Route 9 MetroWest Smart Growth Plan

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Funded by HUD Sustainable Communities
Route 9 MetroWest Smart Growth Plan

Agenda

• Introduction / Meeting Objective
• Prior Study Conclusions (Corridor Analysis – Buildout Study)
• Smart Growth Concepts / Examples
• Corridor Overview Issues and Opportunities (Review)
• Smart Growth Opportunity Areas: Presentation and Discussion
  – Fayville Village, Southborough
  – Framingham Centre
  – Golden Triangle, Framingham and Natick
• Traffic Analysis and Issues relating to 3 Study Areas (SGOA’s)
• Design Guidelines/Recommendations and Discussion
• Implementation Strategies and Phasing
• Next Steps
Route 9 MetroWest Smart Growth Plan

Review of 2010 Corridor Analysis (Build-out Study)

Study Area
Commercial Development Along Corridor

- **Build-Out Alternative**: 33.5 Million Square Feet
- **Existing Conditions**: 17.8 Million Square Feet

**Increase**: 88%
**Review of Route 9 Corridor Analysis**

**Daily Vehicular Trips Along Corridor**

- **Build Out Alternative**: 476,860
- **Existing Conditions**: 338,850

The chart shows a 41% increase in daily vehicular trips along the corridor compared to existing conditions.
Corridor Analysis Recommendations

To allow growth and minimize traffic impacts, future development should include the following ‘Smart Growth’ elements:

- Mix of land uses
- Design to promote walking, bicycling and transit.
- Improving connectivity between parcels.
Review of Route 9 Corridor Analysis

Commercial Development Along Corridor

Square Feet (Millions)

- Build-Out Alternative: 33.5 Million Square Feet (88%)
- Existing Conditions: 17.8 Million Square Feet (61%)
- Smart Growth Alternative: 28.7 Million Square Feet
Review of Route 9 Corridor Analysis

Daily Vehicular Trips Along Corridor

- **Build Out Alternative**: 476,860
- **Existing Conditions**: 338,850
- **Smart Growth Alternative**: 405,170

- 41% increase in trips compared to Existing Conditions
- 20% increase in trips compared to Smart Growth Alternative
Principles of Smart Growth

- Compact, walk-able developments. “Placemaking”
- Mix of Land Uses
- Buildings closer to road, parking behind, preferably garages
- Buildings at least 2 stories to create “outdoor rooms”
Principles of Smart Growth

- Pedestrian and bicycle friendly streetscape (Complete Streets)
  - Sidewalks set back from road as appropriate
  - Minimize crossing distances
  - Medians
  - Highly visible crosswalks
  - Minimize turning radii to slow traffic
  - Trees, plantings, amenities
Principles of Smart Growth

- Good public transit
- Parcel interconnectivity and/or grid of streets to minimize traffic concentration
- Natural storm-water management
Route 9 MetroWest Smart Growth Plan

Concepts/Examples of Smart Growth
Existing Condition: Live Oak Boulevard, Live Oak, CA
(Computer Visualizations by Urban Advantage)
Route 9 MetroWest Smart Growth Plan

Concepts/Examples of Smart Growth
Improved Streetscape: Crosswalks. Medians, Plantings
Route 9 MetroWest Smart Growth Plan

Concepts/Examples of Smart Growth
Taller Building Added
Route 9 MetroWest Smart Growth Plan

Concepts/Examples of Smart Growth
Infill Buildings at Corners, Close to Road, Parking Behind
Concepts/Examples of Smart Growth

Starting Condition: Shopping Center, Open Parking

(Computer Visualizations by Dover, Kohl & Partners)
Route 9 MetroWest Smart Growth Plan

Concepts/Examples of Smart Growth
Boulevard Improvements, Infill Buildings, Green Space
Route 9 MetroWest Smart Growth Plan

Concepts/Examples of Smart Growth
Additional Buildings, Close to Road, Concealing Garages
Route 9 MetroWest Smart Growth Plan

Concepts/Examples of Smart Growth
Replace Old Shopping Center with New Buildings; Mixed Use; Add Street Grid; Most Parking in Garages.
Local Examples of Recent “Smart Growth”

Mashpee Commons
Mashpee, MA

- Village but setback from access roads

Before Redevelopment

Duany, Plater-Zyberk

Randall Arendt
Local Examples of Recent “Smart Growth”
South County Commons, South Kingstown, RI
Local Examples of Recent “Smart Growth”

