

Sustainable Development in Jackson Square

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Jamaica Plain Neighborhood Development Corporation

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Executive Summary

Introduction

Jackson Square is located at the border of Jamaica Plain and Roxbury, approximately three miles from downtown Boston. Redevelopment of several vacant properties in the area presents a significant opportunity for Jamaica Plain and Roxbury residents to revitalize a historically neglected portion of their neighborhood. The community planning process identified several priorities for the new development, including a community center, commercial development, transit-oriented development, affordable housing and remediation of contamination on the parcels.

The Jamaica Plain Neighborhood Development Corporation (JPNDC) has been a key participant in the planning process for Jackson Square. JPNDC commissioned this investigation of sustainable redevelopment options for the Jackson Square parcels. Graduate students from the Department of Urban Studies and Planning at the Massachusetts Institute of Technology conducted the study as part of a practicum in sustainable development.

Framework for Sustainable Development

The location and character of Jackson Square has excellent potential for achieving the goals of sustainable development. Redevelopment of Jackson Square can bridge the geographic divide between Jamaica Plain and Roxbury and provide needed housing and services to the traditionally underserved residents of these neighborhoods. The challenge is to leverage this location to maximize integrated economic, environmental and social benefits to the community.

Three fundamental *principles* for redevelopment planning and implementation in Jackson Square are:

- Improve the environment and public health
- Foster economically viable development
- Respond to community needs and desires

These principles translate into overall *goals* that set the context for sustainable development:

- Eliminate human health and environmental risks on the parcels
- Incorporate sustainability into physical site development and building design
- Target redevelopment of the parcels to meet the needs of area residents
- Integrate and connect the surrounding neighborhoods

Recommendations for Sustainable New Development

Specific recommendations on how to implement sustainability into the new development are presented below.

General Recommendations

- Capitalize on the location.
- Capitalize on the enabling environment.
- Recognize connections and focus on integration.
- Leverage existing capacities and develop new capacities for sustainability.

Recommendations Tied to Sustainability Goals

Goal: Eliminate human health and environmental risks on the parcels

- Conduct initial site assessments of 1540 Columbus Avenue and the NSTAR property.
- Allocate site uses strategically to reduce remediation costs.
- Take advantage of state priorities and the high profile of these properties to aggressively pursue city, state and federal support.
- Investigate the prospects of pursuing funding from responsible parties and current owners, as well as government programs.

Goal: Incorporate sustainability into physical site development and building design

- Employ a green building approach towards the parcels around Jackson Square.
- Use the LEED system and the BEES method as design frameworks to guide the building development process and make the best choices for the community.
- Think green from the inception of planning, undertake an integrated design process and utilize a whole building approach.
- Invest in thoughtful and simple green design strategies that enhance building performance and community well being.
- Use the “keep it simple” approach to maximize the cost benefits of green buildings.
- Employ sustainable best practices to attract positive attention from and cultivate strong relationships with funders.
- Integrate high-quality public open space into designs for Jackson Square redevelopment.

Goal: Target redevelopment of the parcels to meet the needs of area residents

- Create an indoor Latino Mercado that supports local, minority-owned businesses, acts as a draw for both local residents and visitors, and appeals to diverse ethnic groups.
- Develop a non-profit tenant center for upper floor office space, whose tenants can provide jobs, serve the Jamaica Plain and Roxbury communities, attract community-minded employees, and increase foot traffic for other businesses.
- Establish a farmers' market that can provide local residents with fresh produce, act as a draw for visitors, provide a community gathering place, and promote sustainable agriculture.
- Recruit community-oriented, locally-owned (either independent or franchised) for-profit businesses that have an unmet demand in the community, including a business services center, community cinema, ice cream shop, fitness center, and full-service restaurant.

- Implement innovative supply-chain management tools to improve sustainability of uses on the site.

Goal: Integrate and connect the surrounding neighborhoods

- Minimize provision of off-street parking, engage Zipcar, improve bike parking and implement Transportation Demand Management.
- Reconfigure Columbus Avenue, reconfigure Centre Street and adjust Columbus/Centre signals and timing.
- Develop urban greenways with improved bicycle and pedestrian amenities and facilities to connect new development with existing neighborhood resources.
- Improve amenities for transit users, improve security and adjust bus routes.

The redevelopment of the Jackson Square parcels provides an unparalleled opportunity for JPNDC and residents to revitalize an important gateway to their community. Responsibly remediating the parcels, incorporating environmentally sensitive design principles into the new development, recruiting commercial uses that meet the needs and desires of the community, and focusing on the connections among Jackson Square and surrounding neighborhoods are the key themes for sustainable development in Jackson Square.

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Introduction

Jackson Square is located at the border of Jamaica Plain and Roxbury, approximately three miles from downtown Boston. The residents of the surrounding area are ethnically diverse and actively engaged in community issues. Several vacant properties in Jackson Square have been



the focus of a community-driven planning process. At least one of the properties is known to be contaminated due to previous industrial and commercial use. Redevelopment of the properties presents a significant opportunity for Jamaica Plain and Roxbury residents to revitalize a historically neglected portion of their neighborhood. The planning process, guided by the Jackson Coordinating Group (JCG), comprised of more than thirty community organizations, culminated in a “Development Priorities” document outlining the needs and desires of local residents. The priorities include a community center for local youth, small-scale commercial

development, transit-oriented development, affordable housing and remediation of contamination on the parcels.

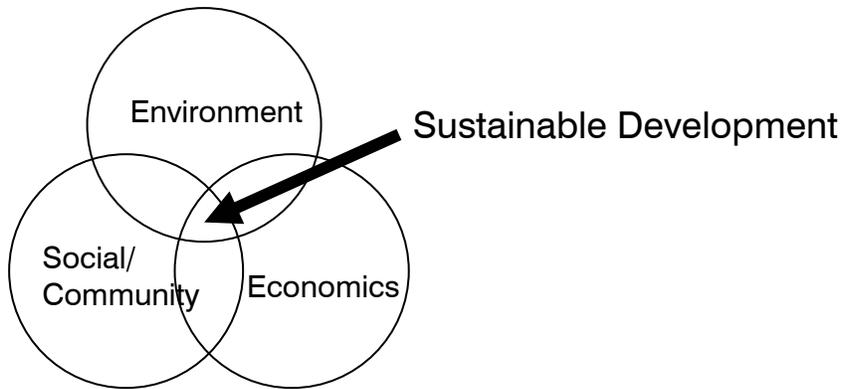
The Jamaica Plain Neighborhood Development Corporation (JPNDC) is a neighborhood-based community development corporation with more than twenty-five years of experience with community organizing, affordable housing and economic development. Through the creation of more than 300 units of housing and 600 jobs, JPNDC has been active in the revitalization of Jamaica Plain. As a member of the JCG, JPNDC has been a key participant in the planning process for Jackson Square. JPNDC commissioned this investigation of sustainable redevelopment options for the Jackson Square parcels. A team of graduate students from the Department of Urban Studies and Planning at the Massachusetts Institute of Technology conducted the study as part of a practicum in sustainable development.

Framework for Sustainable Development

The concept of sustainable development is not easily defined. There are as many definitions of sustainability as there are people and organizations dealing with the term. The most commonly used, and perhaps most universally applicable definition was presented in the Brundtland Report of the World Commission on Environment and Development in 1987:

“Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.”

In practice, most working definitions of sustainable development emphasize a combination of economic, environmental, and social goals. Sustainable development happens where these goals “overlap” and do not significantly compromise one another.



In developing a customized framework for sustainable development in Jackson Square, we have identified three fundamental *principles*. Redevelopment planning and implementation should:

- Improve the environment and public health
- Foster economically viable development
- Respond to community needs and desires

Moving from the conceptual toward the concrete, these principles translate into overall *goals* that set the context for redevelopment planning and implementation:

- Eliminate human health and environmental risks on the parcels
- Incorporate sustainability into physical site development and building design
- Target redevelopment of the parcels to meet the needs of area residents
- Integrate and connect the surrounding neighborhoods

The location and character of Jackson Square has excellent potential for achieving the goals of sustainable development. The density of the surrounding neighborhood and region and the proximity to public transit offers diverse markets and an opportunity for an energy-efficient, walkable, human-scale development. “Starting from scratch” on vacant land facilitates building and public space designs that conserve energy and resources and improve public health. Redevelopment of Jackson Square can bridge the geographic divide between Jamaica Plain and Roxbury and provide needed housing and services to the traditionally underserved residents of these neighborhoods. Sustainable development is often associated with the concept of “Smart Growth” which directs new development to relatively dense urban sites and away from more pristine rural and suburban locations that necessitate a heavy reliance on private automobiles. From a Smart Growth perspective, *any* development in Jackson Square represents a step toward sustainability. The challenge is to leverage this location to maximize integrated economic, environmental and social benefits to the community.

