

SOUTH BOSTON WATERFRONT

SUSTAINABLE TRANSPORTATION PLAN



Existing Conditions Report

TASK 2 AND TASK 4.1 DELIVERABLE | AUGUST 2014



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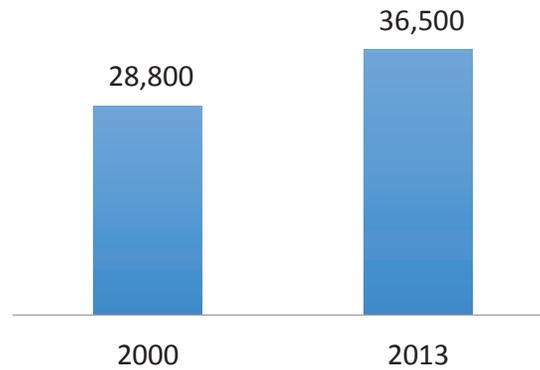


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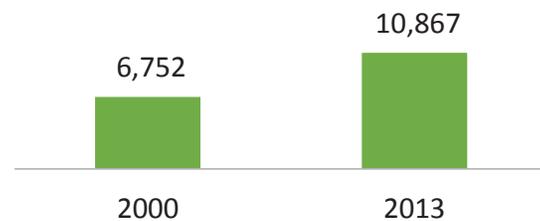
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Employment in the South Boston Waterfront has grown 27%



The number of people living in the South Boston Waterfront has increased 61%



EXECUTIVE SUMMARY

Purpose of the Plan

The South Boston Waterfront Sustainable Transportation Plan is being developed both as a strategic plan – providing a blueprint for the transportation system improvements over a 20 year planning horizon – and an action plan defining more immediate strategies to address existing transportation and mobility issues, capacity constraints, transit, pedestrian and bicycle needs, and operational enhancements. The current effort builds upon the City’s 2000 South Boston Transportation Plan that documented a vision for the Waterfront in anticipation of the Central Artery/Tunnel (CA/T) project then underway.

Changes Since 2000

Much has changed in the almost 15 years since the 2000 South Boston Transportation Plan was published. While the majority of recommendations presented in that plan have been implemented, the changes are significant enough to commence a new look at the Waterfront and shape new recommendations moving forward. The Waterfront has seen an additional 9.54 million square feet of development come on line since 2000. Employment has increased by 27 percent and population has increased by 61 percent. Seventy-five percent of all residents who live in the South Boston Waterfront work nearby, including 17 percent of residents who live and work in the neighborhood.

Today

Approximately 33 percent of Waterfront land is related to port activities and industrial uses. The Port of Boston, which is New

England's largest seaport, supports approximately 34,000 jobs; with 1,600 companies importing and exporting goods through the port (including more than 14 million pounds of seafood in 2013). The Boston Cruiseport continues to grow.

The Waterfront boasts the Boston Convention & Exhibition Center, the World Trade Center, and the Boston Fish Pier Exchange Conference Center (all of which are experiencing record attendance levels) and a host of cultural resources, tourist attractions, and restaurants that are quickly making the waterfront a premier destination.

Transportation Challenges

A substantial investment in transportation infrastructure was made as part of the CA/T project. Fifteen years later, the system has been unable to keep up with the pace of growth. Both transit services and key vehicular gateways into and out of the waterfront are at or nearing capacity. Regularly scheduled water transportation, exclusive bicycle accommodations, direct, and convenient pedestrian accommodations are lacking; and general mobility throughout the Waterfront is challenging. Private companies are offsetting constraints by providing shuttle services to key destinations, which add to the overall congestion levels during peak hours. The movement of freight through the waterfront is also affected by congestion since there are no currently active rail lines serving the port and all freight must move by truck. Finally, the development and use of public open space throughout the waterfront has lagged far behind new construction.

Plan Progress to Date

This report documents an extensive data collection effort related to land use, existing transportation services, and available public space amenities. An integrated network of streets, sidewalks, parks, view corridors; a balanced transportation system; and an accessible waterfront will drive the long-term success of the South Boston Waterfront. As this project continues, next steps include forecasting future planning horizons, evaluating varied development and transportation scenarios, and establishing a short and long term implementation plan that will support economic growth through strategic investments in a sustainable transportation system.

Both transit service and key vehicular gateways into and out of the Waterfront are at or nearing capacity.

Exhibit 1: Locus Map



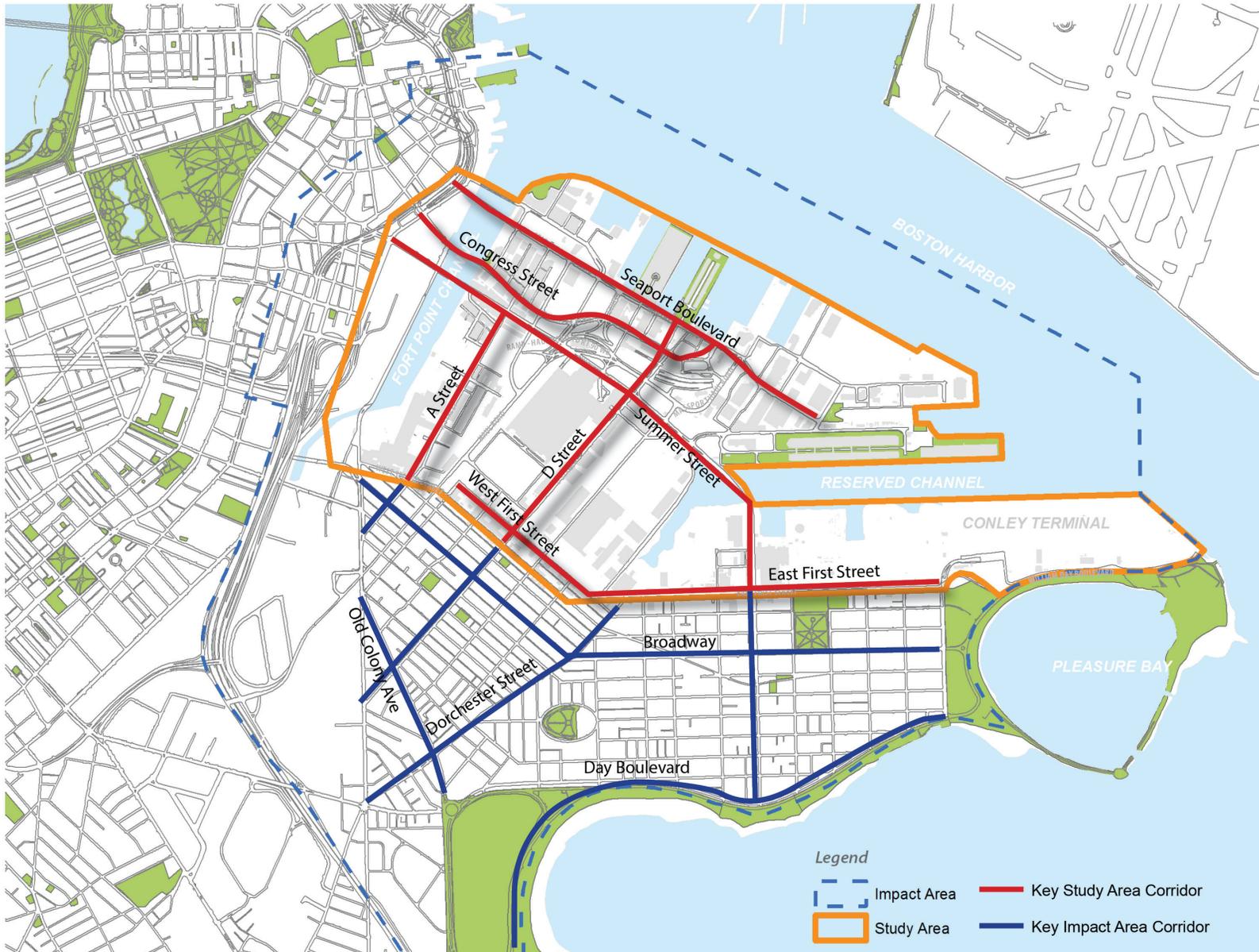
BACKGROUND

The area known as the South Boston Waterfront is located southeast of Downtown Boston and across the Inner Harbor from East Boston (Exhibit 1). The area that comprises the South Boston Waterfront is bound by East and West First Streets to the south, Boston Harbor to the east, and the Fort Point Channel area, to the west, as shown in Exhibit 2.

The attractiveness of the South Boston Waterfront is in large part due to its strategic location abutting historic Boston Harbor, adjacency to Boston's financial district and Logan International Airport, and at the nexus of two major interstate highways (I-90 and I-93). It also features the largest supply of centrally located, underdeveloped land in the City of Boston and is home to an active, growing industrial port.

Infrastructure planning and investment set in motion more than three decades ago (principally, the Boston Harbor Clean-up, Central Artery/Tunnel project, the South Boston Bypass Road, and construction of the Silver Line Tunnel from South Station), along with additional public sector investment in a new Federal Courthouse and the Boston Convention & Exhibition Center (BCEC), have spurred a steady pace of private sector investment and redevelopment in the Waterfront. An accelerated pace of growth in this area has increased tourism, commercial traffic, and residential population leading to congestion and mobility challenges. Approved and planned development is likely to increase these pressures. These increases in transportation demands and congestion sometimes have a spillover effect on the adjoining South Boston neighborhood and on adjacent roads in the Financial District and Downtown Waterfront. Moreover, transit access (via existing services) to the South Boston Waterfront is approaching its capacity. The South Boston Waterfront is and will continue to be an active commercial port with a critical role in distributing goods throughout the region.

Exhibit 2: Study Area



LOOKING BACK

In July 2000, the City of Boston released the 2000 South Boston Transportation Plan, a planning study that documented a vision for the South Boston Waterfront on the heels of the CA/T project. The 2000 study goals were to:

- Protect the residential neighborhood;
- Preserve the working port and industrial land uses; and
- Support appropriate development.

Much has changed in the almost 15 years since the 2000 Plan was published, both in terms of the Waterfront's development and in the transportation system that serves it (see Exhibit 3). Exhibit 4 presents the status of the recommended actions from the 2000 Plan. We have also evolved as to how we plan for transportation needs (i.e. encouraging the use of high occupant vehicle transportation modes, improving access for pedestrians and bicycles, a growing desire to transition to a live-work culture, and the transportation tools and technologies available today). The changes are significant enough to commence a new look at the Waterfront and shape new recommendations moving forward.

Exhibit 3: South Boston Waterfront Transformation

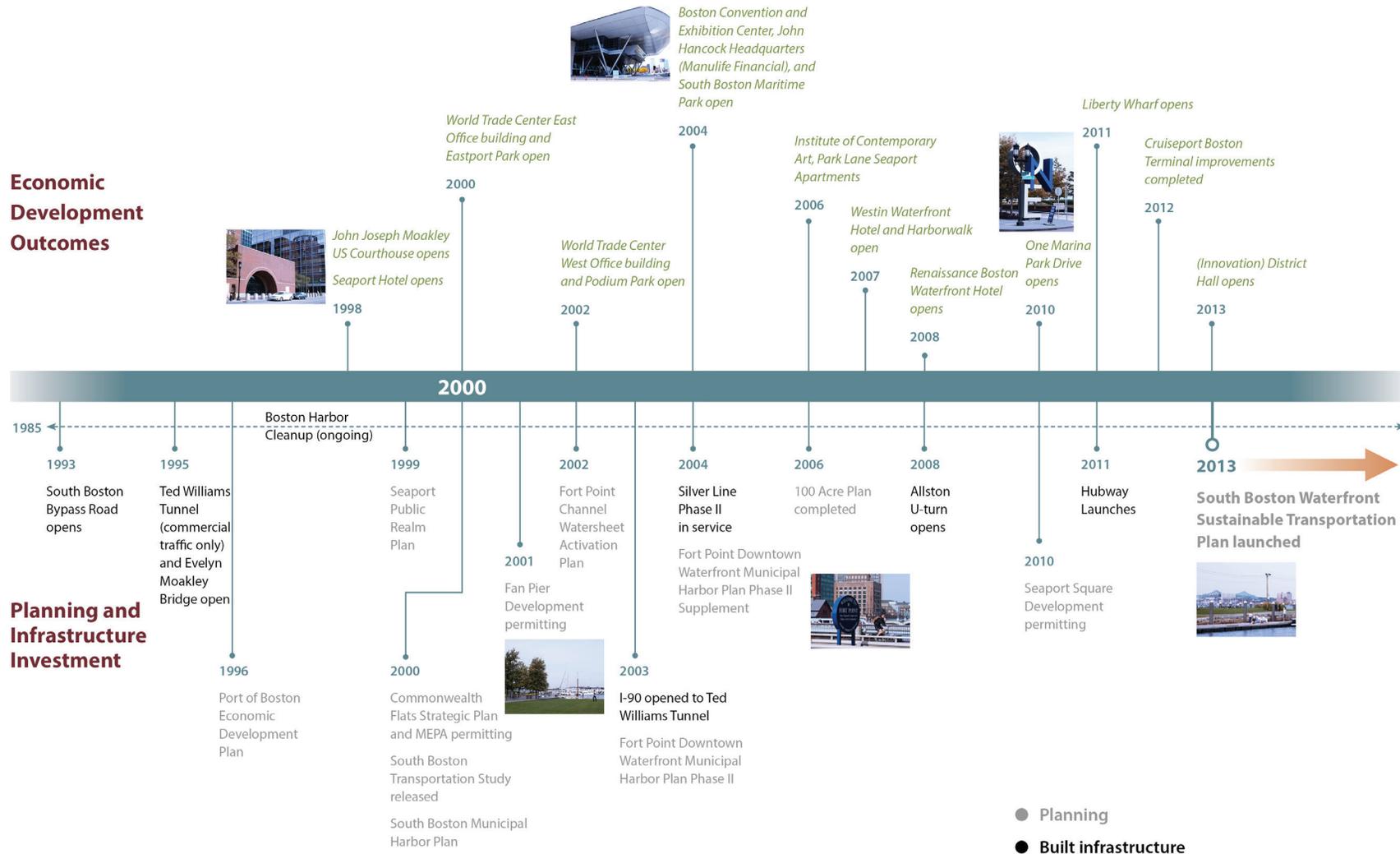


Exhibit 4: 2000 Plan Recommendation Status

	2000 SOUTH BOSTON TRANSPORTATION STUDY RECOMMENDATIONS	PROGRESS REPORT (2000 – 2013)
	SHORT- AND MEDIUM-TERM	
Street System	Advanced secondary street network	<ul style="list-style-type: none"> Commonwealth Flats, Fan Pier, Seaport Square, and other efforts have advanced the planning and, in some areas, implementation of a secondary street network Bicycle accommodations implemented on several roadways
	New Cypher Street connection to South Boston Haul Road	<ul style="list-style-type: none"> Complete
	Upgrade E Street (West First to Fargo) for truck traffic	<ul style="list-style-type: none"> No change
	Improve southern connection from Massport Haul Road to the Boston Marine Industrial Park (BMIP)	<ul style="list-style-type: none"> Initial phase complete
	Complete Conley Terminal Haul Road	<ul style="list-style-type: none"> Design underway
	Complete Kennedy Road connection to North Jetty	<ul style="list-style-type: none"> Complete
Public Transit System	Full Build Silver Line: complete Silver Line Phase 3 with connections to Green and Orange Lines	<ul style="list-style-type: none"> Project on hold due to funding constraints
	Silver Line surface route to South Boston residential neighborhood	<ul style="list-style-type: none"> Extended to BMIP
	Other transit modes: <ul style="list-style-type: none"> Not specific; general advocacy for public transit 	<ul style="list-style-type: none"> No significant change (Proliferation of private shuttles and bus systems)
	LONG-TERM	
Street System	New Ramp Street between Summer Street and new Northern Avenue [Seaport Boulevard]	<ul style="list-style-type: none"> Seaport Square provides local access as part of late development phase
Public Transit System	Increase [Full Build] Silver Line service (89 vehicles/hour)	<ul style="list-style-type: none"> Not implemented
	Grade separate Silver Line at D street	<ul style="list-style-type: none"> Studied, but not implemented
	Urban Ring [Assumed] <ul style="list-style-type: none"> Increase bus capacity 	<ul style="list-style-type: none"> Project on hold due to funding constraints

