RTS Logo

Consultant’s Recommendations

Reimagine RTS Logo

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TMD Logo Transportation Management and Design, Inc.

There are 6 sections in the recommendations. They are:

Section 1: Project Context

Section 2: Existing Conditions Review

Section 3: Guiding Principles

Section 4: Mobility Toolbox

Section 5: Recommended Plan

Section 6: Implementation and Next Steps

Section 1: Project Context

Reimagine RTS is a planning study that is exploring changes to the RTS fixed-route transit system to better meet the evolving needs of the region. This study focuses on transit service in Monroe County, New York, including the City of Rochester and the surrounding suburbs.

Recognizing that the region's economy and community are changing, RTS is seeking to reimagine public transit in Monroe County to promote growth and better meet the mobility needs of the community. The public transit system in Monroe County was designed decades ago. Since then, demographics have changed, the locations of employment centers have changed, and the number of available mobility options has expanded. Demands from business owners, senior citizens, millennials, individuals with disabilities, and those working to transition from poverty to prosperity continue to grow. More businesses are locating to areas of the region that are not served well, if at all. The emergence of new transportation options such as bike sharing, car sharing, and ride sharing is changing people's expectations of public mobility. Reimagine RTS is a response to this new reality.

In addition, investments in public transit have not kept pace with growing demands and investments in the community over the past decade. This has placed added stress on the transit system, making it critical for the agency to focus service investments where transit can be both effective and efficient.

End of Section 1.

Section 2: Existing Conditions Review

An analysis of existing conditions provides a foundation for understanding the strengths, challenges, and opportunities for transit in Monroe County. The following section provides an overview of both the quantitative (data analysis) and qualitative (community and stakeholder input) factors that informed that understanding and shaped the development of the guiding principles and goals for Reimagine RTS.

Section 2 contains the following subparts:

2A. Understanding the Mobility Markets,

2B. Understanding the System, and

2C. Understanding the Customer.

End of Section 2 introduction.

2A. Understanding the Mobility Markets

The pattern and density of land use development are key determinants of whether transit will be successful in delivering public mobility. The following section details how the three D's of development — density, diversity, and design — come together to create various market typologies that each have distinct impacts on transit's ability to be successful. As RTS moves forward, it will be important to focus service investments in places where transit is most competitive — higher-density areas with a mix of land uses and walkable street networks — to ensure the success of the network.

Land Use and Development Patterns

Understanding How People and Places Shape Transit

Land use and transportation have an interdependent and inseparable relationship. Investments in transportation systems strongly influence land use patterns, development types, and densities. Likewise, characteristics of the built environment, such as the diversity of neighborhoods and the location of jobs and housing, significantly affect both the type and level of travel demand.

When designing transit service, it is essential to evaluate the built environment to determine where transit can be both effective and efficient. For transit to be successful, there must be enough density to provide riders; diverse uses that generate all-day all-week demand; and streets that are designed for all modes and users. Without these key characteristics, providing efficient transit service becomes a challenge.

To remain financially sustainable, RTS first must focus service in the places where the market can generate and support transit use. Over time, as the Rochester region continues to make investments in transit, the system will have a progressively important role in development decisions and will have more influence on land use patterns. Robust transit service will attract residents and employers that chose to be part of a transit-rich environment, while also providing crucial connections to economic opportunities for individuals trying to transition from poverty to prosperity. This, in turn, will attract development that creates sustainable and people-oriented communities.

Density, Diversity, and Design — Establishing Market Topographies

Several land use and development elements were evaluated to establish market typologies for the various communities and neighborhoods throughout Monroe County. The three market typologies found in the region are Urban, Suburban, and Rural. Each of these market typologies has differing mobility needs and opportunities that have specific implications for transit service delivery.

1. Density is the measure of intensity of development in a given area, which means more potential transit customers.
2. Diversity is the type and variety of uses in an area. A mixture of uses (residential, office, commercial) in close proximity creates all-day, all-week activity while also reducing the need for private vehicles.
3. The design and scale of the street network, streets, and surrounding land uses determines whether development is designed for cars and traffic, or people and places.

Density

Density is a measure of the intensity of development in a given area. Naturally, more people translates into more customers. Usually expressed in terms of residential dwelling units (du) per acre, employees per acre, or a blend of the two, densities often guide the type and level of transit service that can be supported within a corridor or neighborhood. Whereas higher densities (i.e. greater than 12 du and/or 50 employees per acre) may support high capacity vehicles and increased service frequencies, lower density neighborhoods may be better suited for local service or alternative means of public mobility. Area densities are described as High, Moderate, and Low.

1. High Density areas have 12-24 residential dwelling units per net acre or greater and a major employment center of 50 to 100 million square feet or greater.
2. Moderate Density areas have 7 to 15 residential dwelling units per net acre and a major employment center of 8 to 50 million square feet.
3. Low Density areas have 5 to 7 residential dwelling units per net acre or less and a major employment center of 5 to 8 million square feet or less.

Diversity

Although dense populations centered around or along transit corridors may contribute to high ridership to and from places of work, it is the diversity, or mix, of uses in an area that allows residents and employees to take the bus, walk, or bike to meet their other needs without the daily use of a private automobile. A blend of neighborhoods serving retail and services near home and/or work allows residents to build a lifestyle around transit.

