8. Recommendations

The recommendations for this 5-year plan are based on a holistic process that takes into account historical operational data, stakeholder input, industry best practices, Commonwealth-wide goals, and RTA priorities. The strategy for generating these recommendations embraces the uncertainty introduced by the COVID-19 pandemic and considers a spectrum of recommendations depending on ridership demand in the region. These recommendations provide a decision-making framework for pursuing strategic service changes, capital enhancements, and policy approaches, and prioritize maximizing mobility options for those living, working, and visiting the PVTA service area.

8.1 Guiding Principles

As PVTA prepares for the next 5 years, several looming questions face operators across the country: When will ridership return? How might the transit market be permanently changed by the pandemic? How can new technology be used to accommodate these changes to the transit market? How might new housing preferences impact transit demand?

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 PVTA's needs are analyzed and recommendations are made.

- **Safety:** The pandemic has underscored the incredible importance of safety as the number one priority for PVTA. Before the pandemic, safety included considerations such as driver training, security systems, security guards at key locations, and enforcement of the Drug and Alcohol Program. In the context of the COVID-19 pandemic, safety considerations have been expanded to include issues such as routine cleaning, sanitizing, enforcing mask and social-distancing mandates, and removing benches and other amenities that may encourage congregation at transit facilities.
- **Top-Notch Customer Experience:** A primary guiding principle is the commitment to the best customer experience possible. The entire purpose of a transit agency is to move people efficiently to their desired destinations, and the efficiency of the system depends on robust ridership. Ensuring a high-quality customer experience is the best way to acquire and retain a loyal ridership base, especially during times of uncertainty.
- **Equity Responsibility /Title VI:** Equity is an organizational responsibility for PVTA in addition to being a requirement of state and federal regulations for transit. Federal guidance requires that service supported by federal funding must not be provided in a way that places undue burdens on minority populations or those living in low-income households. Equity considerations are codified in the Authority's Public Participation Plan and Language Access Plan, both of which ensure that major service decisions are done in consultation with the public.
- **Fiscal Considerations:** Public transit agencies rely on local, state, and federal funds to operate transit as a public amenity. As a result, transit providers have a responsibility to taxpayers to ensure efficient use of public funding to meet local and statewide goals. While providing usable service that would maximize ridership is one metric for assessing efficient use of funding, there are numerous other fiscal goals public transportation operators must consider.
- **Environmental Stewardship:** PVTA and the Commonwealth of Massachusetts have both made a commitment to environmental stewardship, and this commitment must guide decisions even in an uncertain future. This ongoing commitment to reducing environmental impacts must be reflected in transit priorities, with a recognition that one

of the most meaningful environmental goals is primarily shifting single-occupancy car trips to common carrier modes such as fixed route bus trips.

- **Regional Land Use and Economic Development Goals:** There are numerous land use and economic development goals at the regional and local level that should guide PVTA's decisions. This includes the *2014 PVPC Valley Vision 4: Regional Land Use Plan for the Pioneer Valley* developed by PVPC and various area municipal plans, and local initiatives.
- **Data Driven and Performance Based Decision Making:** PVTA service and fiscal decisions should be made within a data-driven and performance-based framework that is the foundation for management of PVTA and provides accountability and transparency.

8.2 Key Recommendations

The needs identified by examining existing conditions and during the outreach effort conducted between June and August 2020 and outlined in Chapter 7 drove the development of recommendations presented in the following sections. The recommendations are broken down by category. For each of the 197 needs, 173 recommendations were developed based on the findings in order to address the need. Given the complexity and cost of some of the needs and the 5-year timeline for this CRTP, the recommendation is to explore or monitor the status as implementing any change is likely beyond the 5-year span of this plan.

Table 52. Recommendation Categories

Category	Icon	Description
Existing Fixed Route		Existing fixed route recommendations deal with specific routing or other operational considerations of day-to-day provision of service.
Demand Response		Demand response recommendations deal with specific improvements to demand response service or the operational considerations of day-to-day provision of service.
New Service		New service recommendations deal with the new provision of service to enhance existing PVTA service.
Bus Stop		Bus stop recommendations are regarding changes at bus stops and can include policy and/or capital investments
Fleet		Fleet recommendations deal with the purchase or management of equipment, rolling stock, facilities, or other assets.
Infrastructure		Infrastructure recommendations are roadway and facility projects
Fares		Fare recommendations deal with the administration structure, collection, or advertisement of fares.

Category	Icon	Description
Policy		Policy recommendations are needed changes to state and local policy that would improve the PVTA operating environment
Operational		Operational recommendations are procedural changes that one or more operator should make
Technology		Technology recommendations deal with new or updated technology that would improve data collection and the customer experience
Other		Other recommendations deal with issues not handled by the other categories.

As part of PVTA's ongoing service improvements, they had already identified and implemented some of the recommendations proposed in the CRTP, PVTA began implementing some of the proposed recommendations as outlined in Table 53. Since they have been implemented or included in constrained capital plans already to implement in the next 5 years they were not scored and ranked in the following sections.

Table 53. Needs and Recommendations Already Implemented

Type	Need	Implemented
	Route 30: Reduced service to Valley Medical	Converted to on-request only; implemented on 8/24/2020
	Route 30: Adjustment of Sunday service level to meet demand	Ending Sunday service an hour earlier; implemented on 8/24/2020
	Route 30: Additional Sunday service	Added additional Sunday service from 10:45 AM to 7:00 PM by adding another bus and increasing frequency to 30 minutes; implemented on 8/24/2020
	Route 30: Additional Saturday service	Added additional Saturday service from 10:45 AM to 7:00 PM by adding another bus and increasing frequency to 30 minutes; implemented on 8/24/2020
	Route 31: Additional Sunday service	Added additional Sunday service from 11:00 AM to 7:00 PM by adding another bus and increasing frequency to 30 minutes; implemented on 8/24/2020
	Route 31: Additional Saturday service	Added additional Saturday service from 11:00 AM to 7:00 PM by adding another bus and increasing frequency to 30 minutes; implemented on 8/24/2020
	Route 31: Additional travel time to go from Sunderland to UMass	Adjusted travel time; implemented on 8/24/2020
	Route 33: Additional mid-day service on Saturdays	Added a second bus creating 45 minute headways; implemented on 8/24/2020

Type	Need	Implemented
	G3: Consistent routing	Removed the Sunday Chicopee Falls deviation; implemented June 2020
	B6: Consistent routing and improved Sunday frequency	Eliminated the deviation to the Eastfield Mall and created 45 minute frequencies; implemented June 2020
	B7: Consistent Saturday routing	Discontinued the Eastfield Mall express variant on weekends; implemented June 2020
	R10: Consistent routing	School schedule eliminated; implemented fall 2020
	Cashless fare options in addition to magnetic stripe cards	Deployed a mobile payment option summer 2020
	Road supervisor - UMTS	Implemented in fall 2020
	New AVL software	Avail upgrade underway
	New fixed route scheduling software	Hastus upgrade underway
	Route planning software	Hastus Planning module added to Capital Investment Plan (CIP)

8.3 Prioritization

Each recommendation was scored based on the scenario it would fall under and what the complexity, impact, and cost would be for each using the aforementioned methodology. The recommendations and results of the prioritization process are presented in the following sections by category (see Appendix E for full scoring list).

8.3.1 Methodology

A two stage process for categorizing and prioritizing recommendations was developed in conjunction with PVTA and designed to meet its needs and requirements for making changes. The first stage involves determining under which scenario the recommendation falls. In the second stage each recommendation is scored based on the complexity to implement, overall impact it would have, and a category for estimated costs of implementing the recommendation.

8.3.1.1 Recommendation Scenarios

Each need is categorized as either a core need or ridership dependent (Figure 88). If it is ridership dependent then low, medium, and high ridership scenarios are used. Ridership level is relative to the recommendation and can be route or systemwide (Figure 89). Ridership is considered low if it remains at less than 60 percent of pre-COVID-19 levels if primary and

secondary educational institutions continue largely via virtual learning, tourism remains low, many businesses remain closed, and a high number of people continue to work remotely. Medium ridership assumes ridership rebounds to 60 to 85 percent of pre-COVID-19 levels as primary and secondary educational institutions implement a hybrid learning approach, tourism picks up, more businesses open or expand hours, and remote workers shift to a hybrid of in-person and remote work. High ridership scenario corresponds to when the economy rebounds and ridership returns to 86 percent or higher of pre-COVID-19 levels.

