
3 FUTURE CONDITIONS

3.1 Transportation Projects

Several transportation projects have been proposed recently for downtown Salem and its vicinity, and a number of development projects have been proposed or are under construction. Figure 3-1 shows the locations of some of the larger projects. The following is a brief summary of the transportation projects. The development projects are summarized in the next section.

- **Bridge Street Bypass Road**

To improve the traffic flow on Bridge Street, the Massachusetts Highway Department proposes a two-phase roadway improvement from the Veterans Memorial Bridge to Flint Street. The Bridge Street Bypass is the first phase, which includes building a new bypass road running adjacent to the MBTA railroad from the bridge to the existing Bridge Street just south of St. Peter Street, reconstructing Bridge Street between St. Peter Street and Washington Street, and converting the existing rotary at Washington Street to a fully functional signalized intersection. Additionally, a multipurpose trail will be created on the south side of the bypass road between March Street and the future intersection at Bridge Street just north of St. Peter Street. This project is currently fully (100%) designed, permitted, and advertised.

- **Bridge Street (Route 107) Between Washington Street and Flint Street**

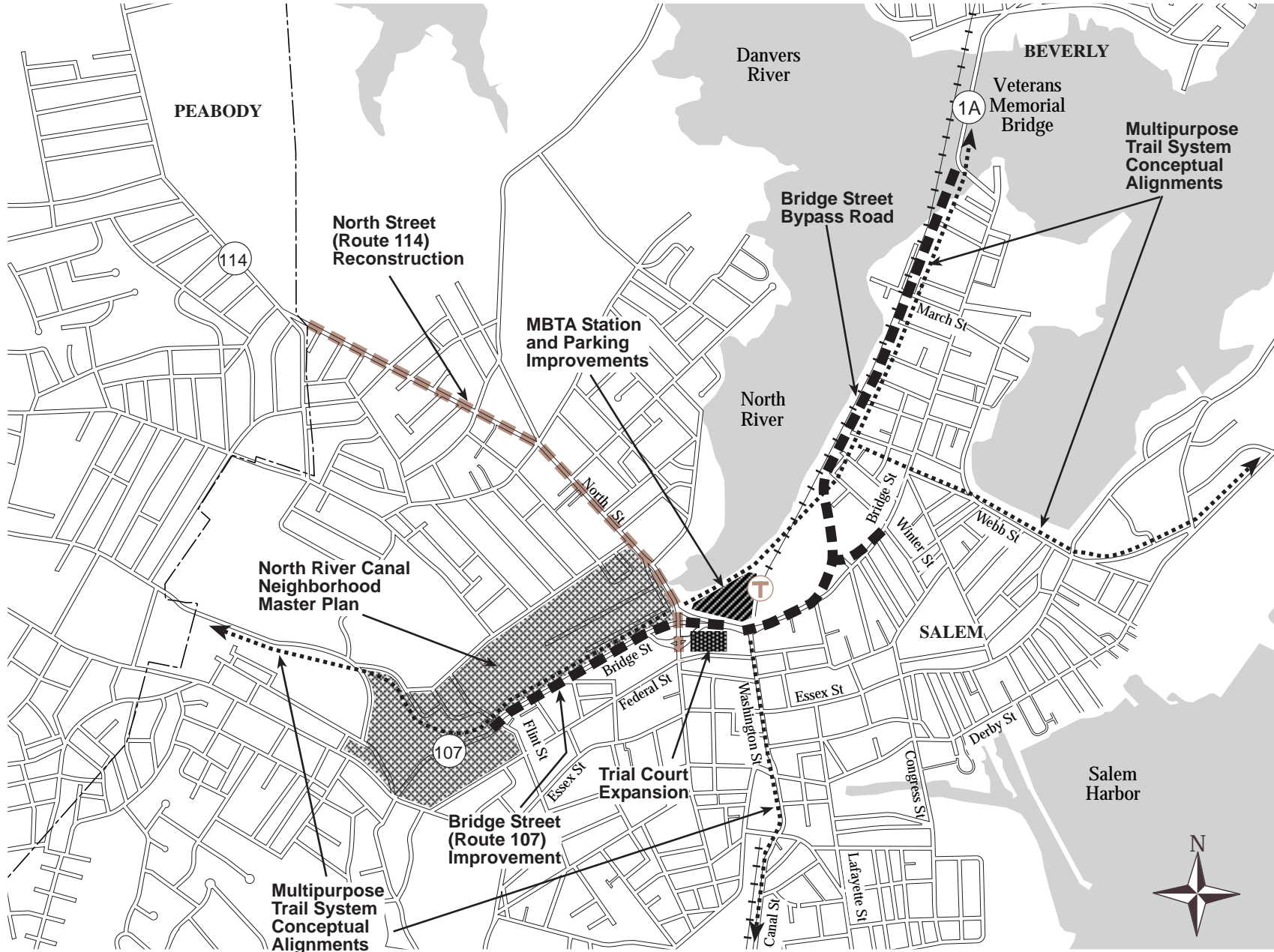
This is the second phase of Bridge Street improvements. The project includes widening Bridge Street to provide two travel lanes in each direction and signalization of the intersections of Bridge Street at the two North Street ramps. To make room for the additional travel lanes, the existing Guildford Rail Line tracks on the north side of Bridge Street will be reduced and relocated further north. The project is currently at the 25% design stage.