Land Use Transformation

The South Boston Waterfront area has undergone significant redevelopment over the past 20 years, as illustrated in Exhibit 5. According to data obtained from the Boston Redevelopment Authority (BRA), approximately 24.1 million square feet of developed space exists today (2013) in the South Boston Waterfront – an increase of 84 percent since 1992 and 73 percent since 2000.

Land use in the study area has evolved from the industrial/manufacturing dominated landscape of the early-1990s to more traditional office uses (42 percent), continued industrial/manufacturing/maritime presence (33 percent), and significant growth in the residential, hotel, and convention sectors. Exhibit 6 shows the resulting land use in the South Boston Waterfront today.

Land use in the South Boston Waterfront has evolved from the industrial/manufacturing dominated landscape of the early 1990s to more traditional office uses, continued maritime presence, and significant growth in the residential, hotel, and convention sectors.

Exhibit 5: Land Use Comparison by Building Square Footage

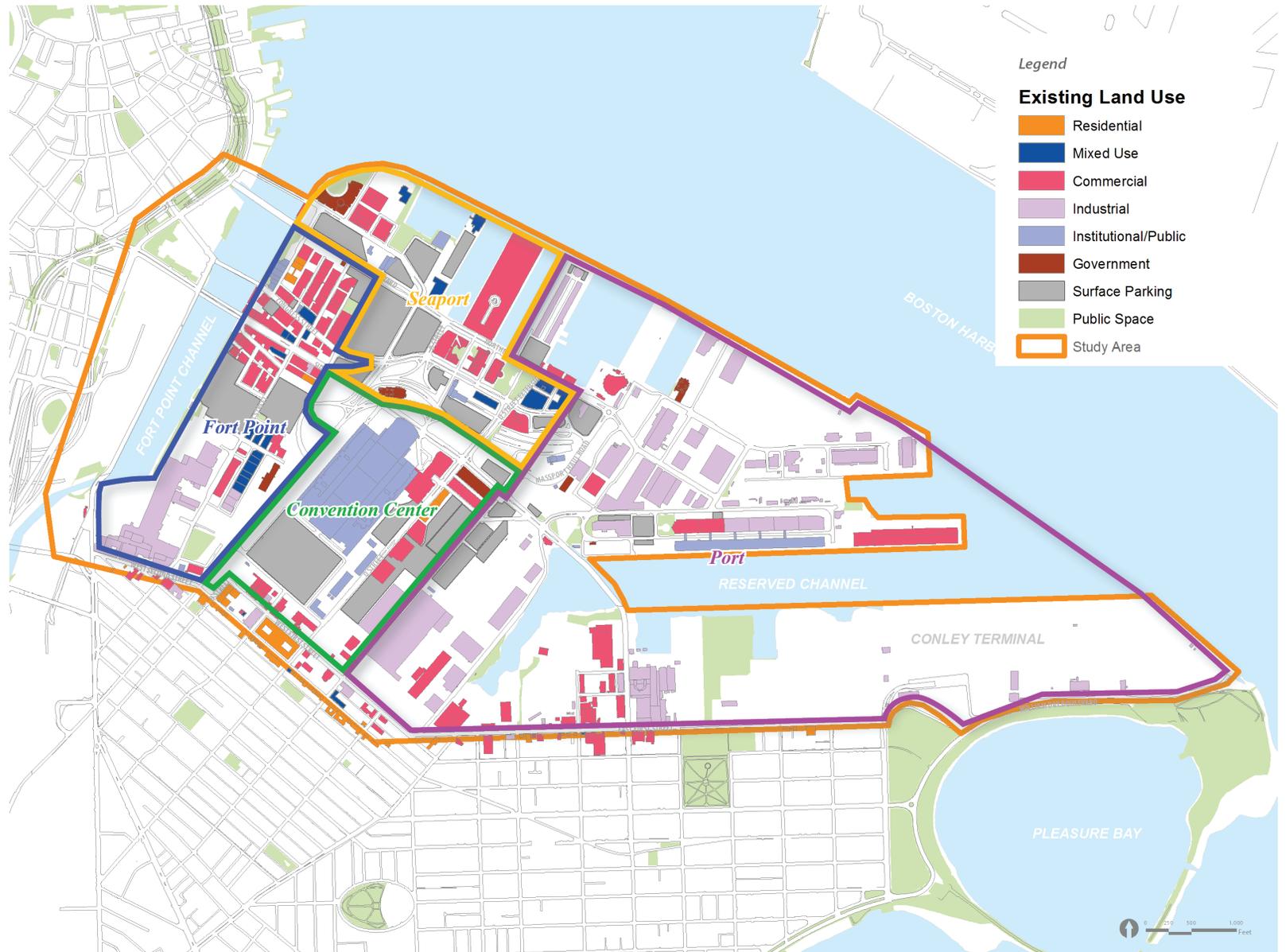
Land Use	Total Square Footage (building)			
	1992	2000	2010	2013
Office	2,732,300	3,607,300	7,111,000	10,156,800
Retail	287,000	318,000	354,800	545,500
Medical/Lab	0	0	44,700	657,700
Cultural/Recreational/ Educational	527,000	527,000	194,200	488,300
Industrial/Manufacturing	9,461,400 ¹	9,100,000 ¹	7,452,000	6,775,700
Maritime Industrial	N/A	N/A	1,111,600	1,130,000
Hotel	0	289,000	1,524,000	1,638,200
Residential	118,300	118,300	1,110,500	1,473,300
Convention	0	0	1,229,900	1,228,400
Total	13,126,000	13,959,600	20,132,700	24,093,900

Source: Boston Redevelopment Authority (BRA).

¹ Includes manufacturing and maritime

N/A Not available

Exhibit 6: 2013 Land Use



Source: Boston Redevelopment Authority, December 2013

Population & Employment

Commensurate with land use growth, both population and employment have increased in the South Boston Waterfront since 2000. A comparison of household, population, and employment growth since 2000 is presented in Exhibit 7.

According to U.S. Census data, approximately 1,857 households were added from 2000 to 2010, resulting in a population increase of 3,227 persons. Additional residential developments came on line from 2010 to 2013, adding approximately 386 households and 888 persons to the area. In total, the South Boston Waterfront has seen a 74 percent increase in households and a 61 percent increase in population since 2000. There are no environmental justice populations living in the study area.

Employment records indicate that there were approximately 28,800 jobs in the South Boston Waterfront in 2000. This number grew to approximately 32,900 jobs in 2010 and to 36,500 jobs in 2013. In total, the South Boston Waterfront has seen a 27 percent increase in employment since 2000, largely attributable to the influx of office, retail, and hotel space over the past 13 years.

Exhibit 7: Demographic Changes Since 2000

	2000	2010	2013	Source(s)
Households	3,014	4,871	5,257 (+74%)	2000, 2010: Census Data 2013: 2010 Census Data + developments completed 2010-2013 (as approved by BRA)
Population	6,752	9,979	10,867 (+61%)	2000, 2010: Census Data 2013: 2010 Census Data + developments completed 2010-2013 (with 2.3 people/household, as approved by BRA)
Employment	28,800	32,900	36,500 (+27%)	2000, 2010: Info USA employment records for 1998, 2002 and 2010; Zip Code Business Patterns for 1998, 2000, 2002 and 2010; CTPS Land Use model 2010 land use assumptions; employment numbers from the Seaport TMA 2013: 2010 employment + developments completed 2010-2013 (employment based on standard BRA ratios)

Note: Summary level employment totals differ slightly due to differences in census tract boundaries between 2000 and 2010 and the available raw data sources.

The South Boston Waterfront has a rich mix of land uses and serves a diverse set of residents, employees, visitors, and convention attendees; each with a specific set of transportation access needs.

SOUTH BOSTON WATERFRONT TODAY

The South Boston Waterfront has a rich mix of land uses and serves a diverse set of residents, employees, visitors, and convention attendees; each with a specific set of transportation access needs. The following sections explore the characteristics of these groups and their transportation needs.

Live Here

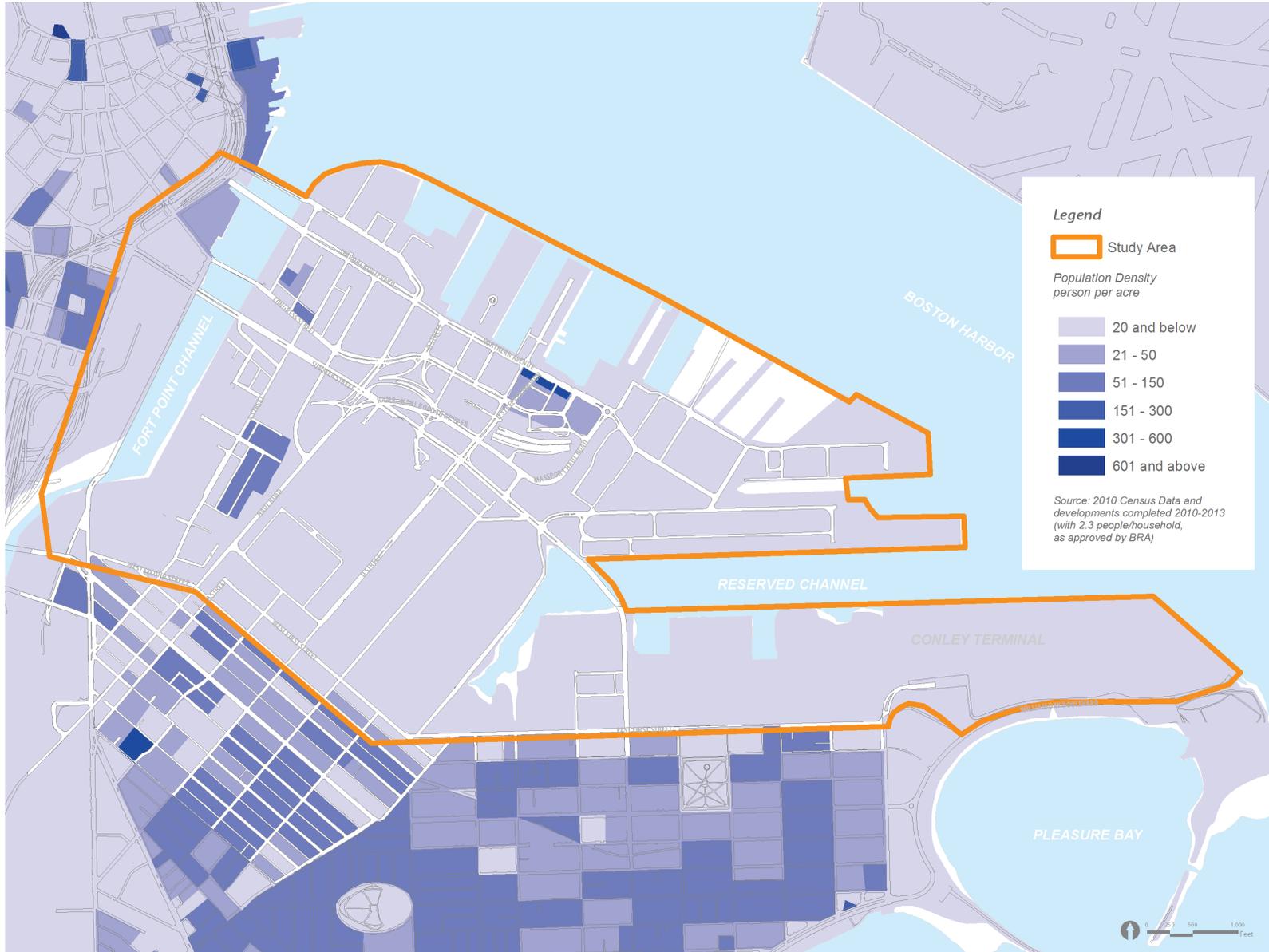
The South Boston Waterfront has seen significant residential development over the past 15 years and today is home to 10,867 residents. As shown in Exhibit 8, denser residential areas are evolving in the district in the Seaport/Fan Pier area, in the World Trade Center area, and in the Fort Point area.

Waterfront Residents

The South Boston Waterfront housing stock has trended towards micro-unit (approximately 400 square feet), studio, one- and two-bedroom apartments and condominiums with robust on-site amenities such as fitness centers, media rooms, and outdoor common spaces. This evolving neighborhood differs from the traditional South Boston residential neighborhood to the south, which is predominantly composed of single- and multi-family homes on larger lots.