Figure 88. Recommendation Scenarios

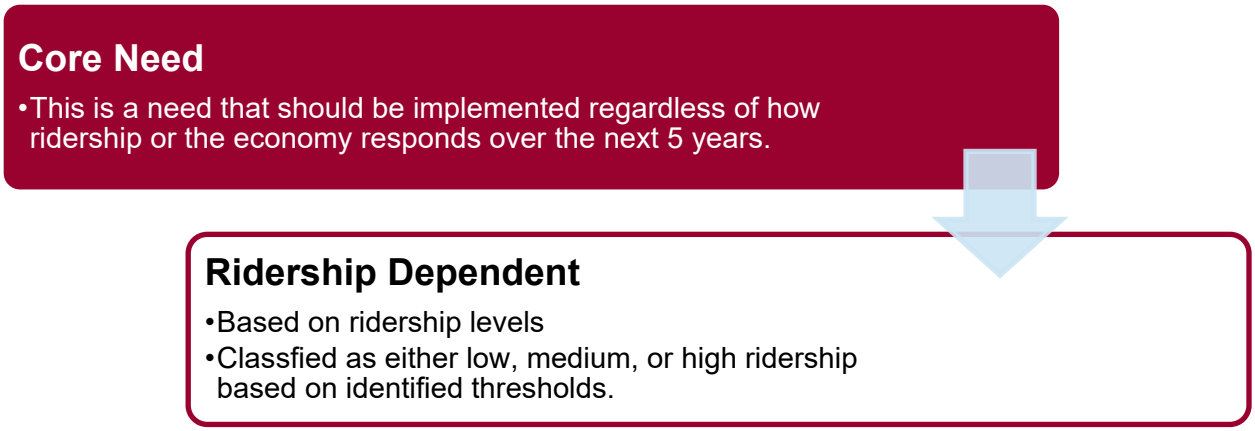
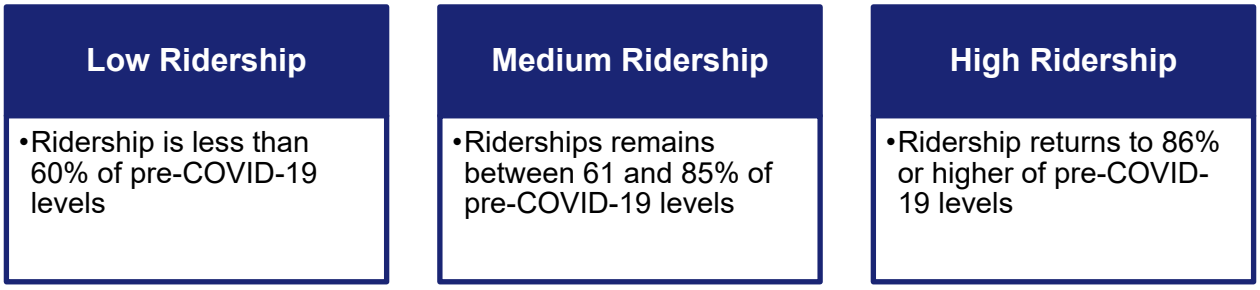


Figure 89. Recommendation Scenarios: Ridership Thresholds



8.3.1.2 Recommendation Scoring

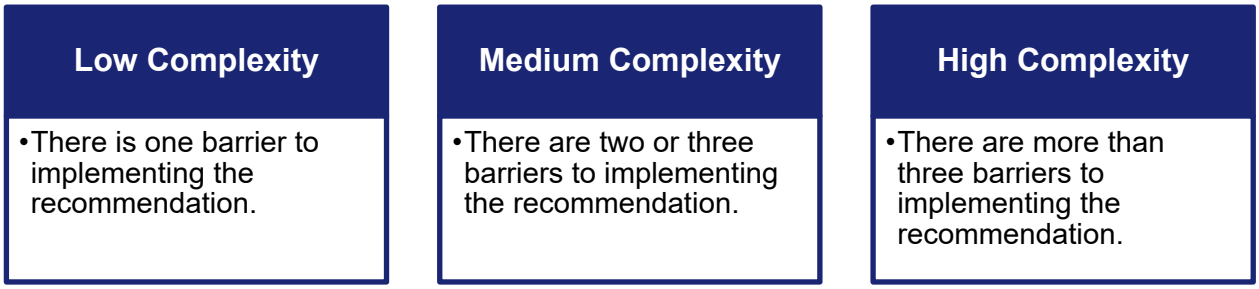
Scoring is based on two categories: complexity of implementation and impact.

Category 1: Complexity of implementation factors include the factors outlined in Table 54. Thresholds for complexity are highlighted in Figure 90.

Table 54. Complexity of Implementation Factors

High Cost	Considers both capital and/or operating. Annual operating cost greater than $50,000 or capital cost greater than $150,000
Difficulty implementing	Need to hire more operators Do not have the current technology to do so Would require procuring additional vehicles Potential union contract or operating issues Logistics: a detailed plan is needed first in order to figure out how it will operate, roles, responsibilities and needs RFP/Procurement process needed
Political Consensus	An issue that requires state or local approval and/or political consensus
Board Consensus	Service extends beyond PVTA boundaries
Coordination with other Agencies	Agencies include: • Other RTAs • Funding partners • Human service agencies • Others

Figure 90. Recommendation Complexity Thresholds



Category 2: The impact is relative to the recommendation level (route/community specific or systemwide) and factors include both rider impact (Figure 91) and operational impact (Figure 92).

Thresholds for rider benefits fall into four categories: negative impact, low impact, medium impact, and high impact.

Figure 91. Recommendation Impact Thresholds: Rider Impact

Negative Impact	Low Impact	Medium Impact	High Impact
• Recommendation would have a **negative impact** on riders, typically service reduction or elimination, without an alternative being recommended.	• **Less than 25 percent** of route/system users. These would typically go unnoticed by most people.	• **Between 25 and 75** percent of route/system users. This change would be noticed by most users but would only impact some.	• **Greater than 75** percent of route/system users. This would impact most of the system or route users and would be noticed.

Thresholds for operational impacts are highlighted in Figure 92. These are typically operational or administration policies and procedures. Route changes that would impact operations and create a less stressful environment such as improving OTP so drivers have layover time are included but those that are purely alignment, frequency, or span changes with no benefit to operations are not. There are four thresholds: negative impact, low impact, medium impact, and high impact.

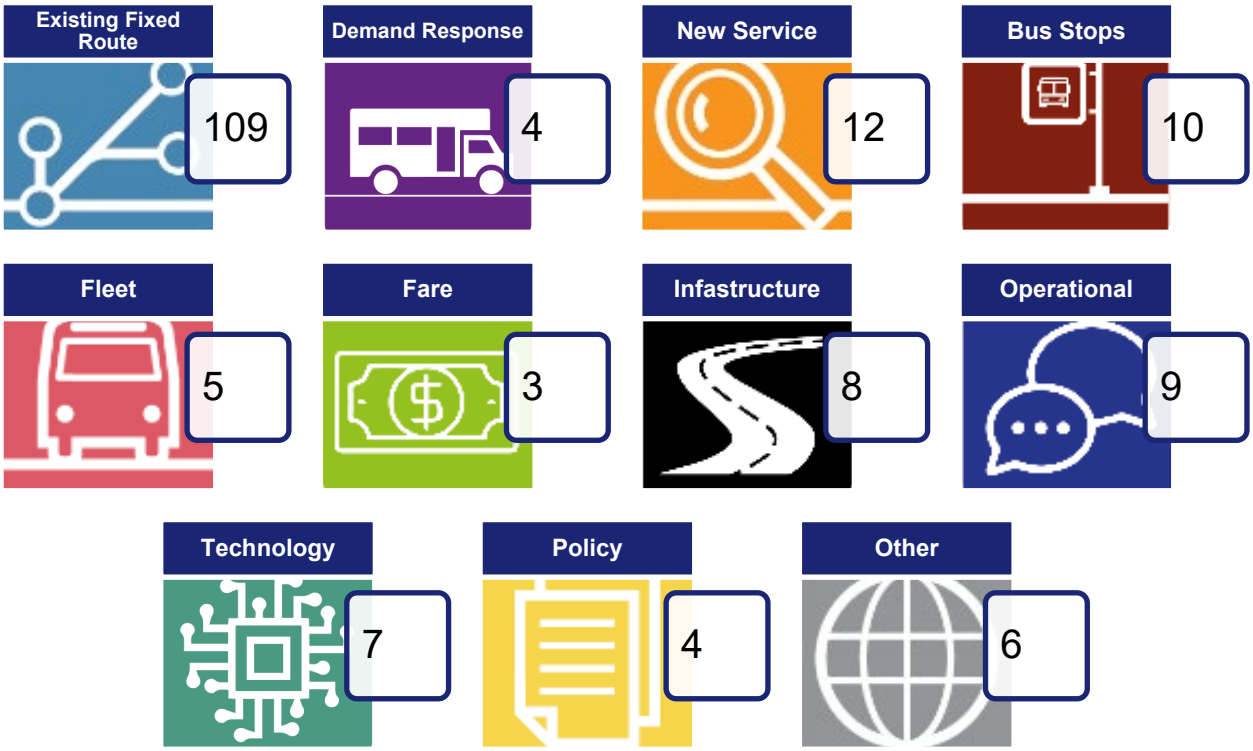
Figure 92. Recommendation Impact Thresholds: Operational Benefit

Negative Impact	Low Impact	Medium Impact	High Impact
• Recommendation would create a burden on administration. • Does not result in improved efficiency, but requires additional oversight, monitoring, and analysis.	• No impact on administration or operational practices.	• Positively impacts either administration or operational practices but not both.	• Positively impacts both administration and operational practices.

8.3.2 Recommendation Summary

A total of 177 recommendations were identified (Figure 93). The majority (62 percent) of the recommendations are route specific. A complete list of priorities for recommendations is provided in Appendix E.

