

INFRASTRUCTURE AND ECONOMIC DEVELOPMENT IN METROPOLITAN BOSTON: A REGIONAL SURVEY

PART III: CASE STUDIES

This is Part III of *Infrastructure and Economic Development in Metropolitan Boston: a Regional Survey*. This study was commissioned by A Better City (ABC), with funding from The Boston Foundation. The research and writing was carried out by the consulting firm AECOM, with guidance from ABC staff and an Advisory Committee which ABC convened for this study. The study seeks to evaluate the state of public infrastructure investment in metropolitan Boston, particularly as it relates to the region's potential for near- and longer-term economic development.

Part I of the study provides a region-level overview of infrastructure issues. It summarizes and organizes a large body of relevant analysis conducted by others and adds current information on key initiatives and concerns.

Part II provides development and infrastructure profiles for 25 areas defined by the study to represent the universe of region-scale economic development opportunities in metropolitan Boston, from the inner core to I-495. Each profile summarizes the key development opportunities and infrastructure needs of the area in question.

The heart of the study is this Part III, a set of four geographic Case Studies, which explore in detail the interface of development and infrastructure issues in a diversity of settings. They include the inner core cluster of East Cambridge and East Somerville; the North Shore cities of Lynn, Salem, Beverly, and Peabody; the MetroWest towns of Framingham, Natick, and Ashland; and the I-495 town of Franklin.

The study team gratefully acknowledges the insight and information provided by the municipal officials and private developers who agreed to be interviewed for this report. Any inferences or conclusions are those of the study team.

Estimated costs of projects, or groups of projects, reflect information available at the time this report was compiled. Many are expressly preliminary, and all are subject to change as projects are advanced or modified by their sponsors.

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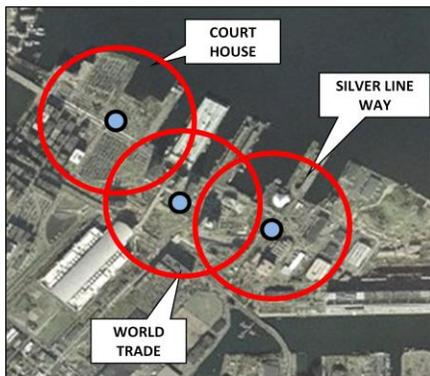
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Preface: The Seaport District

Boston's Seaport or Innovation District is an archetypal example of the relationship between infrastructure and development. Its lessons are seen, in different ways, in the four in-depth case studies that follow. The investments that made the Seaport began with landmark undertakings at a regional scale:

- the Big Dig in general and its I-90 Extension, South Boston Interchange, Ted Williams Tunnel, and South Boston Bypass Road in particular;
- the \$800 million Silver Line, which connects the district to South Station and Logan airport and places every development site within walking distance of rapid transit;
- the Harbor Cleanup, without which a vibrant waterfront would have been impossible.

Figure 1: Seaport Silver Line Stations



No less important is “district infrastructure”. West of D Street, this is a grid of streets, sidewalks, parks, promenades, lighting, drainage, and utility distribution essential for dense, mixed-use development; no such grid existed when the district was an expanse of railyards, parking lots, and industrial buildings. The grid has been built by the public sector (Massport, the Artery-Tunnel, and the City) and by developers, who are creating multi-block grids within the larger sites. The nine city blocks created on Fan Pier are supported by the Commonwealth’s I-Cubed value capture program, which uses future developer tax revenues to finance public infrastructure. A semi-dedicated system of freight routes allows trucks to serve the Boston Marine Industrial Park and other industrial users east of D Street.

The result of this investment is planned development at a scale unique in the region. To date, some 30 million square feet of development has been built or entitled, with room for about 15 million more. The mixed-use format, the reliance on transit and walkability, and the South Boston Parking Freeze have combined to support development with less than one parking space per 1,000 square feet of program. The ease of access to the airport and the Boston-Cambridge educational and medical institutions has allowed the City to brand the Seaport as the Innovation District, suggesting a concentration that contributes not only to Smart Growth but to regional competitiveness.

Figure 2: The Fan Pier



Nonetheless, the Seaport is also an example of future development that depends on infrastructure investments which are not yet funded and whose outcome is uncertain. The grade-separation of the Silver Line and D Street will be needed sooner rather than later if the next phases of approved development are to occur without gridlock affecting cars and transit vehicles alike. In the longer term, the extension of the Silver Line to Chinatown and Boylston, intersecting the Orange and Green Lines, was dropped from the fiscally constrained Transportation Improvement Program in 2009; but the buildout of the Seaport to its full potential almost certainly depends on it. The South Station Expansion, now in its early planning stages, is the gatekeeper to the Seaport, the Financial District, and full emergence of Fort Point Channel. And the working port, which occupies half of the 1,000-acre filled waterfront, will need investments like Massport’s proposed East First Street haul road and buffer zone to thrive and grow.

An Overview of the Case Studies

Four areas were chosen for detailed case studies representing the economic and geographic diversity of Greater Boston and the different ways in which development is tied to infrastructure investment. As noted earlier, they include: the inner core districts of East Cambridge and East Somerville; the contiguous North Shore cities of Lynn, Salem, Beverly, and Peabody; the MetroWest towns of Framingham, Natick, and Ashland; and the I-495 town of Franklin. As in the case of Seaport District, each of these case studies provides compelling examples of economic development that has already occurred as a result of infrastructure investments, as well as proposed development that is dependent on future infrastructure investments which may or may not be funded. Some general findings are as follows:

Transportation, both highway and transit, is at the heart of every development story. Even in East Cambridge and East Somerville, where the emphasis is overwhelmingly on TOD, there are critical highway projects: the reconstruction of the Longfellow Bridge; the proposed “de-elevation” of the O’Brien Highway; reconstructing streets in Union Square. In the outlying areas, future development in MetroWest requires decisions about interchange capacity on Route 9 and at Exit 12 of the Turnpike. The largest industrial development opportunity on the North Shore segment of Route 128 depends on roadway improvements near Exit 19 in Beverly. The decades-old plan to redevelop the 305-acre Lynn waterfront will not be realized without a redesign and repositioning of the Lynnway. Downtown revitalization in Salem, Beverly, Peabody, Framingham, and Franklin is organized around roadway projects designed to improve access and create “complete streets”. New development opportunities like the Salem Harbor Power Station and Franklin’s old treatment plant site on Pond Street require improved roadway access.

Transit is the defining precondition for economic development in the Inner Core. In the case of East Cambridge and East Somerville, that means the Green Line Extension, the eventual implementation of key segments of the Urban Ring, and the long-term capacity and efficiency of the MBTA’s core rapid transit system. In each of the other case study settings, the presence of commuter rail is a distinguishing advantage for economic development, especially in the historic downtowns where stations are located. New and improved stations (as in Ashland and Framingham), station garages (as in Salem and Beverly), and enhanced train service are investments that can be replicated in other communities and corridors. On the other hand, local and subregional transit is more of a challenge on the edges of the MBTA district, where more robust networks of shuttles and feeders could extend the footprint of the commuter rail system for both residential and employment growth.

Water resource issues affect economic development in diverse but critical ways. In two case study communities, revitalization of historic city center districts—Peabody Square and Somerville’s Union Square—requires critical investment in flood control infrastructure. Framingham, which is an MWRA community, has had to undertake a \$120 million upgrade of its local sewer system to maintain economic growth. Franklin, a non-MWRA community, has been upgrading both its water and sewer systems for the same reason. And the emergence of stormwater management as a long-term issue for economic development, requiring both private and public investment in drainage and treatment, is exemplified by Franklin and the neighboring towns of Bellingham and Milford.

EAST CAMBRIDGE / EAST SOMERVILLE

Overview

Composition of the Case Study Area

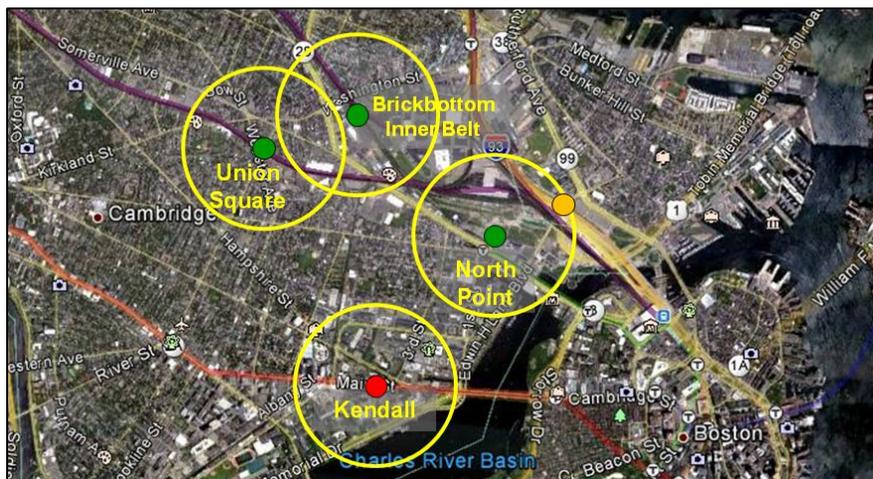
The East Cambridge/East Somerville area has been chosen to represent the Inner Core of the MAPC Region. As defined for purposes of this report, the case study area consists of four closely proximate development districts defined by existing or future rapid transit stations: Kendall Square and NorthPoint in Cambridge; Union Square/Boynton Yards and Brickbottom/Inner Belt in Somerville. The corresponding transit stations, including the station typology designations assigned by MAPC in its *Growing Station Areas* Report, are as follows:

Table 1: MBTA Station Characteristics, East Cambridge/East Somerville

District	Station	MAPC Typology ¹	Riders ²	Parking
Kendall Square	Kendall (Red Line)	Urban Core	13,975	none
NorthPoint	Lechmere (current and future Green Line); Community College (Orange Line)	Transformational Subway (Green) Neighborhood Subway (Orange)	6,645 (current Green) 3,694 (Orange)	180
Union Square/ Boynton Yards	Union Square (future Green Line)	Transformational Subway		none
Brickbottom/ Inner Belt	Washington Street (future Green Line)	Transformational Subway		None

Although the four districts are largely disconnected today, the barriers are mostly physical and economic rather than jurisdictional. The municipal boundary is invisible on the ground. With stronger market and transportation linkages, these four districts are close enough to potentially look and feel like one extended place. As Figure 3 shows, the future station area “walksheds” are contiguous and, in the case of Union Square and Brickbottom, overlapping.

Figure 3: Four Station Areas (One-Third Mile Radii; Future Stations Where Applicable)



¹ Metropolitan Area Planning Council (MAPC), *Growing Station Areas*, 2012 (p. 33) (hereafter *Growing Station Areas*).

² MBTA Ridership and Service Statistics (hereafter MBTA Bluebook), 2010 edition (p. 13).

Location and Function in the Metropolitan Region

The East Cambridge/East Somerville case study area is adjacent to Downtown Boston, with which it is directly connected by the Red, Green, and Orange Lines, as well as the Longfellow and Science Museum highway bridges. North of the case study area, and connected to it by I-93, Route 28, and the Orange Line, is another emerging Inner Core economic development area: the cluster, at the junction of the Mystic and Malden Rivers, of Assembly Square, Wellington Station, and the River's Edge district.

Kendall Square, as the hub of the entrepreneurial district associated with MIT, is an economic driver not only for Cambridge but for the entire metro region. In the life sciences, the R&D and business start-up activities centered at Kendall have ties to the Longwood Medical Area. More generally, there is an emerging linkage—both collaborative and competitive—between Kendall Square and Boston's Seaport or Innovation District, which is seen by many in the market as the “next place Kendall companies look” as they scale up.

A near-term objective for NorthPoint, and a longer-term objective for Brickbottom and Union Square, is to develop those districts as “near Kendall” locations. This would enable them to attract some of Kendall's spill-over employment growth, as well as the residential market for the future Kendall workforce. To create viable market connections between Kendall and the three nearby districts, the two cities and the Commonwealth will have to overcome the separations imposed by the elevated McGrath-O'Brien corridor, the nexus of commuter rail tracks surrounding Inner Belt and NorthPoint, and the lack of cross-cutting transit connections.

Development Goals

Of central importance is the development of each district in its own right. In dense, historically built-out Inner Core settings like these, economic development generally means land recycling and its associated infrastructure investments. Recycling can be envisioned at two distinct scales.

- In Kendall Square and much of Union Square, land recycling means infill—that is, site-specific reinvestment, whether through adaptive reuse or new construction, within an established urban grid of streets, sidewalks, public spaces, and water resource utilities. That grid needs to be modernized and enhanced, but it generally exists as a public asset today, defining as well as servicing potential redevelopment sites.
- In the southern parts of Union Square, in Brickbottom/Inner Belt, and at NorthPoint, land recycling means district-scale transformation, as areas of 15-40 acres originally developed around railroad and industrial uses change over time into mixed-use neighborhoods. Here, “district infrastructure” suitable for urban development generally does not exist; it must be created at public and private cost.

For the City of Cambridge, the continued evolution of Kendall, with higher densities, more jobs, and a 24/7 mix of uses, is a development priority, as is the full, multi-phase build-out of NorthPoint.³ In Somerville, the new Comprehensive Plan, *SomerVision*, targets 85% of the city's growth between 2010 and 2030 into three designated “transformative areas” occupying just 15% of the city's land mass: Brickbottom/Inner Belt (41% of growth); Union Square/ Boynton Yards (14%); and Assembly Square (29%).⁴

³ For Kendall, see <http://www.cambridgema.gov/CDD/Projects/Planning/K2C2.aspx>, especially the June 2012 Summary of Zoning and Urban Design Recommendations.

⁴ *SomerVision—Somerville's Comprehensive Plan*; City of Somerville, 2012 (p. 143); hereafter *SomerVision*.

Together, NorthPoint, Brickbottom/Inner Belt, and Union Square/Boynton Yards —joined to each other and to the core of the MBTA system by the Green Line Extension—represent a corridor-level transformation, suggestive in scale of the Southwest Corridor over the last three decades or the Indigo Line in the decades to come. For all three of these transformative districts and for Kendall as well, the unifying theme is transit-oriented development.

Transit-Oriented Development

While every setting is unique, successful TOD represents a place-specific combination of four foundational characteristics. These are strongly reflected in the plans for each of the four station districts, as summarized in a later section of this Case Study.

- development that is dense and compact compared to non-transit locations
- a robust mix of uses
- a safe, highly interconnected public realm which is rich in amenities and spills into the ground floors of buildings
- a parking supply that is reduced below traditional requirements, shared to the greatest extent practicable, and designed so as not to dominate the station area.

Regionally Significant Transportation Investments

Five proposed transportation investments, while regional in scale and impact, bear directly on the economic development future of the four East Cambridge/East Somerville station districts.

1. The Green Line Extension. “GLX” is the case study area’s transformative infrastructure investment. Its benefits include 45,000 daily boardings and alightings (7,000 of them new transit trips) by 2030 and a projected daily reduction of 25,728 Vehicle Miles Traveled. The new Lechmere Station is essential to the NorthPoint development buildout, and Somerville has designated each of its five stations as “areas to enhance” or, in the case of Union Square and Washington Street, “areas to transform” targeted for large-scale development. Somerville has undertaken an extensive TOD planning process for each of its five station areas, as has Cambridge for Lechmere.

GLX has a current estimated cost of \$1.33 billion. MassDOT and the MBTA are seeking New Starts funding of \$547 million (42%), with the remaining \$778 million (58%) to come from Commonwealth bond and general funds. In its 2012 letter approving the project for entry into Preliminary Engineering, the Federal Transit Administration (FTA) cautioned that further advancement will depend on MassDOT’s identifying adequate funding to cover the MBTA’s state of good repair needs and solve its structural deficit.⁵ While this project is required as part of the State Implementation Plan and the Governor has indicated that state funds will be available if New Starts funding is unavailable or insufficient, FTA’s warning underscores the difficult financial assumptions which underlie the project.

Figure 4: SomerVision Assignment of City’s 2010-2030 Growth to “Transformative Areas”

	Land Area	Buildable Area	Share of City Growth
Assembly Square	125 acres	100 acres	29% of growth
Inner Belt	115 acres	92 acres	26% of growth
Brickbottom	65 acres	52 acres	15% of growth
Boynton Yards	35 acres	28 acres	8% of growth
Union Square	25 acres	20 acres	6% of growth
Total	365 acres	292 acres	85% of growth

⁵ http://greenlineextension.eot.state.ma.us/documents/FTA_NewStarts/prelim_approval_letter061112.pdf

In addition to approval to enter Preliminary Engineering, the GLX has received NEPA clearance and begun final design (a \$45 million effort). In the summer of 2012, MassDOT agreed to phase project construction, with funding set aside to begin Lechmere, Union Square, and Washington Street (Brickbottom) stations in 2014 and complete them in 2017. This decision allows planning and investment decisions in those three districts to proceed with reasonable confidence that the Green Line is coming.

The long-term success of the Green Line Extension, once built, will depend on the efficiency and capacity of the Green Line as a whole, especially the Central Subway. The *Hub and Spoke* report published in 2012 by the Urban Land Institute and Northeastern University identified congestion problems in core segments of the Orange, Red, and Green Lines. A prime area of concern is the need to upgrade the Green Line's power, switching, and signal systems, without which neither a full shift to three-car trains nor a reduction of headways will be sustainable. The MBTA also needs to replace the Green Line's #7 fleet.⁶ Yet in the MBTA's FY13-FY17 *Capital Investment Program*, among the projects either left out of the funded program due to budget constraints or assigned principally to the out-years when funding is least certain, are the Green Line's fleet replacement and ; and power, switching, and signal upgrades.⁷

2. The Capacity, Connectivity, and Efficiency of the Red Line. Kendall Station is the MBTA's eighth-busiest, and the economic success of the Kendall Square district depends on the Red Line more than on any factor other than the presence of MIT. In the *Hub and Spoke* report, Kendall is identified as one of the system's core "hot spots", where operating constraints and growing demand may lead to unsustainable congestion. Replacements are needed for 74 Red Line cars built in 1969-70, about one-third of the fleet—a procurement not fully funded in the MBTA's Capital Investment Program.⁸

The Red Line-Blue Line Connector also has implications for future growth at Kendall. The project, now estimated at \$750 million, has been repeatedly deferred by MassDOT, and while \$49 million for final design has been included in the Boston MPO's FY13-16 Transportation Improvement Program (TIP), MassDOT is pursuing the removal of this project from its set of binding State Implementation Plan commitments.⁹ If the project were built, the long-term benefits to Kendall would be two-fold. First, the growing development corridor along the Blue Line and Route 1A north of Logan Airport would gain better access to all Red Line employment destinations, including Kendall; second, by eliminating transfers at Government Center and Park Street, the Red-Blue Connector would ease congestion at those two core stations—a benefit not only to Kendall, but to NorthPoint, Union Square, and Brickbottom).¹⁰

3. The Longfellow Bridge Reconstruction. The Longfellow Bridge connects Kendall to Boston, carrying 28,000 motor vehicles, 90,000 Red Line users, and more than 1,000 pedestrian and bicyclists per day. It is indispensable to Kendall's current daily economic activity, not to mention any future intensification. The Longfellow is structurally deficient, and its reconstruction, with an estimated budget of \$289 million, is a signature project within MassDOT's Accelerated Bridge

⁶ Urban Land Institute (with Northeastern University). *Hub and Spoke: Core Transit Congestion and the Future of Transit and Development in Greater Boston*; June, 2012 (pp. 12, 14) (hereafter *Hub and Spoke*).

⁷ MBTA *Capital Investment Program, FY13-FY17* (p. 11, 54ff, 73ff, 83ffr, 95ff).

⁸ *Ibid.*, and *Hub and Spoke* (pp. 15-16).

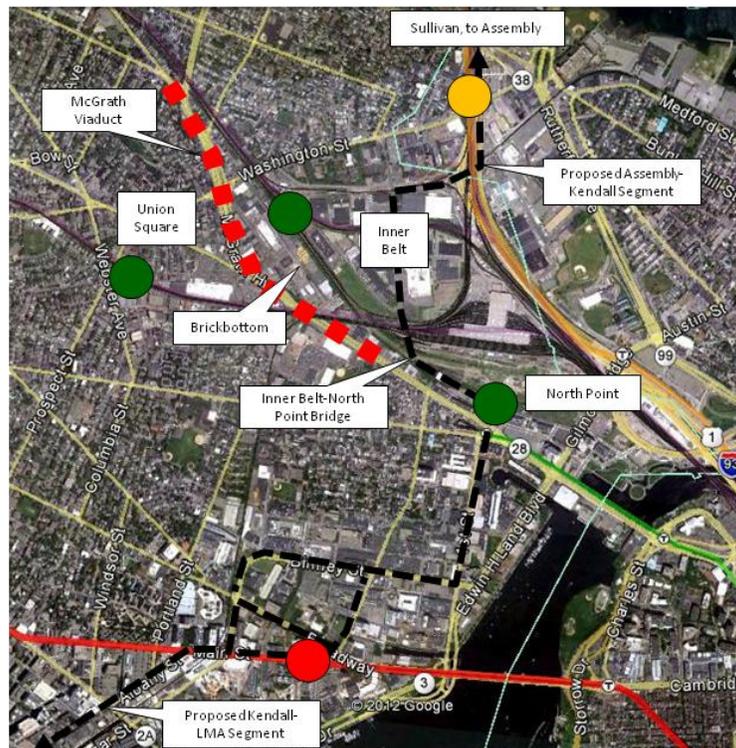
⁹ http://bostonmpo.org/bostonmpo/3_programs/2_tip/FFYs_2013_2016_TIP_Amend_One_Action_0925.pdf.

