



# TECHNICAL MEMORANDUM 1

Date: March 25, 2019

Subject: Shuttle Bus Feasibility Study Review

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This is the first of three technical documents, which will be developed for the City of Salem to provide an assessment of the proposed Salem Shuttle service. This first memorandum provides a review of the 2018, *Shuttle Bus Feasibility Study and a Qualitative Evaluation of Current Transit Services* developed by TransAction and includes a summary of that plans efforts and establishes the baseline, which will lead to final recommendations. The remaining memorandums will provide an assessment of any alternatives to the potential service and include a final service recommendation and cost analysis.

## SHUTTLE BUS FEASIBILITY STUDY REVIEW

In August 2018, the City of Salem, Massachusetts commissioned TransAction Associates to conduct the *Shuttle Bus Feasibility Study and a Qualitative Evaluation of Current Transit Services*, focused on the operational and fiscal feasibility of implementing a new shuttle service, as well as how to improve existing transit services in Salem.

The study included a brief background and introduction of the reasons to look at transit in Salem, study methodology, list of existing transit services, public participation plan, identification of needs, and review of best practices.

Several alternatives for transit in Salem were explored, and the document ends with a recommendation to create two fixed-route shuttles — a northern and a southern loop.

## STUDY SUMMARY AND ASSUMPTIONS

### Introduction

The study begins with background information and a depiction of Salem. A city with 43,000 residents, numerous attractions – both seasonal and year-round, and a growing employment center, which sees as many people commute to Salem for work each morning as Salem residents commuting elsewhere. Salem is an attractive community, experiencing population growth and demographic changes.

## DESCRIPTION OF PAST PLANS

- *Salem for All Ages: An age-friendly action plan*  
Focuses on eight domains of an age-friendly community, including transportation action plan item: commission feasibility study of a shuttle in Salem
- *Imagine Salem Visioning Project*  
Focused dialogue on transportation, housing, and employment with equity throughout
- *Imagine Salem Progress Report*

Recommends Salem's transportation system should be intermodal

Congestion cited as a major concern for residents. Travel flows are also documented

Identifies the densest neighborhood as The Point

Relatively dense neighborhoods are Downtown, McIntire District, Gallows Hill, Salem Common, Derby Street; parts of Bridge Street Neck, North Salem, South Salem

Dense job centers are North Shore Medical Center and Salem State University areas

- Seasonal tourism is a transportation challenge

*Haunted Happenings* month-long celebration; 250,000 visitors in October

Coastal community = summer and year-long tourism

## **STUDY PROCESS/METHODOLOGY**

The study consisted of four key elements. Each of these provides input in the development of transit service in Salem. The effort focused heavily on public input and community participation. The following is a list of the four key elements:

- Existing Transit Services
- Public Involvement/Community Input
- City of Salem Transit Needs
- Best Practices

## **Existing Transit Services**

### **Council on Aging Vans**

- Available to residents 60+ or with a disability (not open to the general public)
- Rides by appointment for medical trips (in and out of the city), errand trips (in the city)
- Most requested destinations: Senior Center, medical facilities, retail centers
- Recent pilot for evening and weekend service
- No fares, but requested donations of \$1 – \$5

### **MBTA Commuter Rail**

- Salem Depot Station on Newburyport/Rockport Line
- ½ mile to downtown Salem and some neighborhoods
- Frequent weekday service to Boston
- Weekend service is limited
- Fully accessible station with a parking garage
- \$7.50 one-way or \$244.25 monthly pass

### **MBTA Bus**

Six bus routes serve the city of Salem:

- #450 Salem Depot to Boston/Revere,  
Weekdays 5:00 am – 1:30 am, Saturday 6:30 am – 12:00 am,  
Sunday 8:15 am – 12:00 am

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- #456 Salem Depot to Boston/Revere and Lynn Central Square  
Weekdays 5:00 am – 1:30 am, Saturday 6:30 am – 12:00 am,  
Sunday 8:15 am – 12:00 am
- #451 Salem Depot to Beverly  
Weekdays 6:00 am – 7:10 pm, significant gaps in service, no weekend service
- #455 Salem Depot to Revere  
Weekdays 5:00 am – 12:30 am, Saturday and Sunday 6:00 am – 12:00 am
- #459 Salem Depot to Revere and Boston  
Weekday 5:00 am – 12:30 am, no weekend service
- #465 Salem Depot to Danvers  
Weekday service 7:00 am – 7:00 pm, Saturday 9:30 am – 7:00 pm,  
no Sunday service
- All routes stop at Salem Depot Station
- Routes serve many of the city's arterial roadways, and connect to Beverly, Boston, Danvers, Lynn, Revere
- Routes #451 and #455 are \$1.70 to \$2 one-way, or \$84.50 for a monthly link pass
- Routes #450 and #459 are \$4 to \$5 one-way, or \$128 for a monthly inner express bus pass