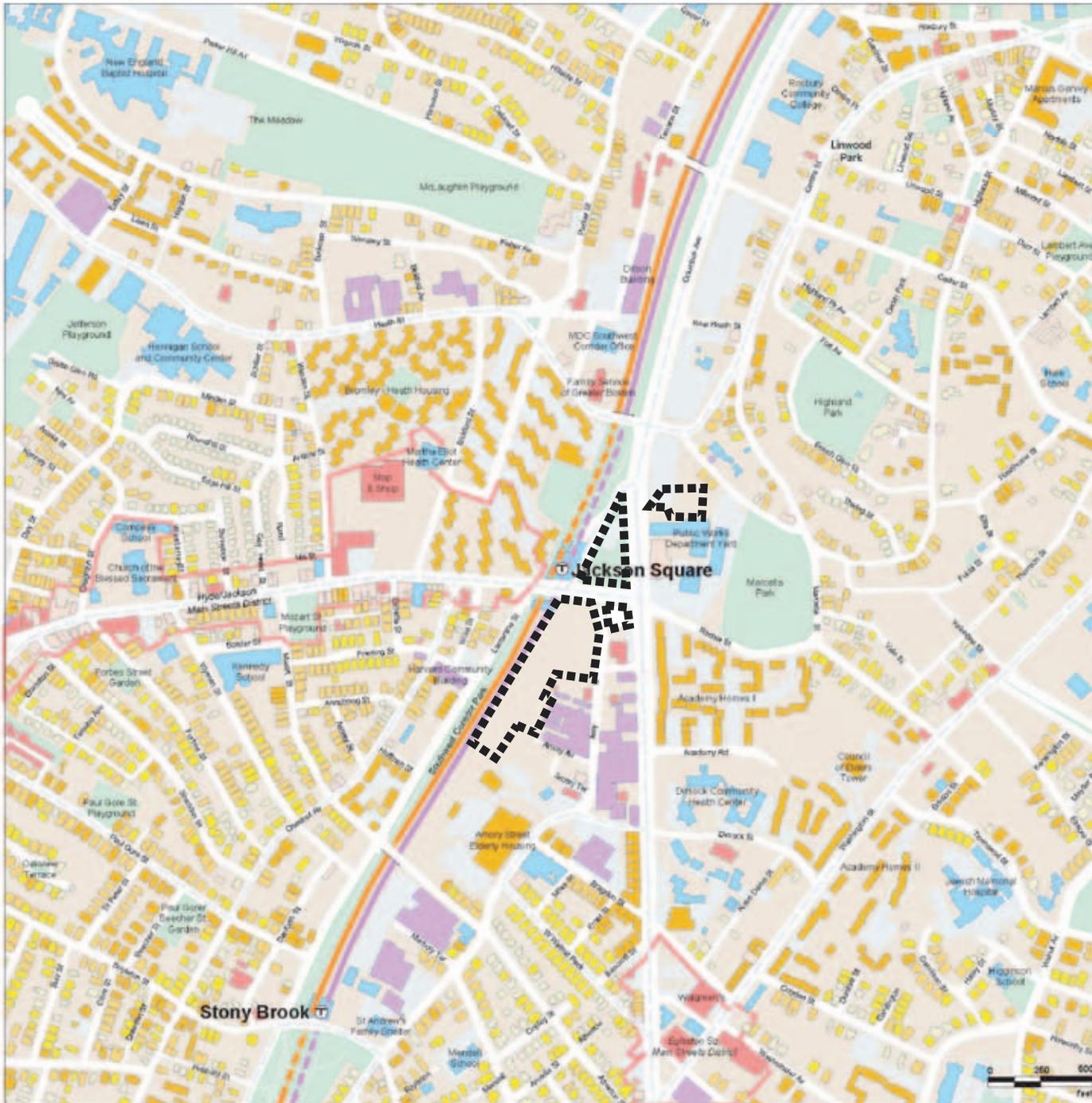
Although this plan is concerned primarily with the redevelopment of the specifically identified parcels the analysis must, at times, look beyond the boundaries of the redevelopment parcels to consider conditions and potential change in the surrounding neighborhoods. Sustainability in Jackson Square requires that new development be carefully integrated into the neighborhoods and serve to connect and meet the needs of Jamaica Plain and Roxbury. Effectively addressing issues of mobility, transportation, open space and environmental conditions will likewise require interventions at a larger scale.

The framework for sustainable development will be expanded and extended in forthcoming sections of this report. Building on the principles and goals specific opportunities for enhancing the sustainability of development – *what* we should do - will be identified and specific recommendations – *how* we should do it – will be presented. Despite the sequential treatment of the issues in this document, achieving a sustainable outcome requires that they not be considered separately from one another. It is important to consider the overlap and interrelationship between issues and their associated challenges and opportunities in addition to the distinct substance of each.

The following section presents an existing conditions analysis of important community, economic, and environmental issues along with the sustainability challenges and opportunities related to each identified concern.

Jackson Square Jamaica Plain & Roxbury Overview Map

-  Redevelopment Parcels
-  1 Family Residential
-  2 Family Residential
-  3 Family Residential
-  Apartments/Condos
-  Mixed Residential/Commerical
-  Commercial
-  Institutional
-  Industrial
-  Open Space
-  Surface Parking
-  Main Streets District
-  MBTA Stations
-  MBTA Orange Line
-  MBTA Commuter Rail
-  MBTA Bus Routes



source: Boston Redevelopment Authority

Existing Conditions

Demographics and Housing

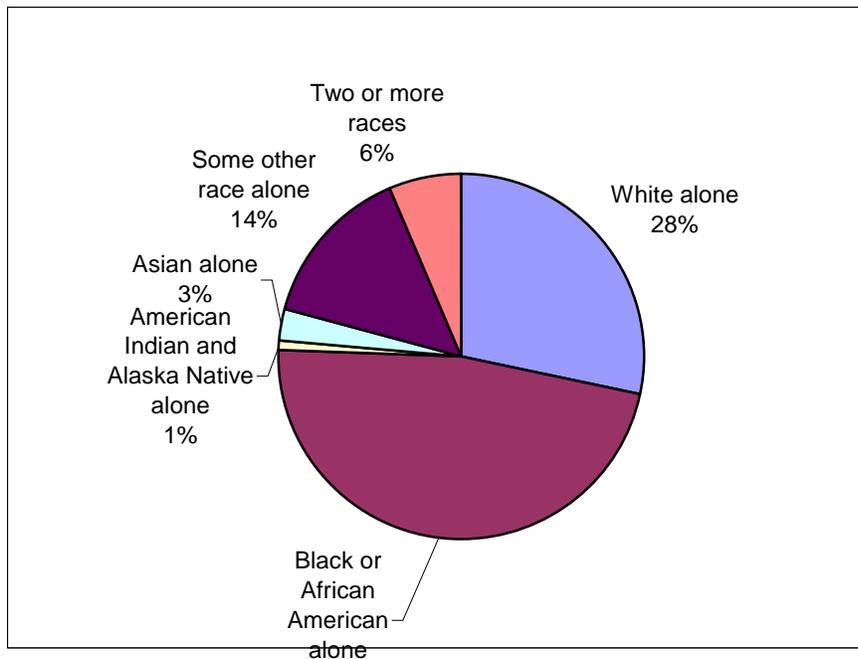
Population

The population of Jamaica Plain and Roxbury is 77,090. This is a 10 percent increase since 1990 when the population was 70,166.¹

Ethnicity/Race

Twenty-six percent of individuals are of Hispanic/Latino origin in Jamaica Plain and Roxbury. This is an 18 percent increase since 1990 at which time 22 percent of the population was of Hispanic or Latino origin. Black or African American residents constitute 48 percent of the population.

Figure 1: Jamaica Plain and Roxbury, racial and ethnic breakdown

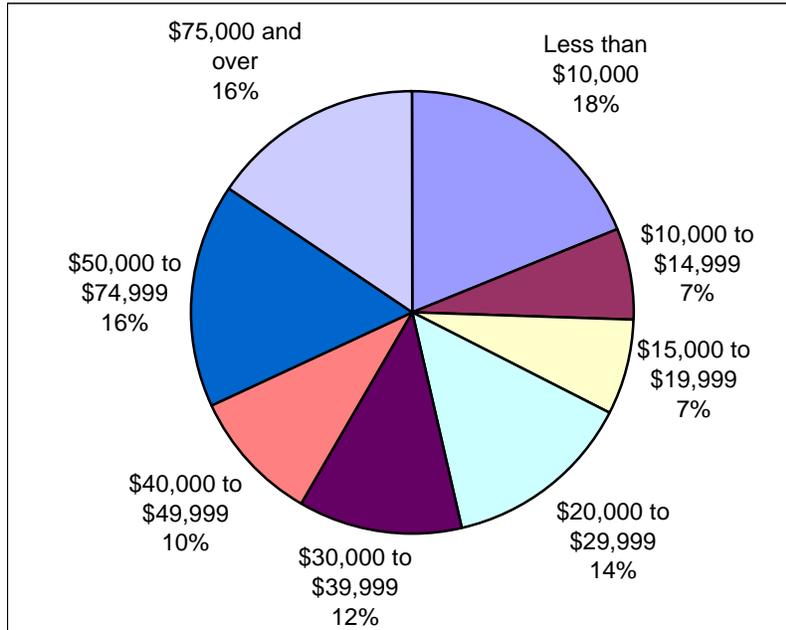


Household Income

The median household income in Jamaica Plain and Roxbury is lower than that of Boston and Massachusetts. The median household income in the JPNDC Target Area is \$38,744. In the Jamaica Plain and Roxbury combined area, median household income is \$32,078. These figures are much lower than median household income in Boston and Massachusetts, which are \$39,629 and \$50,502 respectively. Furthermore, approximately 59 percent of the households in Jamaica Plain and Roxbury earn less than \$40,000 annually.

¹ All information on current demographics is based on the 2000 US Census. Census tracts considered: JPNDC target area (811, 812, 813, 1101, 1202, 1203, 1204, 1205, 1206, 1207) and BRA definition of Roxbury (801, 803, 804, 806, 814, 815, 817, 818, 819, 820, 821, 901, 902, 903)

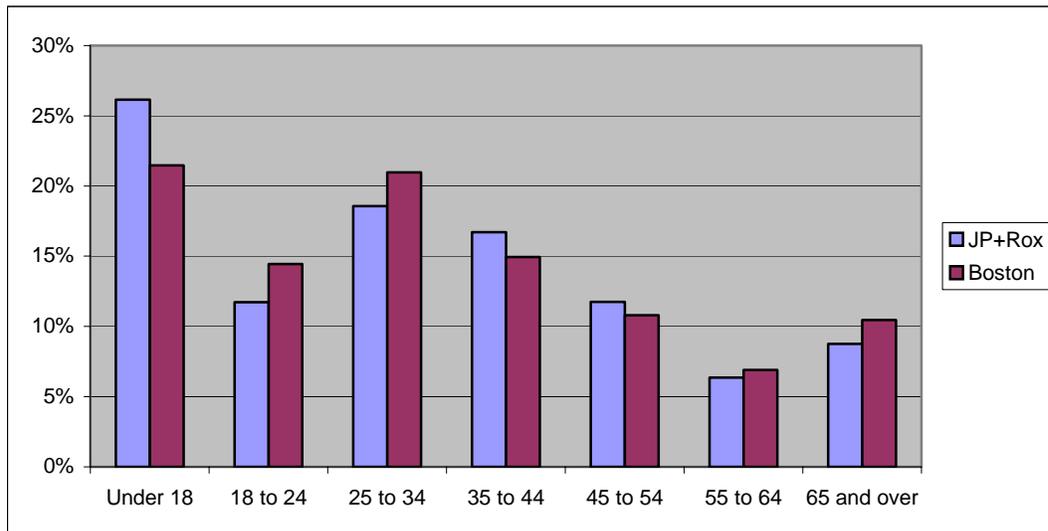
Figure 2: Household income



Age Distribution

More than one-third (thirty-eight percent) of the population in Jamaica Plain and Roxbury is less than 24 years old. This is higher than the JPNDC target area and Boston, where this age group accounts for 33 percent and 36 percent of the population respectively.