Figure 93. Recommendations Summary



8.3.2.1 Existing Fixed Route

Existing fixed route recommendations are outlined in Table 55 by route and proposed scenario, the priority for which is in parenthesis after the recommendation. Overall core needs are recommendations that should be established immediately and are not based on ridership levels due to the pandemic, whereas ridership-based changes depend on how ridership responds with the pandemic. In general, improvements that would make a route more efficient are core needs, adjusting weekend service varies based on FY 2019 ridership and load levels, frequency changes are based on ridership, span increases are in the medium and low ridership scenarios, and frequency changes are in the high or medium ridership scenarios.

Table 55. Fixed Route Recommendations

		Recommendation		
Route	**Core Need**	**Low-Ridership Recovered**	**Medium-Ridership Recovered**	**High-Ridership Recovered**
G1	Extend route to the Chicopee Plaza on all trips (3)	Add one additional weekday evening trip (2) Add one additional Sunday evening trip (2)	Improve Saturday headway to 20 minutes (1) Improve Sunday headway to 20 minutes (2)	Improve weekday headway to 15 minutes (3) Reduce weekday evening frequency (3)
G2	Eliminate Dwight Road variant and service to industrial park (3) Establish microtransit (3)	N/A	Improve Saturday headway to 20 minutes (1) Improve Sunday headway to 45 minutes (1)	Improve weekday headway to 20 minutes (3) Reduce weekday evening frequency (3) Add one additional weekday evening trip (2) Operate Sunday service 8:00 AM to 8:00 PM (2)
G3	Adjust alignment – create loop in Old Hill (3)	N/A	Reduce weekday morning frequency (3)	Create consistent 30 minute headways (3) Extend service to 9:00 PM on Saturday (1)
G5	Eliminate Mass Mutual deviation (2) Implement Sunday service (1) Establish microtransit (2)	N/A	Add two additional Saturday evening trips (2)	N/A
B6	Add one additional Saturday evening trip (1) Convert Health South to on-request only (2)	Add one additional Sunday evening trip (1) Add 0ne additional Sunday morning trip at 8:30 AM (1)	N/A	Change headway to 30 minutes on weekdays (3) Reduce weekday evening frequency (3)

		Recommendation		
Route	**Core Need**	**Low-Ridership Recovered**	**Medium-Ridership Recovered**	**High-Ridership Recovered**
B7	N/A	Add an 8:00 AM Sunday trip (2) Add two additional Sunday evening trips (2)	N/A	Implement BRT light along the State Street Corridor (3) Reduce weekday and Saturday evening frequency (3) Reduce Saturday morning frequency before 8:00 AM (3)
R10	Eliminate Hospital and East Mt. View Apartments deviation (3) Eliminate Union Street (3) Service Walmart on all trips (2) Create consistent 30 minute headways (3) Reduce weekday evening frequency (3) Establish microtransit (3)	Add one additional Sunday morning trip (2)	N/A	N/A
10s/OWL	N/A	N/A	Combine into one route (2)	N/A
P11	N/A	N/A	N/A	Add additional morning trip (2)
B12	Eliminate route and serve via on-demand (4)	N/A	N/A	N/A

		Recommendation		
Route	**Core Need**	**Low-Ridership Recovered**	**Medium-Ridership Recovered**	**High-Ridership Recovered**
R14	Eliminate Industrial Park and North Street service (3) Service Big Y and Pheasant Hill on all trips (3) Establish microtransit (3)	N/A	N/A	N/A
B17	Implement Sunday service (2)	N/A	Improve weekday mid-day headway to 30 minutes (3)	N/A
P20	N/A	Add one additional Sunday morning trip (2) Add two additional Saturday evening trips (2)	Improve weekday headway to 15 minutes (3) Reduce weekday evening frequency (3)	Add one additional Saturday evening trip (2)
P20E	N/A	N/A	N/A	Add one additional Saturday morning trip (2) Add one additional Saturday evening trip (2)
P21	N/A	Add one additional Sunday morning trip (2) Add two additional Sunday evening trips (2)	Improve weekday headway to 20 minutes (3) Reduce weekday evening frequency (3)	Add one additional Saturday morning trip (2) Add one additional Saturday evening trip (2)
B23	Implement Saturday service (1) Remove Soldiers Home deviation (4) Extend to Silver Street Big Y (2)	N/A	N/A	N/A
R24	Implement Saturday service (1)	N/A	N/A	N/A

		Recommendation		
Route	**Core Need**	**Low-Ridership Recovered**	**Medium-Ridership Recovered**	**High-Ridership Recovered**
R29	N/A	N/A	Add mid-day weekend trip (1)	N/A
X90	Extend route to HTC on Sunday (1) Add two additional Sunday evening trips (1) Eliminate Montcalm and South Hadley Falls – serve via microtransit program (4)	N/A	N/A	N/A
X92	Implement Sunday service (1)	N/A	N/A	Improve weekday headway to 30 minutes during the peak (3)
LOOP	End weekday service earlier (3) Shorten Sunday service hours (3) Eliminate if there is no funding partnership (3)	N/A	N/A	N/A
W	Add weekend service (1)	N/A	N/A	N/A
R41	Add Sunday service (1)	Add one additional Saturday evening trip (3)	N/A	Add one additional weekday evening trip (1)
R42	Add Sunday service (1) Eliminate Nash Hill (2)	N/A	N/A	N/A

		Recommendation		
Route	**Core Need**	**Low-Ridership Recovered**	**Medium-Ridership Recovered**	**High-Ridership Recovered**
B43	N/A	N/A	N/A	Eliminate last trip on Fridays (2) Convert B43 Express trips to non-express (2) Reestablish Route M40 (2)
R44	Expand Sunday service hours (2) Convert High Street to on-request only (2)	Operate Saturday service routing on weekdays (1) Serve Rocky Hill Co-housing on-request with Route NE (1)	N/A	N/A
B48	N/A	Add a weekday 6:00 AM trip (3) Add a Saturday 8:00 AM trip (3)	N/A	Create express variant that uses I-91 (2) Extend service to 9:00 PM on weekdays (1) Create 30 minute weekday headways all day until 6:00 PM (2) Improve Saturday headway (1)
30	Begin Sunday service earlier (2)	N/A	Improve weekday early evening headway to 15 minutes (4)	Improve weekday headway to 12 minutes (3) Start weekday service earlier (3) Increase Thursday and Friday evening headway to 20 minutes (2)

		Recommendation		
Route	**Core Need**	**Low-Ridership Recovered**	**Medium-Ridership Recovered**	**High-Ridership Recovered**
31	Begin Sunday service earlier (3)	N/A	N/A	Improve weekday headway to 12 minutes (3) Start weekday service earlier (3) Increase Thursday and Friday evening headway to 20 minutes (3) Research how to connect South Amherst to Hadley Malls (5)
33	N/A	N/A	Eliminate Cushman Center deviations (3) Improve weekday headway to 30 minutes (2)	On Saturdays extend to the mall and create 45 minute headways (2)
34	N/A	N/A	N/A	Extend service to 10:00 PM (4) Add weekday trippers for overloads (3) Establish Saturday service (2)
35	N/A	N/A	N/A	Improve weekday headway to 12 minutes (3)

		Recommendation		
Route	**Core Need**	**Low-Ridership Recovered**	**Medium-Ridership Recovered**	**High-Ridership Recovered**
38	End service earlier Monday to Thursday (3) Change weekday headway to 90 minutes (3) Eliminate last Sunday trip (3) Continually monitor Saturday evening ridership (3)	N/A	N/A	N/A
39	Change weekday headway to 60 minutes (3) End weekday service at 9:00 PM (3) Eliminate Hampshire Mall service (3) End Saturday service at 8:00 PM (3)	N/A	N/A	N/A
45	N/A	N/A	N/A	Add a morning trip (3)
46	N/A	N/A	N/A	Add one AM and one PM trip (4)
NE	Conduct ridership study (1)	N/A	N/A	N/A
WP	Provide weekend service (3)	N/A	Add more trips to Springfield (1) Coordinate with Quaboag Connector on microtransit (3) Work with Quaboag Connector to reestablish as two routes (1)	N/A

8.3.2.2 Demand Response Recommendations

The four demand response recommendations are outlined in Table 56 and all are identified as core needs. The recommendations are to update the Adept scheduling software to allow passengers to book trips online or through their smart phones and to increase coordination with other transit operators to create connections to neighboring areas.