¹⁰ An original benefit of the Red-Blue Connector—an improved connection to Logan Airport for trips originating on the Red Line—was largely achieved by the Silver Line.

Program. As of late 2012, NEPA clearance has been obtained and a design-build procurement is in process. MassDOT anticipates Notice to Proceed in late 2013, with completion in late 2016. Maintaining this schedule with minimal disruption of Red Line service is recognized as a challenge for the selected design-build team.¹¹

4. The Cambridge-Somerville Segments of the Urban Ring. In 2010, MassDOT suspended the environmental review and New Starts application process for the Urban Ring, due to the severe financial constraints affecting any potential MBTA system expansion projects. MassDOT indicated that it would pursue Bus Rapid Transit in high-value segments of the Urban Ring in a manner consistent with the Revised EIR of 2008.¹²

Figure 05: The Assembly-Kendall Urban Ring Segment and the McGrath Highway Corridor



The segment from Assembly Square to Kendall would link the Brickbottom/Inner Belt district to future development at Assembly Square, NorthPoint, and Kendall, and to the Red and Orange Lines. As shown in Figure 3, the BRT corridor would run through the core of Inner Belt (with a station on Inner Belt Road), providing an essential access and egress to a district otherwise all but landlocked by rail bridges and embankments.¹³ The BRT segment would also benefit NorthPoint and Kendall by linking them to each other and to the Orange Line without having to transfer in the

¹¹ http://www.massdot.state.ma.us/Portals/26/docs/Longfellow/Presentation_030112.pdf, and <http://www.eot.state.ma.us/acceleratedbridges/downloads/September2012.pdf>; p. 22 and 40. A noteworthy feature of the project is MassDOT's decision to reallocate north-bound lane use (to Kendall), expanding the pedestrian and bicycle space while reducing vehicular traffic from two lanes to one.

¹² <http://www.massdot.state.ma.us/theurbanring/>

¹³ Interview, Michael Glavin, Director, and staff, City of Somerville, Mayor's Office of Strategic Planning and Community Development; September 20, 2012 (hereafter Somerville MOSPCD Interview).

core of the system.¹⁴ The pivotal investment is the Inner Belt-NorthPoint Bridge, which would carry the new BRT route over the railyards separating the two districts.

While the project is not presently funded, MassDOT has recognized the need to preserve the Inner Belt-NorthPoint Bridge corridor. This transit improvement is integral to the creation of 8,000 jobs and 1,000 residential units, the City’s targeted development outcomes for Inner Belt. The BRT route would also support the 4,500 jobs and 750 residential units targeted for Brickbottom.¹⁵

The City of Cambridge supports the segment from Kendall to the Longwood Medical Area, via Cambridgeport, the Grand Junction River Crossing, Boston University, and the Kenmore/Fenway Park area. The City’s emerging Kendall-Central plan envisions Kendall as a major transit hub, served not only by the Red Line but by the Assembly and LMA BRT routes and enhanced regular bus service.¹⁶

5. The McGrath Highway Redesign. MassDOT is currently conducting a planning study entitled *Grounding McGrath: Determining the Future of the Route 28 Corridor*.¹⁷ The focus is the elevated segment known as the McCarthy Overpass, shown in Figure 3 as a heavy red dotted line. The overpass divides the Union Square and Brickbottom districts, forming an unsightly barrier edge to each and inhibiting the ability of the districts—within walking distance of each other—to reinforce each other’s long-term development. The City of Somerville advocates “de-elevating” the McGrath and converting it to an urban boulevard more compatible with development plans.¹⁸ MassDOT estimates the cost of a full surface option with “complete street” amenities at \$70 million. The benefits of de-elevation are addressed further in the Brickbottom/Inner Belt discussion.

Development Districts

The economic development plans for each of the four station districts are summarized below, with attention to specific infrastructure investments that have been identified as integral to the realization of those plans.

Kendall Square

In the past decade, Kendall has added some four million square feet of development, while traffic counts at key intersections dropped by up to 14%.¹⁹ This is testimony to the indispensable role of the Red Line, reduced parking requirements, and an emerging mixed-use environment where multiple destinations can be reached on foot.²⁰

The City of Cambridge is in the midst of its Kendall Square/Central Square (K2C2) planning study, with the Kendall phase of the work substantially complete. (As of the date of this report, final

¹⁴ See <http://www.cambridgema.gov/CDD/Projects/Planning/K2C2.aspx>, Transit Recommendations, January 2012. This reflects the original “cross-town” purpose of the Urban Ring, linking key TOD nodes that lie on different radial transit corridors.

¹⁵ *SomerVision*; pp. 144-145.

¹⁶ <http://www.cambridgema.gov/CDD/Projects/Planning/K2C2.aspx>, Transit Recommendations, January 2012.

¹⁷ <http://www.massdot.state.ma.us/groundingmcgrath/Home.aspx>.

¹⁸ See, for example, *Boston Globe*, “Tear them down? Not so fast”; August 23, 2012. An attractive McGrath Boulevard would also provide an amenity for NorthPoint, whose development team is responsible for rebuilding and “urbanizing” the O’Brien Highway segment of Route 28, provided that corridor capacity is not negatively impacted.

¹⁹ *Boston Globe*, “More buildings, fewer cars help drive economic growth” (editorial); August 19, 2012.

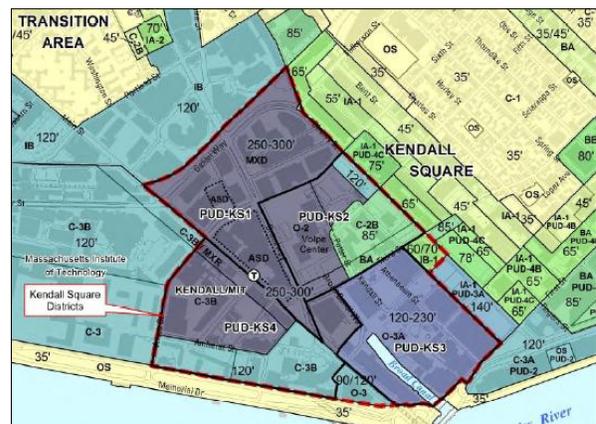
²⁰ Interview with Brian Dacey, President, Cambridge Innovation Center, September 21, 2012.

recommendations of the Kendall Square Advisory Committee are under review by the Planning Board.) The City’s primary objectives for Kendall, reflected in the proposed zoning changes, include:²¹

- A significant increase in density, compared not only to existing conditions but to the amount of new development that would occur under current zoning. Between now and 2030, the City envisions at least 5.5 million square feet of new development in the immediate Kendall Station area, and 8.5 million in the larger Kendall district extending south of Main Street toward Central.
- A significant increase in residential density, to ensure that Kendall continues to evolve in a “24/7” direction rather than its historic “9-5” pattern. The proposed Kendall overlay district (see below) includes housing requirements alongside increased FAR.
- Additional retail, with emphasis on ground-floor uses that extend the public realm between the sidewalk and lively building interiors.
- A massing strategy that places the greatest height and density adjacent to Kendall Station, reinforced by parking reductions and shared parking requirements.

While the City’s final decisions are still in process, a Kendall Square Overlay District in the area immediately surrounding the station would encompass four Planned Unit Development (PUD) Districts: KS1 (the Boston Properties/Cambridge Redevelopment Authority/Cambridge Center complex); KS2 (the Volpe Center); KS3 (multiple property owners east of the station); and KS4 (properties owned by MIT). As shown in Figure 6, KS1, KS2, and KS4 would allow buildings of up to 300 feet in height, and KS3 allows a height limit of 230 feet, reflecting the unique level of real estate value created by adjacency to high-capacity transit.²²

Figure 6: Proposed Kendall Square Height Limits



As described in the previous section, the infrastructure investments required to support the City’s Kendall development vision consist largely of actions at a regional scale: the successful reconstruction of the Longfellow Bridge; the replacement of the Red Line fleet; the Kendall-Assembly and Kendall-LMA segments of the former Urban Ring; and the Red-Blue Connector.

Within the Kendall district, the development plan requires a high level of investment in public amenities. In addition to project-specific mitigation of transportation and utility impacts, the City is considering a Kendall Square Fund, to which non-residential development benefitting from the increased FAR and height allowed under the Overlay would pay \$10 per square foot. Two-thirds of Fund proceeds would be used for public open space and transit improvements.²³

NorthPoint

The NorthPoint development, encompassing 18 parcels on 45 acres, was revived in 2010 when the development rights were acquired by a team led by HYM Investment Group, in partnership with the

²¹ Community Development Department Memo to Planning Board, August 2012; also <http://www.cambridgema.gov/CDD/Projects/Planning/K2C2.aspx>, June 2012 Summary of Zoning and Urban Design Recommendations.

²² Ibid.

²³ Ibid.

primary landowner, Pan Am Properties. The revised Master Plan, approved by the City of Cambridge in July 2012, includes up to 2900 residential units, 2.0 million square feet of office and R&D space, 200,000 square feet of retail, and a series of public parks. The total buildout of up to 5.2 million square feet represents \$2 to \$3 billion in private investment.²⁴ The infrastructure requirements for NorthPoint fall in three categories:

- The Green Line. The immediate proximity of the MBTA is a decisive factor in attracting real estate capital to NorthPoint.²⁵ The project's relationship with the Green Line Extension project is one of interdependence: relocating Lechmere Station into NorthPoint from its current location south of O'Brien Highway is essential to creating the GLX alignment; for its part, NorthPoint will benefit significantly from having the station within its footprint, integrated with open space and mixed-use development.

In 2011, the MBTA and NorthPoint concluded a land swap agreement, whereby the T will receive all of the land and trackage rights it needs to build the new Lechmere Station and associated GLX alignment in exchange for the existing station parcel, once vacated.²⁶ Without this agreement, MassDOT and the MBTA could not have committed to open Lechmere, Washington Street, and Union Square Stations by 2017.

- Route 28. O'Brien Highway—part of the Route 28 McGrath-O'Brien corridor—is the main access route to NorthPoint. As part of the Lechmere land swap agreement, the developers agreed to undertake some \$10 million in roadway, sidewalk, and amenity improvements on O'Brien Highway between the Gilmore Bridge and Water Street, remaking it as "O'Brien Boulevard".
- On-site infrastructure. The prior developers of NorthPoint invested about \$40 million in on-site roads, open space, and stormwater management. The full buildout requires an additional \$25 million in on-site streets, sidewalks, and amenities; the developers will explore value capture financing, such as the state's I-Cubed program (a major component of the finance program that delivered the on-site infrastructure at Assembly Square).

Cambridge is an MWRA sewer community but has its own municipal water supply. The NorthPoint buildout requires the construction of a large sewer discharge pipe feeding the MWRA collection system, a routine infrastructure cost that the developer is undertaking.

Union Square

In October 2012 the Somerville Board of Aldermen adopted the Union Square Revitalization Plan, a 117-acre district covering comprising three adjoining areas:²⁷

- Prospect-Webster, including the Square itself, the future Green Line Station, and the properties along Prospect, Webster, and Washington Streets and Somerville Avenue
- the blighted industrial area known as Boynton Yards, located south of the railroad and extending eastward to Medford Street;

²⁴ Boston *Globe*, "Construction of NorthPoint mini-city in Cambridge to resume"; August 10, 2012; and interview with Thomas N. O'Brien, Managing Director, HYM Investment Group, LLC, September 19, 2012.

²⁵ Ibid.

²⁶ See Amended Land Exchange Agreement, MBTA and Pan Am, February 7, 2011, and MassDOT press release, MassDOT Board Approves Agreement to Build New Lechmere Station, Crucial to Green Line Extension; March 3, 2011.

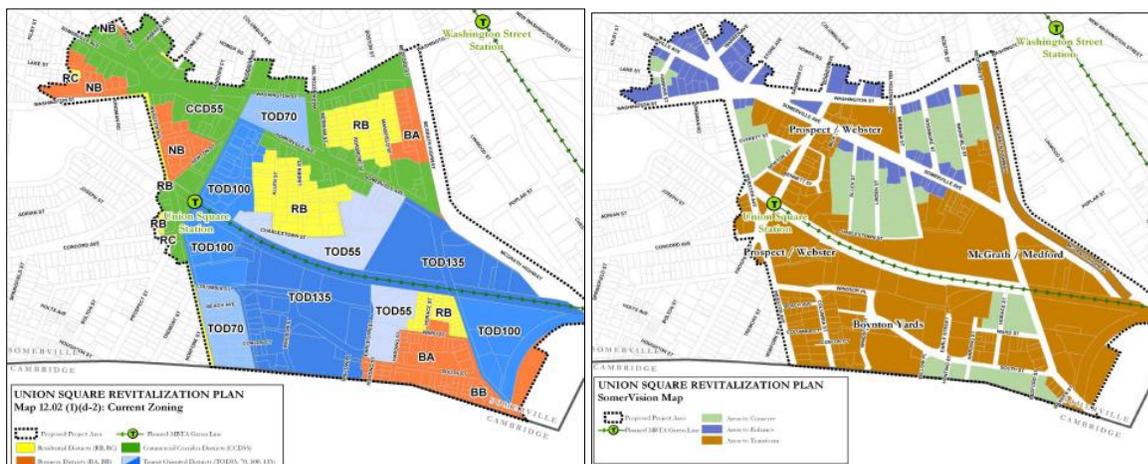
²⁷ City of Somerville, Union Square Revitalization Plan; September 2012; as of the date of this report the Plan is at the state Department of Housing and Community Development for review and approval under Chapter 121B. (<http://www.somervillema.gov/sites/default/files/Union%20Square%20Revitalization%20Plan%20DRAFT%202%20%28EDITS%29%209-25-12.pdf>)

- at the eastern edge of the district, the industrial area formed by the “X” of Medford Street and the McGrath Highway.

Setting aside established residential blocks and historic buildings, there are about 60 developable acres of land in the combined Union Square/Boynton Yards area, to which the City hopes to attract 4,300 jobs, 1.5 million square feet of new commercial space, and 850 housing units in the next two decades.²⁸

The Revitalization Plan was preceded in 2009 by a comprehensive rezoning, which left traditional residential districts intact but created five new mixed-use districts, whose numbers correspond to their height limits: Corridor Commercial District (CCD)-55; and TOD-55, TOD-70, TOD-100, and TOD 135. These districts have FAR’s ranging from 3.0 to 4.5. They are form-based, allowing “use clusters” rather than individual uses as of right, and they emphasize shared and reduced parking reduction.²⁹

Figure 7: Union Square Revitalization Plan, Transformation Areas and Zoning



Development of Union Square and Boynton Yards depends on three categories of infrastructure investment:³⁰

- The Green Line. Somerville envisions Union Square transformed by the Green Line as Davis Square was by the Red Line. However, Union Square Station will be located 700 feet down Prospect Street from the core of the Square itself. In July 2012, the City and the MBTA concluded an agreement whereby Somerville, as part of the Revitalization Plan, will use its urban renewal powers to acquire and clear the portion of the North Prospect Block (D-2 in Figure 8) abutting the tracks, granting the MBTA an easement to build and operate the station while retaining the right to pursue joint development on the railroad air rights.³¹

This agreement creates two key benefits: it obligates the MBTA to start construction in 2014 and open the station in late 2016 or early 2017. And by controlling the entire North Prospect Block and procuring a single developer, the City will be able to implement joint development in a way

²⁸ *SomerVision* (pp. 144-145).

²⁹ City of Somerville Ordinance No. 2009-03, Rezoning Union Square and Boynton Yards.

³⁰ The following discussion is based on City of Somerville, Union Square Revitalization Plan; September 2012; and Somerville MOSPCD Interview.

³¹ Memorandum of Agreement, MassDOT and MBTA with City of Somerville, July 26, 2012.

that optimizes pedestrian connections among the station, the Square, and the adjacent part of Boynton Yards.³²

- Rebuilding Union Square. The Square and its streets require redesign and reconstruction, including significant changes to the traffic pattern. A transportation study was concluded in 2009, and the City intends to begin final design of the preferred alternative in 2013. No less important is relief from the flash flooding that chronically affects Union Square, most recently and dramatically in 2010. A partial solution was effected three years ago, when a 72” storm drain and holding pipe was installed beneath Somerville Avenue during its reconstruction. The next step is a similar installation beneath Webster Street, extending to the Cambridge line and eventually beyond.

The investment in streets, sidewalks, drainage, and utilities in and around Union Square is estimated by the City at \$60 million. The cost of one or two small off-street garages, which are needed in the long term to support the full implementation of the Revitalization plan, is not include in that estimate.

- Boynton Yards district infrastructure. Boynton Yards is a classic industrial renewal area, with brownfield sites, irregular parcels, and an obsolete street pattern unsuitable for modern, mixed-use development. Creating 35 acres of district infrastructure is estimated by the City to cost roughly \$60 million (completely separate from the \$60 million estimate for Union Square); unlike the situation at NorthPoint or Assembly Square, there is not currently a developer to contribute to these costs or generate value that could be captured to help off-set them.

The Union Square Revitalization Plan also envisions a potential Boynton Yards infill station as a long-term option for opening up the full development potential in the eastern portion of Boynton Yards and the adjoining corridor along Medford Street. Until and unless such a future station is added, the City will focus on shuttle services connecting development in Boynton Yards to the Green Line at Union Square and the Red Line at Kendall.

Figure 8: Union Sq. Disposition Parcels



Brickbottom/Inner Belt

Of the four station districts, the one which today least resembles a mixed-use TOD district is Brickbottom/Inner Belt, which with the significant exception of the Brickbottom Artists community remains in industrial and distribution uses framed by the railroads. While detailed planning study is still on-going, the City has set high goals for economic development:³³

Table 2: Brickbottom/Inner Belt Development Targets

	% of Growth	Jobs	Commercial Space	Housing Units
Brickbottom	15%	4,500	1.6 million sf	750
Inner Belt	26%	8,000	2.8 million sf	1,000
Total	41%	12,500	4.4 million sf	1,750

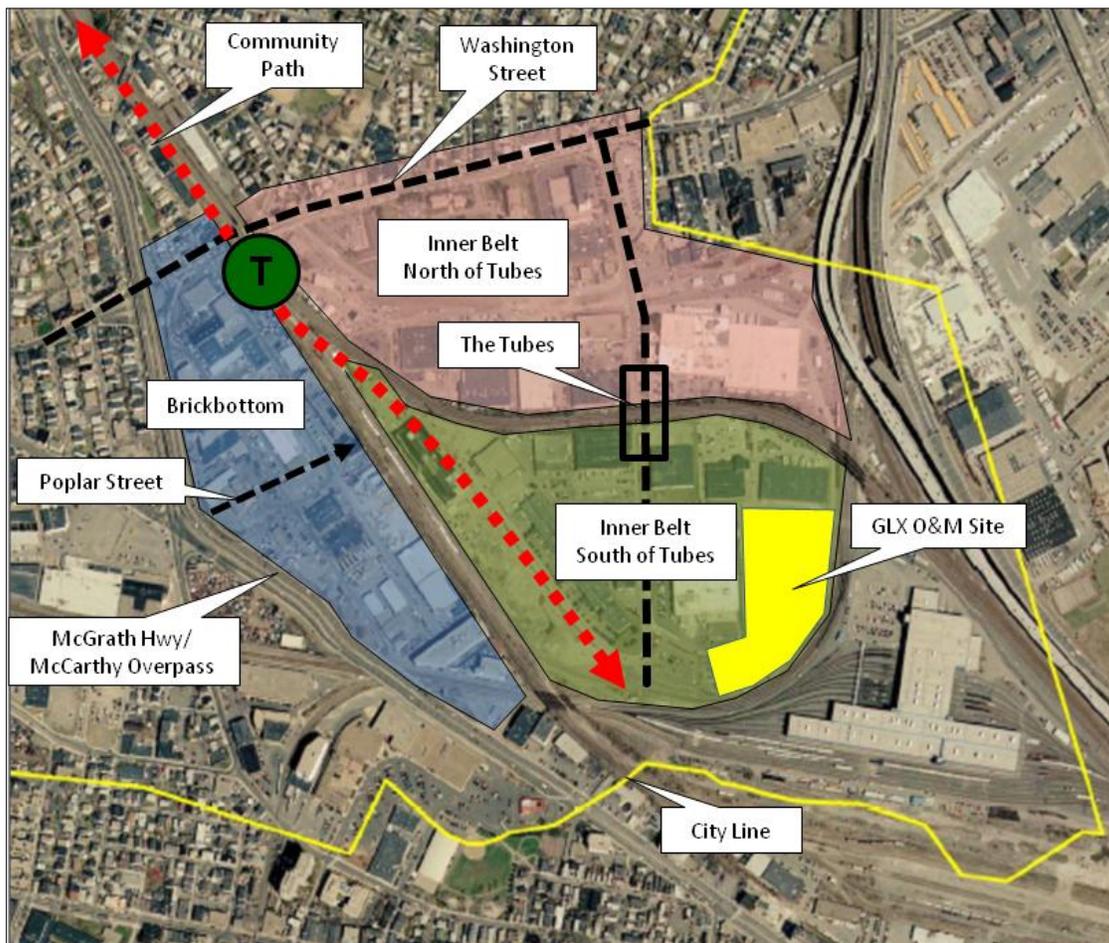
³² The North Prospect Block has a potential FAR capacity of 400,000-600,000 square feet, and the City has already assembled much of it through the landmark brownfield remediation of the old Kiley Barrel works.

