

Appendix G: Public Transit

Existing Public Transit

Southeastern Massachusetts is served by two Regional Transit Authorities (RTAs) that provide both fixed route and demand response transit services. Service is provided in the northern portion of the SMMPO by the Greater Attleboro Taunton Regional Transit Authority (GATRA), and the southern portion is served by the Southeastern Regional Transit Authority (SRTA). Fixed route service refers to a transit service that operates on regularly scheduled bus routes on a published time table. Fixed route service is generally found in the more urbanized areas of the region where population densities are higher and a greater number of destinations are located. Demand response service refers to a flexible transit service in which customers schedule a trip in advance and the vehicle is dispatched based on the demands of the customers for the day. Demand response is primarily used by older adults and/or individuals with disabilities that may not otherwise be able to use regular fixed route transit services.

Public transit is not strictly limited to or solely operated by the RTAs; the SMMPO region is also served by two MBTA Commuter Rail lines and four private commuter bus carriers. For more information regarding the MBTA Commuter Rail lines, refer to Appendix H – Commuter Rail, and more information regarding the commuter bus service is found in Appendix I – Commuter and Intercity Bus.

GATRA and SRTA Characteristics and Capital Needs

The characteristics of the communities served by both RTAs are very different and present separate challenges for providing transit services. The GATRA communities are generally more suburban and include two small cities, Attleboro and Taunton, whereas the SRTA communities are much more urban and include two medium sized cities, Fall River and New Bedford.

GATRA Service

GATRA serves 28 communities (see Figure G-1) in southeastern Massachusetts. Fifteen of the twenty-eight communities are within the SMMPO region: Attleboro, Berkley, Carver, Dighton, Lakeville, Mansfield, Middleborough, North Attleborough, Norton, Plainville, Raynham, Rehoboth, Seekonk, Taunton, and Wareham.

