The development of route 128 in boston

Technology, Development

In my paper I will show how the development of Route 128 in Boston, Massachusetts started, and how it exists today. Boston has changed throughout the years in its Renewal reform within its planning of the city mainly on route 128 as well as other major routes though out Boston. Boston had many changes made within the neighborhoods, which have, major routes in which effected the people lives as well as their living conditions. In some cases good in others for the worse. It separated and defined districts in which it no longer keeps the city as a whole.

Boston is a set of distinctly different districts and neighborhoods, each with it's own defining identity and unique characteristics. Boston as a whole, benefit's from the contributions from each of these areas and it is truly what gives the city it's charm and unique differences. However, it had no other choice but to confront a major problem in which it had to face. Massachusetts lacked an organized framework within it's planning of cities and routes. The correlation between these neighborhoods has been an ongoing problem, which are being resolved.

Even though Boston is making the changes which they feel are necessary, there are a few cases that are not being updated or corrected, and in many cases it has gotten worse due to the poor layout or problems that have arisen. On the other hand, Boston has many successful neighborhoods that are successful entities, and also hold a strong sense of self identify. But at the present time, there are areas that are inaccessible. This le! ads to a disordered city that can be more enjoyed and appreciated if it had a stronger structure!

The characteristic of Boston as a collection of neighborhoods is due to its increase speed in growth from the days of its settlement in 1630. Unlike the many traditional American cities, which are usually based on an orthogonal grid, Boston never had a long-term strategy towards planning. The Boston area did however grow, modified itself, and evolved in a reactionary way as technological advancements came about which affected society as a whole. The original Shawmut peninsula, which at one point contained all of Boston, now only constitutes a fraction of the landmass of the city.

A major portion of the city today exists on landfill claimed from the Boston harbor and Charles River. Expansion and development created the need for more land area. The Back Bay, West End, and much of south Boston are examples of this growth. As these areas were created they added to the existing city but they also had their own distinctiveness, which added to the other surrounding towns as well as Boston on a whole. These new created towns, were and are positive in many ways but they were never really integrated into the existing city central mainframe.

This lead to! aking Boston a bit more disorganized. Thus, solving some problems, but creating others. Within the past fifty years the construction of the main central city of Boston in the 1950's and the urban renewal projects beginning in the 1960's inflated this urban problem. The suburbanization of America within its states and related migration of city inhabitants to border towns created a need for expanded automobile transportation in cities throughout the United States. In reaction to this, major routes and highways were constructed to connect suburban life to the cities.

This encouraged more people to move out of the city, but not as far away that they couldn't maintain their jobs within the main city. Boston had been changing from its historic and original focus as a port city to a city based on business andfinance. The routes and central pathway was intended to assist this growth, and make the downtown more accessible. Boston's West End is one of the most documented neighborhoods destroyed by urban renewal. Around 60% of the families, which were displaced by the urba! n renewal were Hipic or Blacks. West End was mainly working class Italians.

It had narrow streets and had a large amount of social life within it. This situation was viewed as un-American for middle class standards of city planners, which lead it to be demolished around 1959, and was replaced with high rises and expensive apartment buildings. The highway that city planners created lead to growth in and out of the city, and now in the modern era with changes in society, it became a necessity in our modern civilization. The routes circle around Boston (I-128 & I-95) and cut though the city (I-90) like a foreign object.

Cutting it's way through Boston, it also broke up the city as a whole, creating boundaries between the cities, the harbor front, north end, and downtown. Boston had created a larger suburb for itself and pulled away from its history of being one of the most highly used water port that have been used for years. What was at one time considered one of the largest ! ports in the country was being abandoned and forgotten about. The mass departure from urban areas throughout the country led to an identity crisis for many urban areas. In response, The Federal Urban Renewal Program was created.

Boston was a leader in this movement, and had several projects gain nationwide recognition. The Boston Redevelopment Authority approached the renewal in a way that would ultimately prove detrimental. The B. R. A. designated separate districts for administrative and funding reasons. Each district was dealt with as a separate entity with regards to their individual needs. A good comparison would be Silicon Valley, CA and Route 128, MA, which are considered two of the premiere technological concentrations, not only in the United States, but also in the world.

These are regions that since World War II have been devoted to the creation of new informationtechnology. By comparing the two regions I will try to show the different means by which an economic unit can attain success in the information revolution, and point out which strategies are most valuable to long-term success. Many people have attributed the success of the Valley primarily to the influence of nearby institutions of highereducation, particularly Stanford University.

In the 1920's, administrators at Stanford sought to improve the prestige of their institution by hiring highly respected faculty members from East Coast universities. One important recruit was Fred Terman, an electrical engineer from MIT. Like many of his colleagues, he performed cutting-edge research in electronics. Unlike many other members of the faculty, though, he encouraged his students to sell applications of these new-technologies in the marketplace. By providing funds and equipment, Terman enabled two of his first recruits, David Hewlett and William Packard, to commercialize the audio-oscillator in the late 1930s.