Linden Street, Wellesley, MA
Local Examples of Recent “Smart Growth”
Legacy Place, Dedham, MA

- Lifestyle Center. Shops, Restaurants
- Some garage parking but open lots
- Improved version of Shoppers World
- Building crosses parking field
Local Examples of Recent “Smart Growth”
Legacy Place, Dedham, MA

• Many Pedestrian Friendly elements
• Apartments on Adjacent Site
• Development Does Not Engage Route 1
Local Examples of Existing “Smart Growth”

Chestnut Hill, MA (Route 9)

- Historic development patterns and new development
- Buildings close to road (slows traffic)
- On-street parking
- But poor pedestrian crossings
Local Examples of Existing “Smart Growth”

Chestnut Hill, MA (Route 9)

- Service Roads in some stretches
  - Combines curb cuts
  - Provides area of refuge
  - Separates Through traffic from Local
- Multi-family housing recently built
Benefits of Smart Growth

- Economic growth (and tax revenue) without gridlock.
- Access to job opportunities
- Healthy lifestyle: walking, biking
- Housing availability
- Pedestrian safety
Benefits of Smart Growth

• Sense of Place / Community (Social interaction)
• Meets new market demands (appeals to Baby Boomers and young workers)
Benefits of Smart Growth

- Environmental benefits:
  - Reduced dependence on fossil fuels
  - Saves open space, farmland (Less Sprawl)
  - Reduced pollution. Fewer vehicle miles
  - Improved visual quality
Route 9 MetroWest Smart Growth Plan

Corridor Issues and Opportunities
Issues and Opportunities

ROUTE 9 METROWEST SMART GROWTH PLAN
ISSUES & OPPORTUNITIES

LEGEND

--- MUNICIPAL BOUNDARY
RT 9 A MILE BUFFER
SMART GROWTH OPPORTUNITY AREA (S.G.O.A.)
RAIL LINE
MAJOR TRAILS
PEDESTRIAN/VEHICULAR CONFLICT
(NEED TO IMPROVE MEDIAN, CROSSWALK, CROSSING DISTANCE, SHOULDER, CURB RADIUS, ETC)
PEDESTRIAN CONNECTIVITY:
GOOD
POOR
BICYCLE CONNECTIVITY:
GOOD
POOR
INTERPARCEL VEHICULAR CONN.
GOOD
POOR

BUS STOP
LACK OF TRANSIT SERVICE
VIEWS:
GOOD
POOR
SPECIAL FEATURE
(HISTORICAL, CULTURAL, NATURAL, AESTHETIC)
LARGE PARKING LOT
(OPTIONALITY FOR GARAGES, INFILL, BUILDING RECONFIGURATION)
MULTI-FAMILY HOUSING
WETLANDS
Route 9 MetroWest Smart Growth Plan

Issues and Opportunities

Potential S.G.O.A.
White’s Corner - Southborough

• Existing Shops and Restaurants
• Adjacent Office Development
• Views to Reservoir
Route 9 MetroWest Smart Growth Plan

Issues and Opportunities

Framingham 9/90 – Tech Park Area

- Potential support businesses
- Highway commercial landscape
- Vacant properties / park and ride lot
- Challenging Pedestrian Environment
Route 9 MetroWest Smart Growth Plan

Issues and Opportunities

Potential S.G.O.A.
Temple Street – Framingham

• Existing commercial
• Existing multifamily housing
• Some Historic Buildings; Stone walls
• Challenging Pedestrian Environment
• Buildings set back; parking in front
• Minimal Landscaping
Route 9 MetroWest Smart Growth Plan

Issues and Opportunities

Potential S.G.O.A

Prospect Street – Framingham

- Existing multi-family housing
- Significant commercial activity
- Challenging Pedestrian Environment
Route 9 MetroWest Smart Growth Plan

Issues and Opportunities

Route 126 – Framingham

• Small scale businesses
• Some vacancies
• Possible redevelopment
• Bridge and ramps complicate connectivity across Rt 9
Route 9 MetroWest Smart Growth Plan

Issues and Opportunities

Route 27 – Natick

• Large commercial / office area
• Poor pedestrian connections
• Bridge and ramps complicate connectivity across Rt 9
Issues and Opportunities

Oak Street - Natick

- Small Scale Parcels
- Pedestrian Unfriendly
- Current intersection design plans
Issues and Opportunities

Potential S.G.O.A.