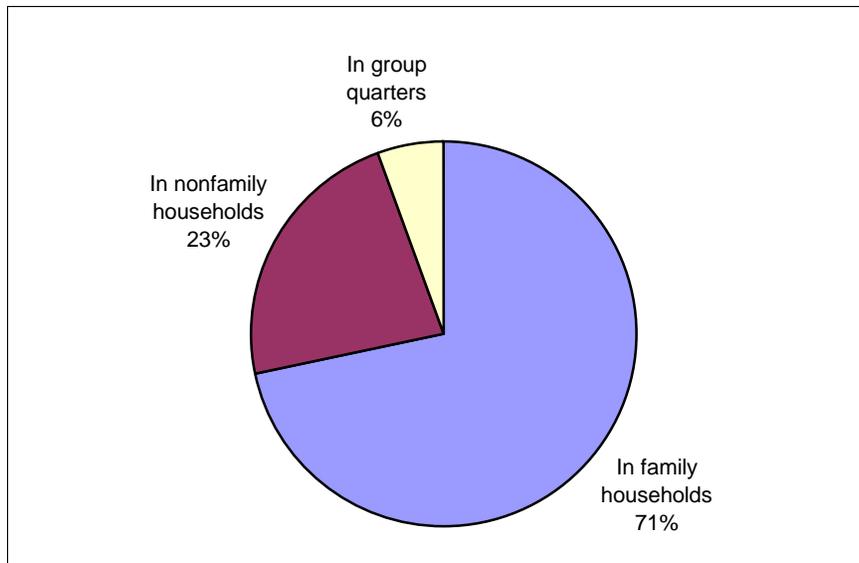
Figure 3. Age distribution in Jamaica Plain and Roxbury, compared to Boston



Family Household Distribution

Fully 71 percent of the population in Jamaica Plain and Roxbury reside in family households.

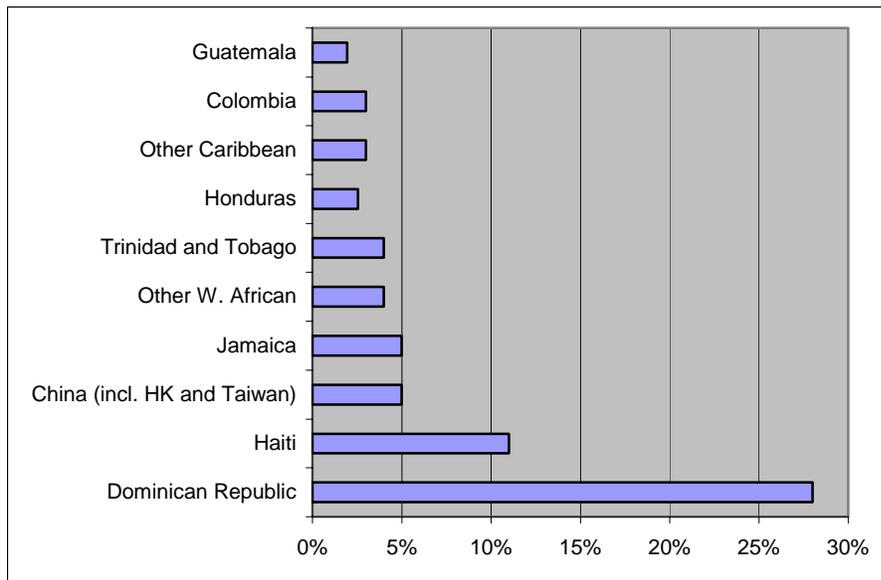
Figure 4: Jamaica Plain and Roxbury household types



Foreign-Born Population

Twenty percent of the Jamaica Plain and Roxbury population is foreign-born, with Dominican, Haitian, Chinese, Jamaican, and West African immigrants accounting for almost 50 percent of all immigrants.

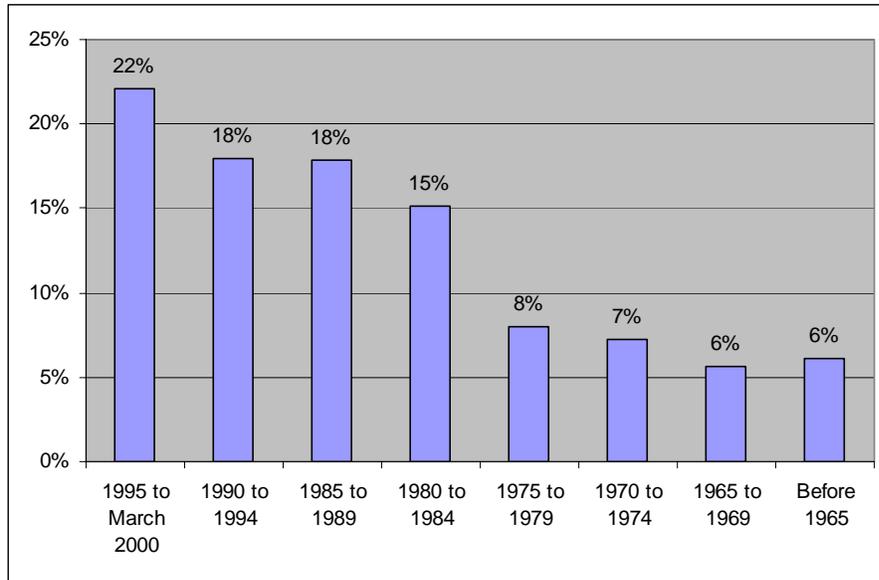
Figure 5. Place of birth for foreign born



Year of Entry for Foreign-Born

40 percent of the foreign-born population in Jamaica Plain and Roxbury has been in the US for 10 years or less.

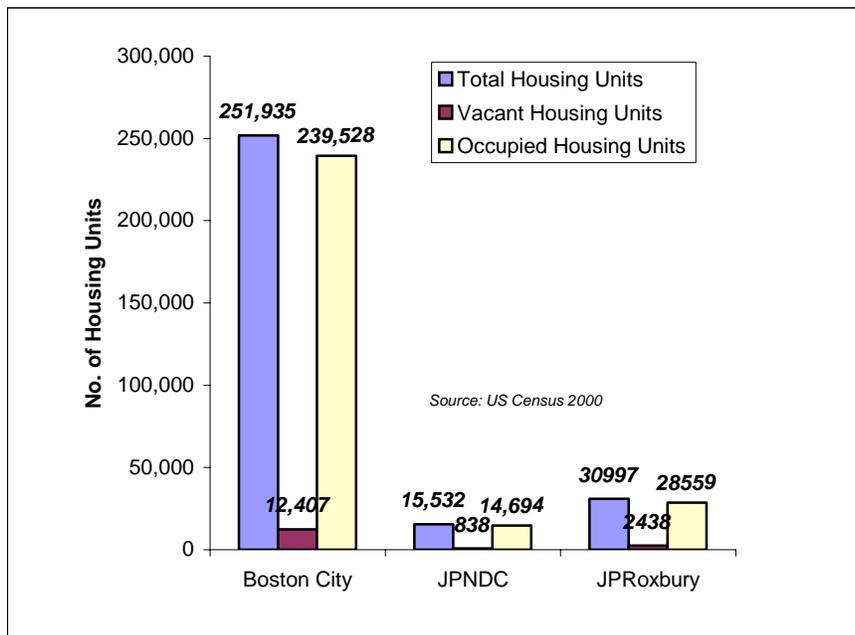
Figure 6: Year of entry for foreign born



Housing Vacancy Rates

Housing vacancy rates are generally low in Boston, Jamaica Plain and Roxbury. Boston and the JPNDC target area have 5% vacancy rates. While vacancy rates are slightly higher at 8 percent in the combined Jamaica Plain and Roxbury area, this is a decrease from 1990 when vacancy rates in this region were 12 percent.

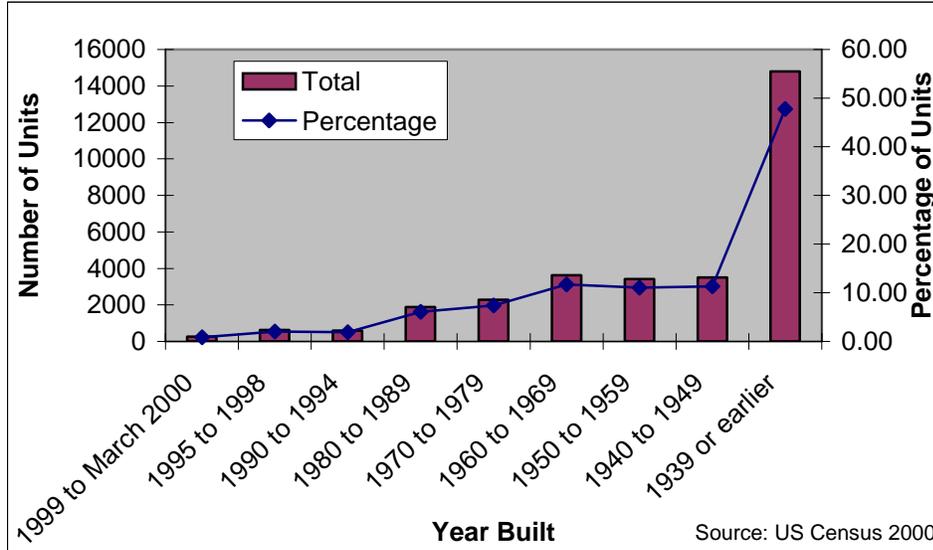
Figure 7: Status of housing units



Age of Housing

Forty-eight percent of housing units in Jamaica Plain and Roxbury were built in 1939 or earlier. Older housing stock may be associated with poor indoor air quality.

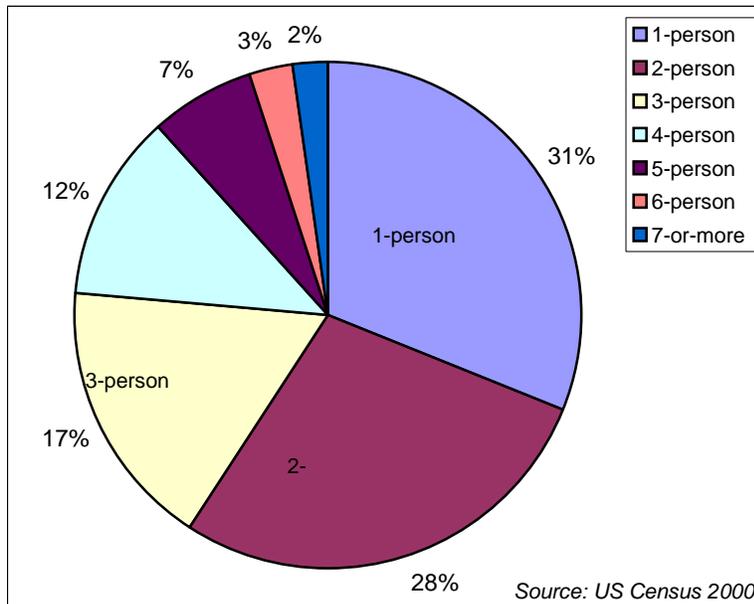
Figure 8: Age of housing units in Jamaica Plain and Roxbury



Household Size

Household size is relatively small in Jamaica Plain and Roxbury. While the average household size of the JPNDC target area is 2.5, the average household in the combined Jamaica Plain and Roxbury area has 2.6 persons. Seventy-six percent of households consist of one, two and three persons. One and two person households account for 59 percent of all households in Jamaica Plain and Roxbury.