Table 56. Demand Response Recommendations

Priority	Recommendation	Scenario
2	Work with Quaboag Connector to better promote services on the PVTA website and include information on the Route WP schedule	Core Need
3	Allow for demand response trips to and from the senior center as long as the other end is within a PVTA member community. This location can also be used to transfer passengers wishing to access other FRTA communities via FRTA demand response.	Core Need
3	Add online trip scheduling for demand response.	Core Need
4	Work with FRTA to identify locations to transfer passengers.	Core Need

8.3.2.3 New Service Recommendations

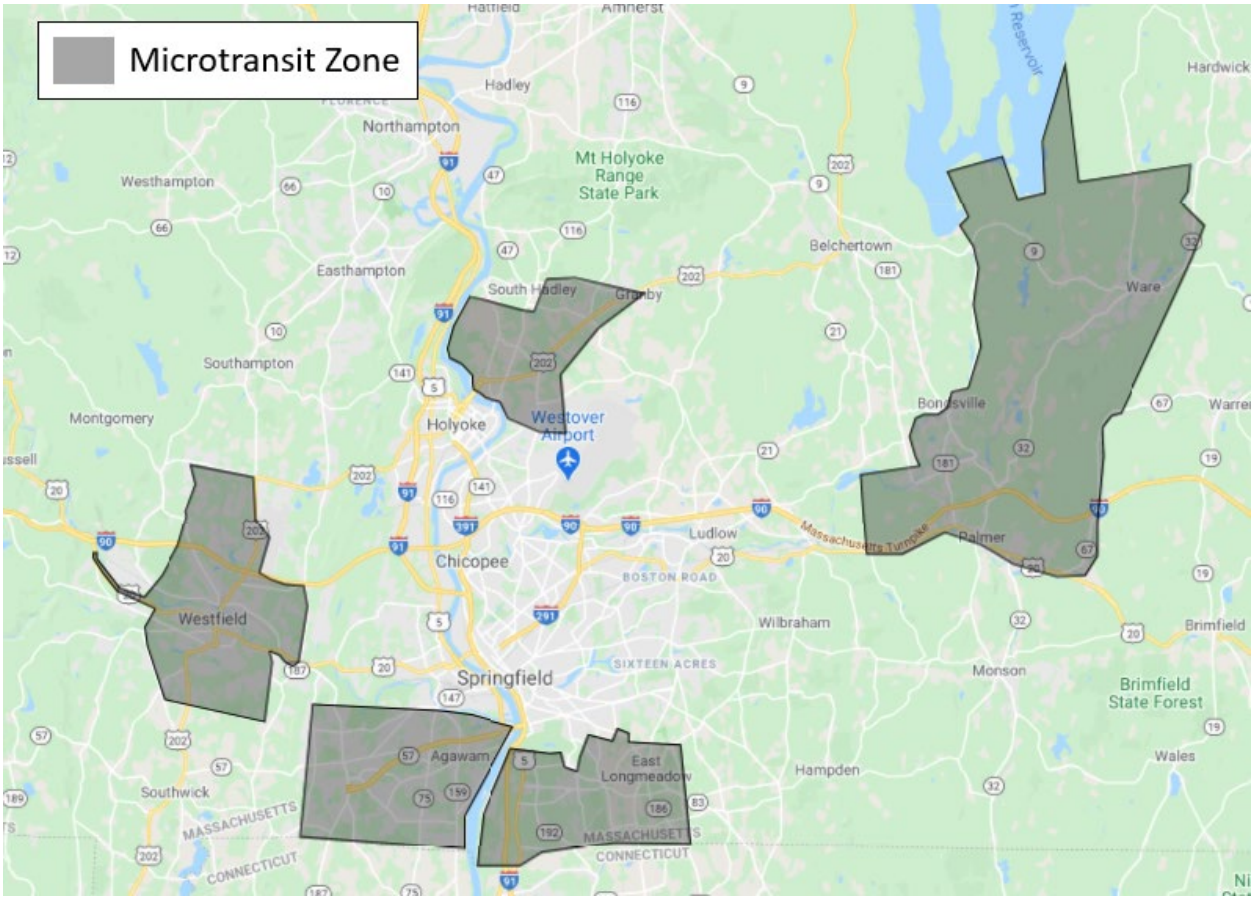
There are 12 recommendations for new service (Table 57), this includes establishing microtransit zones, creating express routes, developing a TNC/taxi, and servicing new areas. Microtransit zones in South Hadley, Agawam, Westfield, Palmer and Ware, and East Longmeadow/Longmeadow would replace underperforming fixed route segments with same day on-demand service (Figure 94). This is a core need but in the future, there may be a need for a similar type service in other communities. With a TNC/taxi partnership PVTA would subsidize a portion of the fare for trips that meet the required parameters. A taxi/TNC program would create first-mile/last-mile connections, provide service beyond the current operating hours/days, and establish a same-day service option for demand response customers. However a sustainable funding source and framework would need to be identified for this as high utilization would mean higher costs for PVTA.

Table 57. New Service Recommendations

Priority	Recommendation	Scenario
1	Create an express route from Northampton to Union Station via I-91.	High Ridership
3	Create an express route from Amherst to Union Station via Route 116 and HTC with 2-hour headways that depart Amherst at half past on the even hours to create 1 hour headways between Amherst and HTC between the new route and Route 29. Depart HTC on the hour, staggering service to Union Station with Route P21E.	High Ridership
3	Establish a microtransit zone that extends from South Hadley falls to Granby that connects to the South Hadley Big Y.	Core Need
3	Establish a microtransit zone in Agawam.	Core Need

Priority	Recommendation	Scenario
3	Establish a microtransit zone in Westfield.	Core Need
3	Establish a microtransit zone in Palmer and Ware in conjunction with the Quaboag Connector.	Medium Ridership
3	Establish a microtransit zone in East Longmeadow/Longmeadow.	Core Need
3	Develop a TNC/taxi feeder program for first-mile/last-mile service to connect people to bus stops, to provide same day service for demand response, provide options for service outside of PVTA's hours and days.	High Ridership
4	When Six Flags is open, operate a route that is direct from Union Station to Six Flags. Five trips daily, 7 days a week.	High Ridership
4	Create an express route from Union Station to the Enfield Park and Ride Route, which will create connections to CTtransit and the local Enfield Magic Carpet Route. Trips should align to make connection with CTtransit. Four trips daily.	Core Need
5	Establish a volunteer driver program in conjunction with FRTA to serve Hampshire and Hampden Counties.	High Ridership

Figure 94. Proposed Microtransit Zones



New Express routes are needed to connect Amherst to Springfield and Northampton to Springfield. The proposed express route connecting Northampton to Union Station could proceed to Enfield on a select number of trips. The route would not serve Holyoke as the proposed express variant of Route B48 would provide this service. The Express route from Amherst to Springfield would travel via Rt 116 but unlike Route R29 would stop only at a limited number of locations and would serve Union Station not the Holyoke Mall. Between Holyoke and Union Station it would follow the P21E routing, but the timing would be as such that it does not overlap. Figure 95 shows a map of the proposed express routes including Route M40.

Two new routes are proposed (Figure 96). The first route would service Six Flags when it is open. The hours would be geared toward workers, with two morning trips, one mid-day trip, and two evening trips. The second new route would provide service from Union Station to the Enfield Mall park and ride lot. The route would be timed to create connections with the Enfield Magic Carpet Blue Route, which circulates around town. This location is also served by CTtransit express buses to Hartford. Several different options were examined as ways to connect PVTA to CTtransit, including Union Station to Hartford, Union Station to Bradley Airport, Union Station to Hartford, and Northampton to Enfield. It was found that the Union Station to Enfield was the most logical option (Table 58)