³³ *SomerVision* (pp. 143-145).

Inner Belt has nearly twice as much buildable land as Brickbottom—92 acres versus 52; and its development capacity is correspondingly higher as well. However, the infrastructure constraints affecting the two areas are very different.

For Brickbottom, construction of the Green Line Extension as far as Washington Street—now virtually guaranteed in the near term by MassDOT’s phasing plan and its agreements with the City of Somerville and NorthPoint—is the breakthrough requirement. Nearly as important, for reasons described earlier, is the replacement of the McCarthy Overpass with an urban boulevard along the district’s western edge. In addition to creating a more pedestrian and development-friendly intersection at Washington Street, barely 500 feet from the Green Line station, de-elevating would also allow Poplar Street to become a principal vehicular entrance. With these investments, Brickbottom can be positioned as a viable development target.

Figure 9: Brickbottom/Inner Belt Infrastructure Framework



For Inner Belt, on the other hand, extending the Green Line and grounding the McCarthy Overpass are necessary but not sufficient conditions. As shown in Figure 7, the portion west of Inner Belt Road and north of “The Tubes” (the culverted passage of Inner Belt Road beneath the rail embankment) lies within walking distance of the future Green Line Station. The area south of The Tubes is essentially landlocked. To unlock its development potential will require, in the judgment of the City of Somerville:

- implementation of the Assembly-Kendall BRT corridor via Inner Belt Road, as described earlier;

- construction of the Somerville Community Path alongside the Green Line Extension, a project costing about \$36 million; a long-standing community priority, the Path would constitute *the* pedestrian link between the station and the southern portion of Inner Belt;³⁴
- improvement of vehicular access, by replacing The Tubes with a more adequate underpass and perhaps by extending Poplar Street beneath the embankment into Inner Belt.

These are significant investments, and on top of them, development in both sections of Inner Belt, as in Boynton Yards, will require the creation of a district infrastructure platform of streets, sidewalks, utilities, and open space.

Summary of Development Agenda and Infrastructure Needs

The development agenda for the four station districts of East Cambridge and East Somerville is summarized in the table below, which illustrates what is at stake in the many infrastructure decisions that lie ahead.

Table 3: Development Agenda, East Cambridge/East Somerville

Kendall	4 million sf in last decade; City of Cambridge planning 5.5-8.5 million more
North Point	Approved plan: 2900 residences, 2 million sf office and R&D, 200,000 sf retail. Total buildout: 5.2 million sf representing \$2 to \$3 billion in private investment.
Union Square	City of Somerville targets 14% of 2010-2030 growth, representing 1.5 million sf of commercial development; 4,300 jobs; 850 residences.
Brickbottom/ Inner Belt	City of Somerville targets 41% of 2010-2030 growth, representing 4.4 million sf of commercial development; 12,500 jobs; 1,750 residences.

The infrastructure investments associated with this agenda of current or future development are summarized in Table 4 on the next page.

³⁴ City of Somerville, TIGER II Application for the Somerville Community Path; August 2010.

Table 4: Potential Infrastructure Investments, East Cambridge/East Somerville

Proposed Investment	District(s) Affected	Estimated Cost (MM)	Status
Green Line Extension (Phases 1-2A)	NorthPoint, Brickbottom, Union Square	\$350 (total project: \$1.33 billion)	Final design, committed construction 2014-2017. Remainder of project <i>not</i> funded.
Red Line Fleet Replacement	Kendall	\$215	In CIP but deferred, not funded
Red-Blue Connector	Kendall	\$750	In TIP but MassDOT will seek deferral
McGrath Highway Grounding	Brickbottom, Union Square	\$70	MassDOT Study underway
Longfellow Bridge Reconstruction	Kendall	\$289	Design-build procurement underway
Assembly-Kendall BRT Corridor (former Urban Ring segment)	Brickbottom, North Point, Kendall	TBD	Future; sources and timing TBD
Kendall-LMA BRT Corridor (former Urban Ring segment)	Kendall	TBD	Future; sources and timing TBD
Kendall Streets and Amenities	Kendall		
O'Brien Boulevard Improvements	NorthPoint	\$10	Committed by developer
NorthPoint On-Site District Infrastructure	NorthPoint	\$65	~\$40 by prior developer; ~\$25 pending by developer, seeking I-Cubed
Union Square Station site assembly	Union Sq./ Boynton Yards	\$6	Committed by City in MOA with MBTA
Union Square Roadway and Drainage Improvements	Union Sq./ Boynton Yards	\$60	Design about to begin; funding needed
Boynton Yards District Infrastructure	Union Sq./ Boynton Yards	approx. \$60	Future; sources and timing TBD
Community Path Extension	Brickbottom/ Inner Belt	\$36	Seeking funding
Access Improvements via Tubes and/or Poplar Street	Brickbottom/ Inner Belt	TBD	Future; sources and timing TBD
Inner Belt District Infrastructure	Brickbottom/ Inner Belt	TBD	Future; sources and timing TBD

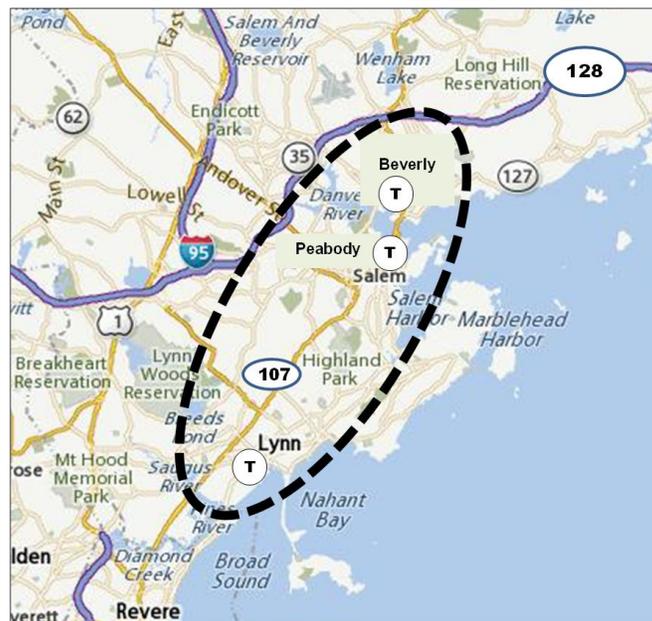
THE NORTH SHORE CITIES

Overview

Composition of the Case Study Area

The North Shore cities of Lynn, Salem, Beverly, and Peabody have been chosen to represent Metro Boston’s Regional Urban Centers. Salem, Peabody, and Beverly form a cluster, with their downtowns less than two miles apart; all three are linked by arterial roadways, and in the case of Salem and Beverly, by adjoining commuter rail stations. Lynn, although contiguous to Salem and Peabody and connected to Salem and Beverly by rail, is perceptually separate from the other three cities. That said, downtown Lynn is only five miles from downtown Salem, and the four cities together form the nucleus of the North Shore subregion. Figure 10 shows the geographic relationships among the cities, including major highways and the three downtown train stations.

Figure 10: The North Shore Cities



Location and Function in the Metropolitan Region

In *Metro Future*, MAPC identifies 21 municipalities as Regional Urban Centers, describing them as follows: “This group includes urban centers outside the Inner Core. These communities are characterized by an urban-scale downtown core with multiple blocks of multi-story, mixed use buildings; moderately dense residential neighborhoods surrounding this core; and (in some cases) lower density single-family residential development beyond....Rental housing and multifamily structures comprise a significant component of the housing stock.”³⁵

This description is quite applicable to Lynn, Salem, Beverly, and Peabody, all of which are historic industrial and commercial centers. All but Peabody are maritime cities as well, whose core development,

³⁵ Metropolitan Area Planning Council (MAPC), *Metro Future: Building a Greater Boston Region; Goals, Objectives, and Implementation Strategies*, 2008 (p. 9) (hereafter *MetroFuture*).

both economic and residential, revolved around their waterfronts. Since 1836, the centers of Lynn, Salem, and Beverly have also shared the Eastern Railroad, which is today the MBTA's Newburyport-Rockport commuter rail line, one of the busiest in the system and a re-emerging locational asset.³⁶

The cities differ in their relationship to the North Shore's principal highway corridors. Peabody and Beverly are "right on 128", each served by multiple exits in commercial and employment areas with arterial routes to downtown. Peabody and Beverly's 128/I-95 location largely defines their place in the economic geography of the North Shore and the metro region. Salem, on the other hand, lacks direct access to Route 128/I-95, a deficiency which has caused it to be perceived as somewhat isolated. Lynn too lies outside the Route 128/I-95 orbit. But with the completion a decade ago of the I-90 Extension and the potential future development of the Route 1A Corridor in East Boston and Revere, Lynn's perceived location could change from simply being "north of the Tunnel" to being in the orbit of the Airport, Seaport, and Turnpike.

Development Goals

All four cities are focused on the revitalization of their core areas, where the historic downtowns, adjoining neighborhoods, and industrial or commercial redevelopment opportunities converge. In these settings, economic development is largely a mix of infill and redevelopment at two scales. At a "macro" level are district-scale interventions requiring transformative public and private investment, such as:

- the Lynn Waterfront, a core opportunity for mixed-use growth where infrastructure needs have stood in the way of transformative development for decades;
- Salem Harbor Power Station, a prime example of change in the electric power market translated into a waterfront redevelopment opportunity;
- Salem's North River Canal, a multi-site redevelopment opportunity framed by complex infrastructure needs.

At a "micro" level are site-specific infill, reinvestment, and redevelopment opportunities in each downtown. These require street and sidewalk improvements, stormwater and flooding remediation, and parking. Transit-oriented development is an explicit policy theme in the three commuter rail downtowns.

Industry remains an important part of these cities' economic makeup and future development strategy. In particular, Beverly seeks to follow two major successes—the redevelopment of the old United Shoe Machine complex as the Cummings Center and the Cherry Hill Industrial Park at Beverly Airport—with an industrial land development program at Route 128 and Brimbal Avenue. Lynn has a long-term interest in modernizing and diversifying its industrial base at the River Works and on portions of the Lynnway waterfront. Peabody relies on full occupancy of its Centennial Industrial Park, one of the region's major employment centers on Route 128.

Regionally Significant Infrastructure Issues

Highway Access

As noted above, Beverly and Peabody enjoy direct access to the Route 128/I-95 regional expressway system, while Salem and Lynn do not. This difference results in part from simple geography (Route 128 traverses Peabody and Beverly) and in part from state policy decisions in the 1970s and 1980s to abandon

³⁶ In 2009, the Newburyport-Rockport Line averaged 9,000 daily inbound boardings, making it one of the top three lines in the system. MBTA Bluebook, 2010 edition (p. 72).

the I-95 Northeast Expressway through Lynn Woods and a related series of Peabody-Beverly-Salem connector concepts.³⁷

In the end, only one such element was built—the Beverly-Salem Bridge replacement. Completed in 1996, it carries Route 1A between the two downtowns, connecting Salem to Route 128 via Beverly. Another corridor, consisting of Main Street in Peabody and Boston Street in Salem, connects those two downtowns to Route 128 via Peabody. From Salem’s perspective, these routes are among a series of “Entrance Corridors” that have replaced the idea of a single highway connection to the city.³⁸ The main access routes into Salem are shown in Figure 11, with the three Entrance Corridors undergoing current or near-term highway improvements shown in blue. These improvements are essential not only for access, but for development within the specific corridor districts as well. The roadway improvements are addressed in the paragraphs that follow, while the corresponding development districts are addressed later in this report.

- Bridge and Rantoul Streets: the Salem-Beverly Corridor. On the Salem side of the North River, the new Beverly-Salem Bridge project included the Bridge Street Bypass, which allows through-traffic to avoid local residential and commercial activity along historic Bridge Street Neck. To support the planned revitalization of this neighborhood (see “Development Districts” below), Salem and the state are now completing a \$10 million reconstruction of Bridge Street itself, including roadway, sidewalks, lighting, trees, and bike paths, as well as upgraded water, sewer, drainage, and underground power lines.

On the Beverly side, Route 1A leading north from the bridge becomes Rantoul Street, one of downtown’s two north-south “main streets”. For both transportation and economic development reasons, Rantoul is to be rebuilt as a “complete street”, with a full program of automobile, pedestrian, bicycle, transit, and development-friendly features. This \$16 million project is scheduled for construction in 2014.³⁹ (See “Development Districts” for a discussion of the broader effort.)

- Main and Boston Streets: the Peabody-Salem Corridor. Salem and Peabody share the arterial corridor known in Salem as Boston Street and in Peabody as Main Street. This corridor is a principal access route to the two downtowns from Route 128, connecting to two Exits (25 and 26).⁴⁰ It is also integral to the revitalization of Peabody Square and to the transformative developments proposed in Salem along the North River Canal (see “Development Districts”). The two cities have undertaken a joint economic development and transportation planning effort funded by MAPC.⁴¹

³⁷ Several expressway projects, planned in various forms since the 1948 Highway Master Plan, were cancelled as a result of Governor Sargent’s 1970 Highway Moratorium and the subsequent Boston Transportation Planning Review. Among them was the full-build Northeast Expressway, which would have carried I-95 southbound across Route 128, through western Peabody, the Lynn Woods, and the Saugus Marshes (where construction actually began), merging into the Revere-Chelsea Tobin Bridge approach (today’s Route 1). The I-95 Northeast Expressway would have accessed Lynn via a connection to Route 107.

In conjunction with the mainline expressway, a grade-separated spur known as the Beverly-Salem Connector would have carried regional traffic through the downtowns of Peabody, Salem, and Beverly. When the I-95 Northeast Expressway was cancelled, the Beverly-Salem Connector as originally conceived became infeasible. A proposed alternative was the Peabody-Salem Connector, a limited-access route linking those two downtowns to Route 128 along the freight rail corridor. This concept was eventually rejected by Peabody and dropped in 1982.

See <http://www.bostonroads.com/roads/northeast/> and <http://www.bostonroads.com/roads/beverly-salem/>

³⁸ Interview with Lynn G. Duncan, Director, and Katherine Winn, Project Director, Salem Department of Planning and Community Development, September 25, 2012 (hereafter Salem DPCD Interview).

³⁹ Salem’s \$10 million Bridge Street project, nearly complete at this time, was funded by the state with federal stimulus (ARRA) dollars. The Route 1A Rantoul Street project in Beverly is funded in the Boston MPO TIP for \$15.7 million in fiscal 2014.

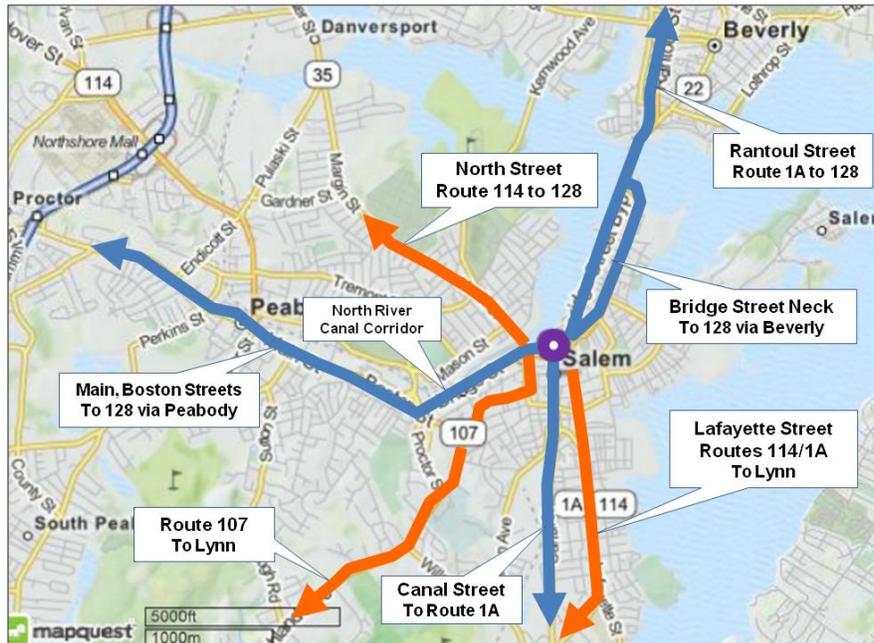
⁴⁰ From Peabody Square to Salem, it parallels the rail corridor once proposed as the alignment of the Peabody-Salem Connector.

⁴¹ MAPC, Cities of Peabody and Salem, Peabody-Salem Corridor Concept Action Plan (2011).

<http://mapc.org/sites/default/files/Peabody-Salem%20Corridor%20Concept%20Action%20Plan%20-%20FINALV2docx.pdf>

The initial transportation component—the redesign of Main Street in Peabody as a “complete street”—was funded through MassWorks and is under construction. The “complete street” improvements proposed by Salem for Boston Street have a preliminary estimate of \$7-9 million.⁴²

Figure 11: Salem's Entrance Corridors



- **Canal Street.** Canal Street is a largely industrial roadway which runs alongside the railroad and merges with Route 1A near Salem State University. While nominally providing a parallel southern access route between the more heavily traveled Routes 107 and 114/1A, Canal Street is in substandard condition and prone to flooding. It is to be rebuilt beginning in 2014, a \$6.3 million effort that will result in a more viable arterial route into the city, improved connections between Salem State University and downtown, and an environment more conducive to private reinvestment.⁴³

These Entrance Corridor projects represent roughly \$40 million in roadway and related improvements, not counting the \$50 million invested earlier in the Beverly-Salem Bridge and Bridge Street Bypass or the normal backlog of Chapter 90-type capital maintenance required to keep the roads into and out of the three city centers in a state of good repair.

Lynn is accessed by two principal at-grade arterial roadways, which in their current condition provide inadequate access for the revitalization of the downtown, waterfront, and industrial core. If access is to be addressed in a way that supports Lynn’s long-term economic development, each of these corridors will require further analysis and capital investment.⁴⁴

- **Route 1A** (whose Lynn segment is known as The Lynnway) carries northbound traffic from the Tunnels through East Boston and Revere to Lynn via the General Edwards Bridge. The Lynnway

⁴² City of Salem, *Transportation Plan North River Canal Corridor*, 2012; p. 83.

⁴³ Canal Street is funded in the Boston MPO TIP for \$6.3 million in fiscal 2014.

⁴⁴ Interview with James M. Marsh, Director, Lynn Office of Economic and Community Development, October 1, 2012 (hereafter Lynn OECD Interview).

serves three competing markets as a regional access route to Lynn, a service road for Lynnway businesses, and a through-commuter route for Swampscott and Marblehead to the north. To make the Lynnway more hospitable to waterfront development without unduly reducing its capacity will be a major planning challenge.

- Route 107 intersects Route 60 (Squire Road) midway between the Tunnel and Tobin Bridge approach corridors and proceeds north through Lynn (on Western Avenue) and on to Salem. While Route 107 itself is far less congested than the Lynnway, its potential value as a main access route between Lynn and Boston is constrained by congestion on Squire Road and at the rotary where they intersect.

Rail Access

Lynn, Salem, and Beverly have downtown commuter rail stations categorized as “urban gateways” in MAPC’s transit-oriented development typology. Lynn also has a secondary station at the General Electric River Works, while Beverly has four secondary stations serving outlying suburban areas. The stations and their MAPC typology designations are as follows:

Table 5: MBTA Station Characteristics, North Shore Cities

City	Station	MAPC Typology ⁴⁵	Riders	Parking
Lynn	Lynn Central Square	Urban Gateway	573	965 (garage)
	GE River Works	Commerce Park	140	none
Salem	Salem Station	Urban Gateway	2,010	715 (new garage)
Beverly	Beverly Depot	Urban Gateway	1,753	500 (new garage)
	North Beverly	Town & Village	190	87
	Montserrat	Commerce Park	297	117
	Prides Crossing	Undeveloped	24	None
	Beverly Farms	Town & Village	158	25

Salem Station and Beverly Depot are two of the three busiest stations in the entire commuter rail system.⁴⁶ As part of their legally obligated program of air quality improvements, MassDOT and the MBTA are developing garages at each of these stations, designed to increase park-and-ride capacity and relieve the downtowns of the “spillover” effect of insufficient commuter parking. The garages are also designed to free up strategic land for transit-oriented development (see “Development Districts”). The \$34 million Beverly Garage, at 500 spaces, began construction in November 2012; the Salem garage, at 715 spaces and an estimated \$37 million, is scheduled for construction in 2013. Both are expected to open in 2014. The Salem project also includes a new high platform station and significant passenger amenity improvements.⁴⁷

Peabody, by contrast, is not on the commuter line, and while Peabody Square and its adjoining neighborhoods are barely a mile and a half from Salem Station, the only current “feeder” service (MBTA Bus 465) has a 60-minute average headway. The lack of a more robust connection is an emerging

⁴⁵ *Growing Station Areas*, 2012 (p. 32). Ridership from MBTA Bluebook (p. 72); Parking from www.mbta.com.