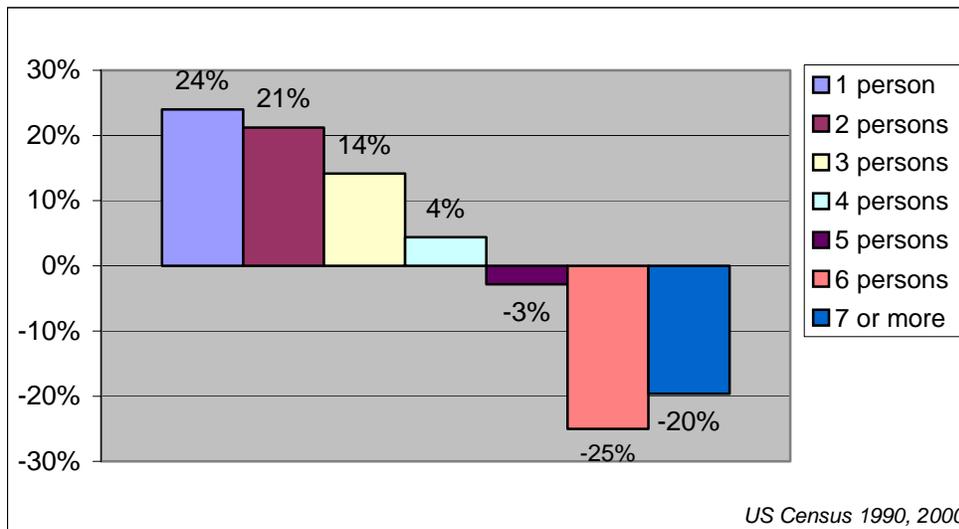
Figure 9: Household size in Jamaica Plain and Roxbury



Decline in Household Size

Since 1990, the number of total households in Jamaica Plain and Roxbury has increased by 14 percent. However, there has been a steady decline in households with 5, 6, and 7 persons in Jamaica Plain and Roxbury.

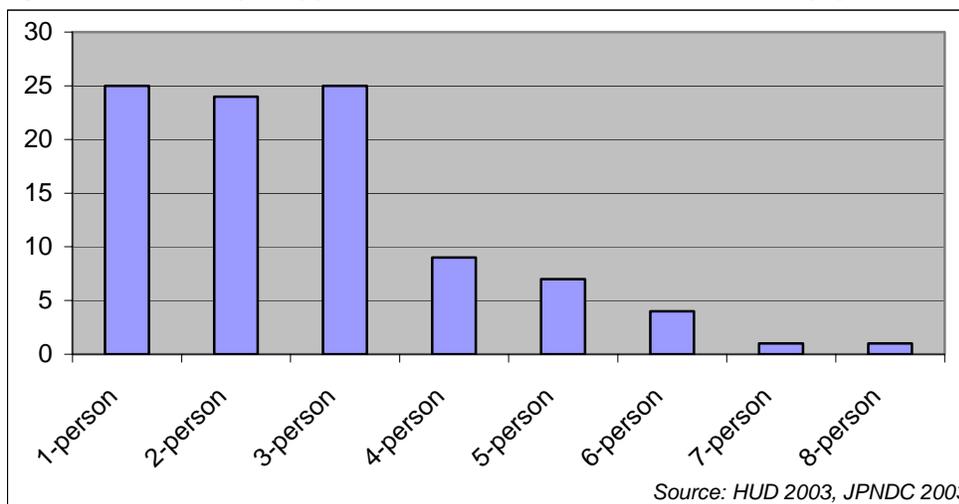
Figure 10: Percent change in household size from 1990 to 2000



Homebuyer Applications

Although some community members have expressed a desire for more 5-bedroom units in the neighborhood, most homebuyers in Jamaica Plain and Roxbury are from smaller households. In fact, 77 percent of all homebuyer applications are generated by 1, 2, and 3 person households.

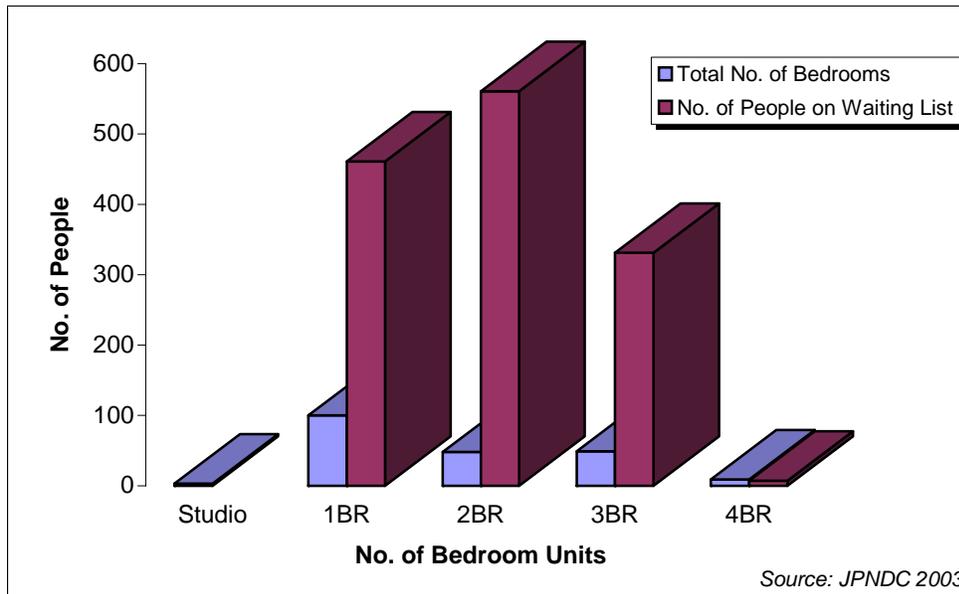
Figure 11: Homebuyer applications in Jamaica Plain and Roxbury, per household size



JPNDC Waiting List

The JPNDC Waiting List indicates that the highest demand is for 2 bedroom units. 51 percent of all units provided by JPNDC are 1 Bedroom and 25 percent of units are 2 Bedroom. However, 37 percent of people on the JPNDC list are waiting for 1 Bedroom units and 41 percent of people on the list are waiting for 2 Bedroom units.

Figure 12: JPNDC total number of units and waiting list information



Housing Sustainability Challenges

It appears that there is an imbalance between the number of 1, 2, and 3 bedroom units available and the demand for 1, 2, and 3 bedroom units. According to the 2000 Census, there has been a slow decline in 4, 5, and 6-person households over the last ten years along with a concurrent increase in smaller households. Additionally, the older housing stock may be responsible for public health issues stemming from poor indoor air quality.

Transportation

The confluence of Columbus Ave., Centre St., the Orange Line, several bus routes, and the Southwest Corridor bike and pedestrian path, Transportation is an important element of Jackson Sq. Transportation has served as a *raison d'être* for Jackson Sq. but at the same time has served to create a significant barrier between Jamaica Plain and Roxbury. Fostering sustainability within the Jackson Sq. development will need to pay particular attention to transportation aspects to, from, and within the immediate area. This section will look at the existing transportation conditions in Jackson Sq., including transit, auto, bicycling, and walking.

A good indicator of transportation behavior is the *mode share*, that is, the percent of trips made by auto, transit, bicycling and walking. If the automobile mode share is high, it often leads to problems such as congestion and air pollution. In Jamaica Plain and Roxbury, the mode share breakdown is relatively good; 63% and 68% of trips within the neighborhoods are by biking or walking and 57% and 63% of trips to the core area are by transit. But at the same time, 30% of trips within JP and Roxbury are by auto; with a transit system oriented toward downtown Boston, 43% and 37% use their cars to get there. As shown below, a significant percent of households do not have access to a vehicle; most that do have vehicles use them often.

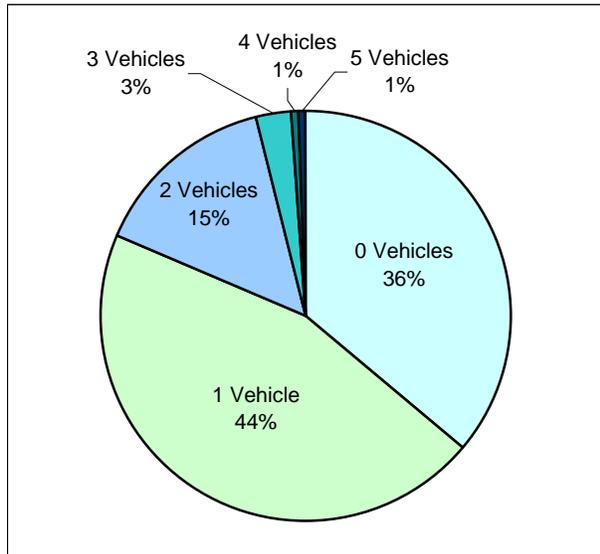
Table 1: Jamaica Plain and Roxbury Mode Share, 2002

Origin or Destination	Roxbury				Jamaica Plain/Mission Hill			
	% of Trips	Auto	Transit	Walk/ Bike	% of Trips	Auto	Transit	Walk/ Bike
Within neighborhood	34%	30%	7%	63%	30%	30%	3%	68%
Core area	8%	43%	57%	0%	8%	37%	63%	0%
Rest of Boston	33%	69%	23%	8%	32%	63%	29%	8%
Inner communities	17%	85%	15%	0%	19%	81%	18%	1%
Outer communities	8%	95%	5%	0%	11%	92%	8%	0%

Orange and red text denotes figures that development should focus on enhancing, and limiting (respectively). Source: Central Transportation Planning Staff (CTPS) data as reported in *Boston Transportation Fact Book and Neighborhood Profiles* (Boston Transportation Department, 2002). The “core area” includes Downtown and Back Bay. “Rest of Boston” is the city limits, not including the neighborhood itself and the core area.

Within a half mile of Jackson Sq. 36% of households *do not* have access to a vehicle. An additional 44% have only one vehicle available. This percentage is high when compared nationally, but is average in Boston, as shown in the table to the right. In light of this, the non-auto portion of trips could be improved.

Figure 13: Number of vehicles available by % of households



Census 2000 tracts within ½ mile of Jackson Square

Percent of Households with Autos	
West Roxbury	96%
Roslindale	85%
Hyde Park	80%
Mattapan	79%
Dorchester (South)	72%
Dorchester (North)	69%
Allston/Brighton	68%
Charlestown	68%
Jamaica Plain/Mission Hill	67%
East Boston	64%
Roxbury	60%
South Boston	57%
South End	49%
Back Bay/Beacon Hill	43%
Downtown	43%
North End/West End	42%
Chinatown/Theater District	41%
Fenway/Longwood Medical	27%
Boston Average	62%
Massachusetts Average	86%
National Average	88%
Source: 1990 Census	

Road Transportation

Of the key concerns identified by the JCG, Columbus Ave. arose time and again. This road is a major route dividing the Jamaica Plain and Roxbury neighborhoods and has served as a barrier by its heavy and fast moving traffic and poor pedestrian environment. It consists of six through traffic lanes plus turn lanes and carries approximately 31,000 vehicles per day, at Jackson Sq. The JCG has proposed to remove one lane of traffic and add parking to reduce the road's impact, as well as to serve as a source of parking for the new development. Columbus Ave. is designated as a State and National route so, while the City of Boston has significant power within the State, alterations may require an extended approval process. It is understood that this intersection needs improvement and development on several properties abutting it provides the perfect opportunity.