### **MBTA The Ride**

- Available to riders with a qualifying disability as defined by the Americans with Disabilities Act
- \$3 – \$15 for one-way local trips
- MBTA has a pilot with TNCs for customers to book The Ride using smartphone apps  
Riders get a limited number of subsidized trips  
Riders pay \$2 for the trip, or any fare over \$42

### **Taxi and Rideshare**

- Taxi companies operating in Salem include: Witch City Taxi, Salem Taxi, and Americab Taxi
- Typical trips within Salem cost \$6 - \$20
- TNCs operate in Salem
- Zipcar is available in Salem

### **Salem State University Shuttle**

- Two fixed-route shuttle services, available to anyone (Viking Campus Shuttle and Viking Salem Depot Shuttle)
- On demand shuttle for students\faculty\staff, will become fixed-route in the future
- Demand-response shuttle services for campus and select off-campus locations: Vinnin Square, Market Basket, downtown
- Salem State University wants to work closely with the city on transportation

### **North Shore Medical Center Shuttle**

- Shuttle for employees
- Serves offsite parking
- Operates weekdays

### **Logan Airport Transit**

- Massport service between Peabody and Logan Airport  
\$12 one-way, \$7 for daily parking
- KT's Transportation and North Shore Shuttle (BeDriven) operate scheduled trips to Logan
- MBTA Silver Line connection: riders can take Commuter Rail from Salem Depot to Chelsea and board SL3 at Bellingham Square to Logan Airport

### **Salem Ferry**

- Operated by Boston Harbor Cruises, between Long Wharf and Salem Ferry Center
- Service operates from May to October
- \$45 round-trip, \$19 for Salem residents, \$16 for commuters (7:00 am and 5:30 pm only)

### **Salem Harbor Shuttle/Taxi**

- Operates from June to Labor Day in September
- Four stops along a loop: Blaney Street, Congress Street, Winter Street, Salem Willows
- \$7 for adults

### **Salem Trolley**

- Operates from June through September
- Provides one hour narrated tour
- \$18, free for Salem residents (only available at office)
- Service is seven days a week, 10:00 am to 5:00 pm
- Route includes Downtown and Salem Willows

### **Haunted Happenings Shuttle Service**

- Operates weekends in October
- Service is between Downtown and three parking locations: Salem High School, Salem State University O'Keefe Center, and Salem Hospital
- Free to use, has been able to reduce congestion downtown

### **Bike Share Programs**

- Zagster Bike Share
- Currently 10 hubs and 50 bikes
- Option to start or end at Salem public bike racks
- \$25 for yearly membership, \$3 per hour after the first two hours

- Hubs located at: Salem State University South and Central campuses, The Point, Derby Square, Salem Ferry Terminal, Hawthorne Hotel, Federal Street Salem Depot Station, North Salem, Salem Willows

## **Public Involvement/Community Input**

The goal of the public involvement process was to work closely with older adults and other traditionally underserved groups to identify needs and gaps in the existing transit network.

Throughout the study, a stakeholder-working group helped guide the study and provide feedback to ensure alternative recommendations were comprehensive and appropriate.

### **Public Meetings**

Lead by the City of Salem and supported by TransAction staff

- September 20, 2017 – Stakeholder Meeting
- February 12, 2018 – Public Meeting
- February 14, 2018 – Meeting with Council On Aging
- July 19, 2018 – Stakeholder Group Meeting

### **City of Salem Transportation Survey**

- Posted online, distributed via email and paper  
About 600 responses: 34 students, 66% working full- or part-time, 25% retired, 9% not working
- Qualitative questions focused on transit needs in the community
- Used to guide service alternatives.

## **City of Salem Transit Needs**

### **Gaps in Service Areas**

- Lack of connections between major city neighborhoods
- More frequent and timely connections to nearby cities

### **Gaps in Populations Served**

- Service for seniors is limited
- Council On Aging and Salem State University shuttles provide service to seniors and students, while the general public remains largely underserved
- Several tourist and seasonal services provide tourists with transit options, but do not meet the needs of the general public and residential and employment demands.

