survey data, the 6:15PM trip should simply be a Route 5 trip and not also be listed as a Route 4 service with “on request” service to Route 5.

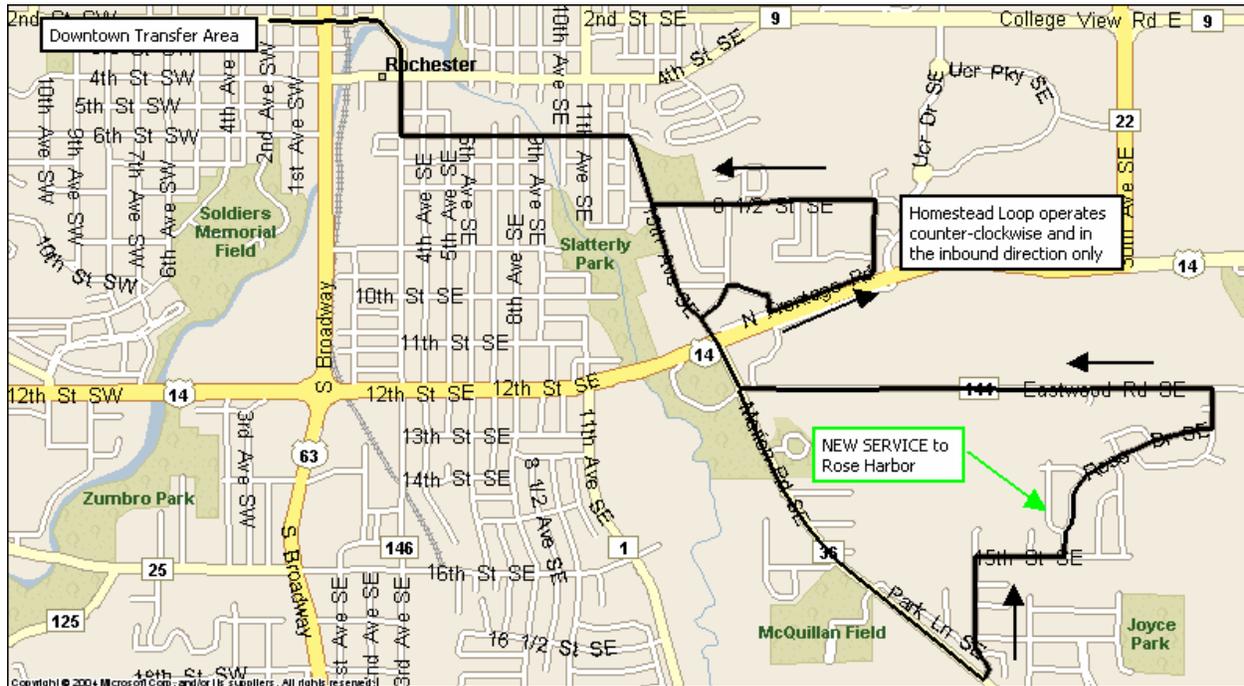
On the return trip, Route 4 trips will serve Rose Harbor from Park Lane via 24th Avenue SE, 15th Street SE, Rose Drive SE and Eastwood Road SE back to the original alignment of Route 4. Rose Harbor is a new service area for the Rochester City Lines bus system. However, it should be noted that serving Rose Harbor requires that Route 4’s cycle time be increased to 45 minutes; if Rose Harbor were instead served as part of an extended Route 17, Route 4’s cycle time could remain at 30 minutes.

Route 4D should be eliminated as a “stand alone” bus route; service to and from the Cub Foods park-and-ride lot can be easily covered by adding trips to Route 17, as will be seen in a subsequent entry. In fact, most Route 4D trips in the morning peak period are actually Route 17 trips. People who park at the Cub Foods park-and-ride lot can walk to and from the Route 17 bus stop in the afternoon, as they presently do in the morning.

Frequency and Span of Service - Route 4 now has a cycle time of 45 minutes. Service will operate every 45 minutes throughout the day from 6:15AM to 6:15PM.

Number of Vehicles Required - Route 4 will require one bus throughout the entire service day.

Figure 61 – Route 4



Route 5

As shown in Figure 62, Route 5 will continue to operate as it does today. However, Route 5 trips which serve the Pinewood Loop (i.e., the current Route 5A) will be extended to serve Southgate via 24th Street SE, 21st Avenue SE and Pinewood Road SE, as shown in Figure 63. The southernmost portion of the Southgate area is within walking distance of 24th Street SE and the street pattern does not lend itself to bus service. These trips should be renamed “Route 5 via Southgate/Pinewood Road” to better indicate the area served. Southgate is a new service area for the Rochester City Lines bus system.

According to the ride check survey data, the 6:15PM trip should simply be a Route 5 trip and not also be listed as a Route 4 service with “on request” service to Route 5.

Frequency and Span of Service - Both versions of Route 5 have a cycle time of 30 minutes. Peak period service will operate every half hour, while the midday service will operate hourly. Route 5 will operate from 5:25AM to 6:40PM. The same trips which are currently “Route 5A” trips will now simply become “Route 5 via Southgate/Pinewood Road” trips.

Number of Vehicles Required - Route 5 will require one bus during the peak periods and “half” of one bus during the midday period (i.e., although the cycle time is 30 minutes, service will operate hourly).

Route 6

The “Route 6 system” basically requires some route nomenclature changes to make it easier to comprehend. These changes are as follows:

- As shown in Figure 64, Route 6 remains unchanged, but is renamed “*Route 6 Midday*”.
- As shown in Figure 65, Route 6B should be renamed “*Route 6 Peak Hour*”. In order to more directly serve the Bethel park-and-ride lot, the differing morning and afternoon loop directions will be retained.
- As shown in Figure 66, Route 6A should be renamed “*Route 6 via Golden Hill Peak Hour*”. This is because the Highview Avenue loop to the Golden Hill area is quite separate and distinct from any of the other areas served by the Route 6 system. In order to more directly serve the ShopKo South park-and-ride lot, the differing morning and afternoon loop directions will be retained.
- As shown in Figure 67, Route 6D remains unchanged. In order to more directly serve the ShopKo South park-and-ride lot, the differing morning and afternoon loop directions will be retained.

Frequency and Span of Service - Route 6 Midday has a cycle time of 45 minutes. Route 6 Midday will operate every 45 minutes from 10:15AM to 2:40PM.

Route 6 Peak Hour has a cycle time of 30 minutes. Route 6 Peak Hour will operate every 30 minutes from 6:00AM to 7:55AM and from 3:05PM to 6:00PM. Two additional trips will continue to be operated at 8:15AM and 9:15AM.

Route 6 via Golden Hill Peak Hour also has a cycle time of 30 minutes. This route will operate every 30 minutes from 5:53AM to 8:10AM and from 3:13PM to 6:40PM. An additional trip will continue to be operated at 10:13AM.

Finally, Route 6D also has a cycle time of 30 minutes. This route will operate every 30 minutes from 6:02AM to 7:50AM and from 3:05PM to 6:10PM.

Number of Vehicles Required - The entire “Route 6 system” will require three buses during the peak periods (i.e., one for Route 6 Peak Hour, one for Route 6 via Golden Hill Peak Hour and one for Route 6D) and one bus during the midday period (i.e., for Route 6 Midday).

Figure 64 – Route 6 Middy

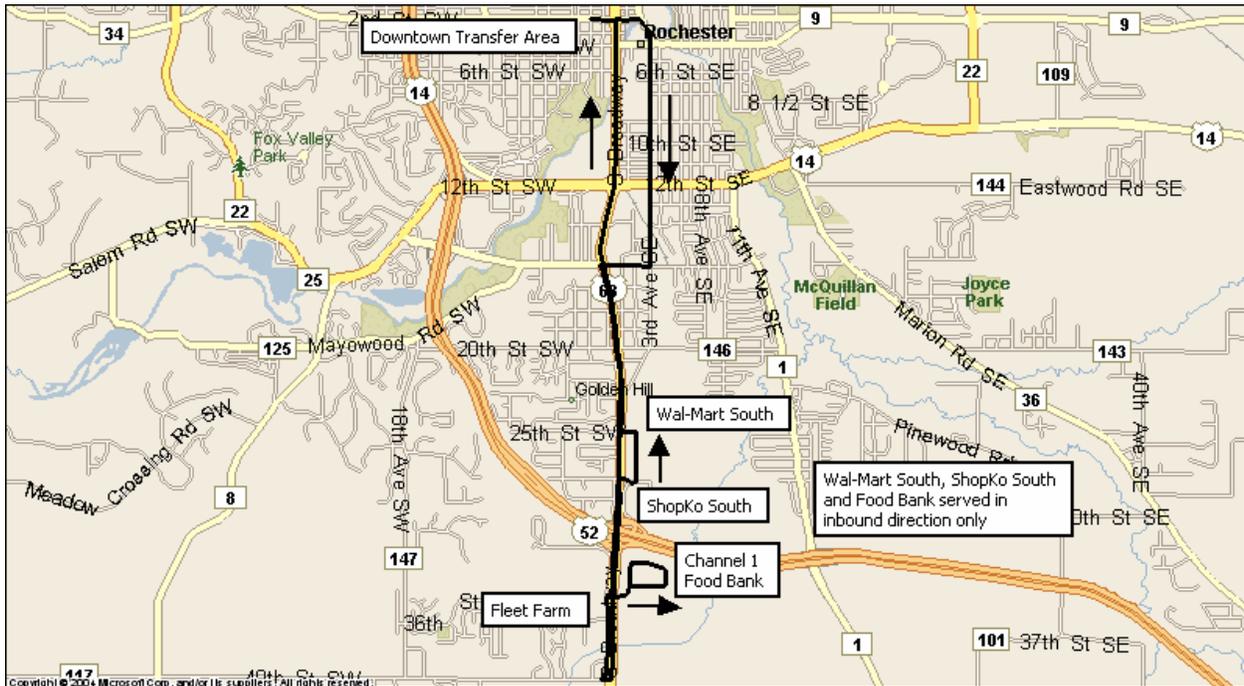


Figure 65 – Route 6 Peak Hour

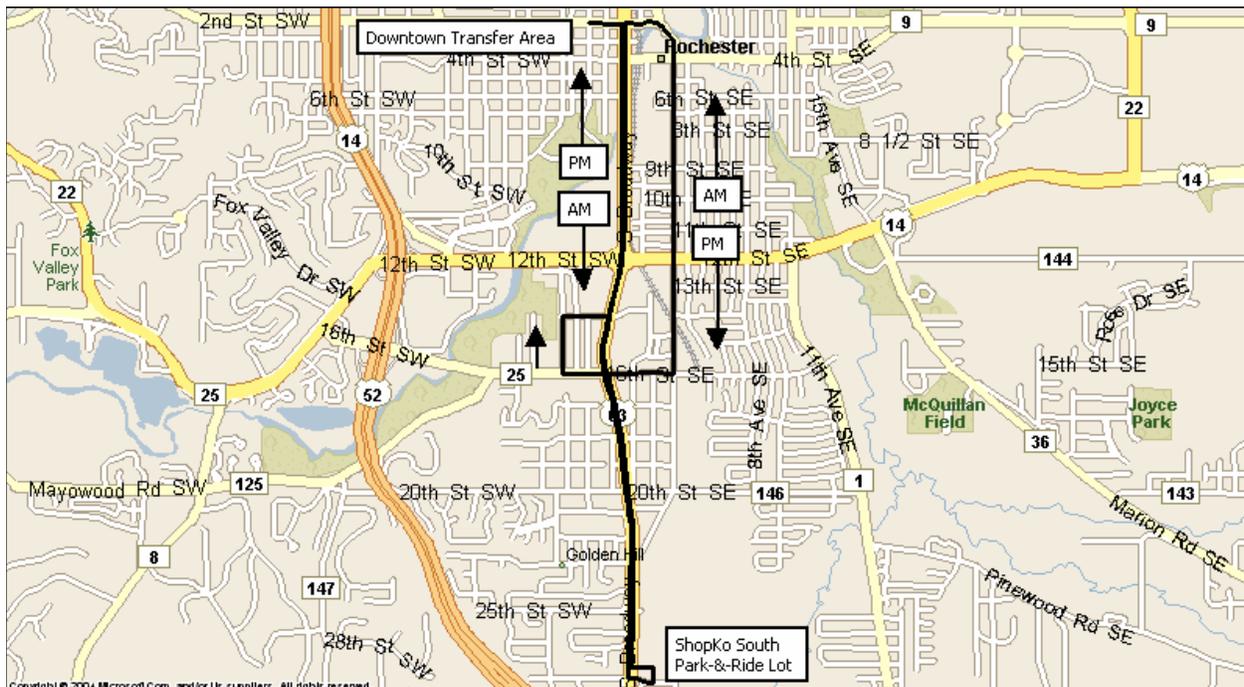


Figure 66 – Route 6 via Golden Hill Peak Hour

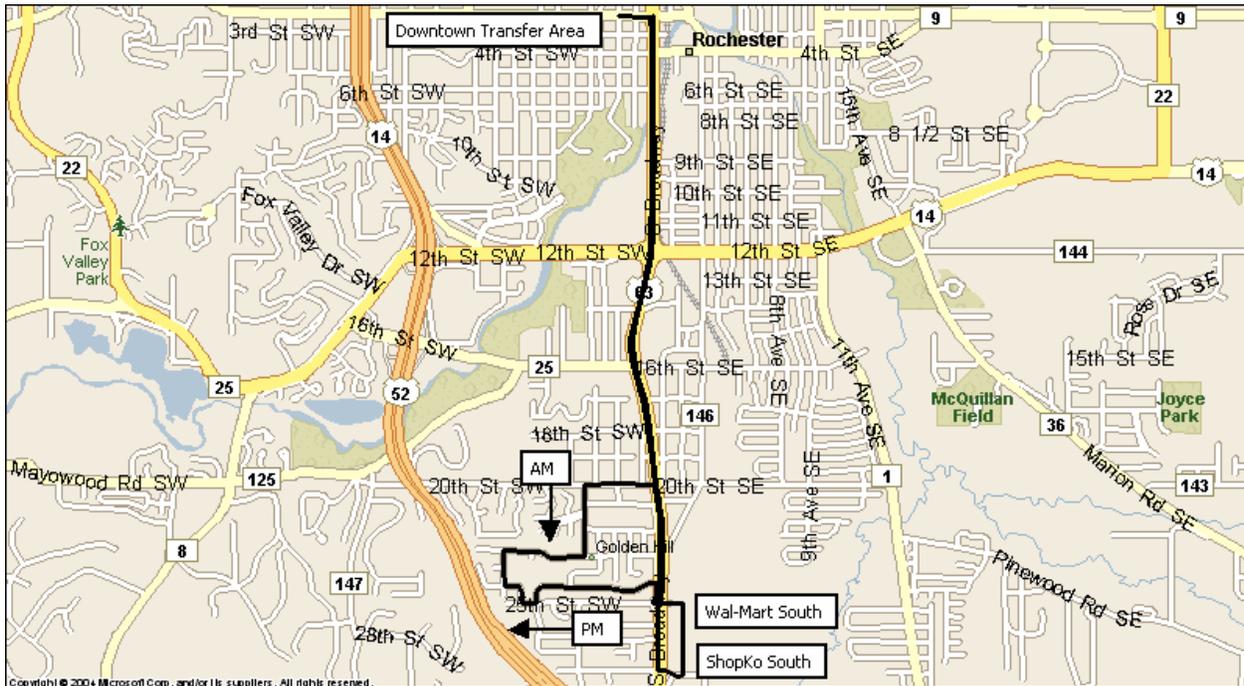
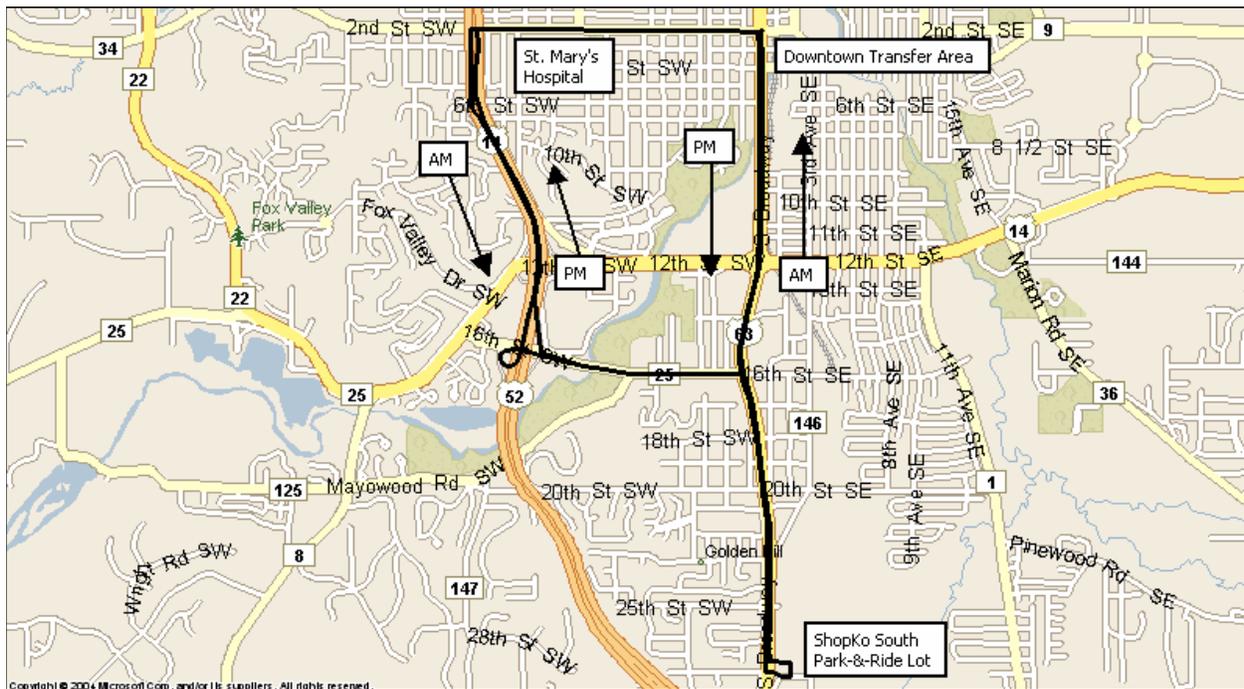


Figure 67 – Route 6D



Route 7

As shown in Figure 68, Route 7A will be eliminated as an independent route; these trips will simply be added to Route 7. The ride check survey data indicated that the GreenView Drive SW area has good ridership and this may be improved with more frequent service. It should also be noted that Route 7 will return to its original route alignment utilizing the West Frontage Road along U.S. Route 52 on its outbound trips. The Crossroads Shopping Center will be served by another route, as will be seen in a subsequent entry, and will still continue to be served during peak periods by Route 6 Peak Hour. In addition, the Crossroads Shopping Center is within walking distance from Route 6 Midday, Route 6 via Golden Hill Peak Hour and Route 6D.