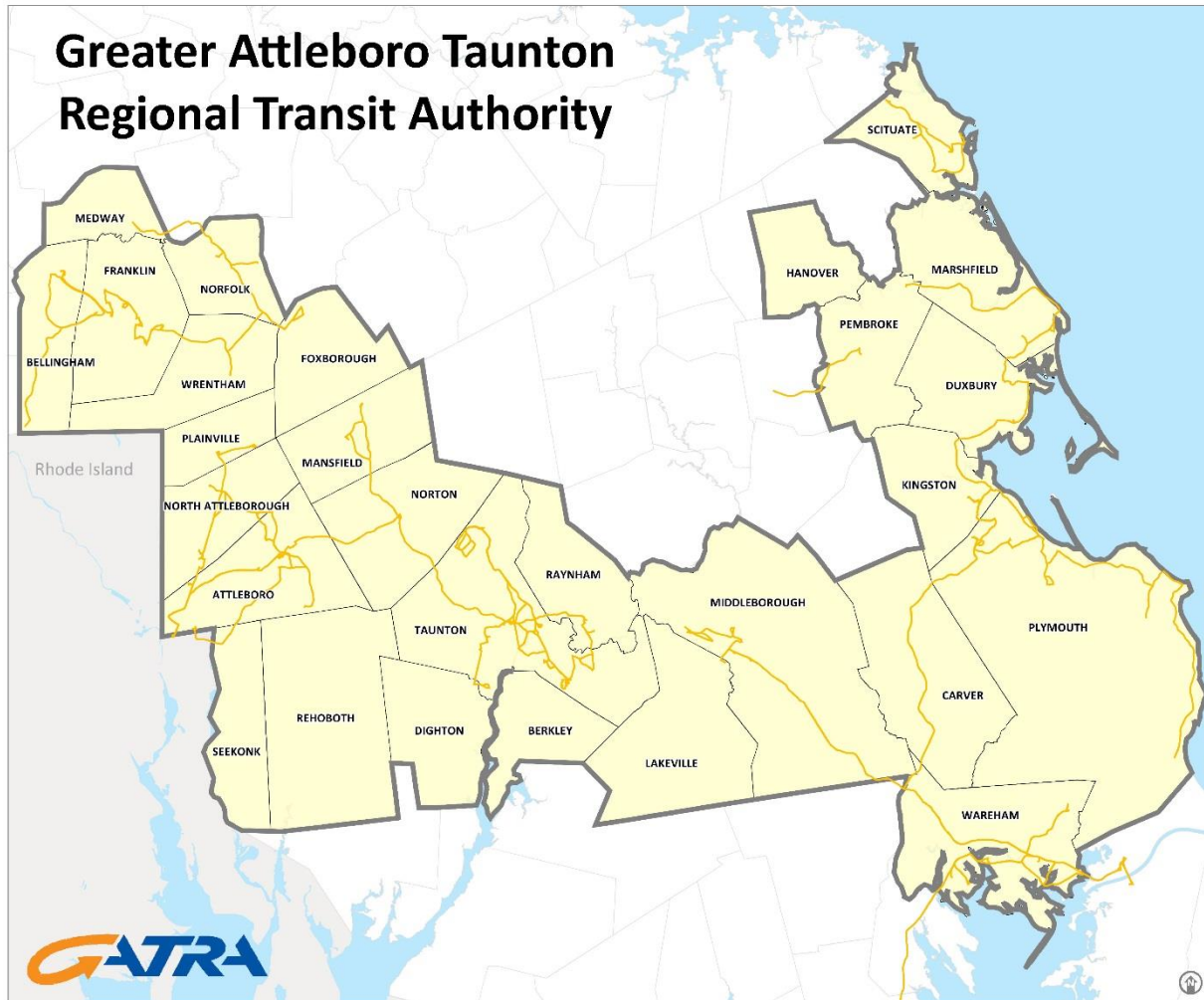


Figure G-1: GATRA Service Area

GATRA provides fixed route service in nine of the fifteen communities of the SMMPO region and in eleven communities outside the SMMPO region. The SMMPO communities are Attleboro, Mansfield, Middleborough, North Attleborough, Norton, Plainville, Raynham, Taunton, and Wareham. An intercity route operates between Taunton and Attleboro, an inter-community route operates between Kingston, Marshfield, and Duxbury, an inter-community route operates between Norfolk, Wrentham, Foxboro, and Franklin, and commuter shuttles provide service to MBTA Commuter Rail stations in Bellingham, Medway, Norfolk, and Pembroke. Most routes operate with one-hour headways (interval of time between bus arrivals), and generally operate Monday through Saturday from 6:00 AM to 6:00 PM; the Route 140 is the only GATRA service operated on Sundays and only while Wheaton College is in session. Saturday schedules typically start later and end earlier than weekday service.

GATRA has added new service in our region since the last update of this plan. The Wareham-New Bedford Connection began service in 2017. The route connects Wareham and New Bedford along the Route 6 corridor and serves as a lifeline service for Wareham residents to access social services in New Bedford. The route is currently grant funded and long term funding has yet to be identified.

Demand response service is offered in each of the twenty-eight communities GATRA serves. Demand response service is available for people who are 60 years or older and for people with disabilities. The service is provided either by a private operator or the local Councils on Aging. In communities with fixed route service, GATRA provides paratransit service as required by the Americans with Disabilities Act for eligible riders whose origin and destination are within $\frac{3}{4}$ of a mile of a fixed route bus route. GATRA has seen demand response ridership increase by 21% between 2013 and 2017.

GATRA is the Massachusetts Human Service Transportation broker for 43 communities in southeastern Massachusetts and includes communities served by the Brockton Area Transit Authority and the Southeastern Regional Transit Authority. The brokerage transportation services are for consumers of the Massachusetts Department of Medical Assistance, Department of Public Health, Department of Developmental Services, Massachusetts Commission for the Blind, and the Massachusetts Rehabilitation Commission. GATRA contracts with more than 49 vendors to provide trips.

GATRA's brokerage service is significant. Between 2014 and 2018 GATRA provided 7,806,845 trips. The service continues to grow, seeing a 21% increase between 2014 and 2018.

Following a fare equity analysis in February 2019 GATRA raised their fares, and fixed route one-way fares are now \$1.50. Students, senior citizens, people with disabilities, and Medicare card holders are eligible for a half priced fare. Due to the relatively low population density and development patterns of the GATRA service area, they are challenged with providing access to vital resources and employment for its communities at a rate that is affordable to the customers that rely upon the service.

GATRA Capital Needs - GATRA owns and operates a fleet of 44 buses and 100 vans with an average age of 8.5 years for buses and 6.2 years for vans. The typical life of a transit vehicle is ten years, which means that by the year 2040, GATRA will have the need to replace each vehicle at least twice. Transit vehicles are costly to replace. A full replacement cost and schedule is found in Appendix P – Financial Needs.

Attleboro - The City of Attleboro and the MBTA are working on developing concepts for a parking garage facility at the Attleboro Train Station as part of the Transit Orientated Development (TOD) in downtown Attleboro. The Attleboro Train Station is one of the busiest

passenger commuter rail stations in the entire MBTA system. GATRA's existing surface lots are at capacity and this project would be part of a major redevelopment of the downtown area in Attleboro. The entire redevelopment site is approximately 26 acres and the train station and GATRA's Intermodal Transit Center is a focal point within the TOD.