### **Gaps in Schedules/Dependability**

- Lack of service for social/recreational trips and evening service
- MBTA bus service is confusing and not dependable
- Overall lack of reliability and frequency of MBTA buses

## Road and Sidewalk Conditions/Parking Availability

- Narrow roads and damaged sidewalks, especially impacts seniors and individuals with disabilities
- Lack of sidewalks and crosswalks
- Not enough parking is a reason not to drive and use the transit network.

## Best Practices

As part of the study, best practices were evaluated in the form of a peer review. The best practices included seven peers that faced and overcame many of the gaps identified in the current Salem transit network. The following is a list of the peers and the reason for their inclusion.

- Big Blue Bus – cost sharing
- Big Blue Bus – schedule flexibility/seasonality
- Big Blue Bus – branding
- Crosstown Connect – Council On Aging van share
- Crosstown Connect – operations/dispatch
- Crosstown Connect & Bedford Dash – demand response route conversion to fixed-route
- Cape Ann Transportation Authority – weekend service

## RECOMMENDED ALTERNATIVES

Based on the feedback received and the conducted analysis, nine proposed alternatives resulted. These alternatives were categorized as *Improvements to Existing Services, Shuttle Services, and Partnerships* and ranged from providing more MBTA service to developing a new regional service or the residents of Salem. Those alternatives were refined into a single recommendation, which was, the development of two circulator shuttles serving north and south Salem.

## NEXT STEPS

The result of the 2018 study was the recommendation of two circulator shuttles designed to serve North and South Salem. These recommendations were



largely based on community input but lacked the required addition of a market analysis to provide data to support anecdotal claims. Additionally, the study focused largely on senior populations, which are only one market segment of Salem. To further support this study, Salem has commissioned the development of a market analysis and a review of the proposed service recommendations. This next effort will focus on identifying key data elements to confirm or reject the proposed service recommendations as well as a comprehensive review of the proposed circulator routes. The following technical memo will provide a more detailed assessment of the potential market demands in Salem as well as provide an assessment of the existing service recommendations as identified in the 2018 study and any alternatives to the proposed service recommendations developed in the 2018 report.

The market analysis will review the following data elements:

- **Major activity in Salem.** Major activity centers represent trip generators and key stops or anchors for transit service. To maximize the success of any transit service, there must be a connection in place to where people live and where they wish to go.
- **Multi Modal Connections.** People travel for many reasons and utilize the entire transit network to meet their needs. Because of this, it is important to identify opportunities to complement the existing transit network in Salem, including bike share, commuter rail, parking lots, and the numerous other elements of Salem's existing transit network.
- **Propensity to used transit.** Population and employment density is the number one driver of transit demand. This is because mass transit works best when it serves areas that many people wish to go. Additionally, extensive research has been conducted which identifies who is likely to use transit services based on Census demographic data. For instance, a household with no vehicle is exponentially more likely to utilize available transit services.
- **Seasonal needs.** As past studies have identified, Salem has a strong local community as well as a large tourism base. This creates unique challenges and opportunities for transit services, which must balance the needs of many. To be successful transit service must consider the additional demand and needs of visitors to Salem. This goes beyond tourism and extends to job commuters coming to Salem to work on a daily basis.
- **Service equity.** Public transit is designed to serve everyone. A key part of that is ensuring that no one group receives too much or too little of the available public transit service. Public transit must balance the needs of reducing commuting congestion, while also serving the medical needs of older adults or the employment needs of individuals with low-incomes who may just be entering the workforce.

The service assessment review will include the following elements:

- **Service alignment.** Transit services must balance the need to provide direct and frequent service with the need to provide service in unserved areas. Services that operate in a straight line are designed to provide direct and fast service, while services that operate in a loop sacrifice speed and directness for more geographic coverage. Too much of either creates an imbalance in the transit network and reduces the market share of potential customers.
- **Existing service duplication.** As identified in the study, Salem already has a diverse transit network. To ensure that new services are the most effective, any new service should avoid duplicating existing service.
- **Complement existing service.** In tandem with reducing service duplication, services should complement each other whenever possible. For example, creating timed transfers between existing transit service and new transit service extends the reach of the overall transit network while using fewer resources.

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City of Salem, Massachusetts

- **Service simplicity.** Today, transit service is competing in an aggressive market. Potential customers have mobility choices, which range from walking and biking to TNC's and car share. To be competitive transit services must be simple to understand and easy to access. Service should operate a consistent span, operate on clock face headways, and operate on the most direct path.