As shown in Figure 69, Route 7N remains unchanged.

Frequency and Span of Service - Route 7 has a cycle time of 30 minutes. The morning peak period service will operate hourly, but service throughout the remainder of the day will operate every 30 minutes. Route 7 will operate from 6:42AM to 6:10PM. Route 7N has a cycle time of 60 minutes. Route 7N will operate every 30 minutes from 6:07PM to 10:40PM.

Number of Vehicles Required - Route 7 will require one bus during the entire service day, with the exception of the morning peak period when “half” of one bus would be required (i.e., although the cycle time is 30 minutes, service will operate hourly). Route 7N will require two buses.

Figure 68 – Route 7

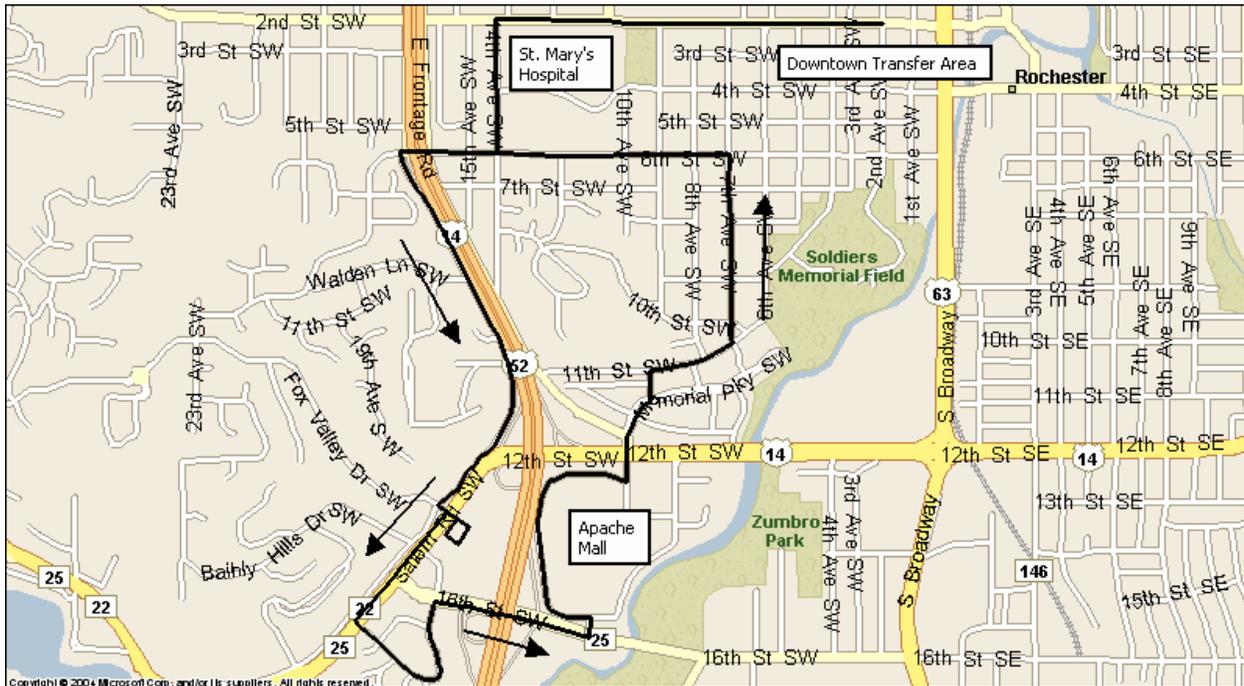
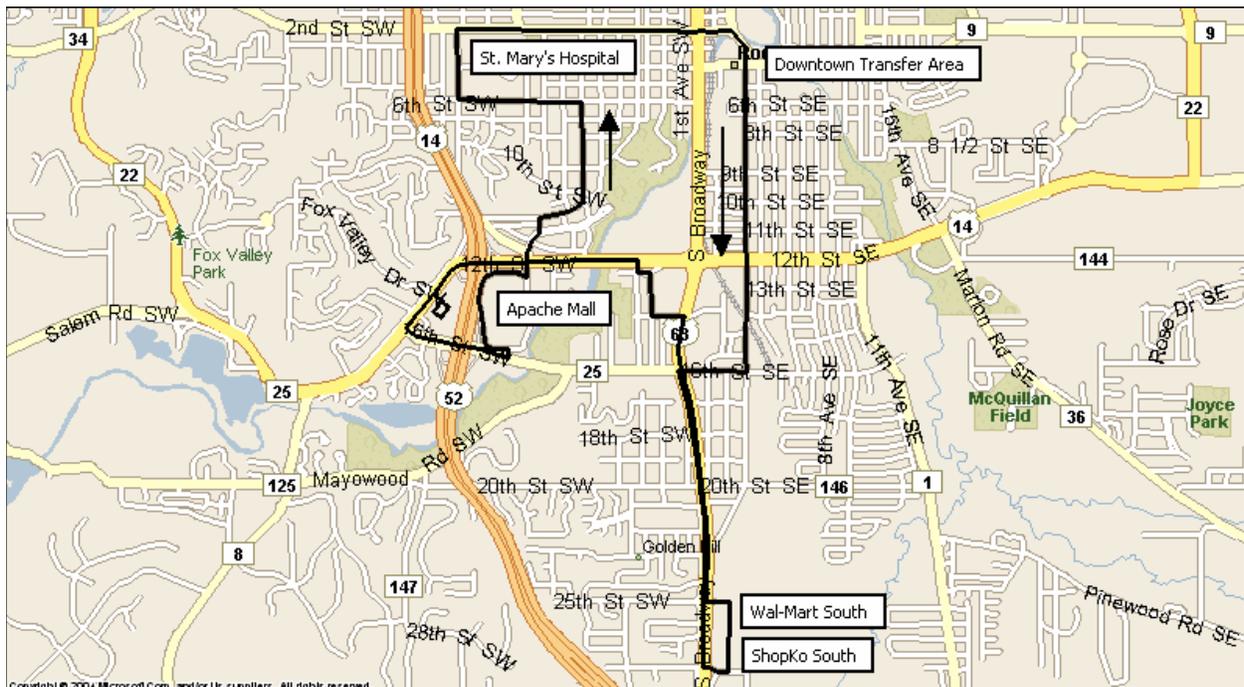


Figure 69 – Route 7N



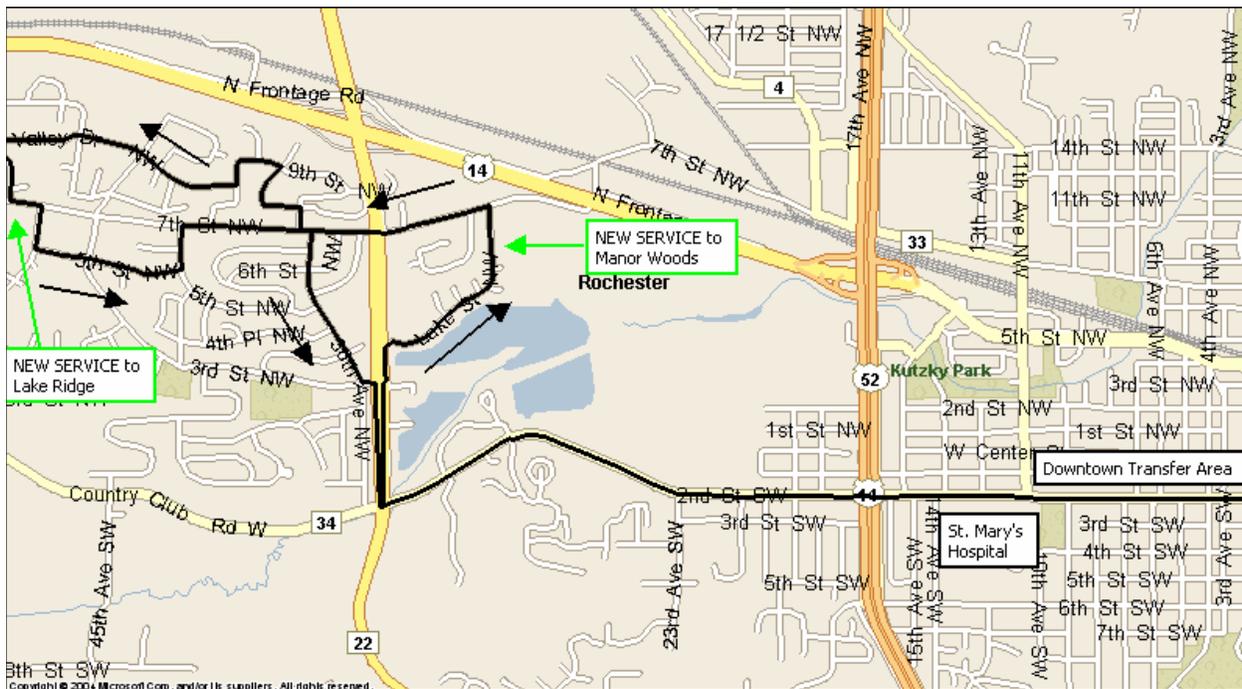
Route 8

As shown in Figure 70, Route 8's western terminal loop will be modified to serve both Manor Woods and Lake Ridge as follows: from 2nd Street SW the route would operate via County Road 22, 3rd Street NW, Lake Street NW and 7th Street NW back to the existing route at 37th Avenue NW and along the existing route to Valley Drive NW, where it would operate west to 50th Avenue NW, 7th Street NW, Manor Ridge Drive, 5th Street NW and 43rd Avenue NW back to 7th Street NW, 36th Avenue NW, 3rd Street NW, County Road 22 and 2nd Street SW for the return trip into downtown Rochester. Both Manor Woods and Lake Ridge are new service areas for the Rochester City Lines bus system. The areas no longer served by Route 8 will be served by the new Route 15, which will be described in a subsequent entry.

Frequency and Span of Service - Route 8 has a cycle time of 45 minutes. During the morning peak period, service will operate every 45 minutes from 6:00AM to 9:00AM. During the afternoon peak period, service will operate every 45 minutes from 3:00PM to 6:45PM. Two midday trips (i.e., at 12:00PM and 2:00PM) will continue to be operated.

Number of Vehicles Required - Route 8 will require one bus during the peak periods and a portion of a bus during the midday period, when only two trips will be operated.

Figure 70 – Route 8



Route 9

As shown in Figure 71, Route 9 should always be operated in the clockwise direction (i.e., the current morning service pattern). Once again, the assumption here is that the morning trip to work is perceived as more important to most commuters and that the afternoon trip can be a little less direct if the route is made more consistent throughout the day.

On the outbound trip, Route 9 will be modified to operate from Superior Drive through the Mayo Superior Drive Support Center and onto Monroe Drive, Kenosha Drive and County Road 4 back to Valleyhigh Road NW in order to serve Badger Ridge. Badger Ridge is a new service area for the Rochester City Lines bus system.

Finally, a new bus route will operate “direct” park-and-ride lot service between downtown Rochester and the vicinity of Highway 14 West during the peak periods. This bus route will be called “*Route 9D*” and is shown in Figure 72. This park-and-ride lot bus route is a new service for the Rochester City Lines bus system.

Frequency and Span of Service - Route 9 has a cycle time of 60 minutes. Service will operate every 30 minutes during the peak periods and every hour during the midday period. Route 9 will operate from 5:45AM to 7:10PM. Route 9D will also have a cycle time of 30 minutes. Service will operate every 30 minutes from 6:00AM to 8:55AM and from 3:05PM to 6:00PM.

Number of Vehicles Required - Route 9 will require two buses during the peak periods and one bus during the midday period. Route 9D will require one bus during the peak periods.

Figure 71 – Route 9

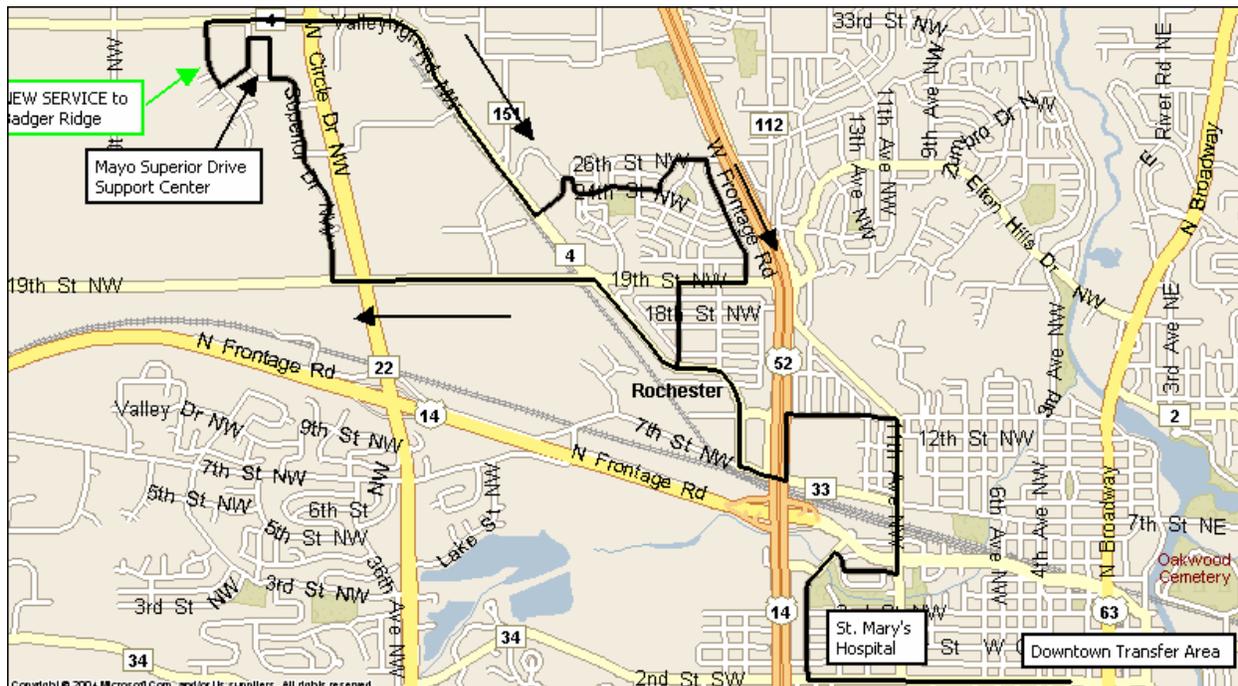
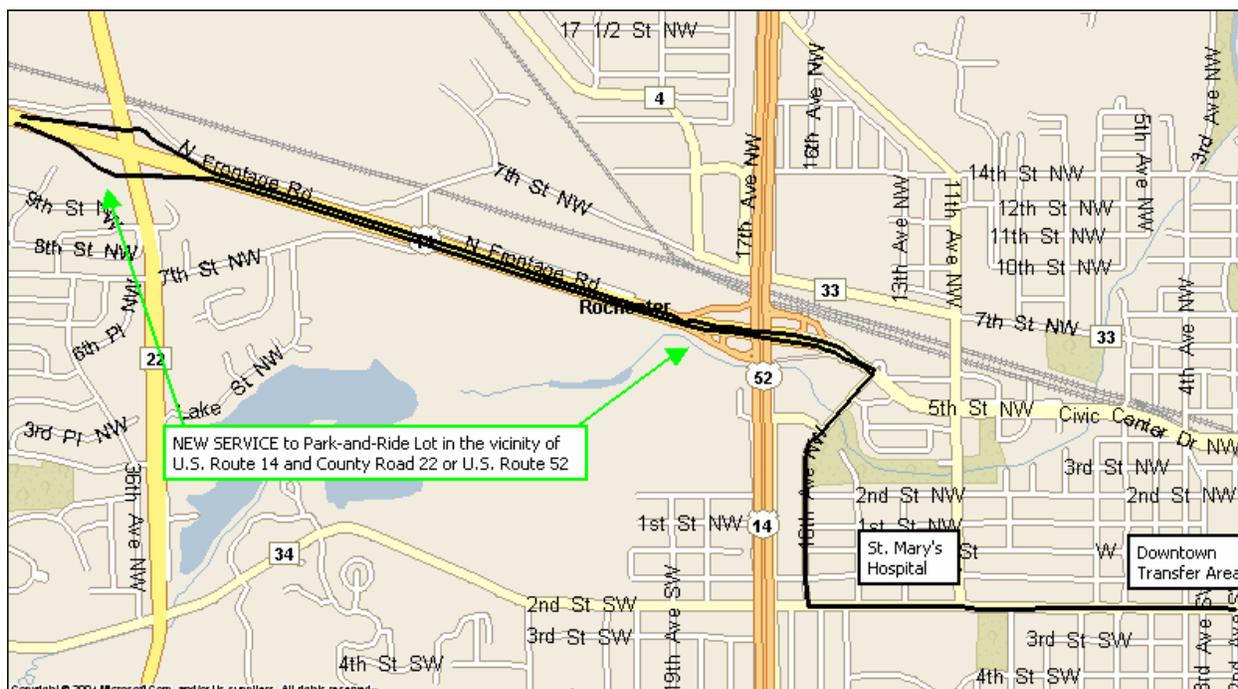


