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Comprehensive Regional Transit Plan Update 2020

Martha's Vineyard Transit Authority

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Tables

Acronyms

ACS	American Community Survey
ADA	Americans with Disabilities Act
APC	Automated Passenger Counter
CARES	Coronavirus Aid, Relief, and Economic Security
CCRTA	Cape Cod Regional Transit Authority
CFR	Code of Federal Regulations
COVID-19	Novel Coronavirus Disease of 2019
CRTP	Comprehensive Regional Transit Plan
CY	Calendar Year
DBE	Disadvantaged Business Enterprise
FTA	Federal Transit Administration
FTE	Full-Time Equivalent
FY	Fiscal Year
GHG	Greenhouse Gas
GWSA	Global Warming Solutions Act
HST	Human Service Transportation
LEHD	Longitudinal Employer-Households Dataset
MART	Montachusett Regional Transit Authority
MassDOT	Massachusetts Department of Transportation
MBTA	Massachusetts Bay Transportation Authority
MOU	Memorandum of Understanding
MVC	Martha's Vineyard Commission
NTD	National Transit Database
RTA	Regional Transit Authority
RTP	Regional Transit Plan
TAM	Transit Asset Management
TCI	Transportation and Climate Initiative
TERM	Transit Economic Requirements Model
TNC	Transportation Network Company
UPT	Unlinked Passenger Trip
VRH	Vehicle per Revenue Hour

VRM	Vehicle per Revenue Mile
VTA	Martha's Vineyard Transit Authority

Glossary

Access: The opportunity to reach a given destination within a certain timeframe or without significant physical, social, or economic barriers.

Accessible Vehicle: A public transportation vehicle that does not restrict access, is usable, and provides allocated space and/or priority seating for individuals who use mobility devices.

Americans with Disabilities Act (ADA): The Americans with Disabilities Act, passed in July 1991, gave direction to local transit agencies to ensure full access to transportation for persons with disabilities.

Boardings: The total number of passengers getting on a transit vehicle during a specified period of time. See also Ridership and Passenger Trip.

Capital Cost: The cost of equipment and facilities required to support transportation systems, including vehicles, radios, shelters, software, etc.

Central Transfer Point: A central meeting place where routes or zonal demand response buses intersect so that passengers may transfer. Routes are often timed to facilitate transferring and depart once passengers have had time to transfer. When all routes arrive and depart at the same time, the system is called a pulse system. The central transfer point simplifies transfers when there are many routes (particularly radial routes), several different modes, and/or paratransit zones. A downtown retail area is often an appropriate site for a central transfer point, as it is likely to be a popular destination, a place of traffic congestion and limited parking, and a place where riders are likely to feel safe waiting for the next bus. Strategic placement of the transfer point can attract riders to the system and may provide an opportunity for joint marketing promotions with local merchants.

Circulator: A bus that makes frequent trips around a small geographic area with numerous stops around the route. It is typically operated in a downtown area or area attracting tourists, where parking is limited, roads are congested, and trip generators are spread around the area. It may be operated all-day or only at times of peak demand, such as rush hour or lunchtime.

Commuter Bus Service: Transportation designed for daily, round-trip service, which accommodates a typical 8-hour, daytime work shift (e.g., an outbound trip arriving at an employment center by 8 AM, with the return trip departing after 5 PM).

Coordination: Coordination means pooling the transportation resources and activities of several agencies. The owners of transportation assets talk to each other to find ways to mutually benefit their agencies and their customers. Coordination models can range in scope from sharing information, to sharing equipment and facilities, to integrated scheduling and dispatching of services, to the provision of services by only one transportation provider (with other former providers now purchasing services). Coordination may involve human service agencies working with each other or with public transit operations.

Cost per Boarding: The total operating expenditures of a route or service divided by the number of total boardings.

Cost per Revenue Mile or Hour: The total operating expenditures of a route or service divided by the number of revenue miles or revenue hours.

Demand Response Service: Service to individuals that is activated based on passenger requests. Usually passengers call the scheduler or dispatcher and request rides for dates and times. A trip is scheduled for that passenger, which may be canceled by the passenger. Usually involves curb-to-curb or door-to-door service. Trips may be scheduled on an advanced reservation basis or in "real-time." Usually smaller vehicles are used to provide demand

response service. This type of service usually provides the highest level of service to the passenger but is the most expensive for the transit system to operate in terms of cost per trip. In rural areas with relatively high populations of elderly persons and persons with disabilities, demand response service is sometimes the most appropriate type of service. Sub-options within this service type are discussed in order of least structured to most structured, in terms of routing and scheduling.

- **Pure Demand Response Service**: Drivers pick up and drop off passengers at any point in the service area, based on instructions from the dispatcher. In pure demand response systems, the dispatcher combines immediate requests, reservations, and subscription service for the most efficient use of each driver's time.
- **Zonal Demand Response Service**: The service area is divided into zones. Buses pick up and drop off passengers only within the assigned zone. When the drop off is in another zone, the dispatcher chooses a meeting point at the zone boundary for passenger transfer or a central transfer is used. This system ensures that a vehicle will always be within each zone when rides are requested.
- **Flexibly Routed and Scheduled Services**: Flexibly routed and scheduled services have some characteristics of both fixed route and demand response services. In areas where demand for travel follows certain patterns routinely, but the demand for these patterns is not high enough to warrant a fixed route, service options such as checkpoint service, point deviation, route deviation, service routes, or subscription service might be the answer. These are all examples of flexible routing and schedules, and each may help the transit system make its demand response services more efficient while still maintaining much of the flexibility of demand responsiveness.
- **Microtransit**: A form of demand response service, open to the general public, that requires some type of "reservation," typically made via an app-based system. Typically, microtransit uses software algorithms to completely automate the scheduling of the trip, the fare collection (if any), and the route the driver will utilize (communicating with the driver via some type of mobile data terminals).

Deviated Fixed Route Service: Transit buses travel along a predetermined alignment or path with scheduled time points at each terminal point and in some instances at key intermediate locations. Route deviation service is different than conventional fixed route bus service in that the vehicle may leave the route upon requests of passengers to be picked up or returned to destinations near the route. Following an off-route deviation, the vehicle typically returns to the point at which it left the route. Passengers may call in advance for route deviation or may access the system at predetermined route stops. The limited geographic area within which the vehicle may travel off the route is known as the route deviation corridor.

Dial-A-Ride Service: A name that is commonly used for demand response service. It is helpful in marketing the service to the community, as the meaning of "dial-a-ride" may be more self-explanatory than "demand response" to someone unfamiliar with transportation terms.

Environmental Justice: Executive Order 12898, issued in 1994, requires agencies receiving federal funds to determine whether their programs, policies, and activities will have disproportionately high and adverse human health or environmental effects on minority or low-income populations.

Express Bus Service: Express bus service characteristics include direct service from a limited number of origins to a limited number of destinations with no intermediate stops. Typically, express bus service is fixed route/fixed schedule and is used for longer distance commuter trips. The term may also refer to a bus that makes a limited number of stops, while a local bus makes many stops along the same route but as a result takes much longer.

Farebox Recovery Ratio: The percentage of operating costs covered by revenue from fares and contract revenue (total fare revenue and total contract revenue divided by the total operating cost).

Fares: Revenue from cash, tickets, and pass receipts given by passengers as payment for public transit rides.

Federal Transit Administration (FTA): An operating administration within the United States Department of Transportation that administers federal programs and provides financial assistance to public transit.

Feeder Service: Local transportation service that provides passengers with connections to a longer-distance transportation service. Like connector service, feeder service is service in which a transfer to or from another transit system, such as an intercity bus route, is the focal point or primary destination.

Fixed Route: Transportation service operated over a set route or network of routes on a regular time schedule.

Headway: The length of time between vehicles moving in the same direction on a route. Headways are called short if the time between vehicles is short and long if the time between them is long. When headways are short, the service is said to be operating at a high frequency; if headways are long, service is operating at a low frequency.

Intercity Bus Service: Regularly scheduled bus service for the public that operates with limited stops over fixed routes connecting two or more urban areas not near, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available. Intercity bus service may include local and regional feeder services, if those services are designed expressly to connect to the broader intercity bus network.

Interlined Routes: When fixed routes are routed through a transfer center or some other terminal location and become another route, with passengers typically allowed to ride through from one route to another without an additional fare and/or transfer fee. The "interline" is typically identified on public materials.

Operating Expenditures: The recurring costs of providing transit service (wages, salaries, fuel, oil, taxes, maintenance, insurance, marketing, etc.).

Operating Revenue: The total revenue earned by a transit agency through its transit operations. It includes passenger fares, advertising, and other revenues.

Paratransit Service: "Paratransit" means the transportation of passengers by motor vehicle or other means of conveyance by persons operating on a regular and continuing basis and the transportation or delivery of packages in conjunction with an operation having the transportation of passengers as its primary and predominant purpose and activity but excluding regular route transit. "Paratransit" includes transportation by carpool and commuter van, point deviation and route deviation services, shared-ride taxi service, dial-a-ride service, and other similar services.

Boardings per Mile or Hour: Productivity measure that takes the total boardings and divides by the miles and/or hours operated. The hours and/or miles may be presented as either total vehicle miles or hours or as revenue miles or hours.

Passenger Trip (Unlinked): Typically, one passenger trip is recorded any time a passenger boards a transportation vehicle or other conveyance used to provide transportation. "Unlinked" means that one trip is recorded each time a passenger boards a vehicle, no matter how many vehicles that passenger uses to travel from their origin to their destination.

Performance Indicator: An indicator is a metric that provides meaningful information about the condition or performance of the transportation system but is neither managed nor used to evaluate the effectiveness of policies, strategies, or investments.

Performance Measure: A performance measure is a metric that measures progress toward a goal, outcome, or objective. This definition covers metrics used to make decisions or evaluate the effectiveness or adequacy of a policy, strategy, or investment.

Performance Target: A target is a specific performance level representing the achievement of a goal, outcome, or objective.

Point Deviation Service: A type of flexible route transit service in which fixed scheduled stops (points) are established but the vehicle may follow any route needed to pick up individuals along the way if the vehicle can make it to the fixed points on schedule. This type of service usually provides access to a broader geographic area than does fixed route service but is not as flexible in scheduling options as demand response service. It is appropriate when riders change from day to day, but the same few destinations are consistently in demand. Also sometimes called checkpoint service.

Public Transportation: Transportation service that is available to any person upon payment of the fare either directly, subsidized by public policy, or through some contractual arrangement, and that cannot be reserved for the private or exclusive use of one individual or group. "Public" in this sense refers to the access to the service, not to the ownership of the system that provides the service.

Revenue Hours: The number of transit vehicle hours when passengers are being transported. Calculated by taking the total time when a vehicle is available to the public with the expectation of carrying passengers. Excludes deadhead hours, when buses are positioning but not carrying passengers, but includes recovery/layover time.

Revenue Miles: The number of transit vehicle miles when passengers are being transported. Calculated by taking the total mileage operated when a vehicle is available to the public with the expectation of carrying passengers. Excludes deadhead mileage, when buses are moving but not carrying passengers.

Ridership: The total of all unlinked passenger trips, including transfers. One trip that includes a transfer would be counted as two unlinked passenger trips.

Ridesharing: A form of transportation, other than public transit, in which more than one person shares the use of a vehicle, such as a van or car, to make a trip. Variations include carpooling or vanpooling.

Section 5304 (State Transportation and Planning Program): The section of the Federal Transit Act of 1991, as amended, that provides financial assistance to the states for purposes of planning, technical studies and assistance, demonstrations, management training, and cooperative research activities.

Section 5307 (Urbanized Area Formula Program): The section of the Federal Transit Act of 1991, as amended, that authorizes grants to public transit systems in urban areas with populations of more than 50,000 for both capital and operating projects. Based on population and density figures, these funds are distributed directly to the transit agency from the FTA.

Section 5310 (Enhanced Mobility for Seniors and Persons with Disability): The section of the Federal Transit Act of 1991, as amended, that provides grant funds for the purchase of accessible vehicles and related support equipment for private non-profit organizations to serve elderly and/or people with disabilities, public bodies that coordinate services for elderly and

people with disabilities, or any public body that certifies to the state that non-profits in the area are not readily available to carry out the services.

Section 5311 (Non-urbanized Area Formula Program): The section of the Federal Transit Act of 1991, as amended, that authorizes grants to public transit systems in non-urbanized areas (fewer than 50,000 population). The funds initially go to the governor of each state.

Section 5339 (Bus and Bus Facilities): The section of the Federal Transit Act of 1991, as amended, that makes federal resources available to states and designated recipients to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities. Funding is provided through formula allocations and competitive grants. A sub-program provides competitive grants for bus and bus facility projects that support low and zero-emission vehicles.

Service Area: The geographic area that coincides with a transit system's legal operating limits (city limits, county boundary, etc.).

Service Gaps: When certain geographic segments cannot be covered by transportation services. This term can also refer to instances where service delivery is not available to a certain group of riders, or at a specific time.

Service Span: The duration of time that service is made available or operated during the service day (e.g., 6 AM to 10 PM on weekdays).

Spare Ratio: The percentage/number of vehicles that an operator purchases in excess of the number of vehicles required to provide the maximum level of service. The spares are required so that some vehicles may cycle through a preventive maintenance regimen while the full level of planned service can still be provided.

Standard: A recommendation that leads or directs a course of action to achieve a certain goal. A standard is the expected outcome for the measure that will allow a service to be evaluated. There are two sets of transit standards.

- **Service design and operating standards**: Guidelines for the design of new and improved services and the operation of the transit system.
- **Service performance standards**: The evaluation of the performance of the existing transit system and of alternative service improvements using performance measures.

State Contract Assistance: The program through which the RTAs receive state operating funding for transit at the discretion of the Massachusetts Legislature via the state budget process annually. The total amount of state contract assistance funding provided in the state budget is allocated to the RTAs via a formula developed with RTA input.

Through Routes: When fixed routes are routed through a transfer center or some other terminal location and become another route, but – unlike interlining – passengers are not typically allowed to ride through from one route to another, as a "through-route" is typically only visible/presented on the operating schedule for bus operators and is not identified on public materials.

Title VI: Title VI of the Civil Rights Act of 1964 requires that "No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

Transportation Network Companies: Private sector companies that provide software routing, scheduling, and payment services to independent contractor drivers for a fee; these drivers then

utilize their own vehicles to provide a (typically) curb-to-curb transportation service, sometimes to sole riders and sometimes to pooled groups.

Total Operating Cost: The total of all operating costs incurred during the transit system calendar year, excluding expenses associated with capital grants.

Transfer: Passengers arrive on one bus and leave on another (totally separate) bus to continue their trip. The boarding of the second vehicle is counted as an unlinked passenger trip.

Transit Dependent: A description for a population or person who does not have immediate access to a private vehicle, or because of age or health reasons cannot drive and must rely on others for transportation.

Transit Subsidy: The operating costs not covered by revenue from fares or contracts.

Trip Denial: Occurs when a trip is requested by a passenger, but the transportation provider cannot provide the service. Trip denial may happen because capacity is not available at the requested time. For ADA paratransit, a capacity denial is specifically defined as occurring if a trip cannot be accommodated within the negotiated pick-up window. Even if a trip is provided, if it is scheduled outside the +60/-60-minute window, it is considered a denial. If the passenger refused to accept a trip offered within the +60/-60-minute pick-up window, it is considered a refusal, not a capacity denial.

Volunteers: Persons who offer services to others but do not accept monetary or material compensation for the services that they provide. In some volunteer programs, the volunteers are reimbursed for their out-of-pocket expenses; for example, volunteers who drive their own cars may receive reimbursement based on miles driven for the expenses that they are assumed to have incurred, such as gasoline, repair, and insurance expenses.

1. Executive Summary

1.1 Introduction

This 5-Year Comprehensive Regional Transit Plan (CRTP) update builds on the work of Martha's Vineyard Transit Authority's (VTA) 2015 Regional Transit Plan (RTP). This plan was recommended by the Task Force on Regional Transit Authority Performance and Funding, in its final report issued April 2019.[1]

The Task Force Report included 24 recommendations in 5 categories: Investment and Performance, Accountability, Service Decisions, Quality of Service, and Environmental Sustainability. The CRTP update (Recommendation #7) was included in the service decisions grouping. Specifically, Recommendation #7 advised that "RTAs will continue to succeed by understanding their markets and by aiming to have their service networks meet the current and future mobility needs of their region as well as support connectivity to other regions where possible. This effort will be guided by the completion or updating of Comprehensive Regional Transit Plans (CRTPs) every 5 years…"[2]

Following publication of the Task Force Report, a commitment to complete the CRTP update was included in VTA's 2-year Memorandum of Understanding (MOU) with the Massachusetts Department of Transportation (MassDOT), executed in August 2019.

The primary goals of this CRTP are to (1) provide an agency and service overview including fare structure; (2) identify essential markets, gaps in service, and ridership growth opportunities given demographic, socioeconomic and employment data and the impacts of the novel coronavirus (COVID-19) pandemic; (3) evaluate the results of performance indicators and assess performance monitoring systems; and (4) provide recommendations for a strategic 5-year vision that will prioritize the development and implementation of a decision-making driven by data analysis and focused on performance.

The VTA CRTP started in December 2019 but took a profound and unexpected turn mid-way through the project. Following the kick-off meeting in January 2020, the process proceeded with data collection, goal development, and planning for community and rider engagement. However, by the middle of March 2020, when the engagement activities were scheduled to commence, the world experienced a historic pause due to the COVID-19 pandemic.

In response to the pandemic, on March 10, 2020, Massachusetts Governor Charlie Baker declared a state of emergency and subsequently issued a stay-at-home order, closing all non-essential businesses. These safety measures, issued in the face of an unprecedented threat to public health, had serious, sweeping impacts, including on the development of this plan and transit operations writ large. VTA, along with the other RTAs, suspended fare payment and encouraged non-essential riders to temporarily discontinue travel.

"There is much concern…about…public transportation during the COVID-19 Pandemic. Be assured the VTA's main priority is the safety of their employees, passengers and community." – VTA website

While VTA continues its return to normal service

[1] Task Force on Regional Transit Authority Performance and Funding, *A Vision for the Future of Massachusetts' Regional Transit Authorities*, April 2019, https://malegislature.gov/Reports/7917/SD2385_RTAtaskforceReport.pdf.
[2] Task Force on Regional Transit Authority Performance and Funding, *A Vision for the Future of Massachusetts' Regional Transit Authorities*, April 2019, page 4. https://malegislature.gov/Reports/7917/SD2385_RTAtaskforceReport.pdf.

in accordance with public health guidelines, ridership is still depressed due to pandemic impacts such as business closures, remote work, layoffs, no foreign seasonal workforce, fewer visitors to the island, and an overall reluctance to use public transportation due to health and safety concerns. Due to the seasonal and resort nature of VTA's service area, the suppressed level of ridership for VTA as a result of the pandemic and its restrictions is especially significant. In response to the continued ridership volatility, this CRTP acknowledges the unpredictability over the coming months and years and equips VTA with data-driven and performance-focused recommendations so that the Authority will be able to continue to quickly and successfully adapt to a changing transit market.

1.2 Overview of VTA Services

VTA serves Martha's Vineyard, Massachusetts, an island connected by regularly scheduled ferry service with the mainland of the United States. VTA is 1 of the 15 Regional Transit Authorities (RTAs) that, along with the Massachusetts Bay Transportation Authority (MBTA), operates public transportation in the Commonwealth. Because of the seasonal nature of the economy on Martha's Vineyard, with the summer season seeing an increase in visitors as well as the concurrent increase in service employment to cater to their needs, VTA has seasonal variations in the service it provides. VTA currently operates 14 fixed routes, including 8 year-round routes and 6 seasonal services. *The Lift* is VTA's complementary Americans with Disabilities Act (ADA) paratransit service and is available to individuals who are unable to use fixed route services due to disability. *The Lift* is available within a 3/4-mile area of fixed routes and expands seasonally to mirror added seasonal fixed route coverage. Medivan provides trips connecting to Boston hospitals.

"We believe that public transportation is essential to the economic vitality, environmental stability and quality of life on the Island of Martha's Vineyard…" – VTA website

1.3 Planning Process

The impacts and limitations imposed by the COVID-19 pandemic required flexibility in the approach for developing this 5-year plan. While some elements of the original process developed pre-pandemic remained viable, many had to be adapted to respond to the new realities of COVID-19. From public outreach to fare policy analysis to the structure of the recommendations, this planning process incorporates considerations relating to uncertainty around how the future might unfold.

1.3.1 Review of Transit Services and Market Conditions

A review of service from the last 5 years and market demand analysis were conducted to identify gaps and needs in VTA's service area. The analysis overall indicated that VTA's service is efficient, performing as well as or better than its national peers (particularly in terms of farebox recovery), and that service is provided to areas where demographic data indicate demand is highest. However, the pandemic greatly disrupted VTA's existing ridership patterns, particularly in terms of the summer seasonal ridership, making it difficult to infer future transit demand from past performance. This planning process brought to light the importance of harnessing new technology to conduct ongoing analysis of real-time data rather than focusing primarily on historical trends.

1.3.2 Scenario Planning

The project team used scenario planning exercises to imagine what the next 5 years might hold in terms of ridership and market demand. After the state of emergency was issued, VTA

leadership participated in a brainstorming session centered around establishing key uncertainties in the face of the COVID-19 pandemic. Subsequent to that workshop, a high-ridership scenario (a return to 86 percent or more of pre-pandemic ridership), medium-ridership scenario (60 to 85 percent of pre-pandemic ridership), and low-ridership scenario (less than 60 percent of pre-pandemic ridership) were developed to inform the development of needs and recommendations. These scenarios formed the framework of the recommendations in this plan.

1.3.3 Public Outreach

Due to social distancing guidelines and other safety protocols resulting from the COVID-19 pandemic, no in-person outreach could be conducted. The bulk of the outreach for this CRTP was undertaken through an online community outreach survey conducted in the Summer of 2020.

Note that the findings are not a statistically valid sample of VTA riders or the region's residents, as there were only 61 respondents – rather, they allowed the study team to identify key issues and themes. They should be used as a guide in the context of other public outreach and data analysis. The following key takeaways comport with other planning efforts:

- Survey respondents indicated a relatively lengthy tenure of ridership on VTA services (meaning that many use the service regularly and not solely as a "stopgap" or transitional measure until they own a car).
- Many survey respondents also indicated a desire for improved frequencies of service and more service on Sundays.

1.4 Core Needs and Recommendations

VTA identified five core needs to include in this plan. Table 1 lists the associated core recommendations that VTA will pursue in the next 5 years, regardless of ridership levels. The full list can be found in Chapters 7 and 8.

Table 1. Core Needs and Recommendations

Need	Recommendation(s)
Fleet replacement	Follow fleet replacement guidelines identified in Transit Asset Management (TAM) Plan, reflecting similar number and mix of small and large vehicles.
Streamlined experience for visitors using ferry and transit	Add electronic ticketing options that allow coordination of VTA fixed route and Steamship Authority tickets.
Improved coordination between transit and land use	Designate a staff liaison for planning initiatives.
Fare policy	Ensure fare compliance with federal policy and establish process for fare structure updates.
Straightforward performance tracking and reporting	Install automated passenger counter (APC) systems on fixed route fleet.
	Develop a system to track or allocate service metrics (riders, hours, and miles) by route.
	Review and update performance metrics.

Need	Recommendation(s)
	Identify support for capital purchases of technology-driven data tools that support VTA management to continue making service decisions based on the latest data and that will help VTA implement additional public-facing and transparent performance reporting, as appropriate.

2. Background and 2020 Context

The 15 RTAs[3] provide vital mobility options and lifeline services to the millions of people across the Commonwealth outside of the Greater Boston region. The 2020 CRTP process for the RTAs, funded by MassDOT, came out of Commonwealth-wide initiatives in 2018 and 2019, which prompted this plan update, most of which were last developed in 2015. The CRTPs are both a result of and a contributor to the ongoing discussions on regional transportation. Recent and ongoing initiatives include the following:

- Governor's Commission on the Future of Transportation[4]
- A Vision for the Future of Massachusetts' Regional Transit Authorities[5] (RTA Task Force)
- Transportation & Climate Initiative[6]
- MBTA Fare Transformation[7]

The RTA Task Force Final Report Recommendation No. 7 was the primary initiative driving the development of this CRTP.[8] The CRTP is carried out as a commitment in the 2-year Memoranda of Understanding (MOU) with MassDOT signed in August 2019. In addition to the CRTP update process, the MOU also contained commitments on performance metrics and targets, maintaining an up-to-date asset inventory, submitting a fare policy by December 2020, submitting a balanced budget annually, and reporting timelines. The VTA MOU is discussed in more detail in Chapter 6.

The VTA CRTP update process began in December 2019 but took a profound and unexpected turn mid-way through the project. Following the kick-off meeting in January 2020, the process proceeded with data collection, goal development, and planning for community and rider engagement. However, by the middle of March 2020, when the engagement activities were scheduled to commence, the world experienced a historic pause due to the COVID-19 pandemic.

In response to the pandemic on March 10, 2020, Governor Baker declared a state of emergency and subsequently issued a stay-at-home order on March 23. The stay-at-home order, originally intended to last 2 weeks, ended up lasting until May 18, 2020. As of the finalization of this plan in early 2021, the pandemic continues to disrupt services and negatively impact transit ridership across the country. Given the unprecedented nature of this disruption and unknown long-term economic, social, and public health implications, the next few years will likely see continued widespread societal change. Therefore, transit agencies will need to continue to build a data-driven and performance-focused decision-making framework to respond to these uncertain demographic and industry trends.

This chapter provides background and current context around the CRTP update process for all RTAs. VTA-specific contextual information is included in Sections 2.2 and 2.3.

[3] Commonwealth of Massachusetts, "General Laws Chapter 161B: Transportation Facilities, Highway Systems, and Urban Development Plans," https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter161B.
[4] Commission on the Future of Transportation, *Choices for Stewardship: Recommendations to Meet the Transportation Future*, 2018, https://www.mass.gov/orgs/commission-on-the-future-of-transportation.
[5] Task Force on Regional Transit Authority Performance and Funding, *A Vision for the Future of Massachusetts' Regional Transit Authorities*, April 2019, https://malegislature.gov/Reports/7917/SD2385_RTAtaskforceReport.pdf.
[6] Transportation and Climate Initiative, accessed 2020, https://www.transportationandclimate.org/.
[7] Massachusetts Bay Transportation Authority, accessed 2020, https://www.mbta.com/projects/fare-transformation.
[8] Task Force on Regional Transit Authority Performance and Funding, *A Vision for the Future of Massachusetts' Regional Transit Authorities*, April 2019, https://malegislature.gov/Reports/7917/SD2385_RTAtaskforceReport.pdf.

2.1 Background

Commonwealth-wide initiatives organized generally around the themes of climate change, new technology, and providing affordable and convenient transportation options for all people, set the stage for the CRTP update process. The RTAs play an important role in getting people across the diverse regions of the Commonwealth to work, to school, and to essential services. Because of this role, the RTAs are pivotal in improving the public's mobility options as explored through the Commonwealth-wide initiatives described in this section.

2.1.1 Governor's Commission on the Future of Transportation

Established by Executive Order in January 2018, the Governor's Commission on the Future of Transportation (the Commission) was convened to explore the following topics across the Commonwealth and their impact on transportation between 2020 and 2040:

- Climate and Resiliency
- Transportation Electrification
- Autonomous and Connected Vehicles
- Transit and Mobility Services
- Land Use and Demographics

The Commission completed its work and released findings in December 2018 in a report entitled *Choices for Stewardship: Recommendations to Meet the Transportation Future*.[9] Findings from the report included:

- The Commonwealth is expected to grow by 600,000 residents by 2040 and job growth is also expected to continue.
- Commonwealth residents are on average older than in many other US states, and older adults are expected to comprise a larger portion of the population in the future.
- Transit ridership has followed national trends and been declining in recent years.
- Use of transportation network companies (TNCs) has increased dramatically in recent years.
- Connected and autonomous vehicles are expected to radically change transportation and mobility in the future.
- The impacts of climate change are happening sooner and more intensely than originally projected with significant implications by 2040.
- Transportation accounts for 40 percent of all greenhouse gas (GHG) emissions in the Commonwealth.
- Electric vehicles could be part of the solution to reducing transportation emissions but would require significant infrastructure to implement.

Several of these findings are particularly poignant for the VTA service area, with a large share of older adults, declining ridership, and increasing use of TNCs in recent years. Particularly, the effects of climate change are felt even more intensely on the island, and as such, VTA has been a leader among RTAs in its efforts to reduce its carbon footprint and utilize electric vehicle technology.

[9] Commission on the Future of Transportation, *Choices for Stewardship: Recommendations to Meet the Transportation Future*, 2018, https://www.mass.gov/orgs/commission-on-the-future-of-transportation.

The Commission used a scenario planning approach to itemize recommendations to prepare the Commonwealth's transportation system for the future. While many trends were evaluated for use in the scenario planning exercise, technology adoption as well as jobs and housing distribution were chosen as the two major trends that will most likely shape people's mobility options and needs. Based on the scenario planning trend analysis, the Commission then identified key challenges facing the Commonwealth's transportation system and developed recommendations across five categories to prioritize improvements over the next 20 years:

- Modernize existing state and municipal transit and transportation assets to more effectively and sustainably move more people throughout a growing Commonwealth.
- Create a 21st century "mobility infrastructure" that will prepare the Commonwealth and its municipalities to capitalize on emerging changes in transportation technology and behavior.
- Substantially reduce GHG emissions from the transportation sector in order to meet the Commonwealth's Global Warming Solutions Act (GWSA) commitments, while also accelerating efforts to make transportation infrastructure resilient to a changing climate.
- Coordinate and modernize land use, economic development, housing, and transportation policies and investment in order to support resilient and dynamic regions and communities throughout the Commonwealth.
- Make changes to current transportation governance and financial structures in order to better position Massachusetts for the transportation system that it needs in the coming years and decades.

Within these 5 categories are a total of 18 recommendations on how to best prepare the Commonwealth's transportation network for challenges and opportunities through 2040. The recommendations will guide Commonwealth-wide systems, specific solutions, and transportation investments, and will have a profound impact on the RTAs over the next 20 years.

2.1.2 A Vision for the Future of Massachusetts' Regional Transit Authorities

Resulting from the Governor's Commission on the Future of Transportation initiative and directed by Outside Section 72 of the FY 2019 Massachusetts State Budget,[10] a Task Force on Regional Transit Authority Performance and Funding was established in the fall of 2018. Representatives from VTA served on this Task Force. The Task Force produced a report entitled *A Vision for the Future of Massachusetts' Regional Transit Authorities: Report of the Task Force on Regional Transit Authority Performance and Funding* in April 2019.[11]

The report built on the first recommendation from the Commission, "Prioritize investment in public transit as the foundation of a robust, reliable, clean, and efficient transportation system." It set forth a path to stabilize, modernize, and improve the RTAs through five categories of action: Investment and Performance, Accountability, Service Decisions, Quality of Service, and Environmental Sustainability.

From those five categories, several goals related to the CRTP emerged:

- Sign a mutually negotiated MOU with MassDOT on a plan for performance monitoring and development of performance targets.
- Complete the CRTP and update approximately every 5 years.

[10] Commonwealth of Massachusetts, "Budget Summary FY2019," https://budget.digital.mass.gov/bb/gaa/fy2019/os_19/houtexp.htm.
[11] Task Force on Regional Transit Authority Performance and Funding, *A Vision for the Future of Massachusetts' Regional Transit Authorities*, April 2019, https://malegislature.gov/Reports/7917/SD2385_RTAtaskforceReport.pdf.

- Identify a demonstrated community need for evening and 7-day service.
- Identify appropriate transit services and potential partnerships based on level of demand.
- Develop pilot programs for innovative delivery models.
- Collaborate with municipalities to provide safe walking and bicycle access to transit and comfortable, safe bus stops.
- Conduct a fare equity analysis every 3 years.
- Participate in the Massachusetts Environmental Policy Act process.
- Maximize multimodal connectivity.
- Maintain an easily accessible website and robust social media presence.
- Collaborate with MassDOT and MBTA to integrate information services.
- Employ intentional outreach strategies.
- Purchase all zero-emission public buses by 2035.

Many of these goals are addressed and/or discussed as part of this CRTP.

2.1.3 Transportation & Climate Initiative

Massachusetts is a participating state in the Transportation & Climate Initiative of the Northeast and Mid-Atlantic States:

> *The Transportation and Climate Initiative (TCI) is a regional collaboration of 12 Northeast and Mid-Atlantic states and the District of Columbia that seeks to improve transportation, develop the clean energy economy and reduce carbon emissions from the transportation sector. The participating states are: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia, as well as the District of Columbia.*
>
> *The initiative builds on the region's strong leadership and commitment to energy efficiency and clean energy issues, and its programs to reduce carbon emissions in the power sector, which have resulted in the region becoming one of the most energy efficient areas in the nation. At the same time, the effort underscores the sense of urgency shared by all 12 jurisdictions, and their collective aspirations to become the leading region for sustainability and clean energy deployment in the country.*

While the COVID-19 pandemic temporarily reduced congestion and associated pollution in the short-term, it has likely altered commuting patterns and housing choice in the long-term, which has environmental and sustainability implications. As such, the need to reduce carbon emissions from the transportation sector is just as important as it was before the COVID-19 pandemic. Additionally, the COVID-19 pandemic highlighted racial disparities in exposure to air pollution and disproportionate impacts of threats to public health. To that end, the TCI jurisdictions are collaborating to develop a low-carbon transportation program that advances equity.

The TCI jurisdictions are collaborating to develop a regional agreement to cap pollution from transportation fuels and invest in solutions that result in reduced emissions, cleaner transportation, healthier communities, and more resilient infrastructure. Massachusetts TCI participation will likely impact the RTAs in several ways, including vehicles, infrastructure, technology, and funding.

In December 2020, Massachusetts joined with Connecticut, Rhode Island, and the District of Columbia to be the first jurisdictions to launch a multi-state program to reduce pollution and invest $300 million per year in cleaner transportation choices and healthier communities.[12]

2.1.4 Fare Transformation

Several RTAs are located adjacent to MBTA and/or connect to MBTA commuter rail service. As such, some RTAs use MBTA's CharlieCard/CharlieTicket fare media, while other RTAs are considering it. Therefore, fare interoperability and the impact the MBTA Fare Transformation project will have on RTA fare media and fare collection will substantially impact the RTAs. Although VTA's services on Martha's Vineyard do not directly connect with MBTA services, many of the riders who use VTA's services are from metropolitan Boston and may utilize MBTA's fare media and may already be familiar with those fare media once they reach Martha's Vineyard. Currently, VTA is working with the Steamship Authority to offer electronic ticketing on the same platform offered by the Steamship Authority.

2.2 2020 Context

The year 2020 unfolded in a radically different manner than was anticipated. Because of the COVID-19 pandemic and the as-yet-unknown ways that the pandemic and its aftermath will permanently alter how, when, and where people travel, this CRTP update process had to be flexible and RTAs will need to be nimble, data-driven, and performance-focused in responding to an uncertain future. To that end, it will be critical for VTA to continue building a data-driven and performance-focused management and decision-making framework to continue to respond to the rapid changes that are impacting the transit industry, now and in the future. This approach will position VTA for continued success.

2.2.1 COVID-19 Pandemic

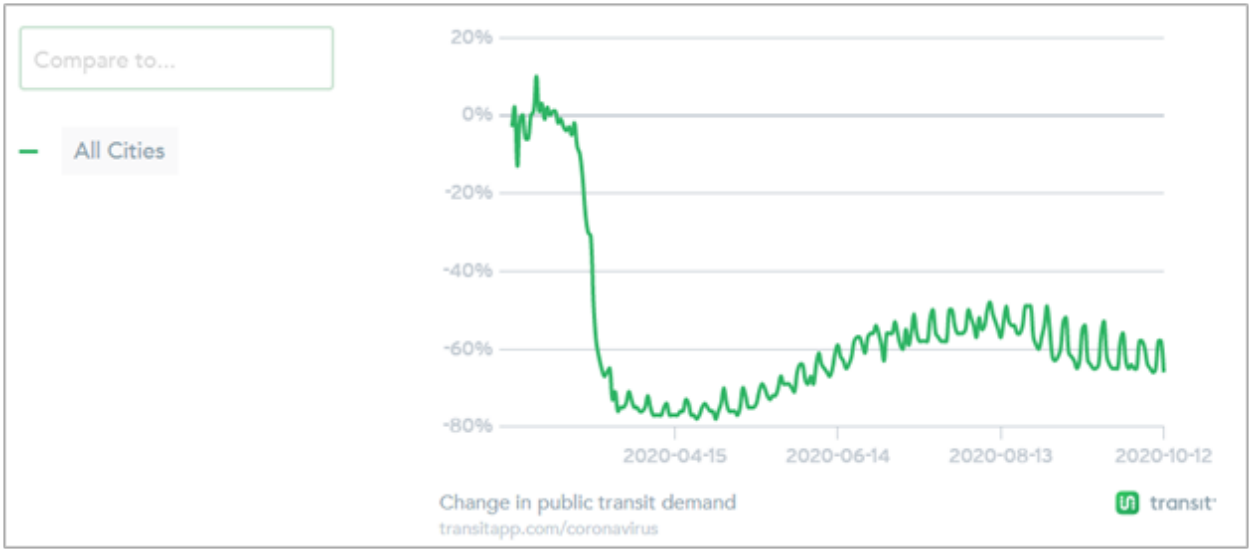
Impacts to the transit industry throughout the nation from the COVID-19 pandemic included the following:

- Reduction of service due to diminished driver availability, social distancing requirements that can impose capacity constraints on transit vehicles, and reduced demand
- Loss of ridership due to business closures/disruptions, remote working and learning, increased popularity of online shopping, telemedicine due to safety concerns, and stay-at-home orders and advisories, which have depressed demand for discretionary, student, and work trips
- Temporary suspension of fare collection or fare collection enforcement along with rear-door boarding
- Implementation of employee protection measures, such as plexiglass shields and distribution of personal protective equipment
- New rigorous public space cleaning protocols and the removal of seats and tables from transit facilities to discourage congregation

As a result of these impacts, ridership on systems around the country initially declined by up to 80 percent and has been slow to rebound (Figure 1).

[12] Transportation and Climate Initiative, "Massachusetts, Connecticut, Rhode Island, D.C. are First to Launch Groundbreaking Program to Cut Transportation Pollution, Invest in Communities," December 2020, https://www.transportationandclimate.org/final-mou-122020.

Figure 1. Change in National Transit Ridership (April 15, 2020–October 12, 2020)



Source: Transit App

Locally, at the beginning of the pandemic, VTA took the following actions to protect the workforce and riders while continuing to provide essential transit services:

- Face coverings required on transit vehicles
- Temporary suspension of fare collection policies
- Temporary practice of rear-door boarding to better separate drivers and riders
- Additional vehicle and facility sanitation procedures, including high MERV (minimum efficiency reporting value) filter for air conditioning systems on buses

In the early stages of the pandemic, VTA experienced a slow start to the peak season, due to member communities not wanting normal transit service and crowds in remote areas. Mirroring national results, VTA experienced approximately 80 percent year over year ridership loss, with ridership reaching its lowest point in April 2020. By September 2020, ridership began to rebound, though still below 2019 levels. VTA resumed front-door boarding and fare collection on July 1, 2020, but all other sanitation and protective measures remain in effect.

2.2.2 Federal Coronavirus Aid, Relief, and Economic Security Act

VTA has been able to continue to mitigate the financial impacts of the pandemic through funding from the federal Coronavirus Aid, Relief, and Economic Security (CARES) Act. The CARES Act apportioned operating and capital funds for public transportation to mitigate lost revenue due to extreme ridership decline, the suspension of fare collection, the implementation of cleaning and protection protocols, and other related costs. The funding has been provided through the Federal Transit Administration (FTA) Section 5337 (capital – state of good repair), Section 5307 (urbanized area), and Section 5311 (rural areas) funding programs. For Massachusetts RTAs, a total of $213.4 million was apportioned through the CARES Act, including $2,924,620 for VTA.

