City of Salem
Transportation Study

Presented by:
Nelson\Nygaard

June 26, 2019
LONG HISTORY OF TRANSIT OPTIONS

MBTA Mini bus

- 1970s
- Flag stop
- 3 routes
- 9 AM – 3 PM, every 60 minutes
PAST PLANNING

Shuttle Bus Feasibility Study and a Qualitative Evaluation of Current Transit Services – 2018

- Recommendation of two circulator shuttles to serve North and South Salem
  - Based on community input
  - Focus on seniors
- 7 AM – 7 PM, every 40 to 60 minutes (one bus)

- Some challenges
  - Loop service does not match travel patterns
  - Out of direction travel
  - Duplicates existing service
  - Limited connections across Salem
  - Does not match market demand
EXISTING MBTA SERVICE

• 6 Bus routes
  o 450, 456, 451, 455, 459, 465

<table>
<thead>
<tr>
<th>MBTA Route</th>
<th>Weekday Span</th>
<th>Saturday Span</th>
<th>Sunday Span</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>5:00 am – 1:30 am</td>
<td>6:30 am – 12:00 am</td>
<td>8:15 am – 12:00 am</td>
</tr>
<tr>
<td>451</td>
<td>6:00 am – 7:10 pm</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>455</td>
<td>5:00 am – 12:30 am</td>
<td>6:00 am – 12:00 am</td>
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</tr>
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<td>456</td>
<td>5:00 am – 1:30 am</td>
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<td>8:15 am – 12:00 am</td>
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<tr>
<td>459</td>
<td>5:00 am – 12:30 am</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>465</td>
<td>7:00 am – 7:00 pm</td>
<td>9:30 am – 7:00 pm</td>
<td>–</td>
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• Commuter rail
• The Ride
EXISTING SALEM SERVICE

• Haunted Happenings  
  o October weekends
• Salem Harbor Shuttle  
  o June – September
• Salem Trolley  
  o June – September
• Salem Ferry  
  o May – October

• Taxi
• Rideshare
• Council on aging
• Salem State University
• North Shore Medical Center Shuttle
EXISTING TRANSIT ALTERNATIVES

• Zagster Bike Share
  o 16 hubs

• Parking
  o Museum Place/Downtown Garage
  o MBTA Garage
  o South Harbor/Waterfront Garage
  o Street meters
  o Parking Lots
Market Assessment
TRANSIT PROPENSITY

Areas more likely to use transit:

- The Point
- Broad Street neighborhood
- North River
- McIntire District
- Castle Hill
- Derby Street
TRANSIT DEMAND

Areas with the most demand:

• The Point
• Downtown
• South Salem
• McIntire District
• Derby Street
• North River
• Bridge Street Neck
• Salem Common
• Castle Hill
MAJOR TRIP GENERATORS

Points of Interest
• Large employers
• Schools
• Medical facilities
• Shopping
• Civic buildings
• Tourist attractions
• Transit connections
**SERVICE DESIGN PRINCIPALS**

**Simple Is Better than Complicated:** A simple route structure and simple schedules will attract more riders than a complex system. First and foremost, for people to use transit, they must be able to understand it, and simpler services are easier for riders to understand. Simpler systems also help ensure that they get where they want to go when they want to without experiencing frustration and problems.

**Routes Should Operate Along a Direct Path:** The fewer turns a route makes, the easier it is to understand. Conversely, circuitous alignments are disorienting and difficult to remember. Routes should not deviate from the most direct alignment unless there is a compelling reason.

**Routes Should Serve Well Defined Markets:** The reconfiguration of service around more clearly defined markets can help to make service easy to understand, provide a basis for developing premium bus services, and minimize service duplication.

**Transit Service Should be Focused Around Landmarks:** Most potential transit users have a basic knowledge of major landmarks (and are often traveling to them). When transit service is focused around landmarks, they can also become transit hubs. Travelers traveling in unfamiliar area can more easily find their way to a landmark to make a transfer than to a lesser known area.

**Services Should be Well Coordinated:** Where different routes connect or operate along the same alignment, schedules should be coordinated to the greatest extent possible to provide short connection times.
RIDERSHIP BASED ALTERNATIVE

- **Service**
  - 7 AM – 7 PM, every 60 minutes
  - $737,000

<table>
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<tr>
<th>Benefits</th>
<th>Challenges</th>
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<tr>
<td>Cost per Rider: Lower cost per rider due to higher utilization per trip</td>
<td>Paratransit: Requires complementary paratransit service, which would require additional coordination with MBTA’s The Ride</td>
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<td>Predictability: Consistent routes and schedules make service easy to understand</td>
<td>Service Area: Limited geographic coverage, with service focused in higher density/demand areas and corridors</td>
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<td>Speed and Directness: Typically operates along the most direct path possible, providing fast and attractive service</td>
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![Ridership Based Alternative Map]
COVERAGE BASED ALTERNATIVE

- Service
  - 7 AM – 7 PM, every 60 minutes
  - $737,000

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NODE BASED ALTERNATIVE

- Service
  - 7 AM – 7 PM, 10 – 30 minute wait times
  - $369,000

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<td>Adaptability: Service shifts with travel demands through the day</td>
<td>Cost per Rider: Potentially higher cost per rider due to longer distances traveled by customers to varying destinations</td>
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<td>Convenience: New technology is convenient and user friendly, and most systems aim to guarantee fast response times</td>
<td>Operating Cost: Need adequate number of vehicles in service to guarantee fast response times</td>
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<td>Geographic Coverage: Provides service in areas that are not conducive to fixed-route service</td>
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Node Based Alternative
- Pickup and Dropoff Node
- 1/4 Mile Buffer

Map of the area with various locations marked.
**CAPITAL NEEDS**

**Vehicles**
- 30’ transit bus
  - Seats 20 – 40
  - $350,000
- Cutaway
  - Seats 8 – 30
  - $150,000

**Shelters**
- Basic bus stop
  - $25,000
- Bus stop and shelter
  - $30,000
- Node stop
  - $45,000
04
Recommendation
**RECOMMENDATION**

Annual Operating Costs $369,000

Annual Service Hours 4,200

Stops $490,000

Vehicles $300,000

**Node Based Alternative**

- Pickup and Dropoff Node
- 1/4 Mile Buffer