North Attleborough - The town included a transit hub or intermodal center in its 2013 Master Plan as part of its transportation goals. The town envisions a transfer center or hub adjacent to downtown that would improve service along the Route 1 corridor.

Plymouth - GATRA has identified design funds for a new maintenance garage in the Plymouth area. GATRA is reviewing various sites and has developed some concepts for a garage facility. This would be a significant undertaking for GATRA over the next 3 years to establish a permanent garage facility in the Plymouth area. Securing the funds for either renovation or construction of this facility is a priority for GATRA at this time.

Taunton - GATRA is working on the state of good repair on its bus terminal and maintenance facility in Taunton. Both facilities are 30 years old and GATRA has been upgrading major infrastructure at both sites and will continue to address some of these improvements over the next 3 years.

Wareham-Travel patterns in Wareham have changed due to the development of Wareham Crossing, the new Walmart Supercenter, and additional retail space along Route 28 in East Wareham. Demand has shifted from Cranberry Plaza, which serves as the hub for the Onset – Wareham Link service, to a more central location. As part of the 2015 GATRA Regional Transit Plan, the Onset-Wareham Link service is proposed to shift the present hub from Cranberry Plaza to Wareham Center MBTA Cape Flyer Station. The plans to shift the hub are in the preliminary stages of development.

The expansion of commuter rail service to Wareham was evaluated by The Central Transportation Planning Staff (CTPS) in the *Buzzards Bay Commuter Rail Extension Feasibility Study* which was completed in January 2007. For more information, see Appendix H – Commuter Rail.