Figure 72 – Route 9D



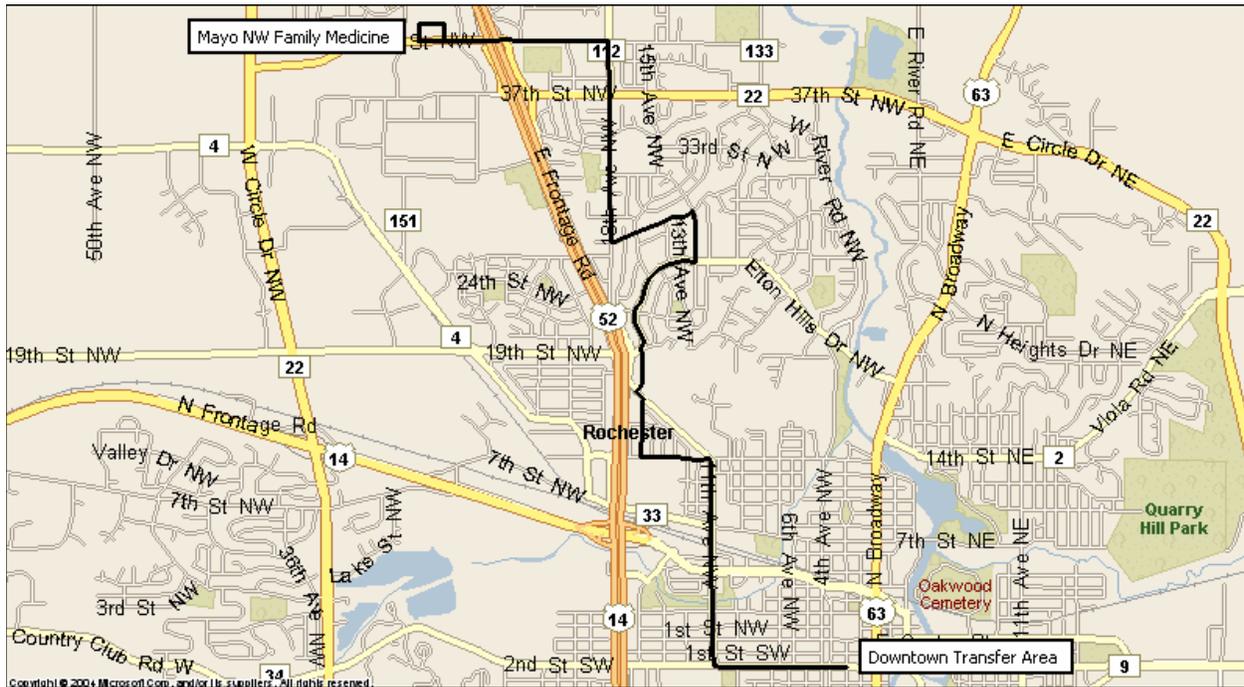
Route 10

As shown in Figure 73, Route 10 remains unchanged.

Frequency and Span of Service - Route 10 has a cycle time of 60 minutes. Peak period service operates every half hour only in the peak direction (i.e., inbound in the morning and outbound in the evening), while the midday service operates hourly. Route 10 will operate from 5:30AM to 6:38PM.

Number of Vehicles Required - Route 10 will require two buses during the peak periods and one bus during the midday period.

Figure 73 – Route 10



Route 11

As shown in Figure 74, Route 11 will now directly provide new service to the Target on 41st Street NW during the midday period instead of operating directly to IBM. These midday trips should be renamed “*Route 11 Midday*”. In addition, as shown in Figure 75, the peak period trips which operate via 4th Avenue NW should be renamed “*Route 11 Peak Hour*”.

Frequency and Span of Service - Both versions of Route 11 have a cycle time of 60 minutes. Service will operate every 30 minutes during the peak periods and every hour during the midday period. Route 11 will operate from 6:04AM to 6:44PM.

Number of Vehicles Required - Route 11 will require two buses during the peak periods and one bus during the midday period.

Figure 74 – Route 11 Midday

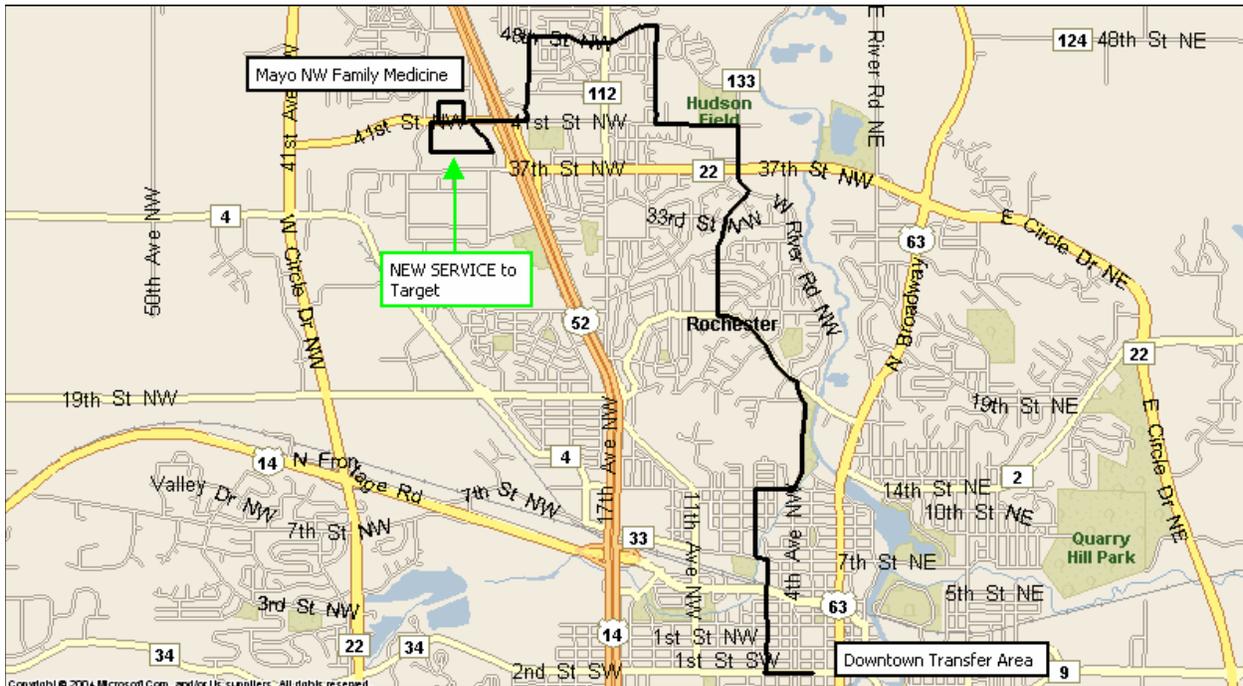
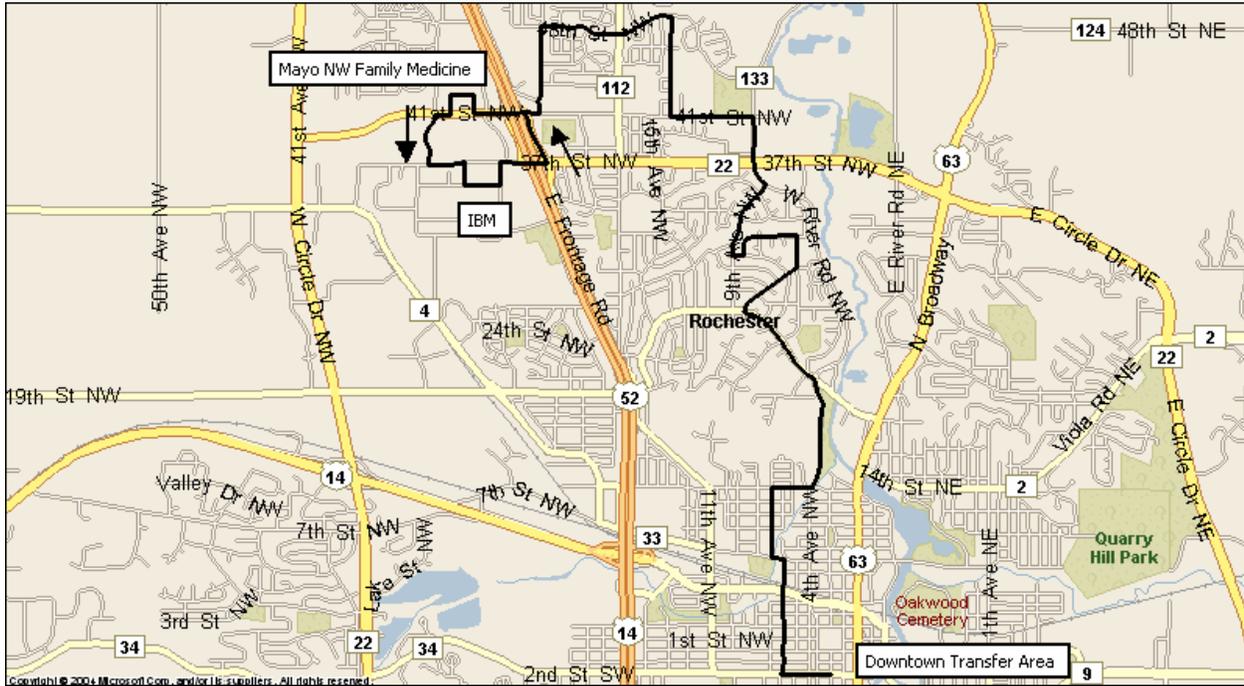


Figure 75 – Route 11 Peak Hour



Route 12 and Route 13

Route 12D should be discontinued because it is essentially duplicative of other bus routes and is not a “direct” route in that it operates in the morning peak period and during the midday period, but not during the afternoon peak period. Instead, its resources should be utilized in better developing the “Route 12 system” as follows:

- As shown in Figure 76, Route 12 will be modified to operate from downtown via U.S. Route 52 to IBM, the Mayo Family Clinic NW, along the West Frontage Road and 43rd Street NW into the Arbor Glen/Lincolnshire area and back to 35th Avenue NW, 48th Street NW and the West Frontage Road to Wal-Mart North. It would then return to downtown Rochester via the same roads. Arbor Glen is a new service area for the Rochester City Lines bus system.
- As shown in Figure 77, Route 12N remains unchanged.

Figure 76 – Route 12

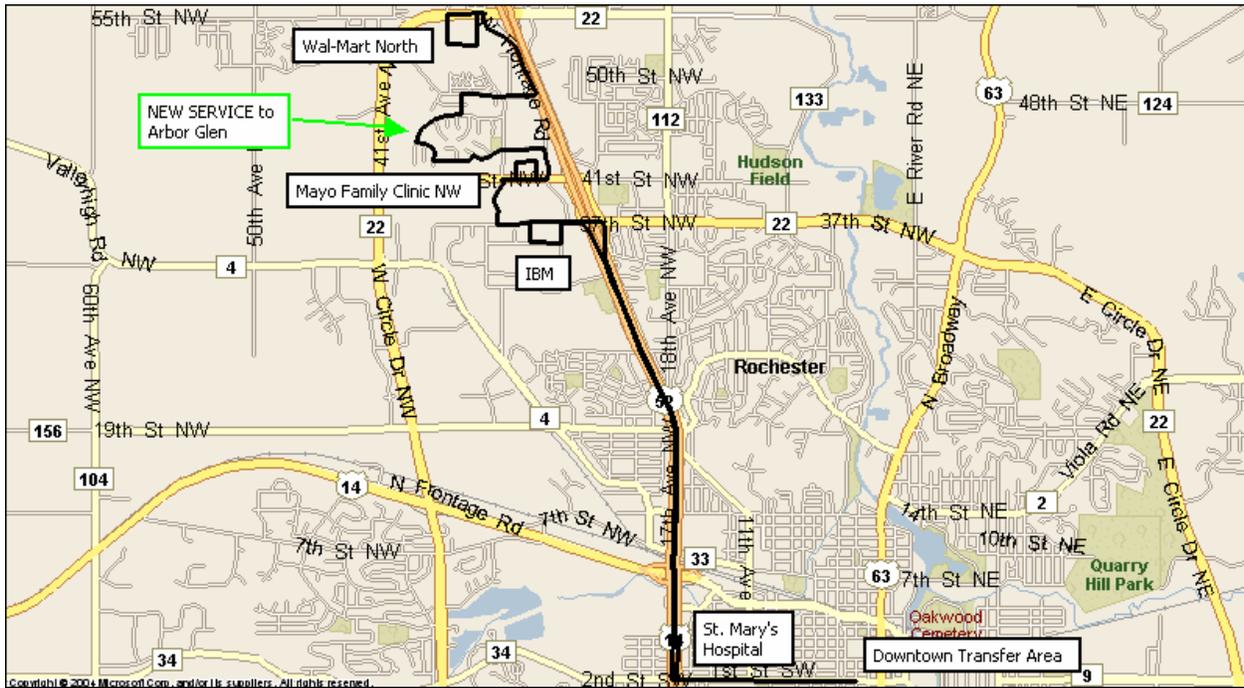
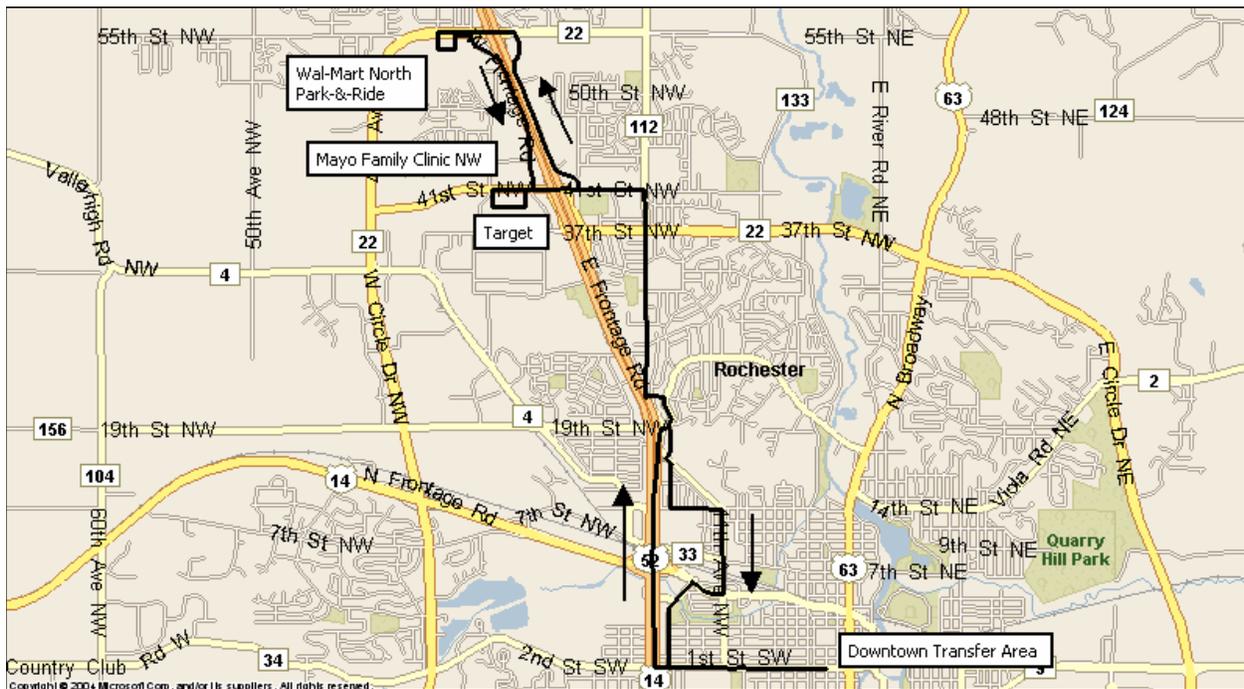