Design

If higher density mixed-use neighborhoods are the foundation of transit-friendly neighborhoods, it is the design, or urban form, that ties them together. High-rise apartments, for instance, that are close to transit but separated by a high speed major arterial with narrow sidewalks may be transit adjacent, but they are by no means transit oriented. Similarly, shopping and strip malls may offer a variety of daily retail and service options, but may discourage transit and pedestrian access with large parking lots and numerous curb cuts. Elements of transit oriented design include ample and connected sidewalks, small block sizes, street trees and furniture, properly scaled lighting, on- and off-street bicycle facilities where appropriate, and ADA accessible curb ramps and crossings.

Market Typologies

The typologies are Urban, Suburban, and Rural.

1. Urban networks are typically compact, mixed-use, and multimodal. Compact, dense networks better support transit services with a steady ridership base. Focused, diverse development produces a variety of shorter trips served by efficient infrastructure. Grid networks are typically easier for pedestrians and cyclists to navigate.
2. Suburban networks are typically auto-centric, with low density and single-use zoning. Low-density, sprawling neighborhoods make transit infrastructure highly inefficient. When residential, commercial, and retail land uses are separated from one another, automobile travel becomes more convenient than transit.
3. Rural areas are typically sparsely populated and auto-centric. Wide streets and highways emphasize car accessibility over pedestrian and bike safety. Large plots of land with single uses necessitate personal vehicle travel.

Monroe County Market Typologies

The Consultant’s Recommendations presents a map of the various market typologies within Monroe County. This map can serve as a generalized framework for understanding the differing mobility needs and opportunities within the region. The map shows a top down view oriented north toward Lake Ontario. The City of Rochester is in the center and is shaded orange and designated Urban. The next area is shaded yellow and is designated Suburban. The Suburban area surrounds the Urban area. The Suburban area includes Webster, Penfield, Chili, Gates, and Greece. The largest area is shaded green and is designated as Rural. The Rural area surrounds the Suburban area. The Rural area includes Perinton, Mendon, Rush, Wheatland, Riga, Sweden, Ogden, Parma, Clarkson, and Hamlin.

End of 2A in Section 2.

2B. Understanding the System

The evaluation of the existing system is a key component of Reimagine RTS. While the mobility markets provide the context for the system’s operations, the service evaluation looks at how well the system interacts with those markets. The following section examines current service delivery, network and route ridership, and service efficiency to identify the strengths in the system, as well as the opportunities for improvement.

Current System Performance

Ridership

The Consultant’s Recommendations presents a map of the City of Rochester and surrounding suburbs (Greece, Parma, Irondequoit, Ogden, Gates, Chili, Pittsford, and Henrietta). The map shows current RTS system routes and ridership density in these areas.

The RTS system receives roughly 51,300 boardings per day. As is typical with most hub-and-spoke systems, the map of ridership density of the current network demonstrates a concentration of boardings within the urban core and at employment centers, universities, and attractions scattered throughout the region.

Frequency

The Consultant’s Recommendations present a map of the existing RTS fixed-route system. The map provides a legend of Peak Frequency in Minutes and color-codes the following frequency ranges:

Dark Green: 0 to 10 minutes

Light Green: 11 to 15 minutes

Yellow: 16 to 30 minutes

Orange: 31 to 60 minutes

Red: More than 60 minutes

The majority of the system is highlighted yellow to indicate a peak frequency of 16 to 30 minutes. The most prominent color after yellow is orange to indicate portions of the system with a peak frequency of 31 to 60 minutes. A portion of the system routes in Henrietta are red, indicating a peak frequency of more than 60 minutes.

Truly frequent service is defined as service that arrives every 15 minutes or better. This frequency encourages “spontaneous” transit use. The peak frequency map shows that the majority of the system falls in the 16 to 60 minute frequency range, with no routes achieving the desired 15-minute frequency.

Productivity

The Consultant’s Recommendations present a map of the existing RTS fixed-route system. The map provides a legend of Route Productivity for Weekday All-Day customer boardings per hour. The legend color-codes the customer boardings per hour as follows.

Dark Green: More than 40 customer boardings per hour.

Light Green: 30 to 40 customer boardings per hour.

Yellow: 20 to 30 customer boardings per hour.

Orange: 10 to 20 customer boardings per hour.

Red: 1 to 10 customer boardings per hour.

The majority of the system is highlighted light green to indicate 30 to 40 customer boardings per hour. Several portions of the system are orange to indicate 10 to 20 customer boardings per hour. Several high-ridership routes, including the 10 Dewey, 24 Marketplace, 34 Hudson, 41 Joseph, and 47 Monroe are dark green, indicating more than 40 customer boardings per hour. There are a few segments of the system highlighted yellow to indicate 20 to 30 customer boardings per hour.

Productivity, which is calculated by dividing the total number of customer boardings by the total number of revenue hours, is an effective measure of how well a service is performing. The RTS system averages 32.2 customer per hour, with the strongest routes radiating from the Central Business District along the region's busiest, most dense corridors.

End of 2B in Section 2.

2C. Understanding the Customer

RTS recognizes that realizing a vision for improved public mobility in the Rochester region requires an extensive and collaborative conversation with the community. Throughout the visioning process, RTS engaged key stakeholders, current customers, employees, and the public to learn about priorities and preferences for public mobility in the region. Key themes from those outreach efforts are included in the following paragraphs.