SRTA Service

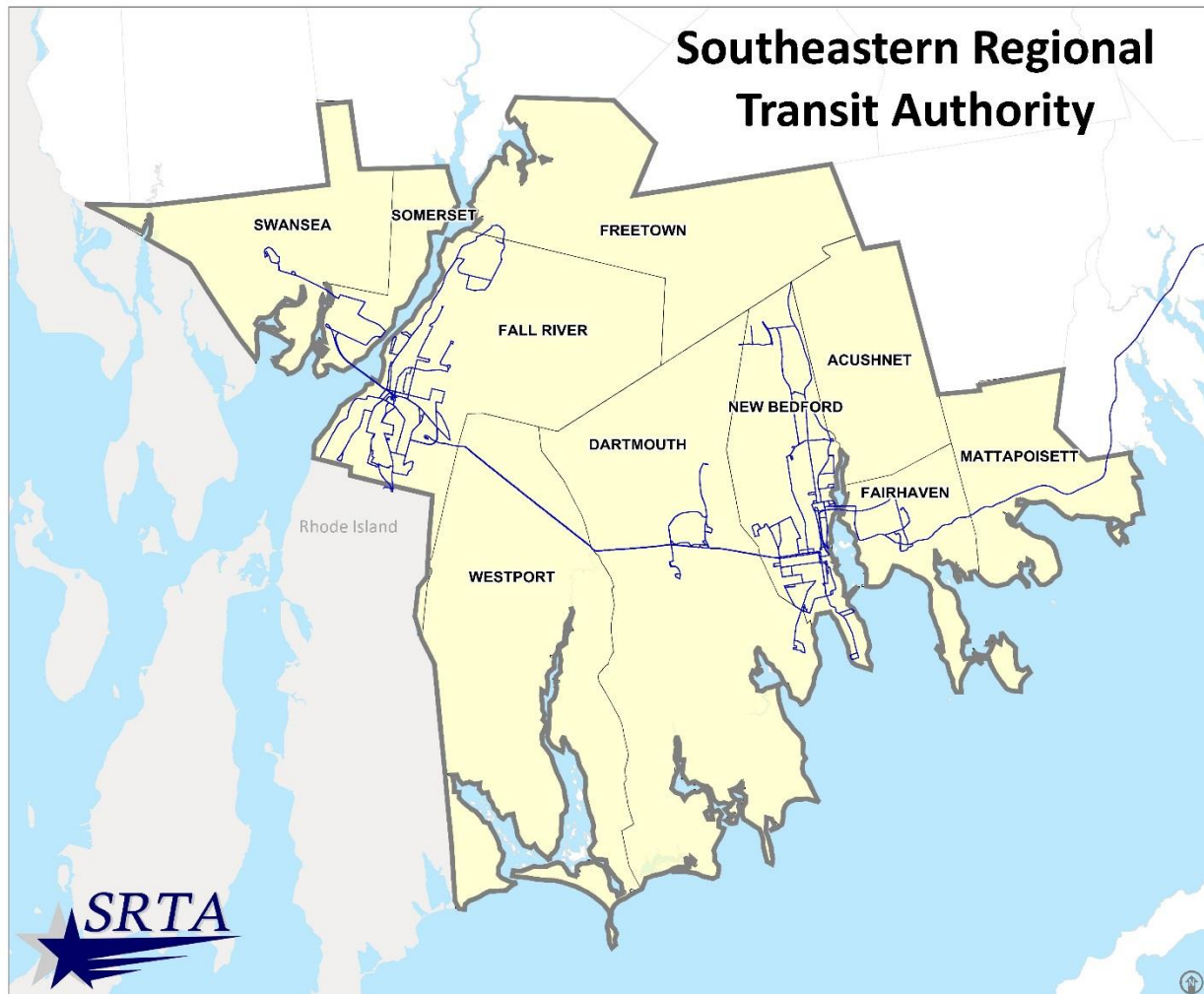


Figure G-2: SRTA Service Area

The SRTA service area is comprised of 10 communities in southeastern Massachusetts: the cities of New Bedford and Fall River, as well as Acushnet, Dartmouth, Fairhaven, Freetown, Mattapoisett, Somerset, Swansea, and Westport (see Figure G-2). Fixed route service is concentrated in Fall River and New Bedford, with individual routes extending into Fairhaven, Dartmouth, Somerset, and Swansea. An intercity route travels Route 6 between Fall River and New Bedford through Westport and Dartmouth. Acushnet, Freetown, and Mattapoisett are not served with fixed route bus service. SRTA headways (interval of time between bus arrivals) vary from 20 minutes to 60 minutes. In 2018, SRTA carried 2,632,136 fixed route passenger trips and saw a 2.74% increase from 2014 to 2018 in fixed route trips.

SRTA Demand Response services extend beyond the ¼ mile of fixed route requirement of the Americans with Disabilities Act and include service to anyone located anywhere within the ten communities of the service area, so long as the passenger meets the ADA guidelines for eligibility. SRTA demand response service represents approximately 2.7% of total SRTA passenger trips. Each member SRTA community provides transportation for those 60+ through the local Council on Aging.

In 2018 SRTA initiated an ITS project aimed at adding automatic vehicle location (AVL), onboard announcements, real time passenger information, and automatic passenger counters (APCs) to their fixed route buses. The project is in progress and will be completed by the end of 2019.

SRTA Capital Needs - SRTA owns and operates a fleet of 67 buses and 32 vans with an average age of 7.8 years for buses and 4.9 years for vans. The typical life of a transit vehicle is ten years, which means that by the year 2040, SRTA will have need to replace each vehicle at least twice. Transit vehicles are costly to replace. A full replacement cost and schedule is found in Appendix P – Financial Needs.

New Bedford - SRTA has continued improvements to the New Bedford Terminal by installing new ceiling tiles, a security camera system, replacing the elevator equipment, and HVAC equipment.

The South Coast Rail project to bring commuter rail service to New Bedford and Fall River proposes intermodal centers at a site known as Whale’s Tooth in New Bedford and Davol Street in Fall River. Both of these stations would incorporate SRTA bus service, as well as intercity bus and other transportation connections. SRTA initiated a feasibility study to identify the optimal location for the New Bedford Bus Terminal.

Fall River - SRTA is in the process of evaluating options for either renovating or relocating the Fall River Maintenance Facility. A feasibility study will evaluate the existing conditions of the maintenance facility, propose alternative for improvements to operational use of the existing site, and identify whether SRTA would be better suited to construct an entirely new facility at a different location. There have also been two new bus shelters installed on the boarding platform.

Capital Needs Shared by Both GATRA and SRTA

New Vehicles - Both GATRA and SRTA continue to replace older buses and vans with modern clean diesel buses and vans, and modern fuel efficient gasoline vans. They have also purchased two hybrid vehicles each. Transit vehicles are very costly to replace, but are critical equipment needed to continue providing safe and efficient public transportation services. See Appendix P – Financial for more details on vehicle replacement plans.

Bicycle Facilities - Both GATRA and SRTA have installed bicycle racks on the front of all fixed route vehicles. GATRA has bicycle facilities at the Attleboro and Taunton stations and SRTA provides bicycle facilities at both the New Bedford and Fall River Terminals. Bicycle racks are needed at other key stops and stations for both RTAs.