- **North Street (Route 114) Reconstruction**

This project primarily involves rehabilitation of the existing pavement and upgrading traffic signal control devices on North Street from Federal Street north to the Peabody city line. The project will upgrade and coordinate the traffic signals at Mason Street and at School Street, and add pedestrian signal heads to the existing signal for pedestrian crossings at Federal Street. The project is fully designed and programmed for funding in fiscal year 2005 in the Transportation Improvement Program (TIP).¹

¹ *Transportation Improvement Program and Air Quality Conformity Determination, Fiscal Years 2005–2009*, Boston Region Metropolitan Planning Organization, September 2004.

Figure 3-1 Transportation Projects and Major Development Projects



- **MBTA Commuter Rail Station and Parking Improvements**

The Salem station is one of the busiest stations in the MBTA commuter rail system. Due to the need for additional parking, the MBTA proposes to build a new, 1,000-space parking garage at the existing station site for both commuter rail riders (700 spaces) and employees of the state courts (300 spaces). The project currently is at the 15% concept design stage. Three design concepts are proposed: River Park, Urban Park, and River Promenade.² All three alternatives maintain the existing driveway as the main entrance and add a secondary entrance or exit at the intersection of Bridge Street at Washington Street. No major changes to the surrounding roadways are proposed.

- **Salem Multipurpose Trail System**

This plan, proposed by the City in 1994, is a preliminary conceptual study with no further developments. It proposes to connect the downtowns of Salem, Beverly, Peabody, and Marblehead through a trail system for walkers, bicyclists, and other non-motorists. The backbone of the trail would run from the Veterans Memorial Bridge, along the south side of the North River and the North River Canal, to Boston Street in Salem and continue to downtown Peabody. The conceptual alignment also includes two additional trails: one branches off from the main trail to the Salem Willows and Winter Island recreational area via Webb Street, and the other to downtown Marblehead via Washington Street and Canal Street.

3.2 Development Projects

In recent years, many housing and commercial developments have been proposed or begun in downtown Salem and the vicinity. Meanwhile, the Commonwealth plans to expand the existing court complex on Federal Street, and the City plans to encourage redevelopment of the North River Canal corridor.

- **Trial Court Expansion**

The Massachusetts Division of Capital Asset Management proposes to expand the existing Salem Trial Court facilities on Federal Street. The project includes renovation of the existing 75,000-square-foot building and construction of a new 185,000-square-foot building. The new complex will accommodate the Essex County Superior, District, Probate and Family, Juvenile and Housing courts. The project proposes several alternatives for reconfiguring the interchange of Bridge Street at North Street in order to make room for expansion and to improve the surrounding traffic flow.³ One of the alternatives is to eliminate the North Street northbound on-ramp, relocate the North Street northbound off-ramp farther west to align with the existing driveway from the MBTA commuter rail parking lot, and signalize the intersection of North Street at the existing

² *MBTA Salem Commuter Rail Station and Parking Improvements – 15% Concept Design Report*, TAMS Architecture, August 2004.