Overbrook Drive - Wellesley
Issues and Opportunities

Potential S.G.O.A.
Overbrook Drive – Wellesley

• Vacant parcels and buildings (Some current plans)
• Mixed-use opportunity
• Buildings should be closer to road with rear parking
• Challenging Pedestrian Environment
• Must calm traffic
• Green space adjacent to intersection
• Enhance landscaping buffers
Route 9 MetroWest Smart Growth Plan

Selected Smart Growth Opportunity Areas (SGOAS)

Golden Triangle
Framingham Centre
Fayville

MetroWest Regional Collaborative
Fostering Sustainable Communities

MAPC
Metropolitan Area Planning Council
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Fayville Smart Growth Opportunity Area (SGOA)
Existing Conditions
Route 9 MetroWest Smart Growth Plan

Fayville SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Fayville SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Fayville SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Fayville SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Fayville SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Fayville SGOA
Existing Conditions Photos
Fayville SGOA
Proposed Conceptual Plan

- Create Village Feel
- Buildings closer to Road
- Parking Behind
- Improve Streetscape
- Traffic Calming
Fayville SGOA
Proposed Concept Visualization
Fayville SGOA
Proposed Concept Visualization

Route 9 Looking West at Oak Hill Road
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Existing Conditions
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Existing Conditions Photos
This is Framingham Centre as it appeared in 1875, approaching from the east along Eastern Avenue, now Worcester Road. The buildings, tree, and water trough in the left foreground would make way for the construction of Route 9 in the 1930s. (Framingham Illustrated, 1880.)
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Proposed Conceptual Enlarged Plan Village Commercial Area

• Reorganize Excessive Paving
• Infill Buildings / Recreate Village
• Improve Overpass Connections
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Proposed Concept Visualization
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Proposed Concept Visualization
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Proposed Concept Visualization
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Proposed Concept Visualization
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Existing Condition View
Route 9 MetroWest Smart Growth Plan

Framingham Centre SGOA
Proposed Concept Visualization
Golden Triangle SGOA
Existing Conditions

Route 9 MetroWest Smart Growth Plan
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
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Golden Triangle SGOA
Existing Conditions Photos
Golden Triangle SGOA
Existing Conditions Photos
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
Existing Conditions Photos
Golden Triangle SGOA
Existing Conditions

Actually, you were supposed to come out looking like Tom Selleck!!

TOWN PLANNING
Golden Triangle SGOA: Existing Conditions
Route 9 MetroWest Smart Growth Plan

- Proposed Concept Diagram

- SHOPPERS WORLD
- RESIDENTIAL, RETAIL & GREENSPACE
- EXTEND FLUTIE PASS
- POSSIBLE AIR RIGHTS BLDGS ACROSS RT 9
- CONNECTION TO MILL ST. & W. NATICK TRAIN STATION
- BUS OR BIKE LINK
- SHERWOOD PLAZA
- SOUTHSIDE INTERPARCEL CONNECTIONS
- MASS PIKE CONNECTIONS
- NATICK MALL
- COCHITUATE RAIL TRAIL & SHUTTLE BUS
- SIDEWALKS, SERVICE ROADS & MEDIANS
- BLDGS CLOSE TO RT 9 WITH PARKING BEHIND
- SHOPPERS WORLD
- NATICK MALL
- SHERWOOD PLAZA
- MASS PIKE CONNECTIONS
- COCHITUATE RAIL TRAIL & SHUTTLE BUS
- SIDEWALKS, SERVICE ROADS & MEDIANS
- POSSIBLE AIR RIGHTS BLDGS ACROSS RT 9
- CONNECTION TO MILL ST. & W. NATICK TRAIN STATION
- BUS OR BIKE LINK
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA

Proposed Conceptual Plan
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
Proposed Enlarged Concept Plan – Framingham Shoppers World Area
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
Proposed Enlarged Concept Plan - Natick Mall and Sherwood Plaza
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA

Proposed Concept Visualization – Shoppers World
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA

Proposed Concept Visualization – Shoppers World
Golden Triangle SGOA

Proposed Concept Visualization – Shoppers World
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA

Proposed Concept Visualization – Air Rights At Shoppers World
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA

Existing Conditions – Starbucks at Shoppers World
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA

Proposed Concept Visualization – Starbucks At Shoppers World
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
Existing Conditions - Parking Lot At Shoppers World
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
Proposed Concept Visualization – Town Green At Shoppers World
Route 9 MetroWest Smart Growth Plan

Golden Triangle SGOA
Old Shoppers World. Internal Community Greenspace

Photo courtesy of Martin Velilla
Golden Triangle SGOA

Images of what the Golden Triangle could be like ……

Zona Rosa, KC, MO
Photo Courtesy Of Randall Arendt
Golden Triangle SGOA
Images of what the Golden Triangle could be like …..