The composition of households in the South Boston Waterfront speaks to the population type residing in the area – namely young professionals that are single and without dependents. According to census data, approximately 37 percent of South Boston Waterfront households are families while the remaining 63 percent are categorized as non-family households. About 15 percent of households in the district include people under the age of 18 (i.e. dependents). By way of comparison, approximately 46 percent of households in the City of Boston contain families and 20 percent include people under the age of 18. This trend is also evident in the age distribution in the South Boston Waterfront with 44 percent of district residents between the ages of 25 and 40 (as compared with 27 percent in the age range for other areas of Boston).

Exhibit 8: 2013 Population Density in the Study Area



Where Residents Work

As shown in Exhibit 9, 75 percent of the district’s residents work in the immediate metro-area of Boston, Brookline, Cambridge, or Somerville. Approximately 17 percent of residents both live and work in the South Boston Waterfront or adjacent neighborhood, a result of the emerging mixed use nature of the district.

With a high concentration of residents working in the City, it may be expected that the district would see a significant non-automobile mode share. However, transit, pedestrian, and bicycle connections

from/to the South Boston Waterfront are fairly limited when compared to other Boston neighborhoods. As a result, approximately 43 percent of South Boston Waterfront residents drive alone to work¹. By comparison, more central Boston neighborhoods such as Back Bay, Chinatown, or the North End have resident drive alone mode shares ranging from 15 to 25 percent. Only 14 percent of South Boston Waterfront residents walk or bike to work; the more well connected Boston neighborhoods experience walk/bike shares as high as 50 to 55 percent.

Exhibit 9: Employment Location of South Boston Waterfront Residents

Work Close By:	Percent of Residents	Work in Suburbs:	Percent of Residents
Boston Core	35%	South Shore	8%
South Boston Waterfront & Neighborhood	17%	West Suburbs	7%
Boston: Southern Neighborhoods	9%	Northwest Suburbs	6%
Boston: Eastern Neighborhoods	2%	North Shore	1%
Boston: Western Neighborhoods	8%	Southwest Suburbs	0*
Cambridge/Somerville	4%	Far West Suburbs	0*
Subtotal	75 %	Other	3%
Source: 2006-2010 American Community Survey (ACS) 5-Year Estimates		Subtotal	25 %

* Negligible

¹ Source: 2006-2010 American Community Survey (ACS) 5-Year Estimates

Work Here

The South Boston Waterfront has historically employed manufacturing, industrial, and maritime workers. Since the completion of CA/T, there has been a substantial increase in office and service industry employment. Total employment in the South Boston Waterfront has grown to 36,500 jobs in 2013². Major new employers between 1998 and 2013 include: Fidelity Investments, Manulife Financial (John Hancock), John Joseph Moakley US Courthouse, Seaport Hotel, BCEC, Westin Waterfront Hotel, Nutter McClennen & Fish, Fish & Richardson and Renaissance Boston Waterfront Hotel.

Where People Commute From

Exhibit 10 provides a summary of the residential distribution of persons who commute to work in the South Boston Waterfront.

As shown in Exhibit 9, 37 percent of the district’s workers live in the immediate metro-area of Boston, Brookline, Cambridge, or Somerville.* Approximately 5 percent of workers also live in the South Boston Waterfront or adjacent neighborhood. About 58 percent of the district’s employees live in the Massachusetts suburbs, with the largest share (24 percent) commuting from the South Shore.

According to the 2006-2010 American Community Survey (ACS), approximately 53 percent of South Boston Waterfront employees drive alone to work and 31 percent take transit. By comparison, Boston neighborhoods that have better access to transportation alternatives such as Back Bay, Chinatown, or the North End have worker drive alone mode shares ranging from approximately 30 to 35 percent and transit shares as high as 50 to 55 percent – essentially the inverse of South Boston Waterfront commuter mode share.

More than half of South Boston Waterfront employees drive alone to work compared to less than one-third in other Boston neighborhoods with better access to transportation alternatives

Exhibit 10: Residential Location of South Boston Waterfront Employees

Live Close By:	Percent of Workers	Live in Suburbs:	Percent of Workers
Boston Core	5%	South Shore	24%
South Boston Waterfront & Neighborhood	5%	West Suburbs	9%
Boston: Southern Neighborhoods	15%	Northwest Suburbs	13%
Boston: Eastern Neighborhoods	4%	North Shore	9%
Boston: Western Neighborhoods	5%	Southwest Suburbs	2%
Cambridge/Somerville	4%	Far West Suburbs	1%
Subtotal	37 %	Other	5%
		Subtotal	63 %

Source: 2006-2010 American Community Survey (ACS) 5-Year Estimates

² Sources: Info USA employment records for 1998, 2002 and 2010; Zip Code Business Patterns for 1998, 2000, 2002 and 2010 CTPS Land Use model 2010 land use assumptions; employment numbers from the Seaport TMA; developments completed 2010-2013 (employment based on standard BRA ratios).

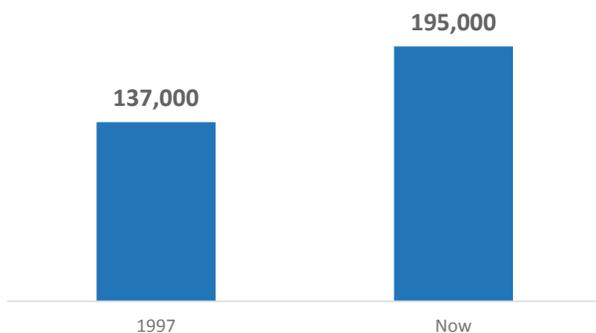
*Survey efforts to identify Environmental Justice Populations in the study area workforce are ongoing.

Working Port and Industries

The Port of Boston is New England’s largest seaport and its activities support approximately 34,000 jobs with the Conley Terminal accounting for over 25,000 of these jobs³. Of these, 1,500 jobs are supported by 40 seafood businesses located in the South Boston Waterfront. Over 1,600 companies import and export goods through the port; more than 14 million pounds of seafood were processed port-wide in 2013; and about 67 percent of the region’s petroleum and all of the jet fuel for Logan Airport come through the port.

The South Boston Waterfront is central to port operations and activity. Massport owns and operates several major maritime terminals and other waterfront properties within the district, including the Conley Container Terminal, Cruiseport Boston, and the Boston Fish Pier. Conley Terminal is the container facility for the Port of Boston. It handled more than \$4.3 billion in import/export value in 2013, or about 195,000 containers (TEUs- Twenty Foot Equivalent Units). This volume translates into about 900 truck trips (entering and exiting) on a peak day. Truck volumes are typically heaviest during the midday hours, outside of commuter peak hours.

Exhibit 11: Growth in Maritime Activities (TEUs)



The Cruiseport Boston has experienced steady growth in passenger levels over the past decade and served 382,000 passengers in 2013.

Freight Movement

Over a quarter of the building space in the South Boston Waterfront today is related to port activities and industrial uses. These uses as well as the periodic load-in and load-out days for conventions in the Waterfront, generate the majority of truck traffic in the study area. The major freight generating/consuming facilities, shown in Exhibit 12, are Conley Container Terminal, BCEC, World Trade Center, Boston Marine Industrial Park (BMIP), Gillette Company, Boston Fish Pier, the US South Station Postal Annex, and the remaining industrial businesses south of Summer Street along the Reserved Channel and West First Street. The BCEC does not generate high truck volumes on a daily basis, but it experiences periodic truck peaks when shows are set up and taken down. BMIP is a 191-acre industrial park which contains 200 businesses and 3,000 employees. The Cruiseport Boston within BMIP generates truck traffic necessary to serve the docked ships. The Boston Fish Pier provides berthing space for the region’s fishermen and seafood processing industries. The Postal Annex is located adjacent to South Station and has long been the subject of relocation negotiations to the Waterfront to enable the MBTA to expand commuter railroad operations. Gillette is the largest manufacturing facility in the City of Boston.

As a result of these activities and the reliance on the highway and local roadway network for freight movement, a network of dedicated and shared use truck routes in the Waterfront (see Exhibit 13) and truck prohibitions in the adjacent South Boston neighborhood have evolved over the years. Today, the South Boston Bypass Road and the Massport Haul Road represent the spine of this truck network.

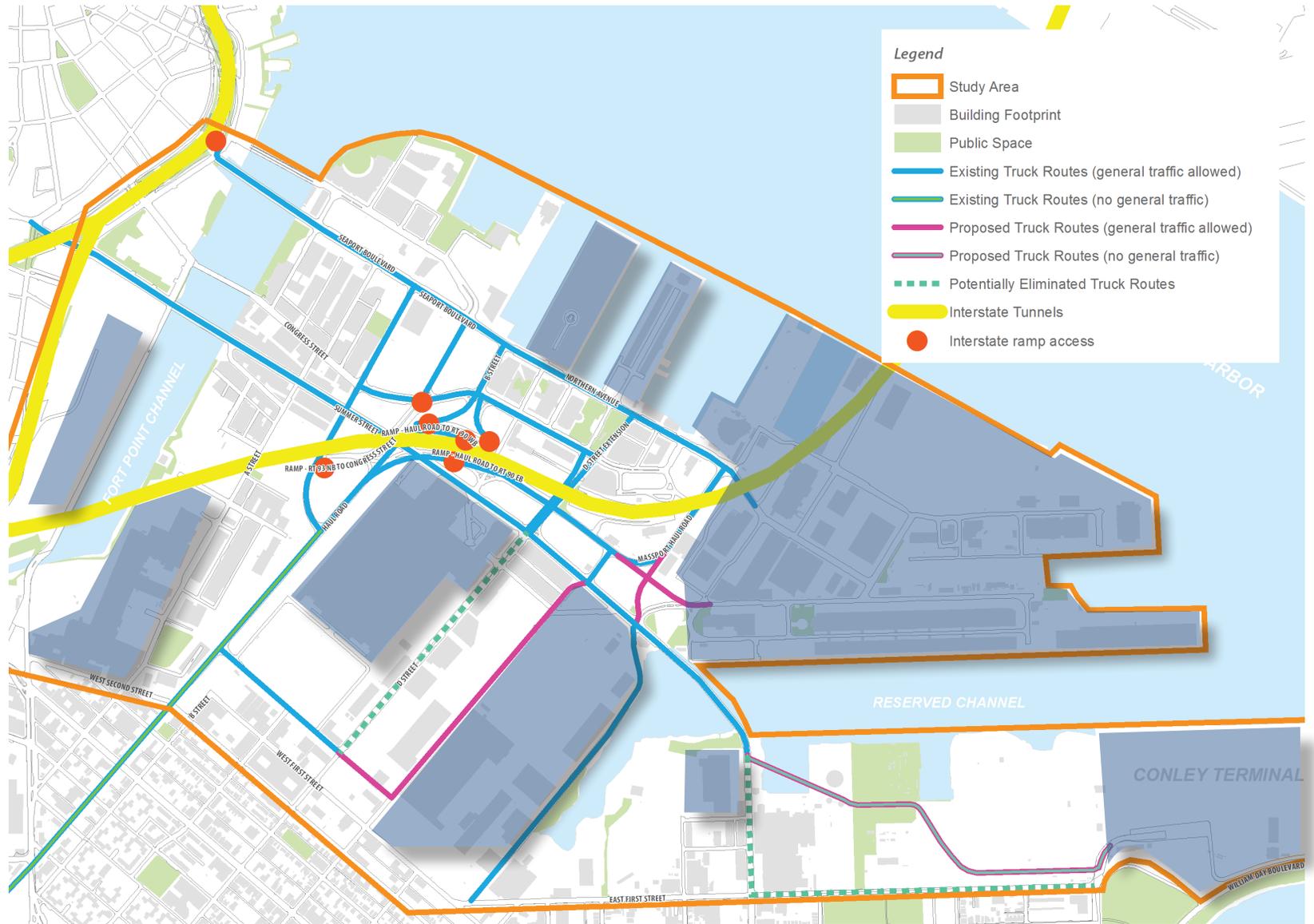
³ Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open Space Environmental Notification Form (ENF); VHB; May 2013. Includes direct, indirect, and inferred jobs.

Exhibit 12: Freight Generating/Consuming Facilities in the South Boston Waterfront



Source: Massport, 2013

Exhibit 13: Current and Planned Truck Routes in the South Boston Waterfront



Convene Here

With the opening of the BCEC in 2004, adding to the existing meeting space at the World Trade Center and Exchange Conference Center (ECC), meeting/convention activity has become a unique aspect in the South Boston Waterfront.

Boston Convention & Exhibition Center

The Boston Convention & Exhibition Center (BCEC) opened in 2004 and is operated by the Massachusetts Convention Center Authority (MCCA). MCCA also operates the John B. Hynes Veterans Memorial Convention Center in Boston's Back Bay, the MassMutual Center in Springfield, and the Boston Common Garage. With an existing total size of approximately 1.6 million square feet (sf), the BCEC includes convention space for large and small scale events. The exhibition hall floor includes 516,000 sf of contiguous space that can be divided into four sections while accommodating up to 25,000 attendees. It also includes 160,000 sf of flexible meeting room space, and a sub-dividable 40,000 sf grand ballroom.

The BCEC held a total of 254 events comprised of Consumer/Gate, International, National, and Regional events in 2013 that attracted a total

of 773,550 attendees (see Exhibit 14). Between event days and event move-in/move-out days, activity took place at the BCEC on 252 total days in 2013, or approximately 69% percent of the days of the year.

The BCEC is multimodal accessible with on-site self and valet parking; designated taxi and limo pick-up/drop-off areas; on-site bicycle storage and Hubway station; sidewalks and signalized pedestrian crossings to other major activity nodes in the district; public transit options; and private charter buses to remote hotels for larger-scale events. The BCEC has a built-in station at Level 0 for the MBTA Silver Line; however, there is currently no regular Silver Line service to the Convention Center. Event patrons are encouraged to take the Silver Line to World Trade Center Station and walk across the viaduct to the BCEC. In general, regional and gate shows generate higher traffic volume while national and international shows generate higher transit use. Details on the existing operations and transportation conditions at the BCEC are provided in the Appendix to this report.

Exchange Conference Center

The Exchange Conference Center (ECC) is located on the Boston Fish Pier. In 2013, ECC hosted 244 events that attracted approximately 10,200 attendees.