⁴⁶ In 2009, Salem and Beverly, with 2,000 and 1,700 daily inbound boardings, were the busiest and third-busiest in the system. MBTA Bluebook, 2010 edition (p. 72)

⁴⁷ http://www.mbta.com/about_the_mbta/t_projects/default.asp?id=22490;
http://www.mbta.com/about_the_mbta/t_projects/default.asp?id=18255
http://www.boston.com/yourtown/news/beverly/2012/10/-hold-construction_on_beverly.html;
<http://www.salempartnership.org/salem-station-garage.htm>

economic development issue.⁴⁸ A shuttle/collector bus service along Main and Boston Streets, run by the MBTA, the two cities, a business consortium, or some combination of those actors, would extend the reach of the rail line and support private investment in that corridor.

Lynn's proximity to Boston on the Eastern Rail corridor is a historically critical but currently underutilized asset. Central Square has had a high-platform commuter rail station and multi-use 2000-car garage since 1992. However, average daily ridership is about one-third that of Salem or Beverly, and the garage attracts low occupancy.⁴⁹ Over the past decade, MassDOT has studied several alternatives for improving rail transit to Lynn, including an extension of the Blue Line alongside the commuter rail to a new Central Square terminus. This would provide Lynn-based commuters bound for Blue Line destinations with a one-seat ride, while rail passengers originating in Salem, Beverly, or other stations could transfer to the Blue Line. Lesser alternatives include creating a new commuter rail stop at Wonderland, with an intermodal transfer to the Blue Line and elimination of the River Works stop. While these alternatives have been analyzed in substantial depth, in the absence of any foreseeable funding source no preferred alternative has been selected. Lynn's long-term economic development prospects will surely be influenced by the eventual outcome, including a "no-build" if that turns out to be the case.⁵⁰

The commuter rail's long-term value depends on its own state of good repair, including the fleet and right of way. It also depends on the capacity and efficiency of the MBTA's core transit system. Except for those who live or work within walking distance of North Station, North Side commuter rail passengers depend on the Orange and Green Lines for connections. The *Hub and Spoke* report published in 2012 by the Urban Land Institute and Northeastern University identified congestion problems in core segments of both lines, including the need to replace the superannuated Orange Line fleet and to upgrade the Green Line's power, switching, and signal systems. The MBTA's fiscal crisis is currently impacting these and other core capacity needs.⁵¹

Water and Sewer

With the limited exceptions noted below, the four cities are non-MWRA communities. Nonetheless, according to all four city planning and development directors, there are no water or sewer capacity issues that impact economic development.

- Lynn provides its own water and sewer needs through the Lynn Water and Sewer Commission. The water system draws from intakes in the Saugus and Ipswich Rivers and includes a filtration plant which opened in 1989. With the exception of the GE complex, which buys water from MWRA, the municipal system serves the entire city. Lynn's wastewater treatment plant also serves Saugus, Swampscott, and Nahant, and has provided secondary treatment since 1990. Portions of Lynn's main collection system were built in 1885-1891, suggesting a future need for replacement and modernization.⁵²

⁴⁸ MAPC, Cities of Peabody and Salem, Peabody-Salem Corridor Concept Action Plan (2011); pp. 18-19. Also, interview with Karen Sawyer, Director, Peabody Department of Planning and Community Development; November 2, 2012 (hereafter Peabody DPCD Interview).

⁴⁹ MBTA Bluebook, 2010 edition (p. 72).

⁵⁰ http://www.mbta.com/about_the_mbta/t_projects/default.asp?id=1012#project. In the 2002 scoping of the Draft EIS, the Blue Line extension alternatives to be studied went all the way to Salem. The MBTA has subsequently limited the potential Blue Line extension to Lynn.

⁵¹ *Hub and Spoke* (pp. 12, 14).

⁵² <http://www.lynnwatersewer.org/>

- Salem, Beverly, and Peabody are members of the South Essex Sewerage District (SESD), which also serves Danvers and Marblehead. The SESD treatment plant in Salem has provided secondary treatment since 1999 and received an EPA Excellence Award in 2006.⁵³
- Salem and Beverly share a joint water supply system, which draws from the Ipswich River and three reservoirs in Beverly, Wenham, and Danvers; the filtration plant is located in Beverly.⁵⁴
- Peabody has its own municipal water supply, which draws from the Ipswich River and three reservoirs. Peabody also has a partial service contract with MWRA, which supplies Peabody's backup needs during peak demand periods.⁵⁵

Table 6: Water and Sewer Service, North Shore Cities

	Water	Sewer
Lynn	Municipal (except MWRA for GE only)	Municipal (also serves 3 neighboring towns)
Salem	Joint system with Beverly	South Essex Sewerage District
Beverly	Joint system with Salem	South Essex Sewerage District
Peabody	Municipal (MWRA backup)	South Essex Sewerage District

Development Districts

Each of the four cities has one or more key districts with specific economic development plans and agendas. These are described below, with particular attention to infrastructure investments that have been identified as integral to the realization of those plans.

Lynn: The Waterfront

In the last three decades, Lynn lost approximately 12,000 jobs, most of them through a prolonged decline in employment at the General Electric River Works complex. In this same period, the revitalization of the nearby downtown made halting progress, despite the opening of the Lynn Heritage State Park and the North Shore Community College Campus in the 1980s and the adaptive reuse of several mill buildings as multi-family housing. Meanwhile, the City's top development priority—the 305-acre industrial waterfront along the Lynnway—has languished, for reasons of market weakness, regional transportation access, and the cost of creating a contemporary, mixed-use district infrastructure template where none exists today.

The Waterfront Master Plan, illustrated in Figure 12, was completed in 2007 and calls for roughly 4.2 million square feet of residential development; 1.1 million square feet of commercial and retail; and 230,000 square feet of laboratory or R&D space; and a hotel. In addition, 45 acres along the shoreline constitute a Designated Port Area under the state's waterways regulations and are reserved for maritime uses.⁵⁶ In 2008, Governor Patrick designated the Lynn Waterfront a Growth District (now one of 20 statewide), giving it priority in state infrastructure, development, and regulatory programs.⁵⁷ The City

⁵³ <http://www.greenenvironmentnews.com/Environment/Grants+and+Awards/South+Essex+Sewerage+District+Wastewater+Facility+in+Massachusetts+Acknowledged+for+Excellence>

⁵⁴ http://saalem.com/Pages/SalemMA_Water/index

⁵⁵ <http://www.mass.gov/dep/water/drinking/3229000.pdf>

⁵⁶ City of Lynn (Sasaki Associates), *Lynn Waterfront Master Plan*, 2007; p. 2. http://ediclynn.org/files/LynnFinalReport_LowRes_9-07.pdf

⁵⁷ <http://www.mass.gov/hed/docs/permitting/gdi.lynn.pdf>

estimates that the buildout of the waterfront plan would generate \$18 million in annual property tax revenues. Over time, a series of major infrastructure will be required to realize the waterfront plan:⁵⁸

Figure 12: Lynn Waterfront Master Plan; Illustrative Site Plan



- One threshold project has been completed—the relocation of a 214 KV power line that had effectively blocked development along much of the site. This \$6 million first step was funded by a state Growth District grant.
- For the waterfront to work, the Lynnway must be redesigned to make it more pedestrian, bicycle, and TOD-friendly without unduly reducing its capacity (see the earlier Highway Access discussion). Pedestrian crossings will be especially important at the northern end, where the Community College and main train station must connect to the waterfront, and at the southern end, where the now threadbare River Works station could be upgraded to serve the waterfront. Lynnway concepts are still in the exploratory stage, with no meaningful cost estimate.
- On-site district infrastructure will represent a major, multi-phased investment for the public and private sectors. The Master Plan provided a rough order-of-magnitude estimate, in 2007 dollars based on similar projects, of some \$186 million in site work and remediation; streets and sidewalks; utilities; marine infrastructure; and parks.⁵⁹
- The landside component of an ocean ferry terminal has been completed, funded by a \$2.1 million Seaport Bond grants. Additional funding is needed for dredging and for acquisition of the ferry vessel; a commuter ferry to Boston is viewed as a complement to the commuter rail, much as the MBTA's Hingham Ferry has supported the redevelopment of Hingham Shipyard.

Salem

Downtown Salem

The city's historic downtown has seen a number of investments, both public and private, in the last 15 years, the most important and visible of which include:

- The National Park Service's Regional Visitor Center, in the renovated Drill Shed of the Salem Armory.

⁵⁸ Lynn OECD Interview.

⁵⁹ City of Lynn (Sasaki Associates), *Lynn Waterfront Master Plan*, 2007; p. 53.

- The state-funded South Harbor Garage at Congress and Derby Streets, serving both the Derby Street waterfront and the downtown core.
- The 266-unit Jefferson at Salem Station apartment development, consisting of several multi-story building immediately east of the commuter rail station. The Jefferson was built on the site of the old Parker Brothers game factory, which was demolished in 1994.
- The trial state court (the J. Michael Ruane Judicial Center), a major new construction project directly across Bridge street from the train station and at the head of Washington Street, the main street of downtown; the renovation of the family and probate court in the historic building next door is now being planned.
- A major expansion of the Peabody Essex Museum, a downtown anchor destination, completed in 2003; a second expansion was announced in 2011, to be completed in 2017.⁶⁰
- The redevelopment of the St. Joseph's Parish complex as 76 units of mixed-income housing and 4300 square feet of retail, supported by \$1.8 million in street and sidewalk improvements on Lafayette Street fronting the project. The state PWED-funded project is complete and the development is underway⁶¹

In the coming years, Salem's downtown plans include a number of additional infrastructure investments, designed to improve the public realm and support private investment consistent with the City's downtown zoning, design guidelines, and historic guidelines, starting with the new train station and 715-car garage described earlier in the section on rail access.⁶² This \$37 million project, scheduled to begin construction in 2013, will support downtown revitalization in two ways: by enhancing pedestrian connections to the station, especially from Bridge and Washington Streets; and by freeing up a city-owned parking lot for future joint development.⁶³ In addition:

- The City is improving the Essex Street mall, the pedestrian "main street" that runs east-west through the core. An initial set of improvements costing \$300-400,000 is underway, with design, funding, and construction of the future phases to follow.⁶⁴
- The South Commercial Waterfront is the planning area comprised of the South River Basin (a granite-walled waterway extending into the downtown) and the land parcels surrounding it. While the South Harbor Garage and a segment of Harborwalk have been built, the South River Basin remains a largely undeveloped barrier between downtown and the nearby activity areas at Pickering Wharf and Derby Street. The City's Harbor Plan calls for incremental improvements, including dredging, docks within the basin for small vessels; and additional Harborwalk segments; these public infrastructure improvements are essential to attract meaningful private investment around the basin, which is in turn the key to this quadrant of downtown.⁶⁵
- Finally, the revitalization of downtown is supported by the investment in the Entrance Corridors (see earlier discussion) and in the related development plans for Bridge Street Neck and the North River Canal Corridor (see below).

⁶⁰ http://pem.org/press/press_release/209-pem_announces_650_million_advancement_campaign

⁶¹ http://www.salem.com/pages/salemma_dpdc/studiesreports/finalpublic.pdf

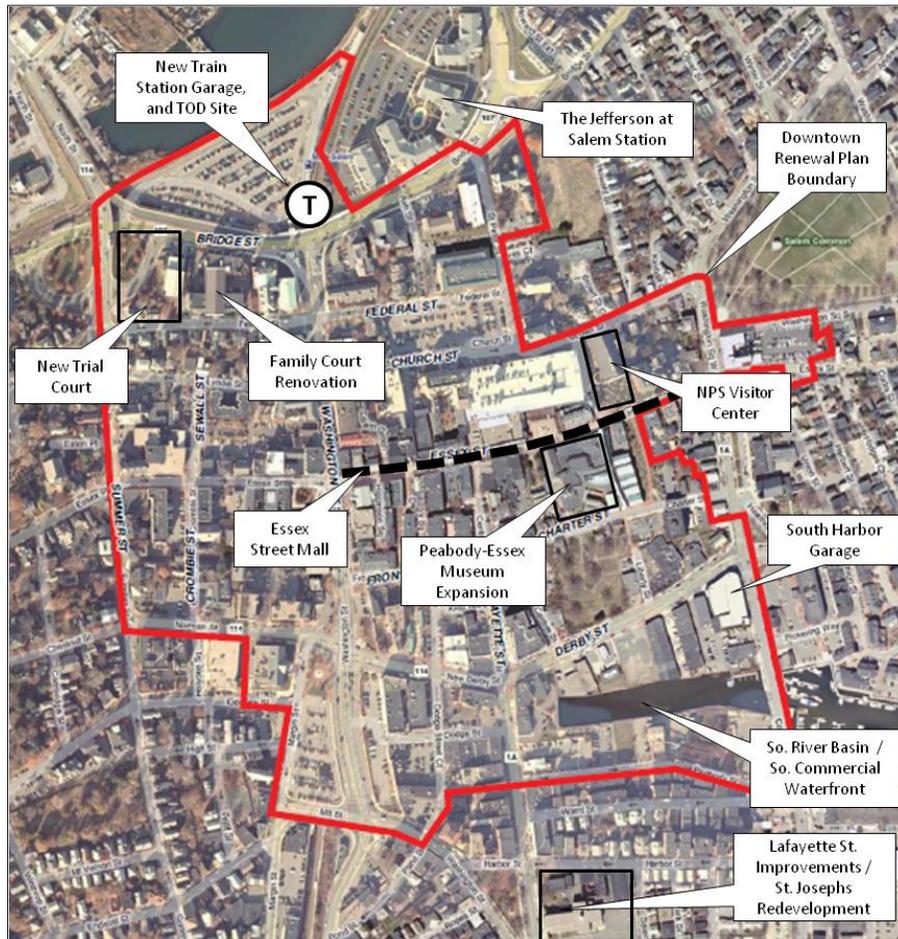
⁶² See City of Salem, *Downtown Renewal Plan*, November 2011.

⁶³ http://www.salem.com/pages/salemma_dpdc/studiesreports/062612intermodal.pdf

⁶⁴ http://salem.com/Pages/SalemMA_DPDC/studiesreports, *Conceptual Plan for Pedestrian Mall Improvements approved by SRA (2012)*.

⁶⁵ http://salem.com/Pages/SalemMA_DPDC/studiesreports, *Salem Harbor Plan*, January 2008; pp. 38 ff.

Figure 13: Downtown Salem Projects



Bridge Street Neck

With the Beverly-Salem Bridge and the Bridge Street Bypass completed in 1996, and the \$10 million Bridge Street reconstruction now concluding, the City seeks to revitalize the Bridge Street Neck neighborhood, where approximately 1,200 housing units (6% of the City’s total housing stock) and 175,000 square feet of commercial space are located, including several potential development sites.⁶⁶ In addition to the Bridge Street reconstruction and its associated amenities (see the earlier discussion), the 2009 Revitalization Plan calls for district-wide streetscape, sidewalk, bicycle, and open space improvements. One major element is funded—Causeway Park, to be built on the abutment of the old bridge; the remaining work awaits design and funding.⁶⁷

Figure 14: Bridge Street Neck Concept



⁶⁶ http://salem.com/Pages/SalemMA_DPDCD/studies; Bridge Street Neck Master Plan (2009), pp. 2-10.

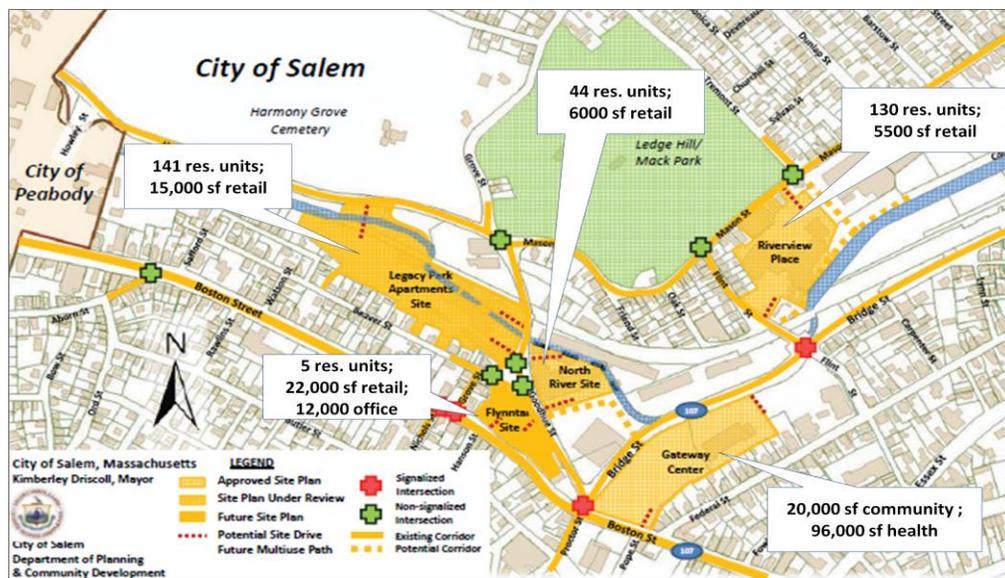
⁶⁷ Causeway Park is included in the Boston MPO TIP for \$1.4 million in fiscal 2013.

North River Canal Corridor

The North River Canal Corridor (NRCC) is an area just southwest of downtown Salem. Known in its industrial heyday as Blubber Hollow, the NRCC is today a fringe district characterized by abandoned industrial properties and substandard infrastructure. A 2003 Master Plan called for a new residential and commercial neighborhood; the City’s role would be to create district infrastructure and encourage private reinvestment in specific sites.

Some of the work envisioned in 2003 has been achieved, including the improvement of a linear park known as Leslie’s Retreat and some pedestrian and roadway improvements along the canal and rail spine. With most of the infrastructure work remaining to be done, five properties are moving toward redevelopment. Shown in Figure 15, they represent a total of 320 units of housing and nearly 200,000 square feet of retail, civic, and medical space.⁶⁸

Figure 15: North River Canal Development Projects



According to a 2012 study, the realization of these development projects will require a menu of transportation investments. The two most costly constitute the Salem end of the “Entrance Corridor” it shares with Peabody (see prior discussion):

- the “complete street” improvement of Boston Street from the Peabody line to its intersections with Bridge and Essex Streets, estimated at \$7.4-9.5 million;
- the widening and “complete street” treatment of the substandard segment of Bridge Street that runs alongside the canal and rail spine; this requires that the railroad tracks be shifted northward and is estimated to cost \$15 million.

In the near term, the network of streets within the NRCC district—Mason, Tremont, Aborn, Flint, Goodhue, Harmony Grove—requires traffic and sidewalk improvements costing \$2.7-3.7 million.⁶⁹

⁶⁸ At this time, three projects have approved site plans, one is nearing approval, and one is entering the process. City of Salem, *North River Canal Corridor Transportation Plan*, June 2012; http://www.salem.com/pages/salemma_dpdc/studiesreports/nrccfinalstudy.pdf.

⁶⁹ Ibid. These preliminary estimates do not include certain right of way costs and pedestrian amenities.

North Commercial Waterfront

In August 2012, it was announced that Salem Harbor Power Station will be repowered in a transaction that will both maintain its role as an electric generator and create a major redevelopment opportunity. Footprint Power LLC, which is buying the plant from Dominion Energy, plans to run the existing coal- and oil-powered plant for two years and then demolish and replace it with a state-of-the-art gas-fired plant 630 megawatt plant. The replacement will leave about two-thirds of the 63-acre site—a waterfront location just north of downtown—available for new development.⁷⁰

This opportunity is directly adjacent to a major maritime infrastructure project already undertaken by the City: an \$18 million wharf and support facility capable of accommodating Salem's Fast Ferry to Boston as well as small coastal cruise vessels. "Salem Wharf", the core of Salem's Port Expansion Plan, is now under construction. When coupled with the future redevelopment of the Power Station, the combined site could become a regionally significant waterfront destination, accommodating larger cruise ships and extending the Derby Street tourist waterfront past the House of the Seven Gables.

This development opportunity will be constrained not only by Footprint Power's eventual design for the new, downsized generating facility, but by the Designated Port Area limitations under Chapter 91, which apply to almost the entire Power Station site, and the tightness of the roadway corridors that bring Derby Street and Webb Street to the site. The infrastructure requirements will emerge over time, but it is clear that the public and private sectors will have to collaborate on the roadway, pedestrian, bicycle, transit, and maritime ingredients of a new development district.⁷¹

Beverly

Downtown Beverly

The revitalization of downtown Beverly is a joint effort of the City and its Main Streets organization, whose vision plan is known as *Downtown 2020*.⁷² The overall strategy depends on transforming Rantoul Street (which is Route 1A in the downtown) into a more complete and fully developed street, like the downtown's other main street, Cabot, which runs roughly parallel. The two threshold infrastructure investments are the \$16 million redesign and reconstruction of Rantoul Street itself and the \$34 million MBTA garage on Rantoul, a short walk from Beverly Depot train station. As noted earlier, both of these are funded, with the garage under construction now and the complete street project scheduled for 2014.