Centre City, Houston
Golden Triangle SGOA

Images of what the Golden Triangle could be like …..
Golden Triangle SGOA

Images of what the Golden Triangle could be like ……

Centre City, Houston
Route 9 MetroWest Smart Growth Plan

Discussion: Proposed Concept Diagram

- SHoppers World
- Residential, Retail & Greenspace
- Extend Flutie Pass
- Possible Air Rights Bldgs Across RT 9
- Southside Interparcel Connections
- Connection to Mill St. & W. Natick Train Station
- Mass Pike Connections
- Natick Mall
- Cochituate Rail Trail & Shuttle Bus
- Sidewalks, Service Roads & Medians
- Sherwood Plaza
- Bldgs Close to RT 9 with Parking Behind
- Bus or Bike Link
Review of Route 9 Corridor Analysis

- Building Square Footage: 120%
- Daily Trips: 37%
Factors that Mitigate Vehicular Trips:

**Internal (within the Golden Triangle)**
- Mixed Use and Proximate Developments
- Improved Pedestrian Connections
- Parcel Interconnectivity

**External (to and from the Golden Triangle)**
- Enhanced Bus Service
- Improved Commuter Rail Connection
- Bicycle Lanes and Pedestrian Access
Route 9 MetroWest Smart Growth Plan

Traffic Analysis and Impact Mitigation:

Factors That Would Help Mitigate Traffic along Route 9

• Mixed Use Developments (more internal pedestrian trips)
• Reduced Density between Smart Growth Developments
• Improved Pedestrian Connections along and across Route 9
• Parcel Interconnectivity/Street Grid/ Flutie Pass Extension and Similar Road on Southside (more choices, fewer bottlenecks)
• Service Road and Medians to Separate Thru and Local Traffic
• Enhanced Bus Service
• “Capture Rates” and “By-Pass Trips”
• Connections to MassPike and Pike as By-Pass (Free Betw/Exits 12-13)
• Connection to Mill St. and W. Natick Train Station
• Traffic increases not all on Route 9 (Rt 30, MassPike etc)
Design Guidelines/Recommendations Discussion

Design Guidelines/Recommendations
For 3
Smart Growth Opportunity Areas
(SGOA’s)
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations Discussion
Fayville SGOA

- New Building at Corners
- Parking in Rear
- Gas Station Not on Corner
- Pumps in Rear
- Planted Medians
- Adaptive Reuse and Infill Buildings
- New Rear Parking Lot
- New Multifamily Housing
- Walgreens Expansion Parking Under
- Adaptive Reuse and Infill Buildings
- Gathering Spaces
- New Mixed Use Buildings

Route 9 Looking West at Oak Hill Road
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations
Fayville SGOA

- Pedestrian Scale Lighting
- New Buildings Close to Road/Parking Behind
- Gathering Spaces
- Narrow Travel Lanes (10-11 ft) (plus shoulders)

General: Visual Cues to Slow Traffic

- Crosswalks – Highly-Visible / Ped. Signals
- Planted Medians for Refuge (6-10 ft wide)
- Adaptive Reuse and Infill Buildings
- Tree Planting Strip If possible (6-10 ft wide)
- Sidewalk/Multi-use Path (10 ft wide. 6 ft min)
- Landscaped Area/Stormwater Treatment (10-20 ft wide)

Route 9 Looking West at Oak Hill Road
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations Discussion
Framingham Centre SGOA

- New Row of Buildings in Reclaimed Excess Pavement
- Roadway and Parking Reconfiguration: Pleasant Street 2 Way with Parallel parking
- Possible Low Parking Deck in Rear if needed.
- New Pedestrian Overpass Across Route 9 and Onramp. Connects to 2nd Floor of New Building with Elevator.

