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## Peer Review Presenters

- Jeff Maxtutis, Project Manager, Transportation Planner, BETA Group, Inc.
- Craig Leiner, Transit Planner, BETA Group, Inc.



The slide has a dark red header bar with the title. Below it is a list of two presenters. A large, light-colored abstract graphic is in the bottom left corner.

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## Peer Review Process

- BETA Group, Inc. and Alta Planning + Design, Inc.
- Conducted site visits and peak period observations
- Traffic Impact and Access Study, October, 2018, VHB, Inc.
- Transportation Implementation Plan 128, October 16, 2018, 128 Business Council
- Project Site Plans, August 6, 2018
- Focus of presentation on major transportation issues for all modes

The logo for BETA, consisting of the letters B, E, T, and A in white, each inside a dark red square, which are then arranged in a row.

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## Peer Review Process

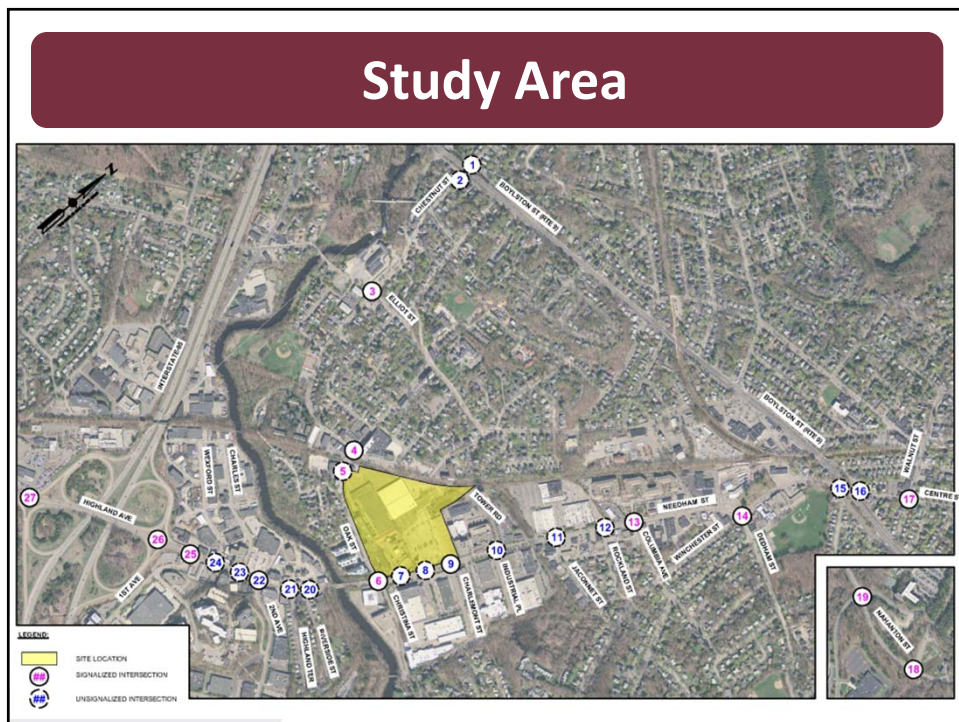
- Review also included:
  - Internal Circulation
  - Loading & curbside activity
  - Transportation Demand Management (TDM)
  - Consistency with Newton Street Design Guide and Needham Street Vision Plan
- Overall, the studies and plans have met state and industry professional practice standards

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## Existing Traffic Issues

- Significant congestion and delay along Needham Street corridor during Weekday AM, Midday, PM and Saturday Midday
- Vehicle speeds along Needham St corridor 4-5 MPH at peak periods
- Few vehicle gaps available
- High crash rates at 12 study intersections



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## Future Traffic Conditions


- Proposed MassDOT improvements along Needham Street/Highland Avenue and Winchester Street corridors
- To Improve traffic operations, safety, & multi-modal mobility
  - New signals at Needham St/Charlemont Ave & Winchester St Rt. 9 EB & WB Service Rd
  - Realign Charlemont Ave to align with site driveway
  - Updated signal timings
  - New raised bike lanes and upgraded sidewalks
  - 7 new crosswalks
  - Left turns along Highland Ave
  - Shared use path on bridge over Charles River



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## Future Traffic Conditions