Centre Street is two lanes in each direction at Jackson Sq. but merges to one lane with parking on each side beyond the MBTA Station. It carries approximately 16,000 vehicles per day. Due to the traffic volume and frequent congestion, as well as high parking turnover on Centre St. area, there is anecdotal evidence of cut through traffic on the smaller neighborhood streets.

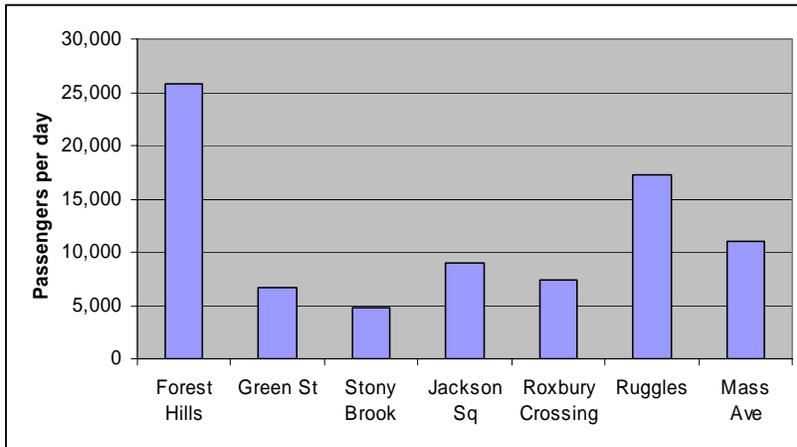
Public Transit

Figure 14: MBTA bus and rail routes in the Jackson Square area

The Jackson Square area is well served with both bus and subway service. Between the Orange Line and the five bus routes (22, 29, 41, 44, 48), approximately 13,000 person-trips pass in and out of Jackson Square Station everyday, not including bus Route 14 which stops nearby at Heath Street and Columbus. The Orange Line alone carries 9,000 passengers in and out of Jackson Square everyday. Compared to nearby stations, Jackson Square serves more passengers than Stony Brook and Roxbury Crossing, but considerably fewer than Forest Hills, which captures riders from further suburbs, and Ruggles and Mass Ave, which are closer to the core area and are major employment attractors. The appendices

contain more detailed transit data.

Figure 15: Daily Orange Line passengers at Jackson Sq. and adjacent stations



Temporal and spatial holes in bus service prevent further growth of the transit mode share. The most significant of these include long intervals between buses on Routes 14 and 41 (poor on-time performance has also been an issue on Route 41); as well as inadequate access to Dudley Square and Longwood Medical Center,

two major destinations for Jackson Square residents. JCG proposals for transit improvements include extending Route 14 to Brookline Village to provide quicker access to Longwood via the Green Line D Branch. This would also allow an easy transfer to bus Route 66, which goes through Coolidge Corner and Allston, to Harvard Square.

Transit amenities are also lacking in the Jackson Square area, with no shelters, schedules, maps, or even signs indicating the route. Personal safety and security is a major barrier to

attracting new transit users. Additionally, pedestrian and bicycle access to Jackson Square station could be greatly improved, this will be discussed in the next section. Pedestrians and Bicycles.

The Southwest Corridor, which runs along the MBTA Orange Line right of way is one of Boston's best pedestrian and bicycle resources. This corridor, with separate bicycle and pedestrian paths, connects Jackson Square with the stations between Forest Hills and Back Bay (Copley Square) and to the variety of parks along it. However, Columbus Aven impedes the quality of the park adjacent to Jackson Square and the pedestrian environment. Security and safety issues have also been a problem along the corridor.

Beyond the Southwest Corridor, the bicycle network is non-existent. A lack of secure bike parking at major destinations including the Stop and Shop, and the T Station further prevents bicycling. The pedestrian network is well connected, but of poor quality. Immediately surrounding the Jackson Square Station, the sidewalk is in disrepair, a dirt path serves as a connection to Amory St, crosswalks are faded, and pedestrians must contend with fast-moving traffic and Columbus Avenue's wide intersection and short pedestrian signal.

Figure 16: The intersection of Columbus Ave. and Centre St. is wide and difficult for pedestrians to cross



Transportation Sustainability Challenges

The most significant challenge lies in shifting the mode share from automobiles to alternative forms of transportation. This can be achieved by adjusting transit routes to provide better access to and from Jackson Square, improving amenities and facilities for transit users, pedestrians and bicyclists, and enhancing safety in Jackson Square and along the Southwest Corridor. A shift to more sustainable modes will reduce air pollution and traffic congestion, as well as improve public health through physical activity. While improving the existing transportation conditions is essential, absorbing the trips created by the new development in Jackson Square will to be an even greater challenge.

Commercial Mix of Hyde/Jackson Square

The development of the parcels in Hyde/Jackson Square will have a tremendous impact on the goods and services provided in the commercial district, the ability of the district to capture sales, and the commercial identity and reputation of the neighborhood. This analysis of the existing commercial mix provides an understanding of how the new commercial uses will affect the district and includes a summary of commercial uses, a comparison of the business mix to typical community shopping centers, and the distribution of gross leasable area (GLA) amongst different types of uses.



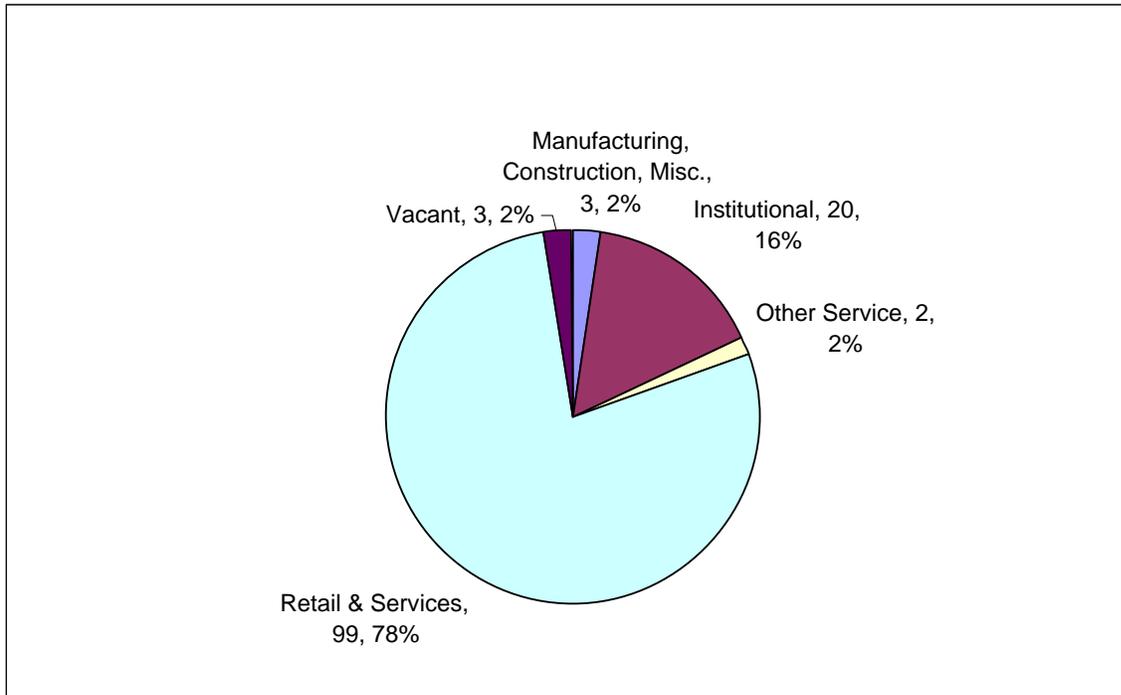
The Hyde Square/Jackson Square commercial center in Jamaica Plain extends roughly one mile. It includes Columbus Avenue from Amory Street to Centre Street. At the Columbus Avenue/Centre Street intersection, the district continues up Centre Street to the intersection with South Huntington Avenue. The Urban Land Institute (ULI) considers this district to be a community shopping center, defined as a commercial area which supplies convenience goods and some comparison goods, including apparel, appliances, and hardware. Community shopping centers, similar to this district, have a

supermarket and a strong mix of specialty stores. Most community shopping centers have GLA's between 100,000-500,000 square feet.

Summary of Commercial Uses

The source for most of the commercial mix data on Hyde/Jackson Square is the Hyde/Jackson Square Business District Profile by OKM Associates. Hyde/Jackson Square has approximately 444,000 square feet of commercial and institutional space and the district is 98% occupied. Of the approximately 124 retail establishments, 78% are retail. The following graph summarizes the use of space in the district. See Appendix for a full business inventory of the district.

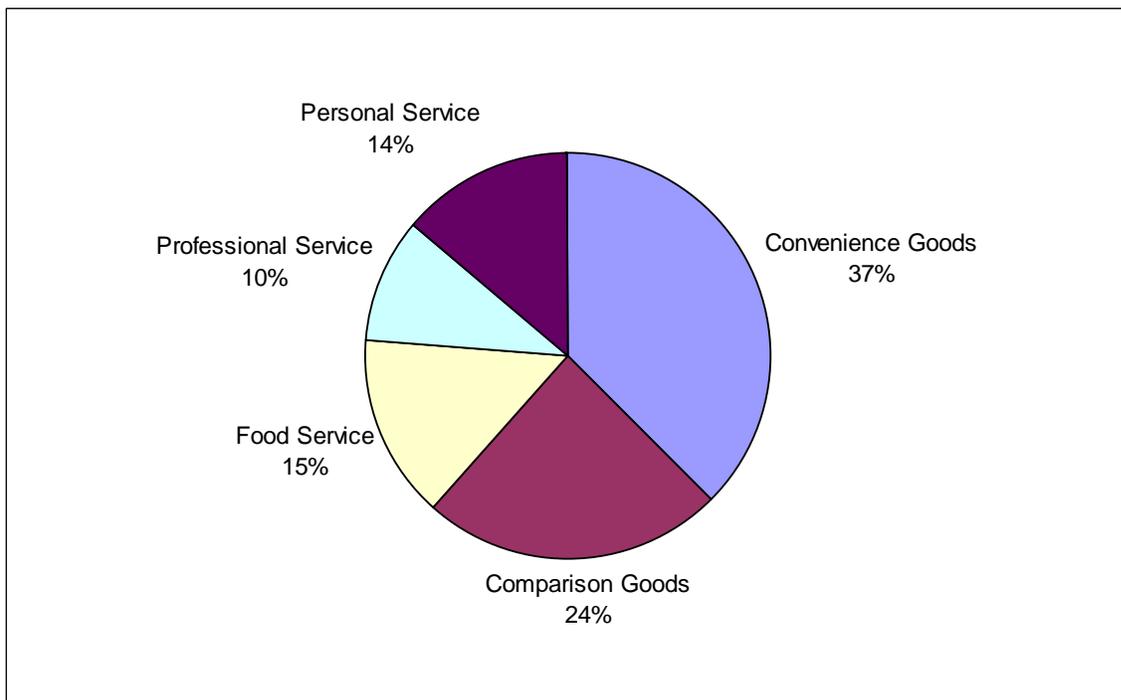
Figure 17: Summary of commercial uses



Gross Leasable Area

There is a large concentration of convenience good stores in the district. Approximately 37% of stores are in this category. The following graph summarizes the share of retail and service GLA for Hyde/Jackson Square.