Figure 77 – Route 12N



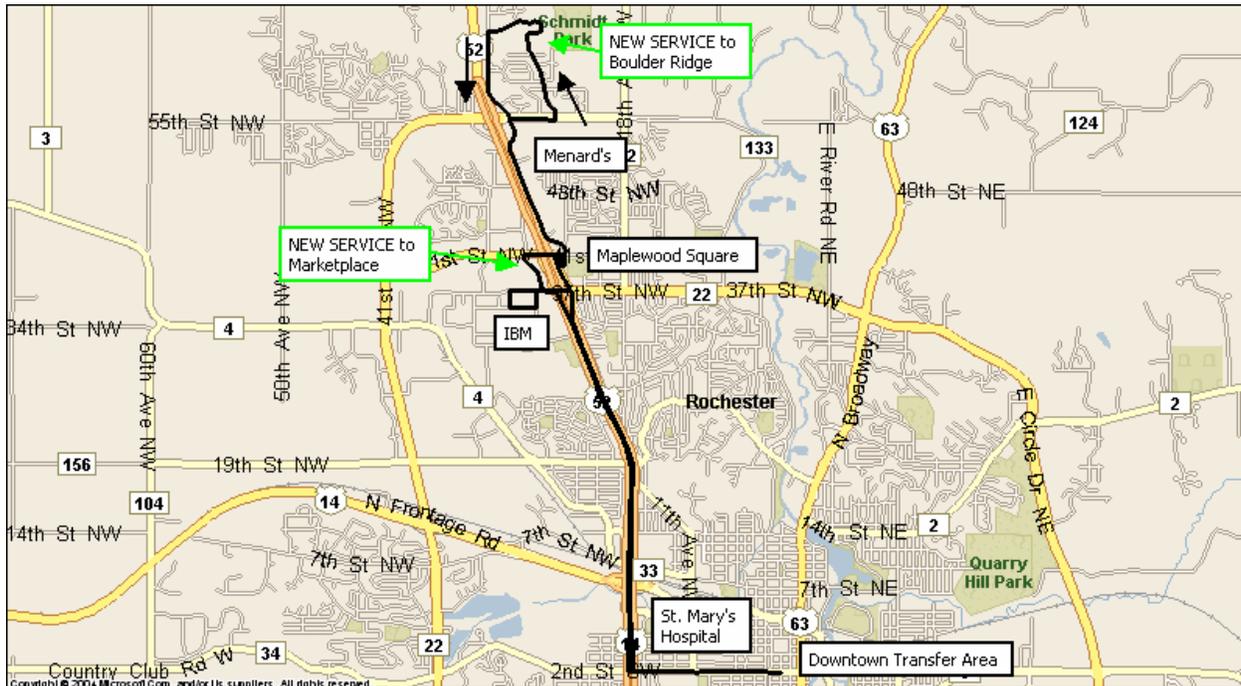
- As shown in Figure 78, a new “Route 13” would operate from downtown via U.S. Route 52 to Marketplace Drive and along 41st Street NW to Maplewood Square, then via the East Frontage Road to Rochester Village and Menard’s. After serving Menard’s, Route 13 would operate via 55th Street NW to 25th Avenue NW, Boulder Ridge Drive and Bandel Road NW to serve Boulder Ridge. On the return trip, Route 13 will operate via 37th Street NW to IBM after serving Maplewood Square before proceeding back downtown via U.S. Route 52. This means that Marketplace Drive will receive service only in the outbound direction and IBM will only receive Route 13 service in the inbound direction.

This is mainly due to the disconnected nature of the street pattern in the vicinity of Marketplace Drive. Both the Marketplace shopping area and Boulder Ridge are new service areas for the Rochester City Lines bus system.

Frequency and Span of Service - Route 12 has a cycle time of 60 minutes. Service will operate every 30 minutes throughout the day from 6:00AM to 7:00PM. Route 12N also has a cycle time 60 minutes. Service will operate every 30 minutes from 6:40PM to 10:26PM. Finally, Route 78 will also have a cycle time of 60 minutes. Service will operate hourly throughout the day from 6:00AM to 7:00PM.

Number of Vehicles Required - Route 12 will require two buses throughout the entire service day. Route 12N will require two buses during the evening period. Route 13 will require one bus throughout the entire service day.

Figure 78 – Route 13



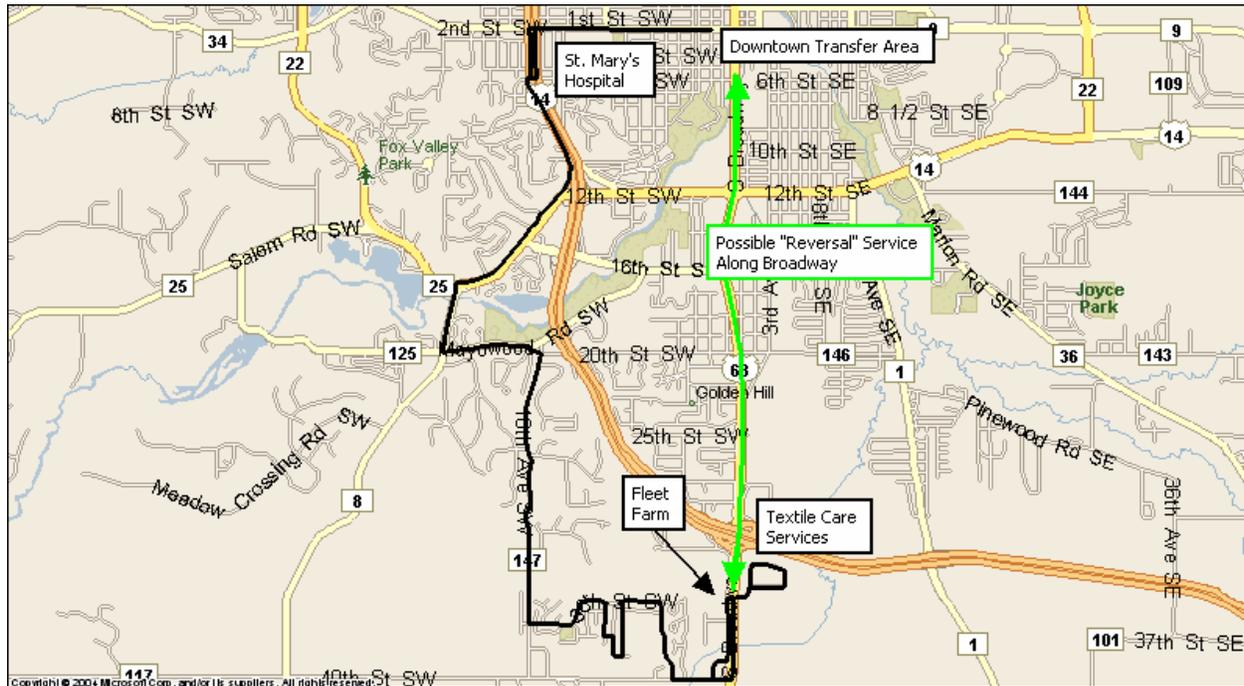
Route 14

The ride check survey data indicated that Route 14 could discontinue service along South Broadway and instead operate a bi-directional service along the west side of the route as far as Textile Care Services, as shown in Figure 79. This will allow service to be retained to Fleet Farm during the peak periods, when Route 6 Midday does not operate.

Frequency and Span of Service - Route 14 operates only during the peak periods and will have a cycle time of 60 minutes. During the morning peak period, service will operate every hour from 6:00AM to 8:00AM. During the afternoon peak period, service will operate every hour from 4:10PM to 7:10PM.

Number of Vehicles Required - Route 14 will require one bus during the peak periods.

Route 79 – Route 14



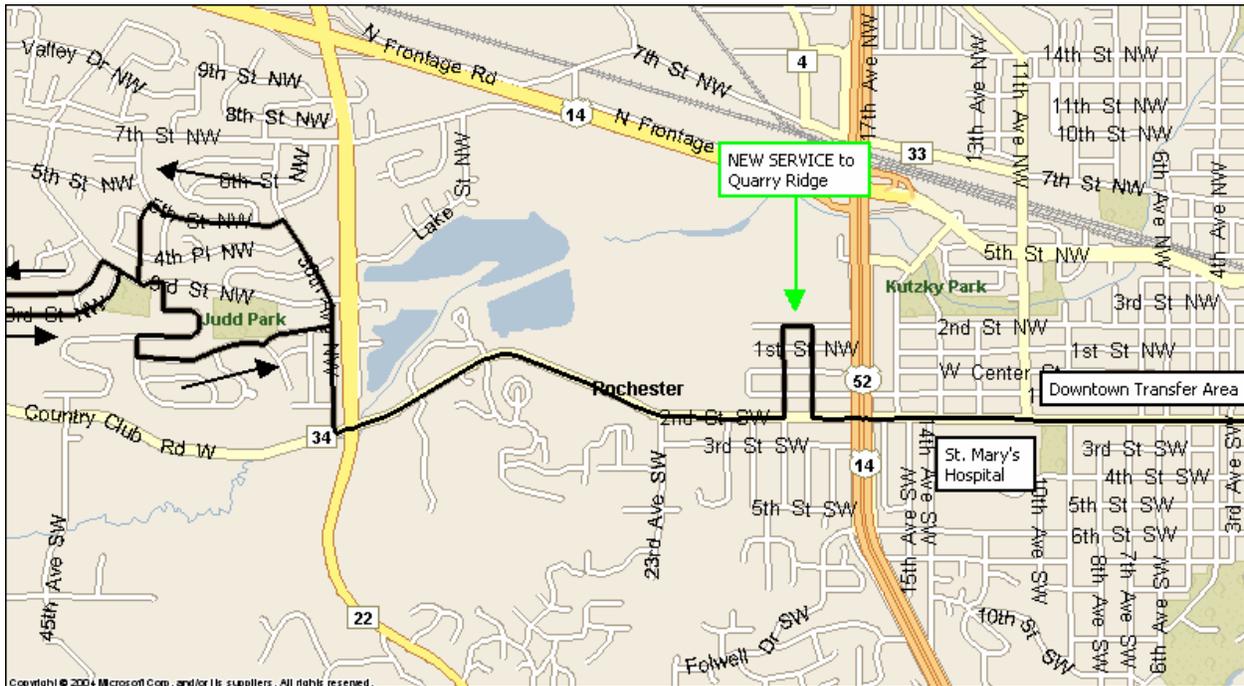
Route 15

As shown in Figure 80, Route 15 will serve those areas no longer served by Route 8 and will operate along the same alignment as Route 8 as far as 36th Avenue NW; it will then operate west on 5th Street NW and complete the portion of the current loop left unserved by the modified Route 8. Route 15 will also serve Quarry Ridge via 18th Avenue, 2nd Street NW and 19th Avenue on both the outbound and inbound trips. Quarry Ridge is a new service area for the Rochester City Lines bus system.

Frequency and Span of Service - Route 15 has a cycle time of 45 minutes. During the morning peak period, service will operate every 45 minutes from 6:30AM to 9:30AM. During the afternoon peak period, service will operate every 45 minutes from 3:30PM to 7:15PM. Two midday trips (i.e., at 12:30PM and 2:30PM) will also be operated.

Number of Vehicles Required - Route 15 will require one bus during the peak periods and a portion of a bus during the midday period, when only two trips will be operated.

Figure 80 – Route 15



Route 16

As shown in Figure 81, Route 16 would be modified to serve Century Hills via Century Hills Drive NE en route to Century High School. After serving Century High School, Route 16 would then continue via Cassidy Drive NE, Darcy Drive NE and Colleen Street NE to serve Emerald Hills before proceeding to the Mayo Clinic NE and then returning downtown via Viola Heights Drive NE and Viola Road NE. The midday trips on Route 16 will now be called “*Route 16 Middy*”. Both Century Hills and Emerald Hills are new service areas for the Rochester City Lines bus system.

During the peak periods, Route 16 will serve the Parkwood area via Parkwood Hills Drive NE, 22nd Avenue NE, 17th Street NE, 21st Avenue NE, 16th Street NE, 20th Avenue NE and Parkwood Hills Drive NE back to Viola Road NE. As shown in Figure 82, Parkwood would be served in the inbound direction during the morning peak period and in the outbound direction during the afternoon peak period. The peak period trips on Route 16 will now be called “*Route 16 Peak Hour*”.

Frequency and Span of Service - Both versions of Route 16 will have a cycle time of 60 minutes. Service will operate hourly throughout the day from 6:15AM to 7:15PM.

Number of Vehicles Required - Route 16 will require one bus throughout the entire service day.

Figure 81 – Route 16 MIDDAY

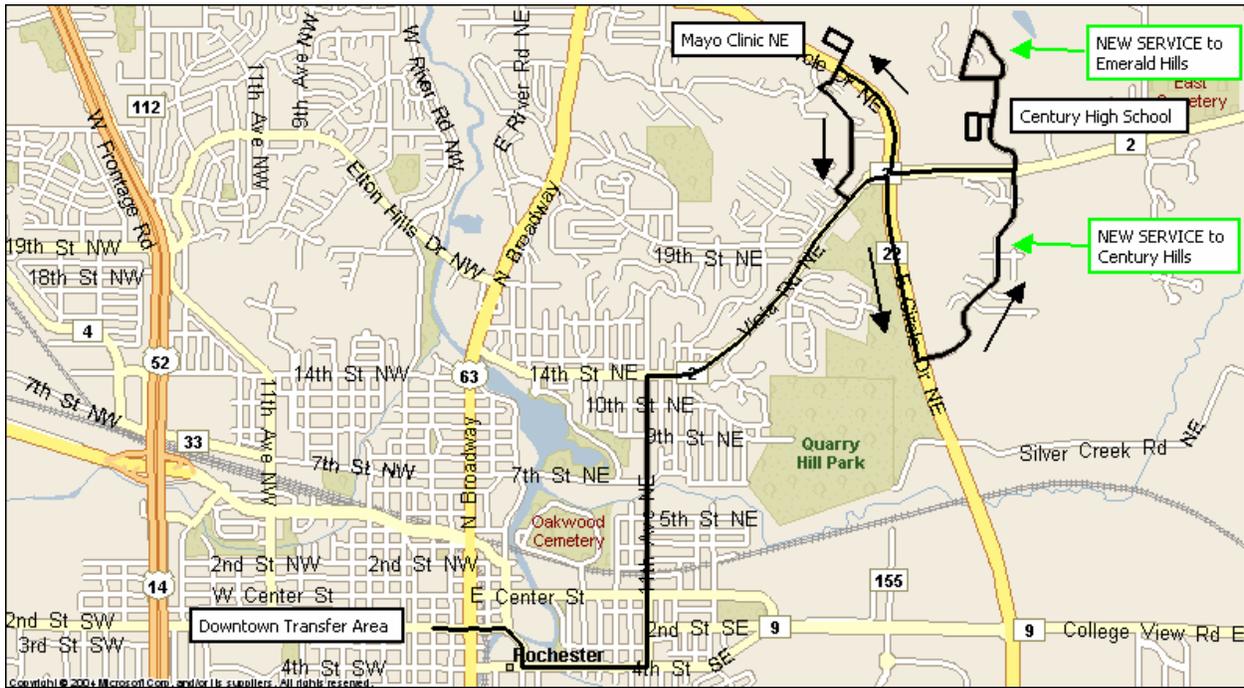
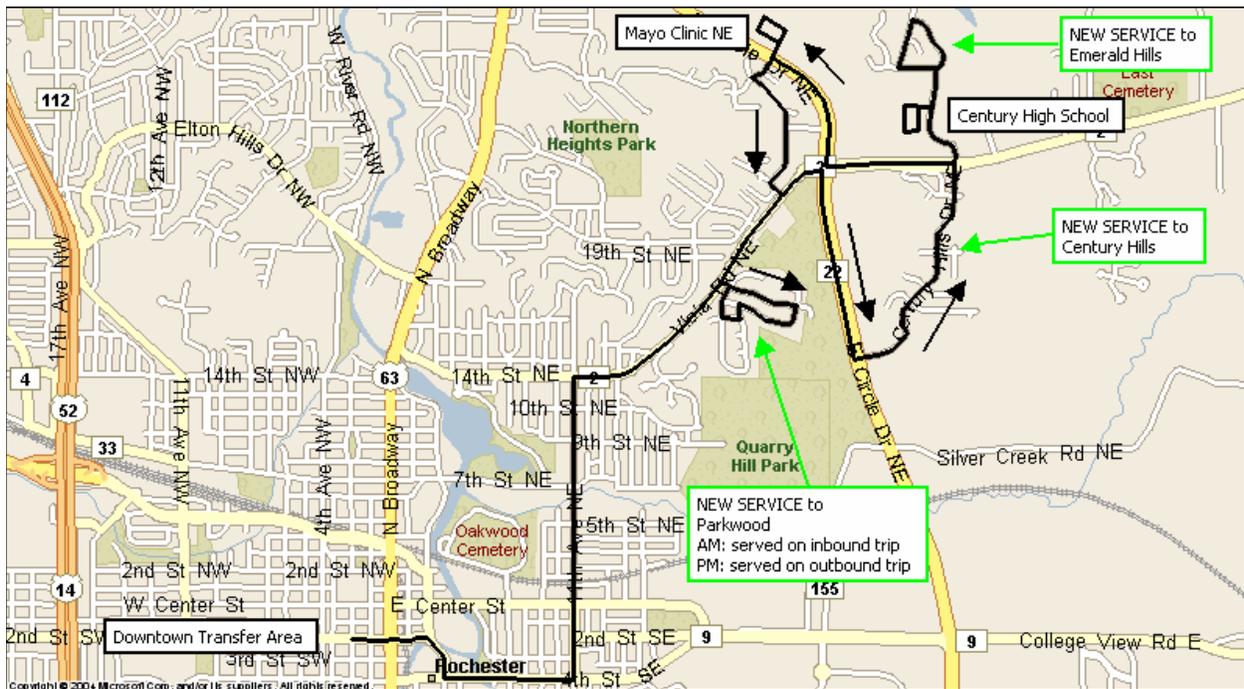