Public Outreach Efforts

In order to gather feedback on current system performance and future priorities, the Reimagine RTS project team engaged customers, non-customers, and key stakeholder groups through Public Information Sessions, online and on-board surveys, mapping tools, pop-up events, and various online media forums.

What we heard can be grouped into these 5 themes:

1. More Frequency
2. Faster, More Direct Service
3. Additional Service Hours
4. Connections to Jobs
5. Shorter Waits

End of 2B in Section 2 and end of Section 2.

Section 3: Guiding Principles

Current market conditions and typologies, system performance, public outreach efforts, and input from numerous stakeholders steered the development of the Reimagine RTS guiding principles and goals. These guiding principles recognize RTS’ priorities, establish a framework for decision-making, and provide a foundation for improving service quality. Each guiding principle is broken down into specific goals, performance metrics, targets, and service design actions that provide RTS with a clear pathway to success.

1. Guiding Principles: What are the plan themes?
2. Goals: What do we want to accomplish?
3. Performance Metrics: How do we measure success?
4. Targets: What is our benchmark for success?
5. Actions: What are we going to do to get there?

RTS Guiding Principles

The guiding principles are Maximize Ridership, Enhance the Customer Experience, Ensure System Sustainability, Coordinate with Community Initiatives, and Expand Public Transit to Include More Mobility Options.

Guiding Principle #1: Maximize Ridership

RTS's financial stability relies on its ability to sustain a strong ridership base. Outreach done through recent on-board surveys revealed that work is by far the most common trip purpose for current customers. To encourage customers to use the network for a variety of different trip purposes throughout the day, RTS must provide service that is as fast, comfortable, and convenient as automobile travel. This will facilitate spontaneous 'lifestyle mobility,' growing ridership by attracting new customers and encouraging existing customers to make more trips on transit.

The Goal is to increase the total number of boardings. The Performance Measure will be the passenger counts (APC technology). The Target is a 10 percent increase over pre-implementation baseline. The Actions will be as follows:

1. Focus service in areas with high ridership potential;
2. Expand frequent network (15 minutes or better);
3. Expand off-peak and weekend mobility options;
4. Strengthen network integration for all public mobility options; and
5. Simplify the system.

Guiding Principle #2: Enhance the Customer Experience

In order to provide a more attractive service, RTS needs to focus on enhancing the customer experience by decreasing customer wait time. Frequency is the number one factor customers consider when deciding whether or not to use transit. Providing service that is frequent enough for customers to walk up to a transit stop and just catch the "next trip," rather than plan to catch a specific trip makes using transit easier and more convenient to use, encouraging additional trip-making.

The Goal is to decrease customer wait time. The Performance Measure will be the percent of service within the frequent network. The Target is 40 percent of revenue hours. The Actions will be as follows:

1. Expand frequent network (15 minutes or better);
2. Provide coordinated transfers at key hubs or times of day;
3. Provide real-time information for all integrated mobility options; and
4. Provide real-time information at key hubs and stops.

In addition to decreasing the out-of-vehicle wait time, getting customers to their destinations as quickly as possible will further attract new customers and enhance the customer experience. Providing fast, direct travel can be done through simplifying the system, streamlining routes, investing in transit priority, and establishing new crosstown routes that will offer customers more flexibility. The Goal is to decrease customer travel time. The Performance Measure is calculated travel times. The Target is a 10 percent decrease in customer travel times between top ten origin-destination pairs.

The Actions will be as follows:

1. Streamline routes and minimize deviations;
2. Increase transit priority on major corridors;
3. Optimize bus stop spacing and placement; and
4. Provide more crosstown options and minimize need for downtown transfers.

Guiding Principle #3: Ensure System Sustainability

Like any other service provider, RTS works with constrained and variable financial resources. Decreasing the net RTS subsidy spent per customer will ensure RTS' existing and future financial sustainability. This can be done through investing service in areas of high ridership potential, correctly matching services to meet market demands and needs, exploring new partnerships, and becoming a key stakeholder in future land use decisions.

The Goal is to decrease RTS subsidy per customer. The Performance Measure will be the subsidy per customer boarding. The Target is 4 dollars per customer boarding (weekdays). The Actions will be as follows:

1. Focus service in areas with high ridership potential;
2. Use the 'Mobility Toolbox' to match service to markets;
3. Continue partnerships with businesses and institutions to provide cost-effective mobility;
4. Coordinate with city and towns on land use and street design.

Guiding Principle #4: Coordinate with Community Initiatives

When RTS is a major stakeholder in future land use and street design developments, transit becomes an integrated part of the community instead of an afterthought that must adapt to the built environment. Promoting the development of new housing and employment centers around the frequent network makes transit an easy, cost effective choice for everyday mobility. This is a metric requiring partnership from the community.

The Goal is to encourage community development around the frequent network.

The Performance Measure will be the percent growth in jobs and population within 1/2 mile of the frequent network. The Target will be an average of 1.5 percent annually over 3 to 5 years. The Actions will be as follows:

1. Coordinate with City or Town on development decisions;
2. Coordinate with City or Town on street design and infrastructure to support frequent transit; and
3. Grow partnerships with businesses and institutions to provide enhanced access using new mobility initiatives.