2.3 Plan Considerations

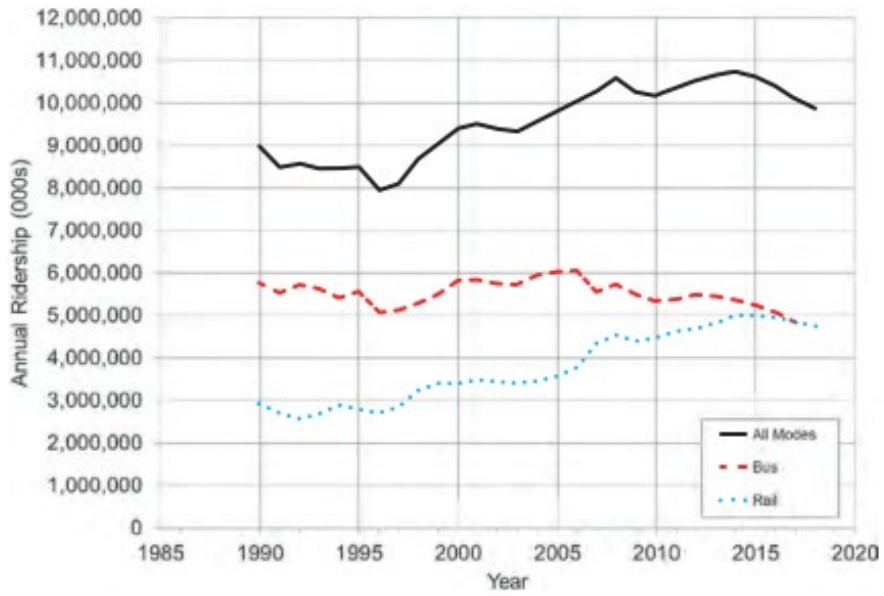
Given all the previous work that led to the development of the CRTPs and the unprecedented, transformational conditions during which the CRTPs were developed, the CRTP update process necessarily evolved through 2020. Considerations for all RTAs include the following:

- The 5-year period prior to the 2020 pandemic year, fiscal year (FY) 2015 to FY 2019, was considered for recent historical trend analysis to understand how the systems were operating prior to the pandemic and to provide a baseline for understanding the market for transit service in each community.
- Rider, community, public, and stakeholder outreach was primarily conducted online or by phone. As with all transit planning processes, outreach is one component of many that go into the identification of needs, solutions, and recommendations.

2.3.1 Transit Demand and Economic Uncertainties

Notwithstanding pandemic-related disruptions, for many years transit ridership has been stagnant or declining nationally (Figure 2). This trend has impacted VTA over the last several years as well. The American Public Transportation Association attributes the decline to four broad categories: erosion of time competitiveness, reduced affinity, erosion of cost competitiveness, and external factors.[13] The erosion of time competitiveness is related to increasing traffic congestion and competing uses of street and curb space. Reduction in affinity refers to more competition for customer loyalty and the erosion of cost competitiveness, which has to do with increasing costs without corresponding increase in demand for the service. And, finally, external factors are both the most challenging to define and to mitigate and include such things as policy changes that could improve transit usage but are too far-reaching for a transit agency alone to tackle.

Figure 2. Change in Annual Ridership by Year for Bus, Rail, and All Modes (1985–2020)



Source: Transit Center, Who's On Board 2019

[13] American Public Transportation Association, "Understanding Recent Ridership Changes," https://www.apta.com/research-technical-resources/research-reports/understanding-recent-ridership-changes/.

It is uncertain whether those national trends, combined with the pandemic's negative impact on transit ridership, will become a longer-term pattern that affects VTA's recovery. Of particular concern to VTA are the increase in remote work, declines in seasonal workforce, reduced tourism, and impacts to hospitality spending. In addition, long-term economic impacts and sustained levels of unemployment may or may not change the landscape of where people with limited transportation options reside.

For all transit systems including VTA public concern about the health impacts of shared ride services will also remain a challenge. While public transit has instituted mask-wearing requirements, cleaning protocols, social distancing, on-board air sanitizing, and other mitigation measures, systems will also have to continue to work to reassure riders about the public health safety of their services.

3. Agency Overview

3.1 Transit Agency Background

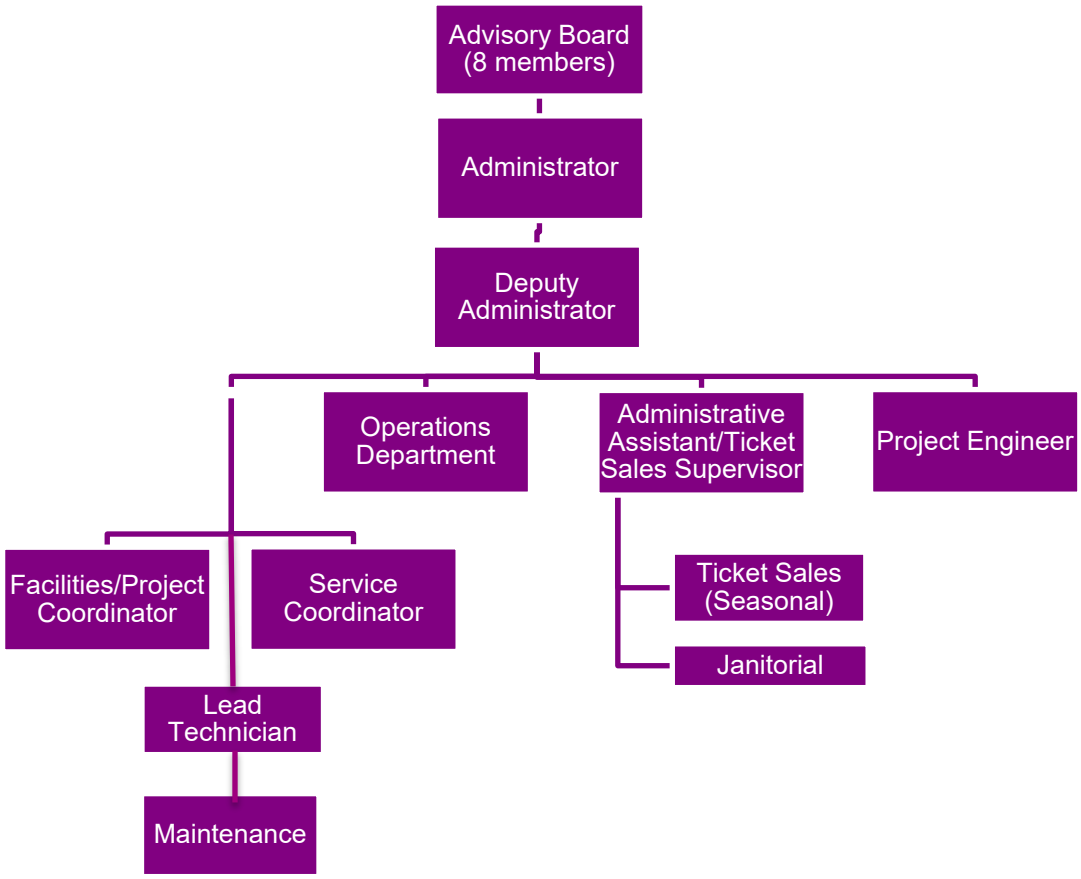
VTA was established in 1980 to provide year-round and seasonal public transportation services on the island of Martha's Vineyard in the Commonwealth of Massachusetts. Six member communities include the towns of Aquinnah, Chilmark, Edgartown, Oak Bluffs, Tisbury, and West Tisbury. VTA is governed by an advisory board, established in accord with Massachusetts General Law Chapter 161B Section 5. The board is comprised of eight representatives, including a designee from each of the six member communities and appointed representatives from the rider community and disabled community. The VTA advisory board meets four to six times per year and appoints an Administrator to oversee day-to-day operations, as shown on

Figure 3. In 2002, VTA developed a Consumer Advisory Group made up of fixed route and paratransit riders. Regular meetings are open to the public and are advertised in the local newspapers. VTA hopes the group will identify unmet needs and develop new ideas to improve the system, including bus routing, stops, signage, and outreach.

VTA contracts with Transit Connection, Inc. for vehicle operators, dispatch/operations, and other seasonal staff. In 2019, VTA operated eight year-round and six seasonal fixed route services as well as ADA Paratransit Service (*The Lift*) and Medivan trips to Boston area hospitals. VTA's peak season of operation typically runs from May to October. Human Service Transportation (HST) generates revenue equal to costs and is excluded from VTA’s reportable services.

VTA receives funding from several sources to finance the operation of transit service, including FTA, MassDOT, local assessments from member communities, farebox revenue, and other revenue sources such as interest and rental income. In 2019, VTA received an approximate funding of $5.40 million for its operation, including $2.56 million in federal and state funding. Capital expenditures were $2.55 million in FY 2019 (see Section 4.3).

Figure 3. Organizational Chart



3.2 Mission

VTA's public website includes its organizational mission:

> "We believe that public transportation is essential to the economic vitality, environmental stability and quality of life on the island of Martha's Vineyard. We provide a safe and comfortable environment for our customers, community and employees through consistent training, enforcement and allocation of resources. We continuously strive to improve the cost efficiency of our services and approach our financial relationships with integrity and transparency."[14]

3.3 Goals and Objectives

The 2015 RTP defines the following goals and objectives:

- Determine service levels needed to attract "choice" riders
- Identify off-season unmet needs
- Improve bus stop infrastructure
- Outreach to business community

[14] https://www.vineyardtransit.com/

- Improve environmental sustainability
- Minimize auto use
- Expand ability to meet mobility needs
- Obtain new funding sources via regional impacts

Since that time, large gains have been made toward improving the environmental sustainability of the organization, with the purchase of six new electric battery vehicles in 2018. Impacts to ridership and service levels resulting from the COVID-19 pandemic provide an opportunity to reevaluate and reaffirm agency goals and objectives.

4. Transit Service Overview (FY 2015–FY 2019)

The VTA service area covers the Martha's Vineyard portion of Duke's County, Massachusetts, including the towns of Aquinnah, Chilmark, Edgartown, Oak Bluffs, Tisbury, and West Tisbury, as shown on Figure 4. VTA operates, through contracts with Transit Connections, Inc., fixed route, paratransit, and Medivan shuttle services. VTA also operates the regional HST.

4.1 Description of Existing Services

VTA traditionally evaluates and modifies its services seasonally. In recent years, seasonal service has been impacted somewhat by the drivers' strike in 2019 and the pandemic in 2020. Over the course of this CRTP update process, several of the study's initial findings and recommendations have been implemented as part of VTA's most recent service changes for the fall 2020/winter 2021 season, as shown in Figure 4. Most notably, the winter service concept utilizes new microtransit service in three zones (shown in green) to provide essential coverage in areas where seasonal fixed routes have not been productive enough to warrant year-round service. Figure 4 depicts weekday and Saturday services. On Sundays, only Routes 1, 10, and 13 between Tisbury and Edgartown are in service, and a larger microtransit zone covers the remainder of the island. Services and schedules by day of the week are described in more detail in Tables 2 through 4.

In addition to its fixed route and microtransit service, VTA also provides complementary ADA paratransit service (*The Lift)* to individuals who are unable to use fixed route services due to disability. *The Lift* is available within a 3/4-mile area of fixed routes and expands seasonally to mirror added seasonal fixed route coverage. Medivan provides trips connecting to Boston hospitals.

Figure 4. 2020–2021 Weekday Transit Services

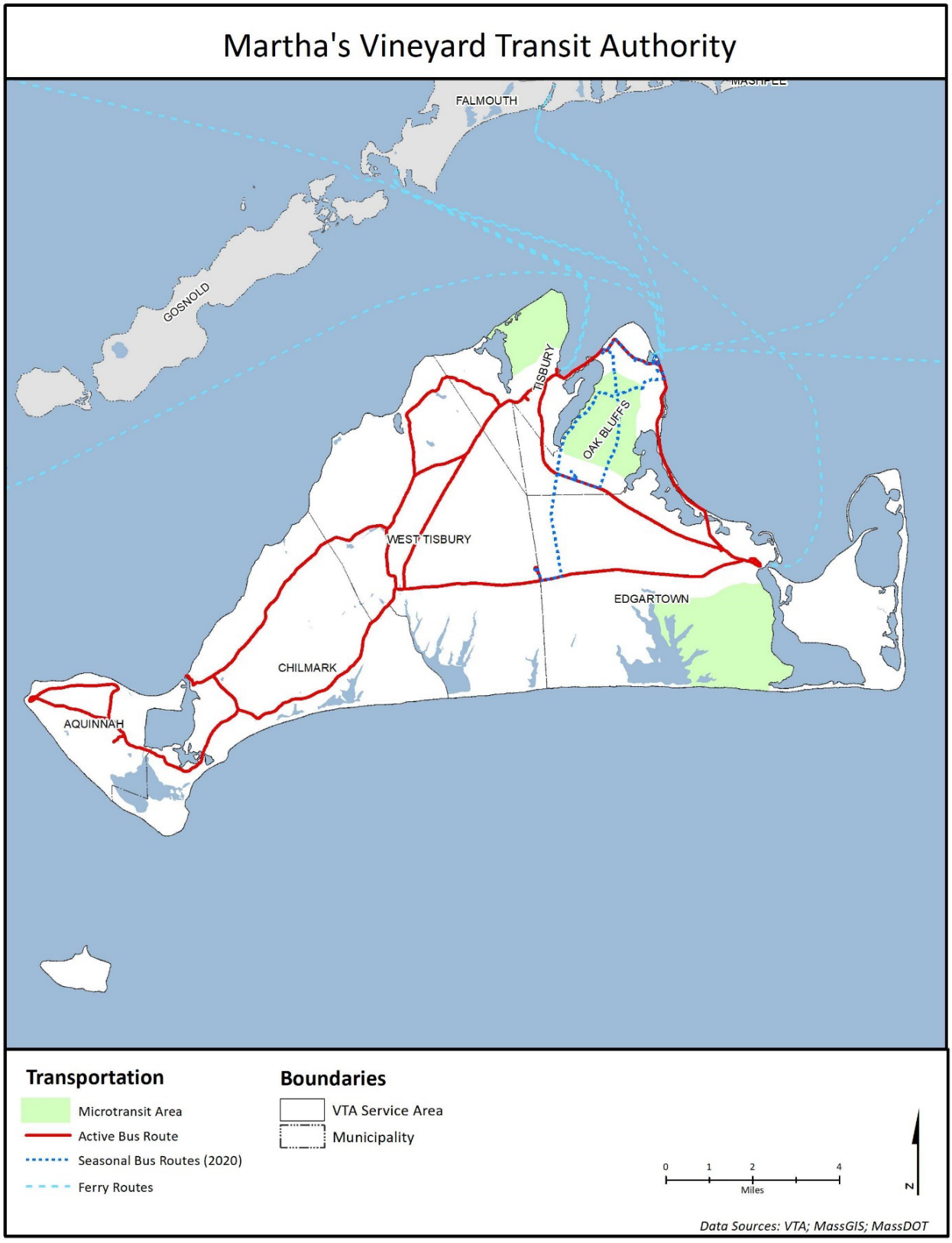


Table 2. Service Overview

Route	Service Type	Description
1 Edgartown - Vineyard Haven	Fixed Route	Via Edgartown-Vineyard Haven Road
2 West Tisbury to Vineyard Haven	Fixed Route*	Via Old County and Lambert's Cove Road. Overlays Route 3 in West Tisbury for more frequent seasonal service on State Road and Old County Road
3 Vineyard Haven – West Tisbury	Fixed Route	Trips alternate between State Road and Old County Road
4 Menemsha & Chilmark to West Tisbury	Fixed Route*	Chilmark to West Tisbury via State Road and North Road
5 West Tisbury - Chilmark - Aquinnah	Fixed Route	Via South Road/State Road to Aquinnah, with single-direction (loop) service on Lighthouse Road and Lobsterville Road
6 Edgartown - Airport - West Tisbury	Fixed Route	Via Edgartown-West Tisbury Road
7 Oak Bluffs – Airport	Seasonal Fixed Route**	Via County Road to Airport, returning on Barnes Road (pairs with Route 9)
8 South Beach	Discontinued Seasonal Fixed Route***	Discontinued in 2020. Circulated through Edgartown via Katama Road and Herring Creek Road
9 Oak Bluffs – Airport	Seasonal Fixed Route**	Via Barnes Road to Airport, returning on County Road (pairs with Route 7)
10 Tisbury Park and Ride	Fixed Route	Connects the Tisbury park and ride (High Point Lane and Eleanor Street) to the Steamship Authority Ferry Terminal and Routes 1, 3, and 13
10A West Chop Loop	Discontinued Seasonal Fixed Route***	Discontinued in 2020. Circulated from the Steamship Authority Ferry Terminal through Tisbury via Main Street and Franklin Street
11 Downtown Edgartown	Discontinued Seasonal Fixed Route***	Discontinued in 2020. Short run service between the Edgartown Ferry Terminal and Upper Main Street in Edgartown; overlays Routes 1 and 13 for more frequent seasonal service along Main Street in Edgartown
12 Chilmark In-town Route	Discontinued Seasonal Fixed Route***	Discontinued in 2020. Circulated through Chilmark via North Road, Menemsha Road, Middle Road, and Tabor House Road
13 Edgartown - Oak Bluffs - Vineyard Haven	Fixed Route	Via State Road and Beach Road

Route	Service Type	Description
Microtransit Pilot	General Public Demand Response	On-demand service, offered in areas not served by fixed routes (area varies by day of week)
The Lift	ADA Paratransit	Serves area within 3/4-mile of fixed route for eligible riders
Medivan	Van Pool	From Vineyard Haven park and ride to Boston area hospitals via Steamship Authority Ferry to Woods Hole

Source: VTA

** Routes 2 and 4 operated as seasonal fixed routes for purposes of 2019 data analysis but are now operating year-round as of VTA's winter 2020 service changes.*

*** Routes 7 and 9 operated year-round for purposes of 2019 data analysis but are now seasonal routes as of VTA's winter 2020 service changes.*

**** Routes 8, 10A, 11, and 12 were seasonal routes during the summer of 2019 but have been discontinued for the 2020 summer, fall, and winter schedules.*

Table 3 summarizes the span of service for VTA services. Interlined routes, which serve alternating patterns using a single vehicle, are shown combined in the table. During the 2020 peak season, VTA operated daily from approximately 5:15 AM to 11:15 PM. Prior to 2020, spans for VTA's busiest services extended to 2:45 AM. As of the 2020 winter service changes, VTA fixed route services begin as early as 6:00 AM and operate until 10:30 PM. Microtransit is available between 7:00 AM and 6:00 PM daily. On Sundays, only fixed routes 1, 10, and 13 are operational, and the area eligible for microtransit is expanded to include the areas generally served by Routes 2/3, 4/5, and 6. *The Lift* paratransit operates all days and times in which the fixed route service is operating (by location). Medivan service operates every Tuesday. Span of service for pick-up and drop-off in Martha's Vineyard varies, but appointments in Boston must occur between 10:00 AM and 1:00 PM.

Table 3. Span of Service Hours (Weekday)

Route/Service	2020 Summer Season	2020–2021 Winter Season
1	6:10 AM – 10:31 PM	6:10 AM – 10:31 PM
2	No Service	2 & 3 Interlined: 7:02 AM – 6:23 PM
3	6:37 AM – 6:23 PM	2 & 3 Interlined: 7:02 AM – 6:23 PM
4	No Service	4&5 Interlined: 7:34 AM – 6:11 PM
5	7:34 AM – 6:11 PM	4&5 Interlined: 7:34 AM – 6:11 PM
6	6:43 AM – 6:58 PM	6:22 AM – 6:58 PM
7	7:20 AM – 4:12 PM	Replaced by Microtransit
8	No Service	Replaced by Microtransit
9	6:20 AM – 5:12 PM	Replaced by Microtransit

Route/Service	2020 Summer Season	2020–2021 Winter Season
10	5:15 AM – 10:38 PM	5:30 AM – 10:38 PM
10A	No Service	Replaced by Microtransit
13	6:25 AM – 10:26 PM*	6:25 AM – 10:51 PM
Microtransit	No Service	7:00 AM – 6:00 PM
Medivan	Tuesday only, Boston appointments between 10:00 AM and 1:00 PM	Tuesday only, Boston appointments between 10:00 AM and 1:00 PM
The Lift	Varies by location, consistent with fixed route services	Varies by location, consistent with fixed route services

Source: VTA

**Route 13 operated three additional evening trips on Fridays and Saturdays during the summer, extending the span to 10:51 PM on select nights.*

Fixed route headways, by season, are shown in Table 4. With the exception of Routes 2 and 10A, which operate every 90 minutes, most routes maintain headways of 60 minutes or less during the peak and shoulder seasons. During the off-season, several routes operate at 2-hour headways. Route 10, which makes short runs between the Tisbury park and ride lot and the Steamship Authority Ferry, cycles every 15 minutes year-round.

Table 4. Fixed Route Frequency of Service

Route/Service	2020 Summer Season	2020-2021 Winter Season
1	30 minutes every day	30 minutes Monday–Friday 60 minutes Saturday–Sunday
2	No Service	2 & 3 Interlined: 60 minutes* Monday–Saturday Sunday replaced by microtransit
3	60 minutes every day	2 & 3 Interlined: 60 minutes* Monday–Saturday Sunday replaced by microtransit
4	No Service	4 & 5 Interlined: 120 minutes* Monday–Saturday Sunday replaced by microtransit
5	120 minutes every day	4 & 5 Interlined: 120 minutes* Monday–Saturday Sunday replaced by microtransit
6	120 minutes every day	120 minutes Monday–Saturday Sunday replaced by microtransit
7	120 minutes every day	Replaced by microtransit
8	No Service	Replaced by microtransit
9	120 minutes every day	Replaced by microtransit
10	15 minutes every day	15 minutes every day

Route/Service	2020 Summer Season	2020-2021 Winter Season
10A	No Service	Replaced by microtransit
13	30–60 minutes***	60 minutes Monday–Friday 30 minutes Saturday–Sunday
Microtransit	No Service	On demand
Medivan	On demand	On demand
The Lift	On demand	On demand

Source: VTA

** For Route 2/3 interline, 1 morning and 1 evening trip operate the Route 3 pattern to Lambert's Cove and the remaining 10 trips operate the Route 2 pattern.*

*** For Route 4/5 interline, 2 trips/day operate the Route 4 pattern to Menemsha Beach and 4 trips/day operate the Route 5 pattern to Gay Head Lighthouse.*

**** During the summer season, excluding morning pull-outs, Route 13 operated every 30 minutes until 8:00 PM on weeknights and until close on Fridays and Saturdays. Morning pull-outs and weeknight evening service were offered every 60 minutes.*

Operating revenue sources for FY 2017 to FY 2019 are shown in Table 5. Approximately 35 percent of system operating revenue is directly generated by VTA from sources including fares, interest, and rent income. HST brokerage revenues and costs are net zero and are not included in the amounts below. Approximately 16 percent to 18 percent of revenue has historically come from federal Section 5307 formula funding grants. An additional 30 percent comes from state sources and 17 percent from the local general fund. VTA does not provide contract services.

Table 5. Operating Funding Sources (FY 2017–FY 2019)

Funding Source	FY 2017	%	FY 2018	%	FY 2019	%
Federal	$860,624	16.4%	$895,569	17.0%	$969,925	18.0%
State	$1,585,533	30.1%	$1,554,595	29.5%	$1,585,533	29.4%
Local	$891,674	16.9%	$913,966	17.3%	$936,815	17.4%
Farebox*	$1,814,539	34.5%	$1,701,216	32.2%	$1,698,449	31.5%
Other*	$109,079	2.1%	$210,882	4.0%	$206,453	3.8%
TOTAL	**$5,261,449**	**100.0%**	**$5,276,228**	**100.0%**	**$5,397,175**	**100.0%**

Source: NTD 2017-2018, VTA FY 2020 Budget

**Changes to NTD reporting module between 2017 and 2018 resulted in combining the farebox revenue with other directly generated revenue.*

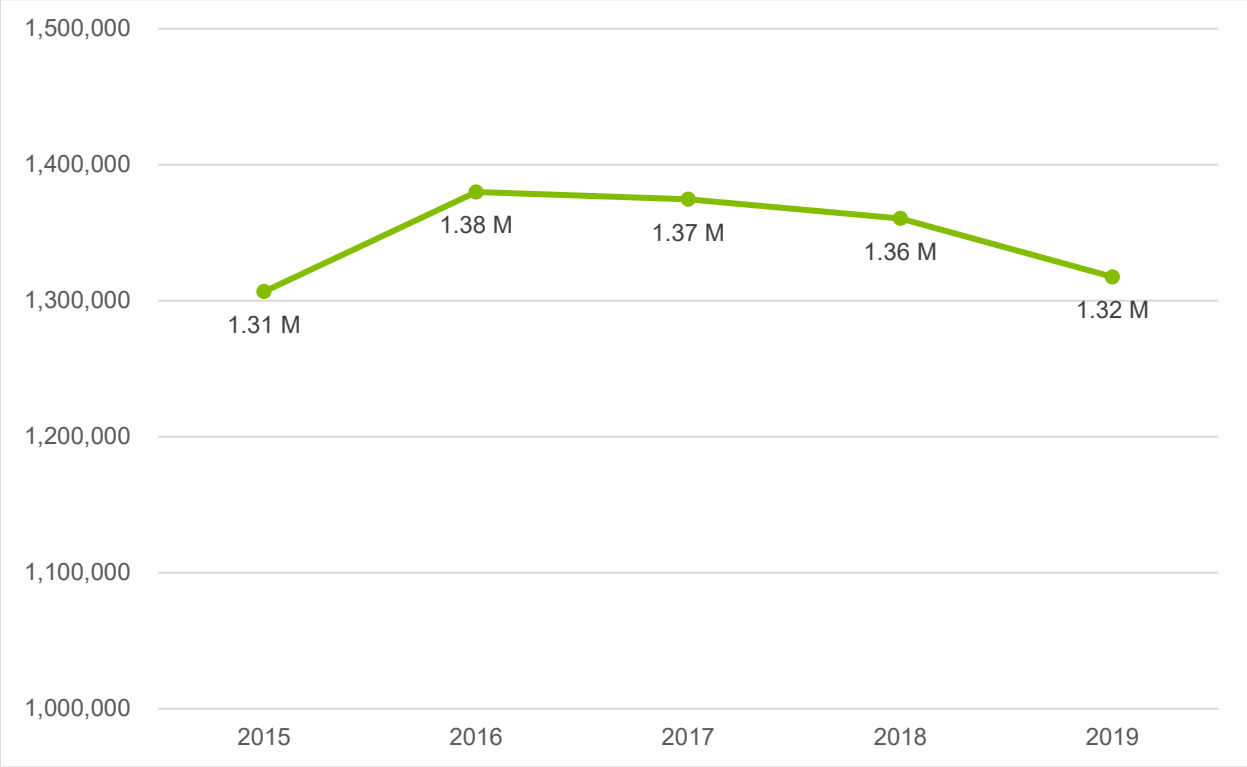
4.2 Ridership and Service Operations

4.2.1 Ridership

Historical FY 2015 to FY 2019 system ridership is shown on Figure 5. Pre-COVID-19 system ridership was comprised of approximately 99 percent fixed route trips and 1 percent demand response. Ridership peaked in FY 2016 and declined approximately 4 percent over 3 years.

FY 2020 ridership is considerably lower than historical trends as a result of the pandemic and is discussed separately in Section 6.1.3.

Figure 5. Annual System Ridership Trends, Fiscal Year (FY 2015–FY 2019)

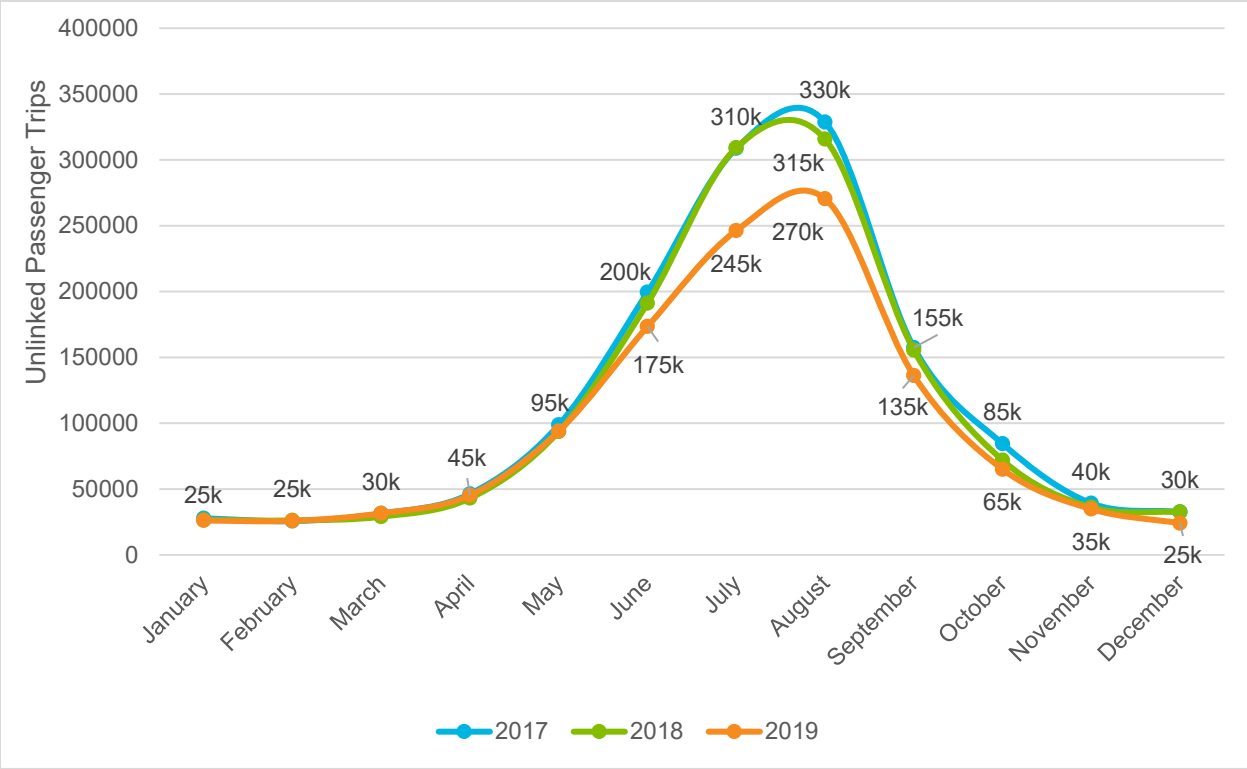


Source: NTD 2015-2018, VTA

Demand response ridership peaked in FY 2017 at 15,707. Demand response boardings declined by 16 percent between FY 2017 and FY 2018 and dropped another 7 percent between FY 2018 and FY 2019, to a total of 12,298 boardings in FY 2019. The drivers' strike, which occurred during the 2019 summer peak season, impacted ridership affecting both the end of FY 2019 and the beginning of FY 2020.

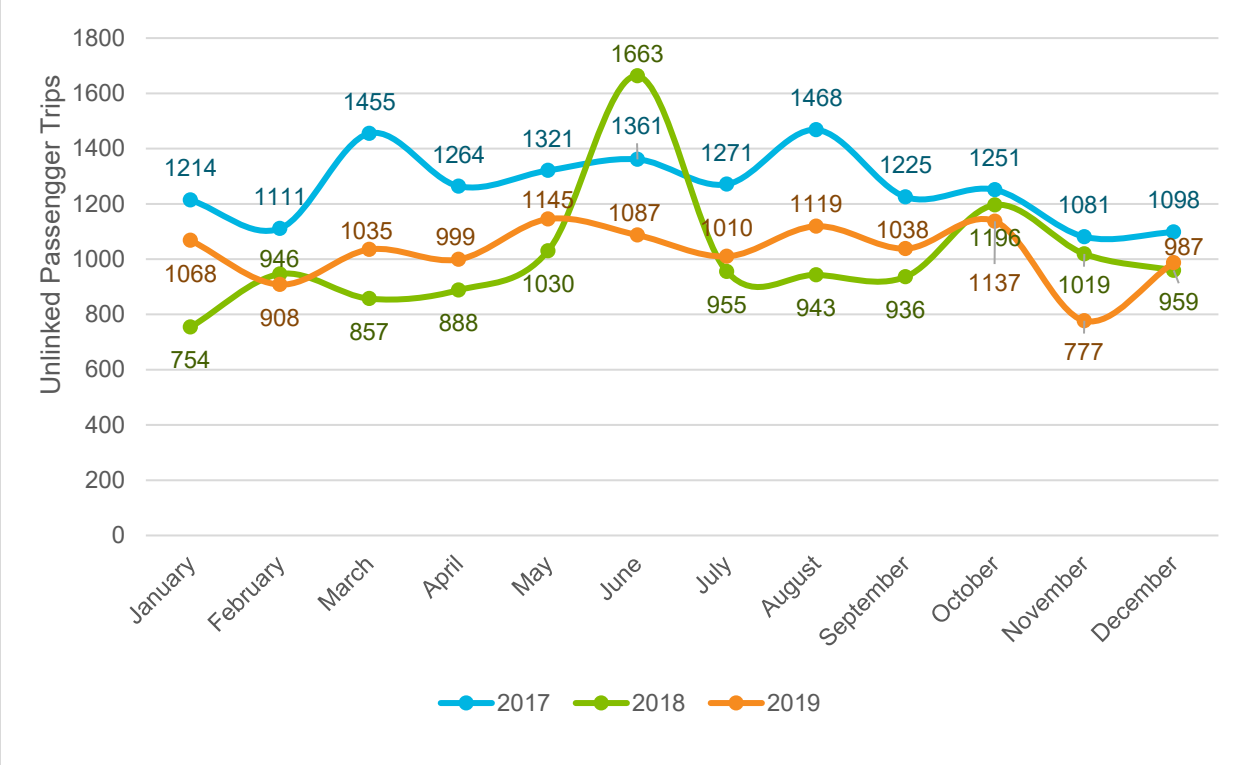
Figure 6 illustrates systemwide ridership by month for the 2017 to 2019 calendar years. The peak season occurs between June and August, with shoulder season schedules in May and September. Fixed route ridership, which represents 99 percent of total system ridership, follows an identical trend to that shown on Figure 6. Demand response ridership is much less predictable, however, as shown on Figure 7. In 2018, demand response ridership peaked in the summer, preceding the wave of fixed route riders. However, in 2017, demand response ridership peaked in March and August, while 2019 ridership was steadier across all months.

Figure 6. Systemwide Monthly Ridership Trends (2017–2019)



Source: VTA

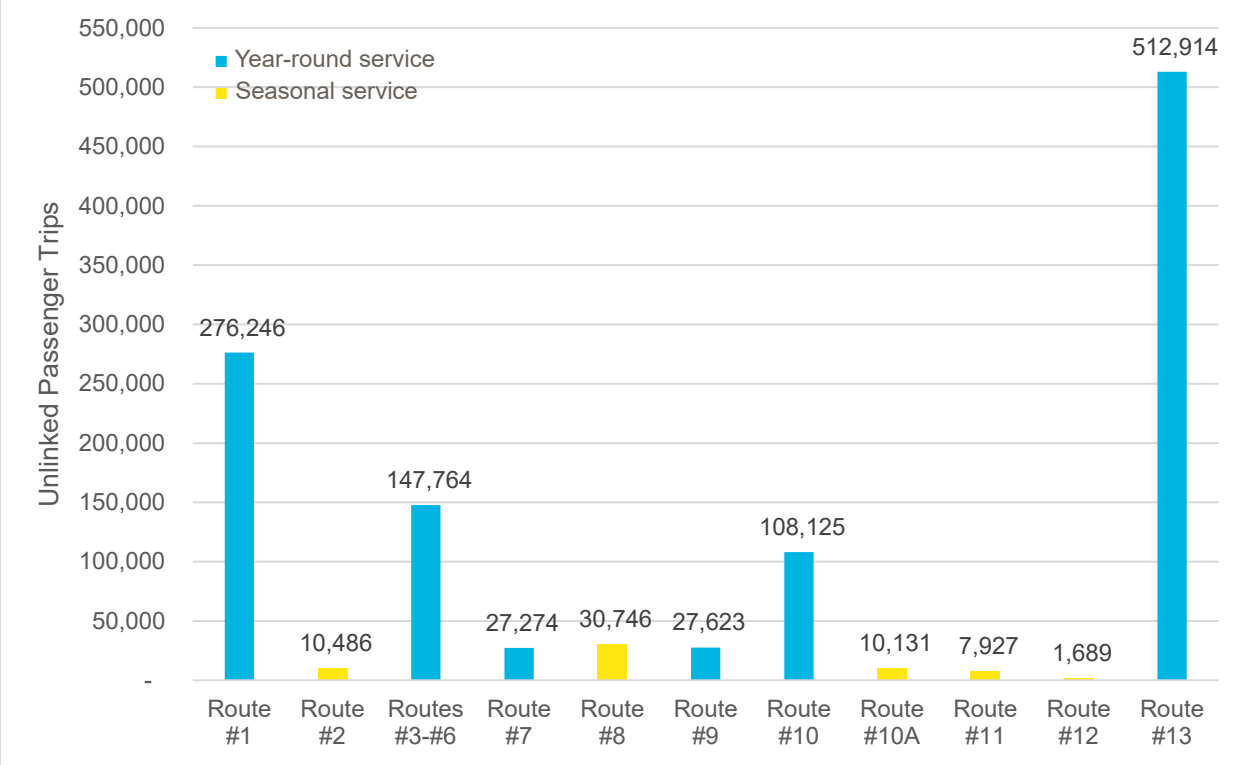
Figure 7. Demand Response Monthly Ridership Trends (2017–2019)



Source: VTA

Annual ridership by route is presented on Figure 8. Annual totals reflect the 2019 calendar year and the route patterns operated during the 2019 season (see footnotes to Table 2). Route 13 had the highest annual ridership followed by Route 1. Both routes serve the eastern part of the island, connecting Oak Bluffs and Edgartown. Due to the use of shared corridors and frequent interlining, service statistics for Routes 3, 4, 5, and 6 were tracked collectively. Ridership data for Route 4 were tracked separately as a seasonal route starting in March 2019, but is presented here with year-round Routes 3, 5, and 6 for consistency with the earlier part of the year. Other seasonal routes tend to have the lowest ridership, with the exception of Route 8, which exceeds ridership for Route 7 and Route 9 by a few thousand riders per year.