³ *Roadway Improvement Feasibility Study – Proposed Trial Court Expansion*, Edwards and Kelcey, Inc., January 2003.

southbound on-ramp to allow the traffic from Bridge Street to access North Street northbound. The selection of a reconfiguration alternative will depend on the design of the new building.

- **North River Canal Neighborhood Master Plan**

This plan, completed in 2003, provides a framework for new growth and development in the North River area. The plan contains recommendations for potential future developments, urban design guidelines, and a series of transportation improvements for the roadways in and around the area.⁴ The future development of the corridor is a priority for the City. The City Council is considering a zoning proposal for the corridor that will create a zoning district of about 57 acres bordered by Bridge Street, Boston Street, Mason Street, and North Street.

The downtown area has limited vacant land for new developments. Most private developments proposed recently are conversions of existing buildings or renewals of existing uses. Table 3-1 lists private developments in the downtown vicinity recently approved by or

Table 3-1 Private Developments Recently Approved by or Submitted to the City

Project Name	Address	Project Description	Status
Coastal Gas Station Redevelopment	289 Derby Street	Redevelopment of the gas station into a mixed-use building of housing (38 units) and commercial (2,200 s.f.)	Chapter 91 License Pending
18 Crombie Street	18 Crombie Street	Historic rehabilitation of house and site	Under Construction
YMCA	Essex Street	Storefront improvements	Under Construction
2 & 5 Waters Street	2 & 5 Waters Street	Construction of 14 units on two parcels	Under Construction
10 Federal Street	10 Federal Street	Addition of three stories of office space (approx. 75,000 s.f.) above the existing two-story building	Under Construction
Old Police Station Condos	Central Street	14 two-bedroom condos and 28 parking spaces	Under Construction
Derby Lofts "Salem Laundry Building"	51-71 Lafayette Street	New construction and rehabilitation of 54 residential units and 14,000 s.f. retail	Under Construction
Salvation Army	93-95 North Street/ 5 Mason Street	Demolition of the existing buildings and construction of a new one-story multi-purpose building	Under Construction
50 Palmer Street	50 Palmer Street	12 affordable units	Under Review

Source: Department of Planning and Community Development, City of Salem, July 2005.

⁴ *Neighborhood Master Plan for the North River Canal Corridor*, City of Salem with the North River Canal Corridor Working Group, September 2003.

submitted to the City. As shown, about 120 new housing units and nearly 100,000 square feet of commercial floor area are currently under construction or review.

In addition, the Salem Redevelopment Authority is reviewing proposals for purchase and redevelopment of the historic Old Salem Jail complex located near the intersection of Bridge Street and St. Peter Street. The proposals include housing, mixed-use, and other developments, blending cultural features in a historical setting.

Other potential future projects in the downtown area include the development of St. Joseph’s Parish Church site and improvements at the Church Street municipal parking lot. The church site, including a church, rectory, school, and convent, is located on Lafayette Street between Harbor Street and Dow Street. Potential uses of the 2.5-acre property are currently under study. The approximately 1.5-acre Church Street parking lot currently provides nearly 190 surface parking spaces. In response to the growing parking demand in the downtown area, the City is examining the feasibility of building a parking garage or a mixed-use complex with parking on the existing site.

3.3 Socioeconomic Forecasts and Traffic Forecasts

A large portion of the traffic on the major roadways in Downtown Salem is regional traffic. Traffic growth in the downtown area is therefore correlated to the employment and population growth in the North Shore region rather than just in downtown Salem. The Metropolitan Area Planning Council (MAPC) predicted that in the next two decades the region would have steady growth in employment, no growth in population, and a moderate increase in the number of households. Table 3-2 shows the MAPC projections for population, households, and employment in the North Shore Task Force (NSTF)⁵ subregion.