Figure 18: Retail and service gross leasable area



The district has a few strong business clusters and industries that merit mention. Food and food service businesses, including restaurants, caterers, and bodegas comprise 35% of the retail and service GLA. Personal care stores, including hair salons, beauty supply, and nail salons, constitute 11% of retail/service space. Financial, insurance, and real estate (FIRE) businesses are also a strong business cluster, with approximately 13% of retail space. Finally, businesses that serve the Latino customer base, including restaurants, bodegas, FIRE firms, clothing stores, and travel agencies are a strong presence in the district and draw customers from a wide region.

In comparison to overall community shopping centers, Hyde/Jackson Square has most of the stores that are ranked in the top twenty tenants of these centers. However, the district has few options in terms of apparel, furniture, and general merchandise stores. The only businesses completely missing from this mix in Hyde/Jackson Square are a jewelry store and a discount department store. The following table provides more detail regarding the comparison to community shopping centers.

Table 2: Business mix in Hyde/Jackson Square, compared to typical community shopping center

Rank	Business Type	Hyde/Jackson Square
1	Restaurant with liquor	7 full-service restaurants; 1 >5000 sq. ft.
2	Women's ready-to-wear	Yes, 1 large (includes men's wear as well)
3	Family wear	2 children's and 2 men's clothing
4	Supermarket	Yes, full-scale
5	Family shoes	Yes, 2
6	Medical and dental	Yes, health center, medical and dental offices
7	Discount department store	No, 1 small 99 cent store
8	Unisex hair salon	Yes, 2
9	Bank	Yes, 2
10	Furniture	Yes, 1 rental
11	Cards and gifts	Yes, 1 party goods store
12	Restaurant without liquor	Yes, several limited service/take-out
13	Women's specialty	Yes, 1 bridal
14	Jewelry	No, 1 repair
15	Dry cleaner	Yes, 1
16	Women's hair salon	Yes, several
17	Cosmetics/beauty supplies	Yes, 1
18	Drugstore/pharmacy	Yes, available at supermarket
19	Nail salon	Yes, 1
20	Sandwich shop	Yes, 3

Reflecting the demographics of the area, the current shopper profile in Hyde/Jackson Square is someone who is price and quality conscious, is either White, Black or of Hispanic/ Latino origin, and has a low-to-moderate income. According to a Hyde/Jackson/Egleston Square Area Shopper Survey by Mt. Auburn Associates, approximately 65% of shoppers in the district live in the 02130 and 02119 zip codes, Jamaica Plain and Roxbury, respectively. Since this district

has relatively few options for comparison shopping for clothes, furniture, and appliances, most residents shop outside the district for comparison goods.

Business Trends

The chart below describes the changes in the Hyde/Jackson Square commercial district in the past ten years. Overall, the number of retail and consumer businesses have increased by 17%, from 87 to 102 businesses. The largest increases by type of business include restaurants and bars, auto and auto-related businesses, personal services (hair, nail, and beauty), FIRE, legal & accounting, and specialty retail (gifts, cellular/paging, and 99 cent stores). The largest decrease by type of business include home furnishings & hardware (-4%) and apparel & services, including drycleaning, tailoring, and repair (-11%).

Table 3: Number and percent of businesses by type

	Number of Businesses	Percentage of Businesses	Number of Businesses	Percentage of Businesses	Percent Change
	1994	1994	2004	2004	
Food, grocery, & liquor	12	14%	15	15%	1%
Restaurants & Bars	16	18%	24	24%	5%
Entertainment	1	1%	0	0%	-1%
Home furnishing & hardware	5	6%	2	2%	-4%
Drugstore/Pharmacy	1	1%	0	0%	-1%
Apparel & Services	21	24%	13	13%	-11%
Auto & auto-related	2	2%	5	5%	3%
Personal Services	9	10%	13	13%	2%
FIRE, Legal, Accounting	8	9%	12	12%	3%
Other Services	7	8%	9	9%	1%
Specialty Retail	1	1%	5	5%	4%
Electronics/Audio/Music	4	5%	4	4%	-1%
Total Businesses/Units	87	100%	102	100%	

Economic Development of the New Parcels

Business Development Values and Priorities

When the Hyde/Jackson Main Streets developed their Business Development/Recruitment Priorities in November 2003, they identified a few major values when considering new development in the district. These values include:

- Support locally-owned independent businesses (i.e. no chain or big-box retailers)
- Support businesses that serve the diversity of Jamaica Plain, in terms of ethnicity, race, income, and language
- Create quality jobs for local residents
- Strengthen and support Latino businesses in the area
- Support businesses that have a strong history, reputation, and involvement in Jamaica Plain

The Main Street organization also identified priorities for new development, which include:

- Encourage more comparison goods stores and discouraging more convenience goods stores
- Strengthen existing business industries and clusters
- Recruit more businesses which provide entertainment, recreation, and evening options
- Encourage destination draw businesses
- Recruit businesses that are financially viable

In addition, the Jamaica Plain NDC seeks recruitment of an “economic engine” for the new development, which they identify as a business which has high revenues and profits, enabling the rest of the new development to become economically viable.

The Main Street organization also identified a target shopper profile, which differs to a certain extent from the current shopper profile. Target customers are identified as Latinos from the New England region, “mixed income, urban, educated, alternative, arts-oriented” residents of Greater Boston, and Caribbean, African-American, and senior citizens from surrounding neighborhoods.

It becomes evident that some of these goals may be in conflict with each other, and trade-offs may have to be made between the desires of the community and the realities of economic development. For example, it may not be possible to attract photocopier/printers or art supply/hobby stores that are locally-owned and provide high-quality jobs for local residents. However, in analyzing the potential for new development, JPNDC should keep these values, priorities, and ideal shoppers in mind. Focusing on these ideas will guide the trade-offs and ultimate recommendations that are made for business development and recruitment in the community.

The following section will describe two different methodologies for analyzing the potential for new development on the parcels. One method is more qualitative in nature and will explore the results from the community process. The other method is quantitative and will describe the development potential in terms of sales surplus or leakage in the area.

Qualitative Method for Business Development

JPNDC and the JCG have engaged in a tremendous amount of community organizing, consultation, and research around the question “What new businesses would you like to see in the neighborhood?” We reviewed several documents to determine the types of uses that were most often mentioned or suggested by community residents and researchers.²

An analysis of these documents reveals seven top priorities:

- Entertainment, including a cinema, family-oriented, and Latin dance
- Restaurant, including Latin and/or family-oriented
- Art supply/craft/hobby store

² These documents are: Jackson Square Development Priorities report. Commercial Market Study report prepared by Byrne McKinney & Assoc.; Hyde Square/Jackson Square Market Study report prepared by Cambridge Systematics ; Hyde/Jackson Square Main Street Commercial District “Business Development/Recruitment Priorities”; Hyde/Jackson Square Business District Profile and Analysis of Commercial Mix report prepared by Main Streets committee and OKM Associates; “Egleston Square Inside and Out: Vision and Strategies for Neighborhood Revitalization” produced for Egleston Square Main Streets by MIT/DUSP.

- Health club/fitness
- Ice cream parlor
- Photocopier/printer
- Department store/furniture store/home décor

The comparison of Hyde/Jackson Square to a typical community shopping center as defined by ULI indicates potential opportunities for new uses are:

- Entertainment, fitness centers, function, social
- Hobby/special interest/sporting goods
- General merchandise stores
- Building materials/hardware
- Drugs, health & beauty
- Jewelry

Both lists include entertainment, fitness centers, function, social and hobby/special interest.

Quantitative Method for Business Development

Another method for investigating the most feasible new uses for development is by creating a sales surplus and leakage analysis. This analysis provides the amount of sales dollars that are either leaving the district (leakage) or the number of sales dollars that are being attracted to the district (sales surplus). If a store type is exhibiting a leakage, the community has a demand for that store type that is not being met by the businesses in the district. If a particular store type is exhibiting a surplus, residents from outside of the community are coming to shop in the district.

The first step in creating this analysis is to determine the total purchasing power in this district to determine the sales demand. Aggregate purchasing power is calculated by multiplying the number of households in an area by the median household income.

The following data is obtained from the 2000 US Census. Within one-half mile of the Jackson Square MBTA station there are approximately 6,299 households, with a median household income of \$29,955. Thus, the total purchasing power is \$188,686,545. This purchasing power is relatively low due to the fact that there is little housing within one-half mile of the T-stop other than the Bromley-Heath public housing development. When the target area is widened to a one-mile radius around the Jackson Square MBTA station, the number of households jumps to 33,875 and the median household income increases to \$32,845. Thus, the purchasing power quintuples to \$1,112,624,375.

In determining the actual sales demand for the district, one must estimate the capture rate for the area and determine estimated expenditures in the area for different types of goods. Using the 2002 Consumer Expenditures Survey average annual expenditure characteristics for the Northeast, we have created the following expenditure estimates and capture rate scenarios:

Table 4: Expenditure estimates and capture rate scenarios for ½ mile radius

	Estimated Expenditures by JP	5 % Capture Rate	25% Capture Rate	50% Capture Rate	75% Capture Rate
Food at home	\$22,008,706	\$1,100,435	\$5,502,177	\$11,004,353	\$16,506,530
Food away from home	\$15,923,872	\$796,194	\$3,980,968	\$7,961,936	\$11,942,904
Apparel & services	\$13,687,727	\$684,386	\$3,421,931	\$6,843,864	\$10,265,795
Entertainment	\$3,892,782	\$194,639	\$973,196	\$1,946,391	\$2,919,587
Personal care products & services	\$3,306,975	\$165,349	\$826,744	\$1,653,488	\$2,480,231
Household furnishings & equipment	\$9,813,842	\$490,692	\$2,453,461	\$4,906,921	\$7,360,382

For each expenditure category (food at home, food away from home, etc.), we have computed the aggregate estimated expenditures by residents. The subsequent columns estimate the capture rate, or the percentage of sales for each category that are spent within the commercial district. Considering the existence of a large supermarket and several bodegas in the area, we estimated a capture rate of 75%, or \$16,506,530 spent on food at home in the district. For food away from home, we estimated that the local businesses captured only 50% of the expenditures at restaurants, or \$7,961,936. Considering the high number of nail salons, hair salons, and beauty supply stores in the area, we also estimated a 50% capture rate for these services. Apparel and household furnishings are at 25% capture, considering the relatively few shopping options for clothing and furniture in the district. Finally, entertainment has the lowest capture rate, at 5%, considering the virtual lack of entertainment options in Hyde/Jackson Square.