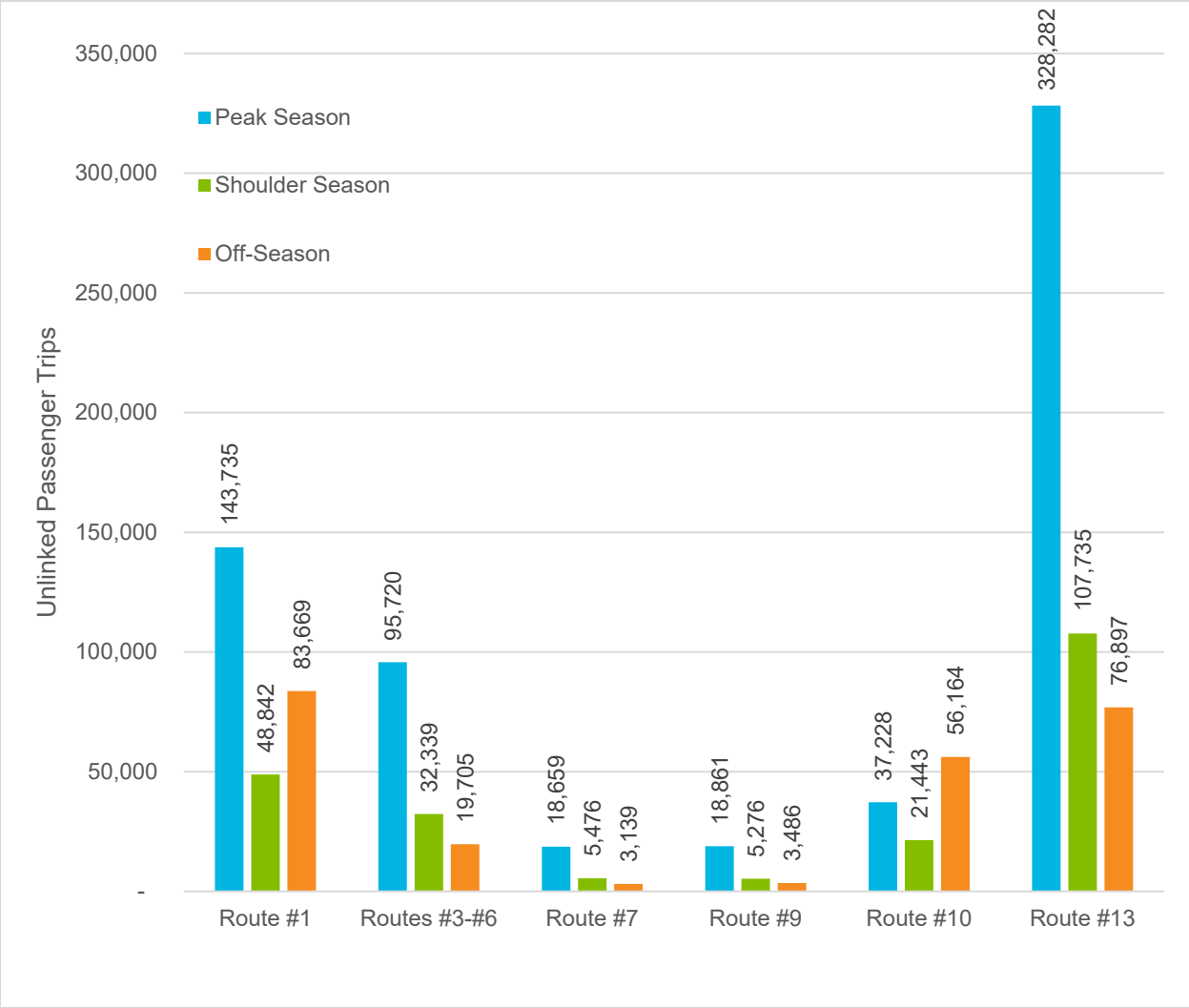
Figure 8. Annual Bus Ridership by Route (CY 2019)



Source: VTA

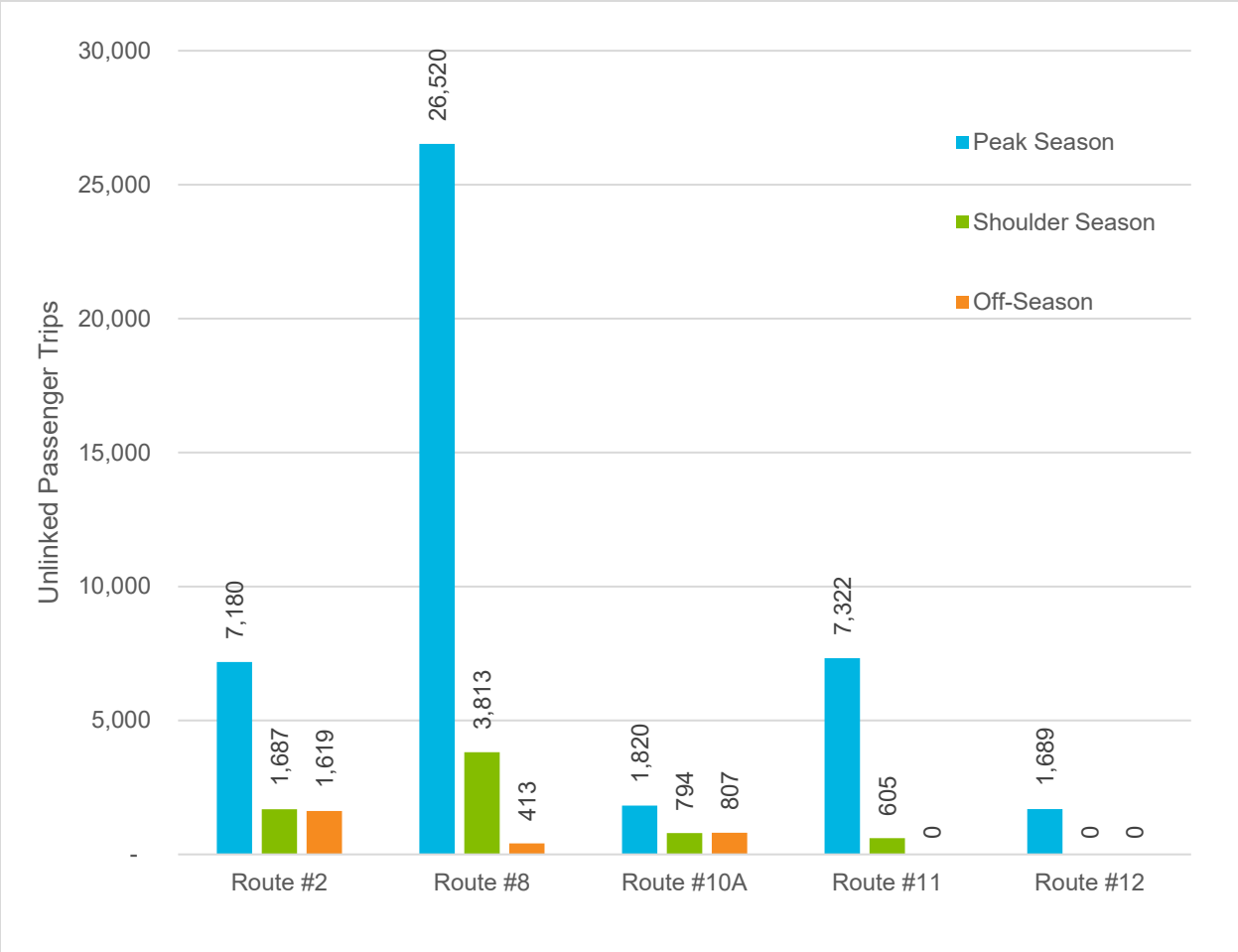
Ridership by season for both year-round and seasonal routes is presented on Figure 9 and Figure 10, respectively. As shown on Figure 9, Route 13 captures the highest ridership during the peak and shoulder seasons, while Route 1 is the strongest performer during the off-season. Route 10, which shuttles commuters between the Tisbury park and ride and the Steamship Authority Ferry, is the only route that generates more riders during the off-season than during summer. Some seasonal routes (shown on Figure 10) did operate in early 2019, producing some off-season ridership, but have not been operational since September 2019 (summer 2020 schedules pending resolution of COVID-19 pandemic).

Figure 9. Year-round Route Ridership by Season (CY 2019)



Source: VTA

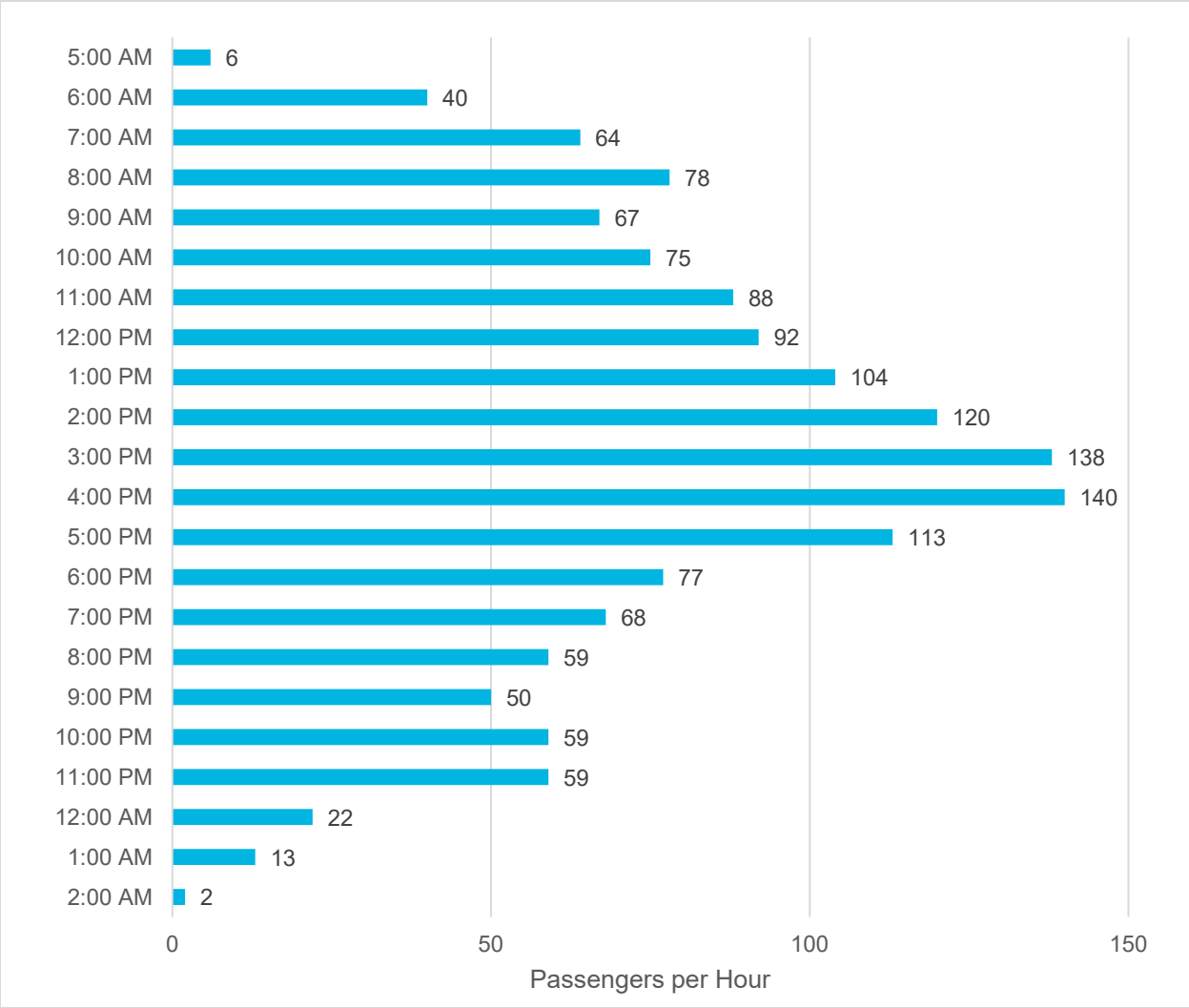
Figure 10. Seasonal Route Ridership by Season (CY 2019)



Source: VTA

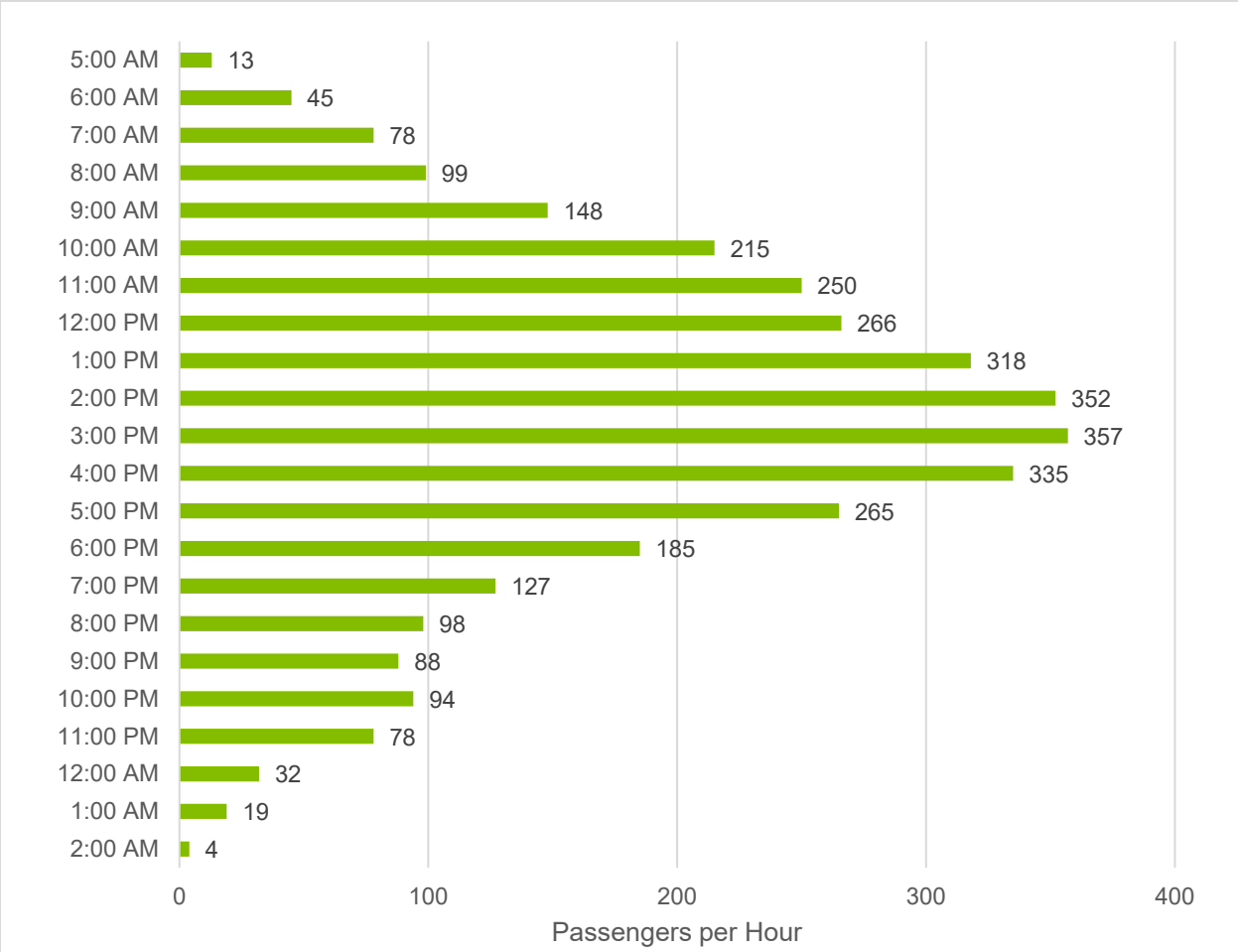
Seasonal peak ridership by time of day for the highest performing routes is shown on Figure 11 and Figure 12 for Route 1 and Route 13, respectively. Route 1 ridership peaks between 3:00 PM and 5:00 PM with approximately 140 riders per hour, as shown on Figure 11. Route 13 ridership peaks between 2:00 PM and 4:00 PM with more than 350 riders per hour on average.

Figure 11. Route 1 Ridership by Time of Day (2019 In-season Peak)



Source: VTA, June 22, 2019 through September 1, 2019

Figure 12. Route 13 Ridership by Time of Day (2019 In-season Peak)



Source: VTA, June 22, 2019 through September 1, 2019

4.2.2 Service Levels

Table 6 summarizes annual revenue hours by mode for FY 2015 to FY 2019. Both bus and demand response revenue hours peaked in FY 2017. Due to interlining of multiple routes, revenue hours are only available at the mode level.

Table 6. Annual Revenue Hours (FY 2015–FY 2019)

Service Type	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Bus	65,818 (92%)	68,282 (92%)	71,125 (90%)	68,528 (91%)	67,047 (90%)
Demand Response	5,881 (8%)	6,080 (8%)	7,592 (10%)	6,776 (9%)	7,321 (10%)
TOTAL	**71,699**	**74,362**	**78,717**	**75,304**	**74,368**

Source: NTD, 2015-2018, VTA

Annual revenue miles by mode for FY 2015 to FY 2019 are summarized in Table 7. As shown, revenue miles for demand response increased compared to 2015, while bus miles remained steady. Due to interlining, revenue miles are not available at the route level.

Table 7. Annual Revenue Miles (FY 2015–FY 2019)

Service Type	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Bus	1,097,579 (1531%)	1,149,051 (1545%)	1,150,493 (1462%)	1,087,337 (1444%)	1,097,108 (1475%)
Demand Response	87,422 (122%)	90,400 (122%)	102,101 (130%)	85,966 (114%)	106,696 (143%)
TOTAL	**1,185,001**	**1,239,451**	**1,252,594**	**1,173,303**	**1,203,804**

Source: NTD, 2015-2018, VTA

Table 8 summarizes operating costs by mode for FY 2015 to FY 2019. As shown, costs associated with fixed route services climbed steadily between FY 2015 and FY 2018 and then fell in FY 2019. Costs associated with demand response services, which comprise approximately 10 to 12 percent of reportable operating costs, peaked in 2017. Operating costs are generally a function of the revenue hours and miles of service provided. Because revenue hours and revenue miles are not tracked by individual route, operating costs are also given only at the mode and system level. VTA's past performance relative to financial efficiency targets and peer systems is discussed in Appendix A.

Table 8. Annual Operating Cost (FY 2015–FY 2019)

Service Mode	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019*
Bus	4,192,234 (88%)	4,584,320 (88%)	4,629,307 (88%)	4,741,392 (90%)	4,695,938 (90%)
Demand Response	545,524 (12%)	615,570 (12%)	632,142 (12%)	534,836 (10%)	549,408 (10%)
TOTAL	**$4,737,758**	**$5,199,890**	**$5,261,449**	**$5,276,228**	**$5,245,346**

Source: NTD 2015-2018, VTA

**In lieu of NTD data, FY 2019 amounts are based on VTA's annual budget and exclude costs associated with HST. HST operations are completely self-funded through contract revenues.*

4.3 Asset Management

VTA operations are headquartered at the Maintenance and Operations Facility, located on A Street in Edgartown near the Martha's Vineyard Airport. Building space is shared with the Massachusetts Registry of Motor Vehicles as well as Transit Connection, Inc. Transit Connection, Inc. provides VTA with between 41 (off-season) and 76 (peak-season) drivers as well as 7 year-round operations staff and 4 additional full-time equivalent (FTE) dispatchers, fuelers, and washers during the peak season.

VTA's Operations and Maintenance Facility provides administrative offices as well as operations and maintenance activities. VTA's administration department includes four year-round FTE staff. During the peak season additional staff include 1 FTE money counter and 3.75 FTE ticket sellers. The facility includes four maintenance bays, which are staffed year-round by 3 FTE maintenance technicians and 1 FTE shop supervisor. Facility maintenance staff includes one year-round FTE janitor.

As shown in Table 9, this facility has a Transit Economic Requirements Model (TERM) rating of 4.0. Assets with a score of 3.0 or higher are considered to be in a state of good repair. VTA is

meeting its MOU target for facilities that meet useful life benchmarks (ULBs). Annual land rent for this facility was $77,065 in FY 2019.

Table 9. Facility Inventory Summary

Facility Name	Type	Location	Value	Age	TERM Rating
VTA Operations and Maintenance Facility	Combined Administrative and Maintenance	Edgartown	N/A	18	4.0

Source: V*TA*, *Transit Asset Management Plan*

VTA's revenue and non-revenue vehicle fleet is characterized in Table 12. Approximately 20 percent of revenue vehicles are vans/minivans used for demand response services. Van and mini-van fleet are relatively new, with an average age of 4.5 years. The majority of revenue fleet are larger 35-foot to 40-foot heavy duty buses used for fixed route operation. Some fixed routes utilize 30-foot buses. The average age of buses is 6.1 years, and non-revenue fleet is 7.3 years on average. Changes in VTA's revenue fleet over time can be seen on Figure 13.

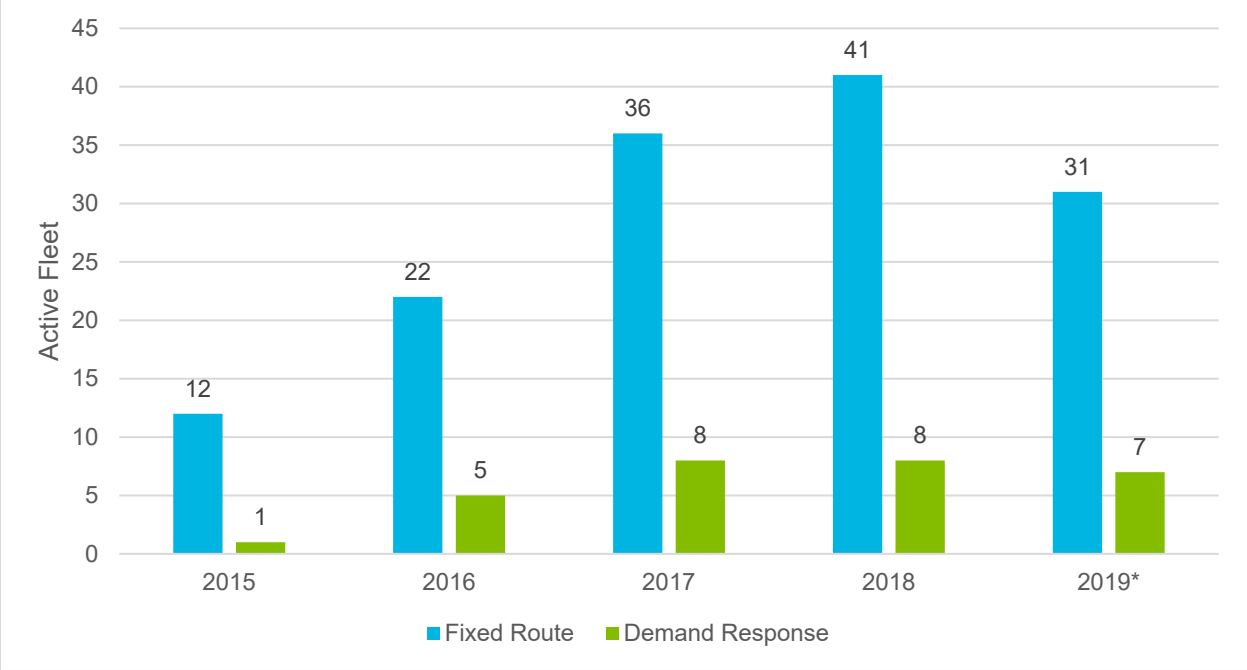
Table 10. Fleet Inventory Summary

Vehicle Type	Total Number*	Average Age	Average TERM Rating	% at or past ULB	FY 2019 ULB Target
Bus	31	5.6	3.5	0%	3%
Van/Mini-Van	7	3.3	4.6	14%	16%
Non-revenue Vehicles	13	7.3	3.4	54%	0%

Source: VTA, TAM Plan

**Excludes retired fleet.*

Figure 13. Revenue Fleet (2015–2019)



Source: NTD, VTA

**FY 2019 fleet counts are based on information from VTA.*

In the event of an out-of-service vehicle, VTA relies on spare vehicles to provide for the continuation of service. To provide maximum service levels, VTA requires 6 demand response and 28 fixed route vehicles.[15] This represents 86 percent and 90 percent of available fleet, respectively. VTA's spare ratio, defined as the percentage of total fleet not in service, is 10.5 percent systemwide, about half of the industry standard of 20 percent. However, VTA's maximum service times are limited to the summer peak season. During the off-season, additional unused vehicles could act as spares in the event of unexpected maintenance.

In addition to the vehicles and facilities previously noted, VTA also maintains the following information technology assets:

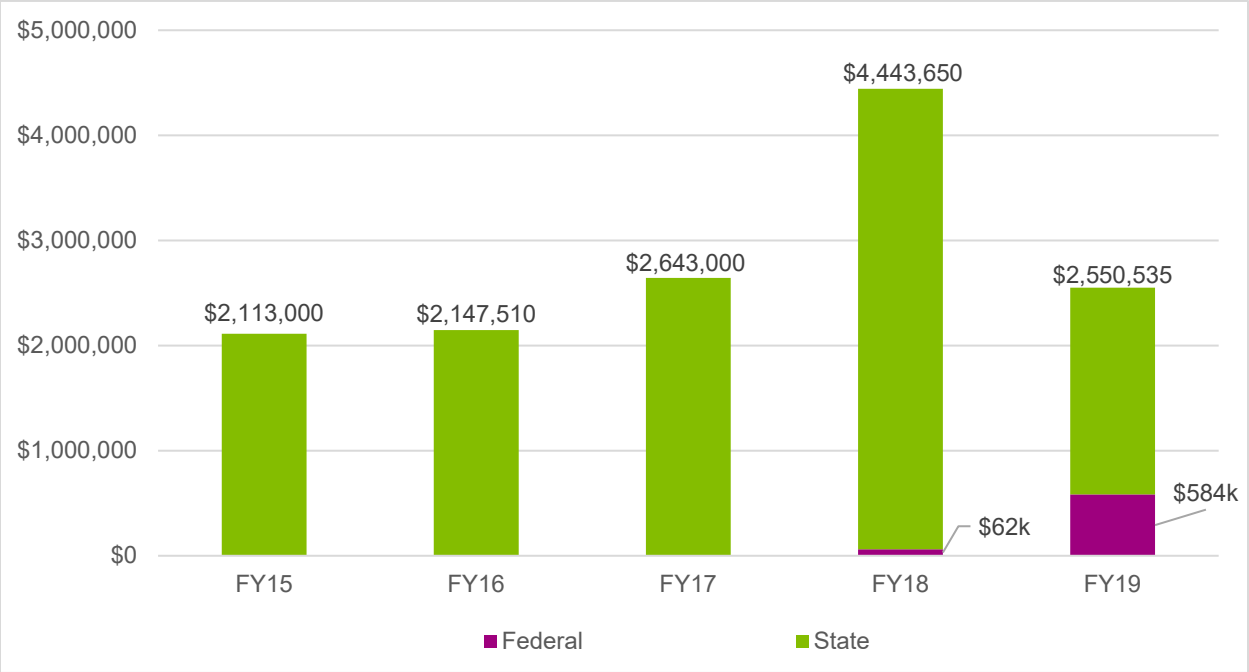
- Agency website
- IndustrySafe for in-house monitoring of accidents/incidents
- On-board cameras for service vehicles
- Facility video systems
- Paratransit management and scheduling and Sched21 for demand response and fixed route scheduling
- Peachtree and FA Suite accounting software
- TransLoc vehicle tracking system

VTA has not incorporated transit signal priority, automated on-board announcements, service alert systems, or mobile app technology. However, the agency's website is compatible with mobile viewing.

Capital expenditures associated with replacement and expansion of VTA's capital assets are summarized on Figure 14. Typical capital expenses are on the order of $2 million per year. A larger outlay of $4.4 million was used to procure six new battery electric vehicles as well as charging infrastructure in FY 2018. Revenue for capital purchases comes primarily from the state. VTA has applied for FTA competitive grants and received awards the last 4 years. In addition, VTA received Volkswagen settlement funds.

[1515] National Transit Database, 2018

Figure 14. Capital Expenditures (FY 2015–FY 2019)



4.4 Policies and Procedures

On its public website,[16] VTA maintains policies and procedures related to using the service. These include:

- **Fixed Route Policy:** Procedures for catching the bus, fares, flag-stop prohibited locations, and permitted items.
- **Medivan Policy:** Procedures for scheduling a Medivan trip and fares.
- **ADA Policy:** Includes eligibility criteria, procedures for scheduling and cancelling trips, availability of ramps and lifts, and complaints/appeals processes; VTA complies with the ADA[17] regarding paratransit eligibility and fares.
- **Bike Policy:** Instructions for use of bike racks.
- **Rider's Guide:** Summary of the bike policy and fixed route policy with specific flag stop location guidance by route, where to buy passes, and VTA pet policy.
- **Disadvantaged Business Enterprise:** VTA's Disadvantaged Business Enterprise (DBE) Program complies with United States Department of Transportation 49 CFR Part 26;[18] the DBE goal is 4 percent for FY 2016 to FY 2018.
- **Equal Employment Opportunity Statement:** Nondiscrimination statement.
- **Title VI Statement:** VTA complies with federal Title VI guidelines.[19]

[16] https://www.vineyardtransit.com/about-us/pages/policies-publications
[17] https://www.vineyardtransit.com/about-us/pages/ada-policy
[18] https://www.vineyardtransit.com/sites/vineyardtransitauthority/files/uploads/disadvantaged_business_enterprise.pdf
[19] https://www.vineyardtransit.com/sites/vineyardtransitauthority/files/uploads/title_vi_statement_0.pdf

4.5 Regional Connections and Other Transit Providers

The primary mode of transportation between Martha's Vineyard and other parts of the Commonwealth is by ferry. The VTA service area contains numerous ferry connections, including:

- **Steamship Authority** (www.steamshipauthority.com): Year-round service from Vineyard Haven to Woods Hole, Massachusetts and seasonal service from Oak Bluffs to Woods Hole, Massachusetts
- **Seastreak** (www.seastreak.com): Year-round service from Vineyard Haven to New Bedford, Massachusetts and seasonal service from Oak Bluffs to New Bedford, Massachusetts, New York, New York, or Highlands, New Jersey
- **Hy-Line Cruises** (www.hylinecruises.com): Seasonal service from Oak Bluffs to Hyannis or Nantucket, Massachusetts
- **Island Queen** (www.islandqueen.com): Seasonal service from Oak Bluffs to Falmouth, Massachusetts
- **Vineyard Fast Ferry** (www.vineyardfastferry.com): Seasonal service from Oak Bluffs to Quonset/Kingstown, Rhode Island
- **Falmouth-Edgartown Ferry** (www.falmouthedgartownferry.com): Seasonal service from Edgartown to Falmouth, Massachusetts
- **Chappy Ferry** (www.chappyferry.com): Year-round service from Edgartown to Chappaquiddick Island

VTA's Medivan service provides trips that connect to the MBTA service area. Medivan utilizes the Steamship Authority Ferry to Woods Hole, and as such, trip times must be aligned with the ferry schedules. Medivan fares include the cost of the ferry ride.

Three island companies provide tour bus service in the summer, generally operating tours starting at Vineyard Haven or Oak Bluff ferry terminals. These companies occasionally offer charter service for weddings and other large groups. These companies provide an estimated 2,000 trips per year, with an average of 30 passengers per trip. In addition, charter tour companies from the mainland bring large coach buses onto the island by ferry, bringing an estimated 25,000 passengers annually.[20]

4.6 Fare Rates and Structure

VTA fixed route buses utilize electronic fareboxes, which scan passenger payments upon boarding and eliminate the need for drivers to handle cash or make change. Change is issued in the form of a stored value card and is not redeemable for cash.

Passes up to 7-day value can be purchased on the bus or at the Steamship Authority terminals. Annual passes and 31-day passes can be purchased at the VTA Operations and Maintenance Facility or the Edgartown Visitors' Center. During the peak season, all pass types can also be purchased from ticket sellers at the Vineyard Haven Steamship Bus Circle, Ocean Park in Oak Bluffs, and Church Street in Edgartown.

The VTA fare structure is shown in Table 11. VTA utilizes a zone-based fare structure, with prices increasing for longer trips, and zones set at town boundaries. For individual trips, the seasonal fare is $2.00, and the off-season fare is $1.25 for each zone traveled in or through, including the town of origin. Children 6 and under ride free when accompanied by an adult. VTA

[20] Data provided by Martha's Vineyard Commission, 2020 – 2040 Regional Transportation Plan and VTA.

offers a reduced $0.75 per zone fare to seniors over 65, veterans, and persons with a disability with proper identification.

All-day passes start at $10, and multi-day passes offer an additional savings to frequent riders. Seniors, veterans, and persons with a disability can purchase reduced price passes at a 33 percent to 50 percent discount. Boston hospital transportation, known locally as the Medivan, costs $40 and includes the cost of the ferry. Complementary ADA paratransit trips (*The Lift*) are priced at $2.00 per zone year-round. Reduced fares are not offered on *The Lift* or Medivan.

During the 2019 summer season, VTA offered free service on Route 10, Route 11, and the "Sunset Bus" portion of Route 12 (from Tabor House to Menemsha Beach). Route 10 remains free year-round.

Table 11. Fare Structure

Fare Type	Standard Fare Peak-Season	Standard Fare Off-Season	Reduced Fare*
Single Ride 1 Town	$2.00	$1.25	$0.75
Single Ride 2 Towns	$4.00	$2.50	$1.50
Single Ride 3 Towns	$6.00	$3.75	$2.25
Single Ride 4 Towns	$8.00	$5.00	$3.00
Single Ride 5 Towns	$10.00	$6.25	$3.75
1-Day Pass (fixed route only)		$10.00	$5.00
3-Day Pass (fixed route only)		$18.00	$10.00
7-Day Pass (fixed route only)		$30.00	$20.00
31-Day Pass (fixed route only)		$60.00	$40.00
Annual Pass** (fixed route only)		$150.00	$40 / $50 / $75
Microtransit 1 Town		$5.00	N/A
Microtransit 2 Towns		$10.00	N/A
Microtransit 3 Towns		$15.00	N/A
Microtransit 4 Towns		$20.00	N/A
Microtransit 5 Towns		$25.00	N/A
Medivan		$40.00	N/A
ADA Lift service (per-town)		$2.00	N/A
Non-ADA Demand Response (per-town)		$5.00	N/A

Source: VTA

**Reduced fares are greater than half the standard fare during the off-season.*

***Annual pass discounts vary by age and residency: $40 for island seniors, $50 for island youth, and $75 for all other seniors, youth, veterans, and persons with a disability.*

4.7 Fare Policy

VTA has a few preexisting policies related to fare payment methods. VTA does not accept credit card payments. Electronic fareboxes can only accept cash. Persons purchasing a 31-day or annual pass may use checks at the VTA Operations and Maintenance Facility or Edgartown Visitors Center. As part of its MOU with MassDOT, VTA is exploring a more formalized fare policy that describes the timing and process for implementing fare changes. This policy was discussed at the December 10, 2020, VTA Advisory Board meeting. The following describes the outlook of that policy.

VTA is more dependent on fare revenue than most other RTAs. Martha's Vineyard has approximately 17,000 permanent residents with the implication that it receives less in population-based formula funding due to a lower population. Because Martha's Vineyard does host a lot of tourists, the intent of the fare structure is to raise enough revenue during the peak tourist season to ensure that adequate levels of service can be funded throughout the peak and off-peak seasons with as little impact as possible on the permanent population that use the service. During peak tourist season, fares are higher than the off-season as a reflection of the higher service levels offered.

VTA operates a zone-based fare system. The fare zones encompass each individual town, and the town borders serve as the fare zone boundaries. As a passenger crosses a fare boundary the base fare is charged; therefore, a full island trip on fixed routes can cost $10.00 during the peak season. A similar trip via a TNC (Uber/LYFT) may be $30, but if four people join together then that cost per person could be less than a trip on VTA. Because of this fare policy, Uber and LYFT are the primary competition. VTA's newly deployed microtransit service is being treated as a curb-to-curb premium service ($5 per zone year-round).

During the current COVID-19 pandemic VTA has been looking at fares consistently. The goal has been to balance farebox recovery, recover/grow ridership, and maintain social distancing. There is a concern, due to the high reliance on fare revenue to fund service that, due to operating fare-free during the pandemic and having a shorter peak season, there will be a revenue shortfall in the off-season.

As a policy, VTA intends to evaluate fares every 3 years. Any changes in fares will likely be in $0.25 intervals. As part of the evaluation of fares, a full fare study to determine the impact on ridership and revenue may be conducted along with a Title VI analysis. While an evaluation would be conducted every 3 years, the implementation of fare changes could be over multiple years, as was done for the previous fare changes.

In terms of fare technology, VTA does not have the manpower to support high-tech approaches to fare collection and account management. Therefore, a traditional fare-capping program, based on an account-based system, would not work. However, VTA could consider a low-tech fare capping system in which passengers purchase three consecutive monthly passes. Upon the purchase of the third monthly pass and showing proof of purchase of previous month passes, the third monthly pass purchase becomes an annual pass. This program could be extended to other pass types. Ridership on paratransit service is low enough that the expense of additional technology is not justified.

VTA is working with the Steamship Authority to develop electronic ticketing. Additional information regarding coordinated electronic ticketing for VTA and Steamship Authority customers is in Section 8.3.2.1.

5. Market Evaluation

This chapter describes existing and projected socioeconomic characteristics of the area served by VTA.

5.1 Service Area Overview

Understanding the demographics can help explain changes in transit demand and support recommendations for changes in future transit service. Specifically, people living below the poverty level, households without vehicles, seniors, and disabled individuals typically rely on transit; changes in these demographics can provide insight into transit demand trends. The U.S. Census Bureau's American Community Survey (ACS) and Longitudinal Employer-Household Dynamics (LEHD) program are the primary sources of demographic data used in this analysis and provide valuable indications of trends and projections.

The U.S. Census Bureau tabulates demographic data based on residency, or where a person spends the majority of days in a year. For that reason, the analysis that follows excludes the demographic characteristics of visitors and seasonal residents of Martha's Vineyard. These characteristics are more representative of VTA's off-season ridership demographic.

5.2 Demographic Conditions

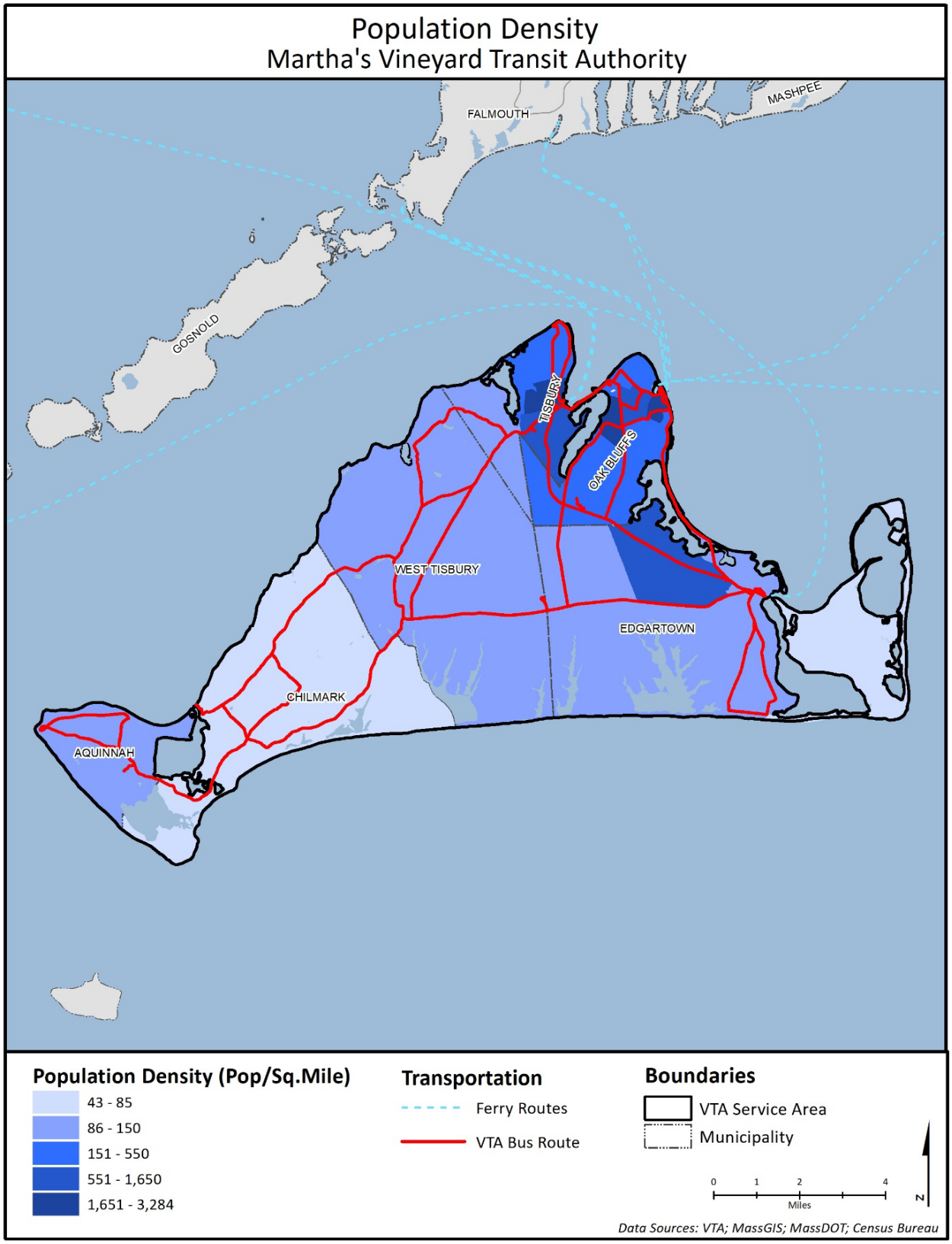
Demographic and socioeconomic statistics are important in transit planning to understand the potential transit markets that exist in an area. Population density is especially important when evaluating a transit market. Population density maps can help identify where populations may be concentrated and where population distribution may be sparse. This can be particularly helpful in transit planning when considering how and where services can best meet the transportation needs of various populations. Population density in the VTA region is mapped on Figure 15.

The highest population densities in the VTA service area are concentrated along the eastern side of the island, around Tisbury, Oak Bluffs, and northeast Edgartown. Routes 1 and 13, which connect these areas, tend to have the highest ridership. VTA does a good job of serving these areas year-round. Chilmark and Chappaquiddick have the lowest population densities.

Transit usage is frequently related to level of income, age, vehicle availability, and disability status. Income is a key determinant in the type of transportation used to commute. Households with lower incomes and those without a private vehicle are more likely to be in need of public transportation options than households with higher incomes and those who can afford private transportation. Table 12 summarizes a variety of demographic statistics for the VTA service area compared to state and national trends.

The VTA service area includes a total population of over 17,000 residents, not including seasonal residents or visitors. This includes a senior population (over age 65) of 22.2 percent. The VTA service area includes fewer minority (14.0 percent) and disabled (8.5 percent) residents compared to the state and national average. The VTA service area also includes lower percentages of people living below the poverty level (8.0 percent) and households without a vehicle (2.9 percent) than for the Commonwealth or nationally. Median household income within the VTA service area is approximately $71,042, between the national average and the average for Massachusetts.

Figure 15. Population Density



Source: US Census Bureau ACS 2017

Table 12. Demographic and Socioeconomic Profile (2018)

Area	Median Household Income	Population Living Below Poverty (%)	Households without a Vehicle (%)	Population Over 65 (%)	Minority Population (%)	Disabled Population (%)
VTA Service Area	$71,042	8.0%	2.9%	22.2%	14.0%	8.5%
Massachusetts	$79,835	10.0%	12.5%	16.5%	29.3%	11.6%
United States	$61,937	13.1%	8.5%	16.0%	39.8%	12.6%

Source: US Census Bureau ACS 2018

5.2.1 Age and Race

The percentages of VTA area population over age 65 and under age 18 are illustrated on Figure 16 and Figure 17, respectively. Both groups can be characterized by lower vehicle ownership and potential reliance on public transit for mobility. In addition, riders from both age groups often qualify for a free or reduced fare, such that a route's financial performance (farebox recovery) may be affected by the age composition of the area it serves.