The garage is designed to create a substantial TOD opportunity. It is set back from Rantoul Street, with the frontage reserved for a mixed-use development with ground-floor retail and multi-family housing above. Moreover, the garage is engineered to accommodate future air rights development, including extra levels of parking.

With these investments and the continued effectiveness of the commuter rail service, the downtown will be better positioned to attract private investment along Rantoul Street, between Rantoul and Cabot, and on the underutilized riverfront west of the Depot. Among the strategies adopted by Main Streets and the City is the establishment of a residential Tax Increment Finance District along the Rantoul Street corridor; under Massachusetts' TIF law, this grants individual development projects a

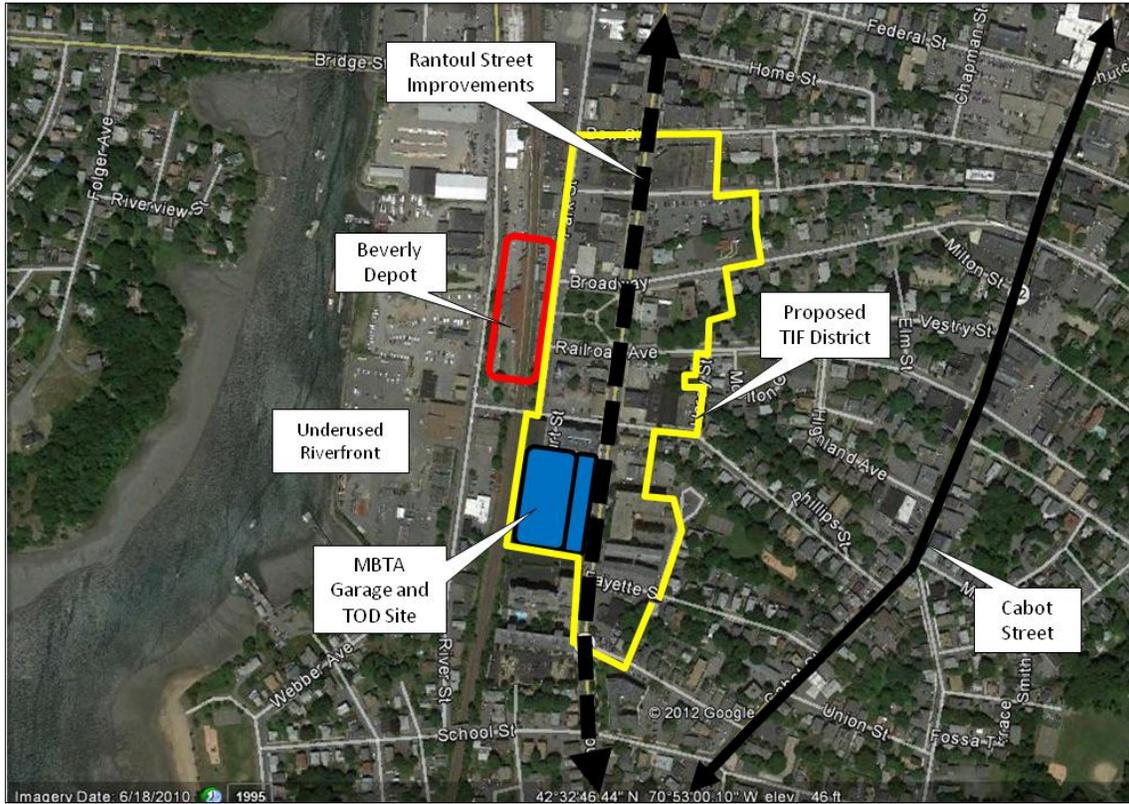
⁷⁰ <http://www.bostonglobe.com/business/2012/08/06/deal-sell-salem-power-plant-closes-new-gas-plant-and-development-planned/2QXaYxH8CEQ9pvciaNISuN/story.html>.

⁷¹ Salem DPCD Interview. Also: City of Salem, *A Site Assessment Study on Potential Land Use Options at the Salem Harbor Power Station Site*, January 2012.

⁷² <http://beverlymainstreets.org/home-2.html>

multi-year property tax reduction. Figure 16 shows the convergence of the Rantoul Street project, the garage/TOD project, and the proposed Multi-Family TIF.⁷³

Figure 16: Downtown Beverly Initiatives



Exit 19 Industrial Development

In the 1990s, Beverly undertook two large-scale industrial/commercial development projects. One was the rebirth of the iconic United Shoe Machine complex, on the Bass River near downtown, as Cummings Center; developed by Cummings Properties, this office and technology park is home to some 5,000 jobs. The other was the Cherry Hill Industrial Park, which adjoins the Beverly Municipal Airport in North Beverly near Route 128. The City received \$2.35 million in state grants to construct an industrial access road known as Sam Fonzo Drive, which opened up 100 acres (65 private, 35 City-owned) for development. The return on this infrastructure investment was dramatic—in 1995, before Sam Fonzo Drive, the combined property tax revenue from the 100 acres was \$6,010. Today, the same 100 acres generates \$690,000 annually, with two lots left to build.

With these successes behind it, the City is now undertaking a more ambitious industrial development initiative in North Beverly. This involves 200 acres on multiple sites surrounding Exit 19, where Brimbal Avenue crosses Route 128. The essential infrastructure investment is a two-phased reconfiguration of local roads. The state has granted Beverly \$500,000 for design of Phase 1; the estimated right of way and construction cost is \$5.75 million for Phase 1 and \$18-20 million for Phase 2, which includes an overpass connecting the parcels north and south of 128. The full program would result in: 12,000 jobs (7,500 more than would occur in the project area without the road

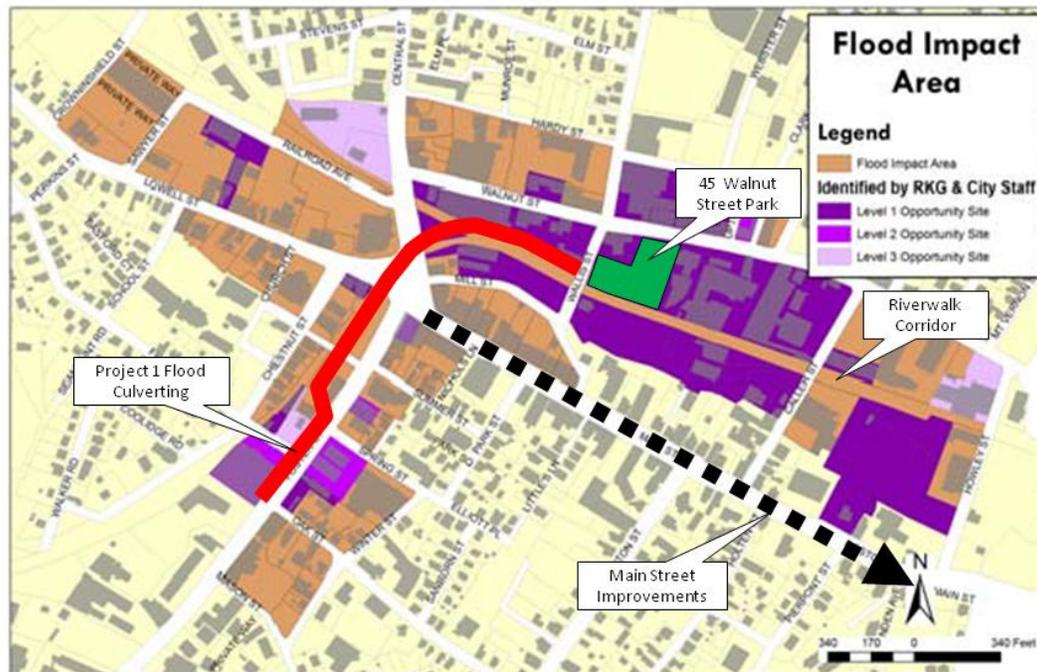
⁷³ Text and graphic based on discussion with Tina Cassidy, Director, Beverly Department of Planning and Development; November 1st, 2012, and City of Beverly, Proposed TIF District Map, May 10, 2012.

improvements); 3.8 million square feet (two million more than would occur); or about \$415 million in assessed valuation. Securing funding for these improvements is therefore a critical economic development priority for the City in the coming years.

Downtown Peabody

The continued revitalization of Downtown Peabody is based on several key infrastructure improvements, shown together in Figure 17:⁷⁴

Figure 17: Downtown Peabody Infrastructure Investments



- The \$2 million in “complete street” improvements described earlier and currently underway on the Main Street corridor from Peabody Square to the Salem Line.
- The creation of a park at a severely polluted 1.3-acre tannery site at 45 Walnut Street, a block east of the Square and a key stop on Peabody’s proposed Riverwalk. This remediation and construction project is under construction at a cost of \$1.4 million.
- The larger Riverwalk concept, extending along the channelized North River from the Square to the Salem Line, where it will connect to Salem’s North River Canal park and pedestrian network. Peabody and Salem are sharing a \$1 million EPA Brownfields Assessment grant, awarded through MAPC.⁷⁵
- Perhaps most important, a flood mitigation program addressing a key disincentive to private investment in the Square. Due to the industrial-age channelization of the North River and its tributary brooks, major rainstorms cause flooding events on Walnut and Foster Streets. Significant floods occurred in 1996, 1996, 2001, 2004, 2006, 2010, and 2011; if major storm

⁷⁴ Peabody DPCD Interview. Figure 15: underlying image from Flood Mitigation – Economic Benefits Analysis (see footnote below), other information added by author. “Level 1 Opportunities” are those most ripe for private development.

⁷⁵ http://cfpub.epa.gov/bf_factsheets/gfs/index.cfm?xpg_id=6552&display_type=HTML

events become more frequent with on-going climate change, the impact of flood risk on economic development in places like Peabody Square will worsen. The City’s flood mitigation program is centered in a first project that will install 2000 linear feet of twin culverts under Foster Street and the Square, at a cost of \$26 million.⁷⁶ An Economic Benefits Analysis commissioned by the City in 2011 showed significant potential gains in business losses avoided, City costs avoided, property value enhancement, and a better climate for private reinvestment and infill.⁷⁷

Summary of Development Agenda and Infrastructure Needs

The development agenda for the four North Shore cities of our case study is summarized in the following table, which illustrates what is at stake in the infrastructure decisions that lie ahead.

Table 7: Development Agenda, North Shore Cities

Lynn	Waterfront: 305 acres next to downtown and 2 rail stations. 2007 Master Plan: 4 million sf residential, 1.3 million sf retail and lab/R&D; maritime shoreline.
Salem	<ul style="list-style-type: none"> • Downtown revitalization and TOD • No. River Canal (300 residences, 140,000 sf commercial) • Salem Harbor Power Station site redevelopment • Bridge Street and Canal Street corridor revitalization.
Beverly	<ul style="list-style-type: none"> • Downtown revitalization and TOD • Route 128/Brimbal Avenue industrial development (7,500 jobs, 2 million sf, \$415 million valuation) .
Peabody	<ul style="list-style-type: none"> • Downtown revitalization • maximize occupancy of Centennial Industrial Park

The infrastructure investments associated with this agenda of current or future development are summarized in the table on the following page:

⁷⁶ Contributors include FEMA (\$3 million), Verizon (\$6 million), and a City bond issue.

⁷⁷ City of Peabody (RKG Associates), Flood Mitigation – Economic Benefits Analysis, November 2011.

Table 8: Potential Infrastructure Investments, North Shore Cities

Proposed Investment	District(s) Affected	Estimated Cost (MM)	Status
Bridge Street Reconstruction (Salem)	Bridge Street Neck; access to downtown	\$10	Approaching completion
Boston Street Improvements (Salem)	No. River Canal; access to downtown	\$7-9	Future; sources and timing TBD
Canal Street Improvements (Salem)	Access to downtown	\$6	In TIP for construction in 2014
Rantoul Street (Route 1A) Improvements (Beverly)	Downtown Beverly	\$16	In TIP for construction in 2014
Main Street Corridor Improvements (Peabody)	Downtown Peabody; access to Salem	\$2	Under construction
Beverly MBTA Garage and TOD Site	Downtown Beverly	\$34	Under construction
Salem MBTA Station, Garage, and TOD Site	Downtown Salem	\$37	Scheduled for construction on 2013
Lynnway (Route 1A) Redesign	Lynn waterfront; access to downtown	TBD	Future; sources and timing TBD
Lynn Waterfront Power Line relocation	Lynn Waterfront	\$6	Completed 2011
Lynn Waterfront on-site district infrastructure	Lynn Waterfront	\$190	Future; sources and timing TBD
Lynn Ocean Ferry Terminal	Lynn Waterfront	\$5	Landside complete; dredging and vessel seeking funding
Lafayette St. Improvements (for St. Josephs Redevelopment)	Downtown Salem	\$2	Complete 2012
South River Basin Improvements	Downtown Salem	TBD	Dredging Remainder: future; sources and timing TBD
Essex Street Mall Improvements	Downtown Salem	TBD	Incremental; initial phases (~\$400,000) under construction
Causeway Park	Bridge Street Neck	\$1.4	In TIP for construction in 2013
Bridge St. Neck Improvements	Bridge Street Neck	TBD	Future; sources and timing TBD
Boston Street Improvements	North River Canal	\$7-9	Future; sources and timing TBD
Bridge Street Improvements	North River Canal	TBD	Future; sources and timing TBD
No. River Canal Improvements	North River Canal	\$4	Seeking funding
Salem Wharf (Ferry and Small Cruise Facility)	North Commercial Waterfront	\$18	Under construction
Salem Harbor Power Station redevelopment infrastructure	North Commercial Waterfront	TBD	Future; sources and timing TBD
Brimbal Ave. Area Roadways	Exit 19 Industrial Development	Ph. 1: \$6 Ph. 2: ~\$20	Phase 1 in design, seeking funding. Phase 2: future; sources and timing TBD
45 Walnut Remediation & Park	Downtown Peabody	\$1.4	Under construction
Peabody Square Flood Mitigation	Downtown Peabody	Project 1: \$26	Project 1 in design and funded; future phases: sources and timing TBD

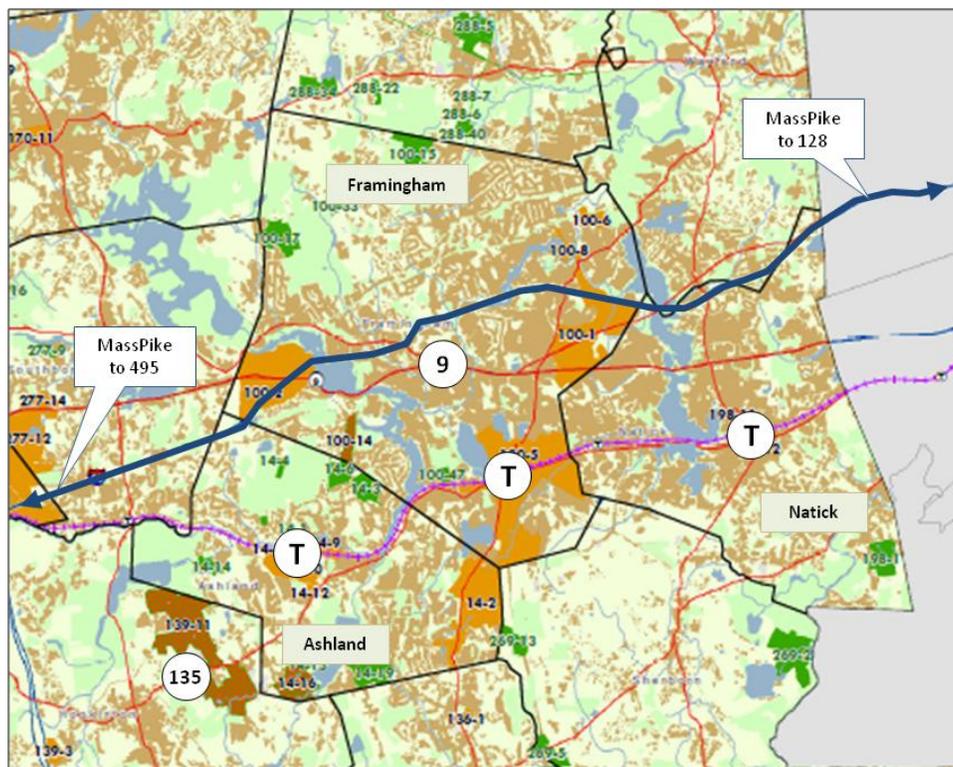
THE METROWEST CORE TOWNS

Overview

Composition of the Case Study Area

The MetroWest towns of Framingham, Natick, and Ashland have been chosen to represent Metro Boston’s growing suburban areas, particularly the belt between Routes 128 and 495. The three towns form a cluster, with Framingham in the middle; Natick Center is about 3.5 miles east of Downtown Framingham, and Ashland Center is about three miles west. Figure 18 shows the geographic relationship among the towns, including major highways and the three downtown train stations.

Figure 18: The MetroWest Core Towns



Location and Function in the Metropolitan Region

Framingham, the most populous Town in Massachusetts at 68,000, is one of 21 Greater Boston municipalities identified by MAPC in *Metro Future* as Regional Urban Centers. “This group includes urban centers outside the Inner Core. These communities are characterized by an urban-scale downtown core with multiple blocks of multi-story, mixed use buildings; moderately dense residential neighborhoods surrounding this core; and (in some cases) lower density single-family residential development beyond....Rental housing and multifamily structures comprise a significant component of the housing stock.”⁷⁸

⁷⁸ *Metro Future* (p. 9).

The neighboring Towns of Natick (33,000) and Ashland (17,000) are characterized in *Metro Future as Maturing Suburbs*—“moderate-density residential communities with a dwindling supply of vacant developable land. Less than 25% of their land area is still developable. Less than 20% of their land area is devoted to commercial and industrial uses, although some of these towns comprise significant job centers. More than half of their housing units are owner-occupied single family homes.”⁷⁹

MetroWest’s two defining highway corridors—Interstate 90 (the Massachusetts Turnpike) and Route 9 (historically the Worcester Turnpike)—pass through Framingham and Natick north of their downtowns. These corridors link the subregion to Routes 128/I-95 and I-495, to Boston and Worcester, and to the northeast as a whole. As shown in Figure 1, three town centers are connected by another important transportation corridor formed by Route 135 and the MBTA/Amtrak Framingham-Worcester Line.

While MAPC’s MetroWest Regional Collaborative officially includes nine communities, and MetroWest unofficially may be thought of as even larger (see the next paragraph), Framingham and Natick are generally understood as the core of this subregion, with substantial downtowns, an industrial history that precedes twentieth-century suburbanization, and a concentration of suburban retail development at the confluence of the Turnpike and Route 9 that is of New England-level significance. Ashland, in addition to its close physical connection with Framingham, is of interest because it combines a more rural character with a pursuit of contemporary economic development.

Development Goals

In 2012, the Commonwealth, MAPC, and several partner organizations issued the 495/MetroWest Development Compact Plan, a smart growth framework covering the entire western arc of the 128/495 belt.⁸⁰ At the heart of this framework was the identification of Priority Development Areas (“PDA’s”) reflecting local priorities as well as regional themes like adequacy of infrastructure and proximity to transit. Figure 19 highlights the Regional PDA’s identified in the three towns; in simple terms, the shared priority of the towns and the Commonwealth is to help development happen in these places.⁸¹ They include:

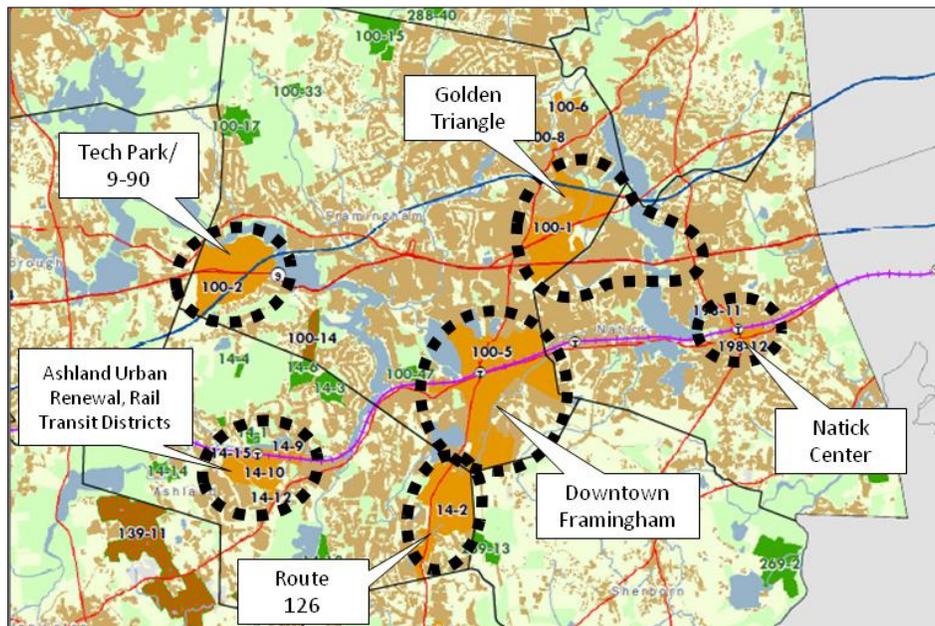
- Downtown Framingham and Natick Center, MetroWest’s principal mixed-use downtown districts;
- the grouping, at the center of Ashland, of a proposed urban renewal district, the commuter rail station, and the 209-acre Rail Transit District;
- the regional employment center at Exit 13 (the interchange of Route 9 and the Turnpike) in Framingham, consisting of Framingham Tech Park and 9/90 Crossing;
- the Golden Triangle district along Route 9 at the Framingham-Natick line near Exit 12 of the Turnpike; historically defined by Shopper’s World, Natick Mall, and other auto-oriented retail, the Triangle may now be evolving in a more mixed-use direction;
- the Route 126 corridor in Ashland, extending southward from Downtown Framingham.