**Table 3-2 Employment, Population, and Households Forecasts
for the North Shore Task Force Subregion**

Year	Employment	Change vs. 2000	Population	Change vs. 2000	Households	Change vs. 2000
2000	126,094	Base	274,561	Base	108,848	Base
2005	131,057	3.9 %	263,399	-4.1 %	105,296	-3.3 %
2010	136,021	7.9 %	270,554	-1.5 %	109,262	0.4 %
2015	141,016	11.8 %	274,804	0.1 %	111,924	2.8 %
2020	146,184	15.9 %	272,243	-0.8 %	111,736	2.7 %
2025	151,380	20.1 %	273,905	-0.2 %	113,753	4.5 %

Source: Socioeconomic Forecasts 2003, Metropolitan Area Planning Council, March 2003.

⁵ The NSTF, one of the MAPC subregions, consists of 15 North Shore communities: Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich, Manchester-by-the-Sea, Marblehead, Middleton, Peabody, Rockport, Salem, Swampscott, Topsfield, and Wenham.

Salem and its three neighboring communities, Beverly, Danvers, and Peabody, can be regarded as the hub of the North Shore region. According to the 2000 U.S. census and 2000 data from the Massachusetts Division of Employment and Training, Salem’s employment was 18,051 and its population 40,407; Beverly’s employment 18,963, its population 39,862; Danvers’s employment 22,170, its population 25,212; Peabody’s employment 27,056, its population 48,129. Table 3-3 shows the forecasts of total employment, population, and households for the four communities. As shown, MAPC predicted steady growth in employment, a slight decrease in population, and an increase in the number of households somewhat greater than the NSTF’s.

Table 3-3 Employment, Population, and Households Forecasts for Beverly, Danvers, Peabody, and Salem Combined