Figure 95. New Express Routes

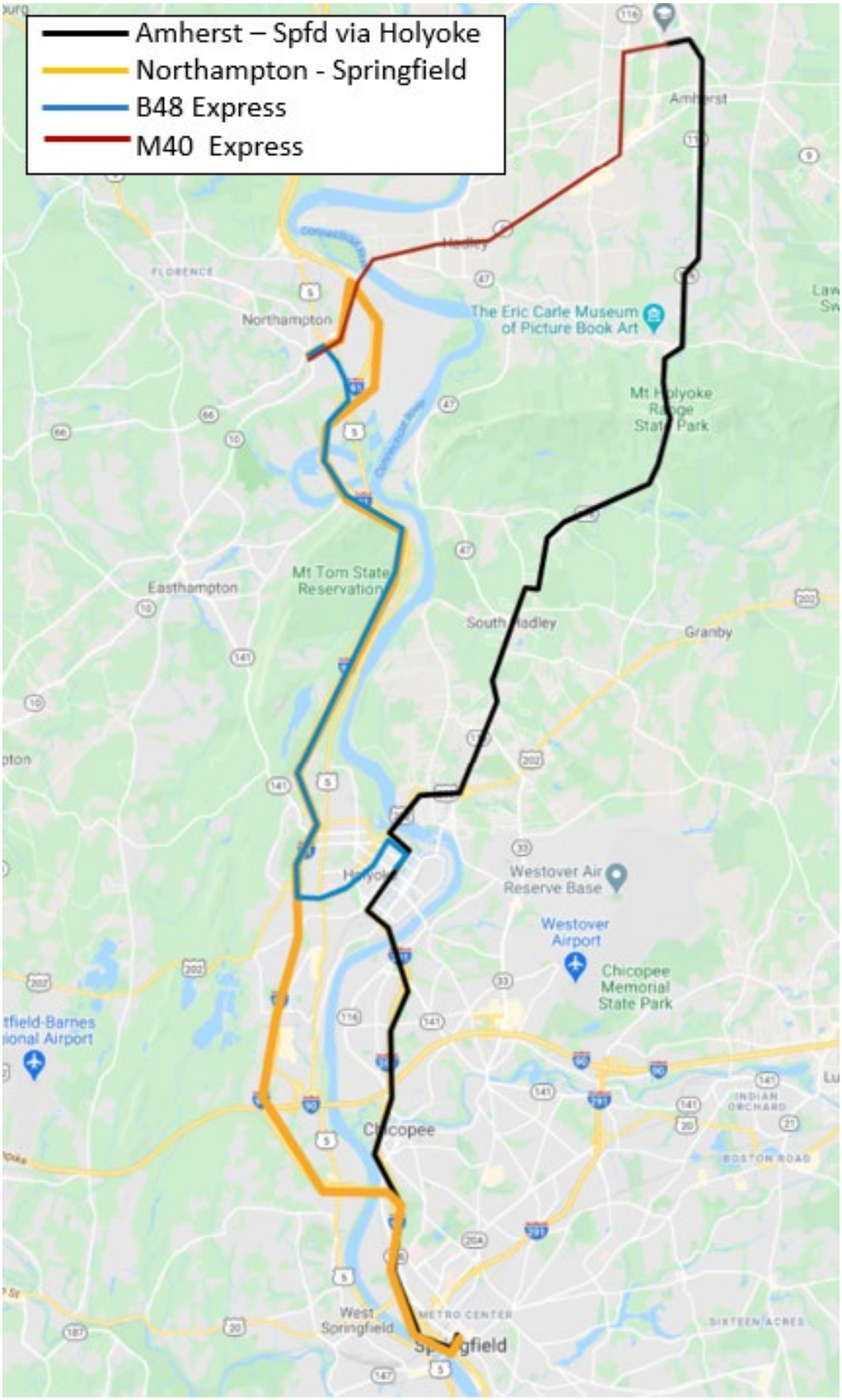


Figure 96. Left: Proposed Route to Enfield; Right: Proposed Six Flags Route

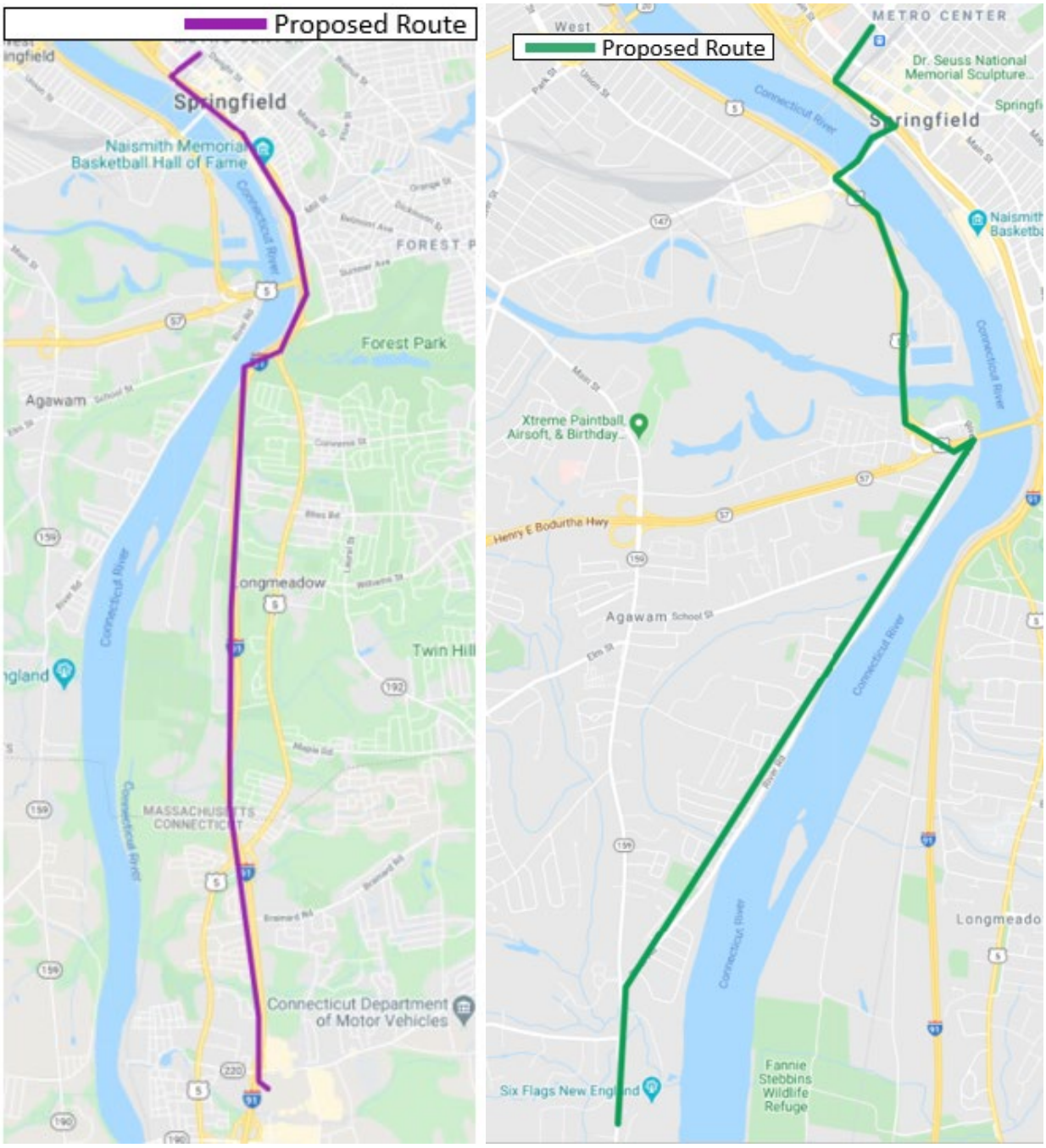


Table 58. Options to Serve Connecticut

Service Option	Findings
Union Station – Hartford	Service is currently provided via CTRail and Peter Pan. CTRail operates seven trips ($6.00 per trip) and Peter Pan four daily ($9 to $10.5 per trip). If PVTA were to operate a similar route 75% of the miles would be outside of PVTA member communities and no local assessment would be recouped.
Union Station – Bradley Airport	Currently individuals must travel to Hartford and then take the Bradley Flyer ($1.75 way fare). If PVTA were to operate a similar route 65% of the miles would be outside of PVTA member communities and no local assessment would be recouped. The train station in Windsor Locks Connecticut is being relocated to the downtown and the state is exploring ways to provide connecting service between the station and airport.
Union Station – Enfield	Service to Enfield should focus on the Enfield Mall park and ride and creating connections to local routes. While CTtransit does serve the location via an express route it is unlikely that individuals would take a PVTA route to connect to the CTtransit express route if they were heading to Hartford as the CTtransit fare plus PVTA fare is only $0.40 less than taking rail.
Northampton – Enfield	There was no specific need identified to connect Northampton to Connecticut but the Northampton to Union Station Express route could continue on to Enfield on select trips providing the connection. This may also allow for operational efficiencies.

8.3.2.4 Bus Stop Recommendations

Ten bus stop recommendations are proposed (Table 59). Installing solar powered lights at stops that lack lighting and have sufficient sun would improve visibility and safety. To improve amenities at bus stops PVTA should develop bus stop guidelines, which will help identify priority stops for benches and shelters that can be used to create a capital investment plan. The guidelines can also be used to work with landowners, municipalities, and MassDOT on needs for bus stops. For example, these could be used to work with the town of Amherst to extend the length of the Cowles Lane[50] bus stop or Northampton at the Academy of Music[51] to accommodate longer and additional vehicles. Additionally there are stops with pullouts such as at the Townhouses in Amherst, which were designed to accommodate 40-foot buses but are now served with 60-foot buses, resulting in the bus blocking traffic to serve the stop.[52]

Table 59. Bus Stop Recommendations

Priority	Recommendation	Scenario
1	Create exterior announcements drivers can play reminding people to cross behind the bus.	Core Need

[50] This stop is approximately 52 feet in length and served frequently by 60 feet articulated buses. During the peak hour 18 buses serve this location, routes are timed to minimize multiple routes at this location at once but is not always feasible given traffic. Design guidelines vary but recommend at least 70 feet (30 foot taper, 40 foot loading zone) for far side bus stops and 90 feet if served via 60-foot buses. An additional 50 feet is needed for each additional bus.
[51] This stop is approximately 150 feet in length enough for three buses. There can be up to six routes here at once.
[52] Design guidelines vary but many recommend a minimum bus pullout length of 120 feet (including a 30 foot taper on either end) for use by 40-foot buses or 140 feet for use by 60-foot buses. And additional 50 feet of length is needed for each additional 40-foot bus.

Priority	Recommendation	Scenario
2	Remove parking at Cowles Lane and Academy of Music to increase the number of buses.	Core Need
2	Create a list of priority stops to add shelters and work with landowners to install shelters.	Core Need
2	Establish a policy for bench placement at stops.	Core Need
2	Create an adopt a stop program where individuals and organizations can adopt a stop to empty trash bins on a weekly basis and remove snow in the winter. Offer a set amount of free one trip tickets in exchange.	Core Need
3	Provide solar powered lights at stops with poor lighting; in particular, Aspen Chase inbound and North Amherst Center Inbound.	Core Need
3	Crossing guard at Integrated Learning Center (ILC) Crossing like at Southwest.	High Ridership
4	Work with the municipalities that have not undergone a bus stop consolidation study to conduct one where stop spacing is closer then recommended in PVTA guidelines.	Core Need
4	Identify stops where length should be increased and work with municipalities to expand.	Core Need
4	Prioritize list of capital improvements based on bus stop guidelines developed.	Core Need

8.3.2.5 Fleet Recommendations

Fleet recommendations are to procure more articulated buses, require that windows open in future procurements, conduct facility audits for electric bus capacity, replace vehicles at their ULB, and place educational stickers on the rear of buses (Table 60).