- Other Intersection improvements at:
  - Needham St/Oak St/Christina St (Newton)
  - Nahanton St (Newton)
  - Highland Ave./First Ave (Needham)
  
- 2025 Analysis Year
  - Proposed roadway improvements
  - Other planned developments
  - Background traffic growth (0.5%/year)




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## Project Vehicle Trip Generation

### Vehicle Trip Generation Summary

Build Condition	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Existing Bus Mode Share	545	815	950
Robust Bus Mode Share	438	733	890




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## Project Traffic Impacts

- 20 study intersections impacted
- Degrades intersection LOS to E or F, or exacerbates LOS E/F conditions
- Increases driver delay between 10 and 126 seconds
- Project impacts related to proposed shuttle bus system ridership
- Traffic impacts even with Robust Mode Share



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## Intersections Impacted by Project



**LEGEND:**

- SITE LOCATION
- IMPACTED INTERSECTION
- OTHER INTERSECTIONS

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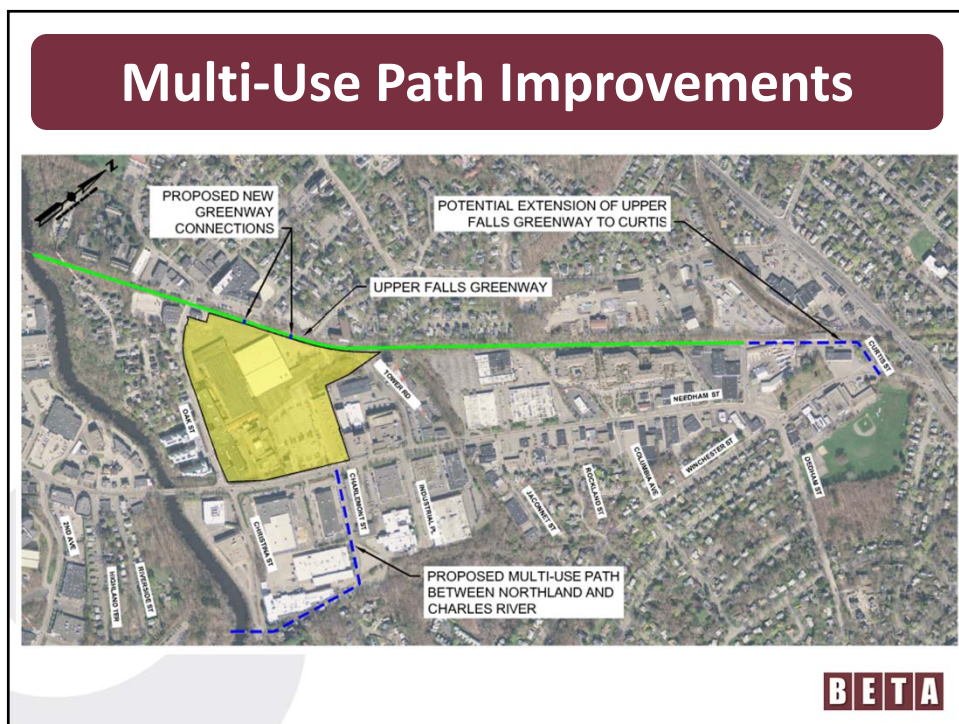
## Project Parking

- 3,409 parking spaces required per Newton Zoning Ordinance
- Project proposes 1,953 spaces (1,793 garages, 160 surface)
- 1.0 space per residential unit – meets MBTA & MassDOT TOD guidelines
- ULI Shared Parking Guidelines estimate 2,149 weekday spaces & 2,283 weekend spaces
- Average required spaces for 6 other area communities = 2,077 spaces
- Need additional information on shared parking and paid parking

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## Applicant Proposed Mitigation