As shown on Figure 16, high concentrations of population over 65 exist in Oak Bluffs, West Tisbury (along the northern shore), and eastern Edgartown. Higher percentages of population under 18 occur in Aquinnah, Chilmark, Oak Bluffs, and eastern Tisbury, as shown on Figure 17.

Minority population, shown on Figure 18, includes both racial and ethnic minority groups. VTA has a relatively low minority population compared to Massachusetts or the United States. Parts of Aquinnah and Edgartown have minority population above 25 percent. In addition, some high density block groups in Tisbury and Oak Bluffs have minority population above 12 percent.

5.2.2 Socioeconomics

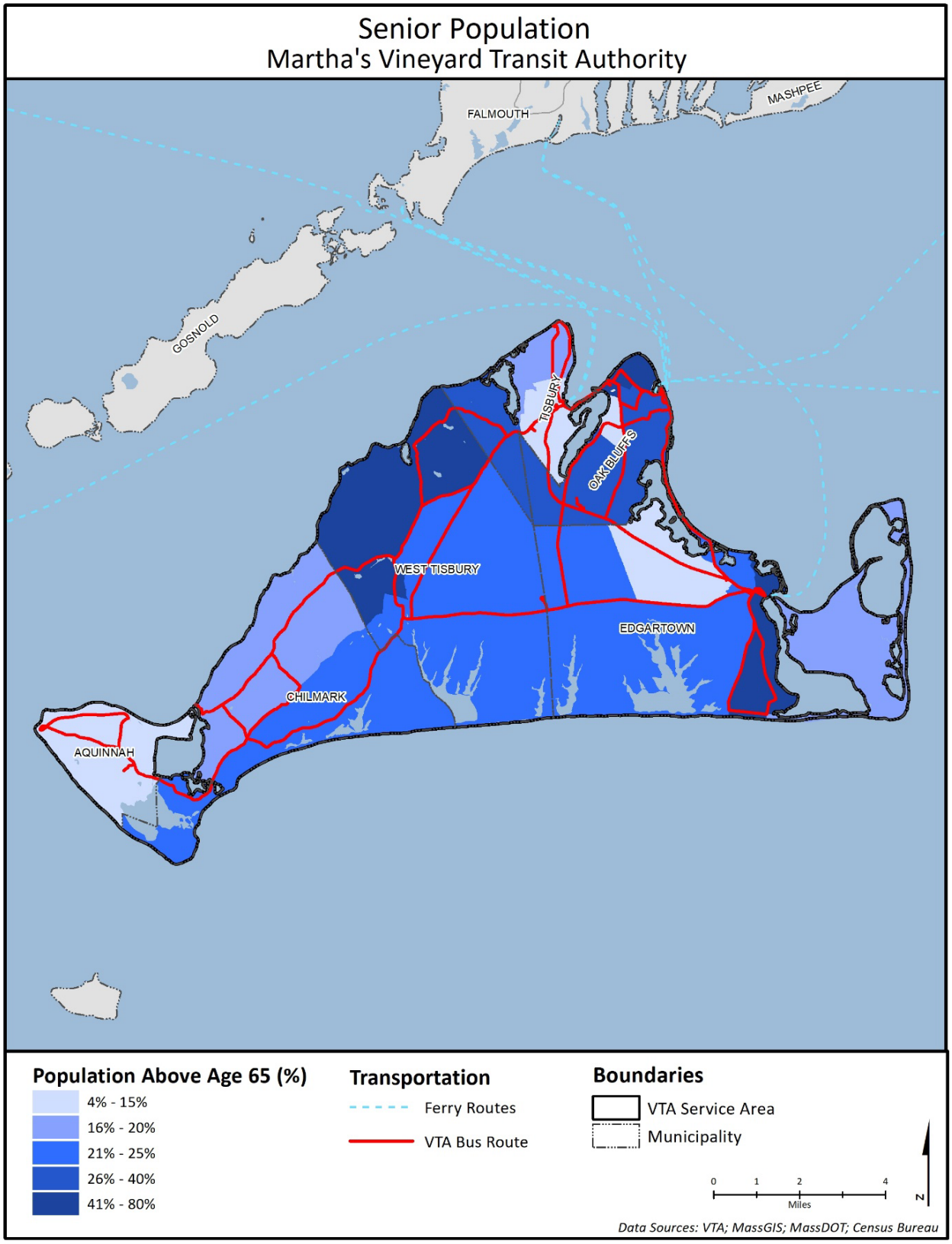
Median household income and the percentage of those living below the poverty level are used as measures for propensity to use transit. Work-trip market shares from ACS show that as income rises the percentage of people using transit decreases. Automobile ownership is expensive and as household incomes decline so does the likelihood of having access to a private vehicle. In addition, those who use transit for non-economic reasons may also be less likely to purchase a vehicle.

Figure 19 shows the percentage of people living below poverty for VTA area block groups. Aquinnah, Chilmark, and parts of Tisbury and Oak Bluffs (surrounding Lagoon Pond) have the highest rates of low-income population.

Median household income by block group is shown on Figure 20. As shown, the majority of the island has a median household income above $60,000. The lowest income block groups for permanent residents are located in Tisbury.

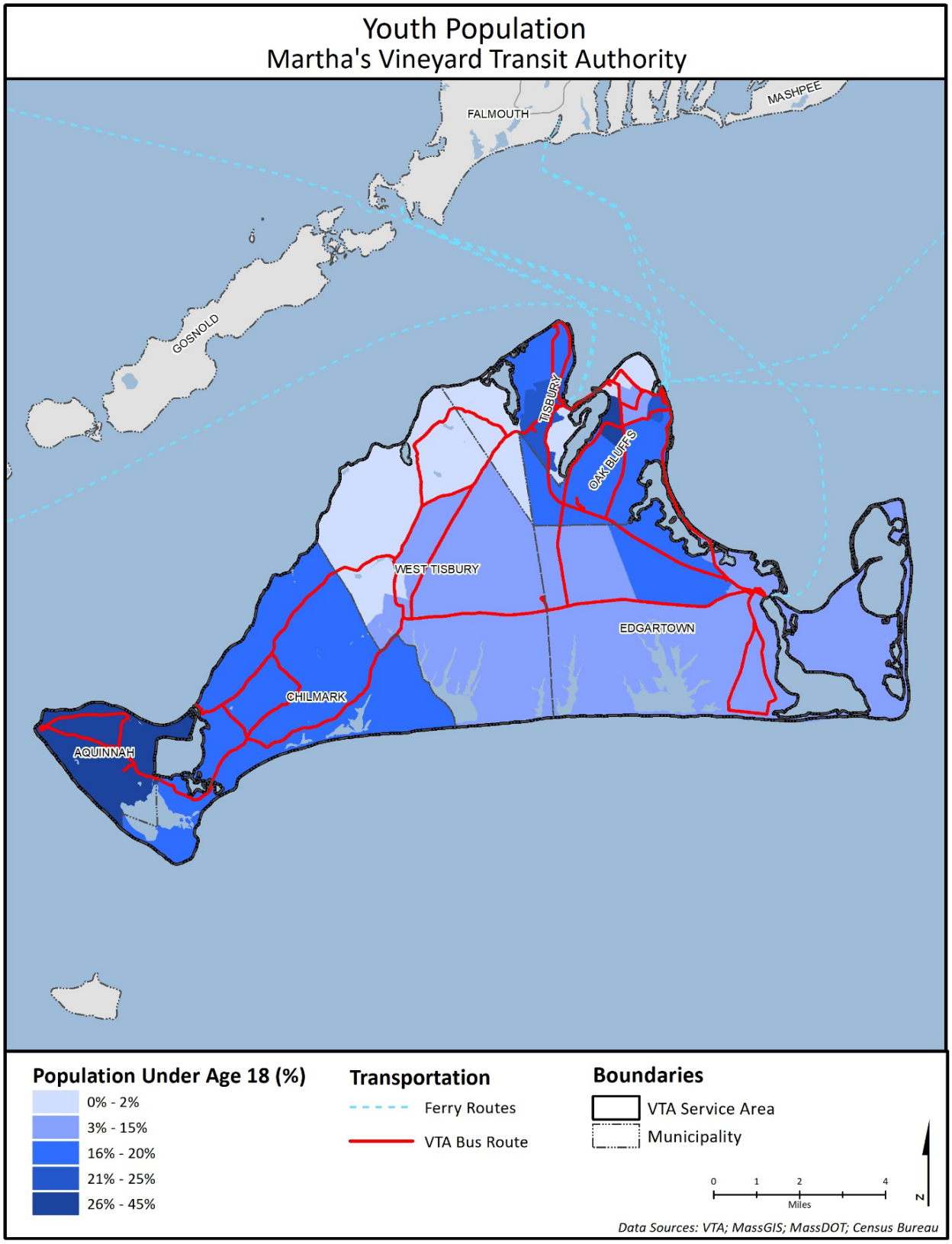
Figure 21 illustrates the concentration of zero-vehicle households. Tisbury and Oak Bluffs have the highest percentages of population without a vehicle. Almost every household (excluding vacation homes) in West Tisbury, Chappaquiddick, and Edgartown has access to a vehicle.

Figure 16. Senior Population



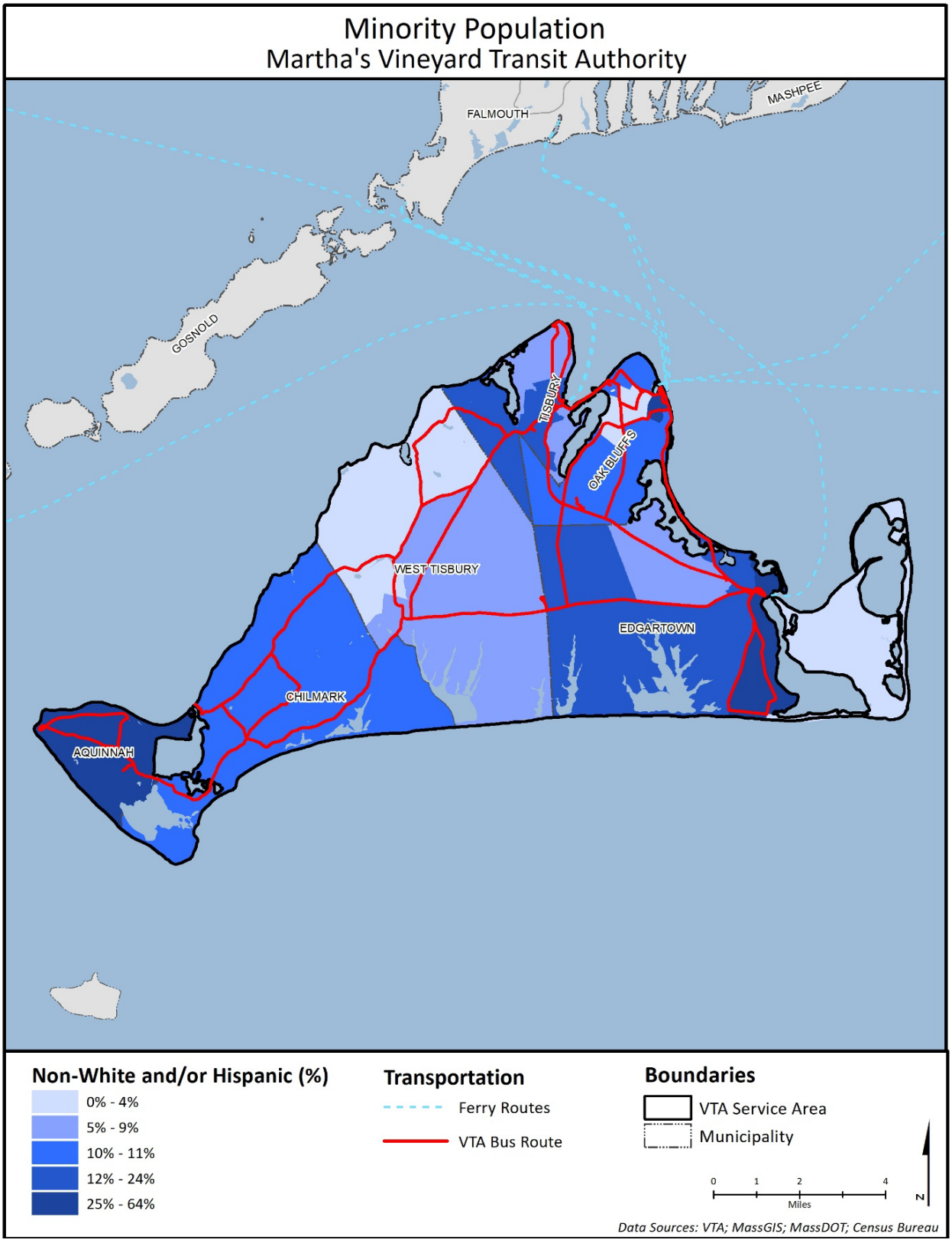
Source: US Census Bureau ACS 2017

Figure 17. Youth Population



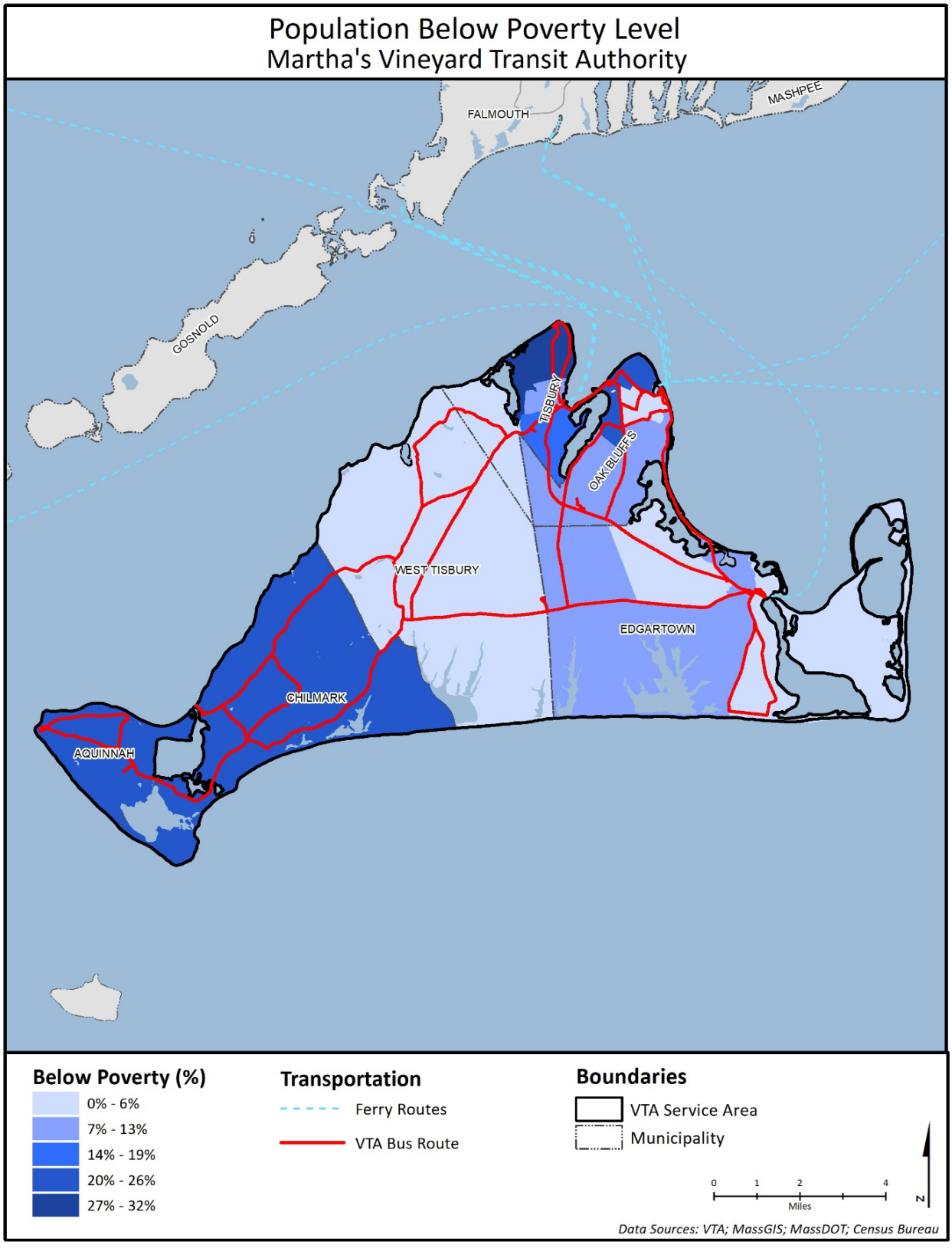
Source: US Census Bureau ACS 2017

Figure 18. Minority Population



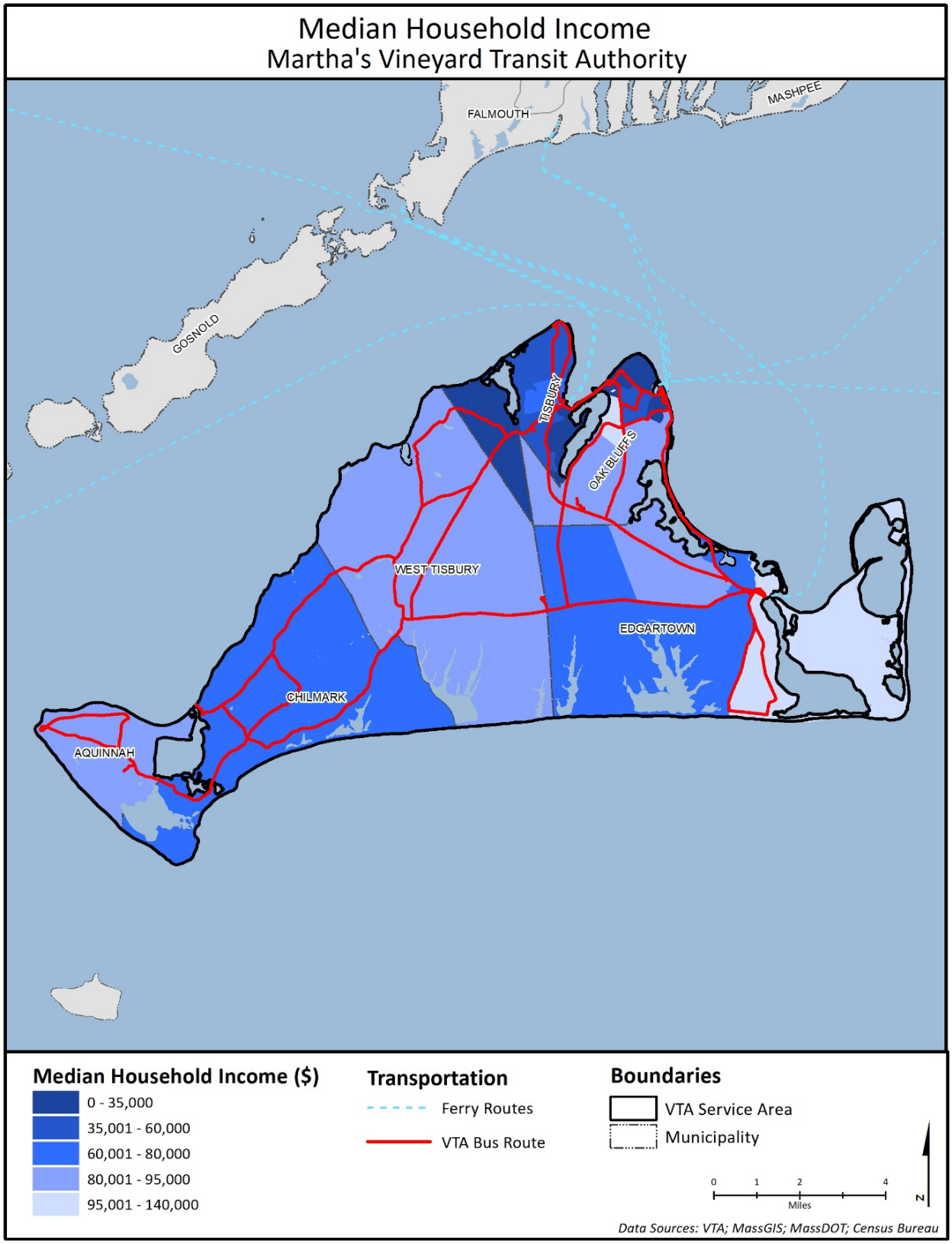
Source: US Census Bureau ACS 2017

Figure 19. Population Below Poverty Level



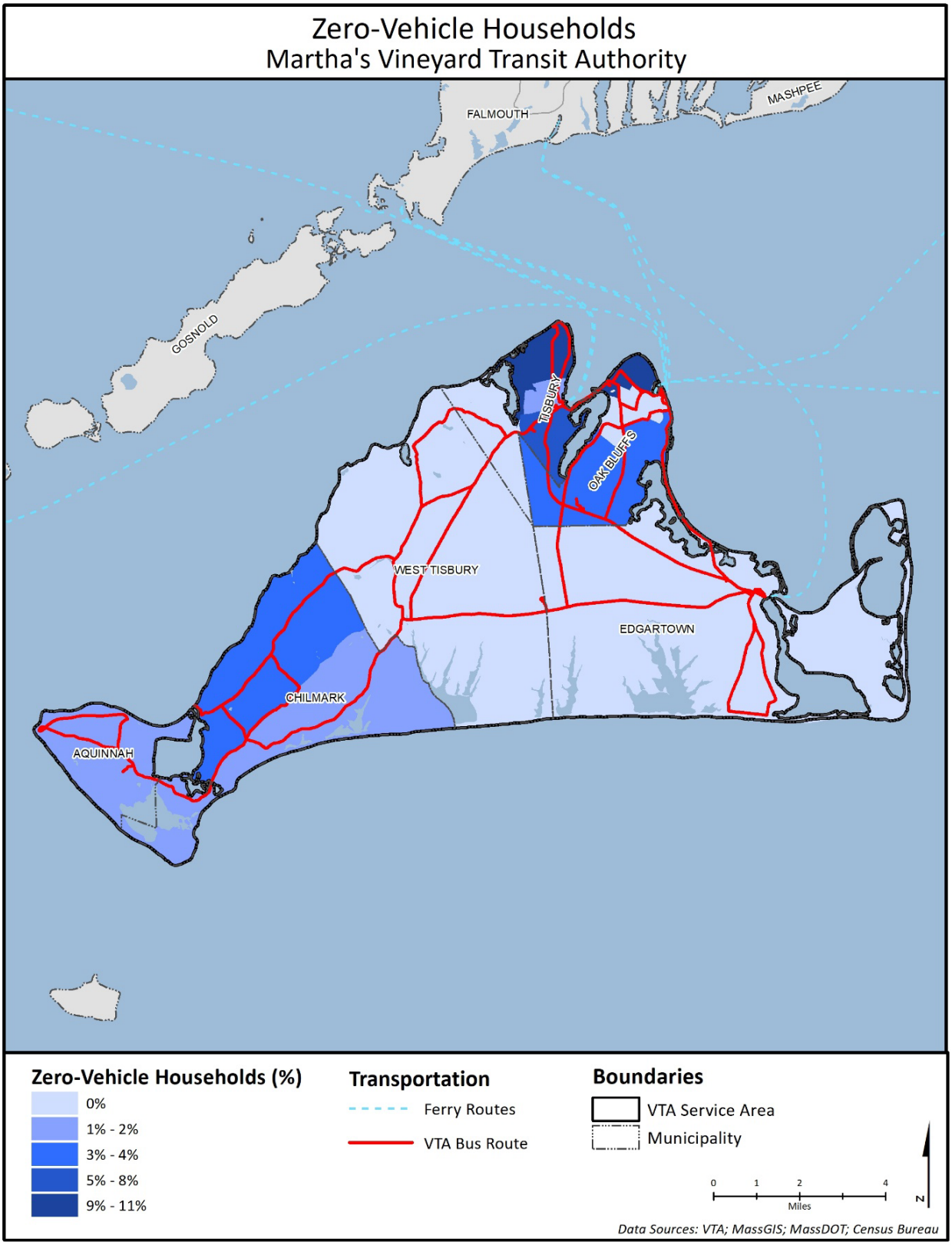
Source: US Census Bureau ACS 2017

Figure 20. Median Household Income



Source: US Census Bureau ACS 2017

Figure 21. Zero-Vehicle Households



Source: US Census Bureau ACS 2017

5.3 Employment

The trip to work is often the most frequent trip taken; therefore, employment characteristics are important factors in the discussion of public transportation. Large employers are common destinations for significant numbers of people, which make them important to transit service planning. Job density is shown on Figure 22. The highest densities for employment occur in Tisbury, Oak Bluffs, and Edgartown. VTA's challenge is the many seasonal workers that come to Martha's Vineyard with no known and consistent housing locations. If standard seasonal employee housing locations were identified, it would assist in transit planning.

5.4 Local and Regional Travel Patterns

Major trip generators are locations frequented by a significant number of people, traveling by all modes, within the study area. Common transit generators include healthcare facilities, transportation hubs, schools and universities, shopping areas, social service agencies, and recreational areas. VTA is particularly impacted by intermodal ferry trips. Large numbers of passengers and cars arrive hourly throughout the day, bringing passengers with unknown trip destinations and vehicle congestion, making on-time trip performance a challenge. These generators must be considered when evaluating transit service for a region. Major trip generators for the VTA service area are shown on Figure 23, with highest concentrations in Tisbury, Oak Bluffs, and Edgartown.

5.5 Land Use and Growth

Land use planning and development in Duke's County is managed by the Martha's Vineyard Commission (MVC). The MVC was created in 1974 in accordance with Chapter 831 of the Acts of 1977 as amended and was given planning and regulatory responsibilities for Martha's Vineyard. As stated in its enabling legislation, "Martha's Vineyard possesses unique natural, historical, ecological, scientific, cultural and other values… These values are being threatened and may be irreversibly damaged by uncoordinated or inappropriate uses of the land."

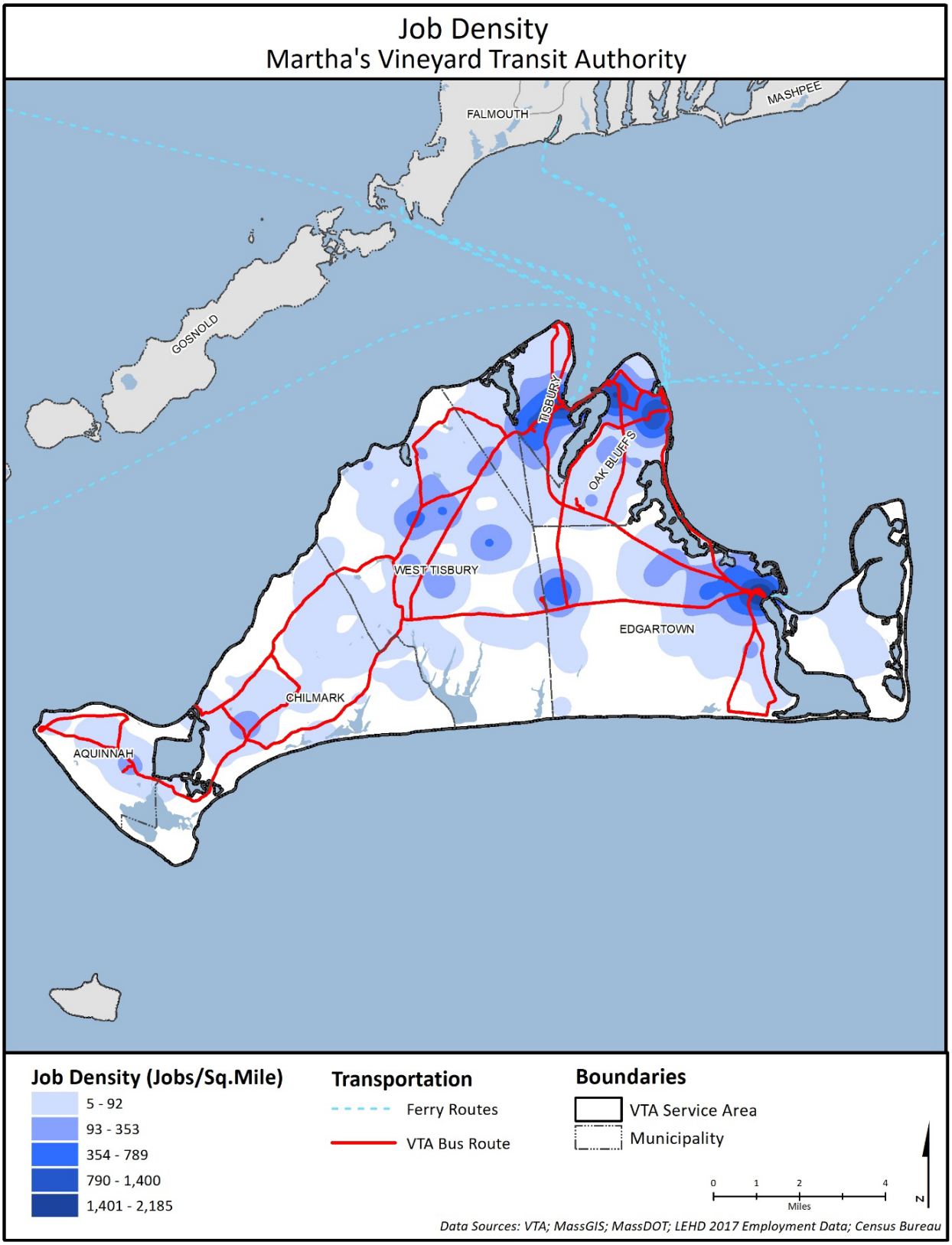
In addition to the natural environment, the MVC leads the effort, along with the Island Housing Trust and the Housing Authority to address housing shortages and housing affordability on the island. Housing goals identified in the MVC Island Plan[21] are to "Provide a full range of housing options by significantly increasing the number of affordable housing and community housing units on the Vineyard, by prioritizing those residents with the greatest need, and by emphasizing the creation of rental units."

Housing has been a key issue on the island as a result of growing population and the finite size of the island, leading to increasing development pressure. Much of the easily developed land has been built out, and there is demand for conservation of the remaining natural areas. Permanent residents must compete with vacation renters or those buying a second home. As a result, many tenants do not have stable year-round housing, and must vacate their winter housing between May and September when owners charge higher summer rates to tourists. Seasonal workers add to the pressure for housing during the summer.

The location of affordable housing units on the island is presented on Figure 24. The largest affordable housing rental locations (accommodating 20 or more units) are located along Route 1 (Edgartown-Vineyard Haven Road) and in central Aquinnah.

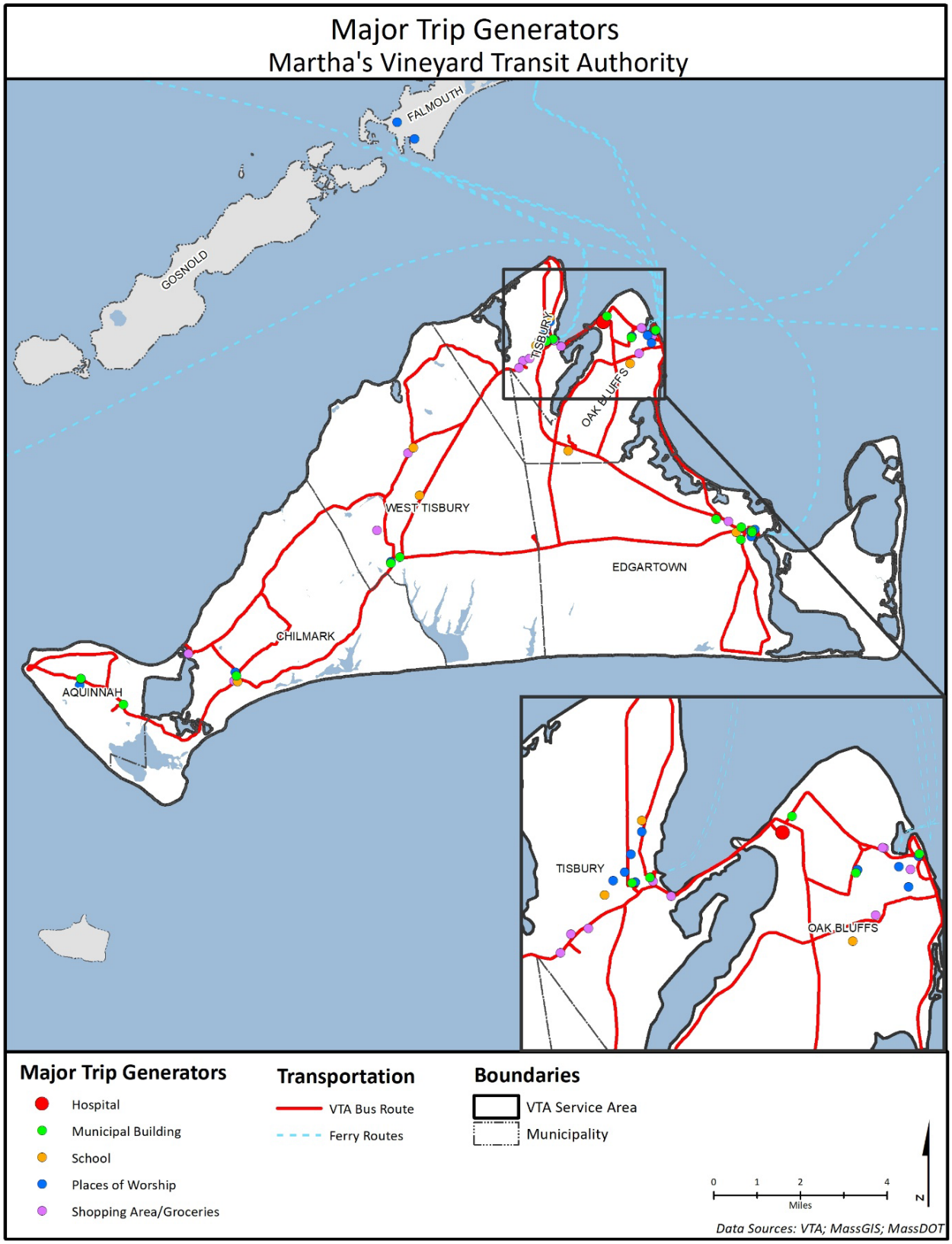
[21] Island Plan, Martha's Vineyard Commission, 2015

Figure 22. Job Density



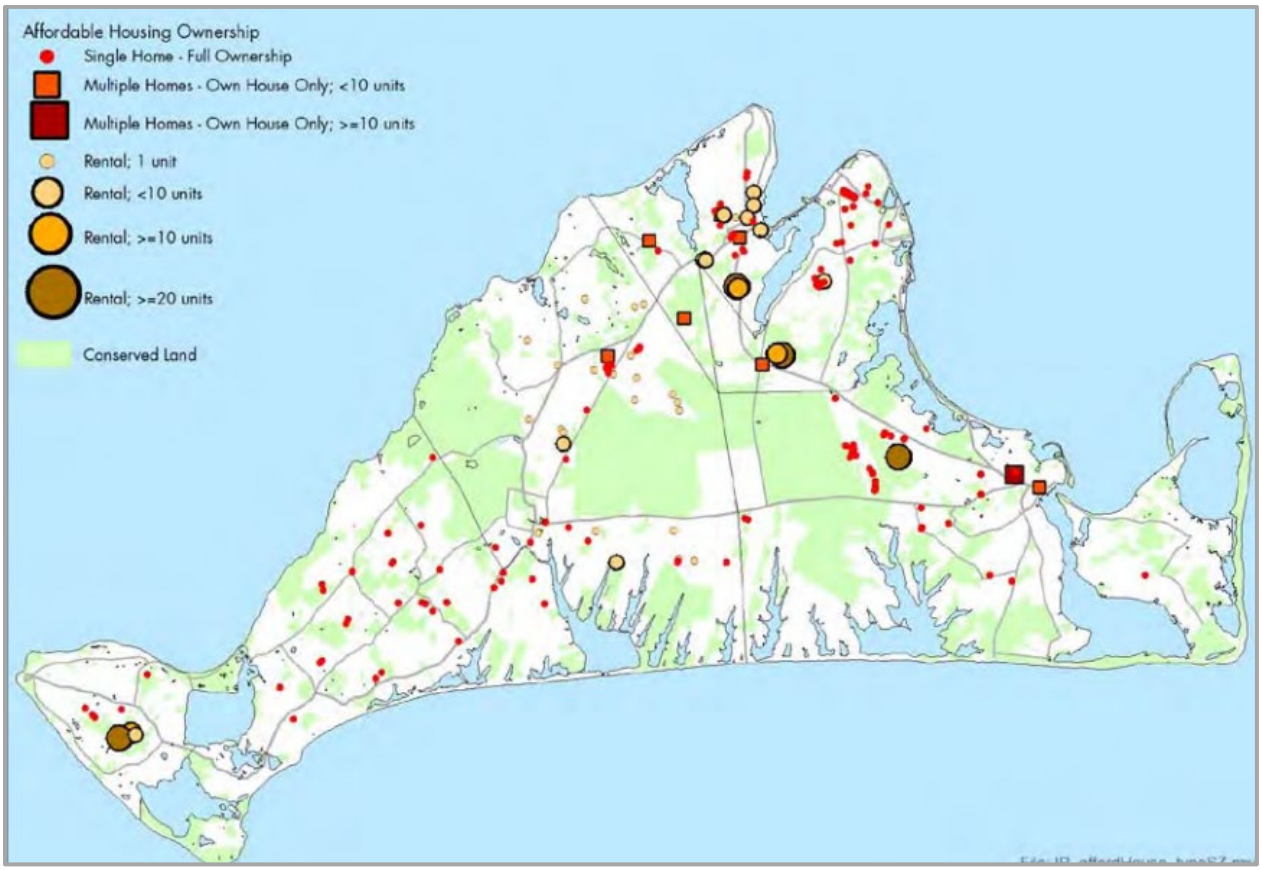
Source: 2017 LEHD

Figure 23. Major Trip Generators



Source: AECOM

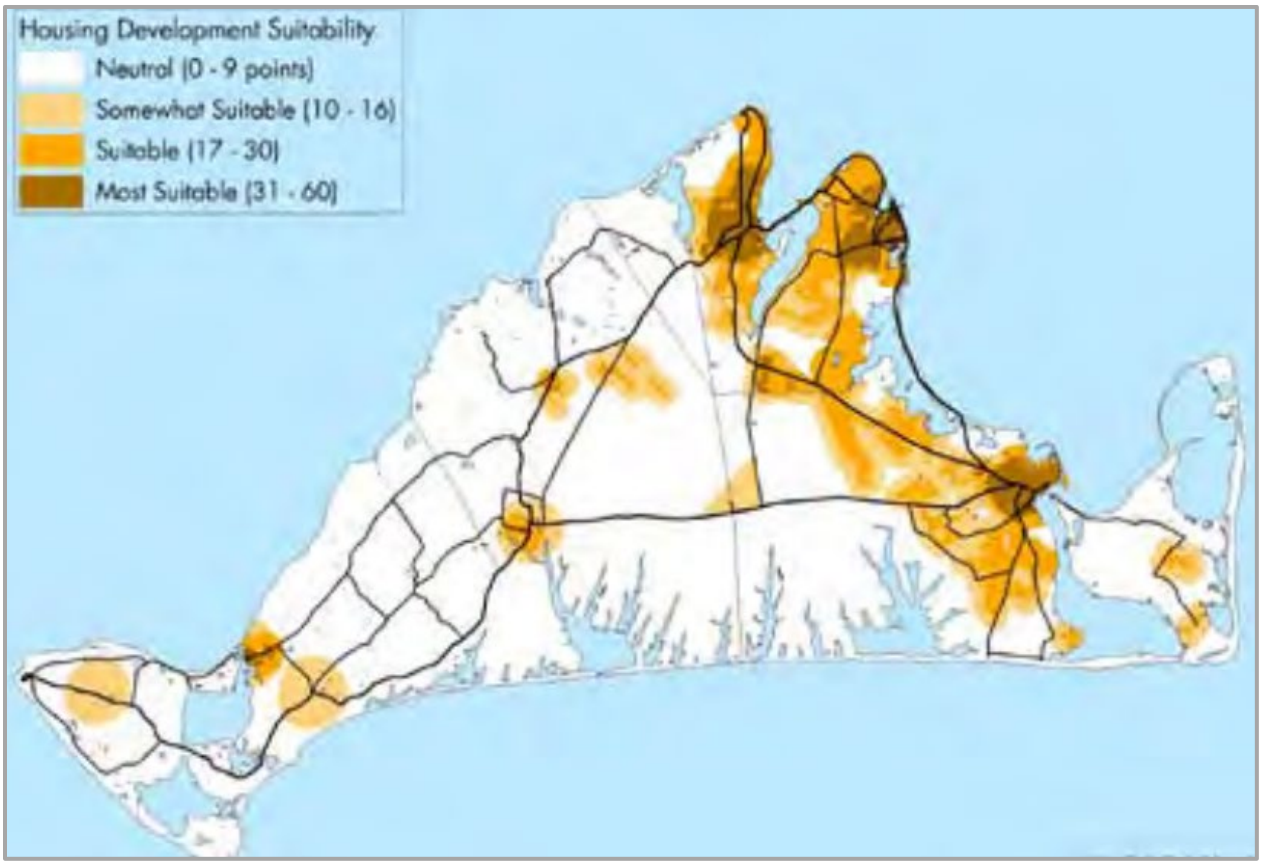
Figure 24. Existing Affordable Housing



Source: MVC Island Plan, 2015

Figure 25 maps housing suitability. MVC determines the optimum locations for additional housing based on availability of services and proximity to jobs and stores. As shown, the most suitable locations for new housing are located in Vineyard Haven, Oak Bluffs, and downtown Edgartown.