Guiding Principle #5: Expand Public Transit to Include More Mobility Options

With increasingly advancing technology, RTS recognizes that the traditional fixed-route model of service is no longer the only public mobility option. To stay competitive, RTS should start to think of itself as a provider of public mobility, as opposed to just a provider of public transit. This will include identifying service providers that can meet the urgency of consumer expectations and building relationships that provide opportunities for integrated, multi-modal travel.

The Goal is to increase the diversity of services available to customers. The Performance Measure will be the number of alternative mobility partnerships or options. The Target will be 2 partnerships or options. The Actions will be as follows:

1. Use the 'Mobility Toolbox' to match services to markets;
2. Provide fare instruments that allow for "fare capping" and integrated network travel;
3. Increase availability of non-cash fare instruments; and
4. Complement the fixed-route network with emerging mobility options (Mobility on Demand).

End of Section 3.

Section 4: Mobility Toolbox

The suite of public mobility tools available to cities and regions now goes well beyond traditional local bus service. These tools differ in their key target markets, land use contexts, mobility role, and service levels. The purpose of this toolbox is to identify the public mobility options that are available today and understand how they can best be used across the diverse markets that exist within the greater Rochester region.

The mobility toolbox categories are Core Transit Options, Commute Options, Community Mobility Options, and Integrated Mobility.

1. Core Transit Options. The core all-day fixed-route transit network provides the majority of service and coverage to the system's primary transit markets. The core network can include a broad spectrum of product types including local and frequent bus and enhanced on- and off-street bus. These types of services are most appropriate for urban land uses, with some suburban locations.
2. Commute Options. Commute services are designed specifically to accommodate work trips during the morning and evening peak periods. Tools include employer-run shuttles, ridesharing such as car and vanpool services, and microtransit in which transportation network companies (TNC) offer point-to-point shared service on common travel routes. These mobility options best suit suburban or rural land uses, where all-day fixed route service is not feasible.
3. Community Mobility Options. Community mobility options refer to a suite of tools that extends the core network to specific communities or geographic areas.

For example, demand response transit (DRT) is typically targeted and designed for transit reliant populations such as seniors or persons with disabilities who are unable to access traditional fixed-route transit. For transit lifestyle markets (e.g., young professionals, students, no vehicle households), mobility tools including bike sharing and TNCs extend the reach of the system by offering "first and last mile" connections to transit stops and corridors. These types of services are applicable in urban, suburban, and rural communities.

Core Transit Options

The core transit options include both frequent and local buses. Together these options form the core all-day fixed route network and deliver the majority of the service and coverage provided by the system. The Core Transit Options include Frequent Local Bus Service and Local Bus Service.

Frequent Local Bus Service

The frequent local bus option has a frequency of 15 minutes and service that spans from 5:00 AM to Midnight with frequent service 6:00 AM to 6:00 PM on weekdays. The bus stops are spaced ¼ mile to 1/3 mile apart and the vehicle types are articulated buses and standard buses.

The frequent network role is to provide frequent intraregional travel to local and regional destinations along major arterials and travel corridors. Key markets for this service include moderate to high-density urban neighborhoods, mixed-use neighborhood nodes and corridors, local and regional job centers.

The Relationship between Density and Frequency

The workhorse of most public mobility systems, local service consists of bus routes that run primarily on arterial streets in mixed traffic, with narrow stop spacing (approximately 8 stops per mile). Frequencies generally are between 1 to 3 buses per hour (20 to 60 minute headways). Local service is designed to favor accessibility for residents and employees over speed.

At its most basic, frequent local service is simply local service with shorter wait times between buses. Across systems around the country, frequent service is typically defined as routes with a minimum of 4 to 6 buses per hour (10 to 15 minute headways). It is at this threshold that customers are less likely to need a schedule knowing they can show up at a stop and not have to wait long for the next bus. To increase speed and reliability, routes may also incorporate some elements of on-street rapid transit (e.g. transit signal priority, low-floor buses, special branding and information, wider stop spacing).

Local Bus Service

The local bus service tier has a frequency of 30 minutes and service that spans from 5:00 AM to Midnight with 30 minute service from 6:00 AM to 6:00 PM on weekdays. The bus stops are spaced ¼ mile apart and the vehicle type is a standard bus.

The network role of local bus service is to connect similar communities of lower population densities to the larger regional transit system. The key markets are low to moderate density urban neighborhoods, neighborhood oriented retail and services, and local job centers.

In order to generate the ridership to support the higher operating costs of frequent service, corridors should exhibit more compact urban style development (minimum of 7 to 15 housing units per net acre) and connect to large employment centers. Furthermore, service on candidate corridors should exhibit high ridership productivity (i.e., boardings per revenue hour of service), representing a minimum of 150% of the system-wide average.

Commute Options

Commute options consist of service designed specifically to accommodate work trips during the morning and evening peak periods. Commute-based ridesharing refers to regularly organized rideshare services versus on-demand options. This includes carpool and vanpool programs, RTS operated shuttles and small buses, employer shuttles, and other microtransit options.

The Commute Options include Employer or RTS Provided Shuttles and Ridesharing.

Employer or RTS Provided Shuttles have the following characteristics, network role, and key markets.