Figure 82 – Route 16 PEAK HOUR



Route 18

As shown in Figure 84, Route 18 would be modified to remove as much of the duplicative alignment it shares with Route 9 as possible; this would involve the following:

- After leaving the downtown area via 16th Avenue NW and Civic Center Boulevard, Route 18 would utilize U.S. Route 14 and West Circle Drive NW and 41st Avenue NW (i.e., County Road 22) to 41st Street NW and the Mayo Support Center.
- After serving the Mayo Support Center, Route 18 would return to 41st Street NW and 41st Avenue NW and then proceed north along County Road 22 and serve an extended “Fairview Drive loop” which would operate via 55th Street NW, Fairview Drive NW, Savannah Drive NW, 50th Avenue NW and west on 55th Street NW to 56th Avenue NW to 51st Street NW and Nicklaus Drive back to 55th Street NW and County Road 22, thus serving the northern portion of Golfview Estates and the Wedgewood area. Route 18 would then return downtown along the same streets. Both Golfview Estates and Wedgewood are new service areas for the Rochester City Lines bus system.

Although Route 18 will continue to operate only during the peak periods, the service will now operate bi-directionally, thus allowing residents of Wedgewood or Golfview Estates to travel to downtown Rochester as well as affording “reverse commuters” the opportunity to reach the Mayo Support Center.

As shown in Figure 85, Route 18D remains unchanged. It will continue to provide express service between the Wal-Mart North Park-and-Ride Lot and downtown Rochester. Service will continue to operate inbound only during the morning peak period and outbound only during the afternoon peak period.

Figure 84 – Route 18

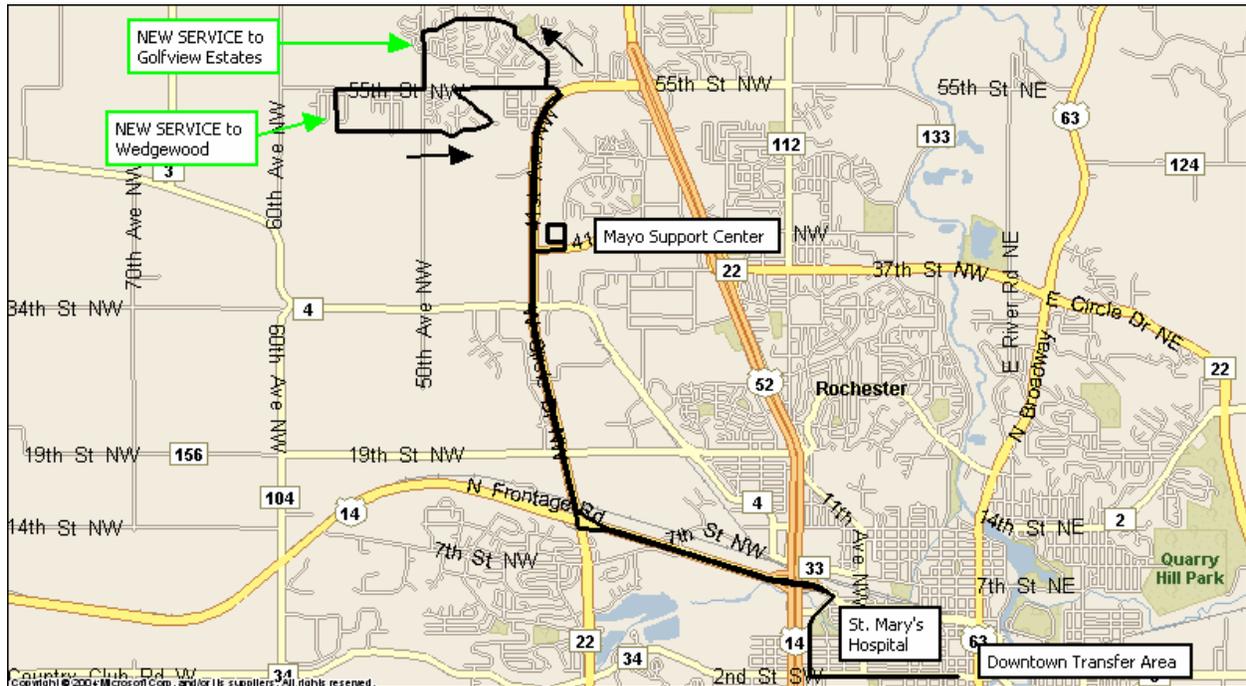
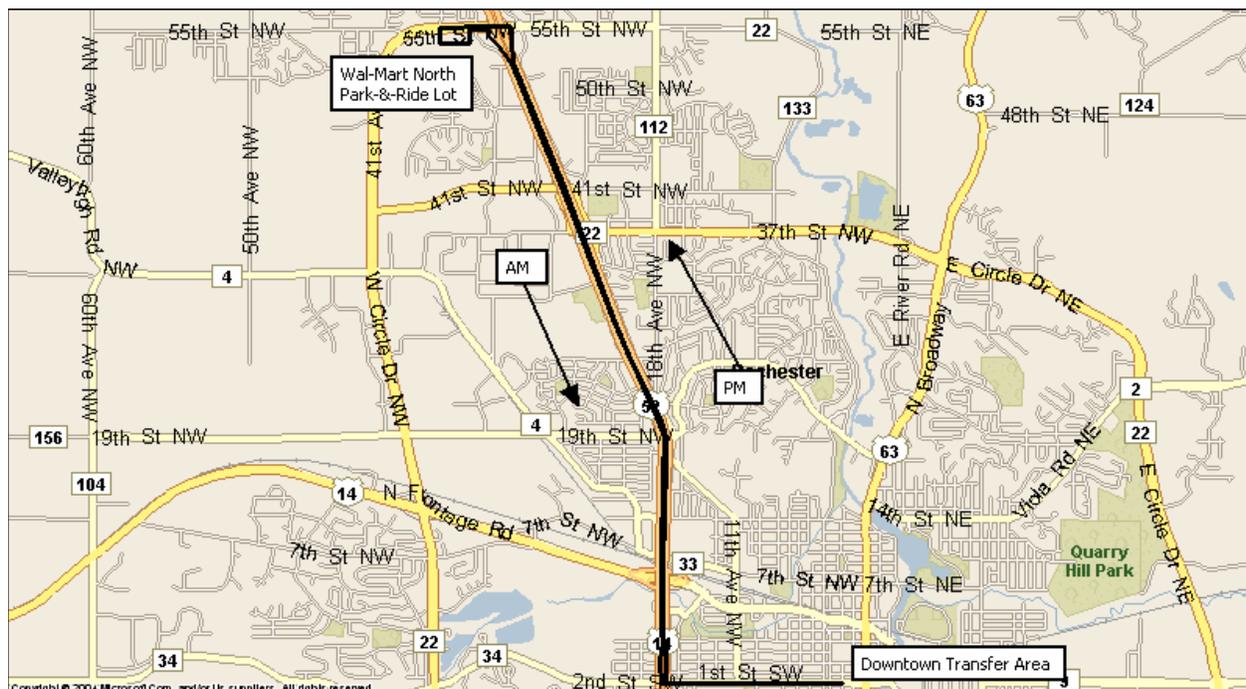


Figure 85 – Route 18D



However, Route 18D should continue to be closely monitored to determine if overcrowding exists on this bus route. If it is determined that this bus route is overcrowded, there are various strategies which can be utilized to address the demand for more capacity. These are as follows:

- Additional trips can simply be added to this bus route, thus reducing the headway and improving the frequency of service.
- A “second section” (i.e., an additional bus) can be added to selected trips to and from the Wal-Mart North Park-and-Ride Lot. This has the effect of adding capacity to the bus route but retaining the same frequency of service because both buses would leave at the same time.
- Operate the route with larger buses that have a higher capacity, such as 60 foot articulated buses.

Of course, any one of these capacity enhancement strategies may be utilized in concert with another. For example, increasing the number of trips and operating the route with larger buses would add more capacity to Route 18D than simply increasing the number of trips.

Frequency and Span of Service - Route 18 will have a cycle time of 60 minutes. Service will operate every 30 minutes from 5:30AM to 9:30AM and from 3:30PM to 6:30PM. Route 18D will continue to operate eight inbound one-way trips from 5:35AM to 8:20AM and eight outbound one-way trips from 3:10PM to 6:17PM.

Number of Vehicles Required - Route 18 will require two buses throughout the entire service day. Route 18D will require one bus during the peak periods.

Special Route 55 Shopper Service

Route 55 remains unchanged.

Saturday Bus Routes

Saturday service should be renamed so as to allow for expansion of the weekday system into the 20-series numbers, as needed. The new route nomenclature would be as follows:

- Route 21 becomes “*Route S1*”.

- Route 22 becomes “*Route S2*”.
- Route 23 becomes “*Route S3*”.
- Route 24 becomes “*Route S4*”.
- Route 25 becomes “*Route S5*”.
- Route 26 becomes “*Route S6*”.

This route nomenclature is flexible in that “S” can stand for Saturday (as in this case) or for Sunday, should Sunday service be operated at some point in the future. It is likely that Sunday service would utilize the same route alignments and schedules as Saturday service, thereby allowing the same route nomenclature to be utilized.

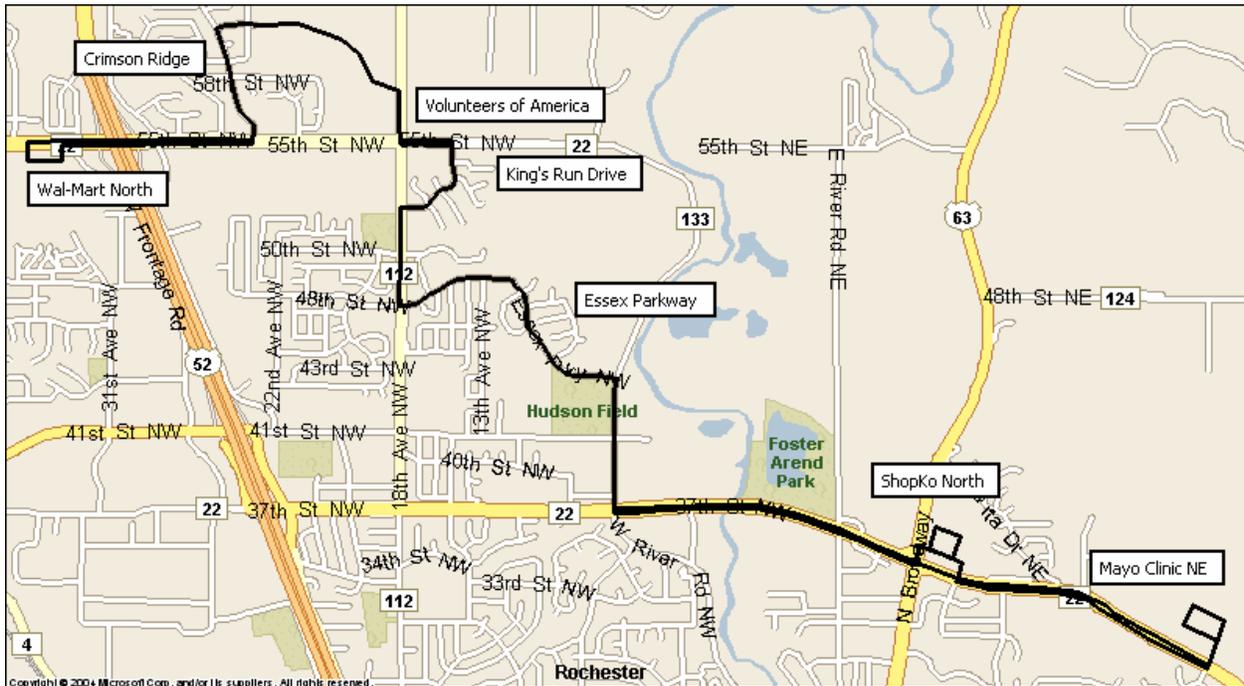
At the present time, it is anticipated that Rochester City Lines service will remain unchanged on Saturdays in terms of route alignment, frequency and span of service.

New Bus Routes

There are two new bus routes recommended for the Rochester City Lines bus system; they are both “crosstown” bus routes which would not serve downtown Rochester but would instead allow passengers to travel along the periphery of the service area and connect with other existing bus routes. These newly proposed bus routes are as follows:

Route 19 is shown in Figure 86 and would be the “Northern Crosstown Route”. This bus route would utilize Wal-Mart North as a western turn-around location and then proceed along 55th Street NW through Crimson Ridge to 18th Avenue NW past the Volunteers of America, then continue along 55th Street NW to King’s Run Drive back onto 18th Avenue NW to 48th Street NW and Essex Parkway to West River Road to 37th Street NW to ShopKo North and then along East Circle Drive to the Mayo Clinic NE. Route 19 would then return along the same alignment. The Crimson Ridge, King’s Run Drive and Essex Parkway areas would all be new areas of service for Rochester City Lines.

Figure 86 – Route 19

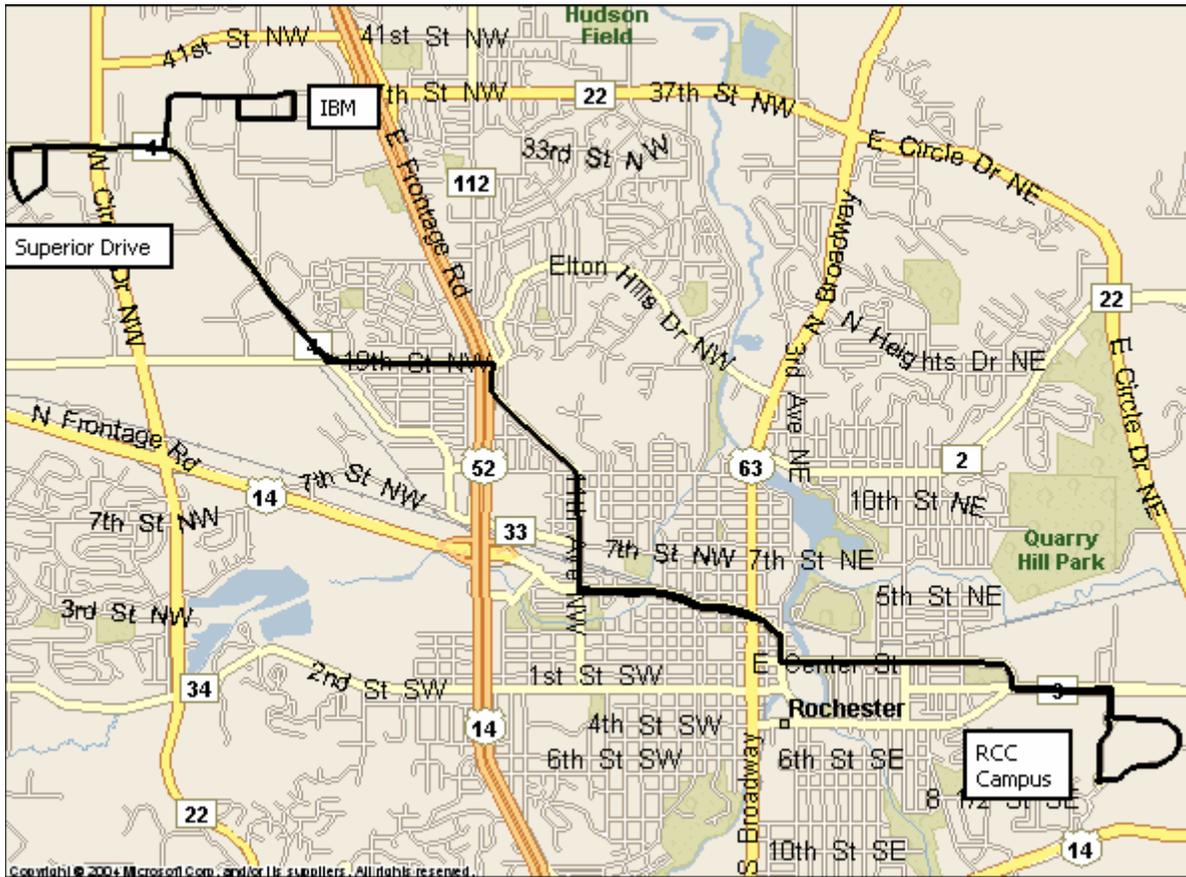


Frequency and Span of Service - Route 19 will have a cycle time of 60 minutes. Service will operate hourly from 6:00AM to 6:00PM.