GPS/AVL and ITS - The use of global positioning systems (GPS) and automatic vehicle location (AVL) systems improve operations for the transit authorities and make transit more convenient for riders. AVL systems track buses in real time and can be published to the web or pushed to a mobile application. The information can then be accessed by riders, such as whether a bus has departed a particular stop, or how long the wait may be until the next bus arrives. For the RTAs, the AVL systems can assist operations managers to know the locations of buses in real time and the data generated by an AVL system can assist schedule making by providing real travel times between two points. GATRA has AVL on their buses in Attleboro and Taunton. As mentioned previously, SRTA is in the process of installing AVL and APCs on all of their fixed route vehicles.

Both GATRA and SRTA have their route systems and schedules published on Google Transit. Google Transit provides directions via transit and includes travel time and schedule data to assist passengers in making a transit trip. The directions are clear and easily understood and provide detailed instructions on when to leave to meet the bus, how far to travel, and if a transfer is required, onto which bus to transfer.

Passenger Amenities - The vast majority of both GATRA and SRTA bus stops provide little in the way of amenities to improve the customer experience. Most stops are little more than a single pole with a sign indicating the bus stop (GATRA operates on a flag stop system and therefore has fewer designated stops than SRTA).

Starting in 2016, SRPEDD began working on a Bus Stop Inventory file in order to assess the condition of over 1,345 bus stops in the SRPEDD region. The data collected is being used to create a capital improvement program to prioritize bus stops for improvements. Amenities such as bus shelters provide a safe place to wait for a bus and offer protection from the weather. Real-time information signs can provide waiting passengers with a time estimate until the next bus, and information signs with route maps and schedules can assist riders in choosing the correct bus to board. As previously mentioned, SRTA initiated an ITS project aimed at adding automatic vehicle location (AVL), onboard announcements, real time passenger information, and automatic passenger counters (APCs) to their fixed route buses. Overall, the SRPEDD region transit riders are underserved with passenger amenities and there is a need for bus shelters to be constructed at high volume stops.

The Transit Deficiency

Lack of transit connectivity is a barrier to mobility within the SRPEDD region. The GATRA and SRTA systems only intersect in Wareham by utilizing the Wareham-New Bedford Connection and the only other intra-regional connections are made through commuter and intercity bus lines. Intercity bus fares can be cost prohibitive to many transit riders, the schedules do not align which makes intercity travel time consuming, and in some cases, the connections simply do not exist.

The transit deficiency is exemplified by the complete lack of a direct connection between downtown Fall River and downtown Taunton. The only way to make the trip is to use the SRTA Intercity route to New Bedford, use the DATTCO intercity bus to the Silver City Galleria in Taunton, and then board the GATRA Route 8 to complete the trip to downtown Taunton. The minimum time to make this one-way trip is 2 hours and 45 minutes assuming all connections can be made. By comparison, the same trip between downtown Fall River and downtown Taunton would take 1 hour and 30 minutes by bicycle and 30 minutes by car.

Transit in the region is most intense in the four cities (Attleboro, Fall River, New Bedford, Taunton), with only limited service into the suburban communities of the region. As the job market has shifted from being centralized in the urban cores to decentralized suburban industrial parks, commercial strip malls, and shopping plazas, transit struggles to adequately meet the needs of the workforce. The dense nature of the urban core is where transit is more cost efficient, however the disperse development of the suburban areas make fixed route transit more costly to operate, and more time consuming to ride.

Streamlining transit along the Route 6 corridor that connects New Bedford and Fall River by adding express bus service to the Intercity Route would assist the business community and the workforce by reducing the trip time by half. This service would also offer students of Bristol Community College a faster route between campuses.

Transit deficiency is not only a disconnect between the region's cities and towns, but also in the availability of transit at different times of the day or days of the week. Neither GATRA nor SRTA operate service on Sunday, which creates a barrier to employment for many in the region's workforce. Moreover, the span of service for both RTAs limits workforce access for second and third shift workers. GATRA span of service is generally 6 AM to 6PM Monday through Saturday; SRTA span of service is 6 AM to 6 PM Monday through Friday on most routes with night service extended to 9 PM on select routes; SRTA Saturday span of service is from 6 AM to 6 PM. Even within the times that the service is available, the headways (interval of time between bus arrivals) can be as much as an hour for most GATRA routes, and ranges from 15 minutes to one hour for SRTA routes.