Route 9 Looking West
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations Discussion
Framingham Centre SGOA

- Shade Trees
- Buildings close to road (2-3 Stories)
- Pedestrian scale lighting & amenities
- Unit paving on crosswalks and sidewalks
- Pleasant Street 2 Way, 2 Lanes
- Parallel parking
- Speed tables at crossings
- Neckdowns to shorten crossing distances
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations Discussion
Golden Triangle SGOA

- **New Buildings**
  - 2-6 Stories Typical, 40-50 ft setback from curb with parking behind

- **Tree Planting Strip**
  - (6-10 ft)

- **Sidewalk**
  - 10-12 ft wide, set back from road

- **Landscaped Area/Stormwater Treatment**
  - (10-20 ft wide)

- **Service Roads**
  - Also serve buses & bikes, bus stops/shelters

- **Possible Air Rights Development Across Route 9**

- **2 Through Lanes Each Direction**

- **Planted Medians**

- **Highly Visible Crosswalks with Pedestrian Signals**

- **Reduced Curb Radii at Entries**
Encourage Temporary Kiosks To Animate “Streetscape”

Shoppers World
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations Discussion
Golden Triangle SGOA

- Proposed Residential Development Around Large Open Green Space
- Gathering Spaces/Outdoor Cafes
- Crosswalks with Unit Pavers for Durability and Visibility.
- Possible Office or Residential Above Garage
- Proposed Parking Structure 4-6 Story
- Retail on First Floor
- Gathering Spaces & Outdoor Cafes
- Streetscape Amenities: Sidewalk Paving Accents or Feature Strips, Street Trees, Pedestrian Scale Lighting, Benches

Shoppers World
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations Discussion
Golden Triangle SGOA

- Proposed Residential Development Above Existing Stores
  - 4 Stories
- Proposed Freestanding Residential Development
  - 4 Stories
- Some Retail on First Floor of Residential Buildings

Football Field Sized Green Space with Bandstand, Trees, Lighting and other Amenities
Nominal amount of Surface parking

Shoppers World
Route 9 MetroWest Smart Growth Plan

Design Guidelines/Recommendations Discussion

General
Design Guidelines for Smart Growth

Excerpts From Checklist of Design Concepts for Pedestrian and Bicycle Friendly Environments by MWRC

General Development – Pedestrian – Bicycle – Transit – Traffic Calming

Refer to http://www.mapc.org/route-9 to view entire Design Guidelines
### Section 1. General Development Guidelines

The following Development Guidelines should be considered to enhance the pedestrian and bicycle environment within the community.

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Community Benefits</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Encourage compact, walkable, mixed use developments</strong></td>
<td>• Economic benefits to local governments &amp; home owners: Allows growth while minimizing congestion</td>
<td>![Mill Village, Sudbury. Photo Courtesy Randall Arendt](Commonwealth Avenue, Newton. Photo by CRUA)</td>
</tr>
<tr>
<td>• Buildings close to road to shorten walking distances</td>
<td>• Supports public transit efficiency</td>
<td></td>
</tr>
<tr>
<td>• Parking behind or in parking garages.</td>
<td>• May reduce commute times</td>
<td></td>
</tr>
<tr>
<td>• Buildings at least 2 stories high for sense of enclosure.</td>
<td>• Improve air quality</td>
<td></td>
</tr>
<tr>
<td>• Multiple building entrances</td>
<td>• Improve visual quality</td>
<td></td>
</tr>
<tr>
<td>• Avoid blank facades</td>
<td>• Minimize pedestrian/vehicular conflicts</td>
<td></td>
</tr>
<tr>
<td>• Buildings of Appropriate scale and detailing for context</td>
<td>• Reduce reliance on cars and fossil fuels</td>
<td></td>
</tr>
<tr>
<td>• Desired mix of land uses TBD</td>
<td>• Preserves open space</td>
<td></td>
</tr>
<tr>
<td><strong>Require pedestrian and bicycle friendly streetscapes (Described in more detail below in sections on pedestrian and bicycle enhancements and traffic calming)</strong></td>
<td>• Health Benefits of walking and biking</td>
<td></td>
</tr>
<tr>
<td>• Continuous sidewalks</td>
<td>• Community Social Interaction</td>
<td></td>
</tr>
<tr>
<td>• Crosswalks,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Medians</td>
<td></td>
<td></td>
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<tr>
<td>• Landscaping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Goal to develop “Complete Streets” i.e. All users of roadway given equal importance.</td>
<td></td>
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</tr>
</tbody>
</table>
**Route 9 MetroWest Smart Growth Plan**