Number of Vehicles Required - Route 19 will require one bus throughout the service day.

Additionally, Figure 87 shows an alternative “Northern Crosstown Route”.

Figure 87 – Alternative Northern Crosstown Route

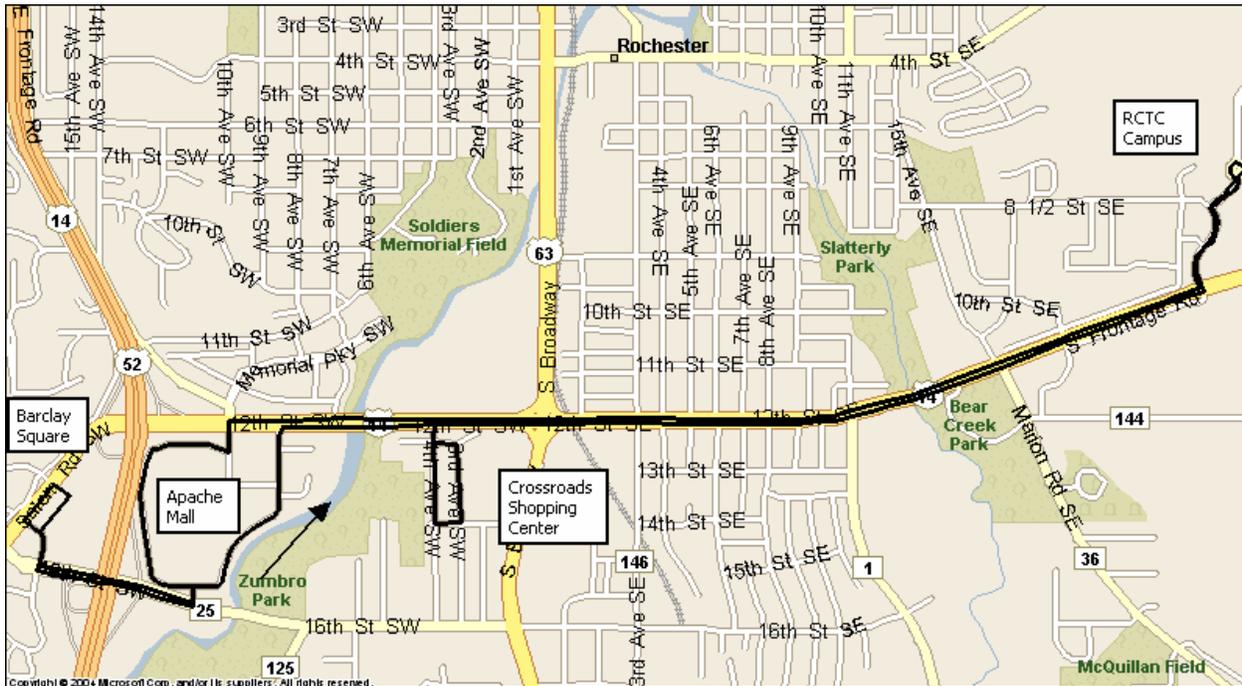


Route 20 is shown in Figure 88 and would be the “Southern Crosstown Route”. This bus route would utilize Barclay Square as a western turn-around location and then proceed to the Apache Mall to the Crossroads Shopping Center and then along U.S. Route 14 to the Rochester Community and Technical College campus on 30th Avenue SE. Route 20 would then return along the same alignment.

Frequency and Span of Service - Route 20 will have a cycle time of 60 minutes. Service will operate hourly from 6:00AM to 6:00PM.

Number of Vehicles Required - Route 20 will require one bus throughout the service day.

Figure 88 – Route 20



Implementation Prioritization

The Service Plan for the fixed route bus system operated by Rochester City Lines cannot simply be implemented immediately. It will require three additional buses. Instead, the proposals for specific bus routes will be “phased in” over a period of three years that will enable the new buses to be obtained. The Service Plan will be phased in as follows:

- First, it should be recognized that several bus routes remain essentially unchanged and will continue to operate as they do today. Some of these bus routes, as noted in the previous section, may have minor route alignment modifications or span of service adjustments. These are Routes 1N, 2, 3, 3N, 5, 6D, 7, 7N, 10, 12N, 18D, 55 and the Saturday bus routes.
- During **Year One**, the focus for Rochester City Lines will be on those bus routes that will require some minor operational changes (e.g., loop pattern modifications, etc.) as well as new names. These are Routes 1 Middy, 1 Peak Hour, 6 Middy, 6 Peak Hour, 6 via Golden Hill Peak Hour, 11 Middy and 11 Peak Hour.

- During **Year Two**, the focus for Rochester City Lines will be on those bus routes that will serve areas previously unserved by the bus system but which do not necessarily require a new vehicle in order to provide that service. Another focus is on those routes whose level of service (i.e., span and frequency of service) has been substantially altered. These are Routes 1D, 4, 5 via Southgate/Pinewood Road, 14, 16 Midday, 16 Peak Hour and 17.
- Finally, during **Year Three** the focus for Rochester City Lines will be on those bus routes which not only provide service to new areas but which may also require new vehicles with which to provide that service. Also, during the third year of the implementation plan, any bus routes whose changes are dependent upon the modification of another bus route will be addressed. These are Routes 8, 9, 9D, 12, 13, 15, 18, 19 and 20. The bus routes whose changes are dependent upon the modification of another bus route are as follows: Routes 8 and 15, Routes 9 and 18 and, finally, Routes 12 and 13.

Finally, it should also be emphasized that the Service Plan as presented is conservative in nature. As previously mentioned, it is based on the results of the ride check surveys (i.e., on-off ridership counts) as well as the adequacy of service analysis conducted for this study. However, since the completion of these analyses, ridership on the Rochester City Lines system has been steadily increasing. Therefore, an “enhanced” version of this Service Plan would include the following additional elements:

- During Year Two, **Route 1D** would utilize an additional vehicle, thus allowing this peak period bus route to operate every 25 minutes instead of every 45 minutes.
- During Year Two, **Route 4** would utilize an additional vehicle during the peak periods, thus allowing this bus route to operate every 25 minutes during the peak periods instead of every 45 minutes.
- During Year Two, **Route 16 Peak Hour** would utilize an additional vehicle, thus allowing this peak period bus route to operate every 30 minutes instead of every 60 minutes.
- Finally, during Year Three, **Route 18D** would utilize an additional vehicle, thus allowing this peak period bus route to operate additional service as needed in order to relieve any overcrowding situations that may occur.

Fare Structure

Rochester City Lines' current fare structure is relatively straightforward; a minimal level of confusion for first-time riders is attributable to the "zone charge" involved with traveling to and from the easternmost portions of Route 17. In order to encourage ridership, fare structures for public transportation systems should be similar to Rochester City Lines' in that they should be relatively simple and straightforward, as well as easy to comprehend. This not only encourages ridership on the transit system in the long term, but improves the quality of service for both bus operators and passengers as confusion over what the appropriate fare should be is minimized.

Nonetheless, there are some opportunities for improving the Rochester City Lines bus system's fare structure. These are as follows:

- Utilize new fare collection equipment and technology (e.g., "swipe cards" or "contactless smart cards", etc.) which can make fare payment faster and easier, and thus speed up the overall transit service. These new technologies can also be utilized as a "platform" for future adjustments and modifications to the fare structure with relative ease. In addition, in the future these new fare collection technologies can allow for a more seamless integration with the fare collection system utilized by the Commuter Bus Routes, thus improving the overall utility of the transit system for the entire region.
- Develop discount passes compatible with the use of any new fare collection equipment and technology. Clearly, various affinity group discounts (e.g., seniors) and frequent-user discounts (i.e., both multiple ride passes or unlimited ride passes) add to the attractiveness of the transit system. They also help increase ridership by reducing the "out-of-pocket" costs for using the Rochester City Lines system. When people have multiple ride or unlimited ride passes, they are more likely to use the system for trips they might not have made otherwise. However, one issue with regard to Rochester City Lines' monthly passes, 20 trip tickets and ten trip tickets involves the difference between the "base zone" fare instruments and the equivalent fare instruments sold for travel to and from the easternmost portions of Route 17. Although it may be appropriate to charge a zone fare in terms of cash fare payments, this policy is not recommended for the multiple ride tickets and unlimited ride passes. Instead, these fare instruments should be sold only as "anywhere" passes and tickets for travel throughout the Rochester City Lines system regardless of either the number of zones traveled or the number of transfers. For example, a \$33.00 monthly "anywhere" pass could be the only monthly pass made available; it would be valid for travel anywhere on the Rochester City Lines bus system, regardless of distance.

Public Information

One of the most important issues facing any public transportation system is the ease with which people may obtain information about the system. Where buses operate, when they operate and where bus stops are located should all be relatively easy to understand. However, Rochester City Lines' public information program is lacking in many respects. Route nomenclature is somewhat confusing, bus stop signs relay relatively little information about which bus route or bus routes serve a particular stop or when they stop at that location, there is no transit system map which illustrates the entire bus route network and the general quality and design of the public information materials can be greatly improved upon. Simply put, several elements of Rochester City Lines' public information program need to be improved and updated. These include:

- A new system map and “ride guide” reflecting the proposed service changes for the Rochester City Lines bus system. The system map needs to be well-designed and indicate all the bus routes in the system, thus illustrating to potential riders all the various locations served by the bus system. Major traffic generators should be clearly indicated. Special area maps - such as for central Rochester - could also be developed.
- New individual route timetables are needed. The current schedule booklet could also be retained, but many passengers would also appreciate a simple pocket schedule that illustrates the bus route they utilize most frequently. The individual route maps both in the new individual route timetables as well as those within the schedule booklet should also be redesigned, and they should indicate major landmarks and transfer points along the bus route, as well as which other bus routes serve those transfer points. Special “corridor” timetables - such as for all bus services between central Rochester and Wal-Mart North - could also be developed.
- A large campaign outlining the improvements to the Rochester City Lines bus system needs to be launched which would introduce the changes to both current riders as well as the general public. Elements of this campaign would include:
 - < New bus stop signs at every bus stop throughout the service area. These signs would include the system logo, telephone number, internet address and information (e.g., destination, schedule, etc.) regarding the route or routes serving that bus stop.

Summary of Impacts

As can be seen in Table 48, the impacts of the basic Service Plan for the Rochester City Lines fixed route bus system first begins with an overview of the current route level statistics for FY 2004. Table 49 illustrates the situation at the end of Year One of the implementation of the basic Service Plan. Vehicle hours and the number of peak vehicles have stayed the same, but ridership increased from 1,173,417 boardings to 1,181,280 boardings. Revenue also increased slightly. Table 50 illustrates the situation at the end of Year Two of the implementation of the basic Service Plan. Vehicle hours have increased from 67,518 annual vehicle hours to 68,330 annual vehicle hours. The number of peak vehicles actually declines by one, but ridership increased from 1,181,280 boardings to 1,202,631 boardings. Revenue also increased slightly again. Finally, Table 51 illustrates the situation at the end of Year Three of the implementation of the basic Service Plan. Vehicle hours have increased from 68,330 annual vehicle hours to 83,835 annual vehicle hours. The number of peak vehicles increases to 30, and ridership increased from 1,202,631 boardings to 1,337,254 boardings. Revenue also increased again.

The information in Tables 48 through 51 was adjusted to FY 2005 financial and operating results and is summarized below for the impacts of the basic Service Plan for public transit services in the City of Rochester.

Summary of Service Plan Impacts - Basic Service Plan

Measure	Current (2005)	End of Year Three	Percent Change
Annual Vehicle Hours	67,641	83,958	24.1 %
Ridership	1,301,107	1,464,944	12.6 %
Peak Buses	27	30	11.1 %
Revenue	\$1,399,767	\$1,598,143	14.2 %

**Table 48
Fiscal Year 2004 Statistics**

Route	Annual Hours	Ridership	Peak Buses	Total Revenue
1	2,583	79,931	1.00	\$69,025.64
1D	1,758	25,260	1.00	\$28,572.73
1N	1,397	4,530	0.00	\$42,519.10
2	2,819	56,036	1.00	\$49,585.97
3	3,556	40,729	1.00	\$34,537.80
3N	274	1,487	0.00	\$1,059.03
4	2,891	65,288	1.00	\$56,572.39
4D	635	5,927	1.00	\$36,110.32
5	3,230	74,935	1.00	\$64,153.49
6	996	20,041	0.00	\$53,375.91
6A	1,796	30,092	1.00	\$20,940.08
6B	1,842	30,577	1.00	\$21,277.58
6D	1,461	24,662	1.00	\$54,546.91
7	2,946	52,521	1.00	\$45,631.27
7N	668	3,955	0.00	\$9,303.28
8	1,796	46,326	0.75	\$41,457.27
9	5,608	110,798	2.00	\$94,801.15
10	5,589	100,450	2.00	\$89,805.02
11	5,207	115,365	2.00	\$103,695.08
12	3,104	49,578	2.00	\$45,304.03
12D	3,429	26,675	1.25	\$76,093.94
12N	1,969	8,991	0.00	\$76,119.92
14	1,059	18,435	1.00	\$15,777.99
16	3,175	20,651	1.00	\$17,355.55
17	1,276	18,423	1.00	\$14,775.31
18	1,397	11,947	2.00	\$11,312.40
18D	1,651	93,868	1.00	\$39,096.68
55	1,391	7,245	0.00	\$9,383.86
Saturday	2,015	28,694	0.00	\$26,599.30
Total	67,518	1,173,417	27.00	\$1,248,789.00

Table 49
Basic Service Plan (Year One)

Route	Annual Hours	Ridership	Peak Buses	Total Revenue
1 (both versions)	2,583	81,942	1.00	\$70,762.66
1D	1,758	25,260	1.00	\$28,572.73
1N	1,397	4,530	0.00	\$42,519.10
2	2,819	57,443	1.00	\$50,830.81
3	3,556	40,729	1.00	\$34,537.80
3N	274	1,487	0.00	\$1,059.03
4	2,891	65,288	1.00	\$56,572.39
4D	635	5,927	1.00	\$36,110.32
5	3,230	74,935	1.00	\$64,153.49
6 Midday	996	20,041	0.00	\$53,375.91
6 via Golden Hill	1,796	30,092	1.00	\$20,940.08
6 Peak Hour	1,842	30,577	1.00	\$21,277.58
6D	1,461	24,662	1.00	\$54,546.91
7	2,946	52,521	1.00	\$45,631.27
7N	668	3,955	0.00	\$9,303.28
8	1,796	46,326	0.75	\$41,457.27
9	5,608	110,798	2.00	\$94,801.15
10	5,589	100,450	2.00	\$89,805.02
11 (both versions)	5,207	119,810	2.00	\$107,690.44
12	3,104	49,578	2.00	\$45,304.03
12D	3,429	26,675	1.25	\$76,093.94
12N	1,969	8,991	0.00	\$76,119.92
14	1,059	18,435	1.00	\$14,775.31
16	3,175	20,651	1.00	\$17,355.55
17	1,276	18,423	1.00	\$14,775.31
18	1,397	11,947	2.00	\$11,312.40
18D	1,651	93,868	1.00	\$39,096.68
55	1,391	7,245	0.00	\$9,383.86
Saturday	2,015	28,694	0.00	\$26,599.30
Total	67,518	1,181,280	27.00	\$1,255,755.22

**Table 50
Basic Service Plan (Year Two)**

Route	Annual Hours	Ridership	Peak Buses	Total Revenue
1 (both versions)	2,583	81,942	1.00	\$70,762.66
1D*	1,800	27,800	1.00	\$31,445.84
1N	1,397	4,530	0.00	\$42,519.10
2	2,819	57,443	1.00	\$50,830.81
3	3,556	40,729	1.00	\$34,537.80
3N	274	1,487	0.00	\$1,059.03
4*	2,912	70,975	1.00	\$61,499.99
5 (both versions)	3,230	77,983	1.00	\$66,762.95
6 Midday	996	20,041	0.00	\$53,375.91
6 via Golden Hill	1,796	30,092	1.00	\$20,940.08
6 Peak Hour	1,842	30,577	1.00	\$21,277.58
6D	1,461	24,662	1.00	\$54,546.91
7	2,946	52,521	1.00	\$45,631.27
7N	668	3,955	0.00	\$9,303.28
8	1,796	46,326	0.75	\$41,457.27
9	5,608	110,798	2.00	\$94,801.05
10	5,589	100,450	2.00	\$89,805.02
11 (both versions)	5,207	119,810	2.00	\$107,690.44
12	3,104	49,578	2.00	\$45,304.03
12D	3,429	26,675	1.25	\$76,093.94
12N	1,969	8,991	0.00	\$76,119.92
14	1,313	23,431	1.00	\$20,053.76
16 (both versions)*	3,289	25,731	1.00	\$21,624.89
17	2,292	24,350	1.00	\$54,591.78
18	1,397	11,947	2.00	\$11,312.40
18D	1,651	93,868	1.00	\$39,096.68
55	1,391	7,245	0.00	\$9,383.86
Saturday	2,015	28,694	0.00	\$26,599.30
Total	68,330	1,202,631	26.00	\$1,278,427.65

* These routes have additional service in the enhanced Service Plan.