⁷⁹ Ibid., p. 9.

⁸⁰ Commonwealth of Massachusetts, Executive Office of Housing and Economic Development, MAPC, et al., *The 495/MetroWest Development Compact Plan*, March 2012. The study covers 37 cities and towns on an arc from Westford to Foxboro and extending out to Worcester. (Hereafter *MetroWest Development Compact*.)

⁸¹ Ibid, Appendix H.

Figure 19: Regional Priority Development Areas



Regionally Significant Infrastructure Issues

Highway Access

The capacity of Route 9 and its ability to sustainably accommodate further development is a core economic infrastructure issue for Framingham and Natick, and in a less direct “ripple effect” for Ashland and other MetroWest towns as well. In 2011, MAPC issued a *Route 9 Corridor Analysis* covering the four Route 9 towns between Routes 128 and 495: Framingham, Natick, Wellesley, and Southborough, followed in 2012 by a *Route 9 Smart Growth Plan*. For each town and for the four-town corridor as a whole, these analyses compare the existing level of development with two future scenarios—one reflecting current zoning and assuming its eventual full buildout (the “Build-Out” scenario), the other reflecting a somewhat less dense and more mixed-use, walkable, and transit-supportive concept (the “Community Test” scenario).

Both scenarios add a regionally significant quantum of development; under either, Route 9 would be pushed well beyond its current capacity. However, the Community Test scenario would add much less traffic relative to its economic footprint. For the four-town corridor as a whole, the full Build-Out scenario would increase commercial square footage by 88% and daily single-occupant car trips by 40%, while the Community test scenario would increase commercial square footage by 61% (offset by more residential development) while increasing daily single-occupant car trips by only 20%.⁸²

For Framingham and Natick the comparison is as follows:⁸³

⁸² MAPC Presentation of December 4, 2012; http://mapc.org/sites/default/files/Route_9_MW_SG_Plan_120412.pdf

⁸³ MAPC and MetroWest Regional Collaborative, *Route 9 Corridor Analysis*, Spring 2011. The summary comparison is on pp. 3-4; the table is drawn from data on pp. 3-13.

Table 9: Potential Development and Traffic Futures, Framingham and Natick

Town	Scenario		
	Existing	Build-Out	Community Test
Framingham			
Commercial Development	8.5 million sf	15.0 million sf	12.6 million sf
Residential Units	0	0	1,209
Daily SOV Trips	113,906	171,465	126,082
Natick			
Commercial Development	5.9 million sf	7.9 million sf	7.3 million sf
Residential Units	183	787	950
Daily SOV Trips	150,785	159,843	154,206

These scenarios should be understood as composites, illustrating the tradeoffs between two different approaches to accommodating future growth. There is some debate among stakeholders as to whether the Community Test approach, particularly its reliance on walkability and transit, is achievable in this setting.⁸⁴ However, even the “soft” transportation measures associated with the Community Test scenario—sidewalk coverage, pedestrian over- or underpasses at key locations, signalization, guard rail relocations, structured parking in place of surface lots, bicycle paths, bus stops, expanded shuttle and collector services—amount to a significant investment in district infrastructure; the MAPC report envisions a mix of public funding, District Improvement Financing (DIF), a Business Improvement District, and developer contributions.⁸⁵

In addition, structural or “hard” solutions may be required at key locations as well, regardless of which scenario unfolds over time. In particular:

- Framingham’s Tech Park/9-90 Crossing employment center (which straddles Route 9) may require a direct ramp from the Turnpike into the complex, bypassing Route 9 entirely.⁸⁶
- In Natick, current growth in the Golden Triangle and the nearby intersection of Routes 9 and 27 (North Main Street) has led to an \$18.5 million intersection improvement project being designed by the Town and now in search of construction funding.⁸⁷

Planning for sustainable growth on Route 9 is still in its formative stages. It is clear, however, that a substantial and costly mix of roadway, transit, pedestrian, and bicycle infrastructure will be needed to support it.

Rail and Transit Access

Framingham, Natick, and Ashland have downtown commuter rail stations. In MAPC’s transit-oriented development station typology, Framingham is characterized as an “urban gateway” station; Natick Center as a “town and village” center station; and Ashland as a “suburban transformation” station. Natick has a second station at West Natick, also characterized as “town and village”. The stations and their MAPC typology designations are as follows:

⁸⁴ See Boston Globe, “Another World: Planners Envision a Radically Altered Future for Route 9...”; December 2, 2012, p. W1.

⁸⁵ MAPC and MetroWest Regional Collaborative, *Route 9 Corridor Analysis*, Spring 2011; pp. 27-28.

⁸⁶ Interview with Alison C. Steinfeld, Director, Framingham Department of Community and Economic Development; October 4, 2012.

⁸⁷ http://www.mhd.state.ma.us/ProjectInfo/Main.asp?ACTION=GISReportByCity&SELECTED_CITY_ID=198, and interview with Patrick Reffett, Director, Natick Department of Planning and Community Development, November 15, 2012 (hereafter Natick DPCD Interview).

Table 10: MBTA Station Characteristics, MetroWest Core Towns

Town	Station	MAPC Typology ⁸⁸	Riders ⁸⁹	Parking
Framingham	Framingham	Urban Gateway	1150	166
Natick	Natick Center	Town and Village	700	71
	West Natick	Town and Village	1016	178
Ashland	Ashland	Suburban Transformation	557	678

In 2009, the Framingham-Worcester Line averaged 8,500 daily inbound boardings, making it one of the top three lines in the commuter rail system. Framingham and West Natick, with over 1,000 daily inbound boardings each, were the busiest stations on the line and in the top quartile of all stations in the system.⁹⁰ As part of the MBTA’s project to extend service to Worcester, Framingham’s new, modern station replaced the historic Boston & Albany terminal in 1996, and Ashland Station, with region-scale park-and-ride capacity, was added to the line in 2002.

The Framingham-Worcester Line was long plagued by unreliability due to dispatch conflicts with CSX freight operations. The MBTA’s purchase of the trackage rights from CSX was undertaken to remediate this situation. In 2012, the MBTA began adding service on the line, resulting in 21 daily round trips at this time. These service enhancements will increase ridership on the line. The MBTA is planning to further improve travel times on the line, including the possibility of adding a second main track through Beacon Park Yard.⁹¹ Another chronic delay issue is being addressed by the MBTA through a \$1 million project to correct drainage and stormwater flooding problems at Natick Center Station, which is below-grade and floods in major rainstorms, causing delays up and down the line.⁹²

This significant enhancement of rail service on the Framingham-Worcester Line has created the opportunity for transformative development in the center of Ashland, and for continued revitalization of Downtown Framingham and Natick Center. The MetroWest Regional Transit Authority, formed in 2006, serves the Natick, West Natick, and Framingham Stations, connecting them to major employment and commercial destinations, including 9-90, Tech Park, and the Golden Triangle. With adequate funding, this new RTA could be the beginning of a robust subregional transit network, centered on the train stations and town centers, which the MBTA could not provide here on the outer edge of the district.

The commuter rail’s value ultimately depends on its own state of good repair, including the fleet and right of way. It also depends on the capacity and efficiency of the MBTA’s core transit system. Except for those who live or work within walking distance of Back Bay or South Station, commuter rail passengers depend on the Orange and Red Lines for connections. The *Hub and Spoke* report published in 2012 by the Urban Land Institute and Northeastern University identified congestion problems in core segments of both lines, including the need to replace the superannuated Orange and Red Line fleets. The MBTA’s fiscal crisis is currently impacting these and other core capacity needs.⁹³

In the long term, the Framingham-Worcester Line, as part of the South Side system, will require the expansion of South Station’s track and concourse capacity, a project with a cost in the hundreds of millions of dollars which MassDOT and the MBTA are just beginning to plan.

⁸⁸ *Growing Station Areas*, 2012 (p. 32).

⁸⁹ February 2009 average weekday inbound boardings; MBTA Bluebook, 2010 edition (p. 72); parking from www.mbta.com.

⁹⁰ *Ibid.*

⁹¹ Boston Globe, "T plans to boost commuter rail trips between Boston, Worcester this fall"; July 31, 2012.

⁹² <http://www.metrowestdailynews.com/news/x1843771791/T-seeks-to-improve-drainage-at-Natick-station>

⁹³ *Hub and Spoke* (pp. 12, 14).

Figure 20: MWRTA Route System



Water and Sewer

All three Towns in this case study are MWRA sewer communities. Framingham is also an MWRA water community, while Natick and Ashland have their own municipal water systems and are not currently MWRA water customers. Framingham and Ashland have local wastewater system issues of relevance to this report.

Table 11: Water and Sewer Service, MetroWest Core Towns

	Water	Sewer
Framingham	MWRA	MWRA
Natick	Municipal system	MWRA
Ashland	Municipal system	MWRA, via Framingham

Framingham’s issue involves both the age of the system and its design. As of 2007, the system included 226 miles of gravity mains, 18 miles of force mains, and 50 pump stations. The pump stations and force mains led to the accumulation of sulfides in the discharge to the MWRA and to sewage backups in town—more than 50 between 2004 and 2007 alone. In 2007, Framingham entered into a Settlement Agreement with the MWRA and an Administrative Consent Order with the Department of Environmental Protection. Pursuant to these enforceable agreements, the Town undertook a Comprehensive Wastewater Management Plan, aimed among other things at reducing the number of pump stations. The Plan, now in its concluding stages, has a total cost of approximately \$120 million; its largest component, the East Framingham Sewer Improvement Program, cost \$40 million. This major undertaking, without which further growth would have been limited, was financed with assistance from the state’s Clean Water Revolving Fund.⁹⁴

⁹⁴ Framingham Department of Public Works, Spring 2009 Town Meeting Presentation; May 2009; www.framinghamma.gov/DocumentView.aspx?DID=2477. The Comprehensive Wastewater Management Plan is part of the overall Capital Improvement Program, Build Framingham: <http://buildingframingham.org/Default.aspx>.

Ashland's wastewater collection system discharges to MWRA indirectly via Framingham, with which it has had a succession of Intermunicipal Agreements since 1963. Currently Ashland pays Framingham \$800,000 annually. This arrangement, which caps the volume of flow into the Framingham system, limits Ashland's capacity to extend its sewer system or to add hookups in areas already sewered.⁹⁵ In the near term, this constraint requires on-going efforts to remove Infiltration and Inflow (a necessary investment in any case, supported in part by). In the longer term, designing and building a direct connection to the MWRA's Framingham Extension Sewer—physically crossing through Framingham territory while bypassing its municipal system—would be a major undertaking for Ashland.

Ashland is affected by a water supply constraint as well. Its municipal system form five wells and stores water in a reservoir in neighboring Hopkinton, which purchases water from Ashland. The system has suffered regular summer shortages, as a result of which Ashland is evaluating whether it should join the MWRA water system. The estimated cost of a connection to the MWRA system, including design, construction, and the MWRA entrance fee, is \$7.5 million.⁹⁶

Development Districts

The key development districts in the three towns were defined for this report as shown earlier in Figure 17. They are described below, with particular attention to infrastructure investments that have been identified as integral to the realization of those plans.

The Golden Triangle

The Golden Triangle is the regionally significant commercial district straddling the Framingham-Natick town line and nominally bounded by Route 9, Route 30 (Cochituate Road) and Speen Street. Along Route 9, the Triangle area effectively extends beyond Speen Street to the intersection of Main Street (Route 27). The Triangle developed as a retail concentration anchored by Shoppers' World and Natick Mall and fueled by the nexus of Route 9 and the Turnpike at Exit 13. The Triangle also includes knowledge-based industry, particularly at the old Carling Brewery site at Speen Street and Route 9, where Boston Scientific has maintained a facility with 800 employees since 1995. In 2012 Boston Scientific announced that it will consolidate its Natick operations into its Marlborough headquarters; MathWorks, headquartered nearby on Route 9, announced its own intent to acquire the Boston Scientific property and expand into it.⁹⁷ In recent years, the Triangle area has begun to attract large-scale multi-family housing development as well, including some 800 units in three projects in Natick.⁹⁸

Both the near-term accommodation of new development and the long-term sustainability of the Golden Triangle will require transportation infrastructure investments. As discussed in the earlier section on highway access, this may be a combination of selected intersection improvements (such as the planned changes at Routes 9 and 27) and the evolution of the street grid, pedestrian environment, and local transit service to support a more mixed-use development pattern, as envisioned in the MAPC study of the Route 9 corridor. Figure 21 shows the kinds of infrastructure improvements that might occur north and south of Route 9.⁹⁹

⁹⁵ Interview with David Manugian, Town of Ashland, Town Planner, October 2, 2012 (hereafter Ashland PD Interview). See also <http://www.metrowestdailynews.com/news/x949390826>.

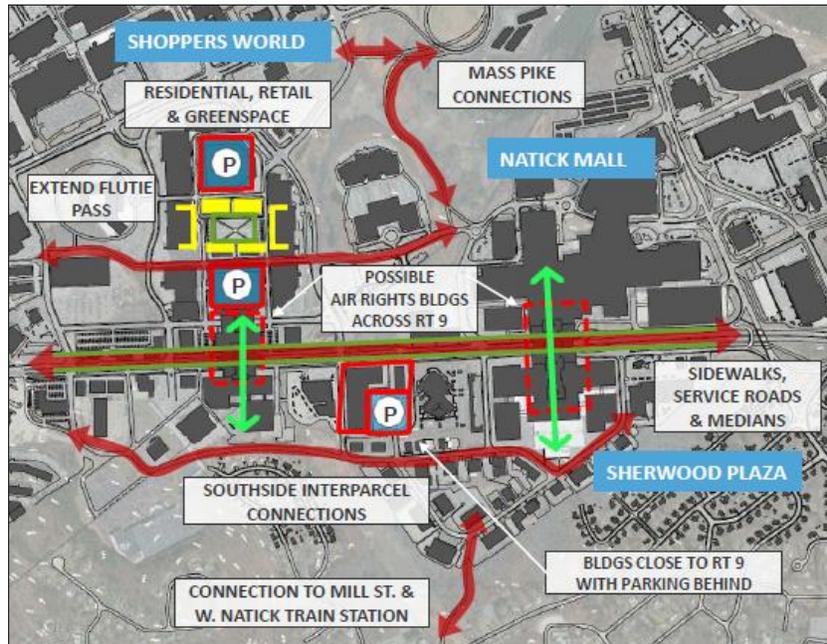
⁹⁶ <http://www.metrowestdailynews.com/news/x1076645283/Ashland-considers-hookup-with-MWRA-for-water-needs>

⁹⁷ http://www.boston.com/yourtown/news/natick/2012/11/natick_town_officials_sad_to_s.html

⁹⁸ Natick DPCD Interview

⁹⁹ MAPC and MetroWest Regional Collaborative, *Route 9 Smart Growth Analysis*, November 2012.

Figure 21: The Golden Triangle

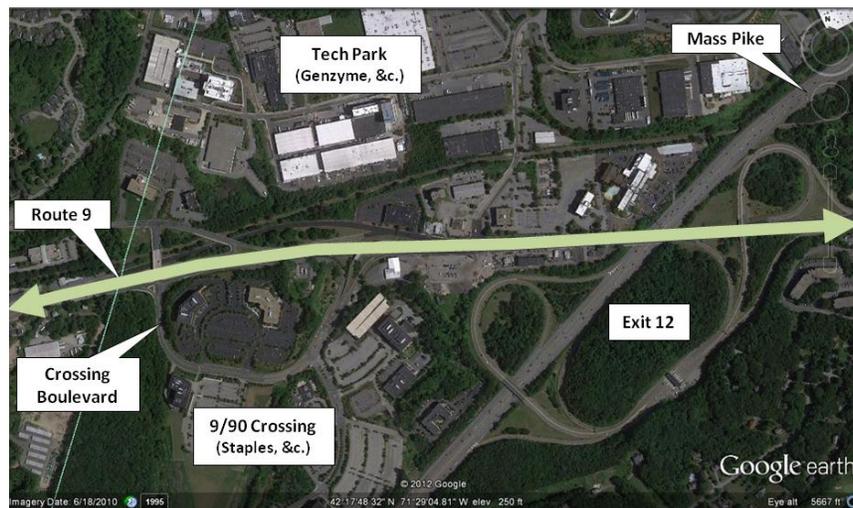


The Route 9 / MassPike Interchange

Route 9 and the Turnpike intersect directly at Exit 12, on the western edge of Framingham near the Southborough town line. Two large, technology-oriented industrial parks—one on either side of Route 9—constitute a priority development and employment district for all of MetroWest. Framingham Tech Park, on the north side, is anchored by Genzyme; 9/90 Crossing, on the south side, is anchored by Staples. Both parks are privately owned and managed but dependent for full build-out on strategic public investments.

One involves enhanced highway access. As noted earlier, a direct ramp from the Turnpike may be needed to bring traffic in and out of the parks efficiently without unnecessary use of Route 9. Figure 22 illustrates this challenge.

Figure 22: Exit 12 Access Configuration



The second infrastructure need is for adequate water, sewer, and drainage service at the “retail” level. Framingham is the community furthest west of Boston that has MWRA sewer and water and town-wide service. However, the problem of insufficient or deteriorating connections is illustrated by the successful expansion of Genzyme, whose multi-building campus includes two new LEED Gold structures, the Science Center and the Biologics Support Center. These showcase buildings, as well as Genzyme’s expansion program as a whole, were jeopardized by sewer and water problems. The Genzyme program, which proposes to add 750,000 feet of space over the next decade, was able to advance only because the Commonwealth, through its Life Sciences Initiative, contributed \$12.9 million in funding to upgrade the sewer and water connections throughout the Tech Park.¹⁰⁰ This success story demonstrates the importance of place-specific “district infrastructure”, the cost of building it, and the need for general or, in this case, specialized funding sources to realize it.

Downtown Framingham

Framingham’s town center is a full-fledged subregional downtown, defined by the intersection of Concord Street (Route 126), Union Street, Irving Street, Waverly Street (Route 135), and the railroad. The Town and its consulting team completed a comprehensive downtown study in 2009. It estimated that 2.9 million square feet of residential, commercial, and civic development could occur in the downtown, through redevelopment of vacant or “soft” parcels (among them the large triangular CSX railyard) and higher utilization of existing building space; over time, this would more than double the amount of utilized space in the downtown. The overall concept is shown in Figure 21.¹⁰¹

Downtown has been rezoned to facilitate housing, mixed-use development, and transit-oriented development. A Main Streets organization, Framingham Downtown Renaissance, Inc., works closely with the Town. In 2012, the Commonwealth announced that Massachusetts Bay Community College would build a new downtown campus, either through new construction or adaptive reuse, at a site to be determined—an investment of over \$60 million.¹⁰²

The key infrastructure hurdle to downtown development is the at-grade rail alignment, which creates several grade crossings, involving not only passenger trains but freight service on the several former CSX tracks that converge near the station. The most important grade crossing is at the central intersection of Routes 126 and 135, where the gates are down two and one-half hours on a typical weekday and the blockages of Route 126 associated with the railroad and with the Route 135 compound one another. In the long term, the 2009 study recommends that the intersection be improved by grade-separating Route 135 under Route 126; along with the proposed community college campus, this would be the seminal public investment in downtown Framingham in the coming decade.

