

ACTES

New Urban Trends

International Seminar Boston

08/06/2016



Presentation of the South Boston Waterfront



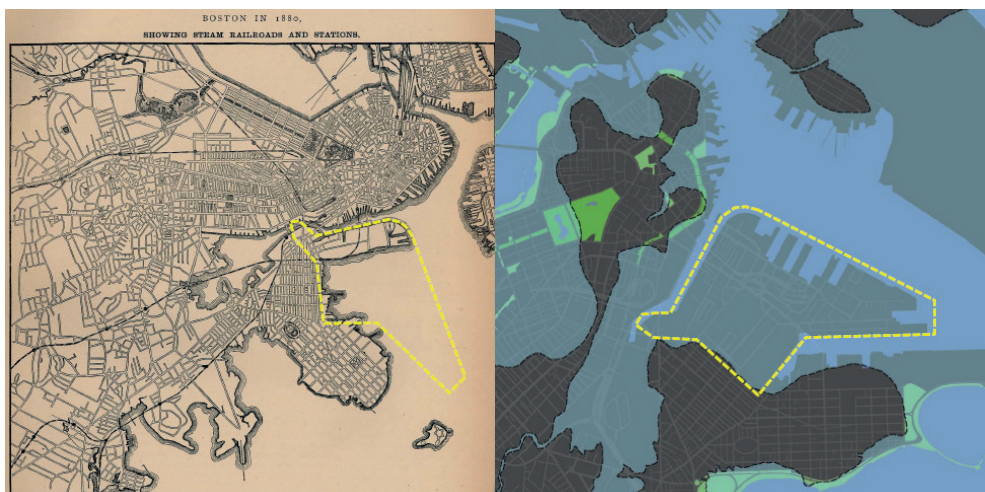
Chris BUSCH
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My name is Chris Busch. I am a waterfront planner with the Boston Redevelopment Authority. The BRA functions as the city's planning and economic development agency, and as such it gets out into the communities and neighbourhoods in and around Boston to develop community-based masterplans which embody the community's vision for their neighbourhood. We use controls as well as urban design guidelines and codify those into zoning, which we also administer.

Regarding the economic development end of things, we work with property owners and project proponents on new developments to guide them through the zoning and permit process, as well as working with communities to help mitigate impacts from those developments, so we are very much integrated into the development community and the community at large within Boston.

It is now a very exciting and energising time to work in the city. We are seeing levels of growth, investment and construction unlike any time in the city's history. We are the 23rd largest city and are top five in construction, foreign investment, venture capital, research and design, so a lot is going on, and a lot of this is focused on the South Boston Waterfront. I will go over some of the history and background of this district of the city, cover some of the public infrastructure projects and planning that have helped set the frameworks for some of the development we are seeing, and look at some of the challenges moving forward for this development as well as the diverse uses within this area.

We are currently located along Fort Point Channel in Atlantic Wharf, right on the shoreline, and the area is the South Boston Waterfront, about 1 000 acres just north of the residential portion of south Boston, south of the inner harbour, east Boston and the airport. Taking a little trip back in time, the historic shoreline of Boston goes back to 1630, and there has been a significant amount of filling, with over 5 000 acres being filled or made land, and all 1 000 acres of the South Boston Waterfront being filled land. This is primarily done to provide access to deep water berthing and navigation channels. It was a coastal city through the 1700s and 1800s, as a primary aspect of the economic engine for the city and the region was access to the waterways and harbours. Four major river systems feed into this area, as well as 34 harbour islands outside Boston, which provided strategic and economic advantage through the early years of the city



Just two weeks ago they were excavating through the foundation for an underground garage and came upon the hull of a sunken ship, which was actually traced back to Maine, and they shut down the construction site for about 10 days so city and local archaeological staff could get in and document it; this is really interesting and a great news story.

Regarding what the waterfront looked like at the turn of the century, the South Boston area was a hive of economic activity, filled with railyards, storehouses, factories, and shipping – it was an engine for the local economy. Then, after World War Two and the mid-century, there was a period of decline, not just in Boston but in many of the urban areas of the US. A lot of the shipping and transfer of goods went from being water- and harbour-based to the railways and roadways throughout the US, draining out a lot of the residential population, industry and manufacturing. Boston went from a population of around 800 000 in 1950 to 500 000 by 1980. Since that time we have been gaining back population and are at about 656 000 now. However, all the rails and storehouses were cleared out by 1972 or 1973.