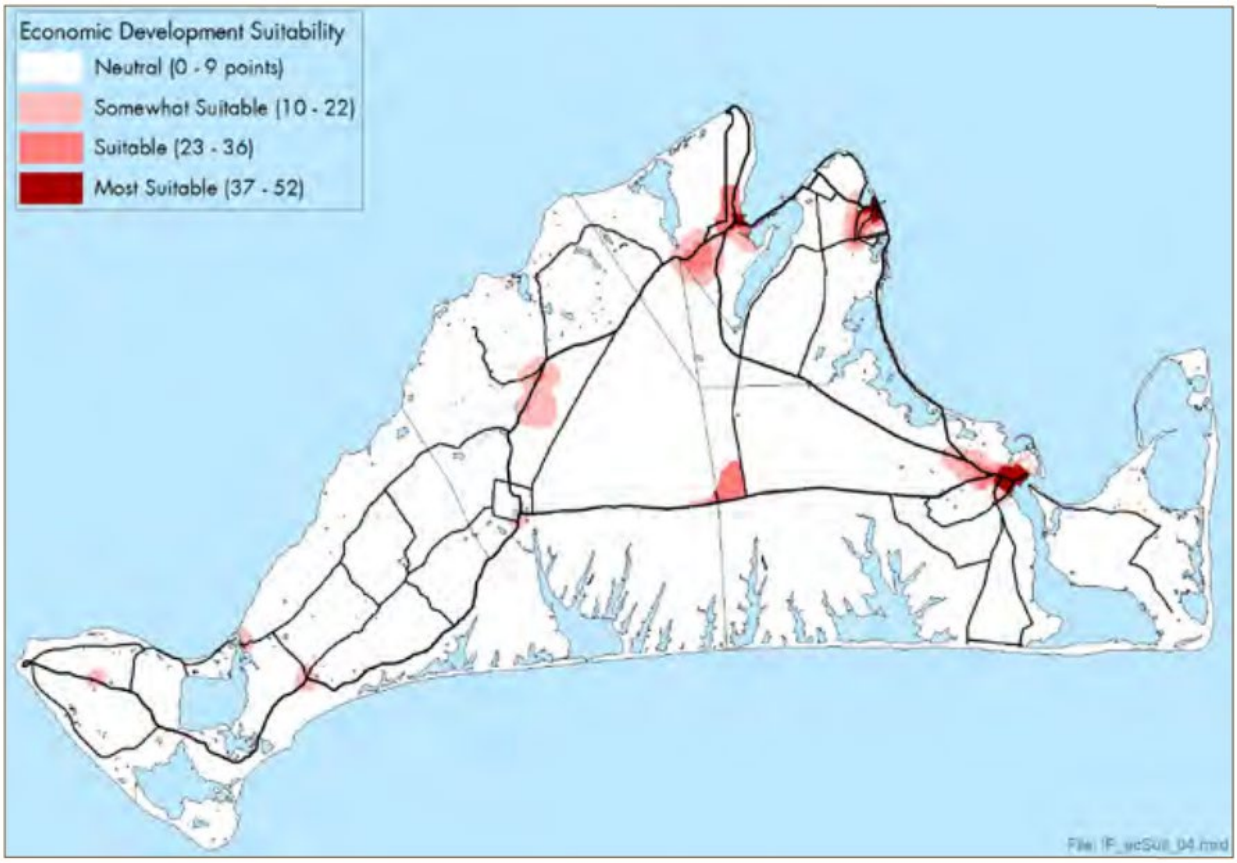
Figure 25. Housing Suitability



Source: MVC Island Plan, 2015

Figure 26 displays the MVC's determination of areas most suitable for economic and industrial development. This assessment was based on proximity to existing commercial activities and population concentrations, presence of infrastructure, and access to transit.

Figure 26. Economic Development Suitability



Source: MVC Island Plan, 2015

The MVC 2020–2040 Regional Transportation Plan[22] outlines several action steps related to public transportation:

- Work with towns, transportation administrators, the public, and others to estimate island capacity, in terms of summer vehicles and visitors, as a planning benchmark.
- Increase operating assistance to VTA from MassDOT and rural federal funds.
- Continue programming capital funds for bus replacement.
- Continue coordinating funding efforts with VTA and MassDOT for system operations, capital expenditures, and infrastructure needs.
- Continue improving the locations and physical installation of bus stops, including, where appropriate, the construction of shelters, in harmony with the character of Island roads.
- Install APCs aboard all public transit vehicles to provide data for planning purposes.
- Commit to minimum fixed route service levels on all routes year-round; explore microtransit options for routes that are less traveled.
- Encourage employers to use tax incentives to buy transit passes for employees.
- Offer detailed trip planning, online and in-mobile applications, and online ticketing.
- Further develop community outreach and education related to transit services to encourage new ridership.

[22] Regional Transportation Plan 2020-2040, Martha's Vineyard Commission, 2019

- Support the exploration of transit improvements identified in the recent master plans for Oak Bluffs (2019), Menemsha (2017), and Aquinnah (2018), as well as other public planning initiatives on the island.
- Work with MVC on assessing sidewalk and bus stop needs for the transit system.
- Work with island towns to allow transit vehicles on less-congested roads during peak travel times.
- Work with local zoning, approval, and licensing boards to make transit considerations part of the permitting process. Town and other licensing boards should be educated about the benefits of transit and require a mitigation fee for projects island-wide.
- Focus on the non-peak travelers by continuing to improve service in the off-season.
- Publicize the availability of off-season public transportation services by continuing to improve signage, coordinate scheduling, and utilize printed material, web sites, and other marketing techniques.
- Work with Cape Cod and Nantucket to lobby for the distribution of federal and state transit capital and operating funds to more strongly consider seasonal demands.
- Explore the feasibility of a multi-town board to perform some administrative functions related to transit funding and the handling of complaints.
- Promote a complete network of non-automobile transportation facilities.
- Improve information about travel options so that arriving visitors can quickly understand the relative merits of bus, taxi, and tour bus.
- Work to improve pedestrian and bicycle facilities to complement bus service.

5.6 Transit Score

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

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

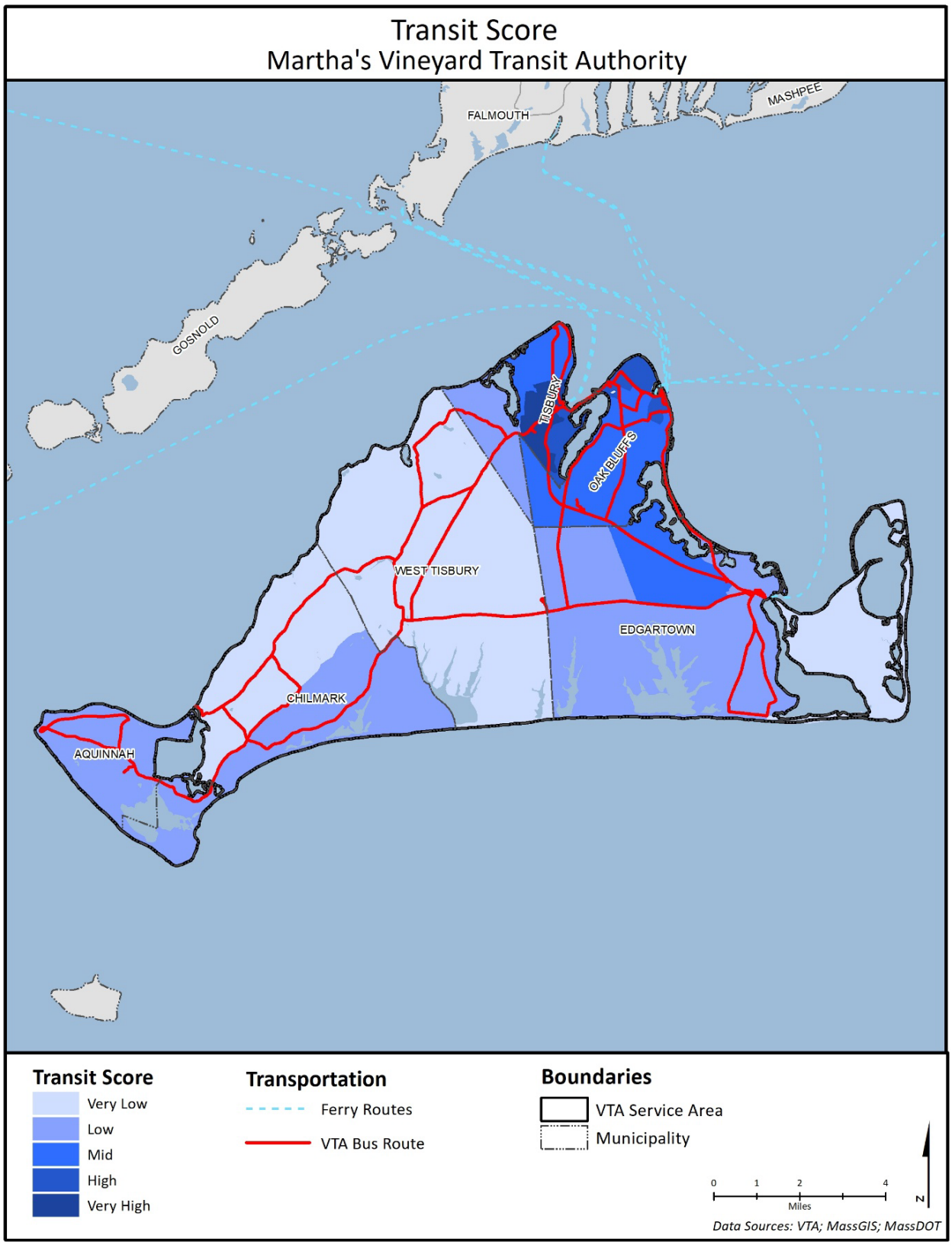
- Overall Population Density
- Overall Job Density
- Density of the Population under the age of 18
- Density of the Population over the age of 65[23]

[23] Note that the federal definition of senior as aged 65 or over is used in this case, but age in relation to transportation need is more nuanced than a strict age cutoff implies. In 2017, Governor Baker signed Executive Order 576 establishing the Governor's Council to Address Aging in Massachusetts. As part of this effort, the Council looked at different methods and solutions to create an age-friendly Commonwealth and conducted research and listening sessions across the state, during which transportation was identified as a key challenge facing older adults. Additionally, research presented from this effort showed a trend toward people staying in the workforce longer than previous generations. This research shows that the topic of transportation for older adults is one that is evolving and will require more attention in transportation planning in the future.

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

The results of the transit score analysis are illustrated on Figure 27. As shown, the highest transit scores are in Tisbury and Oak Bluffs. VTA does a good job of providing appropriate transit services, based on the season in the higher transit score areas. All areas with a transit score of "Mid," High," or "Very High" are served by one of VTA's year-round fixed routes.

Figure 27. Transit Score



6. Performance Monitoring

Performance-focused management is a critical priority for the Commonwealth and regional transit providers. The federal government has also led the transportation industry to become more performance-driven in the last decade by mandating that federally funded agencies implement a performance-based approach to planning and programming. This broad emphasis on having a strong enterprise-wide, data driven, and transparent performance management framework as the foundation for making decisions is especially relevant in addressing the challenges of COVID-19 and other market uncertainties. The purpose of this chapter is to outline VTA's current performance measurement practices, track performance results for the VTA/MassDOT Bilateral MOU, and make recommendations supporting data-driven, performance-focused decision-making. Historical performance information and a review of peer agencies are included in Appendix A.

6.1 Current Performance Measurement Practices

VTA has developed a detailed performance measurement system informing their decision-making processes. VTA's system for performance monitoring includes:

- Quarterly, transparent reporting a broad range of performance results to the public, its Advisory Board, and federal and state funding partners
- A commitment to tracking and reporting key metrics to MassDOT under the bilateral 2-year MOU that VTA signed with MassDOT in August 2019

VTA also has internal performance monitoring protocols related to management decisions. VTA prepares an annual PDF performance dashboard for its fixed route and demand response services that is posted on the RTA website. VTA also posts a one-page annual performance summary report on its website. This report summarizes a variety of month to month operating statistics for its fixed route and demand response services, including:

- Unlinked passenger trips
- Unlinked trips per vehicle mile
- Unlinked trips per revenue hour
- Passes sold
- On-time performance
- Verified complaints
- Chargeable road calls
- Preventable accidents
- Preventative maintenance
- Modal information on the following
  - Annual cost of operations
  - Annual farebox recovery
  - Operating expense per passenger
  - Operating expense per mile
  - Annual miles
  - Annual hours

- Annual revenue
- Required subsidy per passenger

All metrics are compared to an annual baseline (average of previous years). Reports dating from FY 2012 to FY 2020 are included on the RTA's website as well as a one-page summary of key historical indicators (annual comparison) for easy access and transparency.

Although VTA has a strong base to build on, it will be very beneficial for the Authority to strengthen their performance management practices, as agreed upon in the MOU. Recommendations for improving VTA performance management practices are provided at the end of this chapter.

6.1.1 State and Federal Monitoring Requirements

VTA collects and reports a variety of performance metrics to both FTA and the Commonwealth on a monthly, quarterly, and annual basis as part of their funding agreements. Summary performance metrics that VTA has tracked and reported to MassDOT through the GrantsPlus and asset data systems over the FY 2015 to FY 2019 time period are displayed in Appendix A. FTA requires transit providers that receive federal funding to submit data (including service, financial, and asset inventory and condition) both monthly and annually to be submitted to the National Transit Database (NTD).

6.1.2 Performance Metrics and Targets from MassDOT Memorandum of Understanding

New to VTA's performance monitoring obligations is a commitment to monitor and report on a selection of performance metrics, baselines, and targets established by VTA and MassDOT in the categories of ridership, customer service and satisfaction, asset management, and financial performance. This commitment is contained in a bilateral MOU signed by VTA and MassDOT in August 2019. The MOU states that VTA's performance is to be measured by comparing established baselines against FY 2020 and FY 2021 targets. With a few exceptions, the baselines are averages of data collected in FY 2016 to FY 2018. The performance measures included in the VTA MOU, along with their baselines and targets, are shown in Table 13.

Table 13. FY 2021 Performance Measure Targets in the MOU

Metric	Baseline	FY 2020 Target	FY 2021 Target
UPT (Fixed Route)	1,347,337	1,354,074	1,360,810
UPT (Demand Response)	13,160	13,230	13,300
UPT (System)	1,360,497	1,367,304	1,374,110
UPT/VRM (Fixed Route)	1.11	1.18	1.25
UPT/VRM (Demand Response)*	Unavailable	0.12	Unavailable
UPT/VRH (Fixed Route)	18.90	19.20	19.50
UPT/VRH (Demand Response)*	Unavailable	1.80	Unavailable
Passes Sold (multi-day and annual)	204,495	206,535	208,584
No show Trips (Demand Response)	100	90	80

Metric	Baseline	FY 2020 Target	FY 2021 Target
On-time Performance (Fixed Route)	94.00%	95.00%	96.0%
On-time Performance (Demand Response)	90.10%	91.80%	93.5%
Annual Verified Complaints (Fixed Route)	100	95	90
Annual Verified Complaints (Demand Response)	30	27.5	25
Reportable Vehicles meeting TAM Plan Useful Life Benchmarks	FY 2018 TAM Plan	Meets/Doesn't Meet	
Reportable Equipment meeting TAM Plan Useful Life Benchmarks	FY 2018 TAM Plan	Meets/Doesn't Meet	
Reportable Facilities meeting TAM Plan Useful Life Benchmarks	FY 2018 TAM Plan	Meets/Doesn't Meet	
Chargeable Road Calls (5–10 year average, Fixed Route)	62	60	58
Chargeable Road Calls (5–10 year average, Demand Response)	1	0.5	0.0
Preventable Accidents (5–10 year average, Fixed Route)	54	52	50
Preventable Accidents (5–10 year average, Demand Response)	4	3.5	3
Preventive Maintenance Completed on Schedule (Fixed Route)	97.0%	97.5%	98.0%
Preventive Maintenance Completed on Schedule (Demand Response)	95.0%	96.0%	97.0%
Farebox Recovery (Fixed Route)	37.86%	36.43%	35.0%
Farebox Recovery (Demand Response)	5.22%	5.36%	5.5%
Operating cost/ VRM (Fixed Route)	$3.62	$3.80	$3.98
Operating cost/ VRM (Demand Response)	$6.80	$7.14	$7.48
Operating cost/ VRH	$61.50	$61.81	$62.12
Operating cost/ VRH (Demand Response)	$84.66	$85.08	$85.50
GHG Reduction in CO_2 (tons)	N/A	N/A	750

Metric	Baseline	FY 2020 Target	FY 2021 Target
Renewable Energy % of Electricity Used	N/A	N/A	20%
Workers Compensation Claims (new metric)	N/A	N/A	90% of 2020 Actual
Social Media Hits (new metric)	N/A	N/A	110% of 2020 Actual

Source: MassDOT MOU, 2019

**Demand response productivity targets in the signed 2019 MOU were reported incorrectly. FY 2020 targets are based on MassDOT's "Fourth Quarter Addendum to the Annual Report on the Regional Transit Authority Performance Management Program."*

6.1.3 How the Transit Market Has Been Affected by COVID-19

When initially negotiated, MOU targets reflected the reasonable expectation that VTA could improve upon the identified baselines for the period of FY 2020 through FY 2021. Through the first and second quarter of FY 2020, VTA's performance during the first quarter was impacted by the driver's strike. During the second quarter and part of the third quarter, winter performance lagged annual average targets as would normally be expected for a highly seasonal system such as VTA (see Figure 28 through Figure 30). However, the pandemic has impacted and continues to impact VTA through the fourth quarter of FY 2020. Months into the pandemic, the transit industry is still adjusting to current ridership trends and it is unknown what the "new normal" will look like. Transit providers are uncertain how many former customers will return (ridership has dropped as much as 80 percent in some systems) and what that timeline looks like. They are also grappling with how to ensure a safe workplace and retain employees as the risk associated with transit operations (and driving a transit vehicle in particular) has gone up significantly since March 2020.

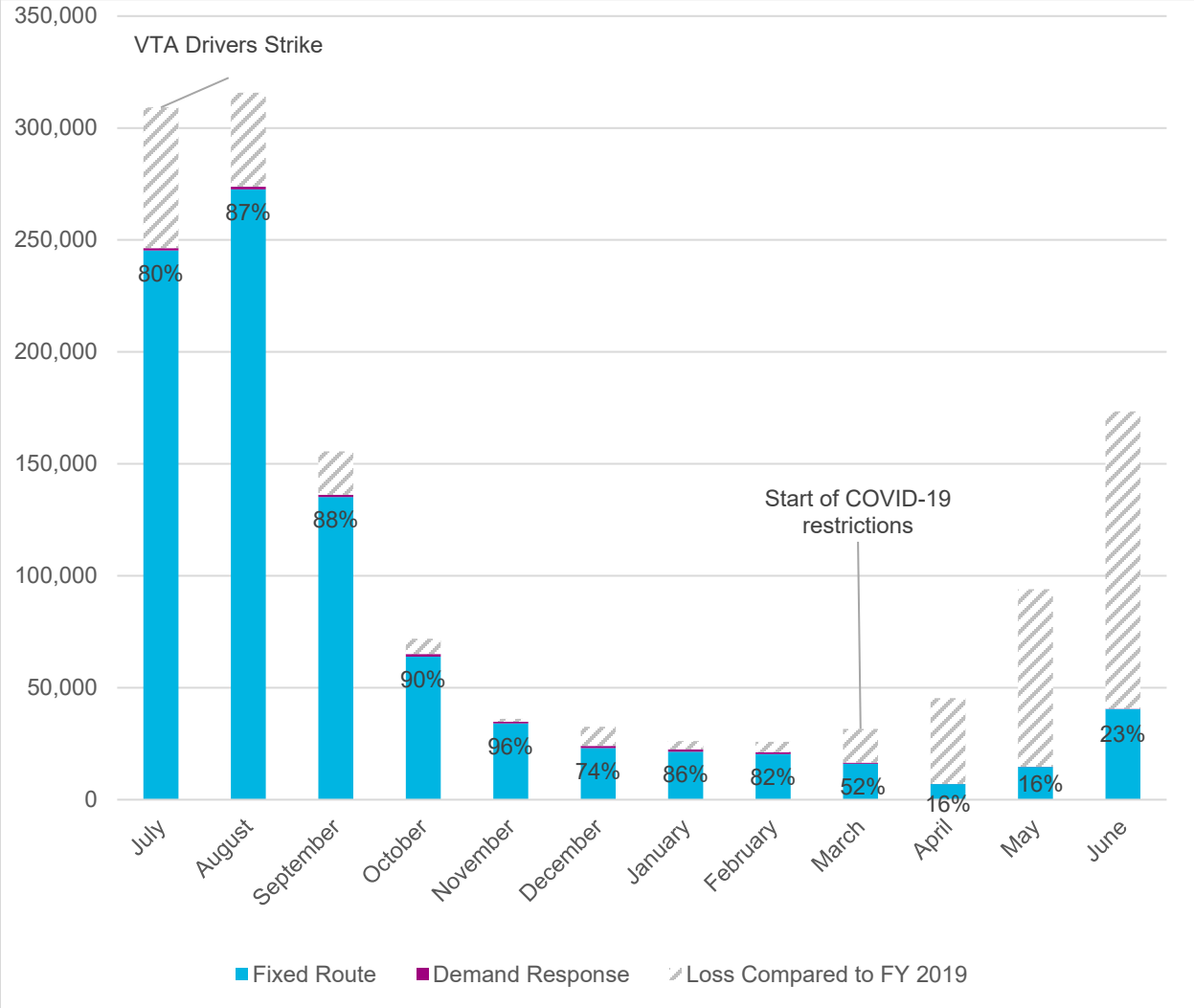
After the outbreak became widespread in Massachusetts in mid-March, many institutions and industries that fuel the region's economy, as well as VTA's ridership, have been severely altered for the foreseeable future. Some of the most significant include:

- Travel bans and stay at home orders reducing overall tourism to Martha's Vineyard
- Reduced ferry services to the island
- Shift toward virtual and hybrid learning options at area schools
- Reduction in leisure and travel activities, including temporary closure of several public beaches, parks, and golf courses
- Reduction in senior activities and services provided by area Councils on Aging
- Limitations on foreign workforce, necessary for a seasonal area

These institutions and services are not only major trip generators, but they also contribute to area employment and sales tax receipts that impact VTA's local revenue streams. As the timeline for eradicating the virus and the impact that pandemic-related trends (such as increased telework, distance learning, telemedicine, and online shopping) could have on future transit demand are extremely uncertain, VTA will need to continue to be flexible in its ability to adjust service according to demand and funding availability. Access to ridership data that are detailed and readily available is imperative to VTA's ability to both maintain lifeline service and transport essential workers.

Figure 28 shows FY 2020 ridership information for VTA compared to an FY 2019 baseline. At the beginning of the fiscal year, a driver strike impacted ridership levels somewhat, and following that, August 2019 to February 2020 ridership was approximately 75 to 90 percent of FY 2019 levels. Restrictions to travel and stay at home orders related to COVID-19 began in March 2020, and ridership levels fell immediately to 52 percent of FY 2019 levels. Losses were most dramatic in April and May 2020 (16 percent of FY 2019 levels) as VTA seasonal ridership is driven in large part by tourism and associated seasonal employment. June 2020 was characterized by a slight recovery, but ridership remained low at 23 percent of FY 2019 levels. This trend of depressed ridership has continued into FY 2021, especially during peak seasonal months of July and August, which drive VTA's annual performance data.

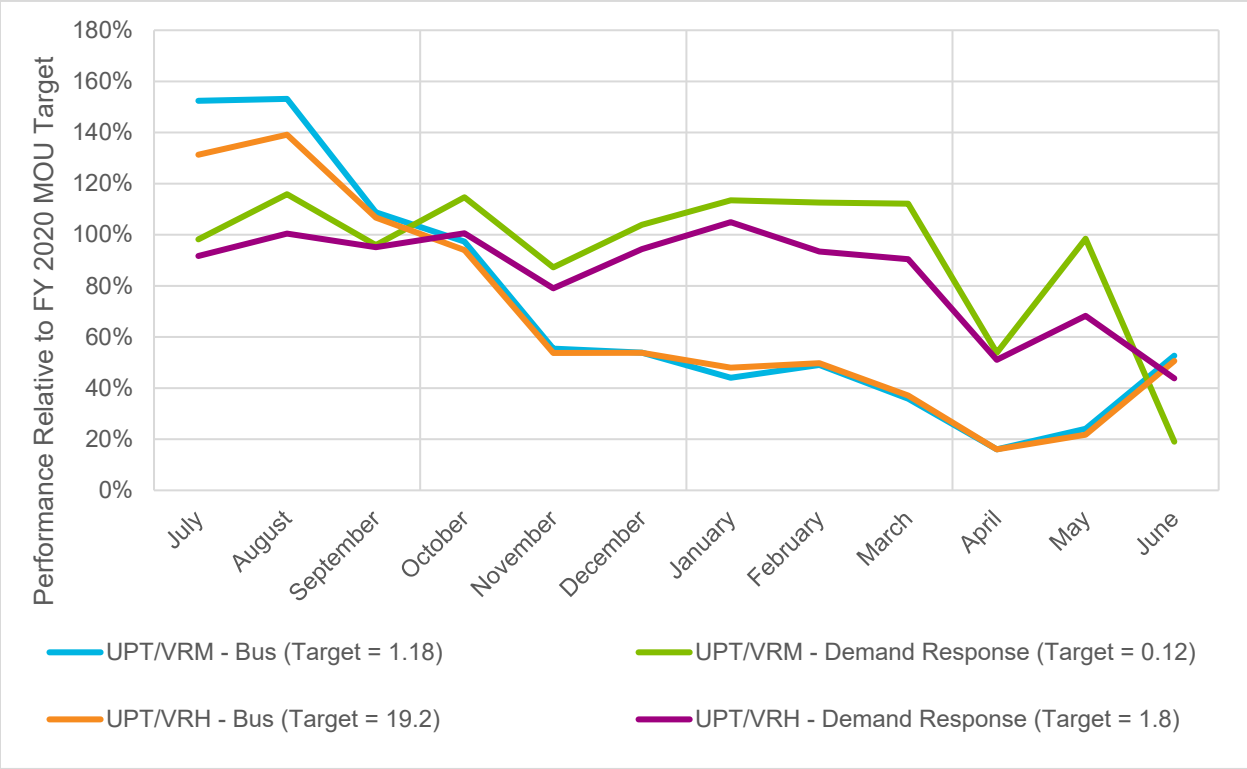
Figure 28. FY 2020 COVID-19-related Ridership Loss



Source: VTA, MassDOT FY 2020 RTA Service Report

Figure 29 shows FY 2020 performance for select service effectiveness metrics, as a percentage of the FY 2020 MOU target. In July 2019, the drivers' strike impacted both ridership as well as the number of vehicles in operation. The reduced hours and mile of service relative to ridership led to slight gains in fixed route productivity. Fixed route productivity fell below targets in the second quarter, as is expected for a seasonal system such as VTA. However, productivity did not rebound as usual in the spring due to the pandemic, falling as low as 0.2 passengers per revenue mile and 3.1 passengers per revenue hour (each 16 percent of FY 2020 MOU targets).

Figure 29. FY 2020 Service Effectiveness Metrics Relative to Targets

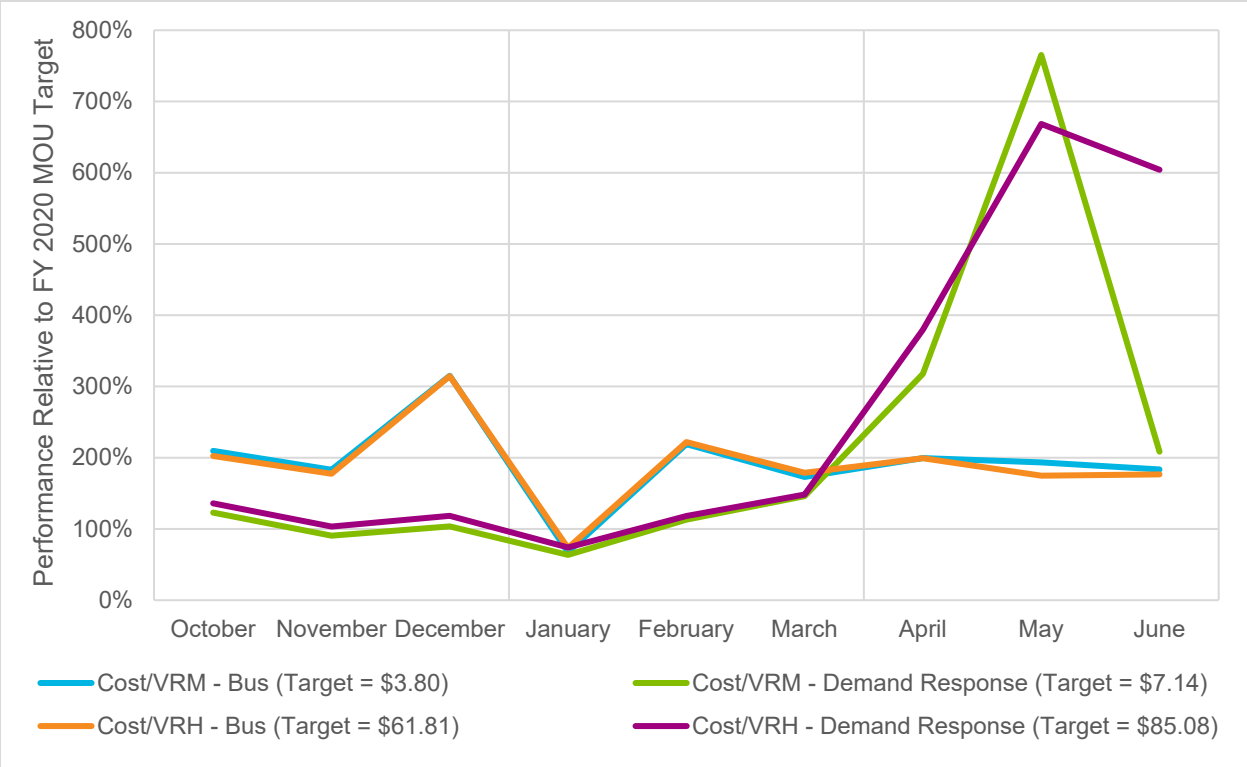


Source: VTA, MassDOT FY 2020 RTA Service Report

Figure 30 shows the FY 2020 costs per unit of service, as a percentage of MOU targets for the second through fourth quarters. As shown, demand response financial efficiency measures were near MOU targets throughout the second quarter and most of the third quarter, spiking in the fourth quarter to approximately 8 times MOU target levels due to the pandemic.(Fixed route financial efficiency measures were approximately 2 times the FY 2020 targets the whole year. VTA was able to avoid large spikes in its fixed route cost of service by continuing the reduced off-season schedule into May 2020 and a much reduced in-season schedule for the remainder of May and June. During the pandemic, VTA suspended fare collection in an effort to allow more social distancing between its drivers and customers. Lower ridership and suspension of fare collection combine such that VTA's farebox recovery performance metrics are not comparable to MOU targets during this time.

VTA and MassDOT will continue to review MOU performance results through the term of the agreement and will mutually utilize this data to inform agreement for FY 2022 and beyond.

Figure 30. FY 2020 Financial Efficiency Metrics Relative to Targets



Source: VTA, MassDOT FY 2020 RTA Service Report

6.2 Considerations for the Next 5 Years: Continuation of Data-Driven Performance-Focused Decision-Making Framework

Building on VTA's current performance management practices, there are some critical enhancements in data collection and performance measurement that VTA should adopt over the next 5 years. These changes support an enterprise-wide decision-making process guided by data and performance.

6.2.1 Staff Capacity for Performance Analysis

VTA desires to expand its performance analysis capacity by working with MassDOT or other RTAs to create a position for a statewide or, ideally, regional transit analyst dedicated to assist RTAs with data analysis. This position would help with gathering, analyzing, and reporting data to the relevant oversight entities, such as FTA and MassDOT. Increased staff capacity would also support VTA in their efforts to make more data-driven decisions through better data organization, facilitating increased analysis (e.g., quarterly reports or a more automated performance dashboard). In order to achieve this goal VTA will need to coordinate with other RTAs and/or MassDOT to determine the level of support and possible collaboration strategies.

6.2.2 Data

The first critical need that VTA should fulfill to enhance performance management is in the area of data collection and evaluation. While VTA collects, analyzes, and reports performance data, the Authority would greatly benefit from strengthening its data collection tools to better support performance-driven decision making. It will be critical for VTA to evaluate its data collection and evaluation tools and invest in technology driven solutions to provide real-time information on key system indicators and reaffirm the key metrics that will best inform Authority decisions,

particularly in the service planning, cost control, and financial business lines. In order to achieve this goal VTA will look to support from its funding partners to finance capital purchase of advanced data collection and processing systems, as well as possible joint procurement opportunities.

Principals for data evaluation include:

- **Data Collection**: A transit agency must have the data collection systems in place from which to draw the information for making decisions. These systems can be automated, such as APCs, or drawn from manual observations or samples. Validation of the information collected is a crucial aspect of data-driven decision making. As transit operations equipment has become more technologically sophisticated, vast amounts of operations data have become available to service providers. Authorities should have technology-driven data analysis tools and strategies that ensure that the data collected facilitate VTA's reporting requirements and inform operations, service, and financial planning.
- **Data Analysis**: Transit operators have ample data produced on a daily or even hourly basis from the systems used to deliver service. Information from vehicle locators, APCs, fareboxes, phone systems, and other technology can be voluminous, and having appropriate levels of data analysis capacity is essential to distilling the information into key decision-driving reports. VTA already has a strong data foundation to build on as all in-service vehicles are equipped with TransLoc AVL systems, including bus-tracking capabilities available on VTA's website and mobile app. VTA has not yet equipped its fleet with APC technology but plans to do so within approximately a year. APC systems facilitate consistent and more easily collected ridership data across its bus routes and stops, enabling ridership and efficiency performance comparisons. VTA should procure, install, and calibrate APC systems on its fixed route fleet and continue to monitor, analyze, and apply the data collected through its APC system to facilitate review of performance metrics for every route and stop.

6.2.3 Performance Metrics

VTA should continue to assess its performance around key service and financial indicators to establish performance targets and corrective actions that better reflect the Authority's priorities through a variety of scenarios. When evaluating existing practices and developing recommendations for new metrics, it is important for VTA to keep in mind that performance measures should be:

- Easily measurable with realistic, aspirational targets
- Clear to transit staff as well as to non-transportation professionals
- Acceptable and useful to transportation professionals
- Comparable across time and between geographical areas
- Reported on a regular schedule (monthly, quarterly, or annually), depending on the state and federal requirements and the nature of the data
- Functionally related to actual system operations so that changes are reflected with minimal lag time in operating statistics
- A cost-effective means of data collection
- Based on statistically sound measurement techniques, where appropriate
- Consistent with measures identified for other systems
- Readily available, when possible, to facilitate flexibility and agility in service planning

- Framed around actionable language, setting thresholds when additional analysis or service changes are warranted

VTA should review and update a series of actionable guidelines for the performance metrics they regularly report to better reflect a variety of potential transit market scenarios. VTA's 2015 RTP identified several thresholds for when corrective actions (such as more extended analysis or service changes) should be undertaken for underperforming routes. As post-pandemic ridership stabilizes, it will be important to review and reestablish thresholds for corrective actions in order to simplify service planning and boost transparency of the decision-making process, especially in the event of sustained funding shortages or ridership loss following the pandemic. Thresholds identified in the 2015 RTP are shown in Table 14.

Table 14. 2015 RTP Service Correction Thresholds

Service Threshold	Down Island	Up Island	Seasonal Route	Community Circulator
Passengers per hour* (summer)	20.25	9	5.25	7.5
Passengers per hour* (winter)	6	2.25	N/A	2.25
Subsidy per passenger**	$3.75	$3.75	$3.75	$3.75
Farebox recovery	20%	20%	20%	20%
Cost per revenue hour	Above 75% of system average			
On-time performance	95%	95%	95%	95%
Miles between road calls	20,000	20,000	20,000	20,000
Accidents per 100,000 miles	3	3	3	3

Source: VTA, 2015 RTP, AECOM

** 2015 RTP identified routes 75% or below benchmarks as warranting re-evaluation.*

*** 2015 RTP identified routes above 150% of benchmark ($2.50) as warranting re-evaluation.*

At this time, it is worthwhile to refresh some of these thresholds to reflect pandemic-related impacts on travel demand as well as emerging technologies and service delivery options (e.g., microtransit or commuter express services). The prototypical benchmark for zone-based service is approximately 6 passengers per revenue hour. If ridership productivity falls below 75 percent of this benchmark it should be reevaluated for corrective actions. At the same time, productivity that exceeds this benchmark by more than 125 percent may be more cost effective as a fixed route.

The pandemic has demonstrated that a lower floor for corrective action may be appropriate on some of VTA's more productive down-island routes in season. Although these routes generally experience much higher productivity during the summer months compared to the off-season, corrective actions should be reserved for routes with consistently poor performance or major changes in VTA's summer market, rather than modest fluctuations in tourism levels beyond VTA's control. As VTA continues to explore options related to zone-based service delivery, it may warrant further examination of some of its other fixed route performance thresholds as well. Fewer than 6 passengers per hour may be more in line with a zone-based service delivery as a potential cost saving measure. As VTA expands its microtransit capabilities, it may no longer be necessary to identify lower tiers of fixed route service in areas with lower productivity. New service correction thresholds are proposed in Table 15. It is recommended that VTA continue to

monitor and adjust service evaluation thresholds in light of new data reflecting the pandemic, with updates occurring at least every 5 years (in conjunction with VTA's 5-year CRTP).

Table 15. Recommended Service Correction Thresholds

Service Threshold	Down Island	Up Island	Seasonal Route	Zone-Based Service
Passengers per hour (in-season)	15	9	6	4.5-7.5
Passengers per hour (off-season)	6	6	N/A	4.5-7.5
Subsidy per passenger (annualized)	$3.75	$3.75	$3.75	$3.75
Farebox recovery	20%	20%	20%	20%
Cost per revenue hour	Above 75% of system average			Above fixed route Average
On-time performance	95%		95%	N/A
Miles between road calls	20,000		20,000	20,000
Preventable Accidents per 100,000 miles	3		3	3

Source: VTA, 2015 RTP, AECOM

6.2.4 Public Transparency

VTA's website includes an "Open Government" page, which includes employee payroll, audited financial statements, an "open checkbook," annual reports, and an annual summary report for performance measures. Advisory Board meeting minutes, public notices, and relevant planning documents such as the 2015 RTP are provided elsewhere on the site. The purpose of providing this information is to boost public trust in VTA and allow the public to better understand the service and key decision making.

It is recommended that VTA incorporate some route-level performance information in its annual performance report, including performance as revised following the pandemic. Routes should be defined by the function they service in order to accurately measure the health of a route. Each route type should have different performance measures to monitor existing service and evaluate new service. Some routes may operate as two different route types depending on the time of day and year, so annualized ridership goals, with monitoring by time of year may be most suitable.

7. Transportation Needs

This chapter provides a summary of the process used to identify VTA's service, capital, staffing, and technological needs as well as key opportunities for growth. Needs identified during this process were scored and prioritized as recommendations (see Chapter 8). In some cases, needs may reflect VTA's long-term vision and may not be immediately feasible as recommendations during the pandemic or during periods of diminished local, state, or federal revenue. Other needs may serve as temporary measures intended to facilitate recovery. The strategy for classifying needs and recommendations embraces the uncertainty facing the region and the transit industry as a whole as a result of the pandemic and places each within the context of a specific recovery scenario.