Characteristics: Employer or RTS provided shuttles pick up employees at collection points. Travel times are tailored to company start and end times, with a guaranteed-ride-home program responding to spontaneous trips and flexible schedules.

Network Role: Provides direct service for employees from a set collection point to work.

Key Markets: Shuttles are typically utilized by commuters who look for fast, direct travel to their workplace. The shuttles connect employees to job sites located in suburban and rural areas.

Ridesharing has the following characteristics, network role, and key markets.

Characteristics: Ridesharing is a service where two or more users share high occupancy cars or vans to common or proximate destinations and origins. Driving responsibility is often shared amongst patrons who are able to access high occupancy vehicle (HOV) lanes and preferred parking.

Network Role: Ridesharing provides more efficient point-to-point service for targeted markets with specific travel needs.

Key Markets: Ridesharing is typically used by commuters who look for fast, direct travel. Ridesharing connects lower density suburban communities to employment centers or urban communities with suburban or rural job sites.

Community Mobility Options

Community mobility extends the reach of the core network by providing first/last mile connections to specific communities or geographic areas. These connections include both traditional mobility options such as demand response transit and emerging mobility options such as bike-share and TNCs.

Traditional Mobility Options: Demand Response

Demand response service has the following characteristics, network role, and key markets.

Characteristics: Demand Response Transit (DRT) does not operate on a fixed route or schedule, but instead operates on a reservation-based service. Depending on the need, vehicles can accommodate door-to-door or curb-to-curb service.

Network Role: DRT meets the needs of underserved and transit dependent populations by connecting them to local and regional destinations. DRT facilitates independent living by providing disabled patrons access to the larger transit system, or in some cases, curb-to-curb access to their destinations.

Key Markets: Transit-reliant populations, including elderly and disabled individuals, will use DRT. DRT is used in lower density areas with unmet customer demand among transit reliant populations.

Traditional Mobility Options: Shuttle

Shuttle service has the following characteristics, network role, and key markets.

Characteristics: Shuttle service uses smaller transit vehicles to provide first/last mile connections to the transit system or major destinations. Shuttles are often sponsored by major employers (e.g., business parks) or by institutions (e.g., hospitals). Shuttles typically operate within confined service areas with close stop spacing or point-to-point services.

Network Roles: The shuttle provides first/last mile connections to major transit hubs or private and public campus environments.

Key Markets: Transit-reliant populations, including elderly and disabled individuals, as well as other lifestyle transit customers looking to make short-distance trips will use shuttles. Shuttles have uses for major employment parks/centers and large educational and institutional facilities.

Emerging Options

The emerging options include carsharing, bikesharing, microtransit, and TNCs.

1. Carsharing allows users to access a fleet of cars based on a subscription style service. Users pay only for time used and, depending on the service, can either leave the vehicle parked safely or return the vehicle to a specific hub. Higher density urban neighborhoods with low vehicle ownership rates serve as the key market for carsharing.
2. Bikesharing is a self-serve limited-term bicycle rental designed for short (1/2 mile to 3 miles) point-to-point local trips. Key markets for bikesharing include high-density urban neighborhoods, large educational and institutional uses, and major employment centers.
3. Microtransit is a reservation-based TNC service with multiple users on single trips. Increase in travel times can be offset by lower costs for users. Key markets for microtransit include higher density urban neighborhoods, large educational and institutional uses, and major employment centers.
4. TNCs (e.g. Uber and Lyft) allow patrons to access a team of contract drivers to take them point to point wherever they need to go based on a standard rate. Users must subscribe to the service in order to utilize it. Typically, the service is accessed via a mobile device. Subsidized versions of services can provide cost effective solutions for first/last mile connections where fixed-route service is not feasible. TNCs are feasible in all markets.

Integrated Mobility

To ensure the new mobility options presented in this toolbox complement, rather than compete with, the core transit network, RTS will need to embrace new ways of integrating these modes into the system.

Looking Ahead to Integrated Mobility

In the coming years, the mobility environment and transit’s role within that environment will continue to evolve in the Rochester region. Technology is revolutionizing transportation and ushering in a new age of mobility choices. While public transit has an advantage in certain markets, it is not competitive in every market. Transit’s growing competition has become largely technology-centric, with one-stop mobility shopping and on-demand services becoming the norm. Widespread adoption of personal smart phones allows customers to choose the mobility option that makes the most sense for any trip at any time.

Contrary to what one might expect, these advances have the potential to increase transit usage rather than reduce it. According to the American Public Transportation Association, the more people use shared transportation options, the less likely they are to own a car and the more likely they are to use public transit. By aligning itself with other shared mobility options through technology (e.g., trip planners, traveler information, fare payment), RTS has the potential to be the backbone of a new integrated mobility network.

Integrated Mobility

The Consultant’s Recommendations present an example of integrated mobility. A city intersection has roads with two lanes for cars and cross walks at all four corners. The northeast road has a bus-only lane. The northwest road has a bicycle lane. In the northeast area, a standard bus in the bus-only lane is stopping at bus shelter. This represents Fixed-Route Transit. Across the street is an area for contracted drivers in sedans to pick up passengers (Uber or Lyft). This represents TNCs. Behind the bus shelter are rows of bicycles to represent Bike Sharing. Cyclists are riding bikes in the bicycle lane. In front of a building that may represent a nursing home or community center, small shuttles are dropping people off. This represents microtransit. In the opposite side of the intersection, an SUV represents ridesharing. Lastly, in another corner of the intersection, there is a lot with small economy cars and a kiosk to represent car sharing.

