Envisioning Needham Street
December 2, 2010
THE TEAM + THE TASK

• Who are we?
• Why are we here?
• What are we doing?
**PROCESS**

**Initial Exploratory Phase**
- Site visits
- GIS analyses
- Comprehensive Plan review
- Stakeholder interviews
- External research

**Preliminary Recommendations**
- Findings and analysis
- 4 objectives with proposed interventions

**Final Recommendations**
- Refined objectives and interventions
- 2 catalyst site concept plans
- Recommendations for next steps

**Internal Presentation on Findings**

**Public Meeting October 28th**

**Public Meeting December 2nd**

**Final Report**
FINDINGS

- Context
- Circulation and mobility
- Economy and market
- Land use
- Aesthetics
- Historic preservation
- Open space
STRENGTHS

- Good local and regional accessibility
- Employment center
- Strong consumer base
- Significant source of tax revenue
- Horizontal mix of uses
- Large parcels allow for uses not found elsewhere in Newton
- Historic mill building and bridge
CHALLENGES

Circulation + Mobility

• Traffic congestion
• Few crosswalks
• Narrow, crumbling sidewalks
• Too many curb cuts
• Lack of grade separation
• No bike lanes
• Limited bus service

Land Use

• No vertical mix of uses
•Disconnected from surrounding neighborhoods
# Challenges

## Aesthetics
- No cohesive visual identity
- Edges not well defined
- Buildings not oriented to street
- Lack of transparency
- Parking lots abut sidewalks
- Overhead wires

## Open Space
- Limited connections to existing recreation areas
- Nearby natural resources are hidden
STAKEHOLDER FEEDBACK

• **Local Context:** Consider the character and needs of neighboring residential areas

• **Regional Context:** Consider the regional context, which affects traffic flow and local economic conditions

• **Transportation:** Acknowledge transportation complexity and current proposals for public and automobile transit; consider multiple futures

• **Identity:** Develop an identity for the area and be mindful of stakeholders
VISION + OBJECTIVES
5 OBJECTIVES EXPRESS VISION

1. Promote fine-grain mixed-use development

2. Create a more cohesive and attractive physical environment

3. Create a safe, comfortable and efficient streetscape

4. Connect site to surrounding ecological system and open space network

5. Promote connections among parcels and with neighborhoods
ONE STREET, TWO ZONES

Two Mixed-Use Zones
ONE STREET, TWO ZONES

Current Zoning

Proposed Zoning
5 OBJECTIVES EXPRESS VISION

1. Promote fine-grain mixed-use development

2. Create a more cohesive and attractive physical environment

3. Create a safe, comfortable and efficient streetscape

4. Connect site to surrounding ecological system and open space network

5. Promote connections among parcels and with neighborhoods
CENTRAL AIMS

• Promote mixed-use development
  ▪ Industrial, office, retail and residential use

• Allow for residential development
  ▪ Housing brings character and vitality to mixed-use areas
  ▪ Promote diversity of housing types
  ▪ Promote economic diversity of housing

• Allow for commercial development
  ▪ “Flexible moderate growth”
  ▪ Augment commercial real estate tax base
  ▪ Augment income and employment base
VERTICAL + HORIZONTAL MIXED USE

**Vertical Mixed Use**

Multiple uses within a building
- Retail and office
- Retail and residential

**Horizontal Mixed Use**

Multiple uses within a parcel
Multiple uses among parcels
ALLOW DESIRED USES BY RIGHT

Southern Needham St. (MU1)

Allow by-right:
• Existing by-right uses (office, R&D, industrial)
• By-right uses currently allowed in MU2 (retail, services, restaurant, dwelling unit above 1st floor)
• Small-scale multifamily residential; limit on number of units

Northern Needham St. (MU2)

Allow by-right:
• Existing by-right uses (office, R&D, retail, services, restaurant, dwelling unit above 1st floor)
• Small-scale multifamily residential; limit on number of units
REVISE DENSITY + DIMENSIONAL REQUIREMENTS

Southern Needham St. (MU1) and Northern Needham St. (MU2)