Table 60. Fleet Recommendations

Priority	Recommendation	Scenario
1	Procure buses in the future that allow windows to open.	Core Need
2	Replace vehicles at their ULB.	Core Need
2	Place stickers/signs on the back of the bus that state buses do not turn on red and stop frequently.	Core Need
4	Conduct a facility audit at the VATCo and UMTS garages to better understand the upgrades needed to accommodate electrical vehicles. Analyze the schedules in Hastus to determine which vehicle schedules are candidates to deploy electric vehicles.	Core Need
4	Procure articulated buses.	High Ridership

8.3.2.6 Infrastructure Recommendations

Infrastructure recommendations include roadway improvements and facilities (Table 61). Roadway improvements such as improving curb radii and traffic signals with protected left turns would make taking turns easier for operators. BRT treatments such as branded stops, TSP, queue jumps, and dedicated busways on select corridors would speed up travel time. As campus enrollment increases, there may be a need for additional parking and potentially park and ride locations served by transit. A facility study is the first step needed to better understand what is needed and how to do it in order to safely maintain articulated buses at the UMass facility.

Table 61. Infrastructure Recommendations

Priority	Recommendation	Scenario
2	Work with Amherst to determine signal warrants for protected left turns: North Pleasant Street to Main Street, Southeast Street to Main Street, Russell Street to University Drive, Elm Street/ West Street.	Core Need
2	Work with municipalities to improve curb radii: Meadow Street - North Pleasant Street; Main Street to South East Street; Route 116 to Meadow Street, right into Big Y Plaza Route 33; Smith College turn around; right onto Amity Street.	Core Need
3	Serve new bus pullouts with the re-established M40 express route along Route 9. Install TSP technology on Route B43 and M40 vehicles.	High Ridership
3	Eliminate regular car traffic on North Pleasant Street on campus and create a bus only roadway. Allow buses, emergency and university plated vehicles only on weekdays during the day.	Core Need
3	Conduct a feasibility study to determine the cost for upgrading maintenance facility at UMass and VATCo.	Core Need
3	Work with the city of Springfield to implement BRT measures along State Street as proposed in the BRT State Street study. This should include queue jumps, TSP, and branding.	Core Need
5	Work with municipalities and MassDOT and UMass to identify future locations of park and rides and incorporate bus service. Increase bus service to the Whately park and ride.	High Ridership

8.3.2.7 Fare Recommendations

There are three recommendations for fares (Table 62). Northern tier residents must travel to Holyoke or Springfield in order to obtain a reduced fare card. PVTA should partner with a location in the north that allows individuals to apply for the card. A new fare system is needed, as the current GFI system is outdated and smart card system is inoperable. PVTA has deployed mobile payments through the Bus Plus App for fixed route and should extend the fare options to include demand response.

Table 62. Fare Recommendations

Priority	Recommendation	Scenario
1	Expand the mobile fare payment to include demand response.	Low Ridership
3	Establish a regular schedule where a customer service representative is available at a central location such as senior center or town hall to process applications and take pictures for reduced fare IDs. The IDs can then be mailed to the individual once printed.	Core Need
3	The RTAs should do a joint procurement for a new fare system that includes a mobile payment option, with items such as fare capping and multiple outlets to procure smart cards.	Core Need

8.3.2.8 Policy Recommendations

Four policies are recommended (Table 63). The service classification minimum span guidelines should be updated as outlined in chapter 6.2.3.1 to reflect the new route tier classifications. PVTA has a few corridors that do not have designated stops but instead are flag stop, which could be indicated on the maps to let passengers know. As micro-mobility increases there has been an increase in the use of two-wheeled electric scooters, particularly in high tourist areas and on university campuses. PVTA does not currently have a policy on accommodating these vehicles but should establish one.

Table 63. Policy Recommendations

Priority	Recommendation	Scenario
2	Adjust minimum span of service guidelines to match new route classification structure.	Core Need
2	Indicate flag stop corridors on route maps.	Core Need
2	Establish a two-wheeled electric scooter policy.	Core Need
2	Use enhanced performance management system to support an enterprise-wide data-driven and performance-focused management and decision-making framework.	Core Need

8.3.2.9 Operational Recommendations

Operational recommendations focus on adjusting route timing to improve OTP and reduce bus bunching, procedures to collect operator feedback, and vehicle cleanliness (Table 64).

Table 64. Operational Recommendations

Priority	Recommendation	Scenario
1	Examine timing and OTP on Route 35 from Fine Arts Center (FAC) to the stadium, Route 33 Library to Big Y, Route 30 Colonial Village to Old Belchertown Road, Route 30 Studio Arts Building to Puffton, and Route 45 evening to Rolling Green.	Core Need
1	Continually monitor OTP.	Core Need
1	Increase cleaning (interior and exterior) of the buses daily and provide automatic announcements reminding passengers to remove their belongings.	Core Need
1	Adjust route departure/arrival times to Union Station that serve State Street in order to spread out service and reduce bus bunching.	Core Need
2	Establish a locked driver's comment box in the driver breakroom. Create an online form that individuals can anonymously (or by name) report issues.	Core Need
2	Adjust timing on Route G1 outbound from Union Station; Union Station to Mason Square; HTC to Union Station on Route P21E; Union Station to Route X; Saturday Route P20 Kmart to Riverdale Shops.	Core Need
3	Hire additional road supervisors.	Core Need
4	Upgrade the radio/communication equipment to shorten the time it takes to conduct transfers. All requests should still go through dispatch.	Core Need
4	Improve travel time and OTP in Amherst Center by installing TSP.	High Ridership

8.3.2.10 Technology Recommendations

Six of the seven technology recommendations are core needs (Table 65). Implementing or upgrading these technologies would improve data collection and customer service, allowing PVTA to make even more informed decisions. New technologies procured could be done jointly with other RTAs.

Table 65. Technology Recommendations

Priority	Recommendation	Scenario
1	Continue working with Union Station to diagnose and fix problems as they arise. Each hour a customer service representative can walk around the bus bays to identify any screens that are out. At HTC develop a way to quickly identify screens with errors using internal controls.	Core Need
1	Upgrade Adept software and add the Passenger app that allows them to request, manage, and track trips.	Core Need

Priority	Recommendation	Scenario
2	Procure AVL technology for the community shuttles (Route NE and WP). Turn on and test the APC technology.	Core Need
2	Roll out and test the new maintenance software.	Core Need
2	Provide alert feature in a centralized location where supervisors can post ongoing and in the moment service updates that posts to the PVTA Twitter account, Facebook account, Banner of PVTA webpage, and Transit App.	Core Need
4	Work with municipalities to correct any issues with existing TSP systems. As new roadway projects are developed work with the state DOT and local municipality to determine whether TSP can be deployed.	High Ridership
5	Procure technology. Consider a joint procurement with MART, FRTA, VTA, CCRTA, and MVRTA who are also looking to add this technology to their fixed route and demand response fleets.	Core Need

8.3.2.11 Other Recommendations

Six other recommendations do not fall into one of the aforementioned categories (Table 66). Four of these focus on schedules, educational material, and marketing. The fifth is a way to garner feedback from the public outside of complaints. The last recommendation is to work with FRTA when making changes to routes that connect to their routes in order to facilitate transfers.