End of Section 4.

Section 5: Recommended Plan

Reimagine RTS refocuses the system using the guiding principles and a best practice approach to deliver what works: a comprehensive network of frequent transit; a simplified system that is easy to understand and use; and an improved customer experience that maximizes effectiveness and efficiency while minimizing the impact on current customers. Specific alignment changes within the RTS system focus on growing ridership and productivity through more direct service, as well as creating a more connected network that reduces the need for customers to transfer routes downtown.

The proposed recommendations are laid out in the following section by product type. Each product type is mapped, and each map is accompanied by a list of routes classified as that type of product.

1. Fixed Route Network: The final recommended network demonstrates a focused approach to increasing frequent service on the region’s busiest corridors, getting more people where they want to go faster. The proposed plan was developed after extensive data analysis and public outreach. A detailed report of the outreach that was conducted and considered is available from RTS.

Recommended Network

The Consultant’s Recommendations present a map of the recommended network with a Product Mix legend. The legend is color-coded. Orange sections indicate the portions of the system that will be Frequent Network; solid blue sections indicate the portions of the system that will be Local Service; and dotted blue sections indicate portions indicate portions of the system that will be Seasonal Service. Gray portions of the system indicate existing bus service. Another map shows the New Recommended Frequent Network. The biggest improvement to the RTS system is a new frequent network, consisting of 10 routes. These routes are proposed to have 15-minute service all-day on weekdays, providing a significant improvement for RTS customers. The 10 routes included in the frequent network represent RTS' highest ridership and most productive routes and cover major corridors throughout the entire city, creating a true network of frequent service that connects multiple neighborhoods and destinations. The 10 routes are as follows: 1 Lake Short Line, 4 Genesee, 8 Chili Short Line, 10 Dewey Short Line, 34 Hudson, 38 East Main, 40 Portland, 41 Joseph, 47 Monroe Short Line, and the Lyell Corridor. During weekdays the routes have an Early AM frequency of 30 minutes, an AM Peak frequency of 15 minutes, a Midday frequency of 15 minutes, a PM Peak frequency of 15 minutes, and an Evening frequency of 30 minutes. During weekdays, the service starts at 5:00 AM and ends at Midnight. During weekends, the routes have an Early AM frequency of 60 minutes, a Day frequency of 30 minutes, and an Evening frequency of 60 minutes. During weekends, the service starts at 6:00 AM and ends at Midnight.

1. Simplified Local Service. The Consultant’s Recommendations present a map of the Simplified Local Service network with a Product Mix legend. The legend is color-coded. Orange sections indicate the portions of the system that will be Frequent Network; solid blue sections indicate the portions of the system that will be Local Network; and dotted blue sections indicate portions indicate portions of the system that will be Seasonal Network. Solid blue sections with light blue outlines indicate Crosstown Routes. Local services supplement the Frequent Network and complete the network by filling gaps, extending coverage to areas warranting fixed route service, and serving specific target markets. These routes follow the best practices set out in the guiding principles and service design actions, including simplified route alignments and new crosstown connections. With few exceptions, local routes are proposed to operate every 30 minutes on weekdays, offering the potential to connect with every other trip within the frequent network. The local service routes are as follows: 1 Lake Long Line, 3 Lyell, 8 Chili Long Line, 9 Jay/Maple, 10 Dewey Long Line, 19 Plymouth, 24 Marketplace, 25 Thurston/MCC, 31 Park, 33 Goodman, 35 St. Paul, 37 Clinton, 45 South Ave., 47 Monroe Long Line, 48 University Ave., 51 South Clinton, 81 Fairport, and 103 Webster. There are three new routes: the Ridge Road Crosstown, the Culver Road Crosstown, and the Lyell Upper Falls Crosstown. The 81 Fairport has a weekday and weekend frequency of 90 minutes for all times of day (Early AM, AM Peak, Midday, Day, PM Peak, and Evening). All other routes have an Early AM and Evening Frequency of 60 minutes on weekdays and weekends. During weekdays, all routes except the 81 Fairport have AM Peak, Midday, and PM Peak frequencies of 30 minutes. On weekdays, service starts at 5:00 AM and ends at Midnight for all local service routes. On weekends, the following routes have a Day frequency of 30 minutes: 1 Lake Long Line, 3 Lyell, 8 Chili Long Line, 10 Dewey Long Line, and 47 Monroe Long Line. On weekends, the following routes have a Day frequency of 60 minutes: 9 Jay/Maple, 19 Plymouth, 24 Marketplace, 25 Thurston/MCC, 31 Park, 33 Goodman, 35 St. Paul, 37 Clinton, 45 South Ave., 48 University Ave., 51 South Clinton, 103 Webster, Ridge Road Crosstown, Culver Road Crosstown, and Lyell Upper Falls Crosstown. During weekends, service starts at 6:00 AM and ends at Midnight.

Community Mobility Zones

Areas that are not fixed route transit supportive due to low densities, disconnected development patterns, or poor road network structure and have existing RTS service are proposed as Community Mobility Zones to pilot more cost-effective mobility solutions.