Exhibit 14: 2013 BCEC Events by Type

Type of Event	Number of Events	Total Number of Attendees	Percent of Annual BCEC Attendance
International	6	13,727	2%
Consumer/Gate	9	218,438	28%
Regional	200	231,173	30%
National	39	310,212	40%
Totals	254	773,550	

Source: MCCA

Play Here

Since the 2000 South Boston Transportation Plan, the South Boston Waterfront has become a major destination for local and out-of-town visitors, including families, workers, residents, and tourists. Similar to the number of people living and working in the district, visitation has changed substantially over the past 20 years and has more than doubled since 2000. This increase is largely due to the opening of the BCEC and Institute of Contemporary Art (ICA), a substantial increase in the number of cruise passengers (as a home port and port of call for day trips to the Waterfront and downtown Boston), and a proliferation of eating establishments. Exhibit 15 illustrates the locations of a

number of these key visitor and tourist attractions in the Waterfront while Exhibit 17 highlights their estimated annual visitation.

In addition to the attractions listed in Exhibit 15, the Waterfront is currently home to over 70 restaurants for which patron statistics are not available (see Exhibit 16). The majority of these attractions see peak visitation during the summer months and school vacation weeks, while the convention industry generally sees peak attendance during the fall, winter, and spring.

Exhibit 15: Key Visitor Attractions

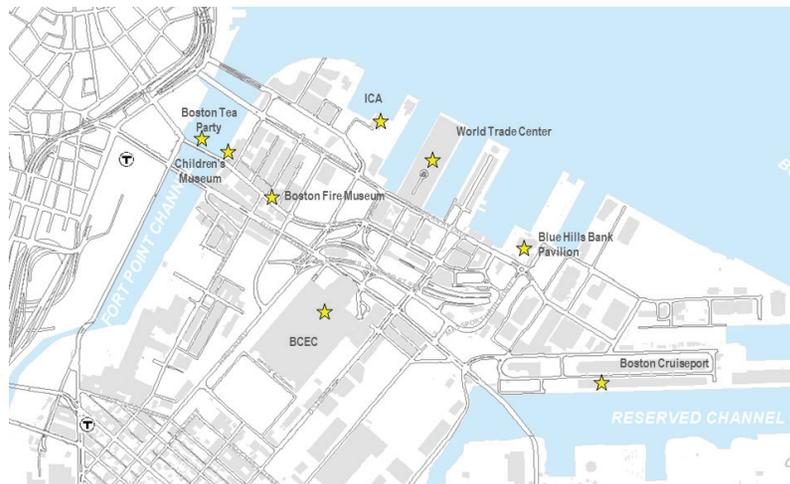


Exhibit 16: Existing Restaurant Locations



Exhibit 17: Annual Visitation at Key Attractions

Major Visitor Generator	Annual Visitation	
	2000	2013
Cruiseport Boston	107,000 ¹	380,000
Blue Hills Bank Pavilion	158,000	175,000
Boston Convention & Exhibition Center	Opened 2004	774,000
Boston Children's Museum	381,000	541,000
Boston Fire Museum	Opened in 2000 ³	16,700
Boston Tea Party Ships and Museum	N/A	N/A
Exchange Conference Center	N/A	10,200
Institute of Contemporary Art	Opened 2006	280,000
Seaport World Trade Center	1,000,000	1,250,000 ²
	1,646,000	3,426,900

¹ Historic data from 1997

² Estimated, inclusive of diners, parkers, meeting attendees, etc.

³ Museum under construction but open on Saturdays. Estimated visitation +/- 3,000.

N/A = Not Available

WATERFRONT ACCESS AND MOBILITY

Despite the changes to population and land use in the South Boston Waterfront, very little has changed in the transportation infrastructure since the completion of the Central Artery Tunnel.

Despite the changes to land use and development throughout the South Boston Waterfront, since completion of the CA/T and Silver Line projects, very little has changed with respect to the transportation infrastructure and the ability of people to easily move through the district. The roadway network completed as part of CA/T was focused on access to the new highway infrastructure. While sidewalks are present, the infrastructure is lacking in its support of non-motorized transportation.

Transit

The South Boston Waterfront is served by MBTA bus and Silver Line service. Three MBTA bus routes (Routes 4, 7 and 11) provide service in the South Boston Waterfront, act as feeder and distributor routes from major transportation nodes, and operate on the surface roadway network. Three Inner Express bus routes (routes 448, 449, and 459) pass through the study area, with three local stops within the South Boston Waterfront. The MBTA Silver Line is a Bus Rapid Transit service originating from South Station operating on the exclusive underground right-of-way with three stations located on the trunk service in the Waterfront.

Service Characteristics

The MBTA operates three Silver Line routes along the Waterfront, stopping at the three trunk stations: Courthouse, World Trade Center, and Silver Line Way. Each route operates on headways between 5 and 10 minutes for a combined frequency through the trunk of 30 buses per hour during the peak (one bus every 2 minutes). After Silver Line Way Station, SL1 branches to Logan Airport via the Ted Williams Tunnel and makes five stops at airport terminals (Terminal A, Terminal B [two

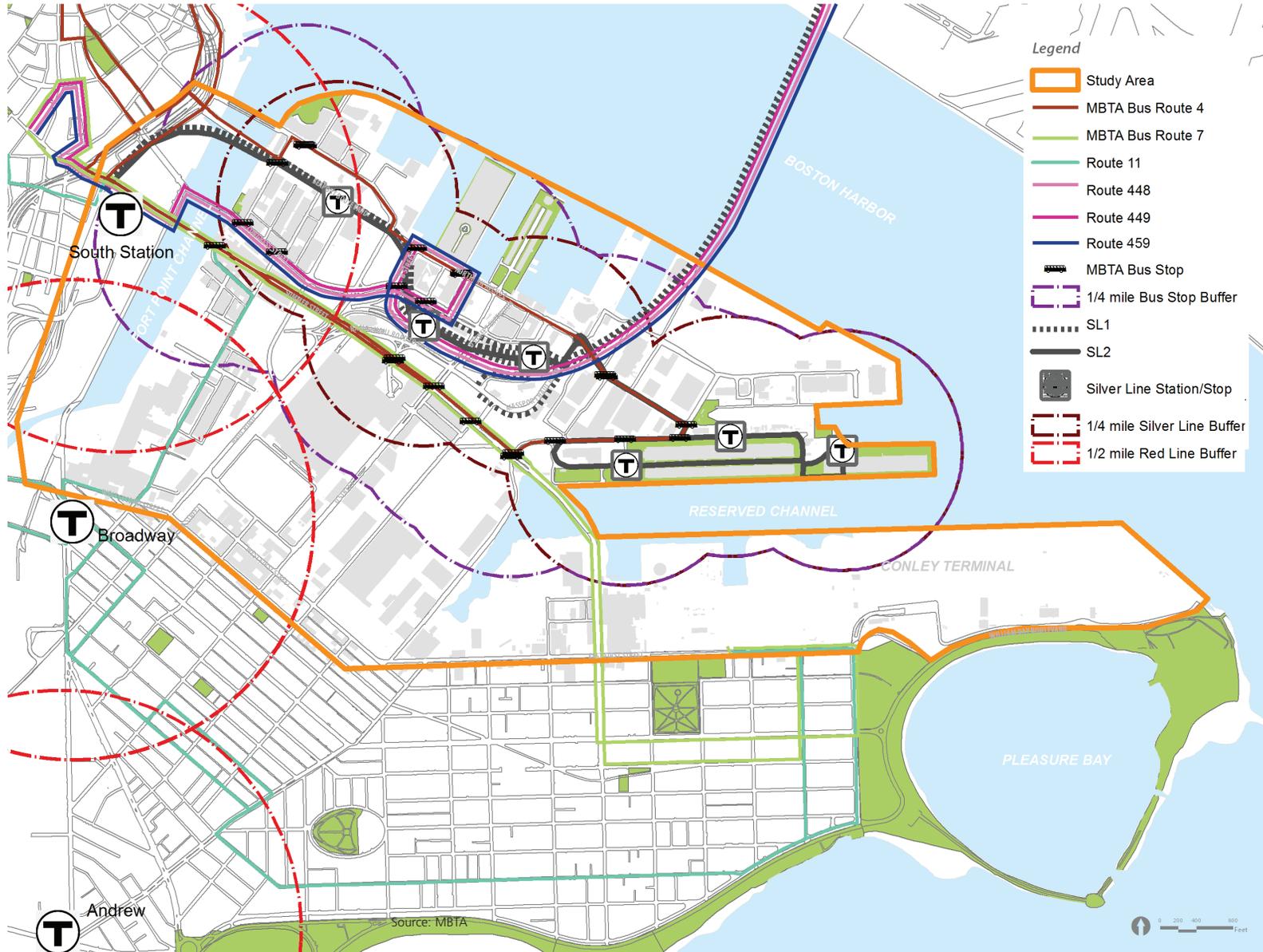
stops], Terminal C, and Terminal E). Each service crosses at grade at D Street prior to arrival at Silver Line Way station. SL2 continues above ground to make eight surface stops within the BMIP. SLW supports trunk service and only travels between South Station and Silver Line Way. Exhibit 18 provides the peak hour headways for each service and Exhibit 19 illustrates the routing through the study area.

Three local MBTA bus routes provide approximately 30 buses during the peak commuting hour. Route 4 operates between the BMIP and North Station. The route varies based on the peak period (morning vs. evening) and direction (inbound vs. outbound). During the morning peak period, Route 4 travels from North Station (outbound) to the South Boston Waterfront via Haymarket and State Street Stations and travels along Northern Avenue/Seaport Boulevard through the South Boston Waterfront. In the inbound direction during the morning peak

Exhibit 18: South Boston Waterfront Transit Service Peak Headways

Bus Route	Origin	Destination	Peak Headway [minutes]
4	BMIP	North Station	12
7	City Point	Otis and Summer	4
11	City Point	Downtown	6
448	Marblehead	Downtown Crossing	30
449	Marblehead	Downtown Crossing	30
459	Salem	Downtown Crossing	60
SL1	South Station	Logan Airport Terminals A, B (2 stops), C, E	10
SL2	South Station	Design Center	5
SLW	South Station	Silver Line Way	5

Exhibit 19: MBTA Transit Service Access



hour, Route 4 runs along Summer Street in the South Boston Waterfront and back to North Station via Atlantic Avenue and Commercial Street. During the evening peak, the inbound route follows the outbound morning route and the outbound route follows the morning inbound route.

Route 7 runs between City Point in South Boston to Otis and Summer Streets in Downtown Boston, serving as feeder service for South Boston residential neighborhoods east of the study area into South Station and Downtown.

Route 11 provides service between City Point in South Boston and Downtown Boston. The inbound route runs through the South Boston residential neighborhood, through the South End via Berkeley and Washington Street. The outbound route runs from Downtown to the South Boston Waterfront via Summer Street and back to the South Boston residential neighborhood via A Street.

Routes 448, 449, and 459 are express bus services that run from the North Shore to Downtown Boston. The 448 and 449 routes provide local service north of Wonderland Station and picks-up and discharges passengers at Wonderland Station and Logan Airport prior to arriving in the South Boston Waterfront. The 459 route provides local service through Salem and Lynn and runs limited stop service, including a stop at Logan Airport's Terminal C, before arriving in the the South Boston Waterfront. They arrive in the South Boston Waterfront via the Ted Williams Tunnel and travel along Congress Street toward Downtown.

MBTA Transit Service Capacity and Demand

The MBTA provides service capacity for about 3,882 passengers through the South Boston Waterfront during the morning peak period, approximately two-thirds of the capacity is via the Silver Line service.

The Silver Line along the South Boston Waterfront operates as a trunk service from South Station and then branches to Logan Airport (SL1) and

Exhibit 20: Peak Hour Peak Direction Transit Capacity

Route	Critical Peak Hour	Peak Direction	Demand	Seated Capacity	Demand/ Seated Capacity	Max Capacity	Demand/ Max Capacity
Route 4	AM	Inbound	126	195	65%	275	46%
Route 7	AM	Inbound	654	585	112%	880	74%
Route 11	AM	Inbound	486	390	125%	550	88%
SL1	PM	Inbound	292	228	128%	318	92%
SL2	AM	Outbound	564	564	100%	792	71%
SLW	AM	Outbound	547	564	97%	792	69%
Route 448	PM	Outbound	63	78	81%	110	57%
Route 449	AM	Inbound	57	78	73%	110	52%
Route 459	AM	Inbound	16	39	41%	55	29%
Total			2,805	2,721	104%	3,882	73%

Source: MBTA

the BMIP (SL2). Exhibit 20 presents the calculated peak hour max capacity and demand for each MBTA route for the peak hour and peak direction. It is important to note that the demand and capacity reflected in Exhibit 16 represents 2012 MBTA composite day boarding and alighting counts provided by the MBTA*. Route schedules and thus route capacities may have changed since these counts were conducted.

As shown in Exhibit 20, the passenger demand is at or exceeds seated capacity (with the exception of Route 4) during the peak hour in the peak direction. In some cases, passengers are left at bus stops or stations since buses are too crowded during the peak hour.

Automated passenger count (APC) data was used to analyze the surface bus routes while manual counts were used to analyze the Silver Line routes. This analysis was used to determine the loading profile of the study area MBTA services and to determine if additional capacity exists entering and exiting the South Boston Waterfront area during the morning and evening peak hours.