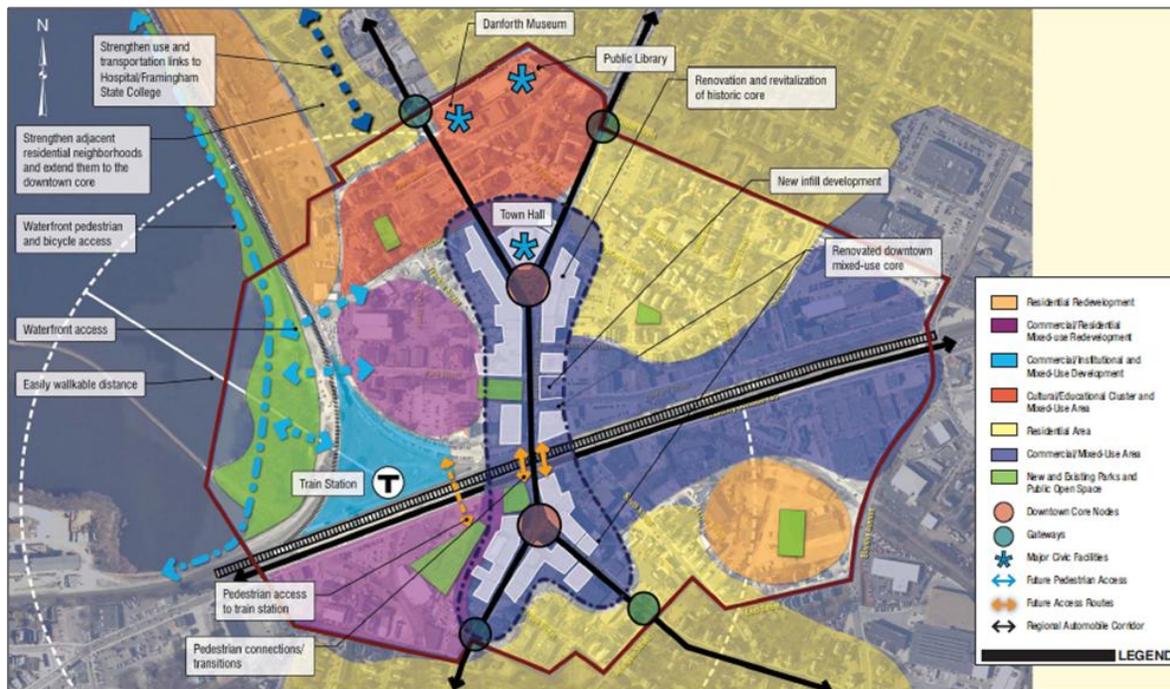
In the interim, a significant short-term project is currently underway—a federally-funded \$8.4 million set of traffic and streetscape improvements, with accompanying water and sewer upgrades in the affected streets.

¹⁰⁰ <http://www.businesswire.com/news/home/20120419005115/en/Genzyme%E2%80%99s-Biologics-Support-Center-Achieves-LEED-Gold>; <http://www.wbjournal.com/apps/pbcs.dll/article?AID=/20081124/PRINTEDITION/31124>; http://www.boston.com/news/local/articles/2010/07/11/a_plan_to_double_genzymes_campus_in_framingham_would_bring_new_jobs_businesses_to_area/

¹⁰¹ Town of Framingham (BETA Group, Inc., and Cecil Group, Inc.), *Final Report: Downtown Study*, 2009; p. 88 ff.

¹⁰² <http://www.metrowestdailynews.com/news/x21084657/MassBay-plans-new-Framingham-campus>

Figure 23: Downtown Framingham Study, Preferred Land Use Concept



Natick Center

Along with sustainable growth in the Golden Triangle / Route 9 Corridor, the Town of Natick's development priority is the continued revitalization of Natick Center. A non-profit Main Streets corporation, Natick Center Associates, Inc., works in partnership with the Town and recently secured a Cultural District designation from the Massachusetts Cultural Council, one of ten such initial designations statewide.¹⁰³

The Town and Natick Center Associates have identified off-street parking as a pivotal downtown infrastructure issue, limiting the ability of property owners to achieve a higher building utilization rate. A need of at least 250 spaces has been estimated, and two potential garage sites have been identified.¹⁰⁴ At \$25,000-\$30,000 per space in an architecturally sensitive town center environment, a garage of 250-300 spaces would cost between \$6.25 and \$9.0 million.

Ashland Urban Renewal and Rail Transit Districts

The center of Ashland is organized around the convergence of Union Street (Route 135), Main Street, Pleasant Street, Summer Street, and the railroad. Ashland Station, which as noted earlier was opened in 2002 and includes a large park-and-ride lot, is located at the western edge of the town center area, nearly a mile from Main Street. The Town's development agenda is focused on two designated districts:

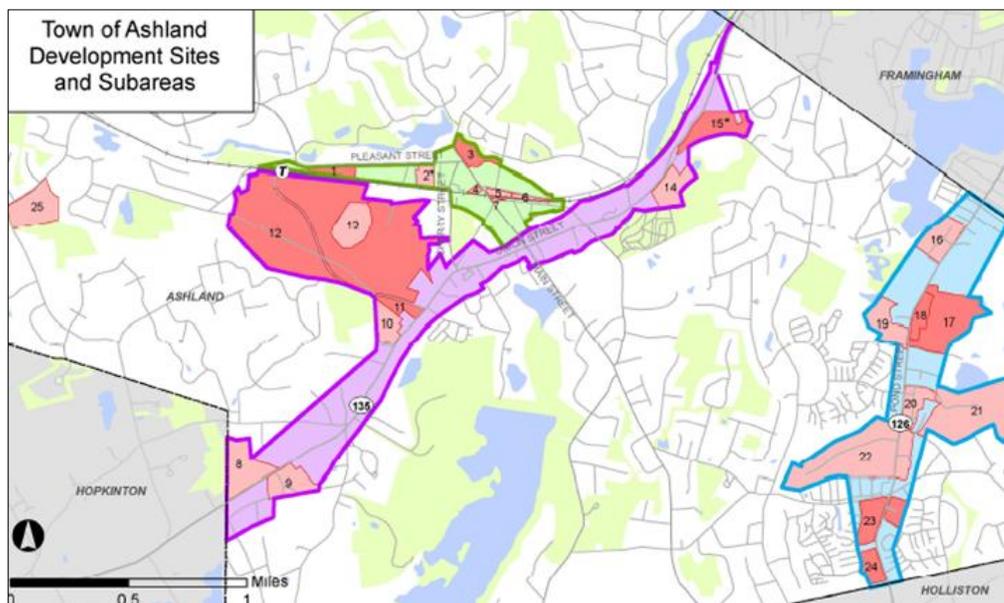
- The Downtown Urban Renewal District (outlined in green in Figure 24) extends along the rail corridor from the core of the town center to the train station and includes several priority redevelopment sites. The Town's 2010 Economic Development Study analyzed the highest-priority

¹⁰³ <http://natickcenter.org/>.

¹⁰⁴ Natick DPCD Interview.

sites (the triangular parcel near the station labeled “1” and a complex of mill buildings at Main and Pleasant labeled “3”) and suggested that both could accommodate either mixed-use redevelopment or commercial/light industrial flex space. The Draft Urban Renewal Plan adopted by the Ashland Redevelopment Authority in 2012 also focused on the commercial strip along Front Street (parcels 4-7) and a key parcel on Pleasant (labeled “2”). Over time, the MBTA park-and-ride lot could be redeveloped as TOD, with the parking consolidated in a garage. In the future, an additional area that might be added to the district is Megunko Road, which runs along the south side of the rail alignment and is lined with automotive and landscaping businesses, many on contaminated sites.¹⁰⁵

Figure 24: Ashland's Development Districts¹⁰⁶



The infrastructure needs identified in the Draft Urban Renewal Plan include about \$3 million in street, sidewalk, traffic, and grade crossing improvements; this estimate does not include environmental remediation or urban renewal costs related to site acquisition, clearance, and disposition.¹⁰⁷ This estimate is likely conservative, given public comments calling for additional improvements.¹⁰⁸

- The Rail Transit District (the large site labeled “12”) is a single parcel of approximately 209 acres, surrounding the 35-acre Nyanza capped superfund site. Accessed from both the train station and Route 135, the Rail Transit District is the Ashland’s largest single development opportunity and the centerpiece of its plan to upgrade the 135 corridor. The Town is currently negotiating with the property owner; a program of 600-800 residential units and approximately 70,000 square feet of commercial development is envisioned.

¹⁰⁵ Ashland Redevelopment Authority (VHB, Inc.), *Downtown Ashland Revitalization and Redevelopment Plan (Urban Renewal Plan)*, January 2012 (hereafter *Downtown Ashland Revitalization Plan*); and Town of Ashland (Larry Koff & Associates/Bluestone Planning Group), *An Economic Development Vision and Action Plan*, 2001 (esp. pp. 17-20).

¹⁰⁶ *Ibid.* (p. 1).

¹⁰⁷ *Downtown Ashland Revitalization Plan* (p. 4-3).

¹⁰⁸ Ashland Redevelopment Authority, *Citizens Advisory Committee Response to the February 2012 Revised Draft Downtown Ashland Revitalization and Redevelopment Plan*; March 27, 2012.

Off-site infrastructure improvements include access roads and water and sewer interfaces with the Town systems. The nearest sewer interceptor currently ends three-quarters of a mile from the district; it must be extended and its capacity expanded. The off-site infrastructure costs are estimated at \$3 million. The on-site “district infrastructure” costs are unknown but will be substantial.¹⁰⁹

Route 135 (Union Street) and 126 (Pond Street) Corridors

Route 135 runs across Ashland from Framingham to Hopkinton, with most of its route in the orbit of the Rail Transit District and downtown. Route 126, known in Ashland as Pond Street, runs north-south along the eastern edge of Ashland and connects directly to downtown Framingham. Pond Street is an MAPC Regional Priority Development Area, and, as shown in Figure 24, a number of sites have been identified for redevelopment over time as either residential or employment opportunities. The Town anticipates various improvements over time, involving visual, safety, and intersection upgrades, to support the evolution of both routes.¹¹⁰

Summary of Development Agenda and Infrastructure Needs

The development agenda for the three MetroWest core towns in our case study is summarized in the following table, which illustrates what is at stake in the infrastructure decisions that lie ahead.

Table 12: Development Agenda, MetroWest Core Towns

Framingham	<ul style="list-style-type: none"> • Town-wide: 41% of all MetroWest jobs • Downtown revitalization (2.9 million sf new and rehab mixed-use; MassBay CC campus) • Exit 12: Tech Park (Genzyme, Bose) and 9/90 (Staples) • Route 9/Golden Triangle : 4-6.5 million sf new commercial; up to 1,200 residential units
Natick	<ul style="list-style-type: none"> • Route 9/Golden Triangle: 1.4-2 million sf new commercial, 800 residential units • Downtown revitalization and TOD
Ashland	<ul style="list-style-type: none"> • Rail Transit District: 209 acres adjoining downtown and MBTA station; 600-800 residences, 70,000 sf commercial • Downtown urban renewal district • Route 135 and Route 136 corridors

The infrastructure investments associated with this agenda of current or future development are summarized in the table on the following page:

¹⁰⁹ Ashland PD Interview.

¹¹⁰ Ibid.

Table 13: Potential Infrastructure Investments, MetroWest Core Towns

Proposed Investment	District(s) Affected	Estimated Cost (MM)	Status
Routes 9/27 Interchange Improvements	Golden Triangle, Natick Center	\$18.5	In design, funding sought
MassPike ramp to Tech Park and 9-90 at Exit 13	Tech Park/9-90	TBD	Future; sources and timing TBD
Natick MBTA Station Flooding Remediation	Natick Center, entire Framingham rail line	\$1	Under construction
Natick MBTA Station ADA Access	Natick Center	TBD	In design, funding sought
South Station Expansion, Beacon Park dual track	Entire Framingham rail line	TBD	Future; sources and timing TBD
Framingham Comp. Wastewater Mgmt. Plan	Townwide, all districts	\$120	Approaching completion
Ashland sewer, direct connection to MWRA	Townwide, all districts	TBD	Future; sources and timing TBD
Ashland sewer, water supply connection to MWRA	Townwide, all districts	\$7.5	Future; sources and timing TBD
Framingham Golden Triangle Mixed-Use District Infr.	Golden Triangle	TBD	Future; sources and timing TBD
Framingham Tech Park Water/Sewer District Infr.	Tech Park/9-90	\$12.9	Completed; funded by state Life Sciences Initiative
Downtown Framingham Street and Infrastructure Improvements	Downtown Framingham	\$8.4	Under construction
Natick Center Garage	Natick Center	\$6-9	Future; sources and timing TBD
Ashland Downtown Renewal Public Improvements	Downtown and Rail Transit Districts	TBD, at least \$3	Future; sources and timing TBD
Ashland Rail Transit District On-Site Infrastructure	Downtown and Rail Transit Districts	TBD, at least \$3	Future; sources and timing TBD
Ashland Route 135 and Route 126 Improvements	Routes 135 and 126	TBD	Future; sources and timing TBD

TOWN OF FRANKLIN

Overview

Composition of the Case Study Area

The Town of Franklin has been chosen to represent the growing communities on the I-495 edge of Metro Boston. As shown in Figure 25, Franklin is located in the southwest arc of I-495, near the Rhode Island border. It enjoys the unusual economic benefit of two exits on I-495 and two commuter rail stations.

Figure 25: Franklin’s Location in the I-495 Southwest Subregion



Location and Function in the Metropolitan Region

Franklin, with a 2010 population of approximately 32,000, grew rapidly from 1980 (18,000) to 2000 (30,000), leveling off since then. Its growth reflects the suburbanization of the larger I-495 belt of which it is a part, as well as its particular advantages in terms of job growth within the town and commuter rail access to Boston. Franklin is the most populous of the nine Towns belonging to MAPC’s Southwest Advisory Planning Committee, followed by nearby Milford (28,000); the other seven are considerably smaller.¹¹¹

In *MetroFuture*, Franklin is included among the region’s Developing Suburbs—towns, mostly along the I-495 belt, characterized by low density and rapid or imminent suburbanization, fueled by the availability and affordability of open land. The concern expressed in *MetroFuture* is the classic concern associated with sprawl at the outer edge of the region:

¹¹¹ <http://quickfacts.census.gov/qfd/states/25000.html> (“select a city”)

As a result of this spread-out growth, Developing Suburbs will lose over 90,000 acres of open space.... This will have detrimental environmental impacts, including threats to the region's biodiversity and encroachment upon its wetlands. Also damaging to the region's environment, as well as its economic development and quality of life, will be the rapidly increasing traffic. A rapidly growing population in the Developing Suburbs, where the relative distance from jobs and lack of transit options already means long drives to work and to run errands, will lead to particularly worsened traffic in these communities.

The *MetroFuture* alternative vision for Developing Suburbs is one in which much of the growth that does occur is targeted to town and village centers, with enhanced transit and carpool connections.¹¹² Several Developing Suburbs—Franklin, Milford, Foxborough, Hudson—are identified as “targeted growth areas” because they have town centers as well as major employment concentrations near I-495.¹¹³

Franklin is a prime case study because:

- its town center is substantial and includes Dean College, a four-year institution with over 1,300 students;
- it has 14,000 jobs, most of them concentrated in successful industrial parks near I-495, and MAPC projects additional employment growth of 19% between 2010 and 2035;¹¹⁴
- the town center and the primary industrial development areas each have immediate proximity to a I-495 exit and a train station.

Franklin shares two regional infrastructure issues with nearby Milford and Bellingham: a proposed commuter rail extension, and a pilot stormwater management program unique to this section of the Charles River Watershed. Milford and Bellingham are included, as appropriate, in the discussions of those issues.

Development Goals

Figure 26 shows the principal development districts in Franklin. The downtown, the privately owned Forge Park, and the Town-owned Pond Street redevelopment site are Priority Development Areas (“PDAs”) identified in the 495/MetroWest Development Compact Plan. That plan, issued in 2012 by the Commonwealth, MAPC, and several partner organizations, is a smart growth framework covering the entire western arc of the 128/495 belt. At the heart of this framework was the identification of PDAs reflecting local priorities as well as regional themes like adequacy of infrastructure and proximity to transit.¹¹⁵

Forge Park, Pond Street, and the town’s other major privately owned industrial center, the Franklin Industrial Park, have also been designated Priority Development *Sites* under the Massachusetts Expedited Permitting law, Chapter 43D. This 2006 law allows cities and towns to designate specific sites which, once approved by the state, are assured that certain common permits will be decided upon within 180 days of a proper application.¹¹⁶

¹¹² *Metro Future: Building a Greater Boston Region; From Plan to Action*, 2009 (pp. 12-13).

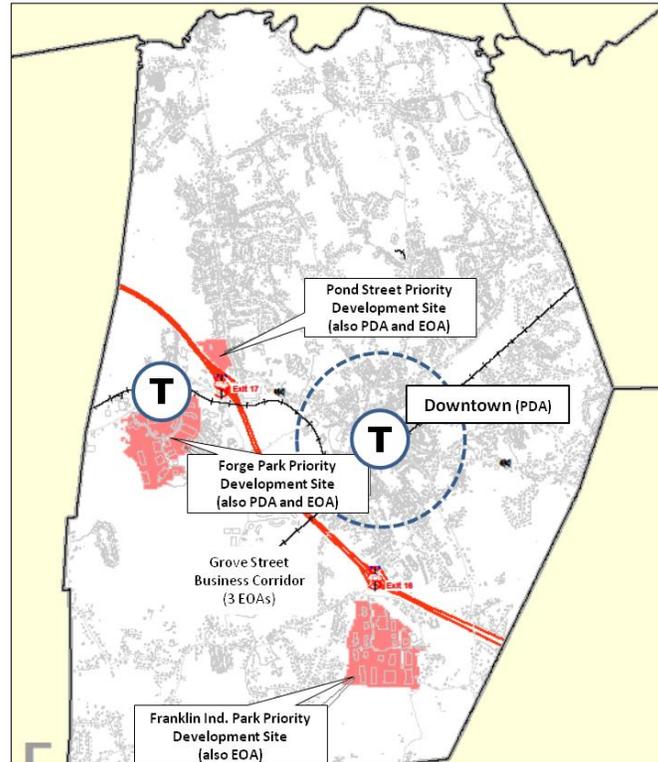
¹¹³ *Metro Future* (p. 13, map).

¹¹⁴ <http://www.clrsearch.com/Franklin-Demographics/MA/Employee-Statistics-by-NAICS-Code>

¹¹⁵ *MetroWest Development Compact*.

¹¹⁶ <http://www.mass.gov/hed/business/licensing/43d/>; see also Town of Franklin, *Franklin's Priority Development Sites* (brochure).

Figure 26: Franklin’s Priority Development Areas (PDAs), Priority Development Sites (PDSs), and Economic Opportunity Areas (EOAs) ¹¹⁷



Franklin also makes extensive use of the Commonwealth’s Economic Development Incentive Program, created by Chapter 23A of the General Laws in 1993. Within an Economic Opportunity Area (EOA) designated by a City or Town and approved by the state’s Economic Development Coordinating Council, projects can receive various state and local tax credits, including a substantial state investment tax credit, and may negotiate a local Tax Increment Finance agreement with the host municipality.¹¹⁸ Between 2009 and 2012, Franklin secured approval of Forge Park, Franklin Industrial Park, and Pond Street as EOAs. Also designated as EOAs are three segments of the Grove Street corridor, the area lying between Forge Park and Franklin Industrial Park along the south side of I-495, where several smaller business parks and warehousing facilities are located¹¹⁹

Finally, the Town has created a Biotechnology Uses Overlay Zoning District, designed to make biotech an as-of-right use and expedite its permitting. The district has been expanded to include some or all of Forge Park, Franklin Industrial Park, Pond Street, and the two larger Grove Street EOAs (South Grove Street and Financial Way). In 2010, the Massachusetts Biotechnology Council awarded the Town a Gold BioReady Community rating, enabling Franklin to market its industrial sites nationally to biotech and life science users.¹²⁰

¹¹⁷ Map by Town of Franklin, Department of Planning and Community Development; additional graphic information added by the author.

¹¹⁸ <http://www.mass.gov/hed/business/incentives/edip/edip-program-information.html>. (In Massachusetts, “tax increment finance” refers to a property tax relief agreement which serves as an incentive for private investment; in most other states, “TIF” refers to the infrastructure finance mechanism known in Massachusetts as “District Infrastructure Finance” or “DIF”).

¹¹⁹ Town of Franklin, *Franklin Wants Your Business*. (brochure).

¹²⁰ Town of Franklin, Department of Planning and Community Development, *Economic Development Initiatives: January 2012 Summary*.

The development priorities of the Town are to advance industrial and commercial growth in its Priority Development Sites and Economic Opportunity Areas, and mixed-use, transit-oriented development in the historic downtown.

Regionally Significant Infrastructure Issues

Highway Access

Franklin’s economic location in the region is defined by its dual exits on I-495 (Exits 16 and 17). MassDOT and the Boston MPO have programmed over \$37 million in Interstate Maintenance work on the southwest arc of I-495 (in Franklin, Wrentham, Plainville, and Foxborough) during the current Transportation Improvement Program (TIP).¹²¹

Route 140 (East and West Central Streets) connects Exit 17 to Forge Park, downtown, and the northern portion of the Grove Street corridor; King Street connects Exit 16 to downtown and the southern end of Grove Street. Other than specific improvements associated with downtown revitalization and the future development of the Pond Street site (see the respective Development District sections below), no major highway issues are currently identified.¹²²

Rail and Transit Access

In 2009, the MBTA’s Franklin Line averaged 7,000 daily inbound boardings, making it one of the top three lines in the commuter rail system.¹²³ Franklin’s two stations are in the downtown (Franklin/Dean College) and at Forge Park/I-495; the latter is the line’s terminus and has a region-scale park-and-ride lot of 716 spaces. MAPC, in its typology of all MBTA rail and transit stations, categorizes Franklin/Dean College as a “Town and Village” center station and Forge Park/I-495 as a “Commerce Park” station.