Table 5: Expenditure estimates and capture rate scenarios for 1 mile radius

	Estimated Expenditures by 1 Mile	2 % Capture Rate	5 % Capture Rate	10% Capture Rate
Food at home	\$ 118,359,250	\$ 2,367,185	\$ 5,917,963	\$ 11,835,925
Food away from home	\$ 85,636,000	\$ 1,712,720	\$ 4,281,800	\$ 8,563,600
Apparel & services	\$ 73,610,375	\$ 1,472,208	\$ 3,680,519	\$ 7,361,038
Entertainment	\$ 20,934,750	\$ 418,695	\$ 1,046,738	\$ 2,093,475
Personal care products & services	\$ 17,784,375	\$ 355,688	\$ 889,219	\$ 1,778,438
Household furnishings & equipment	\$ 52,777,250	\$ 1,055,545	\$ 2,638,863	\$ 5,277,725

The table above shows the aggregate estimated expenditures and the estimated capture rate for a 1 mile radius around Jackson Square. The capture rates are much lower, at 5%, 10%, and 15%, because Hyde/Jackson district businesses will be capturing a much lower percentage of

the overall sales within a 1 mile radius. Thus, if local supermarkets were capturing 10% of the areas' food at home sales, they would be achieving \$11,835,925 in sales. For food away from home, we estimated that the local businesses only captured 5% of the expenditures at restaurants, or \$4,281,800. Apparel & services, entertainment, personal care products & services, and household furnishings and equipment are not strong clusters in Hyde/Jackson, so we estimate that those businesses are probably capturing only 2% of total sales within a 1 mile radius.

The next step in determining the sales surplus/leakage is to estimate the sales supply in the area. This is determined by multiplying the gross leasable area for each business type in the district by the median sales per square foot for a community shopping center, as determined by the ULI. The last step is to subtract the estimated expenditures by district residents from the estimated sales by district businesses. This number provides the sales leakage or the sales surplus in the district within a ½ mile and 1 mile radius of the Jackson Square T-stop.

Table 6: Sales surplus (leakage) within ½ mile radius of Jackson Square T

Retail Type	Estimated Expenditures by JP Residents	Estimated Sales in JP	Estimated Sales Surplus/(Leakage)	1/2 Mile GLA Gap (s.f.)
Food at home (supermarkets)	\$22,008,706	\$29,991,599	\$7,982,893	(21,495)
Food away from home (restaurant w/ liquor)	\$15,923,872	\$9,883,505	(\$6,040,367)	20,474
Apparel & Services	\$13,687,727	\$5,764,377	(\$7,923,350)	38,334
Entertainment fees & admissions	\$3,892,782	\$0	(\$3,892,782)	64,269
Personal care products & services	\$3,306,975	\$2,156,865	(\$1,150,109)	5,826
Household furnishings & equipment	\$9,813,842	\$1,849,767	(\$7,964,075)	43,054

The total estimated sales leakage is equal to \$26,970,684. This chart shows that there is almost an \$8 million annual surplus, or money coming from outside the neighborhood, for food at home. This may be attributable to Latino residents of surrounding communities coming to the district to buy Latino foods. There is a \$6 million annual sales leakage, or money leaving the neighborhood, for food away from home (specifically restaurants with liquor). This may be attributable to the fact that out of the 25 restaurants and food service businesses, only seven are full-service restaurants. There is an \$8 million sales leakage for apparel & services, likely attributable to the few apparel stores in the district. The estimated \$4 million leakage in entertainment fees & admissions is due to the lack of entertainment options in the district. Finally, the data shows that household furnishings and equipment may also be experiencing a sales leakage of approximately \$8 million annually, possibly due to the low number of furniture retail stores in the area.

The amount of square footage that would be supportable by new development is shown in the ½ Mile GLA Gap column. The \$1 million dollar sales leakage and GLA gap of 5,826 s.f. in personal care products & services may not be large enough to justify any additional hair salons, nail salons, or beauty product suppliers in the district. However, according to the data,

restaurants with liquor could support an additional 38,334 s.f., apparel & services stores could support an additional 20,474 s.f., an additional 64,269 s.f. in entertainment venues and an additional 43,054 s.f. in household furnishings & equipment stores could be supported in the district. Thus, in summary, the analysis suggests that business development opportunities may exist in Hyde/Jackson Square for full-service restaurants, entertainment venues, and household furnishings & equipment.

Table 7: Sales surplus (leakage) within 1 mile radius of Jackson Square T

Retail Type	Estimated Expenditures by 1 Mile Residents	Estimated Sales in 1 Mile	Estimated Sales Surplus/ (Leakage)	1 Mile GLA Gap (s.f.)
Food at home (supermarkets)	\$ 118,359,250	\$ 74,226,748	(\$ 44,132,502)	118,831
Food away from home (restaurant w liquor)	\$ 85,636,000	\$ 47,670,947	(\$ 37,965,053)	128,682
Apparel & Services	\$ 73,610,375	\$ 31,774,867	(\$ 41,835,508)	202,407
Entertainment fees & admissions	\$ 20,934,750	\$ 3,265,934	(\$ 17,668,816)	291,709
Personal care products & services	\$ 17,784,375	\$ 16,533,598	(\$ 1,250,777)	6,336
Household furnishings & equipment	\$ 52,777,250	\$ 23,568,802	(\$ 29,208,448)	157,903

The data on 1 mile sales leakage/surplus is based on aggregate GLA for commercial districts only within 1 mile of Jackson Square, including Dudley Square Mission Hill, Egleston Square, Centre/South, & Hyde/Jackson Square. It presents a very similar picture to the ½ mile sales/leakage analysis.³ We can assume that there is a substantial sales leakage from this area to outside commercial centers, such as Downtown Crossing, Cambridge and Fenway. For example, this chart shows that there is a \$17 million sales leakage on entertainment, supporting another 291,000 s.f. of space. Since there so few entertainment options in the area, this probably reflects the fact that most people in the area go to other parts of Boston to attend movies, shows, and sporting events. Thus, after analyzing the sales leakage/surplus data, it seems that business development opportunities certainly exist in the 1 mile radius for all the uses except for personal care products & services, which has a low sales leakage number.

Business Development Sustainability Challenges

There are several sustainability challenges that are evident with regard to economic development of the new parcels. When considering the nature of the development, finding the balance between strengthening existing clusters and diversifying the commercial district becomes a concern. While Hyde/Jackson has strong sectors in food, personal care, FIRE, and Latino-based businesses, it is missing some businesses that should exist in a healthy, growing community shopping center. Another challenge is determining how to meet the needs of the current customer profile while still being able to appeal to the target customer profile. This balance is particularly important for the JPNDC, which is trying to prevent the negative effects of gentrification in the community. A related concern is determining how to stay true to the

³ Please note that it does not include isolated commercial centers that fall outside of those commercial districts, such as the Landmark Center. Thus, the total estimated sales leakage, which is equal to \$172,061,103, is somewhat inflated.

business development values while creating economically sustainable uses. There may be a contradiction between the types of businesses that the community has requested, such as a movie theater, and the desire for independent, locally-owned businesses that provide high-quality jobs. Another major challenge is creating the compromise between the requested uses for the new development and economically viable uses. For example, further analysis may show that a hobby store will not be economically sustainable in this community, but an ice cream store will be successful. Finally, the new development must ensure that the new uses are environmentally sustainable. A challenge for this project will be identifying industrial ecology practices and green building techniques that are affordable yet still effective at remediating the negative environmental impacts that arise from new development.

Brownfields, Environment & Public Health

Perhaps more than any of the previously discussed issues, environmental and public health concerns are integrated and inseparable from the housing, economic, and transportation aspects of planning for a sustainable Jackson Square. This fact of course, goes to the heart of the theory and framework for sustainable development.

The following discussion summarizes the environmental and public health issues that are most relevant to the context of planning for redevelopment of Jackson Square. It is not intended to be a comprehensive survey of all the important environmental concerns facing the community, but covers only those issues that have the most potential to impact or be impacted by redevelopment. The analysis draws on the expertise of scientists, government agencies and other technical experts, and the local knowledge of community members and community-based organizations.

It should be noted that many if not most of the critical environmental concerns in a highly urbanized place like Jackson Square are issues of public health. While we may not be dealing with the traditional “natural” environment of endangered species and old-growth forests, we are concerned with conditions related to human activity and urban development; the so-called “built” environment, and how these impact the health and well-being of the people who live there.

Brownfields & Potential Health Risks

A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. (US Environmental Protection Agency)

All of the redevelopment parcels can be classified as brownfields. The nature and extent of pollution and the human health risks posed by the pollution or any residual contaminants left on the site after remediation, is the most critical environmental and public health issue at stake in Jackson Square. Human health is at risk currently; any vision of sustainable development of these parcels must include ensuring that health risks are minimized by remediation and reuse.



The environmental assessment process has not been completed for any of the redevelopment parcels, so a comprehensive analysis of potential risks is not possible at this time. However, based on existing assessment data we can make the general conclusion that some of the potential health effects of the substances found on the site (oil/petroleum, tetrachloroethylene, trichloroethylene, polycyclic aromatic hydrocarbons, arsenic, lead include cancer, birth defects, nerve, liver and kidney damage, and auto-immune disorders.

Recognizing the importance and complexity of brownfields assessment and remediation in the Jackson Square planning process, what follows is a detailed description of the known contamination and remediation issues on each of the four redevelopment parcels, and abutting parcels to the extent they may have adverse impacts. The properties include: MBTA parcels 69, 70, 71, and A, MBTA “Grassy Knoll”, 1540 Columbus Avenue, and the NSTAR property (Columbus Ave. and Centre St. intersection). The primary sources of concern are known or

potential contaminants either 1) contained in urban fill or 2) due to previous industrial and commercial uses, including leaks from underground storage tanks (USTs).