After selling their first oscillators to Disney Corporation, they reinvested their earnings and expanded both their products and their range of customers. In 1950, twelve years after its founding, Hewlett-Packard had 200 employees and sold 70 different products with sales over $2 million. It pioneered the formation of a distinctive Silicon Valley management style, treating workers asfamilymembers. Numerous workers have sought to duplicate Hewlett-Packard's management style. In 1954, they accepted an offer by Stanford University to rent part of Stanford Research Park for their operations.

This brought together various industries in Palo Alto. Many other firms subsequently rented other plots of land to take advantage of proximity to the university. Stanford Research Park, through the efforts of a few influential professors and university administrators, became the nucleus of the budding Silicon Valley. By the 1980s, the entire park had been rented out to area firms. This rapid rise of technology reflects itself in the organization of Silicon Valley. The people who began or were employed in these new firms considered themselves as technological trailblazers.

The residents of this technological society were, a strongly homogenous group: white, male, Stanford or MIT educated engineers who migrated to California from other regions of the country. As modern-day pioneers, they were especially responsive to risky ventures that had the potential for great rewards. As people in the region became occupationally mobile, their roles became interchangeable: employers become employees and co-workers can become competitors. The result is that the engineers developed strong

loyalties to technology and their fellow engineers and scientists while possessing far less allegiance to a single firm

The traditional delineations between employers and employees were not so sharp as on the East Coast, and in some cases they disappeared entirely. Beginning with Hewlett and Packard, many of the Silicon Valley companies sought a much more interactiveenvironmentbetween employers and employees. Decentralization of powers followed. Withrespectto its industrial emphasis (electronics), the Route 128 region around Boston presents a study in contrast in terms of its historical development, geography, community life, and degree of interconnectivity between firms.

Similar to Silicon Valley, the development of electronics-related companies on the 65-mile highway surrounding Boston and Cambridge in the area's major research universities was influenced by academia, industry, and government. The professors and graduate students in the universities devote their energies toward a greater understanding of the world around them. The government, particularly federal agencies such as the Department of Defense and the NationalScienceFoundation, provides the financial support for the academicians to test the hypothesis and perform the experiments.

The firms would then produce the physical expressions of these ideas for the marketplace. The Massachusetts Institute of Technology, like its counterpart in Palo Alto, has engaged in world class scientific research and has produced some of the best engineers in the country. The Institute has sought to provide the theoretical and practical foundations for its students to make major contributions to society. While doing so, it has engaged in a seemingly

endless number of advancements and has tried to reach out to large companies in Massachusetts and outside the state as well as participate in many federal and state-run projects.

The Federal government, to a much greater extent in this state than in California, has provided the fuel for the region's expansion. By the late 1990s, Massachusetts was one of the top five states in terms of federal research resources granted. The Department of Defense itself has accounted for over 60% of federal research and development spending in the state. Consequently, the large firms have profited most. In the 1970s and 80s, Raytheon became one of the most important contractors for the Department of Defense; EG&G Inc. has filled several contracts for NASA.

Some smaller organizations in this Beltway have been created to solely fill government orders. Organizations ranging from the National Science Foundation (NSF) to the National Aeronautics and Space Administration (NASA) to the Department of Energy (DOE) provided universities and firms millions of dollars for research. Whole new industries have sprung up from these efforts: computers, biotechnology, andartificial intelligence, among others. The third leg of this technological triangle, complementing the universities and government agencies, is industry itself.

By 1990, the state contained over 3, 000 high-technology firms. Some companies stand as the pillars of the 128 community: Digital Equipment Corporation, Raytheon, and Lotus Development. These companies produced a disproportionate share of the region's income generation As they grew, so too did the accompanying service firms. The communities in which the high-

tech enterprises sprung up, towns such as Burlington, Lexington, and Cambridge have established roots in eastern Massachusetts going back centuries.

Companies such as DEC and Lotus Development are in many ways just descendants of other industrial titans that have crowded this area for over 150 years. The structures of Boston society have resulted in relatively stable and conservative hold on certain aspects of its residents' life. Engineers who have worked on both coasts report a much greater divide between work and play on the East Coast. Entrepreneurs such as Ken Olsen at DEC and An Wang at Wang industries who succeeded did not change their lifestyles in any radical way.

Olsen, for example, avoided most social gatherings, remained a teetotaler, lived in a small home, and continued to drive an old Ford to work. He and other area CEOs did not live the same high profile lives in Boston that their counterparts did in Silicon Valley. The lack of role models and less developed informal social contacts may have constrained the amount of new companies that were created in the 1970s and 1980s. The defense industry, hiring practices, and the region's geography all conspired to reinforce this traditionalism. The volume of military purchases encouraged corporate separateness.

The h! iring of management differs substantially from Silicon Valley. In Massachusetts, older individuals, usually wedded to the status-quo, are often selected for executive positions Managers in Silicon Valley, often in their twenties and thirties, are much more likely to experiment with organization.