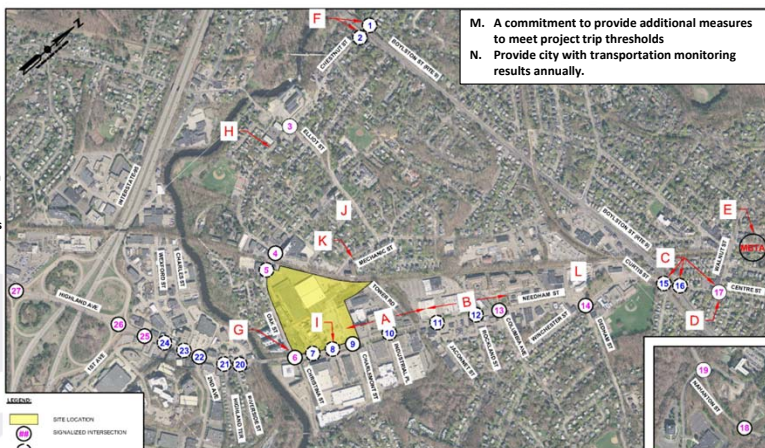
- Signal Timing Adjustments (Chestnut St)
  - Pedestrian Improvements
    - Upgrade curb ramps and Crosswalks (Chestnut St)
    - Multi-Use path across Charles River
    - Provide connections to Upper Falls Greenway
- Transportation Demand Management Program
    - Shuttle Bus System
    - Mobility Hub
    - TDM Coordinator
    - Rideshare options
    - Monitoring Program



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## Recommended Mitigation

- A. Provide Signal Monitoring System to DPW
- B. Provide Transit Signal Priority System
- C. Coordinate Signals
- D. Provide Safety & Operations Improvements
- E. Assess Shuttle Bus Operations at Newton Highlands
- F. Provide New Traffic and Pedestrian Signals
- G. Extend Oak Street approach lanes
- H. Provide Traffic Calming Improvements
- I. Prohibit Left Turn Exit
- J. Conduct Speed Study at Upper Falls & Provide Traffic Calming Measures
- K. Provide Emergency Vehicle Connection at Mechanic St
- L. Extend Upper Falls Greenway to Curtis Street





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## Public Transportation

- Existing conditions
- Proposed shuttle bus program
- Mode share goal
- Concluding comments



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## Existing Conditions: Transit

- MBTA
  - Two bus routes (52 and 59)
  - Light rail (Green Line “D” Branch)
  - Commuter rail: Needham and Worcester/Framingham
  - The RIDE - Paratransit



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## Existing Conditions: Mode Share

Newton Mode Share (2010)

	Private Vehicle	Transit	Walk/Bike
Residents of Newton	82%	13%	5%
Workers in Newton	88%	7%	5%

Newton Mode Share (2015)

	Private Vehicle	Transit	Walk/Bike	Worked at Home
Residents of Newton	72%	12%	7%	9%
Boston region MPO	69%	17%	8%	5%



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## Proposed Shuttles

- Survey and Route development
- Shuttle routes
- Capital and operating costs
- Summary



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## Proposed Shuttles

- **Survey**
  - Sample size = 1,320.
  - Respondents sourced via the 128 Business Council's rider contact base: Chamber of Commerce, N-Squared Innovation Corridor, community groups, local employers, local developers, and elected officials
  - Sample not representative
  - Did not include stated preference questions to assess willingness to pay.
- **Route Development**
  - Connections to other modes and activity centers using survey O/D
  - Schedule, including hours of service and frequency
  - Accessibility
  - Reliable and consistent travel time



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## Proposed Shuttles: 4 Routes

Route	Service	Objective	Notes
<b>Newton Circulator</b>	<i>Proposed service:</i> 5:15 AM to 1 AM weekdays; 6:15 AM to 1 AM weekends <i>Frequency:</i> 30-45 minutes peak; 45 minutes off-peak and weekends	Provides connections to MBTA services	A 45-minute service offers moderate level of service. <b>Other service concepts to consider: coordination with the MBTA or micro-transit operations.</b>
<b>Needham Commuter</b>	<i>Proposed service:</i> 5:45 AM to 10:30 AM; 4:30 PM to 8:30 PM <i>Frequency:</i> 30-45 minutes variable to accommodate commuter rail schedule	Provides connection to Needham commuter rail line.	The schedule and frequency should pivot off of the commuter rail schedule
<b>Cambridge Express</b>	<i>Proposed service:</i> 5:45 AM to 12:45 AM, Monday-Sunday <i>Frequency:</i> 60 minutes	Daily service to Kendall Square and Central Square.	This is an important employment center for technology and research. <b>60-minute frequency does not offer a competitive service.</b>
<b>Boston Express</b>	<i>Proposed service:</i> 5:45 AM to 12:45 AM, Monday-Sunday <i>Frequency:</i> 60 minutes	Daily service to the South Boston Seaport District	This has the potential to be a heavily used route; the route would also provide connections to the MBTA at South Station, including the Red and Silver Lines.