Table 66. Other Recommendations

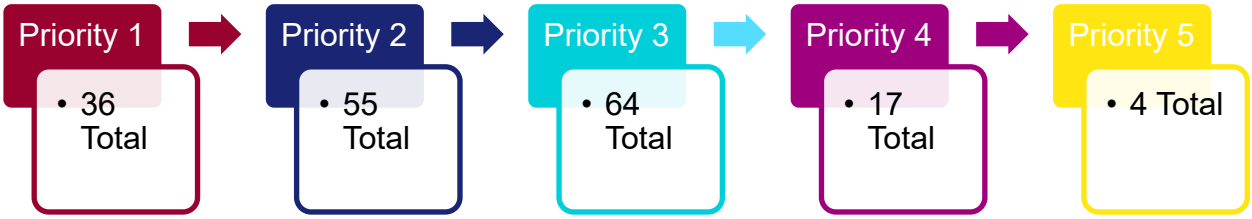
Priority	Recommendation	Scenario
1	Create a how to ride guide or promotional video that teaches people how to use the service. These videos could play at transit stations and on-board the buses. MVRTA has a series of well-produced how to ride videos on how to pay your fare, etiquette, reading schedules, and using their apps. Videos are in four languages.	Core Need
1	Update the contact form introduction with language that lets people know you are looking for any and all feedback. Update where they select why they are contacting PVTA to encourage them to select. Monitor social media for PVTA related hashtags and provide responses where warranted.	Core Need
1	Print a limited number of schedules and redesign them to use minimal space.	Core Need
2	On schedules, indicate the days that service will end early and the approximate time.	Core Need
2	Have drivers go through annual passenger relations refresher trainings. Create education videos on PVTA etiquette and code of conduct that can play on-board the buses. Work with operators so that they report incidents and PVTA can investigate and properly handle problem passengers	Core Need

Priority	Recommendation	Scenario
4	Increase service on Route 46 with timed connections. Work with FRTA when updating connecting schedules to facilitate transfers. Include FRTA schedule information on the Academy of Music schedule screen.	Low Ridership

8.3.3 Recommendation Ranking

Each recommendation was assigned a priority (1 through 5) based on the complexity to implement and its projected impact (Figure 97) and based upon the three ridership scenarios. Priority 1 actions are recommendations that have a low complexity to implement (one barrier to implementing the recommendation) but would have a high impact (greater than 75 percent of route/system users are impacted and/or positively impacts both administration and operational practices). Priority 5 should be implemented last as these are the most complex (more than three barriers to implementing the recommendation) and have the lowest impact (less than 25 percent of route/ system users are impacted and no impact on administration or operational practices). Priority 3 has the greatest number of recommendations; these have a mid-level complexity and impact (between 25 and 50 percent of route/system users are impacted and positively impacts either administration or operational practices but not both).[53]

Figure 97. Recommendation Priorities



Coordination will be needed with various parties as outlined in Table 67 in order to implement recommendations. Several recommendations require consultation with funding before changes can be made. Changes that will provide connections outside of the PVTA service area will require coordination with the transit provider in that area. Many of the infrastructure recommendations will require coordinating with municipalities, MassDOT, UMass, or some combination thereof. Lastly any joint procurements will require RTA coordination. Overall, the recommendations would require coordination with at least 10 agencies or municipalities.

Table 67. Coordination with Others

Recommendation	Additional Information
Coordinate with UMass to determine what departments are moving to Venture Way and if there would be a demand for people to travel between here and campus	Coordination with UMass needed
Implement changes to Route 10s/OWL.	Coordination with WSU needed
Implement changes to Route P11.	Coordination with HCC needed

[53] Priority level of each recommendation can be found in Appendix E.

Recommendation	Additional Information
Implement changes to the LOOP.	Coordination with MGM needed
Implement changes to Route B12.	Coordination with Hampden County Sherriff Office needed
Implement changes to Route 38 or Route 39.	Coordination with Five Colleges
Implement microtransit in Palmer and Ware, split the PW route into two routes.	Coordination with the Quaboag Connector
Remove deviation to Soldiers Home on Route B23 and serve via Route R24 as a scheduled stop and not via request.	Coordination with the Soldiers Home
Work with Quaboag Connector to better promote services on the PVTA website and include information on the Route WP schedule.	Coordination with the Quaboag Connector
Coordinate with UMass to determine what departments are moving and whether there would be a demand for people to travel between Venture Way and campus.	Coordination with UMass needed
Remove parking at Cowles Lane and the Academy of Music to increase the number of buses.	Coordination with Amherst and Northampton needed
Install crossing guard at ILC Crossing like at Southwest.	Coordination with UMass needed
Work with the municipalities that have not undergone a bus stop consolidation study to conduct one where stop spacing is closer then recommended in PVTA guidelines.	Municipal coordination needed
Identify stops where length should be increased and work with municipalities to expand.	Municipal coordination needed
Create an adopt a stop program where individuals and organizations can adopt a stop to empty trash bins on a weekly basis and remove snow in the winter. Offer a set amount of free one trip tickets in exchange.	Coordination with adopt a stop organizations
Establish a regular schedule where a customer service representative is available at a central location such as senior center or town hall to process applications and take pictures. The IDs can then be mailed to the individual once printed.	Coordination with facility to occur
Serve new bus pullouts with the re-established M40 express route. Install TSP technology on the Route B43 and M40 vehicles.	Coordination with MassDOT needed
Work with Amherst to determine signal warrants for protected left turns: North Pleasant Street to Main Street, Southeast Street to Main Street, Russell Street to University Drive, Elm Street/ West Street	Coordination with Amherst needed

Recommendation	Additional Information
Work with municipalities to improve curb radii: Meadow Street - North Pleasant Street; Main Street to South East Street; Route 116 to Meadow Street, right into Big Y Plaza Route 33; Smith College turn around; right onto Amity Street.	Coordination with Amherst and Northampton needed
Eliminate regular car traffic on North Pleasant Street on campus and create a bus only roadway. Allow buses, emergency and university plated vehicles only on weekdays during the day.	Coordination with Amherst and UMass needed
Conduct a feasibility study to determine the cost for upgrading maintenance.	Coordination with UMass needed
Work with municipalities and MassDOT to identify future locations and incorporate bus service. Increase bus service to the Whately park and ride.	Coordination with Municipalities and MassDOT needed
Work with UMass to reduce the number of crosswalks and to funnel pedestrians.	Coordination with UMass needed
Continue working with Union Station to diagnose and fix problems as they arise. Each hour a customer service representative can walk around the bus bays to identify any screens that are out. At HTC develop a way to quickly identify screens with errors using internal controls.	Coordination with Union Station needed
Work with the city of Springfield to implement BRT measures along State Street as proposed in the BRT State Street study. This should include queue jumps, TSP, and branding.	Coordination with Springfield needed
The RTAs should do a joint procurement for a new fare system that includes a mobile payment option, with items such as fare capping and multiple outlets to procure smart cards.	Coordination with other RTAs
Install TSP in Amherst and Northampton Center, in particular Cowles Lane.	Coordination with Amherst and Northampton needed
Work with FRTA when updating connecting schedules to facilitate transfers. Include FRTA schedule information on the Academy of Music schedule screen.	Coordination with FRTA
Work with FRTA to identify locations to transfer demand response passengers.	Coordination with FRTA
Work with municipalities to correct any issues with existing TSP systems. As new roadway projects are developed work with the state DOT and local municipality to determine whether TSP can be deployed.	Municipal coordination needed

Additional operators are needed to implement many of the recommendations (Table 68). An additional operator is needed if the service change would add 10 or more hours of weekly

service for routes operated by Hulmes or UMTS or 25 or more hours if operated by SATCo, VATCo, or NEXT.[54]

Table 68. Hiring Additional Operators

Recommendation	Additional Information*
Route 30-Increased frequency mid-day weekdays during the semester: Add service mid-day to create 12 minute headway from 8:00 AM to 5:00 PM.	UMTS – 45 hours per week
Route 30-Increased frequency during the early evening: Add service from 6:00 PM to 8:00 PM, improve headway to 15 minutes.	UMTS – 20 hours per week
Route 31-Increased frequency mid-day weekdays during the semester: Add service mid-day to create shorter 12 minute headways from 9:00 AM to 3:00 PM.	UMTS – 60 hours per week
Route 31-Connect Route 31 with shopping centers on Route 9: Conduct further research before implementing any service to determine potential ridership levels.	UMTS – 120 hours per week
Route 34-Weekday evening service: Extend service to 10:00 PM.	UMTS – 10 hours per week
Route 34-Increased frequency weekdays: Capacity issues appear to be at discrete times. Establish a tripper for this time.	UMTS – 10 hours per week
Route 34-Saturday service: Provide service from 12:00 PM to 10:00 PM.	UMTS – 10 hours per week
Route 35-Increased frequency weekdays: Improve headway to 12 minutes on weekdays from 9:00 AM to 6:00 PM.	UMTS – 45 hours per week
Route 45-Increased peak hour service: Add a trip during the morning peak that arrives on campus in time for the 10:00 and 10:10 AM class schedule block.	UMTS – 10 hours per week
Route 46-Additional trips: Add back the morning and evening trips eliminated as part of the FY 2019 service reductions.	UMTS – 20 hours per week
WP Weekend Service: Establish a microtransit that operates on weekends from 8:00 AM to 5:00 PM. Include access to the Eastfield Mall for transfer opportunities to Springfield.	TBD – 18 hours per week
M40: Convert Route B43 express trips back to non-express trips and reestablish Route M40 with morning trips heading toward UMass and afternoon toward Northampton. Vehicle schedules can be interwoven with Route B43 to reduce deadhead and increase efficiency.	VATCo – 50 hours per week
G1: Improve weekday frequency to 15 minutes from 8:00 AM to 4:00 PM, from 6:00 PM to 8:30 PM, reduce to 30-40 minutes and after 8:30 PM reduce to 60 minutes.	SATCo – 85 hours per week
G1: Extend route to the Chicopee Plaza on all trips.	

[54] Hulmes and UMTS use part-time operators; SATCo, VATCo, and NEXT use full-time operators.