Community mobility has taken new forms in recent years. With more shared-mobility travel options emerging in the marketplace, community mobility serves a critical role in first/last mile connections that extend the reach of the fixed-route network. These may include shared-ride trips, destination shuttles, vanpools, and carsharing options. Most importantly, they are cost-effective solutions tailored to the needs of individual communities.

These recommendations identified areas, or zones, throughout Monroe County that could be better served by community mobility options than by fixed-route. RTS will be further exploring the most efficient way to structure these zones in the coming months, prior to implementation of the recommended fixed route network changes. Solutions for these zones will be developed in conjunction with the community to ensure that the proposed alternatives are appropriately marketed and thoroughly evaluated.

Key Considerations and Recommendations

1. Alternative mobility solutions make sense when they cost less per customer to provide service than fixed-route.
2. Options for riders to pay with cash should be provided to comply with Title VI regulations.
3. Options for riders to schedule rides over the phone should be provided to comply with Title VI regulations.
4. Wheelchair-accessible vehicles with similar response times should be guaranteed.
5. Customers should be required to register with RTS to receive TNC subsidies so RTS has access to customer data for future planning efforts.
6. Conduct targeted marketing and outreach to educate riders on how to use the program.

The Consultant’s Recommendations present a map of Community Mobility Zones represented as green circles placed on a map of the community areas surrounding the City of Rochester in context with the proposed network. The zones are labeled A through G and correspond to a specific community area. The zones are as follows:

Zone A Greece

Zone B Lexington Ave (City of Rochester)

Zone C Irondequoit

Zone D Webster

Zone E Henrietta

Zone F Brockport

Zone G Eastview/Southeast Monroe County

Mobility Manager

RTS’ Role as a Public Mobility Manager

RTS clearly understands the need to embrace new alternative mobility solutions as it rethinks public transit in Monroe County. An integrated network approach will provide maximum value for consumers and member jurisdictions and will also ensure RTS stays a competitive mobility choice. To evaluate the best approach for integrating these new modes, RTS will be starting a mobility options program study in the coming months. The study will explore the best solution for each community mobility zone identified in the recommended network plan.

Benefits and Impacts of Recommended Plan

A majority of customers will experience a positive impact from the proposed recommendations, including new access to frequent service, more direct trips, shorter travel times, and a system that is easier to understand. Conversely, a small number of customers who are currently using low-ridership routes or route deviations that are recommended for elimination will potentially experience a loss of service or longer walks to service. The following section illustrates the customer benefits and impacts of the proposed recommendations.

Customer Benefits

The customer benefits are frequent service and improved travel times. RTS currently does not have a frequent transit network, or any frequent routes. The Reimagine RTS plan introduces a new frequent network, with 10 routes proposed for 15-minute service. Under the proposed recommendations, 2 out of 3 existing weekday customers will have access to this new frequent service, and more than 175,000 residents will be within a 10-minute walk of frequent service. The Frequent Network provides 15-minute service between 6 AM and 6 PM weekdays. The existing system does not include any routes that have 15-minute service between 6 AM and 6 PM weekdays. Under the existing system, zero weekday customers have access to frequent service. Under the proposed recommendations, 33,000 weekday customers will have access to frequent service. Under the existing system, zero people have access to frequent service. Under the proposed recommendations, 175,700 people will have access to frequent service. Under the existing system, zero jobs have access to frequent service based on ½ mile access. Under the proposed recommendations, 110,100 jobs will have access to frequent service based on ½ mile access.

Reimagine RTS improves in-vehicle travel times by reducing delay from off-corridor deviations (streamlining) and creating new crosstown connections. Streamlined route alignments provide more direct links between key destinations and decrease both route mileage and travel time, speeding up service for customers and resulting in a more cost-effective service for RTS. New crosstown routes improve travel times by providing direct connections between neighborhoods and destinations outside of downtown, reducing the number of transfers required for numerous trips.

Example: How far can a customer go on average at 5:00 PM on a weekday?

The Consultant’s Recommendations presents a visual to compare how far a person could travel in the existing system with how far the person could travel in the proposed system. The existing system represents “before” and the proposed system represents “after.” The example shows three starting locations: Hudson Walmart, Monroe Community College, and Dewey Avenue and Ridgeway Avenue. A human figure stands at the center of each location and shaded areas radiate out to show the travel time from the starting location. Grey shading represents 15 minutes, dark blue shading represents 30 minutes, light blue shading represents 45 minutes, and red shading represents 60 minutes.

The maps in the examples were created using the Remix Jane Tool. The tool provides an estimate for how far a customer can travel in one hour using RTS. The “before” and “after” maps demonstrate that the proposed system allows customers to reach more destinations within one hour from various locations in the City of Rochester.

Customer Impacts

A key objective during the development of recommendations was to minimize negative impacts to existing customers. While some routes and route segments are proposed for discontinuation, special attention was given to avoiding unnecessary impacts to customers. To assess the impacts of the plan recommendations, an analysis was performed of current customer's access to the proposed network. A customer is considered to be impacted if they are further than ½ mile (10-minute walk) from the nearest proposed bus stop. The Consultant’s Recommendations uses a map to represent current customers that fall outside of a 10-minute walk (half-mile distance). Overall, the proposed plan impacts about 5 percent of customer trips. Some of these impacted trips and customers will have service via the Sea Breeze route, but were still considered impacted in this analysis due to the seasonal schedule of the service.