Table 14: MBTA Station Characteristics, Town of Franklin

Station	MAPC Typology ¹²⁴	Riders ¹²⁵	Parking
Franklin/Dean College	Town and Village	827	173
Forge Park/I-495	Commerce Park	782	716

The segment of the line extending to Forge Park/I-495 was added in 1988 by leasing a portion of CSX’s (then Conrail’s) old Milford & Woonsocket Railroad. In 1997, the MBTA undertook a preliminary study of using this track to extend passenger service to Bellingham and Milford. The extension had a preliminary capital cost estimate of \$70.5 million (which now appears to be quite low) and a projected ridership of 1,800; of these, 800 would be new transit riders. While the 2004 Program for Mass Transportation rated the Milford extension a medium priority, with potentially good cost-effectiveness but minor land use and development impacts, the 2009 Program for Mass Transportation maintains the

¹²¹ Boston Metropolitan Planning Organization, 2013-2016 Transportation Improvement Program, TIP Tables.

¹²² Interview with Town of Franklin: Department of Planning and Community Development, Brian W. Taberner, Director, and Beth Dahlstrom, Town Planner, and Department of Public Works, William J. Yadisernia, PE, Town Engineer; November 5, 2012 (hereafter Franklin Interview).

¹²³ Ibid.

¹²⁴ *Growing Station Areas* (p. 32).

¹²⁵ February 2009 average weekday inbound boardings; MBTA Bluebook, 2010 edition (p. 72); parking from www.mbta.com.

Milford Extension as a project of interest, and a new study of an extension to Milford and the neighboring town of Hopedale is underway.¹²⁶

With or without a future extension, the commuter rail's value depends on its own state of good repair, including the fleet and right of way. It also depends on the capacity and efficiency of the MBTA's core transit system. Except for those who live or work within walking distance of Back Bay or South Station, commuter rail passengers depend on the Orange and Red Lines for connections. The *Hub and Spoke* report published in 2012 by the Urban Land Institute and Northeastern University identified congestion problems in core segments of both lines, including the need to replace the superannuated Orange and Red Line fleets. The MBTA's fiscal crisis is currently impacting these and other core capacity needs.¹²⁷ In the long term, the Franklin Line, as part of the South Side system, will require the expansion of South Station's track and concourse capacity, a project with a cost in the hundreds of millions of dollars which MassDOT and the MBTA are just beginning to plan.

A second transit issue facing Franklin is local bus service. Franklin is a member of GATRA (the Greater Attleboro Taunton Regional Transit Authority), which operates a regular loop route connecting major Franklin destinations, including the downtown train station. This service is approximately hourly and on weekdays does not operate after evening rush hour.¹²⁸ Franklin does not have an established shuttle/collector service connecting its train stations to the concentrations of industrial jobs at Forge Park, Franklin Industrial Park, or the Grove Street parks. (Although the Forge Park/I-495 station is within nominal walking distance of many Forge Park facilities, there is not an inviting pedestrian connection.) Such a service could make Franklin's job centers accessible by transit from other communities along the rail line.

Water and Sewer

Franklin operates its own water and sewer systems, covering most of the town and all of its key development areas. Franklin's approach to maintaining its water resource infrastructure is an example of staying ahead of the relationship between infrastructure and development. The water supply system draws from 12 municipal wells and distributes through 157 miles of water mains. The Town Public Works Department is conservation-conscious, maintains an aggressive leak detection program, and is incrementally replacing the oldest 25 miles of mains, at cost of about \$15 million. Average daily consumption has been reduced from approximately 3.5 million gallons per day (mgd) to approximately 2.8 mgd.¹²⁹

Franklin's municipal sewer system discharges to the regional treatment plant located in Medway and operated by the Charles River Pollution Control District, whose members are Franklin, Medway, Bellingham, and Millis. The plant provides more capacity than Franklin needs. The Town Public Works Department is now undertaking Phase IV of a multi-phase Infiltration & Inflow removal program, an investment of \$4-5 million over ten years.¹³⁰

¹²⁶ MBTA and CTPS, *Program for Mass Transportation*, 2004; p. 5C-60; *Program for Mass Transportation* 2009; Appendix E, p. E-12; and http://www.bostonmpo.org/bostonmpo/2_planning_activities/3_studies_underway/studies.html. At present, GATRA and the Town of Bellingham operate shuttle vans from the north and south parts of town to the Forge Park/I-495 station for the morning and evening commutes; see <http://www.gatra.org/index.php/routes/bellingham-franklin/bellingham-t-shuttle/>.

¹²⁷ *Hub and Spoke* (pp. 12, 14).

¹²⁸ <http://www.gatra.org/index.php/routes/bellingham-franklin/franklin-area-bus/>

¹²⁹ Franklin Interview.

¹³⁰ *Ibid.*

Stormwater

Stormwater management is essential, for water quality and often for flood control, in any area with large expanses of impervious land. Most communities, including Franklin, have storm drainage infrastructure (storm sewers) in their developed areas, and EPA has regulated stormwater discharges from municipalities and major developments since the 1980s. Stormwater can be a complex and expensive challenge at the regional, municipal, development district, and site-specific levels. Changes in the national regulatory framework will make it more so.

Under the National Pollution Discharge Elimination System (NPDES), EPA has pending a set of renewed General Permits which, if promulgated in their current draft form, would significantly impact the way municipalities manage stormwater. The General Permit for Municipal Separate Storm Sewer Systems (MS4) applies to 99 of the 101 MAPC communities; depending on local conditions, the proposed MS4 renewal would require upgrading of storm sewer infrastructure; water quality monitoring of outfall discharges, a labor- and technology-intensive process involving dozens of outfalls in a given community; and in some cases, treatment of discharges.¹³¹

Beyond MS4, EPA and DEP are focusing on the Charles River Watershed for even higher levels of stormwater intervention and have chosen the headwater towns of Franklin, Bellingham, and Milford for a joint pilot project to reduce stormwater-conveyed phosphorus discharges. A Draft Residual Designation General Permit for those three Towns issued in September 2010 sets the potential parameters for individual properties of two impervious acres or more. While still preliminary, the regulatory approach will affect those properties as well as the three municipal storm drainage systems.¹³²

Franklin's stormwater response is led by the Town Administrator and Public Works Director. Town strategies include:¹³³

- including storm drainage improvements in major road improvements, such as the current program of major downtown improvements (see below) as well as routine Chapter 90 improvements like the recently completed Wachusett Street;
- removing impermeable area from Town roads and parking lots where possible; examples are Anchorage Road, a recent local improvement that included narrowing the pavement and installing a grass park in the cul-de-sac; and the downtown commuter rail parking lot, where the Town installed rain gardens and tree pits;
- non-structural best Management Practices (BMPs), such as enhanced street sweeping, catch basin cleaning, leaf and organic waste collection, and so forth;
- requiring all new developments to either tie into the town drainage system or provide compliant on-site stormwater retention. The most challenging sites are those built prior to 1970, preceding modern drainage practices and EPA stormwater regulation; depending on the eventual requirements of the program, the cost of compliance for such sites could become a significant economic issue.

Franklin currently spends over \$1 million annually on stormwater planning, engineering, enforcement, and implementation, not including construction costs embedded in roadway improvements as cited above. That annual cost is predicted to rise to the \$2 million range over the course of a more ambitious program to be developed with EPA and DEP. A recent study of the potential parameters of that program, assuming

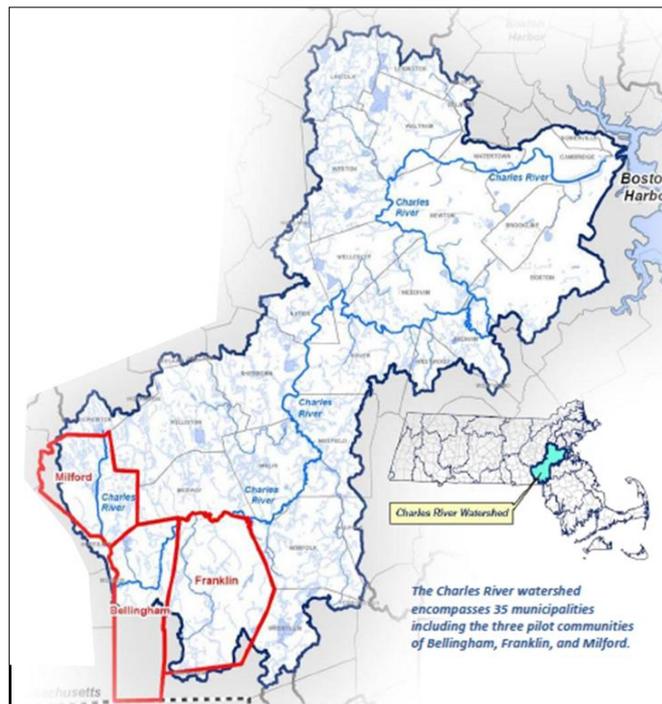
¹³¹ <http://cfpub.epa.gov/npdes/stormwater/munic.cfm/>

¹³² <http://www.epa.gov/region1/npdes/charlesriver/index.html>

¹³³ Franklin Interview.

that “structural BMPs” will be required alongside non-structural BMPs, suggests a capital program cost for Franklin in the \$75 million range and a total implementation cost, if phased over 25 years, in the \$125 million range. (The comparable figures for Milford and Bellingham are capital programs of \$76 and \$30 million, respectively, and total 25-year costs in the \$105 and \$55 million range.) All told, the capital and operating program involved for the three towns could thus approach \$300 million, based on draft regulatory conditions and preliminary cost estimates.¹³⁴

Figure 27: Three-Town Stormwater Pilot Program¹³⁵



The Franklin-Milford-Bellingham pilot program, supported by an EPA planning grant, is designed to sort out how big a program is actually needed, over how long an implementation period, to cost-effectively address the phosphorous discharge issue, and how to finance it. The three-town pilot is a forerunner of a significant region-wide issue; stormwater may in fact be the “next big thing” in infrastructure affecting economic development. Statewide, the Water Infrastructure Finance Commission has identified a potential \$18 billion need for stormwater infrastructure investment over the next 20 years, most of it in metropolitan Boston.¹³⁶ To help address this, MAPC is developing a Massachusetts Local Stormwater Utility Model to help municipalities or special districts plan, cost, and finance such solutions.¹³⁷ Many municipalities across the US have adopted some version of the utility model for their stormwater drainage systems; two of them are MAPC communities, Newton and Reading.¹³⁸

¹³⁴ <http://www.epa.gov/region1/npdes/charlesriver/pdfs/20111019-UtilityProjectGPFactSheet.pdf>;

also EPA Sustainable Stormwater Funding Study for Bellingham, Franklin & Milford May 22, 2012; New England Stormwater Technology Workshop; AMEC Environment & Infrastructure, Inc.:

<http://www.rinkerstormceptor.com/EducationalSeminars/May%202012/AMEC%20Stormwater%20Presentation%205-22-12.pdf>

¹³⁵ <http://www.epa.gov/region1/npdes/charlesriver/pdfs/20111019-UtilityProjectGPFactSheet.pdf>

¹³⁶ Commonwealth of Massachusetts Water Infrastructure Finance Commission, Massachusetts’ Water Infrastructure: Toward Financial Stability, 2012.

¹³⁷ For MAPC, see: <http://www.mapc.org/node/1522/view>.

¹³⁸ Charles River Watershed Association: <http://www.crwawater.org/projects/stormwater/swutility.html>.

Development Districts

Franklin’s key development districts, shown in Figure 26, are described below, with particular attention to infrastructure investments that have been identified as integral to the realization of those plans.

Downtown

Franklin’s aspirations for its historic downtown are summarized in its 2003 Franklin Center Plan: a mixed-use, walkable town center, with a sense of place, cultural destinations, improved traffic and parking conditions, and better pedestrian connections to the MBTA station.¹³⁹ In recent years, a number of initiatives have supported that vision:

- the Town opened its new \$9.3 million downtown Fire headquarters in 2008, and the Franklin Historical Museum opened its new location in a nearby historic house in 2009
- Franklin Center Commons, a \$30 million, four-building mixed-use development on either side of East Central Street in the heart of downtown, was undertaken by developer John Marini. Three buildings, containing 47 residential units and ground floor retail, were completed by 2009; the fourth, with 30 residences and retail on East Central, has been delayed by the recession.¹⁴⁰ The Town is working on a Downtown Commercial zoning district which would enable future mixed-use, street-friendly development as of right.
- Dean College, which has invested \$51 million in campus improvements in the last five years, is completing a \$9 million, 122-student dormitory to relieve an on-campus housing shortage.¹⁴¹
- The Town has secured funding for a new, \$104 million high school, near the existing school on the western fringe of the town center.

A key public infrastructure investment tying all of these developments together and supporting future development is the Downtown Improvement Project, a series of roadway and sidewalk improvements on the streets that define the downtown—East and West Central, Main, Emmons, and the area between the train station and the college. This \$7.25 million effort, shown in Figure 28, is fully funded. An initial state (PWED) funded phase of \$1 million is done; the remainder, funded primarily by a \$5 million SAFETEA-LU earmark, is under construction. In addition to creating pedestrian amenities and upgrading utilities, the project is converting the one-way traffic pattern, which discourages drivers from stopping in downtown, to a more business-friendly two-way pattern.¹⁴² It should be noted that these funding sources, although available to Franklin when needed, cannot be considered stable, replicable sources for similar projects in other communities.

A 2006 study of transit-oriented development looked at the possibility of replacing the station’s park-and-ride lot with a garage at track level and mixed-use development above. The preliminary evaluation found this infeasible but did suggest further study of a garage at the station lot to expand commuter parking. With 800 daily riders and only 173 parking spaces, the downtown station clearly attracts drop-off and walk-in passengers, but it is also apparent that commuters park on surrounding streets, impacting the supply for other downtown activities.¹⁴³

¹³⁹ http://franklinma.virtualtownhall.net/Pages/FranklinMA_Planning/initiatives/franklincenterplan.pdf

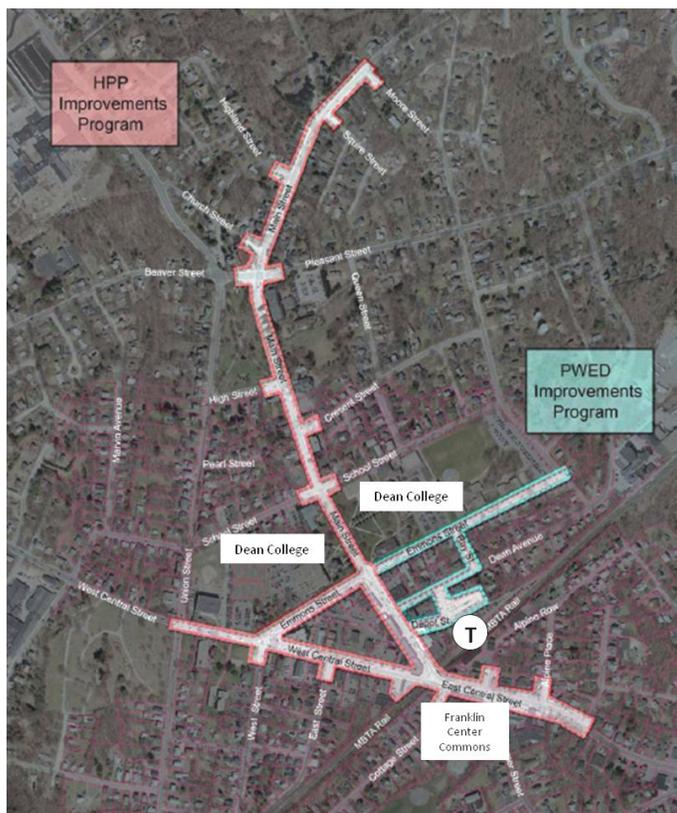
¹⁴⁰ <http://www.franklincentercommons.com/home.htm>

¹⁴¹ <http://www.milforddailynews.com/news/x1107411783/New-Dean-College-dorm-will-open-in-Franklin-in-December>

¹⁴² http://www.town.franklin.ma.us/Pages/FranklinMA_Planning/dtimprovement and Franklin Interview.

¹⁴³ Town of Franklin (Cecil Group), *Franklin Center TOD Study*, 2006; http://franklinma.virtualtownhall.net/Pages/FranklinMA_Planning/downtowndocs/todstudy.pdf

Figure 28: Downtown Improvement Program



Pond Street

The Pond Street site consists of two town-owned parcels, totaling 34 acres, used as town’s sewer treatment plant from 1902 and 1980 (when Franklin joined the district facility in Medway). The Town envisions a mixed commercial development, with office, hotel, retail, and restaurant. A buildout of 250,000 to 500,000 square feet could leave at least half the acreage left unbuilt to protect wetland resources and natural habitat and maintain a natural buffer between the new development and nearby residences.¹⁴⁴ As noted earlier, Pond Street is a Priority Development Site under the state’s expedited permitting law, an Economic Opportunity Area, and part of the Town’s biotech zoning district. It is also adjacent to I-495 Exit 17. To realize its development potential will require site cleanup and infrastructure, as well as an upgrade of the existing roadway access from Route 140.

Forge Park and Franklin Industrial Park

Forge Park has a land area of 278 acres and 33 parcels. Nearly 2,000,000 square feet of industrial space has been built, and all but two parcels are developed or permitted.¹⁴⁵ The park’s owner, National Development Associates, donated the land on which the Forge Park commuter rail station was built. Franklin Industrial Park has a land area of 261 acres and 22 parcels. Nearly 2,900,000 square feet of space has been built.¹⁴⁶

¹⁴⁴ http://www.town.franklin.ma.us/Pages/FranklinMA_Economic/documents/pondpds.pdf

¹⁴⁵ http://www.town.franklin.ma.us/Pages/FranklinMA_Economic/documents/fppds.pdf and http://www.town.franklin.ma.us/Pages/FranklinMA_Economic/documents/fippds.pdf

¹⁴⁶ Ibid. Increasing the impervious coverage could require additional capital costs for stormwater management.

Under zoning, these parks have a 60% impervious limit (50% building coverage and 10% paving). The allowed height is three stories as of right and five stories by special permit. In the Town’s view, as many as half the developed parcels could support more intense use, by going to five stories, building structured parking, or obtaining special permits to increase the impervious area. The designation of Forge Park and Franklin Industrial Park as Priority Development Sites and Economic Opportunity Areas, and their inclusion in the Biotechnology District, are consistent with the goal of more intense development, even though the two parks are nominally “full” or nearly so.¹⁴⁷

These parks are examples of major infrastructure investments paying off over time. The regional investments in I-495 and the commuter rail, and the Town and developer investments in the parks’ “district infrastructure” of roads, sewer, water, electricity, and telecommunications, were made long ago and are responsible for thousands of jobs and millions of dollars in tax revenue.

Summary of Development Agenda and Infrastructure Needs

The development agenda for Franklin is summarized in the following table, which illustrates what is at stake in the infrastructure decisions that lie ahead.

Table 15: Development Agenda, Town of Franklin

Downtown	<ul style="list-style-type: none"> • New fire station, museum, parking lots • Dean College: stable size; dorm construction, \$51 million in recent investments • Goal: commercial/mixed-use reinvestment and infill
Forge Park	<ul style="list-style-type: none"> • 360 acres at 495 Exit 17 and train station • Created 1985, nearly full (approx. 2 million sf) • About half the parcels could support intensification
Franklin Industrial Park	<ul style="list-style-type: none"> • 300 acres at 495 Exit 16 • Nearly full (approx. 2.9 million sf) • About half the parcels could support intensification
Pond Street	<ul style="list-style-type: none"> • Town-owned 34-acre brownfield • Potential mixed uses being evaluated; approx. 500,000 sf

The infrastructure investments associated with this agenda of current or future development are summarized in the following table:

¹⁴⁷ Franklin Interview.

Table 16: Potential Infrastructure Investments, Town of Franklin

Proposed Investment	District(s) Affected	Estimated Cost (MM)	Status
I-495 Interstate Maintenance	Entire Town	\$37	Funded in TIP in 2013 and 2016
Commuter Rail extension to Milford	Forge Park	TBD	Future; sources and timing TBD
South Station Expansion	Forge Park, Downtown	TBD	Future; sources and timing TBD
Transit shuttles to commuter rail	Forge Park, Franklin Ind. Park, Downtown	TBD	Future; sources and timing TBD
Water main replacement	Entire Town	~\$15	On-going
Sewer Infiltration & Inflow	Entire Town	~\$5	On-going
Enhanced EPA stormwater program	Entire Town	TBD, up to \$125	Future; sources and timing TBD
Downtown Improvement Program (streets and sidewalks)	Downtown	\$7.25	Under construction (mostly state and federal)
Downtown MBTA parking	Downtown	TBD	Future; sources and timing TBD
Pond Street access and infrastructure	Pond Street	TBD	Future; sources and timing TBD
Forge Park intensification (structured parking or stormwater)	Forge Park	TBD	Future; sources and timing TBD
Franklin Industrial Park intensification (structured parking or stormwater)	Franklin Industrial Park	TBD	Future; sources and timing TBD