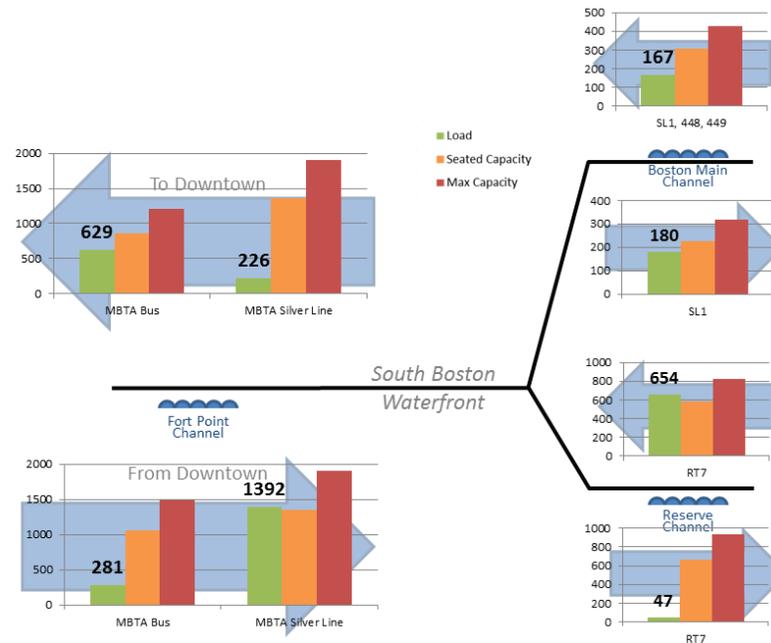
Exhibits 21 and 22 present cordon analyses** and include calculated load, seated capacity, and max capacity for MBTA transit service into and out of the study area as defined by the Fort Point Channel, Boston Main Channel, and the Reserved Channel for the morning and evening peak hours, respectively. The SL1 route and Routes 448, 449, and 459 are the only bus services that cross the Boston Main Channel from the South Boston Waterfront area and Route 7 is the only service that crosses the Reserved Channel from the South Boston Waterfront area. SL2, SLW, and Route 4 all terminate within the South Boston Waterfront area. All nine MBTA services (SL1, SL2, SLW, Route 4, Route 7, Route 11, Route 448, Route 449, Route 459) cross Fort Point Channel and are represented as such in the exhibits.

During the morning peak hour (Exhibit 21):

- Peak directional flow for Silver Line service is across Fort Point Channel into the South Boston Waterfront area.

- The Silver Line is over seated capacity traveling into the South Boston Waterfront from Downtown and for some trips at or over max capacity.
- Peak directional flow for Route 7 is across the Reserved Channel toward the South Boston Waterfront.
- Route 7 is over seated capacity travelling into the South Boston Waterfront and for some trips at or over max capacity.
- There is excess capacity from the South Boston Waterfront to Downtown on the Silver Line and from Downtown to the Waterfront on MBTA bus service.

Exhibit 21: Morning Peak Hour Cordon Demand Analysis

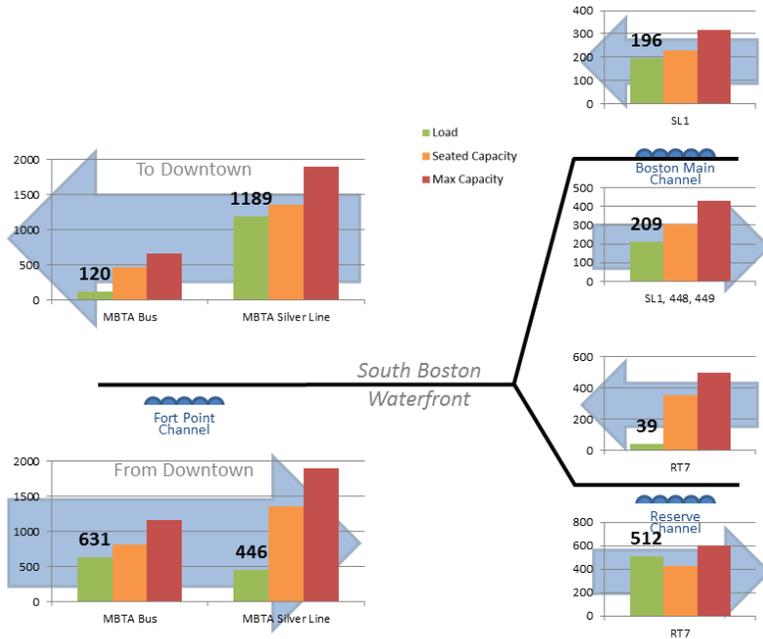


* With the exception of the SL1, SL2, and SLW routes. The data represented for these routes reflects Winter 2013 manual counts

** A cordon analysis typically looks at the vehicular volume travelling across a hypothetical line (the cordon), to understand the volume coming into an area during a particular timeframe. For this analysis, the cordons that were used are bodies of water (Fort Point Channel, Boston Main Channel, and Reserved Channel) as they generally define the study area. The transit capacity and the number of passengers on board were the volumes measured while the morning and evening peak hour were the analysis periods.

Passenger demand is at or exceeds capacity during the peak periods in the peak direction for MBTA Silver Line and Route 7 services

Exhibit 22: Evening Peak Hour Cordon Demand Analysis



During the evening peak hour (Exhibit 22):

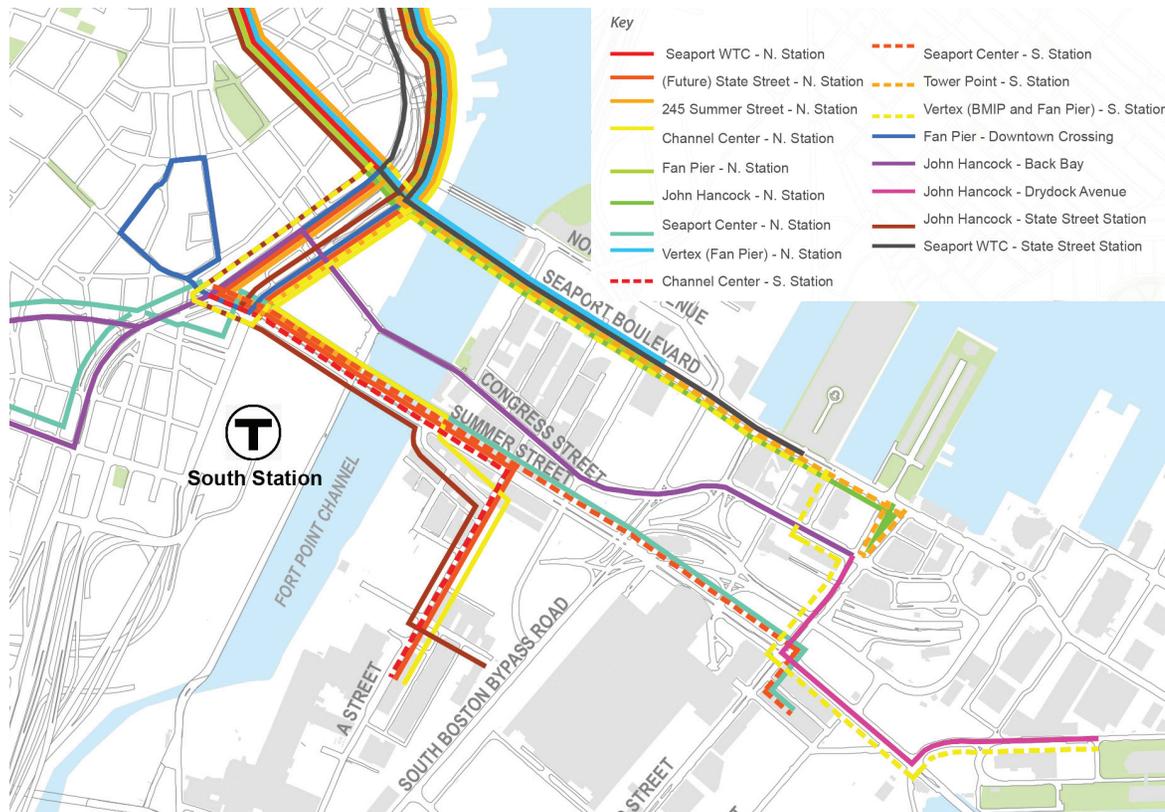
- Peak directional flow for Silver Line service is across Fort Point Channel, toward Downtown.
- There appears to be sufficient carrying capacity on MBTA bus service and the Silver line across the Fort Point Channel in both directions.
- Peak directional flow for Route 7 is across the Reserved Channel from the South Boston Waterfront.
- Route 7 is over seated capacity travelling into the South Boston residential area and for some trips at or over max capacity.

Private Shuttle Service

Similar to year 2000 conditions, several major employers provide shuttle service from the South Boston Waterfront to several key downtown locations and transportation nodes. The number of private shuttles operating during the peak hour has increased from 30 (2000) to 43 (present) covering 14 routes. The private shuttles are currently provided by seven employers and operated by four contractors. Exhibit 23 presents the private shuttle routes through the study area.

A table with the number of routes and their frequency, organized by destination, is presented in Exhibit 24. Under current conditions, the private shuttles operating in the South Boston Waterfront provide as much total peak hour capacity as MBTA bus service in the district.

Exhibit 23: Private Shuttle Service



Source: Seaport TMA

Exhibit 24: South Boston Waterfront Private Shuttle Frequency

Destination	# Routes	Peak Hour Frequency [shuttles/hour]
North Station	7	21
South Station	4	14
Downtown	3	8
Total	14	43

Source: Seaport TMA, MCCA

Water Transportation

There are currently three water transit terminals on the South Boston Waterfront suitable for scheduled passenger water transit services:

- Federal Courthouse: Currently there are no scheduled ferry services to the Federal Courthouse landing.
- Fan Pier: The recently completed (2013) terminal is owned and managed by the Fallon Company. The seasonal Cultural Connector Loop operates from this landing.
- World Trade Center (west): There are several interconnected ferry transit landings under different management. The WTC landing has been used in the past for scheduled MBTA ferry transit, but does not currently serve any routes. To the north of the public landing is the Baystate Cruise Company terminal for its Provincetown services.

The South Boston Waterfront is served by three seasonal ferry operations (see Exhibit 25):

- Inner Harbor Cultural Connector Loop (Fan Pier): Seasonal service operated by Boston Harbor Cruises from the Fan Pier terminal to the Children's Museum in South Boston with a link to the New England Aquarium at Central Wharf. The service is focused primarily on visitor use.

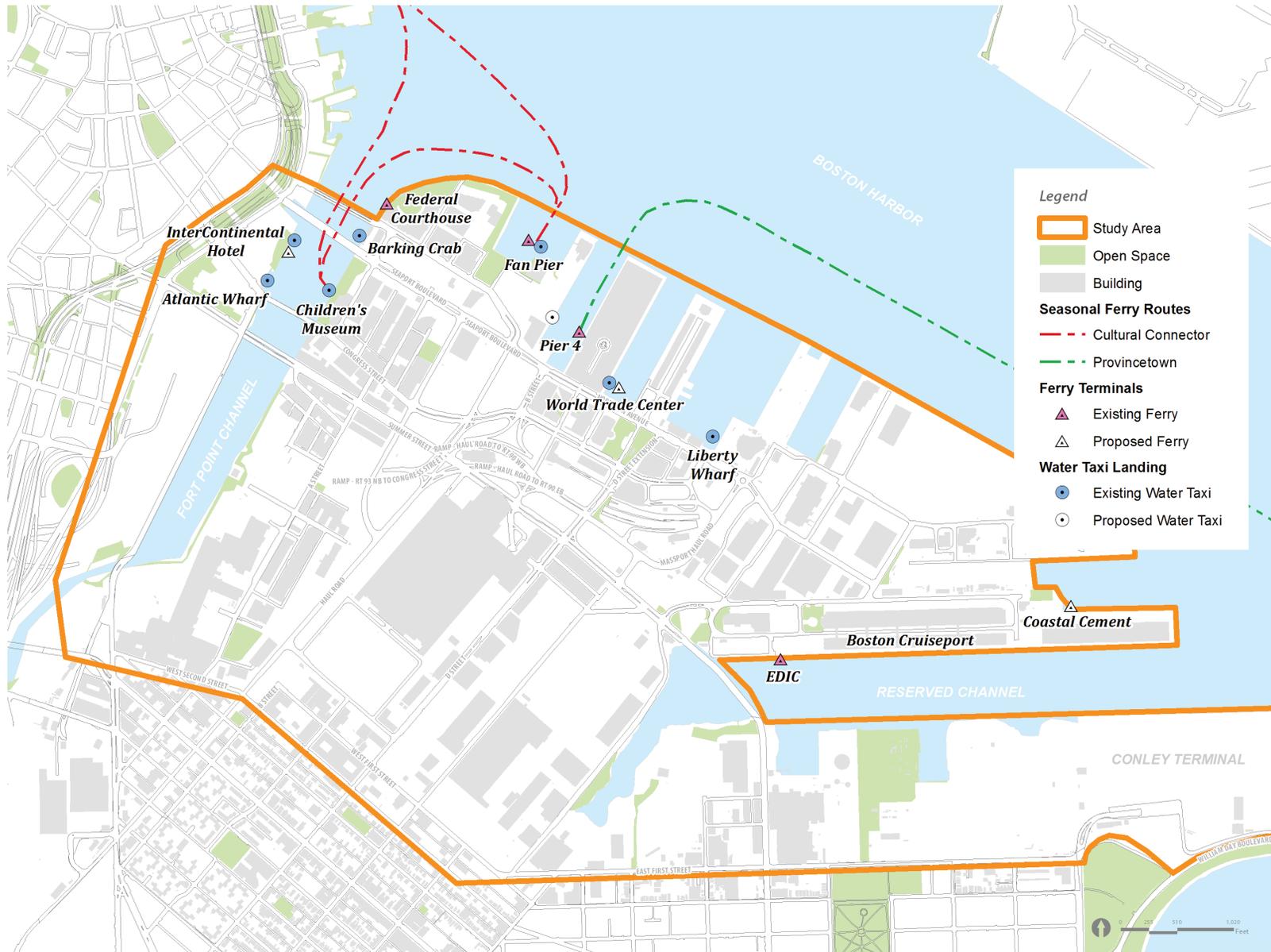
- South Boston (World Trade Center) to Provincetown: Both fast and conventional seasonal ferry service operated by Baystate Cruise Company connect the World Trade Center to MacMillan Wharf in Provincetown.
- South Boston (Cruise Terminal) to Thompson's Island: Seasonal service is provided to Thompson's Island of the Boston Harbor Islands, departing from the EDIC Landing at Cruiseport Boston in the Reserved Channel.

There are also multiple active ferry routes which pass by the South Boston Waterfront and have potential for future service to a variety of destinations, including Spectacle and Georges Islands, Logan Airport, and the communities of Salem, Quincy*, Hull, and Hingham.

In addition to scheduled transit ferries, there is also a network of water taxis/landings serving South Boston which supplement the scheduled water transit operations with both year round and seasonal on-call, point-to-point services. The Boston Harbor vessels are relatively small, priced to match land taxi rates, and not ADA accessible.