<table>
<thead>
<tr>
<th>Encourage structured parking and place open parking behind buildings.</th>
<th>Improved visual quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Animate ground floor of parking garages with shops and restaurants.</td>
<td>• Provides interest and activity to reduce actual and psychological distances between buildings and uses to encourage walking</td>
</tr>
<tr>
<td>• Consider shared parking.</td>
<td>• Minimizes pedestrian crossings of large parking field</td>
</tr>
<tr>
<td>• Reduce parking requirements in mixed use, walk-able areas and those well served by transit.</td>
<td>• More efficient use of land by minimizing land area required for parking</td>
</tr>
<tr>
<td>• Consider land banking of parking where requirements seem excessive.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Natural storm-water management</th>
<th>Minimize runoff and flooding</th>
</tr>
</thead>
<tbody>
<tr>
<td>• (Incorporate stormwater treatment into planting areas and tree pits)</td>
<td>• Filtration of pollutants before entering stormwater system, wetlands, and rivers.</td>
</tr>
<tr>
<td>• Minimize curbing</td>
<td>• Reduced cost of stormwater systems</td>
</tr>
<tr>
<td>• Native Landscaping</td>
<td>• Increase survival rate and health of plantings</td>
</tr>
</tbody>
</table>

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines
### Route 9 MetroWest Smart Growth Plan

<table>
<thead>
<tr>
<th>Maximize trail connections and visibility. Connections to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Transit stations</td>
</tr>
<tr>
<td>• Shopping areas</td>
</tr>
<tr>
<td>• Opens space and recreation</td>
</tr>
<tr>
<td>• Schools</td>
</tr>
<tr>
<td>• Public facilities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maintain historic site elements and unique or special natural site features.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Historical relics</td>
</tr>
<tr>
<td>• Topography</td>
</tr>
<tr>
<td>• Water bodies</td>
</tr>
<tr>
<td>• Wetlands</td>
</tr>
<tr>
<td>• Wildlife habitat</td>
</tr>
<tr>
<td>• Views</td>
</tr>
</tbody>
</table>

| • Safer routes                                                             |
| • Promote walking and exercise                                              |

| Promotes a sense of place and a connection to the past                     |
| • Improved visual quality                                                  |
| • Reuse of materials reduces energy required to manufacture new materials |

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines
### Section 2. Specific Design Guidelines

This section describes more specific design guidelines for pedestrian and bicycling enhancements in both public and private areas, as well as transit support and traffic calming measures.

#### Pedestrian Enhancements

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Community Benefits</th>
<th>Illustration</th>
</tr>
</thead>
</table>
| **Sidewalks** | • Pedestrian safety  
• Improved visual quality  
• Accessibility for all users  
• Quality materials and construction provide lower long-term life-cycle costs | ![Illustration](image)  
*Attleboro, MA — Photo by Bruce Leish, CRJA* |

- Continuous sidewalks
- Paving to edge of road in more urban areas with high amounts of crossing foot traffic and/or curbside parking. Consider specialty paving or border feature strip.
- ADA compliant sidewalks and paths, including curb ramps with detectable warnings and 2% maximum cross-pitch
- Walkable pavements: concrete, bituminous concrete (asphalt), brick or concrete unit pavers (set on a concrete base for stability), stone.
- Extend sidewalk material across driveways and curb cuts

Refer to http://www.mapc.org/route-9 to view entire Design Guidelines
### Sidewalks (continued)
- Set back from curb with generous planting strip where possible, especially on high speed arterials. Possible meandering curving sidewalks.
- Buffer from noise and pollutants
- Safer pedestrian environment

### Pedestrian Crossings
- Curb bump outs (road neckdowns)
- Crosswalks – Comfortable, frequent, highly visible (Reflective thermoplastic strips, concrete unit pavers with granite edging on concrete base with sand swept joints, stamped asphalt, stamped concrete, solid color traffic paint, reflective paints, polymers. Untreated concrete not recommended in roadway due to potential salt deterioration.
- Minimize crossing distances for safety
- Improved visual quality
- Quality materials and construction provide lower long-term life-cycle costs

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines
## Bicycle Enhancements

There are two main categories of bicycle enhancements:

1. **Continuous bike lanes or bike paths to the extent possible**
   - 10-12’ off-road path or shared path
   - User safety and convenience
   - Encourages alternative to vehicular travel

2. **Bike lanes of ample width**
   - 4’ on-road bike lanes each direction
   - User safety and convenience
   - Encourages alternative to vehicular travel
   - Environmental benefits
   - Health benefits

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines.
**Route 9 MetroWest Smart Growth Plan**

<table>
<thead>
<tr>
<th>Proper pavement marking symbols and lane markings such as</th>
<th>Increased safety for cyclists</th>
<th>Clearer direction for motorists and cyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>• &quot;Bike box&quot; at intersections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Bicycle symbol at like lanes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cycle tracks</th>
<th>Minimize vehicular bicycle conflicts</th>
<th>Increased safety for cyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Where possible, provide separate off-road lanes for bicycles and pedestrians</td>
<td>• Clearly define lane with markings, and color</td>
<td>• Clearer direction for motorists and cyclists</td>
</tr>
</tbody>
</table>

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines.
# Route 9 MetroWest Smart Growth Plan

## Transit Issues (Amenities for pedestrians and bicyclists in support of transit)

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Community Benefits</th>
</tr>
</thead>
</table>
| Well located bus pull offs with shelters | - Provides safe, visible and comfortable waiting area.  
                                        | - Potential to reduce vehicular reliance  
                                        | - Environmental benefits  
                                        | - Health benefits of walking to bus. |

![Illustration](source: National Complete Streets Coalition)

| Dedicated transit lanes or Bus/bike shared lanes | Improves speed, safety and reliability of bus system. |

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines.
# Route 9 MetroWest Smart Growth Plan

## Traffic Calming Issues

(To improve the pedestrian and bicycle environment, both private and public)

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Community Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrower Streets and Travel Lanes</td>
<td>- Reduces Speeds</td>
</tr>
<tr>
<td></td>
<td>- Provides more room for medians, wider sidewalks, bike lanes and planting strips.</td>
</tr>
<tr>
<td>Reduce number of lanes</td>
<td>- Reduces Speeds</td>
</tr>
<tr>
<td></td>
<td>- Provides more room for medians, wider sidewalks, bike lanes and planting strips.</td>
</tr>
</tbody>
</table>

Illustration:

- Source: MHD Design Guide

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines
**Route 9 MetroWest Smart Growth Plan**

<table>
<thead>
<tr>
<th>Speed Tables</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Raises crossing or entire intersection flush with curb.</td>
</tr>
<tr>
<td>• Provide gradually sloped sides, well marked to alert drivers.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Refer to [http://www.mapc.org/route-9](http://www.mapc.org/route-9) to view entire Design Guidelines.
Implementation Strategies and Phasing

• Zoning/Overlay District/Incentives/Form Based Codes
• Maintain Lower Density Between Nodes (SGOA’s)
• TDR (Transfer of Development Rights)
• Infrastructure Improvements – Public Streetscape/Street Layout/Parking
• TIF’s (Tax Increment Financing)
• BID’s (Business Improvement District) Fees
• Parking Garage Contribution System / Public Funding
• Public / Private Partnerships
• Offsite Mitigation
• Infill with Temporary Uses
Route 9 MetroWest Smart Growth Plan

Implementation Strategies and Phasing

Items for Towns to Consider When Developing Zoning and Implementing Components of the Smart Growth Plan:

- Parcel Interconnectivity Including Possible Rear E-W Roadways
- Mix of Uses. Which Uses? How much of Each?
- Density/FAR at nodes and Between
- Height Limits – By Right and by Bonus (for Infrastructure/Amenities/Garages)
- Transfer of Development Rights (TDR)?
- Amount of Multi-Family Residential. Rental vs Condos
- Which SGOA’s to Implement
Route 9 MetroWest Smart Growth Plan

Implementation Strategies and Phasing

Items for Towns to Consider When Developing Zoning and Implementing Components of the Smart Growth Plan:

- Air Rights Buildings?
- Amount of Public Infrastructure Investment
- Service Roads?
- Mill Street Connector? Autos or Shuttle Buses and Bikes Only?
- Mass Pike Connector (MDOT)
- Cochituate Rail Trail / Shuttle Bus?
- Possible Short Term Actions (Low Hanging Fruit)
Thank You!

For More Information
mapc.org/transportation/route-9