Maximum building height
  • By-right: 3 stories
  • Special permit: 4 stories

Maximum FAR
  • By-right: 1.50
  • Special permit: 2.0

Lot area per dwelling unit
  • 1,200 sq. ft.
REVISE DEVELOPMENT REVIEW PROCESS

- Add design guidelines to site plan review
- Revise tiered review thresholds
  - Site plan review: 10,000 – 29,999 sq. ft.
    - Administrative: 10,000 – 19,999 sq. ft.
    - Design Review Commission: 20,000 – 29,999 sq. ft.
  - Special permit review: 30,000+ sq. ft.
    - Board of Aldermen
    - Incorporate site plan review and Design Review Commission approval
5 OBJECTIVES EXPRESS VISION

1. Promote **fine-grain mixed-use** development

2. Create a more **cohesive** and **attractive** physical environment

3. Create a **safe, comfortable** and **efficient** streetscape

4. Connect site to surrounding **ecological system** and **open space network**

5. Promote **connections** among parcels and with neighborhoods
CENTRAL AIMS

• Create identity for Needham Street
• Enhance aesthetics of the built environment
• Promote cohesive design
STANDARDIZE FRONT SETBACKS

Change from a minimum to a maximum front setback

Current zoning: minimum setback

Proposed zoning: maximum setback
FORM-BASED REGULATIONS + DESIGN GUIDELINES

Regulations
• Front entrances face the street
• Transparent windows along the street

Design guidelines
• Overall site design
• Building orientation and form
• Landscaping
• Public spaces
MANAGE AMOUNT OF PARKING

Modify zoning to include parking minimums and maximums

Current zoning: ~580 parking spots

Proposed zoning: maximum 210 parking spots
LIMIT PARKING THAT ABUTS STREET

- Allow parking lots to side and rear only
- Promote shared side lots
- Limit percent of lot street frontage devoted to parking

Current zoning: 100% street frontage = parking

Proposed zoning: 40% street frontage = parking
REQUIRE BENEFICIAL OPEN SPACE

20% minimum beneficial open space requirement for large parcels

- Landscaped areas
- Playgrounds
- Walkways, plazas, patios, terraces
- Recreational areas
5 OBJECTIVES EXPRESS VISION

1. Promote fine-grain mixed-use development

2. Create a more cohesive and attractive physical environment

3. Create a safe, comfortable and efficient streetscape

4. Connect site to surrounding ecological system and open space network

5. Promote connections among parcels and with neighborhoods
CENTRAL AIMS

Improve Multimodal Access
- Accommodate multiple modes of travel—especially pedestrian—to maximize the corridor’s accessibility from Newton and the surrounding region
- **Principle interventions:**
  - Streetscape improvements
  - Bicycle accommodations
  - Roundabout at Winchester/Dedham streets

Maintain Vehicular Traffic Flow
- Corridor must continue to efficiently handle car traffic as new development occurs
- **Principle interventions:**
  - Additional access roads
  - Intersection straightening
  - Rationalizing left turns
PROPOSED STREETSCAPE

- Well-defined sidewalks
- Fewer curb cuts

- Intermittent medians
- Street trees and planters
PROPOSED STREETSCAPE: SECTION VIEW
GATEWAY: NEEDHAM/WINCHESTER/DEDHAM INTERSECTION

Pros of roundabouts¹
- Use for gateways and aesthetics
- Vehicular and pedestrian safety
- Traffic calming and access management
- More efficient than traffic signal when operating within capacity

Constraints for site
- Imbalance of traffic flows
- Proximity of bottlenecks
- Bicycle access

Recommendations
- Hybrid single-two-lane roundabout
- Metered entrances for peak hours
- Reduced curb cuts
- Dedicated, raised bicycle lanes

¹Source (Pros & Constraints): FHWA Website - Roundabouts Technical Summary
GATEWAY: TOWER ROAD/INDUSTRIAL PLACE

Problem
- Peak hour level of service “F” on side streets¹
- Bottlenecks from major retailers
- Through traffic
- Development requires capacity