Needs Identified by the Southeastern Massachusetts Coordinated Human Services

Transportation Plan - The Southeastern Massachusetts Coordinated Human Services Transportation Plan identifies existing transportation needs, gaps, and barriers through ongoing public participation in the form of surveys, public meetings, and discussions throughout the region. In February 2014, GATRA, SRTA, SRPEDD, and BAT (Brockton Area Transit Authority) conducted a survey to obtain and record unmet transportation needs in Southeastern Massachusetts. The same survey was conducted again in 2018.

The agency survey identified the top ten towns in Southeastern Massachusetts with the highest unmet transportation needs (in order of priority) as: Fall River, New Bedford, Taunton, Wareham, Norton, Somerset, Marion, Fairhaven, Swansea, Mattapoisett, Dighton, Dartmouth, and Attleboro.

When asked if there are destinations in Southeastern Massachusetts that people could not reach because of the lack of transportation, 84% of the agencies and 50% of the individuals who responded to the question answered yes. Respondents identified the following destinations/needs that could not be reached because of a lack of transportation:

- Medical Appointments in general and specifically in Dartmouth
- Job Interviews specifically in Taunton from the south
- Boston Hospitals
- Travel between Taunton and Brockton (for access to courts, hospitals, and Massasoit Community College)
- Travel between Taunton and Fall River (for access to courts, hospitals, and Bristol Community College)
- VA hospital in Providence
- Department of Transitional Assistance (DTA) (locations in Brockton and New Bedford specifically)
- Registry of Motor Vehicles
- MassHealth office in Taunton
- Immigration office in Boston
- More Service to Myles Standish Industrial Park in Taunton and New Bedford Industrial Park
- Later service for 2nd and 3rd shift workers in the industrial parks
- Patriot Place in Foxborough for employment
- Plymouth/Wareham and Cape Cod Community College in Hyannis
- Additional transportation between Wareham and New Bedford

Survey Trends

- The overall need for transportation is increasing
- There is a need for expanded night and weekend (Sunday) hours
- Transit routes in different regions need to link up
- In some areas there is a lack of long distance medical transportation
- More direct routes between cities in Southeastern Massachusetts (i.e. Attleboro to Fall River; Taunton to Brockton; Taunton to Fall River; Fall River to Providence)
- Medical and Employment transportation needs stood out as the most urgent

Changing Characteristics and Issues

An Aging Population and an Increase in Population with Disabilities - As the population of persons over 65 with a disability increases, the demand for specialized transportation service to will increase. Specialized transportation services such as door-to-door and door-through-door place a higher demand on RTA demand response services. An increase in outpatient radiation and dialysis treatment also adds the need for extra assistance for people traveling home from appointments.

Dialysis, in particular, has critical transportation concerns because it is a matter of life and death and because it requires a reliable ride three times per week. The return trip after a 4-hour dialysis appointment can be problematic for public transportation services when the patient is not stable enough to return home or medical problems arise en-route. The increase in specialized transportation services coupled with stagnant funding to provide these services has strained RTA demand response services budgets.

The 2013 to 2017 American Community Survey reports that 34% of the SMMPO population 65 years or older has a disability. As seniors age in place and lose the ability to drive, they will increasingly rely on demand response services offered by the RTAs. These services become more costly to provide when the aging population lives in the more rural parts of the RTA service area.

The Americans with Disabilities Act mandates that providers of federally funded fixed route transit provide demand response services for people who are unable to access the fixed route bus wherever a fixed route bus operates. The law mandates that demand response services be provided within a minimum corridor of $\frac{3}{4}$ mile on either side of the fixed route bus route. Demand response services are more flexible than fixed route service and do not operate on a regular route or schedule; passengers schedule a trip in advance through the RTA. Demand response trips are costly for the RTAs; a GATRA average demand response trip cost in 2018 was \$22.66 which was more than double the \$9.84 average trip cost for fixed route; a SRTA average demand response trip cost in 2018 was \$38.43 which was more than seven times higher than the \$5.06 average trip cost for fixed route.

Development and Employment Characteristics of the Region - The SMMPO region has seen the job market shift from being centralized in the urban cores to decentralized suburban office parks. Providing fixed route transit services to suburban office parks is much more challenging and costly than serving the higher density development of the region's cities. Transit operates most efficiently in an urban setting where the routes are shorter, headways are shorter, and fewer buses are needed to meet the demands of urban residents. To meet the changing demands of suburban development and provide access to employment centers, the routes grow in length and so do the headways. Extending routes into low-density suburban developments to meet the changing needs of customers adds time and miles to existing routes, however the RTAs do not have a mechanism that provides additional compensation for the extended service. The lack of coordination between land use planning and transit needs is financially unsustainable.