* Service to Quincy stopped October 2013

Exhibit 25: Existing Water Transit Services



Roads and Highways

The 2000 South Boston Transportation Study noted that while CA/T increased absolute capacity on the South Boston Waterfront roadway network, the new streets would not provide enough capacity to accommodate all of the planned development in the final “build-out” condition. Recognizing this limiting factor to build-out, two of the larger development areas (100 Acres and Seaport Square) have incorporated into their development planning the need to resolve transportation system capacity issues prior to completing their planned build-out levels. As we approach final build-out; roadway congestion is more noticeable, particularly during the peak commuting hours entering and exiting the Waterfront on the Fort Point Channel bridges. Exhibit 26 illustrates the key gateways to and roadways within the district. A roadway jurisdiction and functional class map is provided in the Appendix. Exhibits 27 and 28 illustrate the demand and available reserve capacity at the gateway access points to the Waterfront. During the morning, reserve capacity still remains at a number of locations and access to the Waterfront, although constrained, is still relatively achievable from all directions. During the evening, reserve capacity is limited and generally unavailable on leaving the district to the South.

Signalized Intersections

Thirty-nine intersections* throughout the study area have been assessed for traffic operations impacts. The following 12 signalized intersections were found to operate poorly during one or both peak hours:

- Seaport Boulevard/Oliver Street at Purchase Street/I-93 SB Off-Ramp (weekday morning peak hour only)
- Seaport Boulevard at Atlantic Avenue/I-93 NB On-Ramp (both peak hours)

- Congress Street at Purchase Street/I-93 WB/I-90 SB On-Ramps (weekday evening peak hour only)
- Congress Street at Thompson Place/A Street (weekday evening peak hour only)
- Congress Street at B Street/I-90 WB Off-Ramp/I-93 On-Ramp (both peak hours)
- Congress Street at D Street (weekday evening peak hour only)
- Summer Street at Purchase Street/Surface Road/I-90 Off-Ramp (weekday morning peak hour only)
- Summer Street at Atlantic Avenue (weekday evening peak hour only)
- Summer Street at Dorchester Avenue (weekday evening peak hour only)
- Summer Street at D Street (weekday morning peak hour only)
- West Second Street at A Street (weekday evening peak hour only)
- Summer Street/L Street at East First Street (weekday morning peak hour only)

Unsignalized Intersections

In general, at unsignalized study area intersections, side street traffic experiences some delay exiting onto the main roadway. A Street at Binford Street is the only unsignalized location studied that shows excessive delay during peak periods. These delays occur during both the weekday morning and weekday evening peak hours.

*As of July 2014, the analysis of roadway conditions has been expanded to include 14 additional intersections in the impact area.

Exhibit 26: Key Gateways and Corridors



Exhibit 27 Supply and Demand Entering South Boston (AM)

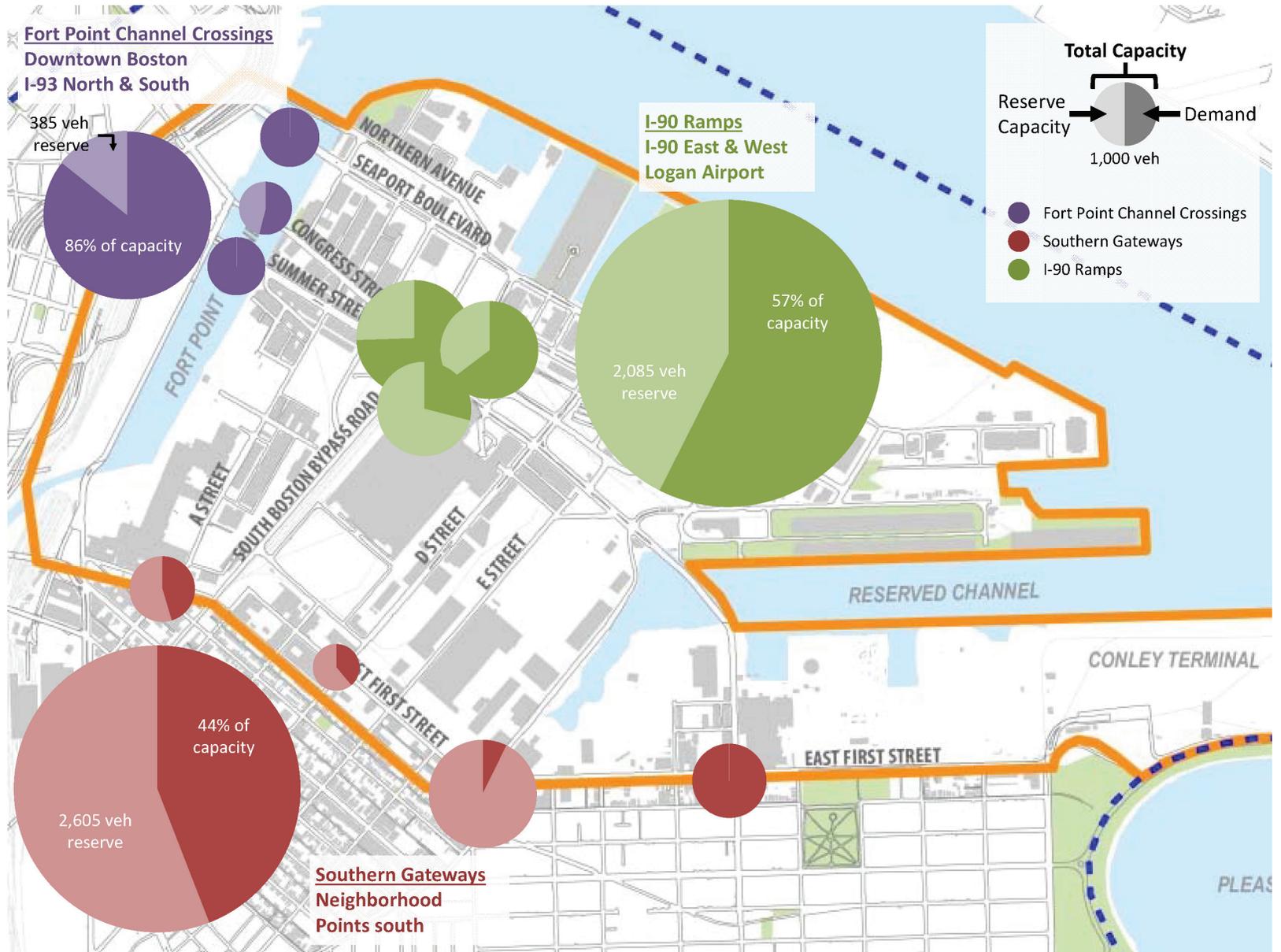
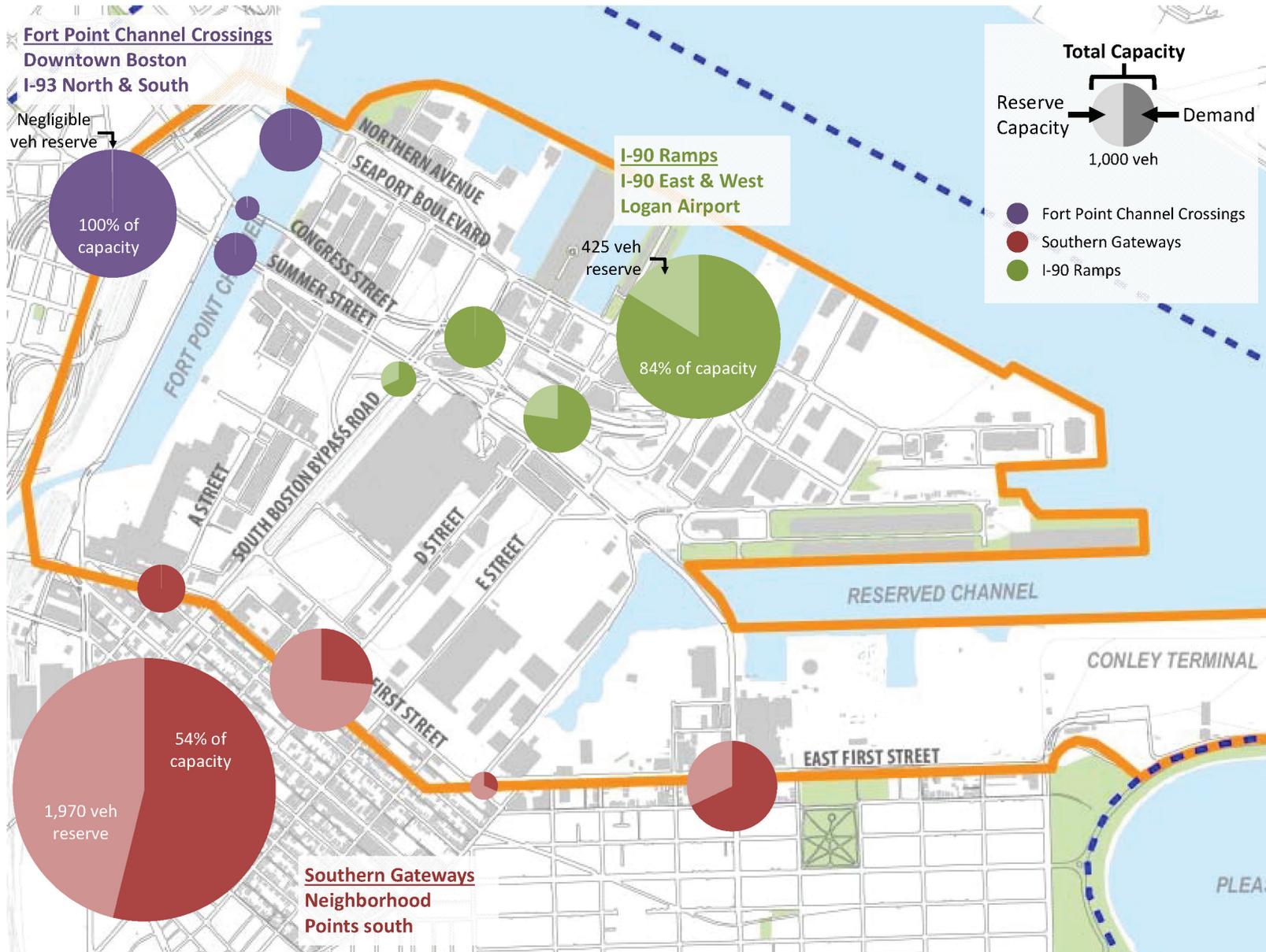


Exhibit 28: Supply and Demand Exiting South Boston (PM)



In the evening peak, Fort Point Channel crossings operate at 100% of capacity

Bicycle

The South Boston Waterfront currently has a limited network of bicycle accommodations which are illustrated in Exhibit 30. There are approximately three miles of shared-use path and on-road exclusive bicycle accommodations contained within the study area. While bicycles are permitted on all roads, they “share the road” on the majority of streets in the study area. Limited public bicycle parking is provided, primarily in the Fort Point and BMIP area. Bicycle accommodations within the study area include:

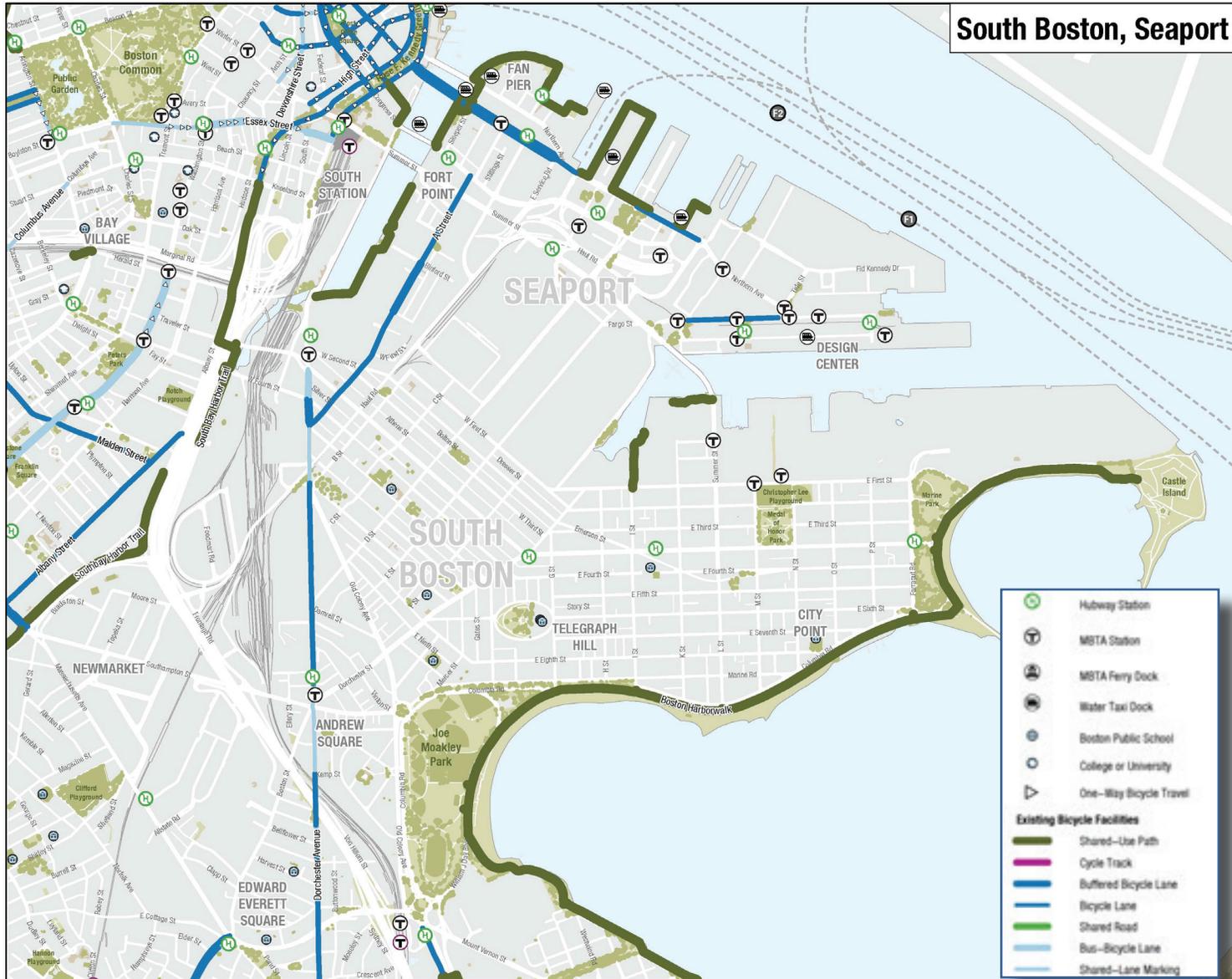
- The Boston Harborwalk provides a shared-use path along the Fort Point Channel, Fan Pier, and around the World Trade Center. Given its location and routing, the Harborwalk is mostly used for recreational purposes.