**Table 51
Basic Service Plan (Year Three)**

Route	Annual Hours	Ridership	Peak Buses	Total Revenue
1 (both versions)	2,583	81,942	1.00	\$70,762.66
1D*	1,800	27,800	1.00	\$31,445.84
1N	1,397	4,530	0.00	\$42,519.10
2	2,819	57,443	1.00	\$50,830.81
3	3,556	40,729	1.00	\$34,537.80
3N	274	1,487	0.00	\$1,059.03
4*	2,912	70,975	1.00	\$61,499.99
5 (both versions)	3,230	77,983	1.00	\$66,762.95
6 Midday	996	20,041	0.00	\$53,375.91
6 via Golden Hill	1,796	30,092	1.00	\$20,940.08
6 Peak Hour	1,842	30,577	1.00	\$21,277.58
6D	1,461	24,662	1.00	\$54,546.91
7	2,946	52,521	1.00	\$45,631.27
7N	668	3,955	0.00	\$9,303.28
8	2,096	40,538	1.00	\$36,277.57
9	5,608	118,648	2.00	\$101,517.78
10	5,589	100,450	2.00	\$89,805.02
11 (both versions)	5,207	119,810	2.00	\$107,690.44
12	6,604	59,436	2.00	\$94,503.24
12N	1,969	8,991	0.00	\$76,119.92
13	3,302	29,718	1.00	\$47,251.62
14	1,313	23,431	1.00	\$20,053.76
16 (both versions)*	3,289	25,731	1.00	\$21,624.89
17	2,292	24,350	1.00	\$54,591.78
18	3,556	20,274	2.00	\$19,196.80
18D	1,651	93,868	1.00	\$39,096.68
19	3,048	25,237	1.00	\$18,170.64
20	3,048	25,237	1.00	\$18,170.64
55	1,391	7,245	0.00	\$9,383.86
Saturday	2,015	28,694	0.00	\$26,599.30
Total	83,835	1,337,254	30.00	\$1,425,768.08

* These routes have additional service in the enhanced Service Plan.

However, as was previously mentioned, an “enhanced” Service Plan was also developed which would require the utilization of additional resources. The impacts of the enhanced Service Plan would be as follows:

Summary of Service Plan Impacts - Enhanced Service Plan

Measure	Current (2005)	End of Year Three	Percent Change
Annual Vehicle Hours	67,641	90,743	34.1 %
Ridership	1,301,107	1,544,565	18.7 %
Peak Buses	27	34	25.9 %
Revenue	\$1,399,767	\$1,657,161	18.4 %

Summary

The proposed bus system will be much simpler to comprehend and more consistent. These proposed improvements, when combined with new public information materials and bus stop signage, will help the public transit system operated in Rochester attract more riders.

ADDITIONAL PLAN ELEMENTS

This section of the report presents additional elements associated with the development of the Transit Development Plan for Rochester City Lines. These include the Financial Plan (which includes the Capital Improvement Plan), the Marketing and Communications Plan, the Downtown Transfer Area Plan and the Management and Organizational Framework Review. These additional plan elements are presented below.

Financial Plan - Capital and Operating Funding Program for Expanded Transit Service

To assure the implementation of those proposals in the recommended service plan that require a new source of funding, a program of both capital improvements and operating funding requirements has been developed in order to help guide future efforts at securing commitments for additional funding resources.

The program is categorized in a manner similar to the proposals themselves, with the service modifications being implemented in phases over a period of three years. Descriptions of the proposed capital and operating funding needs are presented in the accompanying tables. It should be noted that all the dollar amounts shown for the capital and operating funding requirements are in constant (i.e., current year 2005) dollars.

Capital Funding Needs - The capital needs for the proposed expanded services are comprised of the new transit vehicles which would be required to operate the bus routes, as well as any new bus passenger waiting shelters and signage programs which would enhance the passengers' experience and make public transportation more easy and convenient to utilize.

Bus Fleet – With recent additions to the fleet, the fixed route bus fleet operated by Rochester City Lines now consists of 38 vehicles. The current services require 27 peak vehicles. However, additional buses are added to meet peak demand. The proposed service plan identifies that the peak fleet size will grow to 30 buses in three years while the “enhanced” service plan would have a peak vehicle requirement of 34 buses by 2008. Because of the significant growth in ridership that the regular route bus system has experienced (about 11 percent from 2004 to 2005), it is recommended that the proposed future fleet size should be developed to address the enhanced service plan peak vehicle requirements. Thus, a fleet size of 44 buses should be the target level in the next three years. This would result in 10 spare vehicles to handle additional peak period service demand. The bus fleet needs and fleet replacement program are identified in the accompanying table.

Bus Fleet Replacement Program

Bus Type	Year	Number	Current 2006	2007	2008	2009	2010
Current Fleet							
Flxible	1989	3	3	0	0	0	0
Gillig Phantom	1995	3	3	3	0	0	0
Gillig LF	1999	4	4	4	4	4	4
Gillig LF	2000	4	4	4	4	4	4
Gillig LF	2003	8	8	8	8	8	8
Gillig LF	2004	6	6	6	6	6	6
Gillig LF	2005	10	10	10	10	10	10
New Buses – Replacement							
	2007	1		1	1	1	1
	2008	3		-	3	3	3
New Buses – Expansion							
	2007	3		3	3	3	3
	2008	2		-	2	2	2
	2009	4		-	-	4	4
	2010	<u>2</u>		<u>-</u>	<u>-</u>	<u>-</u>	<u>2</u>
TOTAL FLEET			38	42	44	48	50
PEAK REQUIREMENT			27	32	34	38	40

As seen above, after the changes as per the service plan recommendations are implemented in 2008, it is anticipated that ridership on the regular route bus system will continue to grow. Therefore, an additional four buses are identified for expansion in 2009 and two more in 2010. This fleet expansion program is consistent with the Mass Transit Capital Improvement Program identified in the 2006 to 2011 TIP. The approximate capital cost of the bus replacement and expansion program by year is summarized below. Over the five-year period, total capital cost for new buses will cost about \$4.6 million. As in past capital purchases, about 80% of these costs will be borne by federal funds, with the other 20 percent from project reserves and tax levy.

Bus Capital Improvement Program

Year	Number	Cost (000's)
2007	4	\$1,212
2008	5	\$1,530
2009	4	\$1,236
2010	2	\$624
TOTAL	15	\$4,602

Bus Shelters - As a means to increase the public transportation system's recognition and prevalence in the service area - as well as a means to improve bus passenger information and amenities - the City should plan to install approximately ten additional bus passenger waiting shelters throughout the service area. Each shelter should include a bench, a map and a timetable of the bus route or routes serving it. One of these shelters would be placed at the new park-and-ride lot in the western part of the city in the vicinity of TH 14 West. Each bus passenger waiting shelter should cost approximately \$5,000.00.

Downtown Transfer Area – At least four new shelters would need to be placed at the expanded Downtown Transfer Area, which will be described in greater detail in a subsequent section of this report. The shelters at the Downtown Transfer Area would also include heating systems.

Signage - A new signage program would be required to address not only the needs of new bus routes in the recommended service plan, but also to improve wayfinding to the existing park-and-ride lots. The signage required would be as follows:

- **New Park-and-Ride Lot Signs** - At the new TH 14 West park-and-ride lot, two signs would be erected to indicate the park-and-ride rows and the availability of bus service into downtown Rochester. Together, these signs should cost approximately \$500.00.
- **New Trailblazer Signs** - Presently, there are no specialized signs directing motorists to the park-and-ride lots located throughout the service area. About 50 new trailblazer signs would be erected indicating where park-and-ride lots are located, thus encouraging drivers to utilize the transit system. Each trailblazer sign should cost approximately \$150.00.

- **New Bus Stop Signs** - As the new bus routes in the recommended service plan are implemented, about 50 new bus stop signs would need to be placed at new bus stops throughout the service area. The placement of each sign would be specific to that site. While some signs would be able to be mounted on an existing pole or other piece of street furniture, others would require a new pole. Those signs that could be mounted on an existing pole would cost approximately \$50.00 each, while those requiring a new pole would cost approximately \$100.00 each. For this reason, an average cost of approximately \$75.00 was estimated for each new bus stop sign.

Bus Garage - The proposals included in the recommended plan would not require any changes to the current transit operating and maintenance facilities. However, as the transit system grows the City should consider changes that include a City owned bus storage and maintenance facility. As such, the City could still contract out operations. However, the contractor would use the City owned facility. Federal capital funds (Section 5309) are available for up to 80 percent of the cost of bus storage and maintenance facilities.

The accompanying table summarizes the capital funding needs associated with both the bus passenger waiting shelters as well as with the proposed signage programs. Because of the implementation schedule described in the Service Plan section of the report, none of these capital items would be required until the third year (i.e., the third phase) of the implementation of the recommended service plan. This should allow for sufficient time to plan for the acquisition of these items.

Other Capital Funding Requirements

Item	Year	Number	Amount
Shelters	3	10	\$50,000
Park-and-Ride Lot Signs	3	2	500
Bus Stop Signs	3	50	3,750
Trailblazer Signs	3	50	7,500
Expanded Downtown Transfer Area	3	4	500,000
TOTAL			\$561,750

Operating Funding Needs - The operating needs for the proposed expanded services are the approximate funds required to operate service more frequently and/or for a longer span of service. It should be kept in mind that the operating costs are estimated on an annual basis and would be a recurring cost item (i.e., an annual budget item). Additionally, the operating costs are cumulative in that once all of a given year's proposals are implemented the annual additional operating funding required would be the sum of that year's required funding as well as any additional operating funds required for the previous year's proposals. The additional annual operating funding needs required for the expanded transit service are summarized in the accompanying table. It should be noted that the costs are presented in constant 2005 dollars. For example, the 2005 unaudited expenses for the regular route system operated by Rochester City Lines, and including the costs accrued by the City, was \$3,323,882. With the service changes proposed, the same costs would be projected for 2006. Affects of inflation or other cost increases are not included in this analysis.

Additional Annual Operating Funding Required for Expanded Transit Service

Year	Annual Hours	Estimated Ridership	Estimated Cost	Estimated Revenue	Estimated Deficit
Current (2005)	67,641	1,301,107	\$3,323,882	\$1,399,767	\$1,924,115
1	67,641	1,308,970	\$3,323,882	\$1,407,588	\$1,916,294
2	68,453	1,330,321	\$3,363,856	\$1,433,405	\$1,930,451
3	83,958	1,464,944	\$4,127,160	\$1,598,143	\$2,529,017
3 (<i>Enhanced Plan</i>)	90,743	1,544,565	\$4,427,263	\$1,657,161	\$2,770,102

Expansion of the public transit system's services depends on the availability of local funding from a variety of sources, such as fare box, property tax and sponsorships. For example, the \$0.25 fare increase would produce about \$200,000 in additional revenue. The additional annual operating funding required to operate the "enhanced" transit system (i.e., the transit system costs not covered by the revenues generated by the ridership) would total approximately \$846,000 in constant 2005 dollars. Once again, it is important to keep in mind that - unlike the capital funding needs - the operating funding needs are an ongoing and continuing annual expense. Without this funding, service would not be provided.

Marketing and Communications Plan

The public transit system has many of the public information materials that inform current and potential riders of the services offered. An area for improvement is for individual route timetables to be made available. In addition, a comprehensive system map showing bus service throughout the entire service area is also needed. Finally, the Downtown Transfer Area in downtown Rochester should contain expanded passenger waiting facilities as well as new signage to display schedule information for each route at its appropriate shelter. Electronic signage and messaging should be considered.

In view of the proposed service expansion, the City transit program should have a marketing campaign to inform the public of the changes. In preparation for the changes, the following activities should be undertaken:

- Install new bus stop signs to reflect the new services;
- Hand-out notices to all residents and businesses along the routes of the new and expanded services;
- Prepare notices and display them in all regular service buses and at the Downtown Transfer Area defining the service expansion;
- Implement a fare promotion program to offer reduced or even free fares for the first several days or for the inaugural week of the new service;
- Advertise in local media (e.g., newspaper and radio bulletins) of the pending service expansion; and
- Prepare new and updated system map and route timetables to reflect the revised services.

Another aspect where some improvement could be made is in the area of general marketing. The City transit program should develop an overall strategy to promote ridership on the system. The strategy should first include a program for insuring the successful implementation of the new service recommendations, which were previously described. Once the new service is implemented, the next marketing program should be directed at expanding the basic communications method of the City transit system with more dynamic and innovative approaches. Some approaches already utilized by the City transit system and elsewhere in the industry include:

- Direct mail program targeted at groups with the greatest potential for increased transit use. These groups would be offered a incentive to utilize public transit;

- Fare incentive programs to attract residents to either utilize service or to increase their current use;
- Rider contests and other promotional programs in order to maintain a high awareness of transit; and
- A directed “outreach program” where senior citizen groups, students, mall shoppers and employees at major employment centers are visited with a “Public Transit Fair” in order to promote transit.

In terms of general marketing needs, the Rochester City Lines system should also promote several marketing incentives which are geared to improving the quality of the bus riders’ experience and towards increasing overall system ridership. These marketing initiatives are as follows:

- Provide an information display case and a bench in every bus shelter;
- Be certain all bus stop signs have a logo representing the City’s public transit system with the telephone information number and City’s website address;
- Prepare stickers (which can be updated as warranted) with the route number and times a bus serves a particular stop to be placed on the back of every bus stop sign;
- List detours and marketing promotions on the website;
- Prepare an outdoor display schedule for the RCTC campus;
- Provide exterior schedule displays at the Downtown Transfer Area;
- Prepare a “How To Ride” presentation for training workshops (especially geared towards senior citizens);
- Place the system’s logo with telephone information number and website address on top of the buses so they are not obscured by any advertising wraps;
- Investigate new fareboxes and payment methods.

Further, a key component of a successful marketing program is the development of a written action plan with a follow-up review of the programs are successful and should be pursued again.

Finally, there is some confusion as to the name of the transit system. Rochester City Lines is the name of the private operator that is contracted by the City to provide the service. It is often noted as the name of the system. In fact, in this report, the system is often referred to as Rochester City Lines. The City should consider taking on a branding campaign that focuses on developing a name for the City of Rochester's public transit system.

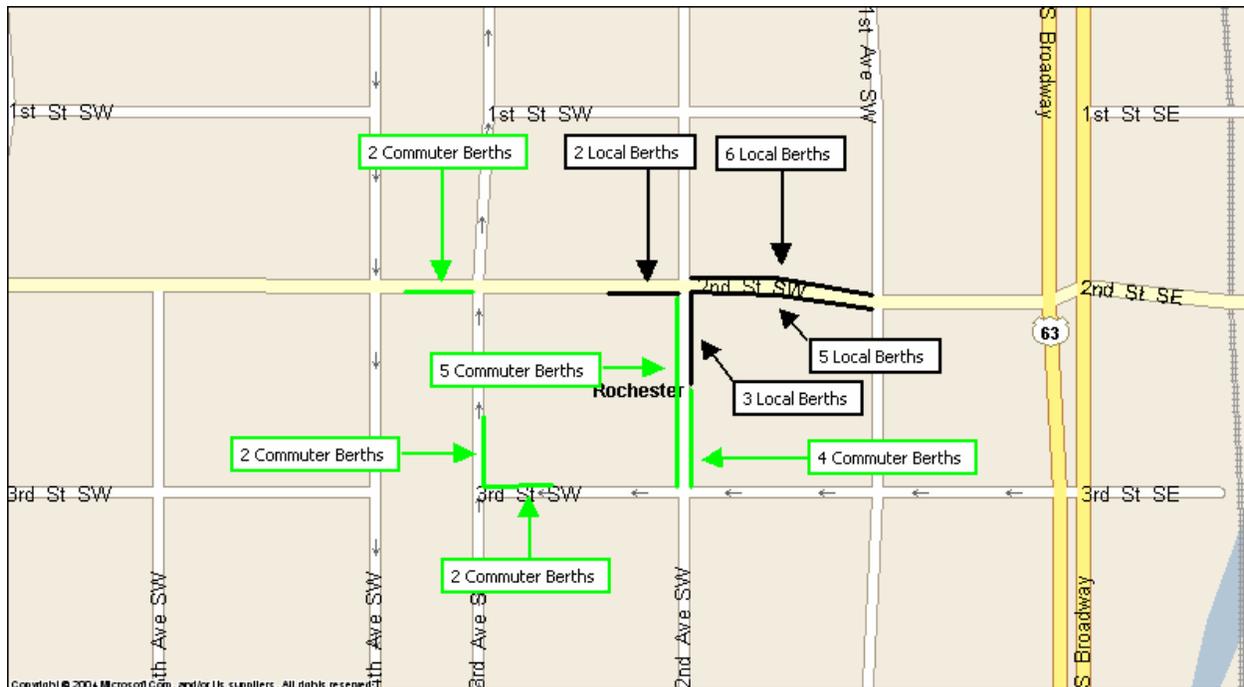
Downtown Transfer Area Plan

The needs of the Downtown Transfer Area in central Rochester must also be addressed as part of the preparation of the Transit Development Plan. The increased level of service called for in the recommended Service Plan means that the Downtown Transfer Area will likely have to accommodate a greater level of transit activity (i.e., buses arriving and departing) than it does today.