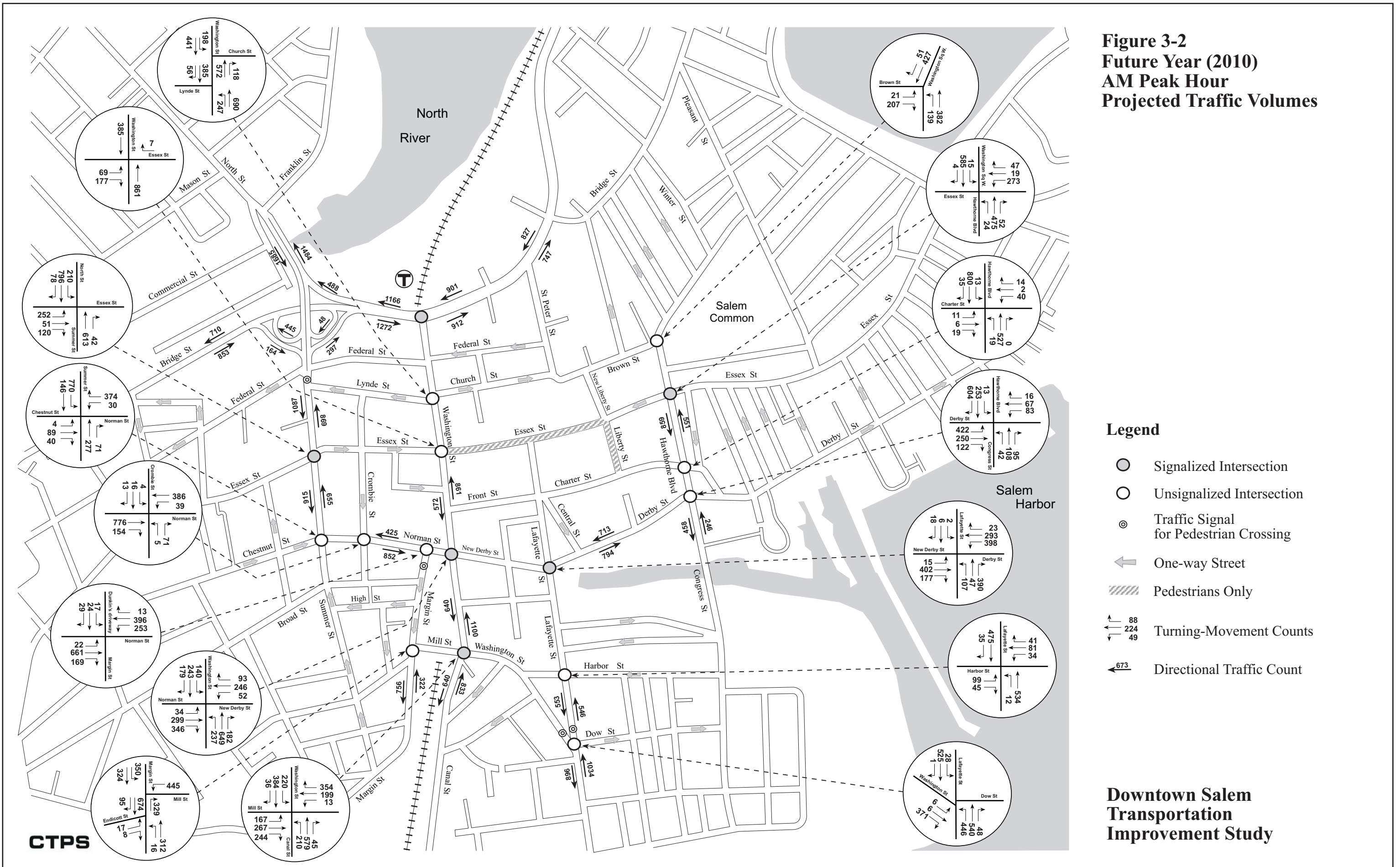
Year	Employment	Change vs. 2000	Population	Change vs. 2000	Households	Change vs. 2000
2000	86,240	Base	153,610	Base	65,331	Base
2005	90,318	4.7 %	145,789	-5.1 %	63,321	-3.1 %
2010	93,117	8.0 %	138,700	-9.7 %	65,997	1.0 %
2015	95,979	11.3 %	150,496	-2.0 %	68,145	4.3 %
2020	98,778	14.5 %	148,949	-3.0 %	68,623	5.0 %
2025	101,609	17.8 %	149,498	-2.7 %	70,086	7.3 %

Source: Socioeconomic Forecasts 2003, Metropolitan Area Planning Council, March 2003.