Fortunately, there were some federal programmes related to urban renewal in this period which provided funding and authority for municipalities and towns to take land by eminent domain that were termed blighted or degraded, clear them and work with private developers to rehabilitate them. The city used this as an opportunity to start to redevelop the city's waterfront. Harbour Towers was the first residential complex within the city, and the New England Aquarium is a great civic resource even to this day. We also had the city's first hotel and a great park and plaza.

What we really wanted to do was to rehabilitate the harbour and improve access to the waterfront. A couple of major public infrastructure projects helped facilitate this through the 1980s and 1990s. The first was the Central Artery tunnel project, which you may have read about – this was a USD 15 billion project to take this elevated highway system which cut through the core of the city for about 50 years, cutting off the waterfront from the downtown neighbourhoods. It was a real visual blight, a noisy and nasty thing, so we took that down and just a few years later replaced it with a park system, a roof garden over this highway system which was suppressed. Now we have about two miles of linear parks, the Rose Kennedy-Fitzgerald Greenway, a great public amenity. There are over 300 activities throughout the year. It is a great place, and property values have skyrocketed through this area. It helps to connect the downtown to the waterfront.

The second major public infrastructure project we had was the Boston Harbour clean-up. Boston Harbour was the dirtiest waterway within the US by the mid-1980s. We had direct discharges of sewage, sludge, and storm-water, because the storm water systems were not being maintained, resulting in a federal court order requiring us to clean up the Harbour. We spent about USD 5 billion in constructing a new waste water treatment plant out on Deer Island, which has been very effective in cleaning up the harbour. We now have some of the cleanest urban beaches in the US, and we have five urban beaches within the city limits which are open and available for swimming almost every day. This is a great story of how the ecosystem was rehabilitated, and it functions to draw people down to the water and investment along with that, as people feel entitled to get down to the harbour and utilise it more frequently.

We started to look to South Boston with all this going on in the downtown district. This area was still cleared of almost any economic use, with a lot of vacant lots and parking even throughout the 1990s, and we looked at this as an opportunity for new city building. However, in many ways it was still cut off from the city, there was really no infrastructure connecting and integrating it into the city and larger region. The Central Artery Project extended I-90, the interstate highway system, which goes from the western part of the state all the way through and connects South Boston to the downtown as well as East Boston and the airport, so we have that connecting infrastructure there.

We also looked to enhance and improve the public ways, avenues, and corridors from downtown into the South Boston area, improving the bridges, public areas, and urban design of those areas. Regarding transit, the MTBA, which is the state transit authority that runs the commuter rail, bus lines and subways, extended an underground bus line through this district to integrate the area into the local and regional transit system. Property was also set aside for the construction of a new convention centre. Boston wanted to elevate into the top tier of convention destinations within the US, so that was also set aside to help invigorate this area.



However, with all this going on underground, we really needed to develop a masterplan or public realm plan to really direct how this new district would develop in the future, so in the late 1990s, the BRA, working with the community, undertook a two-year planning effort to really frame out what type of new district would evolve here. Through this we developed the streetscape alignment, where open space would be located, the civic and cultural uses that would invigorate this area, building massing and setback. The intent was to create a 24/7 vibrant neighbourhood, much in the way the city's Back Bay is, so there was a requirement that at least 30% of new development to be residential, another 30% or 40% to be office or commercial space, the remainder being for civic, hotels, restaurant, and retail uses. This is really the framework through which much of the development we are seeing today has advanced.

Regarding how this district has evolved, we are located right along the Fort Point Channel. During the early 1990s, construction was proceeding on the interstate I-90 extension, with some site prep work for the convention centre as well as work on the transit way. Ten to twelve years later, in 2005, the convention centre was in place, almost all the highway infrastructure and transit way was completed, and we also had a new courthouse on the waterfront as well as the Institute of Contemporary Art, a civic use. However, much of this area was still underutilised land, with a lot of parking lot space in this location.