Current Facility - At the present time, the Downtown Transfer Area is an on-street facility that consists of the curbside along the streets themselves and is located around the intersection of 2nd Street SW and 2nd Avenue SW. Along the south side of 2nd Street SW, the bus berth positions for Rochester City Lines' local bus routes are located between 1st Avenue SW and approximately halfway along the block between 2nd and 3rd Avenues SW. Along the north side of 2nd Street SW, the bus berth positions for Rochester City Lines' local bus routes are located between 1st and 2nd Avenues SW, although some buses were also observed approximately halfway along the block between 2nd and 3rd Avenues SW. Finally, some bus berths for Rochester City Lines' local bus routes are located along 2nd Avenue SW south of the intersection with 2nd Street SW. In total, there are 16 bus berth positions for the use of the Rochester City Lines local bus routes.

Bus berth positions for the various commuter bus routes are also located along the curbside of the streets in this area, especially further west along 2nd Street SW (i.e., just west of 3rd Avenue SW) and along both 2nd and 3rd Avenues SW. In total, there are 15 bus berth positions for the use of the various commuter bus routes. The layout of the current Downtown Transfer Area is illustrated on the following page in Figure 89.

**Figure 89
Existing Downtown Transfer Area**



In addition to the bus berth positions themselves, there are also two indoor and climate controlled “Transit Information Centers” located on the north side and south side of 2nd Street SW between 1st and 2nd Avenues SW. These relatively small enclosures are really the vestibules of adjoining office building lobbies and provide passengers with route and schedule displays.

Future Expansion - As was previously mentioned, the increased level of service called for in the recommended Service Plan for local bus routes means that the Downtown Transfer Area will likely have to accommodate a greater level of transit activity than it does today. At the present time, the schedule indicates that up to 17 local service buses may be present at the Downtown Transfer Center in the ten-minute period between 6:40AM and 6:50AM and again during the ten minute period between 7:40AM and 7:50AM. Because of the need for some routes to layover downtown, as well as because of delays or other variances in the schedule, the appearance of 17 buses where only 16 berths are available explains why some buses were observed along the north side of 2nd Street SW between 2nd and 3rd Avenues SW. It also indicates that the Downtown Transfer Area was already in need of some expansion even before the development of the recommended service plan called for additional transit services.

With the implementation of the proposals called for in the recommended service plan, it is possible that an additional four local buses would be present at the Downtown Transfer Center, depending on how the services are both scheduled and operated. This means that a total of 21 bus berth positions would be needed just for Rochester City Lines' local bus routes. This number represents an "upper limit" for the estimated number of local buses loading and unloading in any given ten minute period. The assumptions utilized to arrive at these requirements are illustrated in the accompanying table.

Downtown Transfer Area Bus Berth Requirements

Situation	Time Period	Routes Served	Total Number of Buses
Current Schedule	6:40AM to 6:50AM	1, 1D, 2, 3, 4, 5, 6A, 6D, 7, 8, 9, 10, 11, 12, 14, 16, 18	17
	7:40AM to 7:50AM	1, 1D, 2, 3, 4, 5, 6A, 6D, 7, 8, 9, 10, 11, 12, 14, 16, 18D	17
Proposed Service Plan	may vary depending on scheduling	may now add 9D, 13, 15, 17	21

Expansion Options - With a need for 21 bus berths, the Downtown Transfer Area clearly could not continue to function efficiently and effectively without some type of expansion. For this reason, the "do nothing" scenario is eliminated as a possibility. This leaves four remaining options for the Downtown Transfer Area. They are as follows:

- A variation of the "do nothing" scenario in that the physical facilities remain the same, but the transit system's operating schedule is "spread out" so that fewer buses are loading and unloading in downtown Rochester at any given time.
- An entirely new on-street location could be found where 21 bus berths can be accommodated.
- A new off-street facility could be constructed which would accommodate the local bus routes, perhaps on the ground floor of a new parking structure.
- The existing facility could be expanded.

The only viable option is to expand the existing Downtown Transfer Area. The first option, in which the bus system's schedule is spread out and fewer buses are downtown at any given time, dilutes transfer opportunities for passengers to a great degree and may also increase the waiting times for many passengers. However, it should be kept in mind as a "fallback option". The second option - where an entirely new on-street location is found where 21 bus berths can be accommodated - would mean that the bus routes would move away from their current location. This is not recommended because the current facility is very centrally located and its convenience to all points within downtown Rochester would be extremely difficult to replicate. The third option - where a new off-street facility could be constructed which would accommodate the local bus routes - would likely be relatively costly. In addition, with the high demand for real estate in such a central location in downtown Rochester, it is not a "given" that the new off-street facility would be able to be located near the existing facility, which is very centrally located and is convenient to all points within downtown Rochester, as was previously mentioned.

Finally, the expansion of the existing facility is also the most viable option for another reason: due to the extensive subway and skyway pedestrian access network throughout downtown Rochester, it is possible for prospective bus passengers to reach the Downtown Transfer Center with very little outdoor walking. Obviously, this is a very positive feature during the winter months, and almost replicates the convenience of a new off-street terminal with climate controlled facilities.

Expansion of Existing Downtown Transfer Center – It is proposed that an additional four to five on-street berth positions for local bus routes could be accommodated along 2nd Street SW, to the west of the current locations. In addition, the passenger waiting shelters at the Downtown Transfer Center should always have an information display case with schedule displays as well as a bench, because they are located at the "hub" of the system. Most importantly, the bus shelters at the Downtown Transfer Area should all have working heating systems, so that during the winter passengers can be more comfortable while waiting for their bus.

Management and Organizational Framework Review

This section of the report provides a brief review of the management and organizational framework utilized to provide public transportation services in the Rochester metropolitan area.

Fixed Route Service - With the current arrangement, the City of Rochester contracts with a private sector provider - Rochester City Lines - to operate the fixed route transit service. The City administers all of the public sector subsidies (i.e., federal, state and local) for transit services. Drawing from both various field views of the transit system's operations, as well as from formal meetings with both City of Rochester and Rochester City Lines staff, the consultant team has been able to come to the following conclusions:

- The contractor - Rochester City Lines - maintains an adequate maintenance and operations facility, at which all buses are stored, maintained and serviced on a daily basis. Policies affecting maintenance of the fleet, as well as the practices utilized for the hiring and ongoing training of the bus drivers, are all well within the public transportation industry's standards.
- The on-street operation of the bus system is excellent, with easy communication between bus drivers and the dispatcher at the bus garage. Customer satisfaction always appeared to be a central concern for Rochester City Lines.
- The cleanliness of the buses - both in terms of their exteriors as well as their interiors - was apparent. Rochester City lines' buses are well-maintained and contribute greatly to the generally positive image of public transportation in the area.
- In the aggregate, in all cases Rochester City lines is a well-run, professionally operated public transportation company.

As part of the preparation of the Transit Development Plan, the consultant team also examined the contract between the City of Rochester and Rochester City Lines (i.e., "CY2005 TRANSIT ASSISTANCE PROGRAM") that governs the operation and provision of the public transit service. Overall, the contract is a very detailed document that provides the City with the ability to continuously monitor the performance of its transit system. This ability allows the City to assess its overall transit strategy and to more effectively plan for future services. The consultant team reviewed several of the monthly performance reports submitted to the City. These reports were a valuable planning tool during the development of the recommended service plan.

The very detailed contractual relationship between the City and Rochester City Lines appears to work very well. The contract is very specific; for example, the items that must be reported with each invoice are clearly delineated and must include:

- operating expense statement
- transit income statement
- transit miles by vehicle
- summary of vehicle repair expenses

The reporting requirements for each of the monthly performance reports are also clearly delineated; these include:

- number of rides by type of fare by route and by month
- number of bus miles and bus hours by route
- number of fares sold and revenue derived by fare type

The City's public transit services are operated from the garage complex owned by the private carrier, Rochester City Lines. However, as the public transit system in the Rochester area continues to grow, the size of the private carrier's complex in terms of functioning as an efficient maintenance and storage facility begins to become an issue. In preparation for this possibility, the City should closely monitor the functional capability of the private facility and begin making plans for a new City-owned facility.

Demand Responsive Service - In an arrangement similar to that for the fixed route services, the City of Rochester contracts with a private sector provider to operate the demand responsive paratransit service. This service is known as the Zumbro Independent Passenger Service (ZIPS). Drawing from a review of the ZIPS Registrants Survey conducted in June 2004, as well as from comments received during the conduct of the stakeholder interviews, the consultant team has been able to come to the following conclusions regarding the ZIPS service:

- The overall operation of the ZIPS demand responsive system is excellent, with 79 percent of survey respondents indicating that they were either "satisfied" or "very satisfied" with the system's on-time performance. All of the other ZIPS service components were rated even more highly by the survey respondents.
- The cleanliness of the ZIPS vehicles - both in terms of their exteriors as well as their interiors - is apparent; 94 percent of survey respondents indicated that they were either "satisfied" or "very satisfied" with the ZIPS vehicles' cleanliness.
- As with the fixed route transit system, the ZIPS demand responsive paratransit service is a well-run, professionally operated public transportation company.

As part of the preparation of the Transit Development Plan - and in a manner similar to the analysis conducted for the fixed route system - the consultant team also examined the contract between the City of Rochester and the ZIPS contractor (i.e., CAM Transportation, Incorporated) which governs the operation and provision of the demand responsive service. Overall, the contract is a very detailed document which provides the City with the ability to continuously monitor the contractor's performance and plan for the service's future. Similar to the fixed route service contract, the very detailed contractual relationship between the City and the ZIPS contractor is highly specific. For example, the reporting requirements for each of the monthly performance reports are clearly delineated and must include:

- number of miles by vehicle by day and per month
- number of all passengers by vehicle by day
- number of passengers in wheelchairs by vehicle by day
- number of passengers by program destination
- number of hours by vehicle by day

- number of requests denied and the reason for denial
- gallons of fuel and quarts of oil utilized per vehicle
- summary of all maintenance and repairs for each vehicle

Finally, since there are a number of paratransit services that operate within the Rochester area, it may be advisable to review the functions of all the operators to determine whether better coordination and even consolidation of certain functions could be achieved. This was not done as part of this study. However, the scheduling and/or dispatching function appear to be candidates for further review. Another action should be the consolidation of ZIPS and City Bus operations under the new city owned facility.

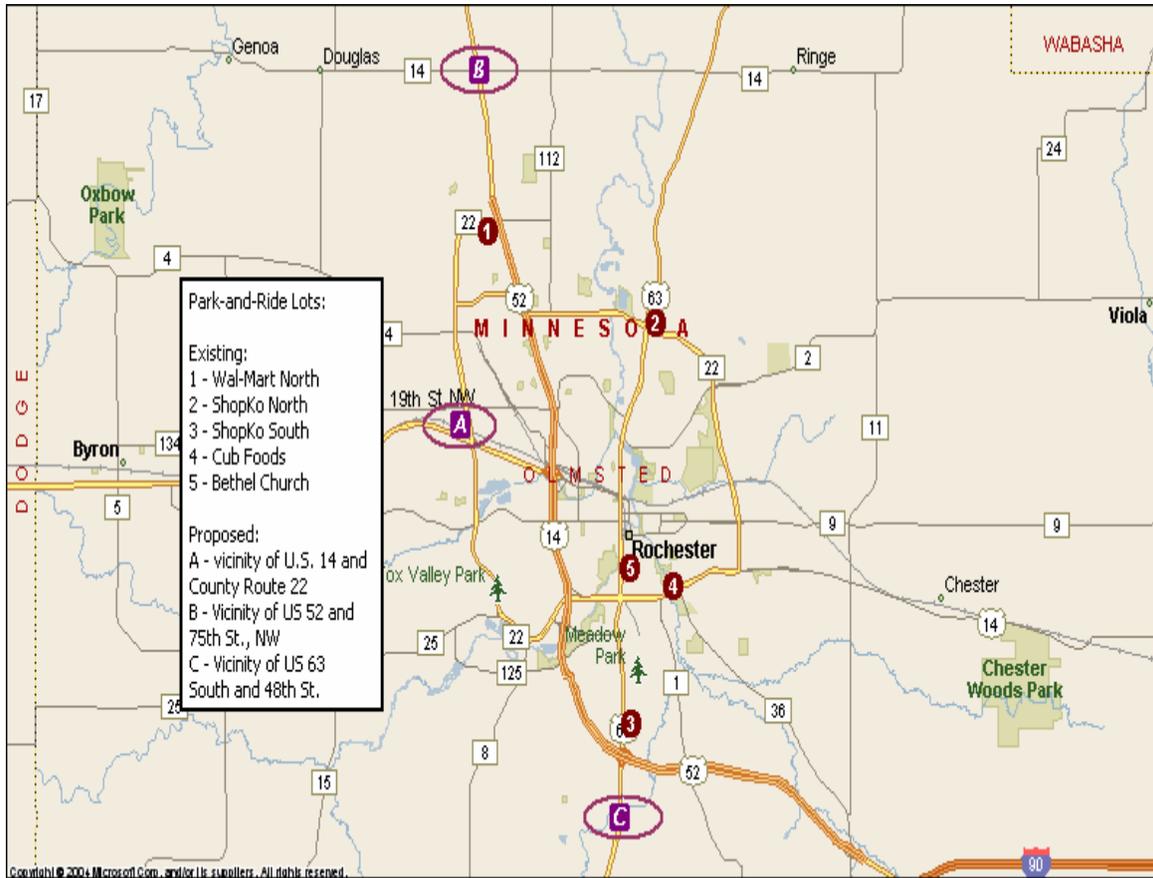
City of Rochester Staff - In terms of the City of Rochester itself, it should be noted that it is unusual to find both transit and the municipality's parking authority administered by the same agency of the local government. This is actually a very progressive stance and allows Rochester to form and promulgate parking and public transportation policies that are complementary and therefore can promote and maximize the use of public transportation. However, as the public transportation system expands, it may be necessary to increase the number of staff in the Public Works Department assigned to the transit function. These additional staff resources could be used for a number of duties such as:

- More closely monitor the public transit services,
- Perform financial audits,
- Perform service and capital planning,
- Develop appropriate technology improvements,
- Address improvements to the park and ride program,
- Continue improvements in the public information program, and
- Address possible coordination opportunities with the various paratransit services in the region.

Park and Ride Plan

The service plan identified a western location for a new park and ride operation for transit in the City of Rochester. This location would be in the vicinity of Trunk Highway 14 West and West Circle Drive. It is anticipated that this park and ride location will have similar usage as the Shopko South lot, or about 80 cars a day. Since this will be a new lot, it should be tailored after the successful program that the City has employed for its current five lots. Figure 90 shows the locations of the proposed and existing park and ride sites in the City.

**Figure 90
Location of Existing and Proposed Park-and-Ride Lots**



The criteria for making the current park and ride program successful include:

- quick trip on a bus from the park and ride site to downtown Rochester;
- located in an existing parking lot of a business or church that has capacity for cars during the day;
- good bus service to the site throughout the day;
- good highway access to the site; and
- sufficient number of parking spaces.

As pointed out in the Park and Ride chapter, there are several features that the City could implement to improve the program. These include:

- more and better signage identifying the lots as a bus park and ride complex;
- trailblazer signs that guide commuters to the lots;
- protected waiting areas at the lots; and

- pavement markings that separate the park and ride spaces from the rest of the parking area.

Since the City has developed park and ride lots in all areas of Rochester, the need for future park and ride lot locations will be based on the capacity and utilization of existing lots. For example, if the utilization of the park and ride lot at Wal-Mart in the northwest part of the City continues to grow, the City may be forced to find an alternate site nearby. The same criteria listed above for current lots should be applied to any future program.

For example, as shown in Figure 90, another park and ride lot could be established in the vicinity of 75th street, NW to address any capacity issues at Wal-Mart North as well as another lot in the vicinity of 49th Street and US 63 South to address capacity issues at Shopko South. However, with continued expansion, the City may have to establish its own designated lots in lieu of using a lot with commercial development.