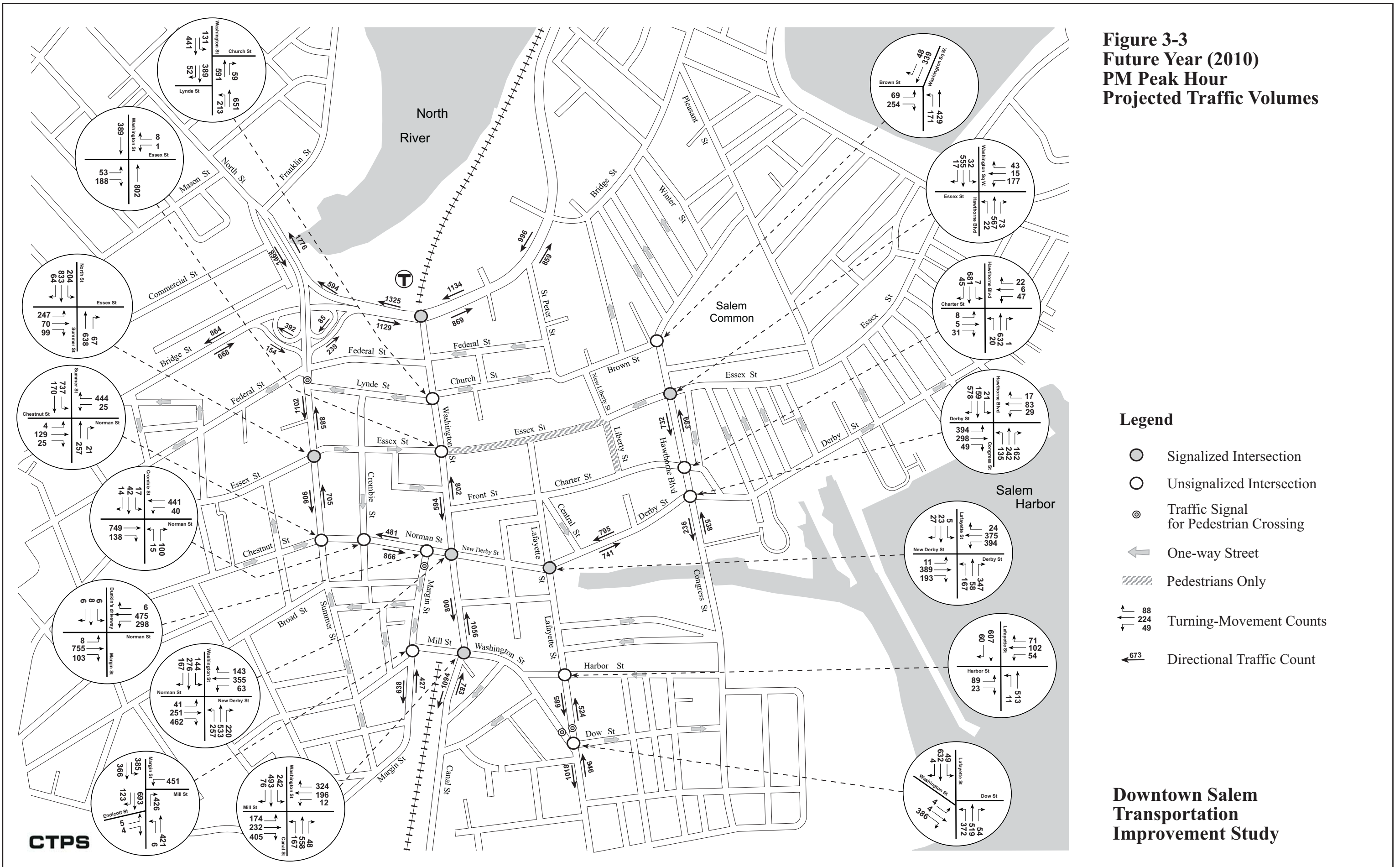
As this study primarily focused on near-term traffic and pedestrian issues in a well-developed downtown area, the horizon year 2010 was selected. In addition to the socioeconomic forecasts, CTPS reviewed historical traffic data on the state highways, travel demand forecasts from the CTPS regional transportation planning model, and traffic predictions from recent transportation studies. It was assumed that traffic on the major roadways in downtown Salem would increase at an annual growth rate of 1% from the base year (2004) to the horizon year (2010) with no major traffic pattern changes. Figures 3-2 and 3-3 show the projections of the future year AM and PM peak hour traffic volumes.

The assumption of annual traffic growth of 1% from 2004 to 2010 is, for planning purposes, a conservative one. The region is forecast to have less than 1% employment growth and slight negative population growth from 2000 to 2010 (see Table 3-2). The number of households is expected to increase only slightly, and the average number of trips per household, though it may increase, may stay the same. Therefore, traffic growth during this period due to socioeconomic development is considered to be marginal. However, the new Bridge Street bypass road is expected to be in place by 2010. The project will add capacity to the section of Bridge Street between Veterans Memorial Bridge and Washington Street, and potentially will induce traffic other than that predicted from socioeconomic development. As the roadway capacities beyond the section will not be increased, the magnitude of the induced traffic is constrained. Also, the project will not alter the existing Bridge Street’s connections to Route

**Figure 3-2
Future Year (2010)
AM Peak Hour
Projected Traffic Volumes**



**Figure 3-3
Future Year (2010)
PM Peak Hour
Projected Traffic Volumes**



Legend

- Signalized Intersection
- Unsignalized Intersection
- ⊙ Traffic Signal for Pedestrian Crossing
- ← One-way Street
- ▨ Pedestrians Only
- ↖ 88
↗ 224
↘ 49 Turning-Movement Counts
- ← 673 Directional Traffic Count

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114 (North Street) and to Route 1A (Winter Street). It was assumed that the existing downtown traffic patterns would not be changed.