Geography also plays a role. The firms were more spread out around metropolitan Boston than comparable companies in California, lessening the probability of interaction. Communicationbetween company and town is even less prevalent.

Many large companies such as DEC have almost no ties to the towns in which they were located. The hierarchies within companies are extremely rigid. The manager created firms with complex and sophisticated organizational patterns that employed individuals to be loyal first and foremost to the company. In return for theloyalty, employees expected thathard workwould enable them to stay employed in the firm and rise through the ranks, culminating in retirement with a large pension. Employers are generally wary of hiring an engineer or programmer who has left another firm after only a few years.

At the same time, significant status differences exist. The hierarchy of positions and the means of formal communication within the firm, along with the structure of salaries and benefits, developed strong delineation's within the firm. At DEC, for example, the company centralized many of its prominent functions and a small group of individuals made the decisions, namely Ken Olson (the CEO). The companies attempt to internalize many of their procedures. This vertical integration ! often includes: software design, component, peripheral, and subsystem production, and final assembly.

In short, Route 128 firms are much more settled and centralized affairs than the scientists and engineers in northern California. Their histories, attitudes, and strategies have created technological societies similar in products

manufactured but very different in their economic and social appearance. With the onset of the computer generation big named companies bought land off of this highway. This lead to an enormous clotting into Route 128, which is considered the edge of Boston (it circles around the main Downtown metropolitan area). Route 128 became a big commodity to the new generation of large computer technology based industries.

The highway began to get congested, with the onslaught of new businesses. All these new businesses in turn lead to major traffic jams. Real estate around route 128 increased dramatically, which appealed more to the upper middle class. Large apartment complexes around the area were sequentially created. With the suppression of the new renewals to towns in Boston as well as the downtown city, a lot of opportunities arose to deal with the large amount of issues that had come from linkages between the various neighborhoods within the main city.

Each town is being dealt with, but with respect to it's own uniqueness, and it's contribution toward making Boston more unified within. Despite the rapid growth of the towns around route 128, it hit a point where the business industry came to a standstill in the 90's. Things that lead to this sudden halt, was due to the region from northern Rhode Island to southern New Hampshire, which ran out of space for expansional development that maintained and held up the large boom for this hot area..

Existing companies couldn't expand more, which meant less jobs were being offered to the large amounts of people migrating for jobs from these companies. As the companies grew with time, there became higher demand

for their products. Another factor to! the standstill in business expansion was due to other large companies which where not based around Route 128 (such as Compaq in Houston, Texas, and Microsoft in Seattle) which made huge profits and revenue. This distant competition drew attention away from the " hub".

By the end of the 20th Century, Boston was at maximum capacity and could not lend itself anymore to expansion. Route 128 was one of the first beltways built in America. Its ten-mile radius circles the Boston area in an arc shape. Close by is route I-495 that is goes from Rhode Island and ends closely to the beginning of New Hampshire. Both the belts have many intersections throughout it's p that lead from downtown Boston and into the heart of the states which boarders around. With all the intersections that go through these routes a high capacity of people can access these major belts.

This was the reason for the success and decline of " The Hub". The smaller stores and companies such as thefoodindustry, benefited from the large companies due to its high employee population servicing the smaller businesses. With the success of Route 128, some towns have grown out of the heavily used belts like Quincy-Braintree. Since the companies couldn't build anymore on the belt, they moved some of their departments a bit further from the main headquarters, to areas which are easily assessable from many other routes and connectors in the Boston area.

This cut down on the flow of drivers into the highly packed corporate beltway area, which alleviated more congestion, and it made everyone a bit less stressed. Going along I-128 towards the west, brings us to the Mass. Pike.

This connection is one good reason that I-128 became the " technology road", because it connected to other states as well as the rest of Boston. Mass Pike is the oldest beltway in the Boston area.. Going up Northwest on the beltway is where route 128 intersects and meets route 3 and I-93. This area is one of the most congested of any part of the Boston area.

This area is the center of the Lahey Medical Center as well as the Bu! rlington Mall. The Peabody and Danvers area, which is also on the Northwest part of I-128, is where I-95 resumes its route to Maine. Since it's low-point in the mid-1990s, when several big companies severed or trimmed their ties to the area, Route128 has returned to prominence as one of the nation's premier high-tech zones. And the rejuvenation hasn't been limited to just this highway that loops around Boston, but has expanded to other parts of the metro area as well.

Unfortunately since planning is never predictable what could have been more of a commodity Route 128 became exploited and overdone. What recourses that could have been attained such as location, convenience and easy access to suburbs; Route 128 became a city within itself and lost the suburban idealism which was originally sought after. Even though it was seemingly sufficient in space Route 128 has exceeded its limitations. This proves to be alearning experiencein that Route 128 although successful in most of its purposes was afailurewhen it lost its ideals of functioning as a suburb.