Exhibit 29: South Boston Waterfront Hubway Station Locations

Location	Capacity (Bicycle Docking Stations)
South Station	47
Congress/Sleeper	19
Seaport Square - Seaport Blvd. at Boston Wharf	19
Fan Pier	13
Seaport Hotel	15
Boston Convention & Exhibition Center	19
Design Center West	19
Design Center East	16
Dorchester Ave. at Gillette Park	13

- A bicycle lane is located on A Street between Dorchester Avenue to the south and Congress Street to the north. The A Street corridor currently provides a good north-south connection with bicycle accommodations between the South Boston Waterfront, the South Boston residential community to the south, and the bicycle accommodations along Dorchester Avenue.
- In Fall of 2013, the City of Boston installed bicycle lanes on D Street between Broadway to the south and Congress Street to the north. This corridor includes a contra-flow bicycle lane between 1st and 2nd Streets.
- The Seaport Boulevard corridor provides a continuous bicycle lane between Fort Point Channel to the roundabout in front of the Blue Hills Bank Pavilion, with a short break in continuity in front of the World Trade Center. It has been observed that restaurant-related pick-up/drop-off activity creates conflict along portions of the bike lane during the evening. This corridor currently provides the only east-west connection with bicycle accommodations within the study area. It also connects to the Moakley Bridge, the only vehicular bridge with bicycle accommodations spanning the Fort Point Channel.
- Seasonally, nine Hubway stations are located throughout the study area (see Exhibit 30). Exhibit 29 provides the location of the Hubway stations and the capacity (bicycle docking stations).
- There are approximately 100 public use, on-street bike racks in the Waterfront.
- It is anticipated that the City of Boston will install a cycle track along Summer Street in the near future.

Exhibit 30: South Boston Waterfront Bicycle Accommodations



Source: Boston Bike Network Plan, City of Boston, Boston Bikes, Toole Design Group
 Note: The TBD has identified 113 existing public use, on-street bicycle racks in the study area

The quality, accessibility, and consistency of pedestrian accommodations varies widely throughout the Waterfront

Pedestrian

The quality, accessibility, and consistency of pedestrian accommodations vary widely throughout the Waterfront. Sidewalks that were reconstructed as part of the CA/T project are generally in good condition and of adequate width and slope to meet the requirements of the Americans with Disabilities Act (ADA) and Architectural Access Board (AAB). However, the connectivity along these sidewalks between key destinations is poor and many users note they often feel you “can’t get there from here.” Some additional observations:

- While east-west streets such as Summer Street, Congress Street, and Seaport Boulevard provide connectivity to downtown Boston, the north-south streets are generally discontinuous and do not reach the water.
- A Street, D Street, and Summer/L Streets provide good access from the traditional South Boston neighborhood to the Waterfront. However, of these, only D Street reaches the northern edge of the waterfront.
- In the Fort Point area, sidewalks have slowly been reconstructed over time, as new developments come online. Sidewalks in this area of the Waterfront are narrower, in some cases (such as on Summer Street) slope severely and do not meet ADA/AAB guidelines.
- Pedestrian scale wayfinding is largely absent throughout the district.

The Harborwalk provides off-road pedestrian access between the Fan Pier area and across the Fort Point Channel on its southern end (when complete, the Harborwalk will connect Dorchester to East Boston). Vertical connections to/from Summer Street consist of two steep metal staircases. These staircases create safety/security issues and potential pinch points in the system, as accessible connections are only provided at Congress Street. The Old Northern Avenue bridge provides off-road

access between the Financial District and Fan Pier, linking the Waterfront with the Rose Kennedy Greenway. The City is currently assessing the structural integrity of the bridge and is considering a plan to rehabilitate it, potentially reviving vehicular access. Finally, a newly constructed path was recently completed along Pappas Way, running along the Reserved Channel from Summer Street to First Street.

Of note through the outreach process, two primary crossing locations were noted as problematic for users. The first location includes all crossings of Seaport Boulevard from B Street to Congress Street. Although not related to the infrastructure design, there have been pedestrian fatalities recorded along Seaport Boulevard in the past and complaints range from difficulty understanding right-of-way to poor plowing and maintenance making crossing a hazard, particularly during the winter. The second location is pedestrian accommodation along the previous C Street corridor – roughly under the World Trade Center Avenue viaduct. This corridor is used as pedestrian access between the Silver Line to Level Zero of the convention center and the Westin Hotel. Many employees walk from the station to their workplace. However, this path requires crossing the entrance to the Massachusetts Turnpike (I-90) and no formal pedestrian crossing accommodations are provided.

The City of Boston’s planned improvements to the Summer Street corridor will address the cross-slope problems along Summer Street and improve the pedestrian accommodations on this link of the pedestrian network.

Pedestrian volumes within the study area vary greatly. Exhibit 31 shows pedestrian activity by study area intersection location. As shown, the heaviest pedestrian activity occurs in the area near South Station and along Atlantic and Purchase Streets.

Exhibit 31: Peak Hour Pedestrian Volume by Intersection



Freight

Freight operations in the area are primarily served by truck. The 2000 South Boston Transportation Study projected that peak period truck volumes entering/exiting South Boston in 2010 would be 3,300 to 3,400 vehicles during the two peak hours. Highway ramps in the South Boston Waterfront provide trucks with direct access to and from all points on I-90 and I-93 with the exception of I-93 from the north. The Summer Street, Congress Street and Seaport Boulevard bridges over the Fort Point Channel provide access to Downtown Boston. The South Boston Bypass Road serves as a dedicated truck link between South Boston, the interstate highway system, and destinations to the south and west of downtown Boston. The Massport Haul Road, which joins with the Bypass Road adjacent to the BCEC, connects these highway ramps and truck routes to South Boston’s industrial areas. Oversize/overweight (in excess of 80,000 pounds except 88,000 for frozen fish carriers) and hazardous material restrictions greatly limit truck movements into and out of the commercial area requiring circuitous routings, and the time-consuming breaking down into smaller sizes of containerized deliveries at the Port. Exhibit 32 presents a comparison between year 2000 and year 2013 peak hour truck volumes

Rail access to the area, which was once robust, is now limited to a 1.6 mile single track, referred to as “Track 61,” paralleling the Bypass and Haul Roads from South Bay Junction to Drydock Avenue. As configured, this arrangement can only handle modest volumes and does not allow direct access to the Dorchester Branch, the primary route for freight traffic heading west. This line is dormant and without an operator today.

Exhibit 32: Historic Truck Volume (Peak Hour) Comparison

	2000 Truck Volumes*		2013 Truck Volumes**	
	AM	PM	AM	PM
Seaport Boulevard Bridge	203	168	121	76
Congress Street Bridge	195	95	37	17
Summer Street Bridge	174	125	118	73
A Street (near Binford Street)	84	113	52	35
D Street (near Summer Street)	384	223	105	45
Northern Avenue	115	172	143	56
Haul Road (near Silver Line Way)	55	39	56	28
Drydock Avenue (near Harbor Street)	29	59	49	15
Summer Street (north of East First Street)	115	53	87	26
East First Street (west of Summer Street)	92	75	12	11
East First Street (west of Farragut Road)	174	157	45	16
South Boston Bypass Road	301	187	89	58

N/A Not Available

* From 2000 Plan (Truck classification not specified)

** Includes single-unit trucks and not buses

Parking

The South Boston Waterfront is currently served by 43 parking areas offering 16,361 vehicle parking spaces. Thirty-four surface lots provide 9,383 (57 percent) parking spaces. The BCEC South Lot, only provides event public parking, includes 1,343 of these spaces. The remaining spaces are provided in parking garages. Exhibit 33 shows the locations of the vehicle parking lots and garages.

Exhibit 34 shows the level of occupancy of the lots and garages in the South Boston Waterfront area during the occupancy peak hour: midday during the middle of the week. The overall existing vehicle parking utilization during a typical weekday is approximately 80 percent and during evenings and weekends between 20 and 30 percent. On an individual basis, the lots most highly utilized are in the Seaport Square area. Parking occupancy data recently collected by Massport shows that approximately 36 percent of the vehicles parked in the Seaport Square area of the Waterfront district (about 1,100 vehicles) are driven by workers destined to the Financial District.

On-street, the City provides 500 metered parking spaces. Additional metered spaces are provided by Massport.

South Boston Parking Freeze

The South Boston Parking Freeze was implemented in 1993 as part of the Massachusetts State Implementation Plan (SIP) to improve air quality required under the federal Clean Air Act. The parking freeze allows for 30,389 non-residential parking spaces allocated to the City of Boston and 10,316 spaces allocated to Massport. As of November 2013, 1,325 parking spaces remain in the parking freeze bank allocated to the City, available for new parking facilities that meet all the criteria of the permit set forth in the regulations.



Existing surface parking facilities along Congress Street

Exhibit 33: Existing Parking Supply (2013)

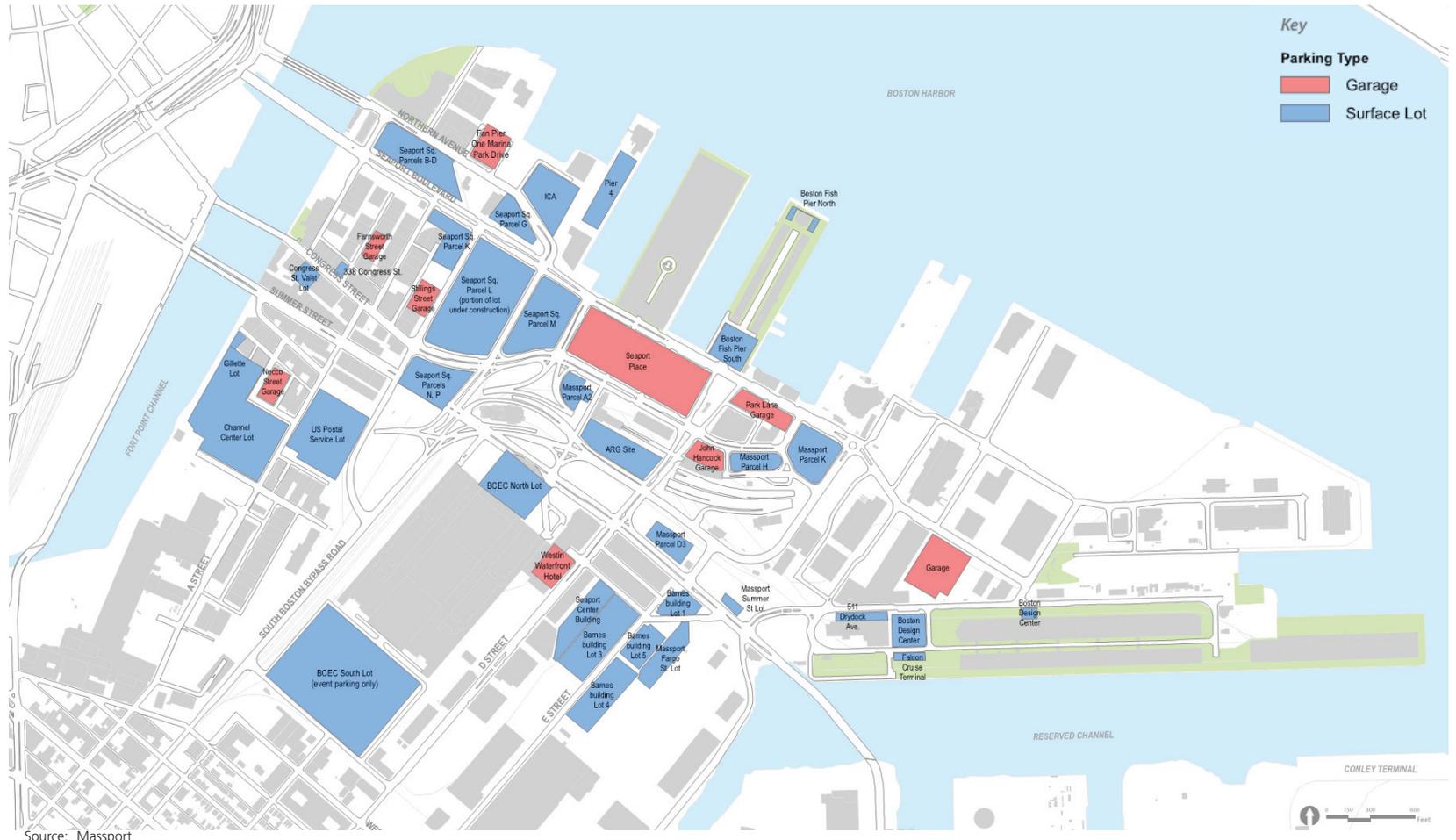


Exhibit 34: Existing Parking Demand



*Source: Massport

WATERFRONT PUBLIC REALM

The South Boston Waterfront is large in scale and diverse in nature; both present challenges to defining neighborhoods and developing a legible urban environment that establishes a sense of place. By comparison, almost all of the well established neighborhoods in Boston's Downtown core area, from North Station to South Station and from the Downtown waterfront to the eastern edge of Back Bay, would fit in the South Boston Waterfront study area (see Exhibit 35). Given the scale of the South Boston Waterfront as Downtown Boston expands beyond its core, it is critical for the next phases of the Waterfront development to be perceived as a collection of mixed-use neighborhoods and districts, each with its own character, yet part of the whole.

The South Boston Waterfront Sustainable Transportation Plan focuses on access, mobility, connections, and integrated multi-modal approaches to transportation and land use planning for short, middle

and longer-term improvements, but the proper integration and interplay of transportation, land use, density and intensity of use, environmental, streetscape planning, and design strategies must be kept in mind to help create a successful and memorable public realm.

The City's 1999 Seaport Public Realm Plan for the South Boston Waterfront established the intent and framework for streets, blocks, open space and building form in order to ensure an integrated public realm environment of distinctive character and lasting quality, executed in a consistent manner. Since then, the area has experienced intensive construction; new projects are coming online, or are now in detailed planning phases. Developers and City planners have used this plan as a framework for project development and review. As the transportation plans for the South Boston Waterfront are updated, there is an opportunity to review and revise the Seaport Public Realm Plan to better support the evolving urban environment.