Regarding the full-blown vision of what it would look like by 2040, 2007 and 2008 occurred and we had this global economic recession which really sucked the air out of all the construction and investment within the city. We really did not know what was going to happen, whether we were headed towards a global depression and did not know when things would be starting again, so the mayor and city leadership at this time really looked at this district and decided to think more experimentally and strategically. Mayor Menino, our previous mayor, had taken a trip to an innovation district outside the city where there was some old, degraded industrial lands that brought in some tech-based companies and other types of information technology start-ups and really invigorated this portion of the city. The mayor looked at this location and thought that we already had a very active cultural community here, with a number of artists having set up shop here, and a lot of brick-and-beam storehouses and warehouses with fairly low rents. We also have a very vibrant university system and research and development institutions with a lot of entrepreneurs being spun out of them; why not try to concentrate and cluster them in the South Boston district and create an innovation district?

The mayor and leadership worked with the property developers in this area along with the area's institutions and tried to incentivise these new high-tech start-ups, such as life science companies, IT companies, to cluster in this area. The idea was also to bring in mentorship, start-up tech accelerators, as well as incubators and venture capital to really try and spin out the

next new growth industries for the local region to try to advance this area and support the local and regional economy. The concept was also to create a real destination here, to have a live, work, play environment where people could live, congregate, work, and recreate, so the intent was to capture and keep all this talent, these start-up companies, from moving out to Silicon Valley or down to Raleigh-Durham.

We have had a fairly successful public and economic engagement concept. The District Hall is really a microcosm of the innovation district. It is a civic place with specific locations where you can sign up for meeting space, and there are assembly facilities for seminars and workshops, a restaurant, a bar, and also office hours where start-ups and people can go in and learn about the legal ramifications of copyright law, how to set up a business plan, marketing, analysis, and so on. It is a great civic institution that has been quite popular.



Co-work space is another important component of this. A lot of these smaller companies do not have the capital or finances to purchase or sign long-term leases for office space, so these are areas in the city where you can rent a desk for USD 400 or USD 500 a month, set up shop, and get your business going. There is also a very collaborative sense with these areas, where you can work with similar people in your business climate. Thinking experimentally about the various residential uses, micro-units were also a new concept, smaller living spaces of 400 or 500 square feet in size. There are requirements for many of the new residential complexes within the South Boston Waterfront where a certain percentage need to be micro-units which sell for a slightly lower rate and are more attractive for young people looking for a starter home.

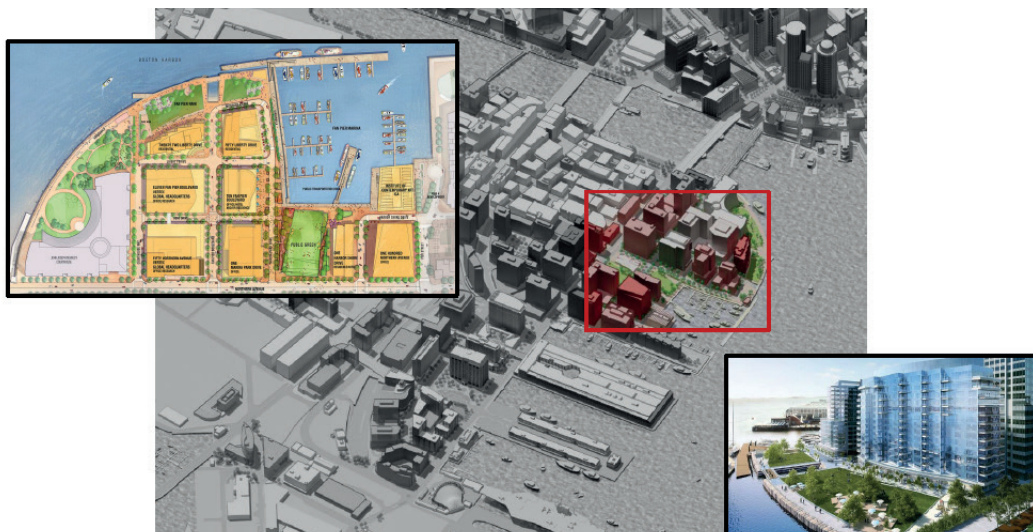
We have had a fair amount of success with this. About 250 of these start-up businesses are now concentrating and focusing within the South Boston Waterfront. A great attraction that helped catalyse this was bringing in MassChallenge, which is the world's largest tech accelerator. Each year they bring in about 100 nascent or start-up companies and provide them with mentorship oversight to really bring their product or concept to the next level and to market, so they are a great draw that brings in these companies and spins them back out into the area.