Recommendations
- New access: Tower Rd to Oak St
- Signage to direct traffic SB and WB
- Median and curb cuts limit turns
- Landscaping on median NB
- Straighten Tower Rd/Industrial Pl intersection (preferably no signal)

Creating Gateway
- Landscaping/crosswalks signal change in scale
- Intersection signs divert Rte 128/Rte 9 traffic to Needham St SB and Tower/Oak/Chestnut
- Possible additional tools at intersection: islands, signs, structures (preferred) or signal

CYCLING

Support the Newton Bicycle and Pedestrian Taskforce Plan

- Usable shoulder (striped)
- Improve signage
- Connect to proposed development and rail trail

Proposed recreational network
TRANSIT IMPROVEMENTS

Rail extension

- MBTA owns unused rail right-of-way west of Needham St.
- Rail bed offers potential path for Green Line extension
- Funding and timeline uncertain
- Short-term plans must maintain flexibility for future operation

Bus service

- MBTA currently operates infrequent #59 route
- Buses offer flexible and less expensive alternative to rail

Source: “Rail Service to Newton Upper Falls and Needham,” Srdjan Nedeljkovic
MAINTAINING TRAFFIC FLOW

Regional context: Route 128 widening
- Project to give 128 four lanes in each direction
- Estimated completion date: 2017
- Expected to strain Needham Street’s capacity with additional through traffic

Local traffic increases
- Development along Needham St. corridor will generate new travel demand
- Mitigation measures: new access roads for local circulation; limited mode shifting; maximizing current capacity
- Proper phasing of development will allow Newton to manage traffic impacts
PROPOSED TRAFFIC INTERVENTIONS

- Roundabout
- Medians (intermittent)
- Traffic island
- Straightened intersections
- New access roads
- Straightened intersections
5 OBJECTIVES EXPRESS VISION

1. Promote fine-grain mixed-use development

2. Create a more cohesive and attractive physical environment

3. Create a safe, comfortable and efficient streetscape

4. Connect site to surrounding ecological system and open space network

5. Promote connections among parcels and with neighborhoods
CENTRAL AIMS

• Create a landscape hierarchy that brings identity to the site

• Develop environmentally sensitive interventions throughout corridor

• Consider recreational and open space connections across site
PROPOSED AREAS FOR NEW OPEN SPACES

Examples of civic open space character

Example of green space character
PROPOSED WATER REMEDIATION STRATEGY

Example of bioswale on street section

Example bioswale at street intersections

Example of flood water retention pond in public park
LANDSCAPE FRAMEWORK: POSSIBLE ACTIONS

Example Sections

- Brook as movement corridor
- Charles River as habitat linkage
LANDSCAPE FRAMEWORK: POSSIBLE ACTIONS

Example Sections

Old rail track as movement corridor

Existing

Proposed
5 OBJECTIVES EXPRESS VISION

1. Promote **fine-grain mixed-use** development

2. Create a more **cohesive** and **attractive** physical environment

3. Create a **safe, comfortable** and **efficient** streetscape

4. Connect site to surrounding **ecological system** and **open space network**

5. Promote **connections** among parcels and with neighborhoods
CENTRAL AIMS

• Integrate the proposed street network, open space system, and connections within parcels

• Discourage traffic from passing through nearby residential areas

• Foster continuity between Needham St and surrounding villages
Objective 5: Promote Connections

- Limit direct access through Upper Falls except via main roads
- Add bicycle and pedestrian access through Upper Falls
- Create new network loops to Rte 128, Rte 9, and points northward
- Maintain flexibility to add future capacity in southern Needham St
Objective 5: Promote Connections

- Promote complementary scales and uses adjacent to neighborhoods
  - Smaller-scale development
  - Residential and small-scale commercial uses
CATALYST SITES
CHARACTERISTICS OF CATALYST SITES

city-owned land
high volume office complex
proximity to Upper Falls
small-scale mixed use
historic mill building
large-scale residential
open space
neighborhood fabric
small-scale retail
historic pond site
parking uses street frontage
large assembled parcels
NORTHERN CATALYST SITE
ALTERNATIVE I: NEW ROAD
ALTERNATIVE II: PEDESTRIAN-ONLY CONNECTION
RELATION TO 5 OBJECTIVES