The Consultant’s Recommendations presents a Ridership Impact map. The map shows the proposed network surrounded by a half-mile buffer. Red circles of different sizes are placed in the areas where riders are impacted, where size indicates the total riders. The smallest dot represents 1 rider, the next size represents 5 riders, the next size represents 10 riders, the next size represents 50 riders and the largest red circle represents 100 total riders.

Most of the dots are small, indicating between 1 and 5 riders impacted, with the greatest concentration of dots occurring in an area split between the City of Rochester, Greece, and a small portion of Gates, and Webster. A large red dot represents Edison High School, which will still have service. A large dot indicates that more than 100 riders will be impacted at RIT (Rochester Institute of Technology). The following areas contain a dot indicating that 50 riders will be impacted: East View Mall, Nazarth, St. John Fisher, the village of Pittsford, and the airport.

End of Section 5.

Section 6: Implementation and Next Steps

The following section details next steps for RTS, including a recommended approach to implementation and potential future enhancement. RTS should continue to work closely with stakeholders and the public to ensure the successful implementation of a reimagined RTS.

Implementation Approach

Due to the scale of change proposed to the RTS network, it is suggested that implementation of the recommendations occur wholly, rather than across multiple phases. The recommended fixed-route plan is operationally cost-neutral, making this a viable option. RTS’ current timeline for implementation is summer of 2020, allowing time for full exploration of potential community mobility solutions prior to the execution of any changes. The Consultant’s Recommendations provides a visual time-line showing the high-level overview of the next steps. The time-line is:

August 2018: Consultant’s Completed Study and Preliminary Title VI Analysis

Spring 2019: Completion of Mobility Options Study

Summer 2020: Implement Reimagined Public Transit System

Future Enhancements

The following are recommended network enhancements for RTS to consider should additional funds become available. These recommendations are currently unfunded and represent future potential actions and investments. They are presented in two categories: operating improvements and capital improvements. Within each category, recommendations are shown in priority order.

Operational

1. Improved weekend frequencies
2. Frequent network additions
3. Extend hours of operations (service span)

Capital

1. Connection Hubs
2. Enhance Transit Priority Corridors

Operational Improvements

To further enhance the customer experience, RTS should continue to invest in frequency improvements as funding becomes available. With frequency as the number one attribute for attracting new customers and encouraging current customers to ride more often, these improvements will help ensure RTS continues to meet ridership and system sustainability targets.

Improved Weekend Frequency

RTS’s first priority should be improvements to weekend service, such that weekend frequencies match weekday frequencies for both frequent and local routes. This would decrease customer wait times and travel times on weekends, and would encourage more all-day, all-week travel by current and potential customers.

Frequent Network Additions

RTS should also look to expand the number of frequent routes in the system to further facilitate network synergy and customer mobility. Based on current route performance and network role, the following routes are recommended for addition to the frequent network. Following plan implementation, RTS should continue to monitor route performance to identify additional candidates for frequency improvements.

1. Route 24 – Marketplace Mall
2. Route 35 – St. Paul
3. Route 37 – Clinton
4. New Route – Ridge Road Crosstown
5. New Route – Culver Road Crosstown

Extend Hours of Operation (Service Span)

To further encourage more all-day travel by current and potential customers, RTS should extend the proposed hours of service from midnight to 1:00 AM once funding becomes available. This would improve the viability of transit for customers with non-traditional work schedules, students, and customers who use transit to access evening recreation opportunities.

Capital Improvements

Connection Hubs

A central aspect of the Reimagine RTS plan is an emphasis on network connections and an improvement in overall customer mobility. This includes both stronger transit to transit connections and the integration of new mobility solutions with the core fixed-route transit network. To facilitate these various connections, Community Mobility Hubs are proposed throughout the service area at key network convergence points and outer network areas where fixed-route transitions to more cost-effective mobility options.

Connection hubs can be a variety of designs and sizes, depending on the space available and the needs of specific communities and neighborhoods. Transportation modes and facilities that can be co-located at connection hubs include, but are not limited to: RTS transit service, bike storage, Pace bike-share stations, parking for carsharing services, taxis/TNC stands, electric charging stations, and parking for private station vans and shuttles.

For example, if a business is located two miles from Baytowne Plaza, instead of extending a fixed-route to serve the business, the employer can provide station vans and/or a corporate shuttle at the connection hub to help employees complete their journey to and from work.

The Consultant’s Recommendations presents a map of the proposed network with connection hubs represented by 11 blue circles placed throughout the network.

Enhance Transit Priority Corridors

Once RTS implements the frequent network, the next step will be to work collaboratively with Monroe County, the City of Rochester and surrounding jurisdictions to identify key corridors for transit priority investments.

These investments can include, but are not limited to, traffic signal priority, consolidated bus stops, all-door boarding, and preboard fare payment. In order to get the most of this service investment, the key opportunity areas are high ridership markets in high-density urban neighborhoods, large educational and institutional uses, and major employment centers in urban land uses. More specifically, this level of investment is best suited for major corridors and corridors that travel between key destinations and connection hubs, where speed and reliability improvements would benefit the highest number of customers.

End of Section 6.

End of Consultant’s Recommendations