We have seen now that this innovation district is actually expanding due to rent structures and whatnot. Some of these companies that are growing are moving back into the central business district down into the downtown core. Our current mayor is really intent upon taking this concept and bringing it out to the neighbourhoods throughout Boston. I think he went to the Roxbury Innovation Centre yesterday, so it was really about building on the entrepreneurial spirit and small businesses that are already in place in many of the city's neighbourhoods.

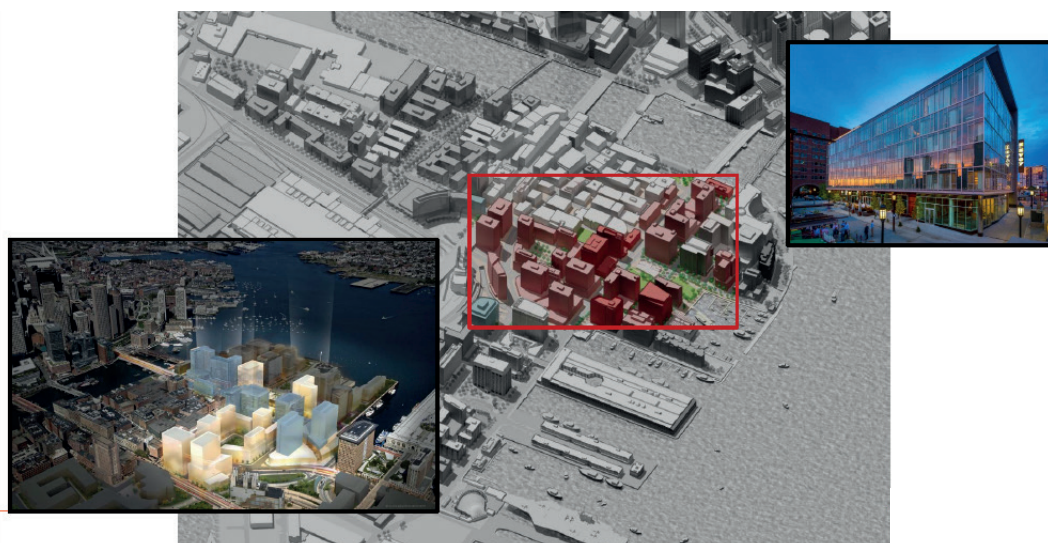
I just wanted to briefly take you through some of the master development areas or sub-districts within the South Boston Waterfront. We are, again, located in the Fort Point Channel, the Inner Harbour, and the Inner Harbour development district is about 50 acres, with about 10 million square feet of buildout. It is at about half-build at this point. A lot of the land use controls for this area require fairly significant set-backs and open space along the water. We have a new public plaza that will be constructed at the end of Pier 4. There are fairly significant requirements for the ground floor area, that it be dedicated for what are termed facilities of public accommodation, so restaurant and retail, that allow for greater activation along the streetscape.

The next area is our historic Fort Point district, with about 40 brick-and-beam warehouse and storehouse buildings. This is actually a historic landmark district. A lot of those tech start-ups are focused in this area due to the larger floorplates and larger windows that allow for a lot more natural light and space in these areas. The 100 acres in the southern region of this district is largely owned by Gillette, which has a fairly large manufacturing facility where they produce most of their razor blades. General Electric, which will be moving back to Boston, will also be situated in this area. That is another story where we are attracting some of the bigger fish back to Boston, including Vertex Pharmaceuticals, PricewaterhouseCoopers. State Street, a local financial firm, also established a new complex in this area with a great new public park and plaza.



The core block area is a location owned by Massport, the local port authority, so they run the airport but also own about 40 acres of property here, and, being a state authority, they are not held to the same zoning and public planning process, so they got a bit of a jump on development in this district in advance of the global economic slowdown. This is probably the most mature or built-out area, with Liberty Wharf, a rehabilitated area of the waterfront, a great, very active area with a lot of restaurant uses that are utilised throughout the year.