Objective 1
• Vertical and horizontal mix of uses

Objective 2
• Subordinated parking
• Greater uniformity of built form
• Buildings address street
• Higher density

Objective 3
• Improved sidewalks and landscaping
• Center median/left-turn lane
• Reduced curb cuts

Objective 4
• Central civic open space
• Additional green areas
• Pedestrian connections to recreational corridor

Objective 5
• Gradual transition to eastern neighborhood fabric
• Physical connection to Upper Falls across rail corridor

Alternative I: new road
REFLECTION OF ZONING CHANGES

New MU2 District
- Small-scale multifamily residential
- Reduced setbacks and increased building interaction with street
- Beneficial open space
- Vertical integration of office and retail uses
- Shared and subordinated parking
- Additional density

Alternative II: pedestrian-only connection
**APPROXIMATE NUMBERS**

**Alternative I: New Road**

- Additional Square Footage Created: 78,731
- Total Square Footage: 153,107
  - Retail: 61,951
  - Office: 35,156
  - Residential: 56,000 (56 units)
- Required Parking: 250 – 438 spaces
- Provided Parking: 316 spaces
- Average Site FAR: 0.67

**Alternative II: Pedestrian-only**

- Additional Square Footage Created: 102,123
- Total Square Footage: 176,499
  - Retail: 69,130
  - Office: 51,369
  - Residential: 56,000 (56 units)
- Required Parking: 297 – 514 spaces
- Provided Parking: 346 spaces
- Average Site FAR: 0.79
SOUTHERN CATALYST SITE
PHASE 1A: SITE PLAN
PHASE 1B: SITE PLAN
PHASE II: SITE PLAN
RELATION TO 5 OBJECTIVES

Objective 1
- Vertical and horizontal mix of uses

Objective 2
- Subordinated shared parking
- Greater uniformity and intensity of built form
- Allow for larger building footprints

Objective 3
- Improved sidewalks and landscaping
- Internal site circulation
- Mitigate for traffic increases

Objective 4
- Central civic open space
- Water remediation strategy
- Pedestrian connections to recreational corridor

Objective 5
- Transition to and pedestrian connection with Upper Falls

Phases:
- Phase IA
- Phase IB
REFLECTION OF ZONING CHANGES

New MU1 District
- Allow for multi-family residential
- Required incorporation of beneficial open space into large-scale projects
- Vertical integration of office and retail uses
- Shared and subordinated parking
- More cohesive building form as determined by design guidelines/site review
- Increased density encouraged
**APPROXIMATE NUMBERS**

**Phase IA + IB**

- Additional Square Footage Created: 90,000
- Total Square Footage: 170,000
  - Retail: 85,000
  - Office: 85,000
- Required Parking: 340 – 595 spaces
- Provided Parking (Surface): 430 spaces
- Average Site FAR: 0.64

**Phase II**

- Additional Square Footage Created: 426,000
- Total Square Footage: 690,000
  - Retail: 125,000
  - Office: 205,000
  - Historic Mill Building: 95,000
  - Residential: 265,000 (129 units)
- Required Parking: 979 – 1690 spaces
- Provided Parking (surface & structure): 1211 spaces
- Average Site FAR: 0.82
CIVIC SPACE: PERSPECTIVE VIEW
### MAINTAINING TRAFFIC FLOW

<table>
<thead>
<tr>
<th>Traffic Generated by Catalyst Sites</th>
<th>Peak Hour (trips/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Site</td>
<td>AM: 4.3 PM: 5.6</td>
</tr>
<tr>
<td>Southern Site (Phase I)</td>
<td>AM: 7.9 PM: 9.8</td>
</tr>
<tr>
<td>Southern Site (Phase II)</td>
<td>AM: 7.6 PM: 9.7</td>
</tr>
</tbody>
</table>

- Catalyst sites may generate substantial traffic
- Appropriate phasing and flexibility are critical to managing traffic impacts
- Aforementioned traffic mitigation strategies will offset trip generation
DISCUSSION