The suburban development pattern has extended transit routes further from the urban core, the shift in the regional economy and workforce to more health care and retail employment is also making transit less effective. These jobs do not typically offer the traditional shifts that transit can serve well; more commonplace are rotating work shifts, evening and weekend hours, and non-traditional start and end times. The current span of service from 6 AM to 6 PM for fixed route transit with less frequent service means that many of the region's employees are unable to use transit as a viable commuting option.

Expanding hours and days of operations for the RTAs would require additional funding for operations or, alternatively, would result in reductions of service during the day or eliminating existing service. In the absence of additional funds, the options to reduce headways or eliminate service will be detrimental to transit riders that rely on the service currently in place. The reduction of headways makes the system much less attractive because of the longer times between buses, and the elimination of service will place a disproportionate burden on low income or elderly riders that may have no access to alternate modes of transportation.

Green Transportation - As part of the need to reduce emissions, investment in public transit is vital throughout the region and state. Implementing a "complete streets" approach to roadway corridor design encourages increased transit use because transit amenities are included in the design and can improve transit operations through more efficient traffic flow while improving the customer experience by providing amenities such as sidewalks leading to bus stops, bus shelters, and crosswalks. Improved roadway design and increased funding for transit services only address the supply side of transit economics. For the region to truly embrace a transformation into a transit rich region, land use patterns will have to change to support transit use. Projects that incorporate transit oriented development (TOD) principles will

increase density in the areas around transit hubs providing greater opportunities to expand upon existing transit services.

Inadequate Funding System for Transit - Current funding levels are inadequate for regional transit authorities to fully meet the needs of the riding public. The RTAs are funded through several mechanisms and include federal, state, local, and fare revenue. Federal and state sources provide both operating and capital, whereas local funding is limited to operating costs.

The current funding climate at the federal and state levels introduces uncertainty for future service programming. Fixing America's Surface Transportation (FAST) Act was enacted on December 5, 2015. The previous federal transportation bill MAP-21 was enacted in 2012 and expired in September of 2014; the bill was extended six times before the FAST Act was signed into law. Prior to that, SAFETEA-LU was enacted in September of 2005 and expired in September of 2009; the bill was extended ten times before MAP-21 was signed into law. State funding for the RTAs are even less certain than federal funds; the funds are appropriated annually through the budget process and are subject to change based on factors that are well out of the control of the RTAs.

The trend of continuing resolutions for federal transportation funding and annual budget appropriations for state funding introduces an uncomfortable level of uncertainty for future funding availability. Without the assurance that funding will be available, planning future service expansion is challenging. RTAs are hesitant to introduce new services without the assurance that funds will continue to be awarded at current levels. Implementing a new route, or expanding service on existing routes is costly, and RTA budgets are stretched as far as possible to provide as much service as possible.

Recommendations

G-1: For RTAs to continue to expand service, upgrade infrastructure, and purchase replacement and additional vehicles, a long term predictable funding source is necessary. Both the federal and state funding agencies can provide a greater level of certainty to RTAs by adopting multi-year funding programs rather than the year to year method of funding. While increased funding would be beneficial to the RTAs, the assurance that the funding available this year will at the very least be available at the same level for future years. This certainty would provide a greater level of confidence when planning new service, or expanding upon existing service.

G-2: The SMMPO region needs increased levels of service for fixed route transit. Transit routes need to operate later into the evening and on Sundays. Sunday service is an absolute necessity and should be implemented as funding allows. Operating later into the night will provide the region's workforce with a viable mode for commuting. GATRA service that ends at 6 PM can

make using transit for a traditional 9 AM to 5 PM work shift a challenge if the rider needs to transfer buses. SRTA operates evening service on five routes in New Bedford, five routes in Fall River, and the intercity route that connects the two cities.

G-3: Work to close service gaps between the cities of the SMMPO region and beyond. GATRA and SRTA operate within defined service markets and only intersect in Wareham utilizing the Wareham-New Bedford Connection. The only other method to travel between GATRA and SRTA service areas is on an intercity commuter bus which is costly and not always offered at convenient times. The lack of connections between Fall River and Taunton and Fall River and Providence have been well documented in numerous studies yet remains as an unmet need. Addressing these connections will provide more opportunities for intra-region travel.