7.1 Needs/Opportunities Identification Process

To identify needs, the project team held regular coordination meetings with VTA technical staff. These meetings provided an opportunity to discuss performance trends observed for existing services and discuss challenges and opportunities for strategic investment to better meet the needs of the community or increase operational efficiency. In addition, targeted outreach was conducted with VTA stakeholders and members of the public. Summaries of the outreach process and findings are included in Appendix C. Stakeholder and public input was reviewed and vetted with VTA staff.

The needs identified by this process reflect a time of unprecedented uncertainty in the transit industry. Several looming questions face transit agencies across the country:

- When will systemwide ridership return to pre-pandemic levels?
- How might the transit market be permanently changed by the pandemic?
- Which user groups are going to be more or less impacted by the pandemic?
- How can new technology be used to provide mobility options in a potentially transformed transit market?
- Which fixed routes will see faster recovery and which ones will see a slower recovery?
- Will the pandemic drive increased sprawl as people seek larger houses with home offices, more space for at-home child education, and yard space?

The answers to these questions and ones like them will be determined by broad driving forces largely outside of the control of VTA, such as national economic policy, unemployment rates, education policy, availability of funding for capital investments, and municipal land use plans. However, VTA can plan for contingencies based on how the future might unfold and in so doing be prepared for multiple potential scenarios.

7.2 Recovery Scenarios

In order to address this uncertainty, this analysis defines three qualitative ridership scenarios to sketch out the future of transit demand in three potential futures through 2025. These include a high-ridership scenario, a medium-ridership scenario, and a low-ridership scenario (explored more below). Each identified need was categorized as either a core need or a ridership-dependent need. Core needs are those that VTA is likely to face regardless of ridership or economic recovery and typically include capital items such as regular maintenance, fleet replacement, and technology solutions needed to keep up with changing industry standards and customer expectations. VTA may see high ridership scenarios during part of the year and medium ridership scenario during a different part of the year, so the Authority will have to

continue to adjust service levels accordingly. However, annualized ridership will be the overall comparative recovery of VTA.

7.2.1 High-Ridership Scenario

The high-ridership scenario is defined as a return to 86 percent or more of 2019 levels. This scenario imagines the transit needs associated with a relatively well-recovered and stable economy precipitated by the following possible conditions:

- There is an effective vaccine developed and widely available.
- There is continued federal support for small businesses and state and local governments to reduce layoffs resulting from the pandemic and prevent further reductions in staffing due to lagging consumer spending and tax receipts.
- There is federal support to transit agencies to fill any budget gaps resulting from reduced fare revenue, reduced state and local tax support, and increased costs associated with cleaning and installing personal protective equipment.

As a result of this successful vaccination development and distribution effort and/or ongoing federal support, ridership would be expected rise to levels similar to 2019. Specific aspects of this return of ridership demand include the following:

- Travel restrictions are lifted, and leisure travel returns to normal.
- Educational institutions resume with primarily in-person classes, though it is likely that distance learning will comprise a larger share of course offerings than before the pandemic.
- Ferry service levels and ridership return to pre-pandemic conditions during the peak season.
- Restaurants and non-essential businesses open with strong sales.
- Unemployment drops to 2019 levels, with people traveling to work on transit, and in particular service-sector workers who depend on transit for mobility.

Importantly, the high-ridership scenario does not envision ridership rising above where it was before the pandemic, but rather envisions a return to ridership at roughly the same levels seen in 2019.

7.2.2 Medium-Ridership Scenario

The medium-ridership scenario imagines a future in which ridership recovers somewhat from its lowest level in 2020 but has not fully recovered. This scenario may be characterized by stable ridership between 60 and 85 percent of 2019 levels or by a less predictable or volatile ridership that precludes either a "low" or high" ridership scenario. This scenario would envision the following conditions:

- The COVID-19 vaccine is slow to be developed, has limited effectiveness, has distribution problems, or has low-uptake due to public skepticism about its safety. While many people would be vaccinated, this lack of widespread immunization (herd immunity) means that many are still reluctant to be in public spaces.
- Federal support for small businesses and laid off workers is modest, and state and local governments are forced to reduce services and lay off staff due to funding shortfalls. While some economic activity returns as portions of the population are vaccinated and return to pre-pandemic activities, unemployment still remains substantially higher than in 2019.

- Transit agencies see some additional direct federal aid that prevents the deepest cuts in transit service. Lifeline service on suburban and rural routes is maintained with modest route consolidation or restructuring seen on some low-performing routes.

As a result of this middling performance on vaccination development and economic support, the transit market remains depressed. Some specific transit market impacts are:

- Martha's Vineyard would see a moderate return of seasonal visitors, but those visitors may seek more private means of transportation.
- The number of summer seasonal workers (including those using visas from other nations) returns to normal.
- Some area schools return to in-person instruction while others continue virtually or on a hybrid schedule.
- Ferry service runs at full-service levels during the summer, although ferry ridership may remain somewhat depressed.
- Riders most sensitive to the risks of the pandemic (seniors, people with pre-existing conditions) rely more on demand response transit, which is more expensive to provide than fixed route services.
- Unemployment remains somewhat high and travel to service-sector places of work is depressed, reducing overall ridership.

These factors interact to produce a scenario where there is some rebound from the lows of spring 2020 but keep overall system ridership below 2019 numbers.

7.2.3 Low-Ridership Scenario

The low-ridership scenario is defined as ridership that remains below 60 percent of 2019 levels. This scenario imagines a future where the transit market is compromised and transit demand plateaus at or near ridership levels seen post-pandemic. Short-term changes are judged to be unlikely due to high schools offering virtual learning, businesses remaining closed, employees continuing to work remotely, ferry ridership and service levels remaining lower than normal (or variable), and/or tourism remaining low.

Some parts of VTA's service area may experience recovery at different rates than others. For example, routes that support essential services, jobs, or populations with limited travel options may experience higher and quicker ridership recovery than routes better characterized as providing leisure travel. Identified needs that are specific to a particular route or service reflect the recovery scenario most appropriate for that particular route or service.

7.3 List of 2021–2025 Needs/Growth Opportunities

Table 16 summarizes the needs that were identified through this process, the rationale for the need, and whether each need is either a core need or a need specific to one of the three assumed recovery scenarios.

Table 16. Needs by Recovery Scenario

Description of Need	Source	Rationale	Scenario
Service adjustments for low-ridership routes	Staff	Cost-saving measure	Low-Ridership
Fleet replacement	Staff	Prevents excessive maintenance costs and service disruptions	Core Need

Description of Need	Source	Rationale	Scenario
Streamlined experience for visitors using ferry and transit	Staff, MVC	Integrated transportation network and overall customer experience	Core Need
Demonstrated safety of VTA fixed route travel amid pandemic public health concerns	Staff	Addresses heightened health and hygiene needs; accelerates ridership recovery	Low-Ridership
Improved coordination between transit and land use	Staff	Coordination improves cost effectiveness and productivity of services	Core Need
Fare policy	Staff, MOU	Public transparency for decision-making process, addresses fare needs associated with new service mode	Core Need
Streamlined performance tracking and reporting	Staff, MOU, RTA Task Force	More reliable data, ability to measure performance by route	Core Need

8. Recommendations

The recommendations for this 5-year plan reflect a data-driven process that takes into account historical operational data, stakeholder input, industry best practices, Commonwealth-wide goals, and RTA priorities. Specific recommendations were developed to address each identified need, then scored and prioritized to reflect appropriate recovery scenario assumptions, cost and complexity of implementation, and potential impact. These recommendations provide a framework for pursuing strategic service changes, capital enhancements, and policy approaches to ensure the best mobility options for the region's residents.

8.1 Guiding Principles

Despite the uncertainty facing the transit industry due to the COVID-19 pandemic, several guiding principles remain steadfast despite the shifting transit landscape. These guiding principles must be considered as VTA's needs are analyzed and recommendations are made.

- **Safety:** One of VTA's primary responsibilities is ensuring the safety of its customers and employees. This includes consideration of not only operational and traffic safety, but also, as underscored by the pandemic, a focus on health and hygiene of its vehicles and facilities.
- **Customer Experience:** A high-quality customer experience begins when a customer searches for transit information or books a demand response trip and includes all interactions with VTA facilities, vehicles, and staff from waiting for a bus, to the ride itself and any last mile needs.
- **Equity Considerations/Title VI**: Recommendations must avoid, minimize, or mitigate disproportionately high adverse effects on minority or low-income populations; ensure full and fair participation of affected communities in the decision-making process; and prevent the denial, reduction, or delay in the receipt of benefits by minority and low-income populations.
- **Fiscal Responsibility:** VTA's service plans and fare policies are financially constrained based on available state and federal resources. Recommendations seek to maximize the value of each dollar spent on VTA services.
- **Environmental Stewardship**: VTA is committed to environmental stewardship both in helping as many riders as possible reduce their carbon footprint and through consideration of lower emission technologies across its fleet and facilities.
- **Regional Land Use and Economic Development Goals:** VTA service changes and capital investment should be consistent with regional planning efforts, including the public transportation action steps identified by the MVC 2020–2040 Regional Transportation Plan.

8.2 Scoring

Scoring is based on two categories, complexity of implementation (described in Figure 31. Recommendation Complexity Thresholds) and presumed impact of the recommendation (described in Figure 32. Recommendation Impact Thresholds). Scores for each category are relative to the recommendation (route- or community-specific or systemwide) and are presented as high, medium, or low.

Factors used to assess the complexity of implementation include:

- Capital and/or operating costs

- Contractual obligations (union issues, need for more operators, third party limitations)
- Technology or logistical concerns
- Political or board challenges
- Coordination with other agencies

Figure 31. Recommendation Complexity Thresholds

Low	Medium	High
Easier to implement with very little costs or barriers to do so	Either a low cost but several barriers or a mid-high cost but no other barriers	Significant costs to implement with several barriers such as internal needs/issues, political challenges, and/or coordination with others

Factors used to assess the potential impacts of recommendations include:

- Number of riders or potential riders that would benefit
- Environmental benefits
- Benefits to equity or inclusion of environmental justice communities
- Communities and businesses
- Operational

Figure 32. Recommendation Impact Thresholds

Low	Medium	High
Would most likely go unnoticed by riders but would have an impact	Would impact only a segment of riders on the route or system	Large benefit to everyone

Complexity scores were assigned a value of 1, 2, or 3 from high to low, while impacts were assigned a value of 1, 2, or 3 from low to high, such that total scores range from 2 (high complexity and low impact) to 6 (low complexity and high impact).

8.3 Recommendations Overview

Table 17 summarizes the recommendations designed to meet each need, as well as its complexity and impact score. Further detail and staging considerations are provided in the following sections.

Table 17. Recommendations

Need	Recommendation	Complexity	Impact	Score
Service adjustments for low-ridership routes	SERVICE – Continue to evaluate potential to expand microtransit pilot service.	Low	Low	4
Fleet replacement	CAPITAL – Follow fleet replacement guidelines identified in TAM Plan, reflecting similar number and mix of small and large vehicles.	Mid	Low	3
Streamlined experience for visitors using ferry and transit	CAPITAL - Add electronic ticketing options that allow coordination of VTA fixed route and Steamship Authority tickets.	Mid	Mid	4
Demonstrated safety of VTA fixed route travel amid pandemic public health concerns	CAPITAL - Add or purchase new sanitation/disinfection equipment (e.g. electrostatic spray treatments).	Mid	High	5
	ADMINISTRATIVE - Collaborate with MassDOT and other RTAs on marketing initiative targeting public health and safety of transit.	Low	Low	4
Improved coordination between transit and land use	ADMINISTRATIVE – Designate a staff liaison for planning initiatives.	Mid	Low	3
Fare policy	POLICY - Ensure fare compliance with federal policy and establish process for fare structure updates.	Low	Low	4
Straightforward performance tracking and reporting	CAPITAL - Install APC systems on fixed route fleet.	Mid	High	5
	ADMINISTRATIVE - Develop a system to track or allocate service metrics (riders, hours, and miles) by route.	Low	Low	4
	ADMINISTRATIVE – Review and update performance metrics.	Low	Mid	5
	POLICY – Identify support for capital purchases of technology-driven data tools that support VTA management to continue making service decisions based on the latest data and that will help VTA implement additional public-facing and transparent performance reporting, as appropriate.	Mid	Mid	4

8.3.1 Service Recommendations

This section provides additional detail regarding the service-related recommendation outlined in Table 17.

8.3.1.1 Expand Microtransit Pilot as Appropriate

Given VTA's success in launching its first microtransit pilot for the fall/winter 2020–2021 season, it is recommended that VTA continue to monitor performance and cost data for current fixed routes and microtransit zones in order to establish guidelines to help identify areas and spans where microtransit service may be a more cost-effective solution. In addition, existing microtransit services should be monitored as ridership recovers from the pandemic to determine appropriate areas for fixed route service, especially during the peak season.

8.3.2 Capital Recommendations

This section describes recommendations for capital improvements or purchases.

8.3.2.1 Electronic Ticketing Options

VTA should explore electronic ticketing options that allow customers to choose coordinated ticket options for trips involving Steamship Authority ferry service and VTA fixed routes. This recommendation would support two MVC-identified transit action steps.

- Offer detailed trip planning, online and in-mobile applications, and online ticketing (customers could use the app as a standalone solution for VTA transit trips).
- Promote a complete network of non-automobile transportation facilities (booking a ticket or scheduling a trip is the customer's first experience of a service, and as such is an integral part of the complete network of island transportation services).

Integrated ticket booking options may also help to introduce a larger share of ferry customers to the availability of transit options, spurring VTA ridership recovery.

8.3.2.2 Vehicle Replacement/Expansion

Regular replacement of older fleet requires modest capital expenditure but provides some long-term maintenance cost savings and helps to reduce safety risks and potential service interruptions. Further, regular vehicle replacement is an industry standard supported by FTA and Commonwealth funding as well as the MVC. VTA has established reasonable vehicle replacement guidelines through its TAM Plan. Follow-through of the TAM Plan will result in a need to replace a portion of VTA's fleet each year as vehicles reach the end of their useful life. VTA currently has a good mix of large and small vehicles to accommodate microtransit and ensure no overcrowding during pandemic conditions. A reduction in fleet (reflecting lower proposed winter season service levels) is not recommended due to the extreme seasonality of VTA's services and the potential for a resurgence of summer season ridership during the 5-year plan horizon. It is recommended that VTA continue regular replacement of its aging fleet in compliance with its TAM Plan and MOU targets.

8.3.2.3 Procure Sanitation/Disinfection Equipment

VTA intends to pursue additional capital equipment to reduce the transmission of disease. As part of this process, VTA should explore best sanitation best practices and identify infrastructure equipment needs, such as updated air filtration systems, electrostatic spray treatments, etc. The ability to communicate these updates and an improved public perception of cleanliness may help to speed ridership recovery. Further, while CARES Act funding is focused primarily on

transit operating expenses, capital expenses directly related to the pandemic such as these are also eligible for federal reimbursement.

8.3.2.4 Automated Passenger Counters

As discussed in Section 6.2.2, APC systems can offer several benefits, including more streamlined data collection and reporting processes, ridership data consistency, and elimination of a potential source of distraction for drivers. VTA should pursue installation of APC systems across its fleet over the 5-year plan timeline. This recommendation is supported by the MVC and is scored as having a high potential impact (Score=5) based on its ability to provide VTA with critical information about the locations where customers are boarding and alighting. This information can lead to service planning decision-making that best reflects travel needs on the island and is critically important in understanding trip characteristics of seasonal riders, who may be harder to understand through traditional on-board survey tactics. This recommendation would be further supported by more precise data regarding TNCs and their ridership at levels more detailed than annually; this would require the cooperation of the Commonwealth and its agencies.

8.3.3 Administrative Recommendations

This section describes administrative or organizational recommendations.

8.3.3.1 Performance Tracking and Benchmarks

VTA will likely need to update its existing performance goals for fixed route and demand response service in light of the pandemic's effects on ridership and farebox recovery. As part of this update, VTA should develop a system to either track or allocate service metrics by route. In the initial phase, as VTA rolls out its new winter season microtransit service, new performance benchmarks will need to be established for this service mode (see Section 6.2.3). Benchmarks as well as thresholds for corrective action should be formalized and publicly available in order increase transparency of the service planning and decision-making process. Although these recommendation score well, the update of VTA's existing performance goals (Score = 5) and development a fixed route allocation formula (Score = 4) are both best suited to later phases of the plan after ridership levels have stabilized.

8.3.3.2 Marketing

Given VTA's heavy reliance on its own farebox revenue, it is essential to attract riders back to the VTA as quickly as possible. To do this, VTA should develop strong community outreach and marketing programs, both locally and off-island, to help VTA begin to recover from the impacts of the pandemic. Specifically, VTA should collaborate with MassDOT and other RTAs on a marketing initiative targeting public health and safety of transit. This would be a MassDOT-led initiative. VTA would designate staff to collaborate and support any local implementation steps required.

8.3.3.3 Staff Liaison for Planning Initiatives

VTA desires more coordination between land use planning and development decision making and transit services. To accomplish this, VTA should establish a designated staff liaison who is responsible for coordination with MassDOT and town planners. This position would likely comprise less than an FTE and could be accommodated through formalizing a role for existing staff or expanding staff capacity. Specific benefits and responsibilities may include:

- Provide technical assistance or plan review as needed to help towns assess the ability of transit to serve proposed high-density or social service-oriented developments.

- Manage VTA's priority list of collaborative capital improvement projects, including desired locations for transit priority treatment and bus stop pull-outs.
- Collaborate with MassDOT and towns to pursue creative financing strategies for capital improvement projects, including pursuit of federal or state grant support or local cost sharing agreements.

8.3.4 Policy Recommendations

8.3.4.1 Fare Policy

VTA has updated its fare policy as described in Section 4.7. In addition, VTA recently updated its fare structure to reflect microtransit service. Moving forward, it is recommended that VTA continue to monitor fare recovery and ridership demand, especially for its new microtransit pilot, and make adjustments as needed to facilitate services that are both competitive and financially stable. All seasonal fare changes should comply with federal policy.

8.3.4.2 Data Management

Throughout this plan, VTA has identified several data-management strategies that will require financial support to implement and to continue maintaining and monitoring the available information. VTA believes that formal policy support both internally and through agreements with its funding partners should be pursued. This policy could help to prioritize the most cost-effective data solutions as well as establish opportunities for collaboration or joint procurement with other RTAs or MassDOT.

Appendix A Illustrative FY 2015–FY 2019 Performance Results and Peer Review

To provide historical context for VTA performance since the 2015 RTP was completed, this appendix provides information on VTA systemwide performance for fixed route and demand response modes for FY 2015 through FY 2019. (FY 2020 and FY 2021 results are covered under the Bilateral VTA/MassDOT MOU discussed in Chapter 6.) A brief performance comparison with peer transit systems is also provided.

FY 2015 to FY 2019 Performance Evaluation

Service Effectiveness

Service effectiveness describes the amount of service utilized per unit of transit service provided. Service effectiveness is measured based on two indicators: passengers per mile and passengers per hour. Service effectiveness trends for fixed routes are summarized in Table 18. As shown, VTA bus routes averaged 1.24 passengers per revenue mile in FY 2018, compared to 1.37 for Massachusetts RTAs and 2.26 nationally. By revenue hour, VTA fixed routes generated 19.66 passengers in FY 2018, compared to 18.39 among Massachusetts RTAs and 27.21 nationally.

Table 18. Fixed Route Productivity (FY 2017–2019)

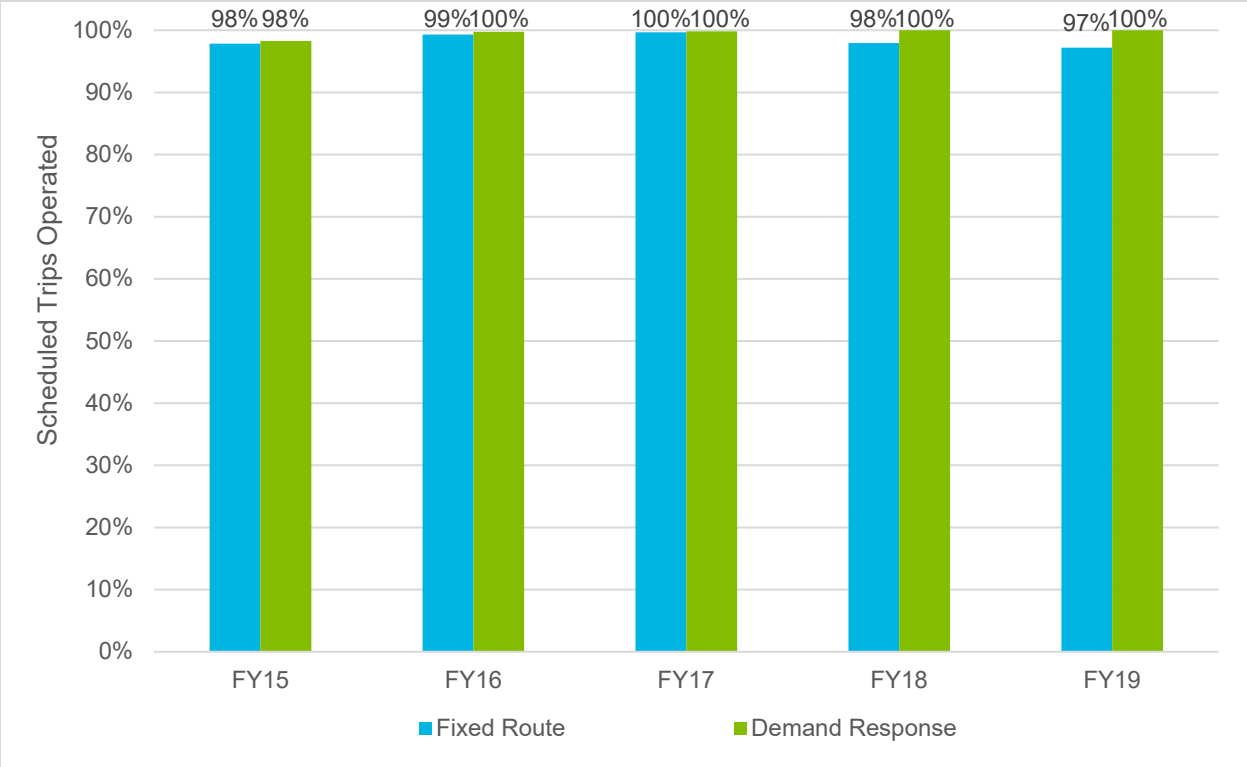
Mode	Fixed Route		Demand Response	
Productivity Metric	**Passengers /Mile**	**Passengers /Hour**	**Passengers /Mile**	**Passengers /Hour**
FY 2017	1.18	19.11	0.15	2.07
FY 2018	1.24	19.66	0.15	1.94
FY 2019	1.19	19.47	0.12	1.68
FY 2018 Massachusetts Average*	**1.37**	**18.39**	**0.15**	**2.13**
National Average	**2.26**	**27.21**	**0.13**	**1.97**

Source: VTA, NTD

** Massachusetts average excludes MBTA (from all modes) and CCRTA and MART (from demand response).*

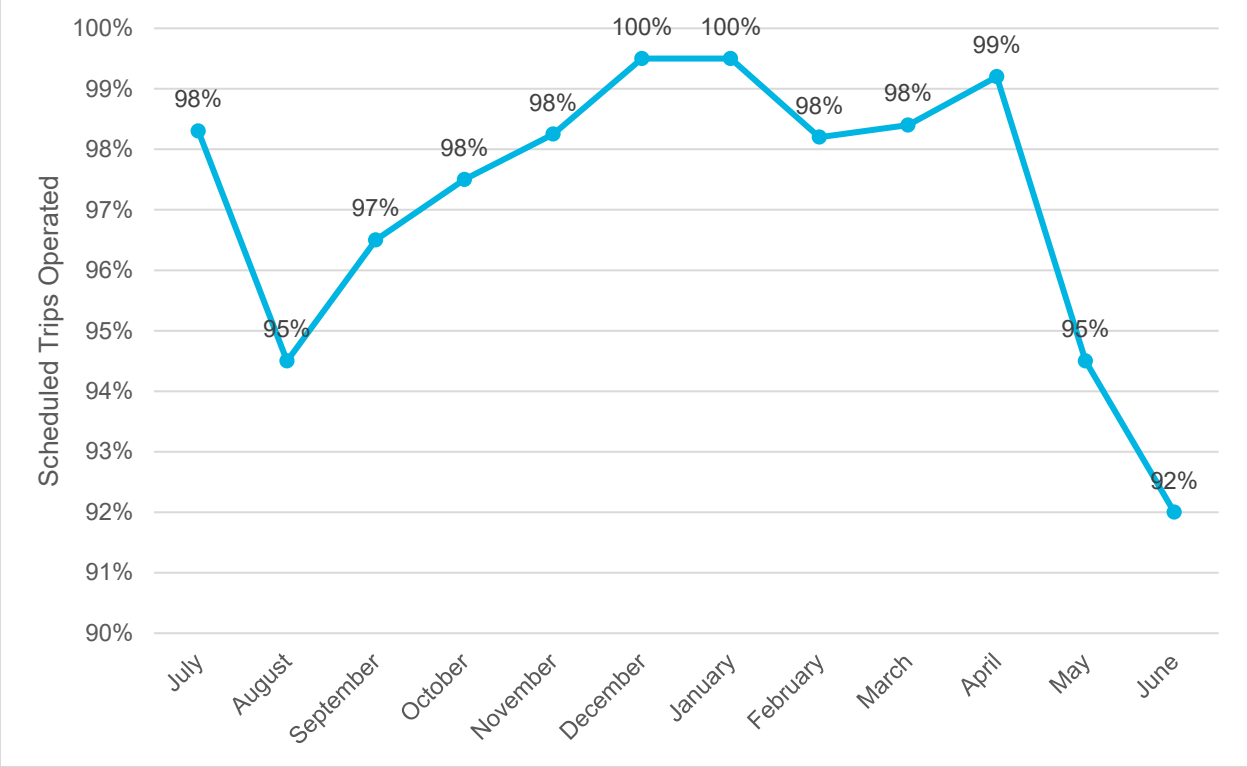
Figure 33 illustrates schedule adherence for VTA fixed routes and demand response. The percentage of demand response trips operated has increased since 2015, maintaining 100 percent schedule adherence in FY 2018 and FY 2019. Fixed route schedule adherence dropped in FY 2018 and FY 2019, possibly as a result of the operator strike in the summer of 2019. A closer look at FY 2019 performance by month, as shown on Figure 34, highlights that the lowest performance occurred during the peak season, with as few as 92 percent of scheduled trips operated in June.

Figure 33. Annual Schedule Adherence (FY 2015–FY 2019)



Source: MassDOT, RTA Service Reports, FY 2015-FY 2019

Figure 34. FY 2019 Fixed Route Schedule Adherence by Month

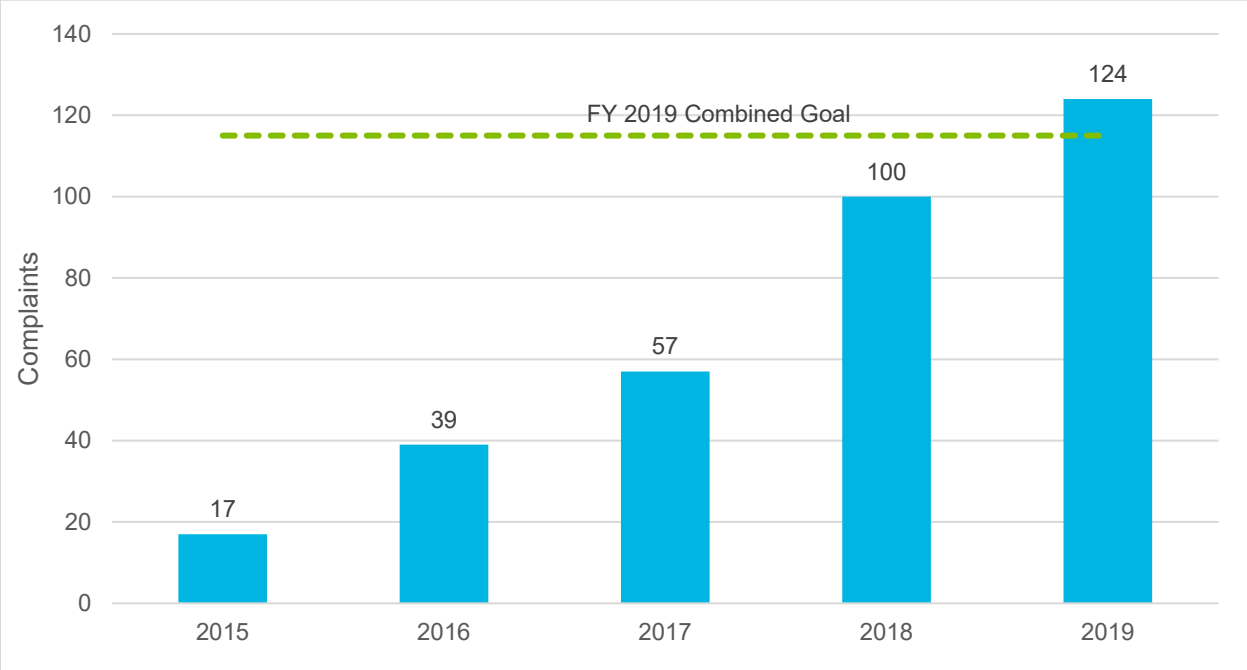


Source: MassDOT, RTA Service Reports, FY 2019

Customer Service and Satisfaction

Total systemwide complaints by year, compared to the combined goal of 115, are shown on Figure 35. Complaints have increased at an average rate of about 27 per year. As shown, 2019 was the first year for which complaints exceeded 115. VTA is challenged by the temporary nature of its seasonal workforce, one-third of whom are new hires requiring training each year.

Figure 35. Complaints per 100,000 Passengers (FY 2015–FY 2019)

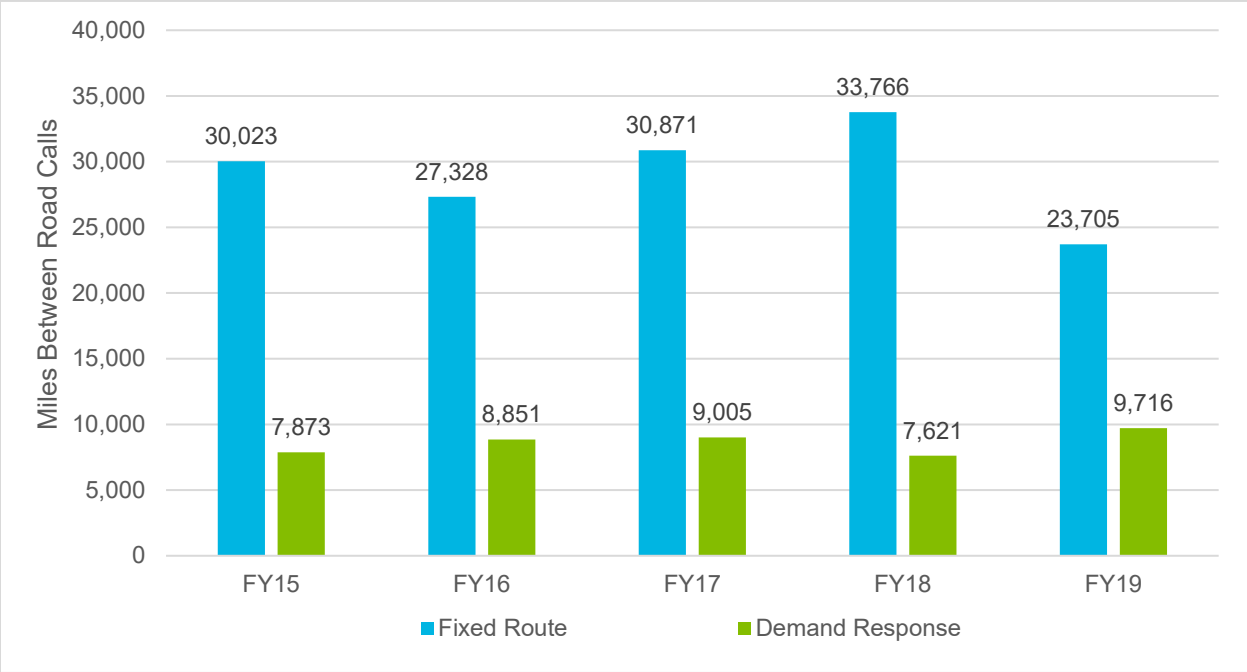


Source: VTA

Asset Management

Information regarding VTA's fleet and facilities, including TERM rating and ULB, is documented in Section 4.3. The following section describes VTA performance across several uniformly reported metrics related to asset maintenance and operational safety. Consistently reported data such as these can help to document historical trends and may be useful if incorporated into VTA's performance monitoring framework. The average mileage between road calls for FY 2015 to FY 2019 is shown on Figure 36. This information helps categorize the maintenance needs of VTA's existing fleet.

Figure 36. Miles Between Road Calls (FY 2015–FY 2019)

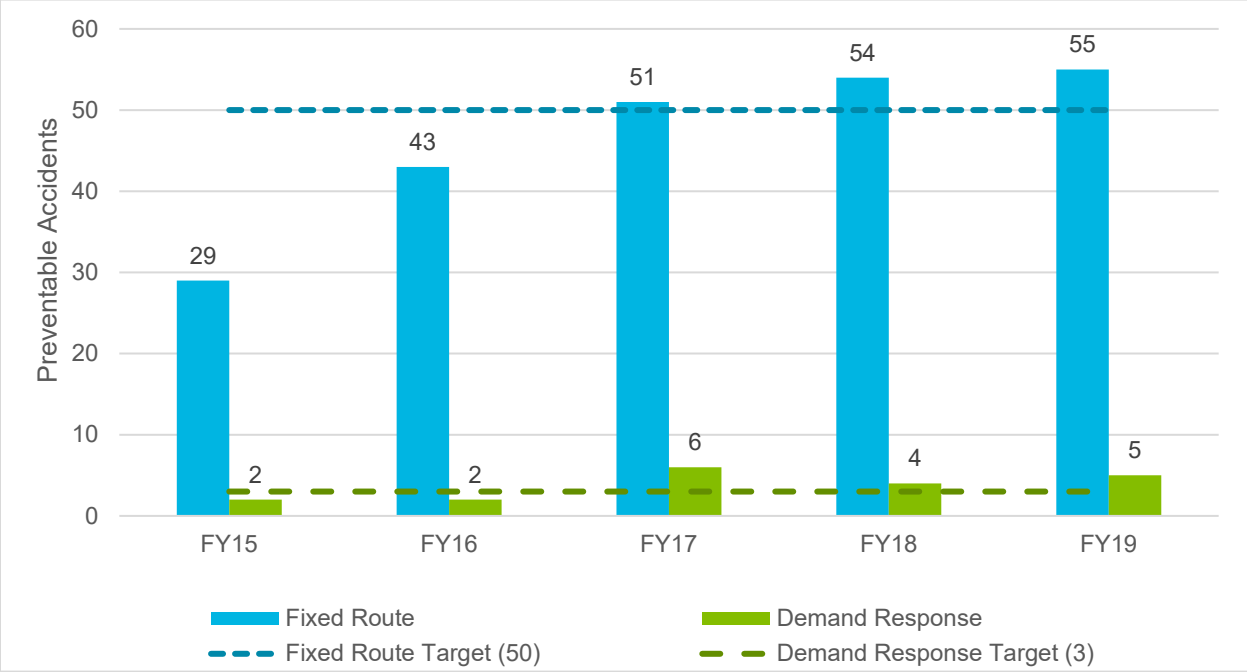


Source: MassDOT, RTA Service Reports, FY 2015–FY 2019

**Reflects non-weighted average of monthly data.*

As shown on Figure 37 preventable accidents for fixed routes have been increasing since FY 2015, with accidents surpassing the MOU target each year since FY 2017.

Figure 37. Preventable Accidents (FY 2015–FY 2019)

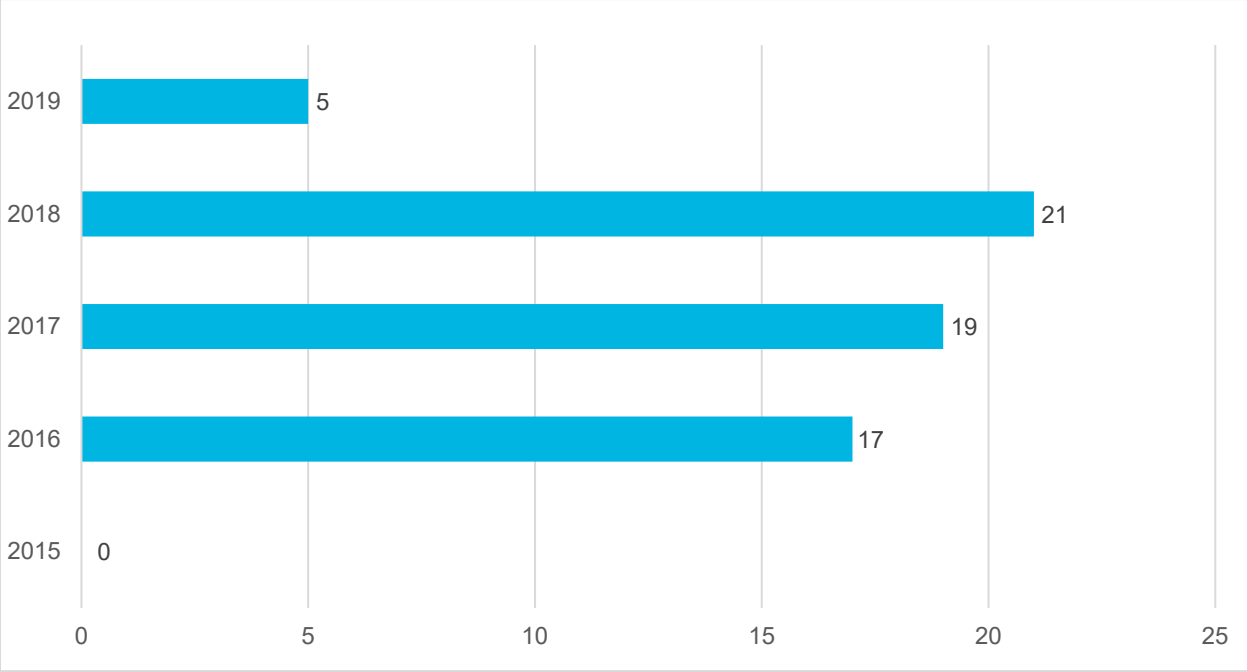


Source: MassDOT, RTA Service Reports, FY 2015–FY 2019

NTD reported safety events, injuries, and fatalities can provide insight into VTA's record of safety. Total NTD reported safety events, as shown on Figure 38, declined dramatically in 2019 from approximately 20 in prior years to only 5. There were no reported safety events for demand

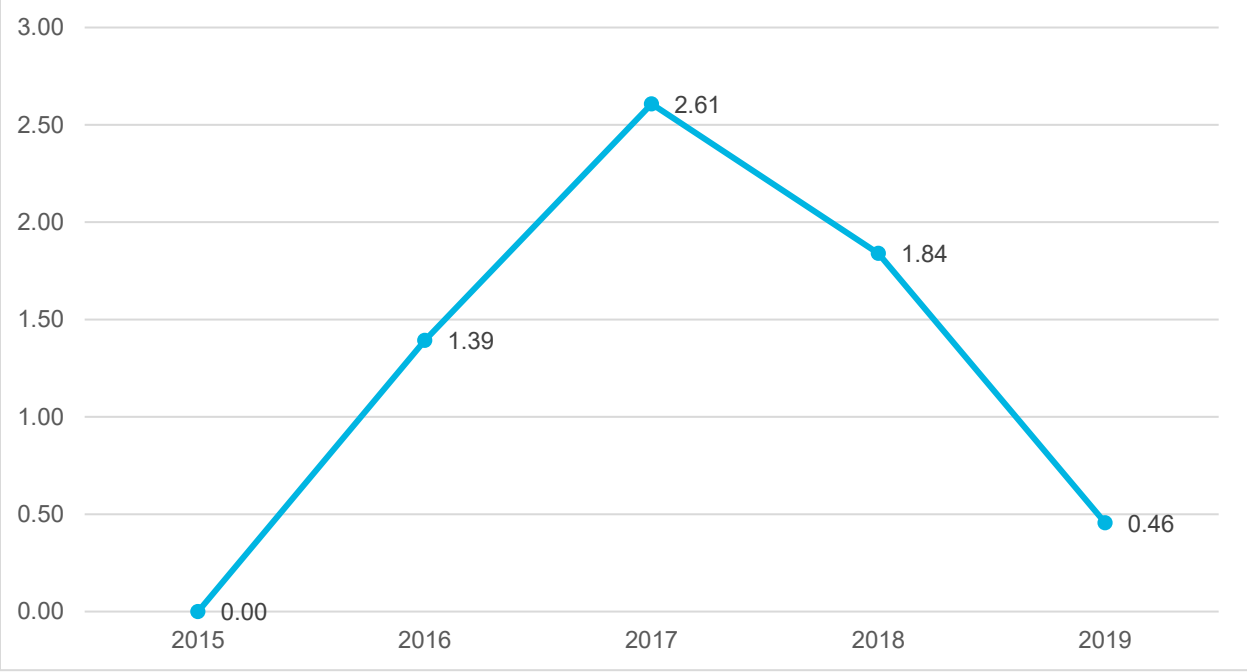
response. The rate of injury per 100,000 vehicle revenue miles also fell between 2017 and 2019, as shown on Figure 39. There were no reportable injuries involving paratransit services or any fatalities, systemwide, between 2015 and 2019.