Recommendation	Additional Information*
G1: Between 8:00 AM and 5:00 PM Sunday, improve headway to 20 minutes.	SATCo – 36 hours per week
G2: Improve frequency to 20 minutes from 7:00 AM to 6:00 PM, from 6:00 PM to 8:00 PM reduce to 30 minutes, and after 8:00 PM 60 minutes.	SATCo – 130 hours per week
R10: Create consistent 30 minute headways on this route on weekdays from 5:30 AM to 6:00 PM, then decrease to 60 minutes. Serve the Westfield shops in both directions on each trip.	SATCo – 105 hours per week
B17: Improve mid-day weekday frequency from 9:00 AM to 5:00 PM to 30 minutes.	SATCo – 40 hours per week
P20: Improve weekday frequency from 9:00 AM to 5:00 PM to 15 minutes and then decrease to 30 minutes from 5:00 PM to 8:00 PM and hourly after 8:00 PM.	SATCo – 85 hours per week
P21: Improve weekday frequency from 9:00 AM to 4:00 PM to 20 minutes and then decrease to 30 minutes from 4:00 PM to 7:00 PM and hourly after 7:00 PM. Add additional evening trip to end service at 10:30 PM.	SATCo – 78 hours per week
X92: Implement 20 minute service during the peaks (7:00 AM to 9:00 AM and 3:00 PM to 5:00 PM) on weekdays.	SATCo – 60hours per week
Establish a microtransit zone between Westfield neighborhoods and industrial area.	TBD – 81 hours per week
Establish a microtransit zone in Palmer and Ware in conjunction with the Quaboag Connector.	TBD – 106 hours per week
Establish a microtransit zone in Agawam.	TBD – 65 hours per week
Establish a microtransit zone that extends from South Hadley Falls to Granby that connects to the South Hadley Big Y.	TBD – 82 hours per week
Create an East Longmeadow/Longmeadow microtransit zone.	TBD – 55 hours per week
Create an express route from Amherst to Union Station via Route 116 and HTC. Two hour headways that depart Amherst at half past on the even hours to create 1 hour headways between Amherst and HTC between the new route and Route 29. Depart NTC on the hour staggering service to Union Station with Route P21E.	TBD – 60 hours per week
Create an express route from Northampton to Union Station via I-91.	TBD – 60 hours per week
When Six Flags is open, operate a route that is direct from Union Station to Six Flags. Five trips daily, 7 days a week.	TBD – 50 hours per week
Create an express route from Union Station to the Enfield Park and Ride Route, which will create connections to CTtransit and the local Enfield Magic Carpet Route. Trips should align to make connection with CTtransit. Four trips daily.	TBD – 40 hours per week

** Hours are approximate and would need to be precisely calculated by operators using scheduling software.*

Additional vehicles are needed to implement many of the recommendations (Table 69) as it would increase the number of vehicles operated in maximum service. By garage, UMTS would need 8 additional buses, VATCo would need 2, and SATCo would need 17. Additionally, six vans would be needed to operate the microtransit service and three buses for the new routes. Additional vehicles and revenue hours and miles operated would also require additional mechanics.

Table 69. Expanding Fleet

Recommendation	Additional Information
Route 30: Add weekday service mid-day to create 12 minute headway from 8:00 AM to 5:00 PM.	1 bus; UMTS
Route 31: Add weekday service mid-day to create shorter 12 minute headways from 9:00 AM to 3:00 PM.	2 buses; UMTS
Route 31: Further research would be needed to implement any service to determine potential ridership levels.	2 buses; UMTS
Route 34: Capacity issues appear to be at discrete times. Establish a tripper for the morning.	1 bus; UMTS
Route 35: Improve weekday headway to 12 minutes on weekdays from 9:00 AM to 6:00 PM.	1 bus; UMTS
Route 46: Add back the morning and evening trips eliminated as part of the FY 2019 service reductions.	1 bus; UMTS
M40: Convert Route B43 express trips back to non-express trips and reestablish Route M40 with morning trips heading toward UMass and afternoon toward Northampton. Vehicle schedules can be interwoven with Route B43 to reduce deadhead and increase efficiency.	2 buses; VATCo
G1: Improve weekday frequency to 15 minutes from 8:00 AM to 4:00 PM, from 6:00 PM to 8:30 PM reduce to 30 to 40 minutes, and after 8:30 PM reduce to 60 minutes.	3 buses; SATCo
G1: Extend route to the Chicopee Plaza on all trips.	
G2: Improve frequency to 20 minutes from 7:00 AM to 6:00 PM, from 6:00 PM to 8:00 PM reduce to 30 minutes, and after 8:00 PM 60 minutes.	3 buses; SATCo
R10: Create consistent 30 minute weekday headways on this route from 5:30 AM to 6:00 PM, then decrease to 60 minutes. Serve the Westfield shops in both directions on each trip.	2 buses; SATCo
B17: Improve mid-day weekday frequency from 9:00 AM to 5:00 PM to 30 minutes.	1 bus; SATCo
P20: Improve weekday frequency from 9:00 AM to 5:00 PM to 15 minutes and then decrease to 30 minutes from 5:00 PM to 8:00 PM and hourly after 8:00 PM.	3 buses; SATCo

Recommendation	Additional Information
P21: Improve weekday frequency from 9:00 AM to 4:00 PM to 20 minutes and then decrease to 30 minutes from 4:00 PM to 7:00 PM and hourly after 7:00 PM. Add additional evening trip to end service at 10:30 PM.	2 buses; SATCo
X92: Implement 30 minute service during the peaks (7:00 AM to 9:00 AM and 3:00 PM to 5:00 PM).	3 buses; SATCo
Establish a microtransit zone connecting Westfield neighborhoods and industrial area.	1 van
Establish a microtransit zone in Palmer and Ware in conjunction with the Quaboag Connector.	2 vans
Establish a microtransit zone in Agawam.	1 van
Establish a microtransit zone that extends from South Hadley Falls to Granby that connects to the South Hadley Big Y.	1 van
Create an East Longmeadow/Longmeadow microtransit zone.	1 van
When Six Flags is open, operate a route that is direct from Union Station to Six Flags. Five trips daily, 7 days a week.	1 bus
Create an express route from Northampton to Union Station via I-91.	1 bus
Create an express route from Union Station to the Enfield Park and Ride Route, which will create connections to CTtransit and the local Enfield Magic Carpet Route. Trips should align to make connection with CTtransit. Four trips daily.	1 bus

To implement recommendations PVTA would have to issue six RFP/RFQs to acquire a vendor, do construction, or conduct a study (Table 70). This does not include potential joint procurement opportunities with other RTAs for which PVTA may or may not be the lead.

Table 70. RFP Procurement

Recommendation
Install BRT light infrastructure on State Street.
Acquire additional vehicles to expand service.
Develop a TNC/taxi feeder program for first-mile/last-mile service to connect people to bus stops, to provide same day service for demand response, and to provide options for service outside of PVTA's hours and days.
Procure articulated buses.
Hire consultant to conduct a facility audit at the VATCo and UMTS garages to better understand the upgrades needed to accommodate electrical vehicles. Perform an analysis on the schedules in Hastus to determine on which vehicle schedules to deploy electric vehicles.
Eliminate regular car traffic on North Pleasant Street on the UMass Campus and create a bus only roadway. Allow buses, emergency and university plated vehicles only on weekdays during the day.

Fourteen of the recommendations would have a negative impact on riders due to reductions in service hours or frequency without an alternate being provided (Table 71). The reduction in service is because the route or route segments carry very little riders and is inefficient to operate. Bus stop consolidation can have a negative impact on customers if a stop they use is eliminated and they must walk farther to access the route.

Table 71. Negative Rider Impact

Recommendation
Route 38: Monday through Thursday end service by 11:00 PM and reduce frequency after 8:00 PM to 90 minutes.
Route 38: On Fridays, reduce frequency after 10:00 PM.
Route 38: On Sundays, eliminate the last trip.
Route 39: Reduce to 60 minute headways on weekdays.
Route 39: End service earlier in the evening on weekdays with the last trip departing for Smith College around 9:00 PM.
Route 39: Eliminate trips to the Hampshire Mall.
Route 39: End Saturday service at 8:00 PM.
Route G3: Reduce frequency in the morning.
Route B6: Reduce frequency to 30 minutes with 45 minute frequency from 5:00 PM to 7:00 PM and hourly after 7:00 PM. This should allow for increased cycle time, which will help with OTP.
Route B7: Reduce to 30 minutes after 5:00 PM and 45 to 60 minutes after 7:00 PM.
Route B7: Before 8:00 AM reduce headway to 30 minutes. Reduce headway to 30 minutes starting at 6:00 PM.
LOOP: End weekday service at 8:30 PM.
LOOP: Operate service from 11:18 AM to 3:53 PM only on Sundays.
Work with the municipalities that have not undergone a bus stop consolidation study to conduct one where stop spacing is closer then recommended in PVTA guidelines.

Three recommendations have negative impacts on administration (Table 72). These require additional work but would not result in efficiency improvements. They are largely geared toward improving the experience for customers.

Table 72. Negative Operational/Administration Impact

Recommendation
Establish a volunteer driver program in conjunction with FRTA to serve Hampshire and Hampden Counties.
Establish a regular schedule where a customer service representative is available at a central location such as senior center or town hall to process applications and take pictures. The IDs can then be mailed to the individual once printed.

Update the contact form with language that lets people know you are looking for any and all feedback. Update where they select why they are contacting to encourage them to select. Monitor social media for PVTA-related hashtags and provide responses were warranted.