Exhibit 35: Neighborhood Scale Comparison: Downtown Boston



Given the scale of the South Boston Waterfront, it is critical that the next phases of development define a collection of mixed-use neighborhoods, each with its own character, yet part of the whole.

The varying street and block patterns of the Waterfront can provide a design strategy to organize a series of smaller neighborhoods, each with its distinctive character

An initial review of the public realm, as it is evolving, reveals the issues and design opportunities as follows:

Streets and Blocks

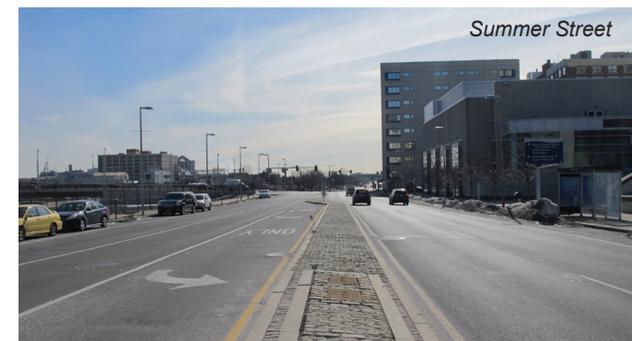
- The street and block patterns (size, shape, orientation and resulting building form) as the plan builds out vary greatly across the District. This pattern can be used as a design strategy to organize the South Boston Waterfront as a series of smaller sub-districts or neighborhoods, each with its own design character and iconic public place or street.
- The City's adopted Complete Streets guidelines will guide future design in this area.
- There is not yet a clear designation or distinction of streets as to their level of importance, role, function, or design character.
- The secondary street network is beginning to evolve on a project by project basis, but has yet to sum to a coherent, interconnected network.
- Accommodation of the full range of users, including automobiles, buses, trucks (where appropriate), bicycles, as well as pedestrians, is inconsistent across the South Boston Waterfront and offers significant opportunity for improvement.
- Summer Street's upper level viaduct and World Trade Center Road provide important connections but are not well integrated with the at-grade street network.
- The street network, to date, has not maximized access to the water; nor developed a coherent interconnected framework of secondary streets and public ways that lead to the water.
- The zone around the Convention Center and over the highway infrastructure is particularly problematic in providing clear access to public streets and the waterfront.
- There is a lack of connectivity between the elevated bridge on Summer Street and A Street.



Seaport Boulevard



Congress Street



Summer Street

Public Transit

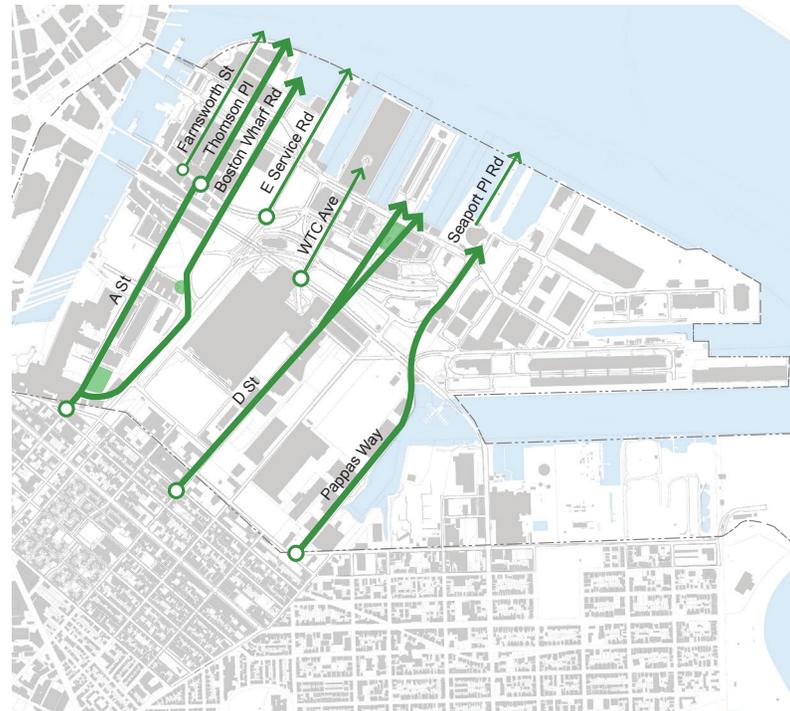
- The public transit stops and stations (Silver Line, ferry and bus routes) are somewhat obscured in the existing urban environment and need to become more prominent, visible, and part of the framework and design vocabulary of the public realm. Better wayfinding is also needed.



The transit mall in Portland, Oregon could serve as a model for multi-modal hubs in the District

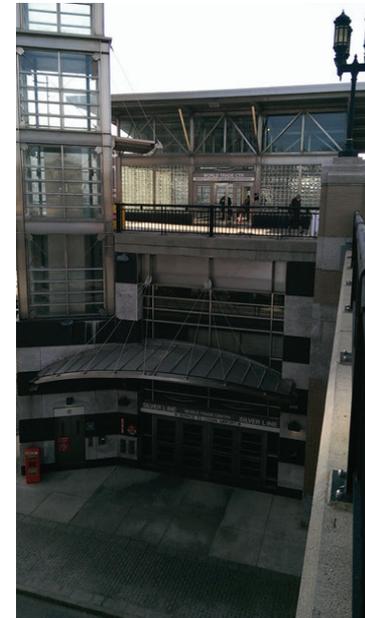
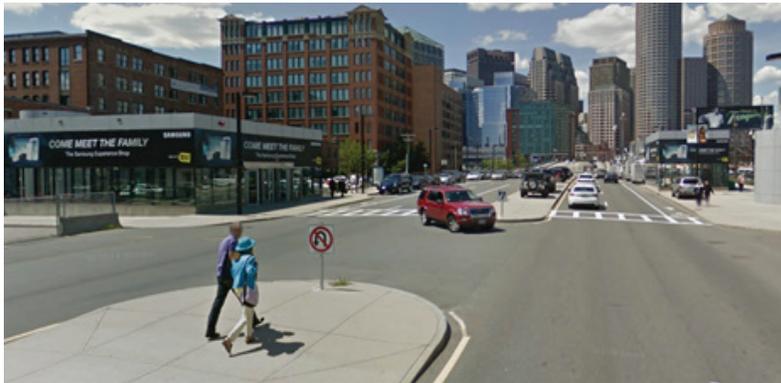
Access to Waterfront

- The pedestrian routes from inland, including the adjacent neighborhoods, to the water and Harborwalk (streets, pedestrian ways and view corridors) should be clearly identified and reinforced. One issue to date has been the location of buildings (permanent or temporary) which have blocked several view corridors to the water.



Pedestrian Access to Public Transit

- Strong connectivity to public transit is a key component in developing a robust public realm, particularly as it relates to the Silver line. As shown in Exhibit 36, constraints noted in the study area include a lack of branding identifying Silver Line stations, large parking areas creating barriers between recent development and the stations, and poor visibility and wayfinding to stations.



*Left-Top: Courthouse Station - Poor station legibility and branding
Source: Google Maps*

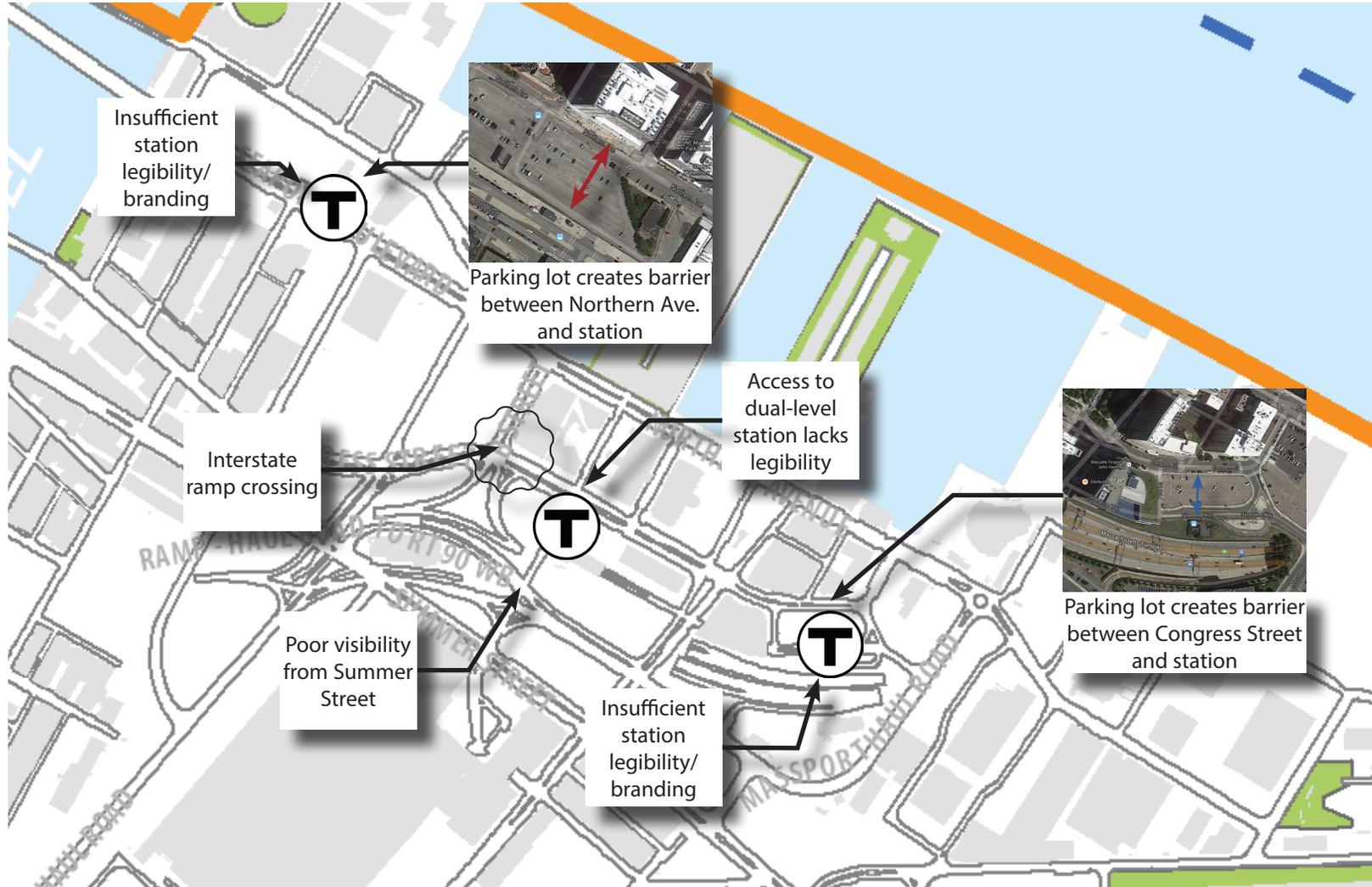
Left-Bottom: The upper level viaduct connecting WTC to Convention Center could provide a more engaging pedestrian experience

Center: World Trade Center Station - Dual level station with poor wayfinding signage and branding

Right-Top: World Trade Center Station - Poor station visibility from Summer Street

*Right-Bottom: World Trade Center Station - Poor lower level station visibility from Congress Street
Source: Google Maps*

Exhibit 36: Pedestrian Access to Silver Line Stations - Challenges

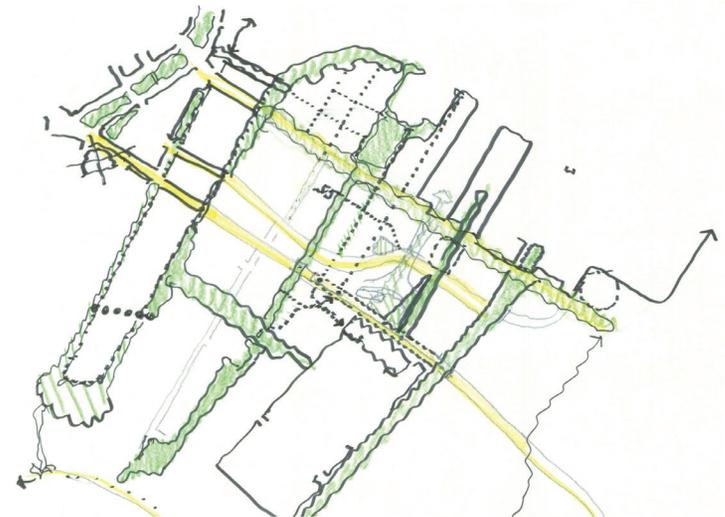


Open Space

- In the City's 1999 Seaport Public Realm Plan, there were few opportunities to locate usable public open spaces inboard from the water (with the exception of the linear park in the 100-Acre Plan). In one sense, the public streets will become one of the most important open space components of the public realm as it evolves. There may be an opportunity to recapture paved areas and underutilized portions of street rights-of-way as usable smaller scale open spaces, as part of an interconnected network of open spaces and areas of pedestrian refuge.
- A clearly articulated transportation system developed through this planning effort, carefully integrated with development of projects planned in the Waterfront area, will go a long way toward addressing the intent of the 1999 Public Realm plan and many of the existing issues identified.
- Additional issues identified:
 - Need for landscaping/trees
 - Issues of grade and vertical disconnect
 - Access to cultural centers
 - Legible access to waterfront area
 - Paucity of public art



Successful open spaces along the Harborwalk in Fort Point Channel



NEXT STEPS

The next steps will forecast the overall multimodal transportation system demands in the South Boston Waterfront and characterize the operational implications if planned development proceeds with no improvement to infrastructure.

In forecasting the planning horizons for the South Boston Waterfront area and important adjacent properties, VHB will work with the Interagency Working Group to update MAPC land use data used by CTPS to more accurately reflect the constructed and planned development programs that have been approved or currently planned. As part of the future projections, the VHB Team will assemble and confirm the land use (development) and operating (convention/event) program assumptions.

Future conditions will be projected for the short-term (2015); mid-term (2020); and long-term (2035). The analysis will focus on a review of peak commuting (motorized and non-motorized) travel but also include a review of off-peak and event-related traffic, pedestrian and bicycle implications, and transit services.