Figure 38. NTD Reported Safety Events (2015–2019)



Source: NTD, 2015–2019

Figure 39. NTD Reported Injuries per 100,000 Fixed Route Revenue Miles (2015–2019)



Source: NTD, 2015–2019

Financial Performance

Cost effectiveness measures the effectiveness of the system from a financial standpoint – how well the dollars put into the system are being used to produce trips. Typical cost effectiveness indicators include cost per passenger, cost per mile, cost per hour, farebox recovery, and subsidy per passenger. A summary of financial performance metrics for fixed routes is provided in Table 19, and demand response financial metrics are provided in Table 20.

As shown, VTA's fixed routes are significantly more cost effective than the national average and other RTAs across all performance metrics evaluated.

Table 19. Fixed Route Financial Efficiency (FY 2017–FY 2019)

Cost Effectiveness Metric	Cost/ Mile	Cost/ Hour	Cost/ Passenger	Subsidy/ Passenger	Farebox Recovery
FY 2017	$3.64	$58.94	$3.09	$1.78	42.3%
FY 2018	$4.22	$66.90	$3.40	$2.16	36.4%
FY 2019	$4.22	$69.05	$3.55	$2.27	36.0%
FY 2018 Massachusetts Average*	**$7.24**	**$97.20**	**$5.29**	**$4.47**	**15.4%**
FY 2018 National Average	**$11.15**	**$133.99**	**$4.92**	**$3.83**	**22.1%**

Source: VTA, NTD

** Massachusetts average excludes MBTA.*

Demand response costs increased in FY 2018 relative to service levels and then rebounded in FY 2019. This was driven by larger reductions in hours and miles of service requested, despite an overall reduction in demand response costs in FY 2018. Costs per demand response passenger and subsidy per demand response passenger have increased significantly since FY 2017. This follows the trend of significantly decreased ridership and moderately reduced operating costs for demand response service over that time.

Table 20. Demand Response Financial Efficiency (FY 2017–FY 2019)

Cost Effectiveness Metric	Cost/ Mile	Cost/ Hour	Cost/ Passenger	Subsidy/ Passenger	Farebox Recovery
FY 2017	$5.34	$71.86	$34.73	$32.12	7.5%
FY 2018	$7.16	$90.85	$46.78	$44.44	5.0%
FY 2019	$5.92	$86.35	$51.40	$48.77	5.1%
FY 2018 Massachusetts Average*	**$4.38**	**$59.86**	**$28.28**	**$25.95**	**8.3%**
FY 2018 National Average	**$4.33**	**$64.93**	**$32.92**	**$30.46**	**7.5%**

Source: VTA, NTD

**Massachusetts average excludes MBTA, CCRTA, and MART.*

Peer Evaluation

As part of the CRTP update a peer review was conducted to gain an understanding of how other similar systems are operating transit service. This peer review explores seven transit properties that operate in similar conditions. Although each transit system and route is unique, the similarities and differences in these seven peers provide useful insight into how transit service is provided and operated throughout the country. However, none of the systems identified with similar service characteristics face the challenges posed by VTA's island character.

Peers were chosen using 2018 NTD data. Rural transit reporters meeting the following criteria were selected for the initial analysis:

- Fixed route passenger trips between 50 percent and 150 percent of VTA passenger trips
- System revenue miles between 50 percent and 150 percent of VTA revenue miles
- System revenue hours between 50 percent and 150 percent of VTA revenue hours
- Peak service requiring between 15 and 45 fixed route vehicles
- Fixed route service represents 80 percent or more of all revenue miles

Service metrics were calculated for this initial peer group to eliminate outliers and select the top seven comparable transit properties. Preference was given to other transit authorities and peers that experience seasonal fluctuations in ridership and service levels. The peer systems produced by this analysis are listed in Table 21.

Table 21. Peer Systems Identified

System	Town	State	Key Similarities
Ocean City Transit	Ocean City	MD	• Seasonal service changes • 15-30% locally funded • Eastern shore
Pigeon Forge Trolleys	Pigeon Forge	TN	• Similar vehicle requirements • Seasonal service changes
Eastern Sierra Transit Authority	Bishop	CA	• Transit authority • Similar service levels • 15-30% locally funded
Southern Teton Area Rapid Transit	Jackson	WY	• Transit authority • Similar service levels
Summit County	Breckenridge	CO	• Seasonal service changes • Similar number of routes
AppalCart	Boone	NC	• Transit authority • Similar vehicle requirements • Similar number of routes
City of Oxford	Oxford	MS	• Similar service levels • Similar vehicle requirements • Similar ridership

Table 22. Peer Systems Operating Data

Peer System	Ridership	% Demand Response	Operating Budget	Revenue Miles Operated	Revenue Hours Operated	Farebox Revenue
Ocean City Transit	2,432,758	5%	$5,818,887	839,721	82,763	$2,671,136
Pigeon Forge Trolleys	2,967,741	0%	$2,671,321	507,947	45,496	$443,191
Eastern Sierra Transit Authority	1,075,093	18%	$4,413,409	961,915	58,182	$578,590
Southern Teton Area Rapid Transit	1,097,532	2%	$3,968,038	935,307	61,340	$519,586
Summit County	1,697,776	4%	$10,579,762	1,670,783	84,929	$91,379
AppalCart	1,818,653	24%	$3,592,439	870,315	69,381	$7,949
City of Oxford	1,369,285	1%	$3,022,012	937,126	46,216	$19,845
VTA	**1,360,497**	**7%**	**$5,276,228**	**1,173,303**	**75,304**	**$1,701,216**

Source: NTD, 2018

Table 23 compares a variety of performance metrics across the peer group based on reported 2018 NTD information. VTA is average in terms of financial efficiency metrics such as cost per hour and cost per passenger. However, its service effectiveness, measured by passengers per mile and passengers per hour, is lower than most peers. As shown in Table 23Table 12, VTA has the second highest farebox recovery ratio of among its peers, after Ocean City Transit.

Table 23. Peer Systems Performance

Peer System	Passengers/ Mile	Passengers/ Hour	Cost/ Hour	Cost/ Passenger	Subsidy/ Passenger	Farebox Recovery
Ocean City Transit	2.90	29.39	$70.31	$2.39	$1.29	45.9%
Pigeon Forge Trolleys	5.84	65.23	$58.72	$0.90	$0.75	16.6%
Eastern Sierra Transit Authority	1.12	18.48	$75.86	$4.11	$3.57	13.1%
Southern Teton Area Rapid Transit	1.17	17.89	$64.69	$3.62	$3.14	13.1%
Summit County	1.02	19.99	$124.57	$6.23	$6.18	0.9%
AppalCart	2.09	26.21	$51.78	$1.98	$1.97	0.2%
City of Oxford	1.46	29.63	$65.39	$2.21	$2.19	0.7%
VTA	**1.16**	**18.07**	**$70.07**	**$3.88**	**$2.63**	**32.2%**

Source: NTD, 2018

Appendix B Commonwealth Environmental Policies

Transportation is a leading producer of greenhouse gas emissions (GHG) in the Commonwealth, and the only sector identified through the Global Warming Solutions Act of 2006 (GWSA) with a volumetric increase in GHG emissions; meaning that any effort to reduce emissions must significantly target the transportation system. In 2008, through the passage of the GWSA, Massachusetts committed to reduce its GHG emissions by 80 percent below 1990 baseline levels by 2050. Commonwealth policies and action on environmental sustainability in the transportation sector can be summarized by a series of executive orders, regulations, and recommendations to achieve the Commonwealth's goal of reducing transportation-related emissions by 40 percent over the next 20 years,[24] helping to meet the emissions reduction goals of the GWSA.

Massachusetts is establishing an integrated climate change strategy for the Commonwealth through the implementation of Executive Order 569, which was issued in 2017 and had major elements codified in 2018.[25] It aims to develop a roadmap for climate mitigation and adaptation for the Commonwealth.

Sustainability requirements for transportation are summarized in 310 CMR 60.05,[26] where the Climate Protection and Green Economy Advisory Committee advises the Executive Office of Energy and Environmental Affairs on measures to reduce GHG emissions in accordance with the GWSA. The purpose of 310 CMR 60.05 is to assist the Commonwealth in achieving the GHG emissions reduction goals, and to establish an annually declining aggregate GHG emissions limit for MassDOT, as well as general requirements for determining aggregate transportation GHG emissions in the transportation planning process.

To be in line with this regulation, RTAs in particular must conduct comprehensive service reviews; identify service enhancements to increase passenger ridership; identify vehicle technology and operational improvements that can reduce aggregate transportation GHG emissions; and work within the MPO process to prioritize and fund GHG reduction projects and investments.

In Executive Order 579: Establishing the Commission on the Future of Transportation in the Commonwealth, the goal is to determine "how to ensure that transportation planning, forecasting, operations, and investments for the period from 2020 through 2040 can best account for likely demographic, technological, climate, and other changes in future mobility and transportation behaviors, needs and options."[27] This will be accomplished by further investigating topics such as climate and resiliency, transportation electrification, autonomous and connected vehicles, transit and mobility services, and land use and demographics.[28] In 2019, the Commission on the Future of Transportation released their report, *Choices for Stewardship: Recommendations to Meet the Transportation Future*.[29]

The report provides five recommendations with a planning horizon of year 2040. The recommendations include (1) modernizing existing transportation assets; (2) creating a 21st Century "mobility infrastructure" to prepare the Commonwealth for emerging changes in transportation technology and behavior; (3) substantially reducing GHG emissions from the transportation sector; (4) coordinating and modernizing land use, economic development, housing, and transportation policies and investment in order to support resilient and dynamic regions and communities throughout the Commonwealth; and (5) changing current

[24] https://www.mass.gov/doc/a-vision-for-the-future-of-massachusetts-regional-transit-authorities/download.
[25] https://www.mass.gov/executive-orders/no-569-establishing-an-integrated-climate-change-strategy-for-the-commonwealth.
[26] https://www.mass.gov/doc/final-regulation-4/download.
[27] https://www.mass.gov/executive-orders/no-579-establishing-the-commission-on-the-future-of-transportation-in-the.
[28] https://www.mass.gov/executive-orders/no-579-establishing-the-commission-on-the-future-of-transportation-in-the.
[29] https://www.mass.gov/doc/choices-for-stewardship-recommendations-to-meet-the-transportation-future-volume-1/download.

transportation governance and financial structures in order to better position Massachusetts for the transportation system that it needs in the next years and decades.

Current RTA-specific sustainable practices are described in Chapter 4 and recommendations for future sustainable practices are described in Chapter 8.

Appendix C Stakeholder and Community Outreach Materials

VTA Public Outreach Survey

As a primary tool to gather feedback from current riders and non-riders, the AECOM team worked closely with VTA staff to develop an online survey to gain a better understanding of stakeholder preferences regarding current services and elicit feedback about the desire for potential improvements or changes. The following is a summary of the survey results for the duration of the survey.

Survey Development and Publication

Through a series of bi-weekly meetings, the AECOM team and VTA staff developed a detailed list of survey questions to capture an understanding of critical data, including who uses and does not use VTA services; the incentives that drive ridership; the barriers to attracting more customers; and from a customer satisfaction perspective, how VTA is meeting the needs of its customer? In addition, the survey included questions to measure the frequency of use, routes used, and connections to multimodal transit such as the Steamship Authority ferry service. The survey was made available online in English, Portuguese, and Spanish with an introduction question to select a language.

As a result of the COVID-19 pandemic and the required social distancing protocols mandated by the state, in-person public outreach events were cancelled and moved to a virtual platform. To drive traffic to the online survey, which was hosted on Survey Monkey, a series of email blasts urging participation were sent to a list of more than 200 key stakeholders, including employers, community partners, elected officials, local chambers of commerce, and municipal website administrators. VTA posted a link to the survey on its website and a series of posts were shared and advertised on the VTA Twitter account. To further drive awareness, VTA also arranged to have a link to the survey posted at terminals and made survey flyers available on buses.

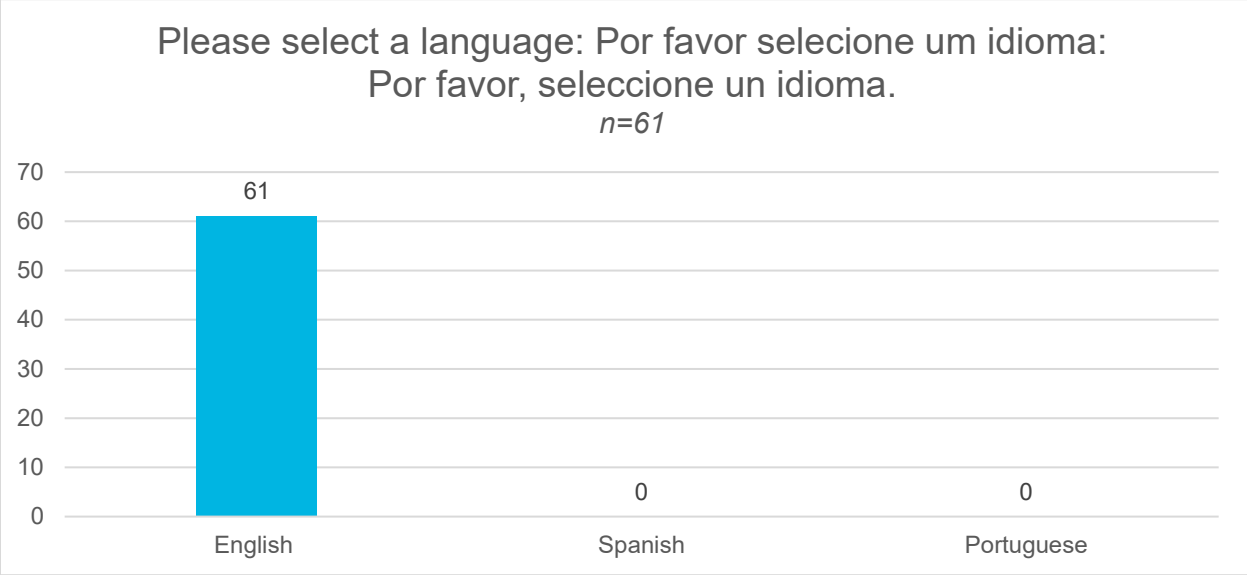
The survey was designed to be mobile-friendly and not require someone to be at a computer to fill it out. The survey link was accompanied by a QR code to enable a quick scan using a smart phone to direct immediately to the survey.

Online Survey

The online survey for VTA opened to the public on July 15, 2020, and was open through September 17, 2020. The survey was designed to gather feedback from current VTA riders and non-riders. For those who indicated they use the service, a series of questions about current use of the system were asked. For those who indicated they did not use the service, questions focused on why they do not use the service and also what it might take to attract them as riders.

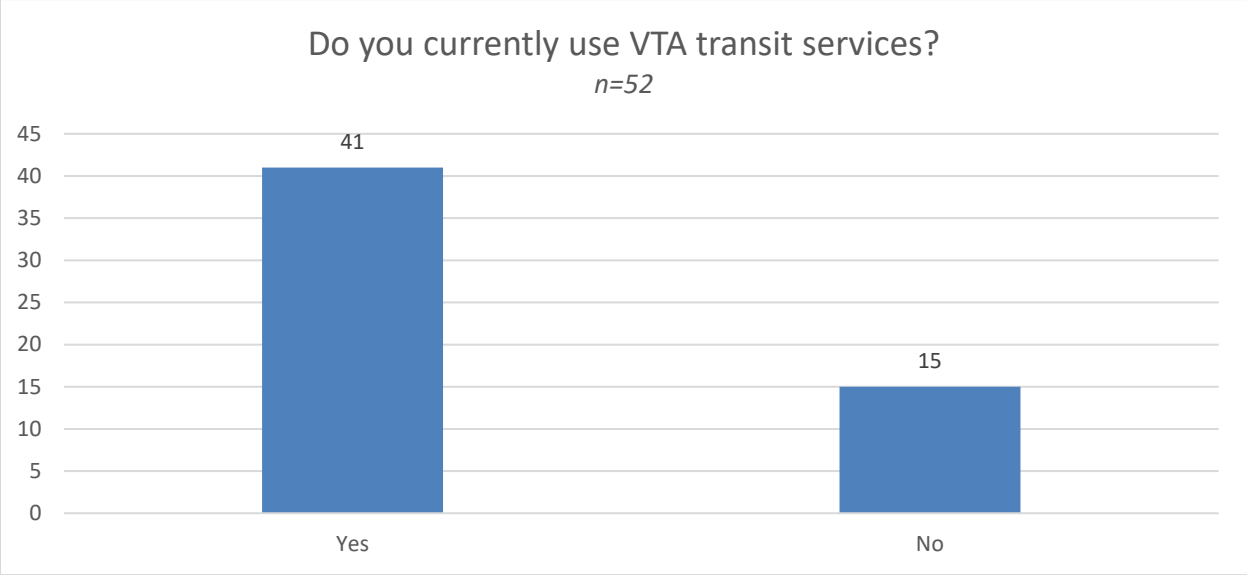
1. Please select a language.

A total of 61 respondents answered this question with 100 percent of them selecting English.



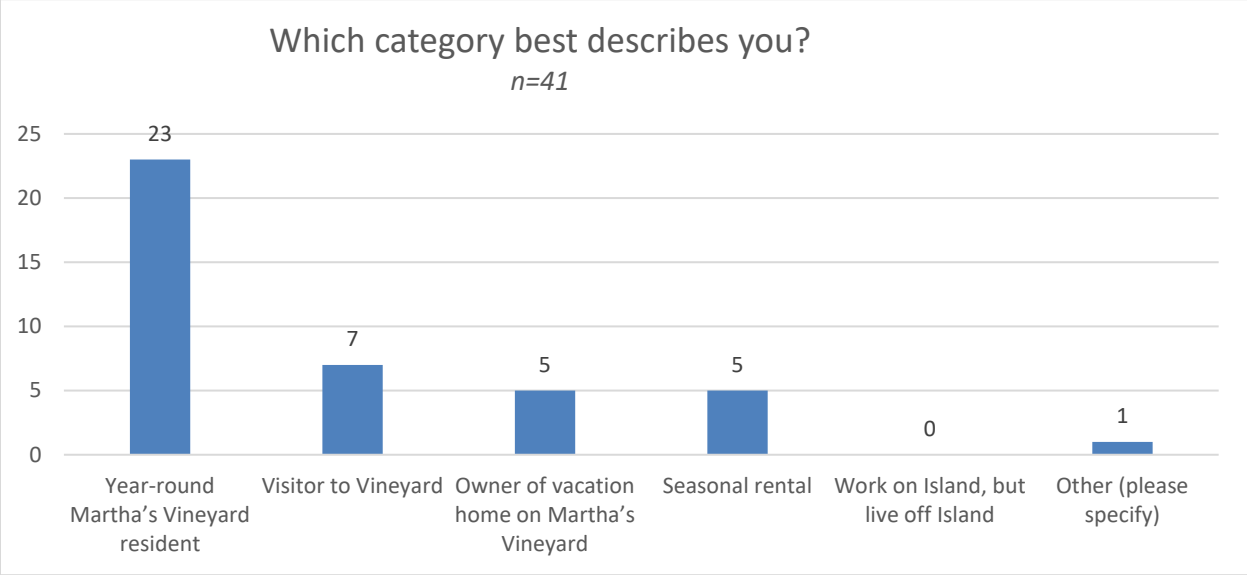
2. Do you currently use VTA services?

A total of 56 respondents answered this question with 2 electing to skip it. Of the 56 who answered, 73 percent (41) responded "Yes," they do use the service, and 27 percent (15) selected "No," they do not use the service.



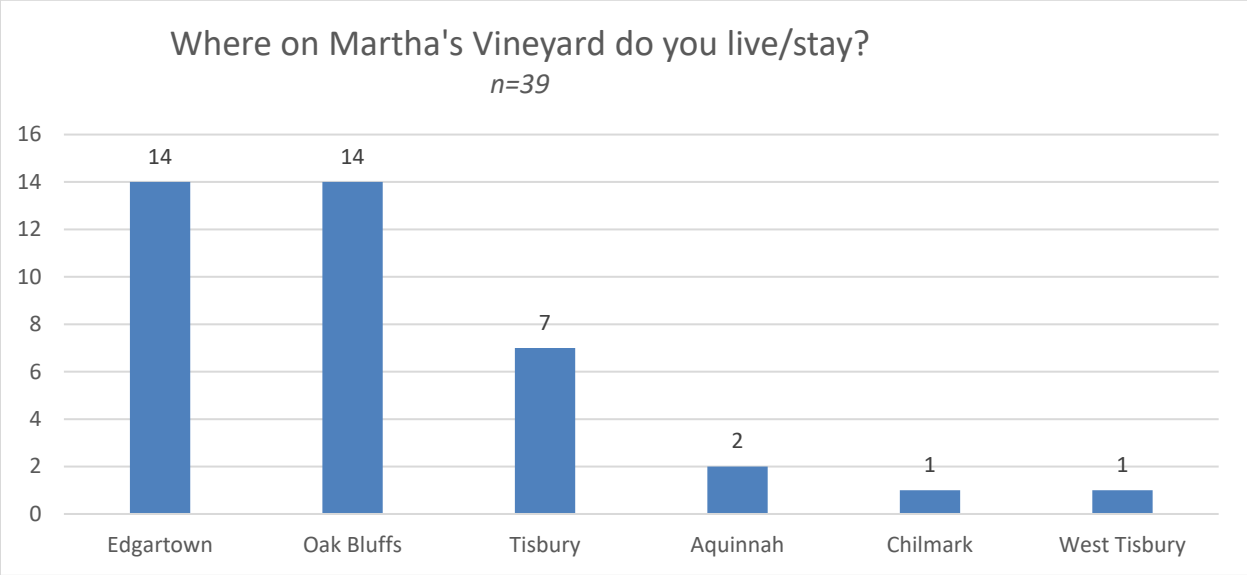
3. Which category best describes you?

A total of 41 respondents answered this question and 20 skipped it. Of those 41 who answered, 56 percent (23) identified as "Year-round Martha's Vineyard residents"; 17 percent (7) identified as "visitors"; 12 percent (5) respondents identified as a "vacation home owner," 12 percent (5) respondents identified as a "seasonal renter," and less than 1 percent (1) selected "Other" stating they are a "day-visitor" to the island.



4. Where on Martha's Vineyard do you live/stay?

A total of 41 respondents answered this question and 20 skipped. Of the 41 who answered, 34 percent (14) live in Edgartown; 34 percent (14) live in Oak Bluffs; 22 percent (9) live in Tisbury; 5 percent (2) live in Aquinnah; 2 percent (1) live in Chilmark; and 2 percent (1) live in West Tisbury.



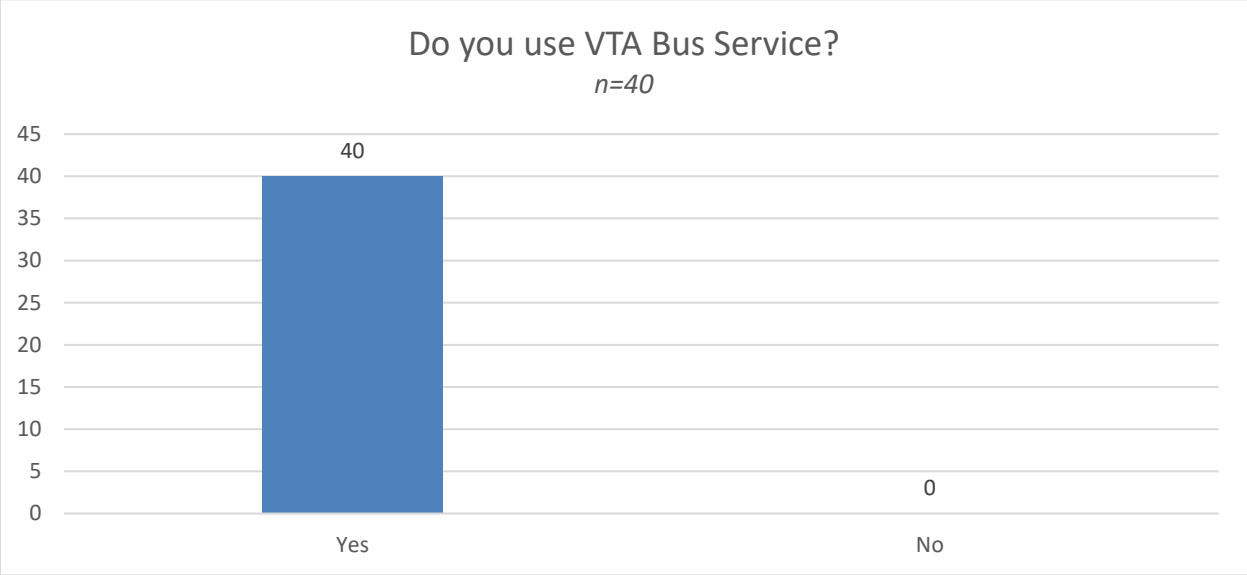
Questions 5 through 10.

Questions 5 through 10 were designed to provide specific geographic locations of respondents within the six towns on Martha's Vineyard by subdistrict. The following table summarizes the specific locations of each respondent who answered the questions.

Aquinnah	#	Chilmark	#	Edgartown	#	Oak Bluffs	#	Tisbury	#	West Tisbury	#
Tribal Housing		Beetlebung/ Town Center		Chappaquiddick		East Chop	1	West Chop		Old County Road	
Lobsterville		Menemsha		Katama	1	Copeland/Town Center	3	Vineyard Haven/Town Center	5	Lambert's Cove	1
State Road	2	North Road	1	Ocean Heights	10	Barnes Road	2	Lambert's Cove		Music Street/Town Center	
Other		Middle Road		Town Center		County Road	3	Edgartown-Vineyard Haven Road	3	State Road	
		South Road		West Tisbury Road Area		Other	6	Other	1	Other (Campground)	
		Other		Other	2						
Total	**2**	**Total**	**1**	**Total**	**13**	**Total**	**15**	**Total**	**9**	**Total**	**1**
Other (0)		**Other (0)**		**Other (2)**		**Other (6)**		**Other (0)**		**Other (0)**	
				N/A	1	off Alpine Avenue	1	Campground/ Boat	1		
				Numbered Streets	1	Wing Road	1				
						N/A	1				
						Hidden Cove	1				
						Off Edgartown-Vineyard Haven Road	1				
						New York Avenue	1				

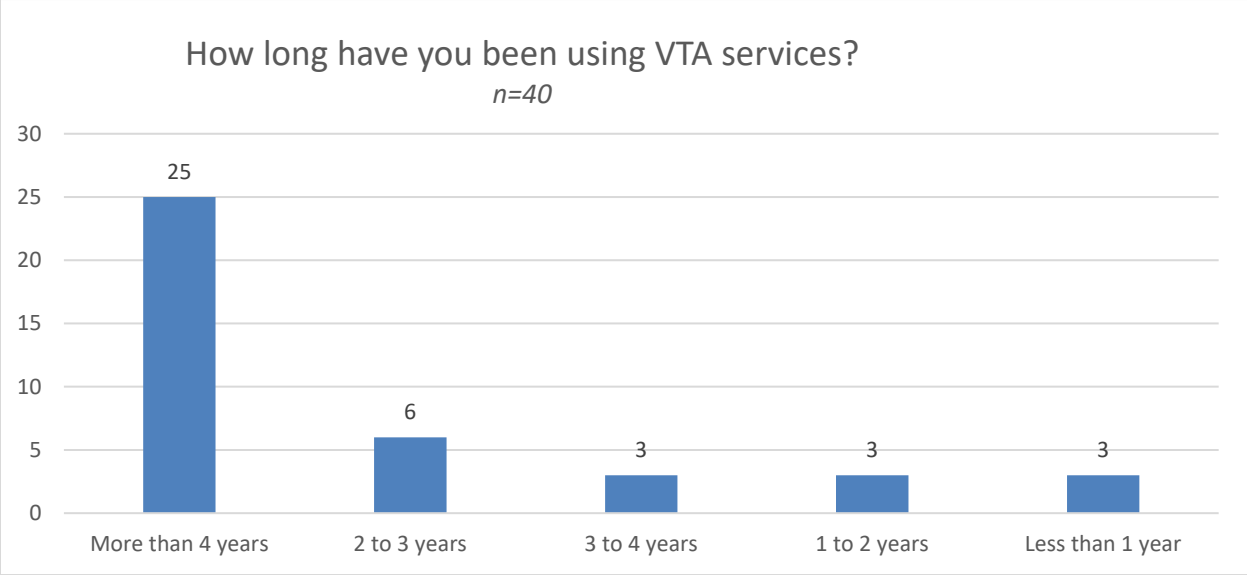
11. Do you use VTA Bus Service?

A total of 40 respondents answered this question and 21 skipped it. Of the 40 respondents who answered, 100 percent (40) stated they use the service.



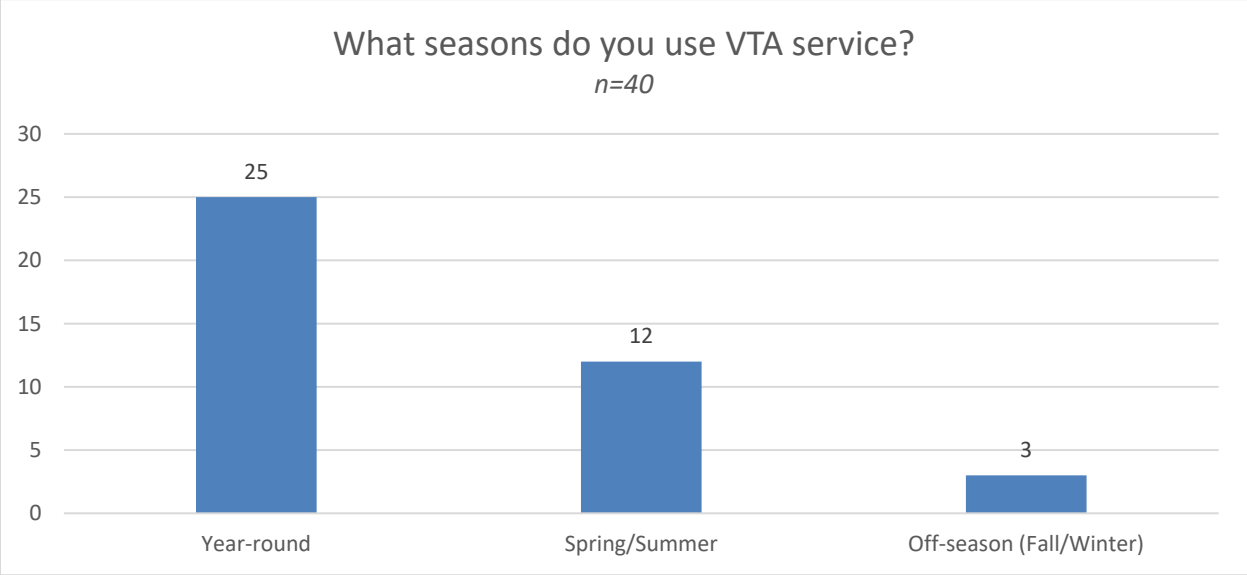
12. How long have you been using VTA services?

A total of 40 respondents answered this question and 21 skipped it. Of the 40 who answered, 63 percent (25) selected "More than 4 years"; 15 percent (6) selected "2 to 3 years"; 7 percent (3) selected "3 to 4 years"; 7 percent (3) selected "1 to 2 years"; and 7 percent (3) selected "less than 1 year."



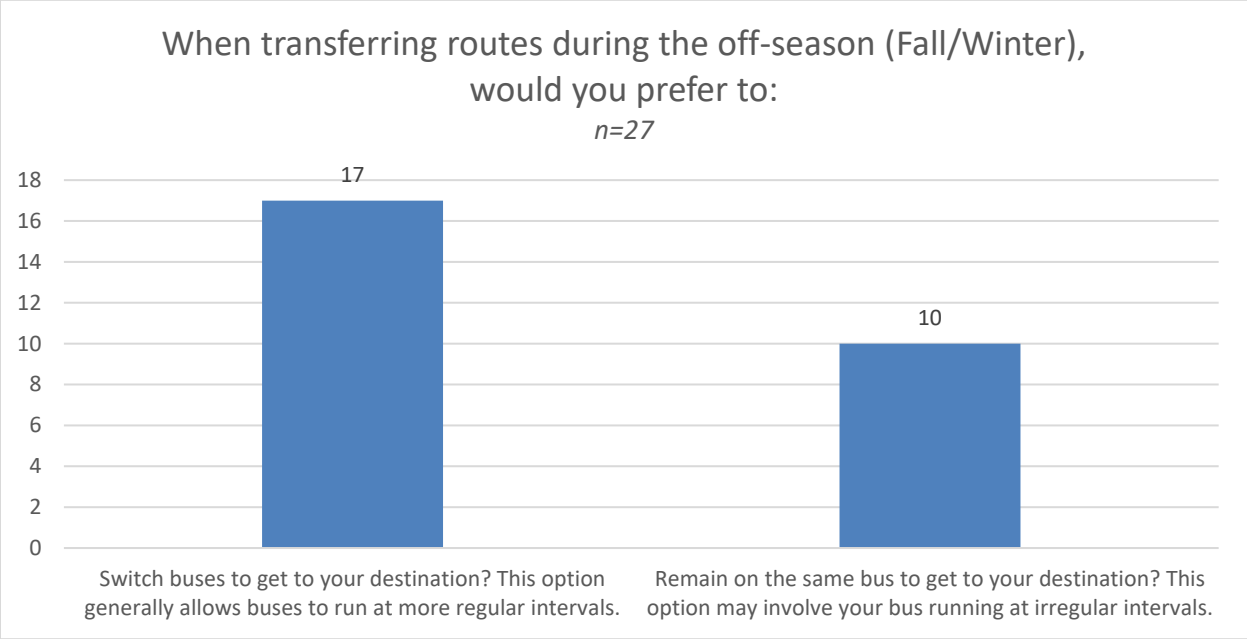
13. What season(s) do you use VTA service?

A total of 40 respondents answered this question with 21 skipping it. Of the 40 who answered, 63percent (25) selected "Year-round resident"; 30 percent (12) selected "Spring/Summer"; and 7 percent (3) selected "Off-season (Fall/Winter)."



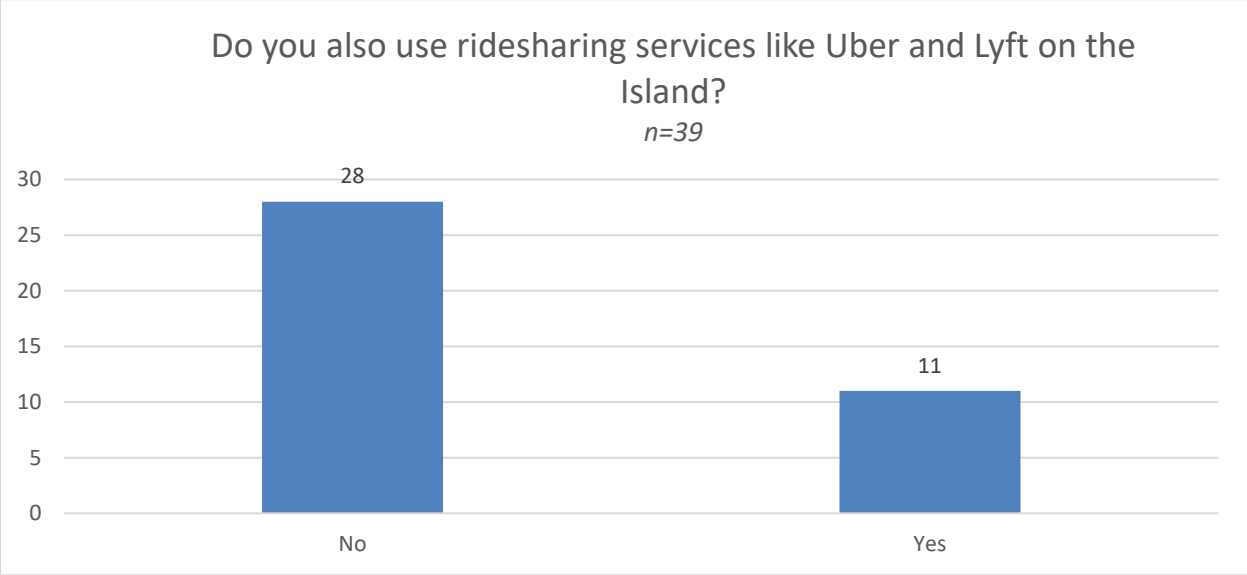
14. When transferring routes during the off-season (Fall/Winter), would you prefer to:

A total of 27 respondents answered this question and 34 skipped it. Of the 27 who answered, 63 percent (17) stated they would prefer to switch buses to get to their destination which generally allows buses to run at more regular intervals. 37 percent (10) stated they would like to remain on the same bus which may involve buses running at irregular intervals.



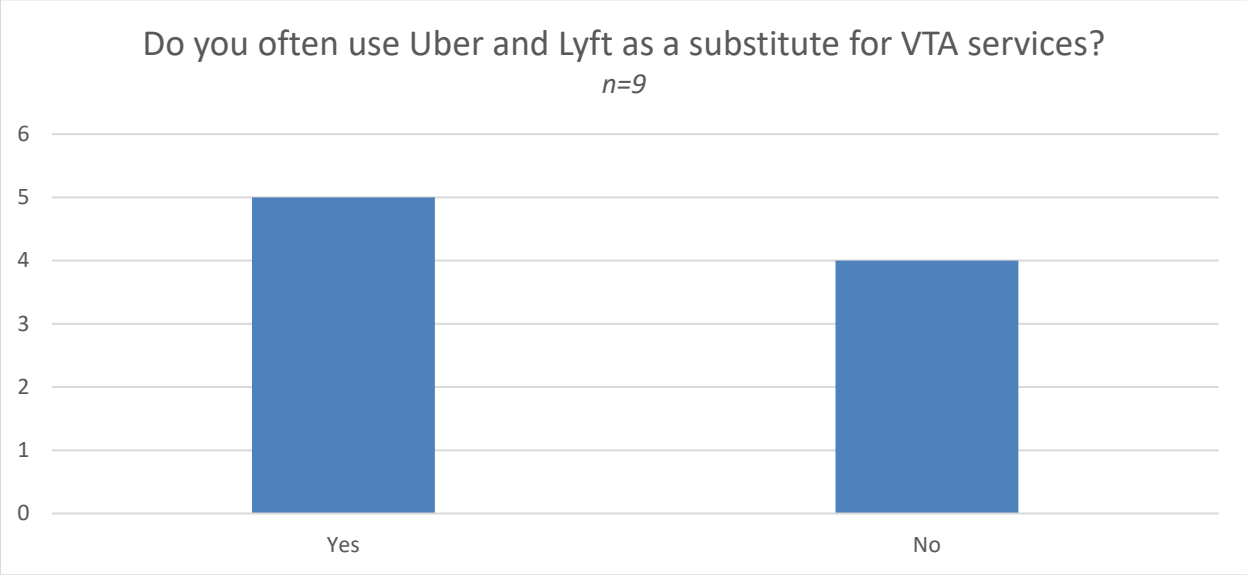
15. Do you also use ridesharing services like Uber and Lyft on the Island?

A total of 39 respondents answered this question and 22 skipped it. Of the 39 who answered, 71 percent (28) selected no, and 29 percent (11) selected yes.