3.4 Future Traffic Conditions

This section examines the future traffic conditions without any proposed improvements except the Bridge Street bypass road. Based on the projected traffic volumes, CTPS performed intersection capacity analysis and traffic simulations to analyze the future traffic conditions. Figure 3-4 and Figure 3-5 summarize the future-year AM and PM peak hour intersection capacity analyses for major intersections in the downtown area. Detailed analysis and results for each of the intersections are presented in Appendix C.

In 2010, the intersection of Bridge Street at Washington Street will be converted from a traffic rotary to a signalized intersection and is expected to operate at acceptable level of service (LOS) C in both the AM and PM peak hours. The analysis is based on the Bridge Street bypass road 100%-design plan and a projection of nearly 200 pedestrian crossings per peak hour. Traffic conditions at all other intersections are generally expected to deteriorate somewhat from the existing conditions (see Figures 2-7 and 2-8) due to traffic volume increases with no improvements. Traffic conditions at some intersections that currently operate near capacity, such as the intersections of Washington Street at Canal Street/Mill Street, Essex Street at North/Summer Street, and Derby Street at Congress Street/Hawthorne Boulevard, are expected to deteriorate faster than conditions at other intersections.

Traffic simulations indicate that traffic congestion on the following roadway sections would become more intense during the peak AM and PM hours under the future conditions without improvements:

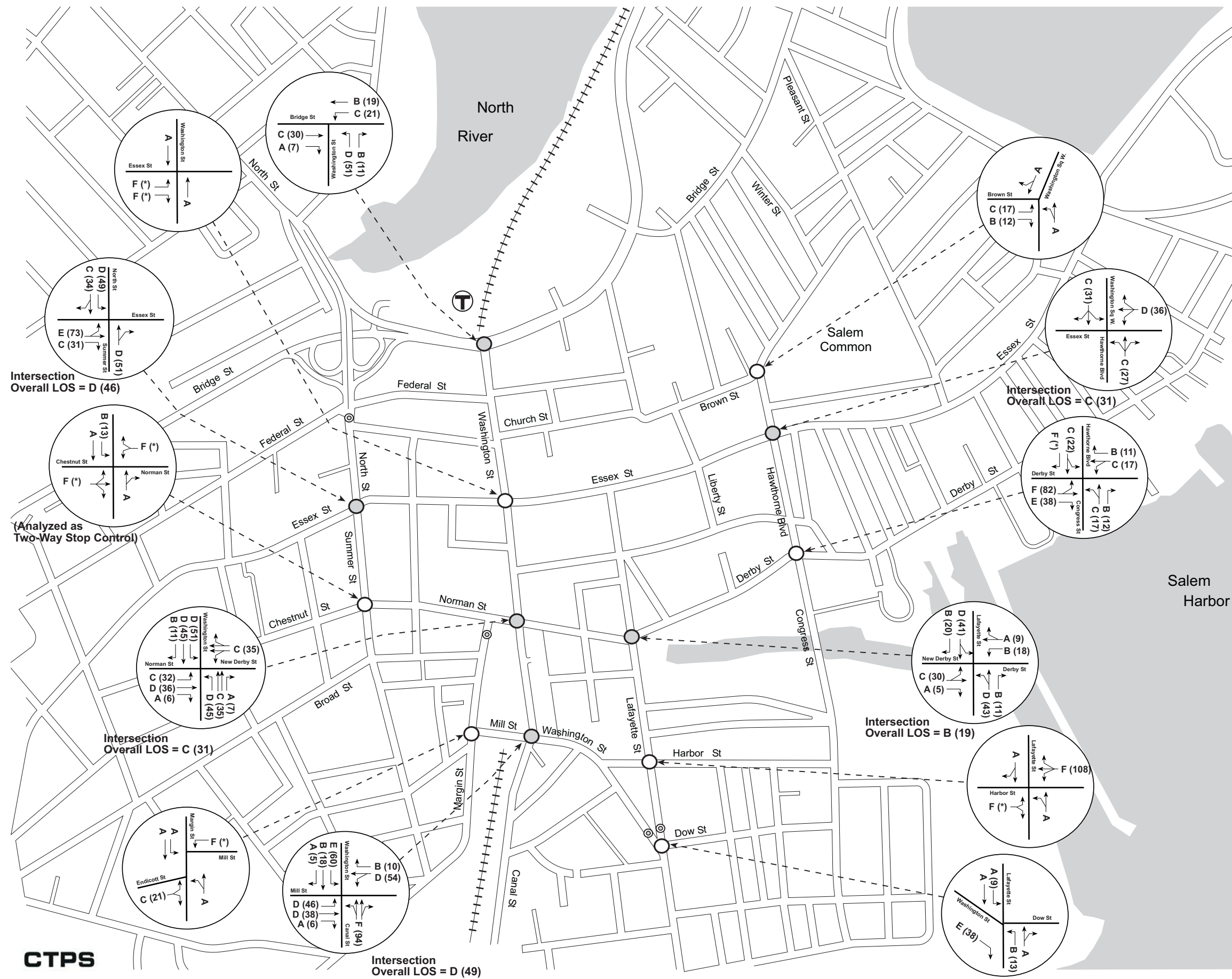
- Route 114 northbound
 - Washington Street from Lafayette Street to New Derby Street
 - Norman Street/Summer Street from Washington Street to Essex Street
- Route 114 southbound
 - North/Summer Street/Norman Street from Lynde Street to Washington Street
 - Washington Street from Canal Street to Lafayette Street
- Route 1A northbound
 - Lafayette Street from Harbor Street to Derby Street
 - Derby Street/Hawthorne Boulevard from Lafayette Street to Essex Street
- Route 1A southbound
 - Washington Square West/Hawthorne Boulevard from Brown Street to Derby Street
 - Derby Street from Liberty Street to Lafayette Street
- Other roadway sections
 - Washington Street northbound from New Derby Street to Bridge Street
 - Washington Street southbound from Lynde Street to New Derby Street
 - Canal Street northbound from Pond Street (or further south beyond modeling area) to Washington Street
 - Mill Street westbound from Washington Street to Margin Street

Traffic simulations also indicate that the following segments within these roadway sections would be particularly congested during the entire peak hour:

- Washington Street (Route 114) northbound from Harbor Street to Canal Street
- Summer Street (Route 114) northbound from Norman Street to Essex Street
- Norman Street (Route 114) eastbound from Summer Street to Washington Street
- Derby Street (Route 1A) northbound from Liberty Street to Hawthorne Boulevard
- Hawthorne Boulevard (Route 1A) northbound from Derby Street to Essex Street
- Washington Street northbound from New Derby Street to Essex Street
- Canal Street northbound from Pond Street to Washington Street
- Mill Street westbound from Washington Street to Margin Street

Congestion in these roadway sections and segments is mainly caused by congestion at intersections or close spacing of intersections. Potential remedies to reduce congestion at major intersections and feasible coordination of signals for closely spaced intersections are analyzed and discussed in the next chapter.

**Figure 3-4
 Future Year (2010)
 AM Peak Hour
 Intersection Capacity Analysis**



Legend

- Signalized Intersection
- Unsignalized Intersection
- ⊙ Traffic Signal for Pedestrian Crossing
- ↔ B (12) Level of Service (Delay per Veh.)
- ↔ E (63) Level of Service (Delay per Veh.)
- ↔ F (*) Delay per Vehicle > 120 Sec.

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