Then we have the city's marine industrial park at the far eastern portion of the South Boston Waterfront. This area functions as a preserve or reserve for manufacturing and water-dependent light industrial uses. We have the city's cruise port in this location, a huge dry dock for ship repair, one of the region's largest seafood processing plants, as well as a concert pavilion, a brewery, wet lab and research and development space. MassChallenge has located in this area as well. There is a lot of World War Two infrastructure with broad floorplates and a lot of large windows with light and air that a lot of these tech start-ups like. We also have Higher Ground, which is a local urban agricultural business which is running a greenhouse on the top of the Bronstein Building. There is a really diverse mix of uses in this area.



Regarding growth, we are at about half-build at this point, at about 25 million square feet of buildout. We could get up to 50 million square feet at a full-build condition, but even with the construction and development we have going on right now, we are contending with issues related to traffic and congestion. Right now our transit system, the underground busway, as well as many of the gateway intersections, are running at capacity at rush hour. Things have reached a situation where a number of city and state agencies got together a couple of years ago and developed a sustainable transportation plan for the district. Given that we really do not have the interest or capital to be building new tunnels or roads, we are looking at any and all means of accessibility, and it is a multimodal plan looking at a number of interventions over various timescales, such as expanding car share, bike share and bus share options, enhancing and improving water transportation into and out of the area, which is a great untapped resource, and utilising technologies such as smart parking apps, so we are really throwing a lot of things out there and seeing what will work. We have an ongoing implementation committee looking at these various programmes to try and alleviate congestion through the district.

Regarding climate change, this is an area that is clearly vulnerable to future sea level rise and coastal storms, this area being mostly filled to just a few feet above the high-water mark. The federal flood plain map shows locations that currently have a 1% chance of flooding in any given year. These areas could have a 20% chance of flooding in any given year by 2050, and by 2100 they could be flooded on a daily basis, so resiliency preparedness is very much front and centre in our minds. There have been various city initiatives and programmes to try to address this, and there have been some visioning concepts. Our Designing with Water competition was held last year for the area along the Fort Point Channel, looking at various types of visioning and concepts of what the Boston Waterfront could look like in the future, working with and integrating water into the landscape.



A couple of the takeaways from this design competition are that resiliency in the future needs to protect buildings and public health and safety, and should also function to allow for quick recovery after storms and floods. Social sustainability and resiliency is also another important concept. We have seen with major storms such as Sandy and Katrina that communities which were better integrated and connected were better able to get back on their feet, so we are really working with our community centres and social media platforms to better connect people. We are also looking at dual-purpose solutions such as trees, the greening of shorelines, which can function to help buffer wave action and prevent erosion but also enhance ecosystems and sequester carbon. Lastly, we are looking at solutions in new building and construction design which do not preclude future alterations or enhancements to these buildings that can contend with future sea level rise and storm related impacts.

Regarding what we are doing currently on the ground, we have things such as our Spaulding Rehabilitation Hospital in the Charlestown Navy Yard. This is a model for resiliency that we point to for new developments. Many of the landscape features are functioning to break up wave action and prevent debris from getting into the building. Most of the building's mechanical systems are elevated. It has its own power generating source, so it is islandable over many days. The building we are currently in has a flood barrier system that can be constructed around the building in flood conditions. We are also working with developers through our review process of new development projects. We have a checklist that new proponents need to fill out which addresses what their perceived vulnerabilities are moving forward and the types of mitigating measures they will be implementing to help prevent hazards in the future.

Power and energy is another key issue within this district, particularly the marine industrial park where we have a lot of energy-intensive manufacturing and industrial uses. We are developing a pilot programme that will function to establish a combined heat and power system within the district that will create a micro-grid for energy, cold water heating and whatnot, creating a more resilient power source that is higher-efficiency and lower-carbon.

We have a lot of things going on within this district. It is a work in progress and there are a lot of diverse, dynamic uses. Fortunately, we have a lot of communication and engagement among city and state agencies as well as the business communities and residents within this area to contend with future challenges and conflicts moving forward. We have a great plan to create the next great place within Boston.

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