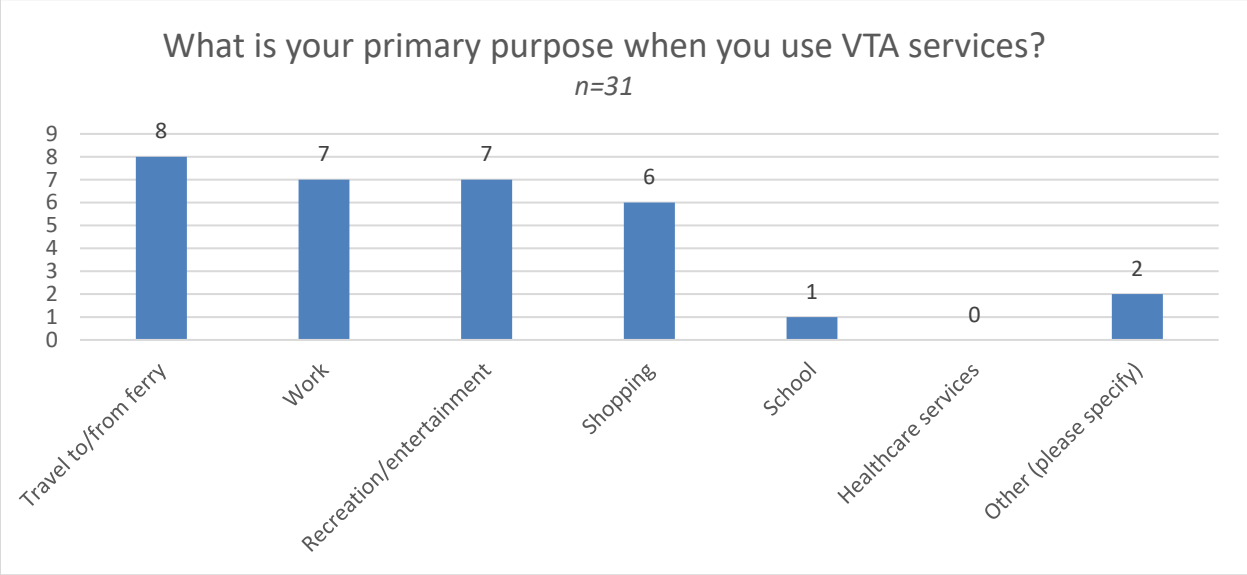
16. Do you often use Uber or Lyft as a substitute for VTA services?

A total of 9 respondents answered this question and 52 skipped it. Of the 9 who answered, 5 selected yes and 4 selected no.



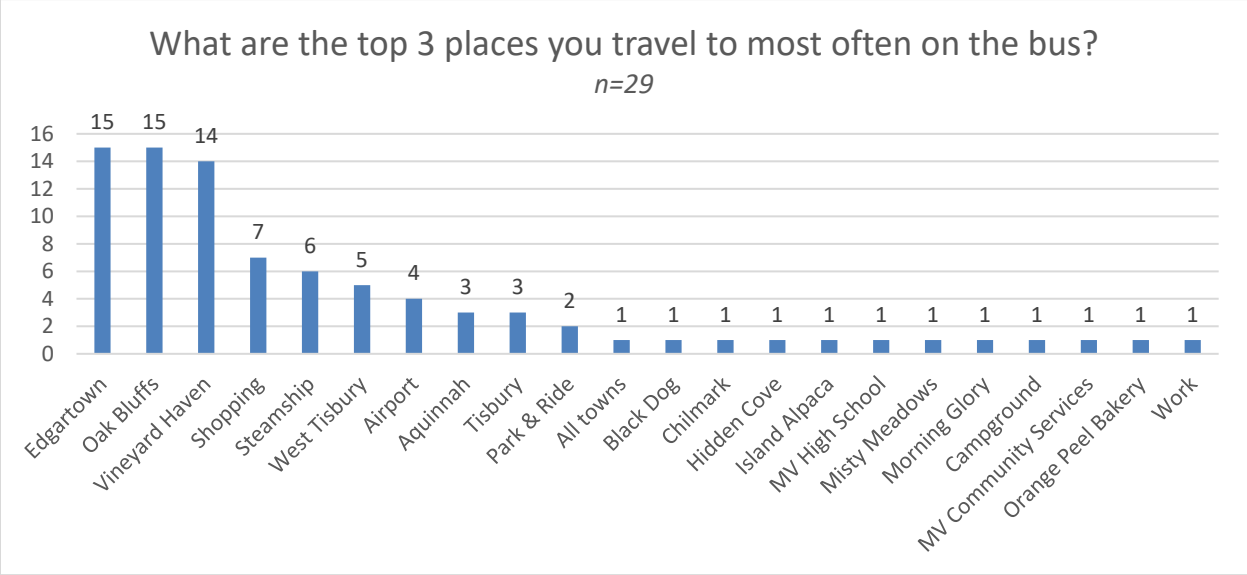
17. What is your primary travel purpose when you use VTA services?

A total of 31 respondents answered this question and 30 skipped it. Of the 31 who answered, 26 percent (8) selected "Travel to and from ferry"; 23 percent (7) selected "Work"; 23 percent (7) selected "Recreation/Entertainment"; 19 percent (6) selected "Shopping"; 3 percent (1) selected "School"; and 6 percent (2) selected "Other (please specify)."



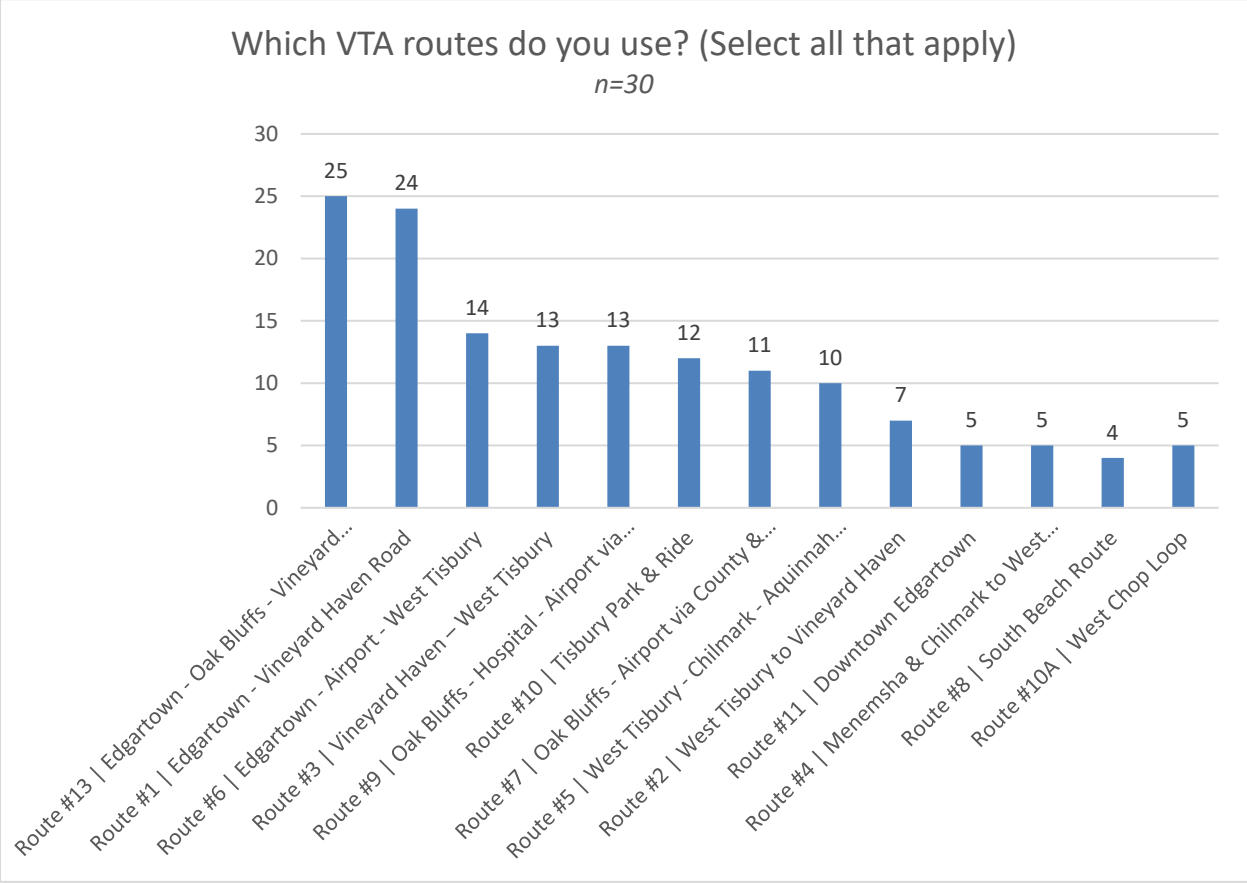
18. What are the top 3 places you travel to most often on the bus?

A total of 30 respondents answered this question and 31 skipped it. This was an open-ended question with up to three choices. The 30 respondents who answered, entered 86 separate locations, which are quantified in the following chart.



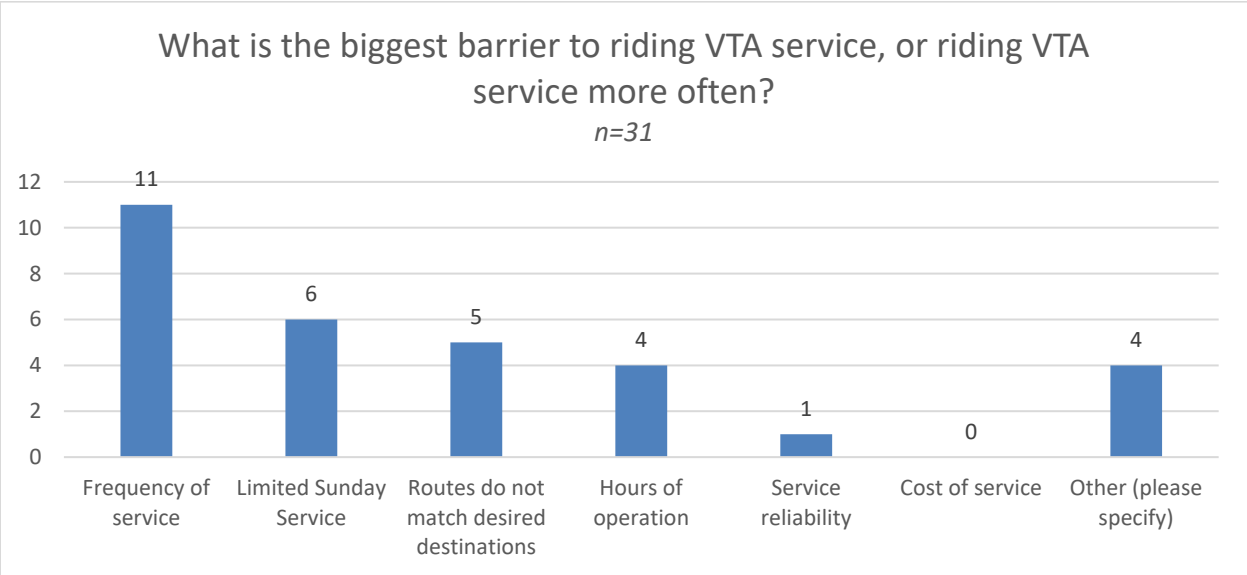
19. Which VTA routes do you use? (Select all that apply)

A total of 31 respondents answered this question and 30 skipped it. The 31 respondents who answered the question generated 148 selections as they were instructed to select all routes that apply. The selections are quantified by route in the following chart.



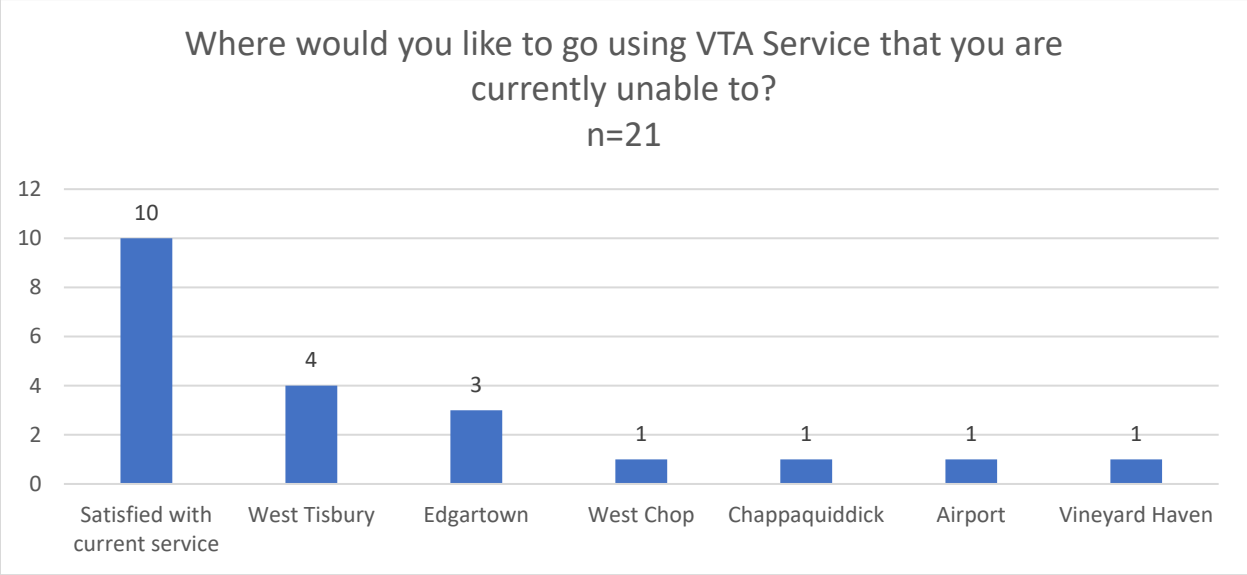
20. What is the biggest barrier to riding VTA service, or riding VTA service more often?

A total of 31 respondents answered this question and 30 skipped it. Of the 31 who answered, 35 percent (11) selected "Frequency of service"; 19 percent (6) selected "Limited Sunday service"; 16 percent (5) selected "Routes do not match desired destinations"; 13 percent (4) selected "Hours of Operation"; 3 percent (1) selected "Service reliability"; and 13 percent (4) selected "Other (please specify)."



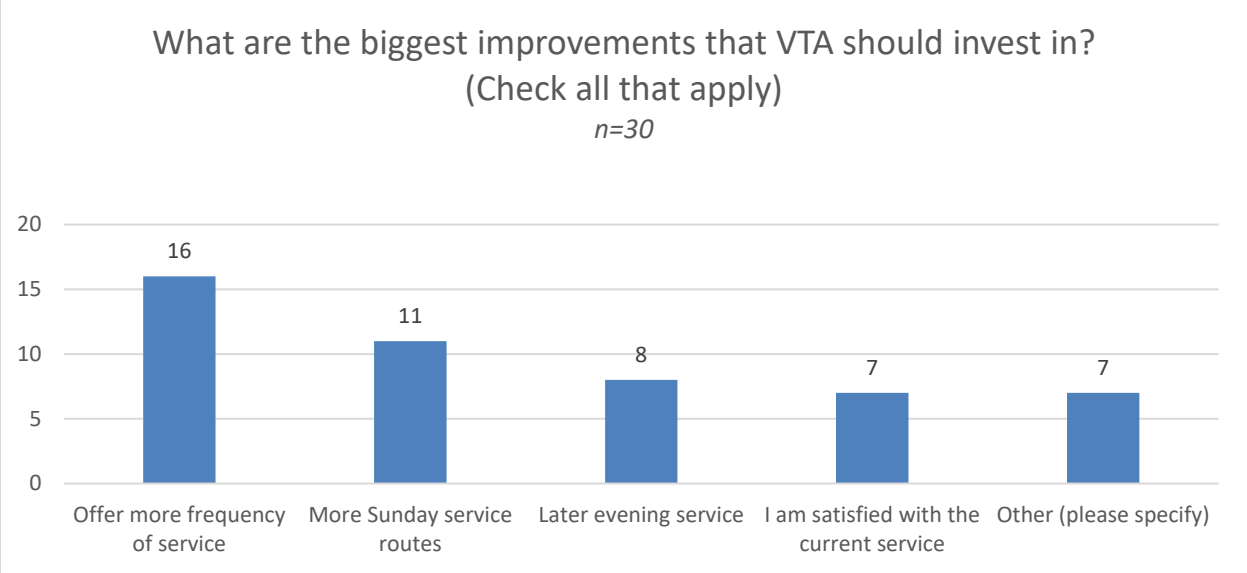
21. Where would you like to go using VTA service that you are currently unable to?

A total of 21 respondents answered this question and 38 skipped it. Of the 21 who answered, 48 percent (10) selected "I am satisfied with destinations offered." The remaining 52 percent (11) respondents identified a desired destination identified in the following chart.



22. What are the biggest improvements that VTA should invest in? (Check all that apply)

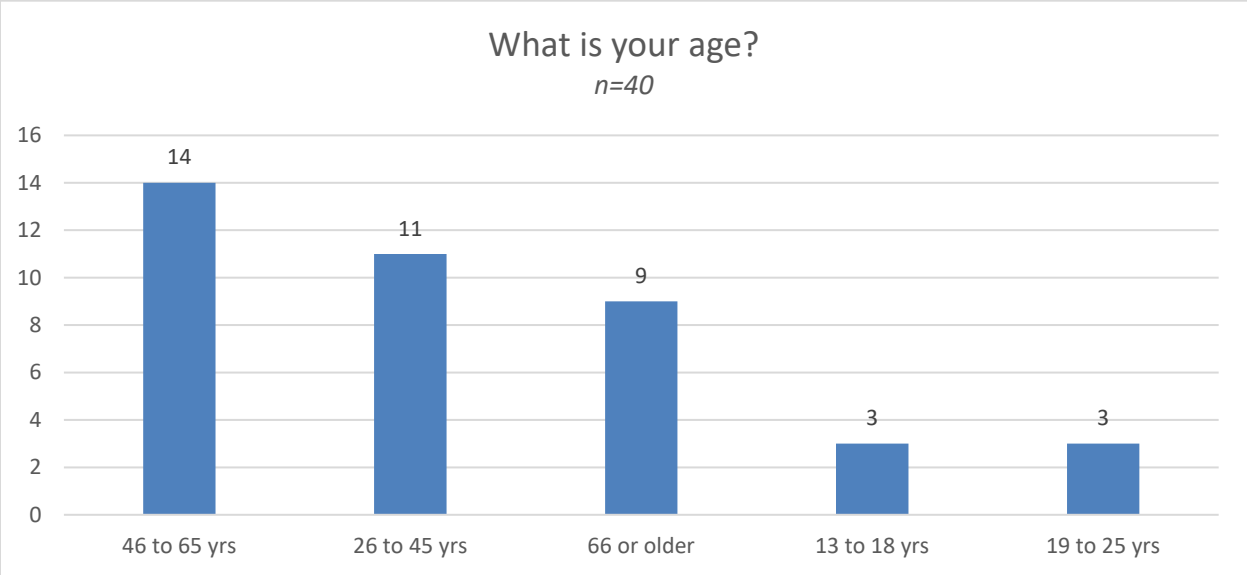
A total of 30 respondents answered this question generating a total of 51 selections. Thirty-one respondents skipped the question. Among the 30 respondents, 53 percent (16) selected "Offer more frequency of service"; 36 percent (11) selected "More Sunday service routes"; 30 percent (9) selected "I am satisfied with the current service"; 26 percent (8) selected "Later evening service"; and 23 percent (7) selected "Other (please specify)." The 7 "Other (please specify) recommendations included more COVID-19 enforcement, larger buses on Route 13 in the summer, later evening service combined with more frequency, and adding a stop at Menemsha on Route 5.



23. What is your age?

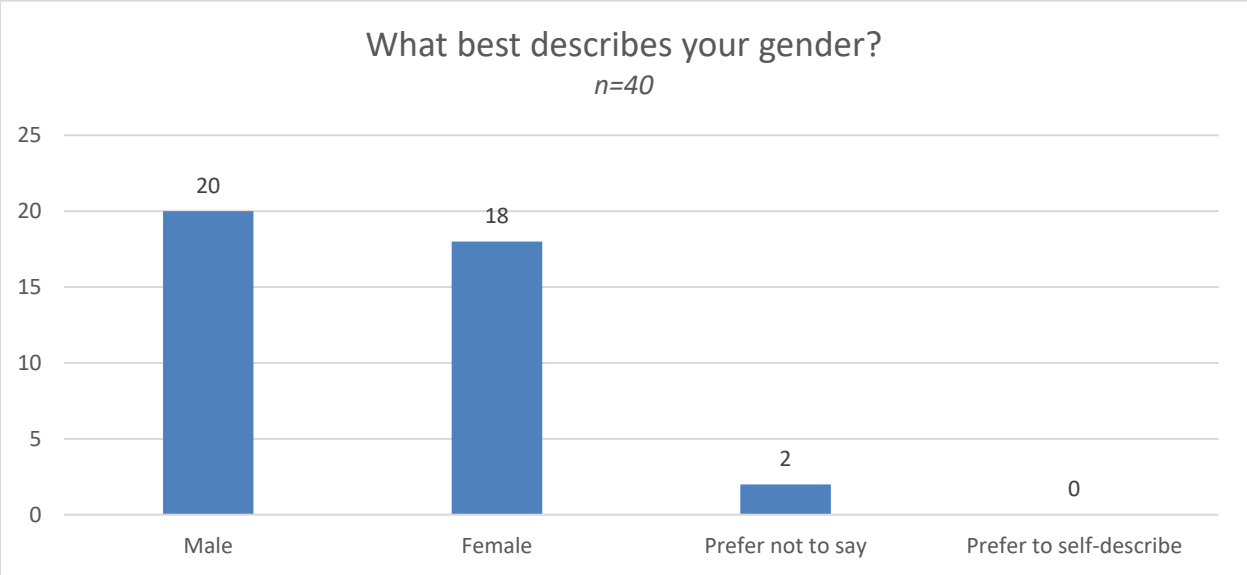
At total of 40 respondents answered this question and 21 skipped it. Of the 40 who answered, 35 percent (14) selected "46 to 65 yrs."; 27 percent (11) selected "26 to 45 yrs."; 18 percent (9)

selected "66 or older"; 7 percent (3) selected ""19 to 25 yrs."; and 7 percent (3) selected "13 to 18 yrs."



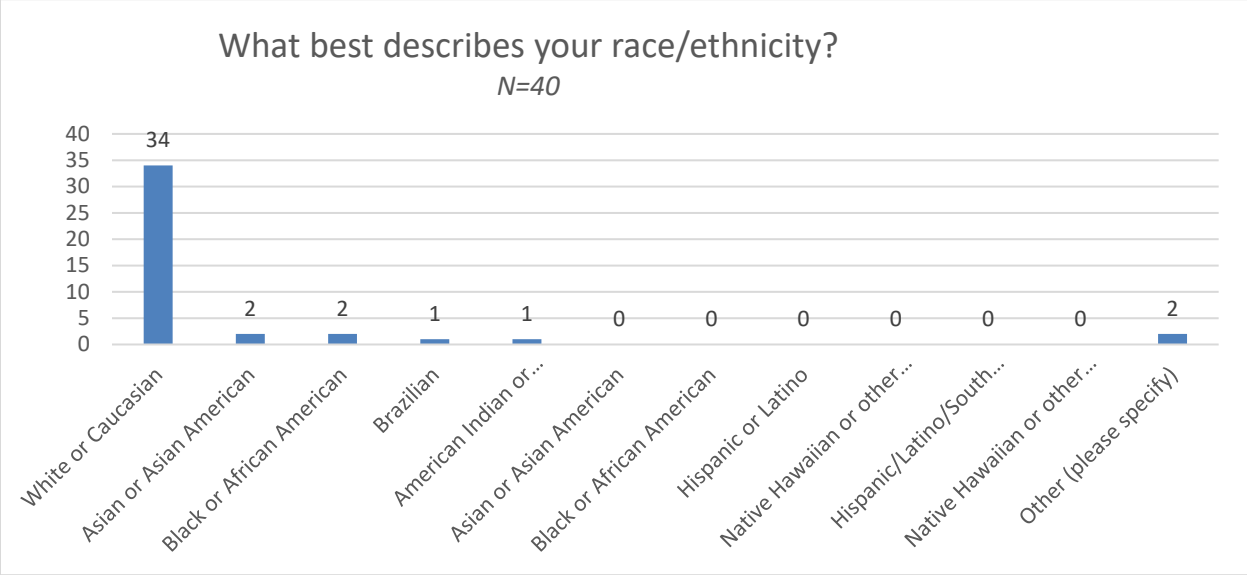
24. What best describes your gender?

A total of 40 respondents answered this question and 21 skipped it. Of the 40 who answered, 45 percent (18) selected "Female"; 50 percent (20) selected "Male"; and 5 percent (2) selected "prefer not to say."



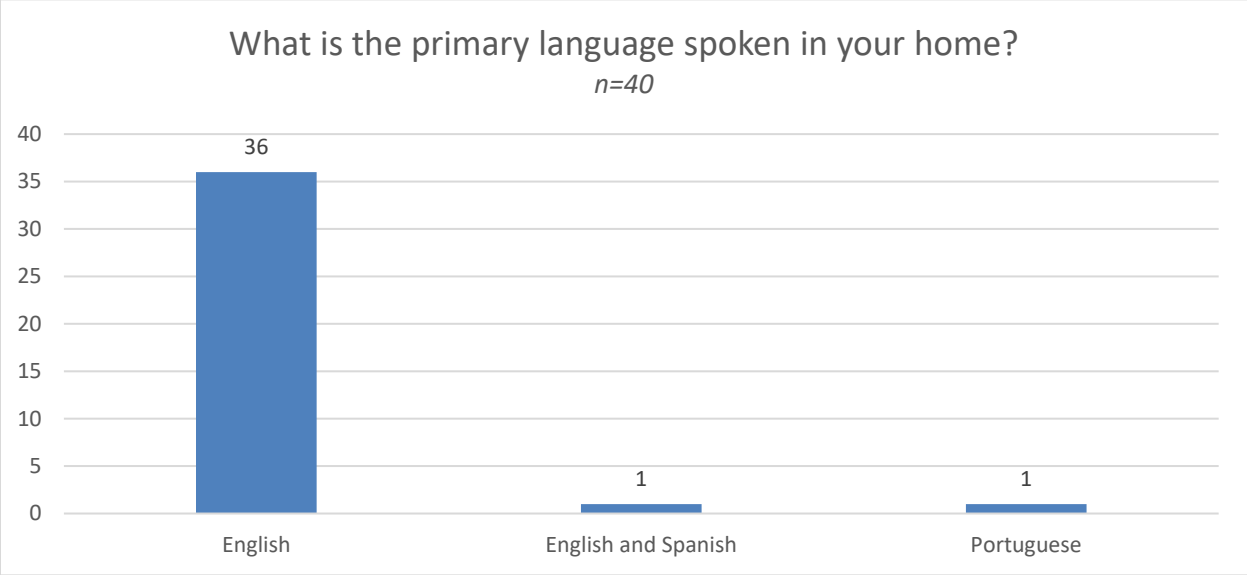
25. What best describes your race/ethnicity?

A total of 40 respondents answered this question and 21 skipped it. Of the 40 who answered, 85 percent (34) selected "White or Caucasian"; 5 percent (2) selected "Asian or Asian American"; 5 percent (2) selected "Black or African American"; 2 percent (1) selected "Brazilian"; 2 percent (1) selected "American Indian or Alaskan Native"; and 5 percent (2) selected "Other (please specify)." The "Other" category specified "Caucasian and Puerto Rican."



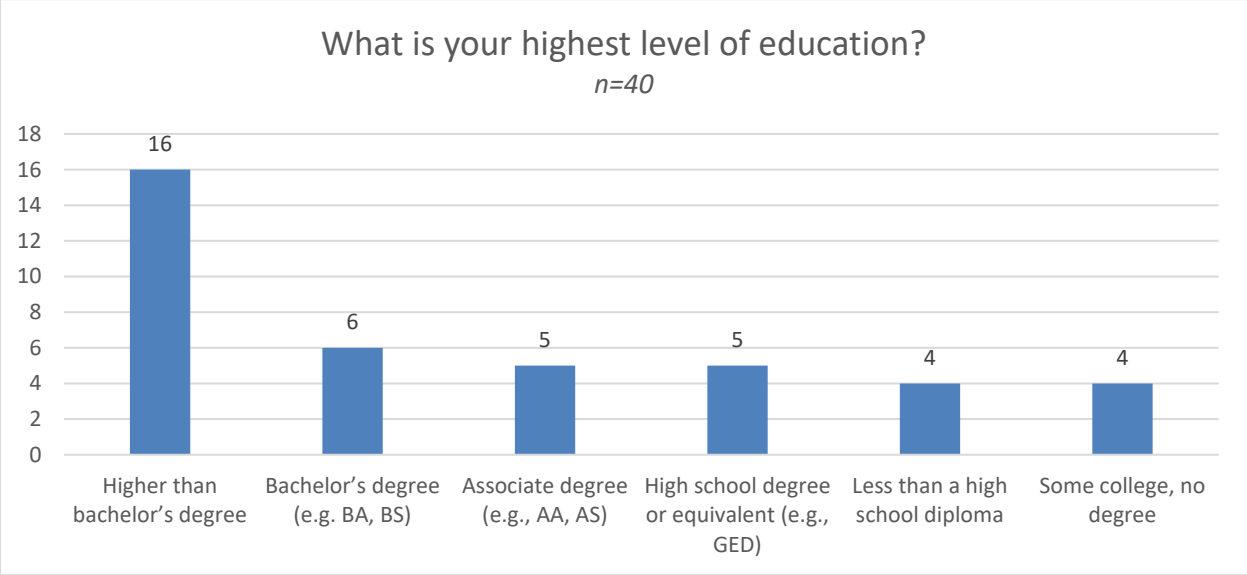
26. What is the primary language spoken in your home?

A total of 38 respondents answered this question and 23 skipped it. Of the 38 who answered, 36 selected "English"; 1 selected "English and Spanish" and 1 selected "Portuguese."



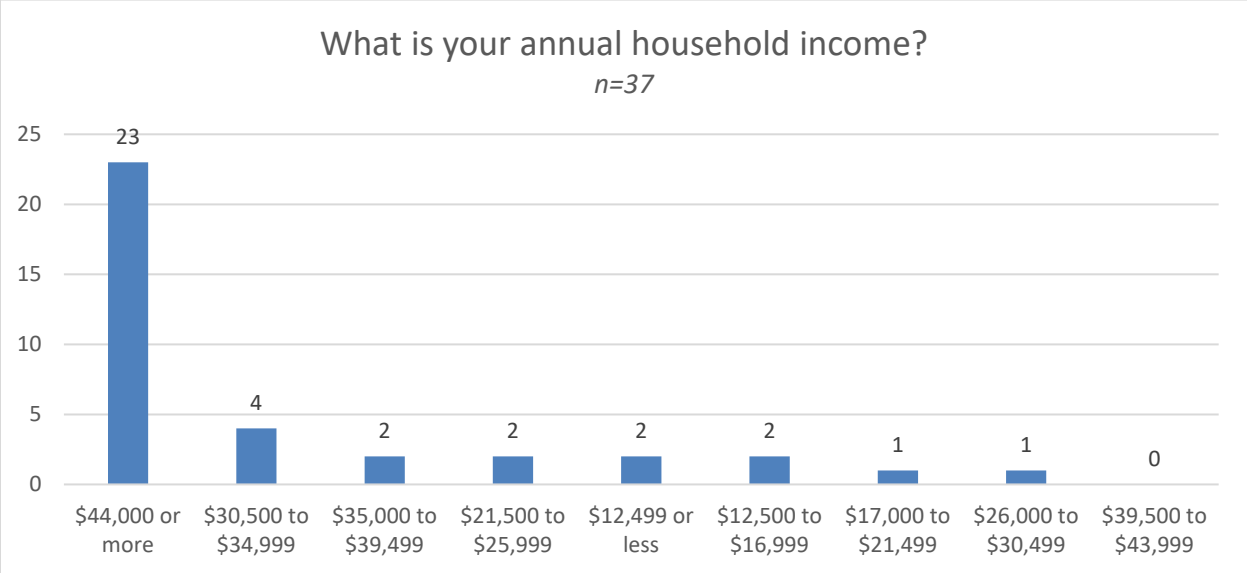
27. What is your highest level of education?

A total of 40 respondents answered this question and 21 skipped it. Of the 40 who answered, 40 percent (16) selected "Higher than a bachelor's degree"; 15 percent (6) selected "Bachelor's degree (e.g., BA, BS)"; 13 percent (5) selected "High school degree or equivalent (e.g., GED)"; 13 percent (5) selected "Associate degree (e.g., AA, AS)"; 10 percent (4) selected "Less than a high school diploma"; and 10 percent (4) selected "Some college, no degree."



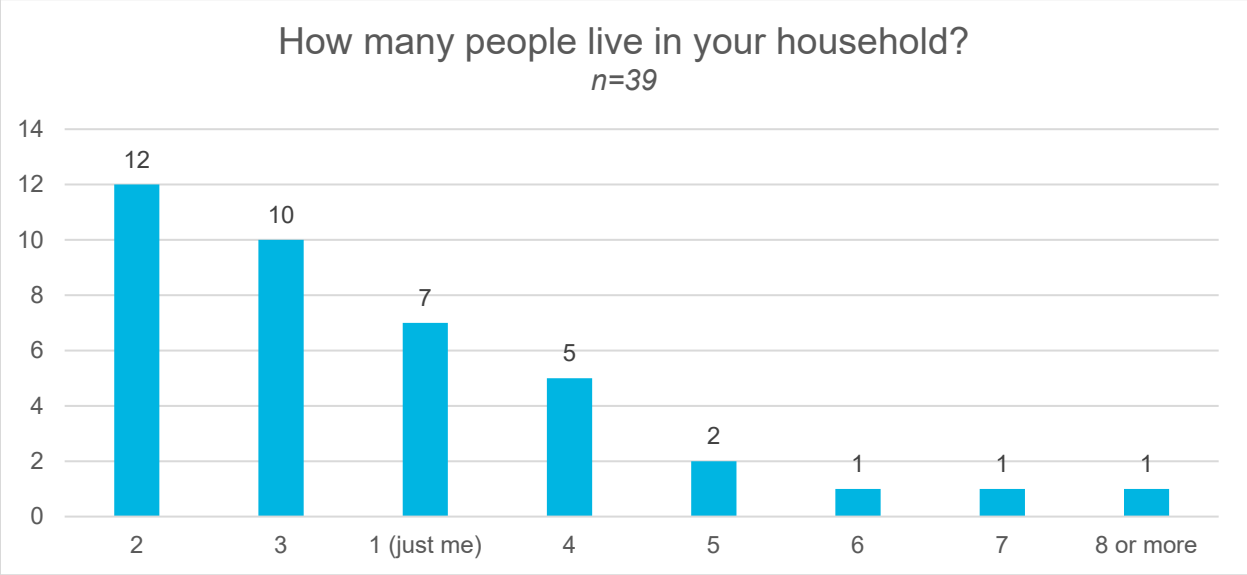
28. What is your annual household income?

A total of 37 respondents answered this question and 24 skipped it. Of the 37 who answered, 62 percent (23) selected "$44,000 or more"; 11 percent (4) selected "$30,500 to $39,499"; 5 percent (2) selected "$35,000 to $39,499"; 5 percent (2) selected "$21,500 to $25,999"; 5 percent (2) selected "$12,499 or less"; 5 percent (2) selected "$12,500 to $16,999"; 3 percent (1) selected "$17,000 to $21,499"; and 3 percent (1) selected $26,000 to $30,499."



29. How many people live in your household?

A total of 39 respondents answered this question and 32 skipped it. Of the 39 who answered, 31 percent (12) selected "2"; 26 percent (10) selected "3"; 18 percent (7) selected "1 (just me)"; 13 percent (5) selected "4"; 5 percent (2) selected "5"; 3 percent (1) selected "6"; 3 percent (1) selected "7"; and 3 percent (1) selected "8 or more."


How many people live in your household?
n=39
14
12
10
8
6
4
2
0
12
10
7
5
2
1
1
1
2
3
1 (just me)
4
5
6
7
8 or more

Stakeholder Summary

September 28, 2020
Key Stakeholder Meeting
VTA – MV Commission
1:00 PM Via Zoom

Attendees:	Mike Mauro MV Comm Angie Gompert, VTA Will Guillermo, AECOM Kristen Lueken, AECOM Martin Nee, City Point Partners

Will opened the meeting and made introductions. He explained the purpose of the meeting is get feedback and input from the Martha's Vineyard Commission relative to VTA's update of its Five-Year Comprehensive Regional Traffic Plan. Will emphasized VTA is in COVID-19 recovery, however, we can not lose sight of the 5-year planning efforts.

Will – Do you have a map or GIZ layer of any vehicle restrictions that would prevent a 25-foot bus from traversing all the roads on the Island? We need to confirm there are no height, weight, or turning radius issues, etc. in order to potentially implement bringing new vehicles to the Island. In the winter season, if we go ahead with micro-service, we need a sense of which roads might have restrictions.

Mike – I believe we endorsed a document with this info about a year ago. We do have a section in the document directly related to this. We will send what we have. I don't think we have any roads with restrictions. I don't think we have any heavy vehicle exclusion restrictions at all.

Will - It's not necessarily a legal restriction we are concerned about. It's whether there are any local practical operations that will present an issue.

Angie – I don't think there are any restrictions. We combined Route 4 and 5 on the off-season and have trips in each direction on North and South roads. We may or may not need micro transit depending on how these routes go. I want to stress, we are focused on COVID recovery, so the 25-year MV Commission plan is not our priority right now. I'm trying to predict where we are going to land in the collection of revenue this year. This is the key priority. We're looking for solutions that get people back and forth to where they are going on transit. We are looking at 2 trips/day on North Road and 4 trips/Day on South Road in each direction.

Mike – I understand where you are coming from. The Island was packed this weekend.

Will – Angie is focused on day-to-day functioning and COVID recovery. We are also looking at other things we may want to spotlight in the next 5 years in terms of a service plan. Are there areas on MV that you feel we should be aware of in terms of growth, and secondly, when planning and development is done, to what extend does the Commission understand the impacts of development on transit? How do you feel the interactions are going with the towns?

Mike – This is my second round with the Commission. I had a 4-year gap in service. I have a lot of interaction with elected officials, planning boards. My connection with VTA has always been great. In recent years our interaction with municipalities and VTA has been great as well, however, we could all benefit by improvements in collaborating. I've noticed a huge increase in vehicles and traffic which grew over my 4-year gap being on the Island. I was surprised at how

quickly things grew. MVC is in the process of updating our DRI which have a lot of triggers. If a project generates more than 10 percent traffic, the municipality refers the development to us.

Will – When development occurs, is transit considered? To what extent is it considered? Is this consideration lacking?

Mike – As far as the big-picture on the Island, focusing on transit considerations is lacking in my view, but we at the Commission always include transit in our proposals whenever we are involved. We include requirements for bus passes and ride share accommodations, etc. We are always looking at requiring bus shelters, kiosks, etc. These types of elements have been a big part of our recommendations/requirements. We always include transit discussion in our reports. Big picture, however, transit is not always being considered in larger Island policy decisions.

Angie – Small projects that have no negligible impact need to be looked at collectively. When you add them together, they become an impact. I feel there should be a "sign-off" for public transit. There needs to be teeth in the regulations when looking at new development transit requirements. We are at the end of the road in terms of development. VTA implements policy, but we don't make policy. Hard conversations in terms of congestion need to be included in planning on the Island. We've lost a lot of ground to things beyond our control.

Will – Transit considerations in planning developments are the holy-grail in long term transportation planning. It is certainly worthwhile to highlight this. Post COVID, longer-term ideas and how viable transit is on the Island needs to be considered. We're not saying there should be a veto power by transit authorities, but there should be a way for transit to weigh into these decisions.

Mike – I agree, VTA does not always have a seat at the table when certain development decisions are made.

Angie – Some decisions need to be binding when it comes to transit. Large buildings are constructed without any input from VTA. Use changes also occur without any input from transit. Somebody should have veto power.

Will – In a perfect world, the transit agency should have some clout, not necessarily veto, but at least clout. At least they should be able to put developers on notice that service to their new facility may not be feasible for 5 to 10 years and their sudden requests for service after the fact are not realistic. Developers need to understand this.

Angie – To some degree it would be nice for VTA to able to hold developer's feet to the fire, but if not us, then someone should be doing this. Maybe long-term requirements for a transit mitigation fund should be implemented.

Mike – I understand your position.

Will - Please reach out to the other folks at the Commission and let us know if they have any input on these issues. Policy recommendations that need to be pursued would be great to get on their agenda. The theme that transit impacts need to be taken into consideration with development is more magnified in an environment like the Vineyard.

Angie – In closing, more customer outreach on transit planning to do data gathering would be helpful. Now that we have traffic counts, we can look at trends as they relate to transit. We can't mitigate the need for transit unless buses are given some sort of priority to get to hot spots in highly congested areas. Large events have always required special transit considerations, but smaller events are now even having an impact. We don't have an easy in or out at the airport.

Maybe we can make some headway there. We need to look at transit as a solution to meeting demand.

Will – The future of electrification is very interesting on a much broader level than the urgent recovery issues at-hand today on the Island. This was a good meeting and it was very helpful to exchange ideas with you all. Thank you.

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