G-4: Improve connections to the region's MBTA Commuter Rail Stations. GATRA connects with the MBTA in Attleboro, Mansfield, and Middleborough; however, bus schedules and train schedules are not aligned to provide meaningful feeder bus service. Addressing the scheduling issues will extend the reach of both the MBTA Commuter Rail system and the GATRA bus network. SRTA does not connect at all with commuter rail, leaving the residents of the southern portion of the SMMPO region with only intercity bus connections to Boston. While it may not make sense for SRTA to serve the Middleborough/Lakeville station, when South Coast Rail is introduced, schedules should be aligned to provide a feeder service to the commuter rail.

G-5: Improve customer information service through implementing information technology systems. Modern technology systems are quickly making the old paper schedules a thing of the past by providing real time information for bus arrivals via mobile applications. When passengers have real time information, they can make better decisions about when to leave to meet a bus, or how long the wait will be until the next bus arrival. SRTA is working on achieving this goal by the end of 2019.

G-6: Improve passenger data collection system with technology upgrades. Automatic Vehicle Location and Automatic Passenger Counters (APCs) provide a depth and breadth of information that is either very costly and time consuming to collect through manual data collection, or simply cannot be collected through manual data collection. The highly detailed data can be used to improve service through improved analysis of ridership trends. SRTA is installing APCs on their fixed route buses and is currently collecting stop level data.

G-7: Increase the use of electronic fare collection systems where available and implement electronic fare collection where it is not in use. In 2013, SRTA implemented the Charlie Card, an electronic fare collection system that can either store a value on the card, or serve as a multi-day transit pass. Due to funding limitations, GATRA has yet to implement an electronic fare

collection system but should pursue opportunities to implement this type of system in the future.

G-8: Encourage RTAs to improve passenger amenities at stops with high boardings and those identified in the Bus Stop Capital Improvement Plan. Even a simple improvement like a bus shelter at a stop with high boardings can improve the passenger experience by providing shelter from the weather while waiting for a bus to arrive. Connecting the sidewalk network to bus stops will improve safety for passengers as they walk to meet their bus, so to do locating bus stops near cross walks to ensure safe passage across busy streets. The Bus Stop Capital Improvement Plan can be found in the Regional Transit Studies task in the FFY2020 UPWP.

G-9: Develop best practices and design guidelines for implementing passenger amenities that include bus shelters, landscaping, signage, and accessibility improvements. Identify and prioritize sites where improvements should be implemented.

G-10: Improve pedestrian access to transit stops. All transit passengers are pedestrians prior to boarding and after exiting the transit system; accommodations must be in-place to improve the safety of passengers using the transit system.

G-11: Include the consideration of transit needs at the earliest stages of planning for development and redevelopment projects. All too often the needs of transit are considered as an afterthought for developments and the RTAs may not always be able to provide adequate service as a result. Including transit in the earliest stages of the development process will ensure that if transit is requested on-site that the site can accommodate the large and heavy transit vehicles. Design considerations need to include bus pull-offs, wider turning radii at corners, and higher density paving materials designed to handle the weight of transit vehicles. This will make providing transit to new developments a much more viable alternative.

G-12: Local land use decisions should consider transit in addition to other modes of transportation. Transit functions best in densely developed areas with connected pedestrian networks. When municipalities permit low density development, the cost of providing transit increases dramatically and the efficiency of the transit system suffers as a result. Promoting higher density development in the Priority Development Areas will ensure that transit can operate as efficiently as possible and provide a higher quality service than if the same amount of development were spread across a greater area.

G-13: Implement and upgrade security features including transit facility design, lighting, camera, communications equipment, security personnel, and on-board equipment.

Study Needs

1. Identify areas where Transit Oriented Development (TOD) is appropriate and develop a plan to implement TOD where appropriate. This study will be programed in a future UPWP.
2. Identify underserved populations and sub-regions and provide the RTAs with a transit development plan to improve service. This study will be programed in a future UPWP.
3. Study congested corridors for the implementation of transit signal prioritization. This study is programed in the regional transit studies task of the FFY2020 UPWP.
4. Evaluate demand response services to identify where fixed route transit may be able to meet the demand of passengers. This study is programed in the regional transit studies task of the FFY2020 UPWP.
5. Study locations for bicycle and pedestrian infrastructure improvements to connect with transit. This study will be programed in a future UPWP.
6. Identify and develop potential service plans for additional intercity connections within and extending beyond the SRPEDD region. This study is programed in the regional transit studies task of the FFY2020 UPWP.
7. As part of the Route 6 Corridor Study, SRPEDD plans to identify transit needs and address them. This is included in the Management Systems task in the FFY2020 UPWP.