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## Proposed Shuttles: Capital & Operating Costs

- Capital
  - 7 Terra Transit vehicles= **\$1.75 million**
  - 32 pax
  - Bike racks
  - ADA
- Operating
  - \$90/hour
  - Weekly = **\$ 67,000/week**

Alternative fuel vehicles should be considered for the system.

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## Proposed Shuttles: Summary

- Fare Structure
  - Key factor that influences ridership
  - The absence of a proposed fare structure makes it difficult to assess the likely long-term effectiveness of the shuttle program
  - Substantial capital and operating costs
  - Long-term commitment



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## Mode Share Goal

### Project Build Condition: Comparison of Existing Mode Share vs Robust Mode Share

Land Use	Private Vehicle		Transit		Walk/Bike	
	Existing	Robust	Existing	Robust	Existing	Robust
Residential	82%	60%	13%	<b>30%</b>	5%	10%
Office	88%	60%	7%	<b>30%</b>	5 %	10%

Notes: a) Based on 2010 US Census Journey-to-Work; b) based on strong use of the shuttle system

While the “robust” shuttle can contribute to an increase in transit mode share, an increase of this magnitude (to 30%) is unlikely. Documentation on how this mode share goal can be achieved is not provided by the applicant.



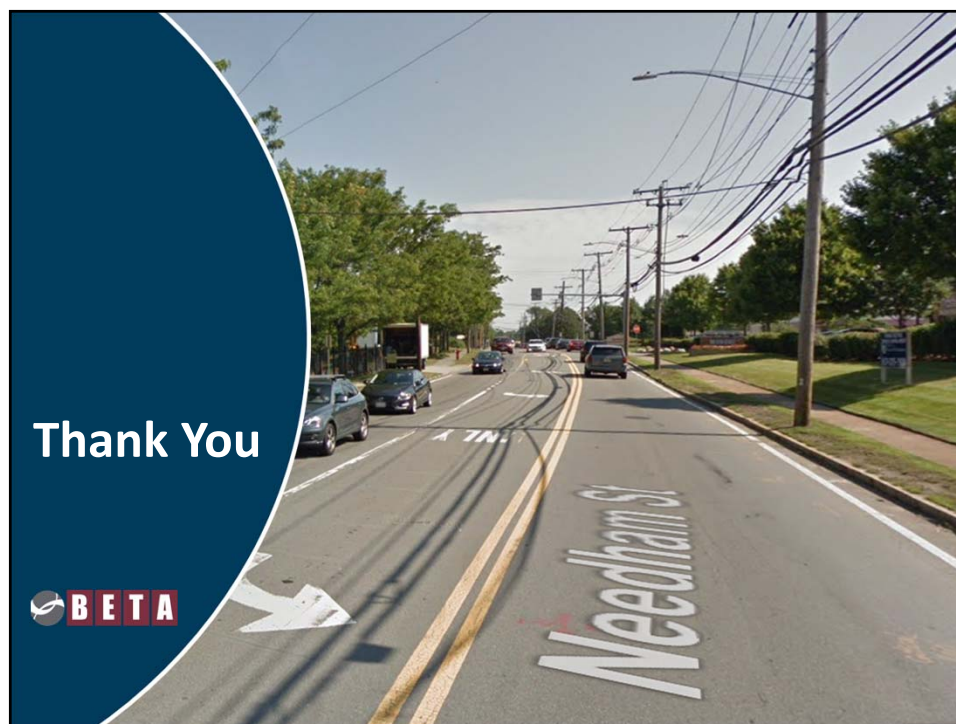
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## Concluding Comments

- Fare structure
  - Insufficient information
- Consider collaboration with MBTA
- Transportation Network Companies
  - TNCs compete mainly with public transportation, walking, and biking, drawing customers from these non-auto modes based on speed of travel, convenience, cost and comfort
  - The applicant should prepare a thorough discussion and assessment of Transportation Network Companies (TNC) impact on shuttle bus ridership and the overall effectiveness of the proposed shuttle program
- Transportation Demand Management
  - Emergency Ride Home
  - Mobility Hub



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