North River Canal Corridor

Transportation Study
Introduction – Options Evaluation

Salem, Massachusetts

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Kimberley Driscoll, Mayor

City of Salem
Department of Planning & Community Development

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LEGEND
- Potential Near-Term Redevelopment Site
- Proposed and Potential Development Site Access Drives

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Harmony Grove Cemetery
Ledge Hill/Mock Park
Riverview Place
Gateway Center
North River Site
Flynn Site
Legacy Apartments Site
Harmony Grove Street
Boston Street
Bridge Street
Commercial Street

Study Area Overview
Purpose

- Identify *cumulative* impacts of developments over next five years (2016)
- Determine *transportation system* improvements
- Identify *implementation* priorities
- Provide *order of magnitude* costs
Not starting from scratch:

- NRCC Neighborhood Master Plan (2003)
- TIS for Routes 1A, 114, and 107 (2005)
- Records of Decision – 28 Goodhue Street, Riverview Place (2007)
- Gateway Center Traffic Impact and Access Study (2009)
- Peabody/Salem Corridor Concept Action Plan (2011)
- Legacy Apartments TIAS (2011)
Historic NRCC Count Locations
Daily Trip Generation Overview

Comparison of 24-hour Trip Generation at NRCC Sites

- Gateway Center: 4,322 trips
- Legacy Apts. At Harmony Grove: 1,164 trips
- Former Flynn Arms Site: 1,110 trips
- Riverview Place: 872 trips
- 28 Goodhue Site: 610 trips

Estimated Vehicle Trips per Weekday

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Expected AM Peak Growth 2011-2016
Expected PM Peak Growth 2011-2016
2011 Overview – Safety/Congestion ‘Hot Spots’
2016 Overview – Potential Safety/Congestion
‘Hot Spots’
Options Evaluated - Overview

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Traffic 'Calming' Measures

EVALUATED MITIGATION LEGEND
- Make one-way
- Make two-way
- Add new two-way connection
- Add new traffic signal
- Remove traffic signal
- Add roundabout
- Restrict to right turn only
- All Way Stop
- New channelization
- Modify intersection signal
- Restripe Bridge Street lanes with bike lanes

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Potential Near-Term Redevelopment Site
Proposed and Potential Development Site Access Drives

Legend:
- Yellow: Potential Near-Term Redevelopment Site
- Orange: Proposed and Potential Development Site Access Drives
Mason Street at Tremont Street Signal

- Pros
  - Reduces peak hour congestion for Tremont Street approach
  - Addresses poor sight line from Tremont Street
  - Construction funding

- Cons
  - May encourage greater use of Tremont Street as cut through
  - Proposed widening into park would increase pedestrian crossing distance
  - Maintenance costs/may increase rear-end crashes
  - May increase guard rail crashes
Commercial Street/Mason Connector

- **Pros**
  - Would reduce SB traffic on Mason Street approaching Flint Street if connected to Flint Street
  - Provides Commercial Street a new access via proposed Mason/Tremont Street signalized location

- **Cons**
  - Challenging grades and drainage
  - Would add a new leg to Mason Tremont and potentially increase crash rates
  - Maintenance costs/may increase rear-end crashes
  - Right of way and residences affected
  - Likely increases Tremont Street traffic

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Commercial Street/Flint Street Connector

**Pros**
- May reduce Mason Street SB traffic approaching Flint Street enhance safety
- Can reduce Flint Street traffic
- Provides alternative Commercial Street access

**Cons**
- Safety issues with close spacing to Bridge/Flint signal and with difficult North Street approach
- If traffic increases too much, congestion at future Commercial/Flint intersection
- Right of way issues
- Impacts to Leslie’s Retreat
Make Flint Street one-way southbound to Riverview Entrance near Oak Street

**Pros**
- Reduces Flint Street traffic by about a third
- Allows parking on one side of Flint Street to remain
- Would not affect Oak or Friend Street volumes
- Easy to test/low cost

**Cons**
- Flint Street residents and northbound traffic must use Mason/Goodhue Streets
- Requires another new connection like Mason/Commercial connection or Goodhue/Bridge connection to reduce its impacts
- An earlier northbound one-way test failed, as it had adverse impacts on Oak and Mason Streets

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Keep Flint Street two-way – right out only with relocated on-street parking at Riverview

- **Pros**
  - May reduce Flint Street traffic by about a sixth
  - Would not affect Flint Street abutter 2-way access

- **Cons**
  - Works effectively only if Flint Street on street parking is relocated to the Riverview site with a safe crossing (e.g., HAWK signal)
  - Regular enforcement will be required without channelization at Mason

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Create Bridge/Goodhue Connector

- **Pros**
  - Creates a new Bridge Street pedestrian crossing opportunity
  - Allows Boston/Bridge intersection alterations
  - Could reduce Flint Street traffic
  - Connects Gateway to other NRCC developments
  - Benefits Gateway access from Bridge Streets
  - New Bridge Street access

- **Cons**
  - Requires right of way
  - Flood plain
  - Works best with a signal at Bridge Street opposite the Gateway site
  - Unfunded right of way/construction costs

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Rethinking Boston/Bridge Streets
Hanson at Boston Streets Connector

- **Pros**
  - Would relocate some eastbound left turns to Bridge Street
  - Relocates development related Grove Street volumes between Beaver and Boston Streets
  - May relocate some westbound traffic off Goodhue Street if done in connection with Boston/Bridge Street reconfiguration

- **Cons**
  - Steep grades requires a costly solution
  - Does not address Goodhue at Bridge Street
  - Requires elimination of Grove/Nichols pedestrian signals, perhaps reversing their one-way flow patterns
  - Requires parking elimination on Boston Street and left turn lane in narrower segment

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Rethinking Harkin Square - Grove at Harmony Grove Streets

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Thanks Questions??