Urban fill: Environmental investigations on the MBTA 69-71 and A parcels and nearby parcels on Amory Street and Columbus Avenue have all revealed a layer of urban fill at depths ranging from near surface to 25 feet. Constituents noted in the fill include: metal, glass, crushed stone, coal, coal cinders, wood, wood ash, bricks, concrete, tires and auto parts. Sources of the fill are generally unknown, but may include refuse from local operations and fill from Boston-area excavation projects. Urban fill of this type is likely to contain heavy metals and petroleum products. These substances, in some locations at concentrations requiring remediation, have been found in the fill of the Jackson Square area parcels.

Industrial or commercial use: All of the properties in question have a history of commercial or industrial uses often associated with environmental contamination. Uses have included a myriad of automobile-related businesses including junkyard, filling station, repair shop, used car sales and car storage. Auto uses are most often associated with petroleum and heavy metal contamination. Other uses have included various manufacturing concerns associated with the use of petroleum products and solvents.

Table 8: Parcel Summaries

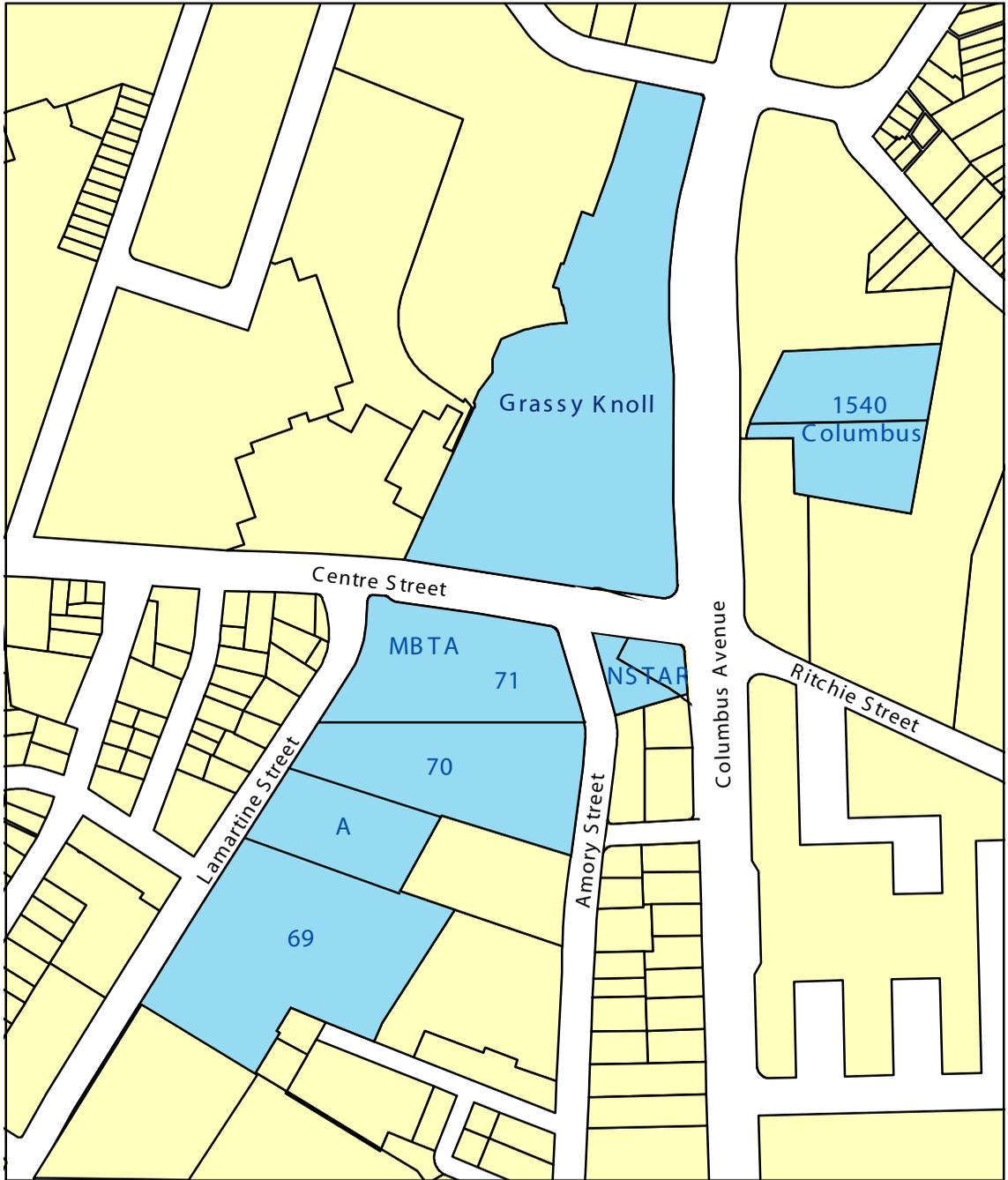
Property	Previous spill reported	Status of spill	Property concerns	Abutting properties of concern
MBTA 69, 70, 71, A	Yes: Petroleum, tetra and tri-chloroethylene	Assessment due in 2004	-Known contaminants -Previous uses -Urban fill -Abutting properties	-41 Amory: petroleum, auto fluids, metals -85-95 Amory: hazardous material -59 Amory: petroleum
MBTA Grassy Knoll	No	NA	-Urban fill -Previous uses	None known
1540 Columbus Avenue	Yes: Oil	Remediated: No Significant Risk	-Urban fill -Previous uses -Abutting properties -Previous spill (depending on re-use)	-282 Highland: petroleum -1542 Columbus: arsenic, lead, petroleum
NSTAR (Columbus and Centre)	Yes: Oil	Remediated: No Significant Risk	-Urban fill -Previous uses -Previous spill (depending on re-use)	None known

MBTA parcels 69, 70, 71, A

A Phase I assessment was conducted in November 1989. At that time the City of Boston Economic Development and Industrial Corporation (EDIC) contracted for the work pursuant to their interest in developing the property for light manufacturing. The Phase I assessment revealed soil and groundwater samples contained high levels of petroleum hydrocarbons. Groundwater samples contained tetrachloroethylene and trichloroethylene which are solvents used with metals and dry cleaning. Eight underground tanks full of liquid remain on the property.



Jackson Square Redevelopment Parcels



0 0.125 0.25 0.5 Miles

Source: Boston Redevelopment Authority

In August 1990 (in response to a request from EDIC) a remediation estimate was offered based on a proposal to construct three industrial/office buildings as well as roadways. Remediation costs were estimated at \$2.0 to \$3.3 million. The estimate was reduced to \$1.1 to \$1.6 million with the deletion of a basement on a part of the property that would require extensive dewatering during construction. Primary costs are for soil and groundwater disposal and/or treatment and removal of the underground tanks. EDIC subsequently withdrew their interest in the property.

The MBTA parcels may be impacted by contaminants on abutting properties. In particular, hazardous releases have been reported for the following properties:

Levin parcel, 59 Amory Street: A release of petroleum hydrocarbons and volatile petroleum hydrocarbons was detected during site investigations between 1997 and 2001. In June 2000 a 10,000-gallon UST containing #2 fuel oil was removed from the property. The UST was located at the northern boundary of the site towards the rear of the property. The source of volatile petroleum hydrocarbons has not been located. Petroleum hydrocarbons and volatile organic compounds above reportable levels are present in the groundwater. The Phase I report (6/02) indicates that a request has been made to install 5 monitoring wells on the adjacent MBTA property but had not yet been approved. Evaluations conducted on MBTA property in this area (well # JS7) indicated high levels of petroleum. High petroleum levels were found in soils in this area as well. Groundwater flow from this spill may be a source of the contamination found on MBTA parcel 69 at well # JS7. According to the site evaluation prepared by Green Environmental, Inc. for JPND, the current owner reports that an "Activity and Use Limitation" (AUL) has been prepared that does not restrict residential use, but requires that pavement be maintained. See Appendix for site details.

Potential Concerns: Possibly contaminated groundwater flows from this property toward MBTA parcel 69.

Urban Edge parcel, 41 Amory Street: A Phase I analysis was submitted in January 2003; the Phase II report is due January, 2005. Site evaluations in 2001-2 revealed high levels of petroleum products, automobile fluids and heavy metals, in particular lead. Sources are believed to be historical fill materials and property use including manufacturing of railroad components and since 1963, operation of an auto junkyard. Testing indicates that metals have not leached to groundwater (groundwater depth is approximately 15-16 feet, fill materials extend to approximately 12 feet). Petroleum products were, however, detected in reportable concentrations. This property abuts the MBTA parcels. Testing along the property line (on the MBTA side) at wells JS4 and JS5 indicated high levels of petroleum. The Phase I analysis predicts that groundwater migration is very slow. See Appendix for site details.

Potential Concerns: Possibly contaminated groundwater flows from this property toward MBTA parcels 70 and A.

Urban Edge parcels, multiple addresses along Amory Terrace and Street: A site evaluation in 2002 indicated the presence of hazardous materials. A Response Action Outcome and Risk Characterization report was submitted in January 2003. The site is classified as "No significant risk exists, no remedial work was necessary". However, low levels of volatile organic compounds in groundwater are migrating toward MBTA Parcel 69. These include the aromatic Volatile Organic Compounds (VOC's), toluene, ethyl benzene and xylene that are components of gasoline and other petroleum products likely resulting from tow yard use on the property. Also present are chlorinated VOC's including PCE (tetrachloroethylene); its source is not

considered to be site use, but historic manufacturing in the area. The highest levels of VOC's are located at the southwest corner of the property. Groundwater velocity was estimated at 50 feet per year. The retardation factor for contaminants may reduce their migration rate to 1/100 to 1/1000 of the groundwater velocity. The report concluded that due to a slow rate of migration the contaminants will be subject to biodegradation and will not have off-site impacts. See Appendix for site details.

Potential Concerns: The contaminants in the groundwater flow toward MBTA parcel 69 may not degrade.

See Appendix for greater detail on the location and levels of contaminants on MBTA parcels 60-71 and A.

MBTA parcel "Grassy Knoll"

There is no record of environmental hazards.

Potential Concerns: This property likely contains urban fill, which may contain petroleum products and heavy metals. Previous uses include a machine shop, a filling station and an auto repair facility which may have released contaminants to the property.

NSTAR parcel Columbus Avenue and Centre Street

A spill of 150 gallons of oil was reported in 2002. Current status: remedial work has been completed and a level of no significant risk was achieved.

Potential Concerns: This property likely contains urban fill, which may contain petroleum products and heavy metals. Previous uses include a filling station which may have released contaminants to the property.

City of Boston parcel 1540 Columbus Avenue

A release of waste oil was reported in 1995. Current status: remedial work has been completed and a level of no significant risk has been achieved.

Potential Concerns: This property likely contains urban fill, which may contain petroleum products and heavy metals. Previous uses include an auto sales and service establishment, an auto body shop and a car storage and parts firm that may have released contaminants to the property.

The City of Boston parcels may be impacted by contaminants on abutting properties. In particular, hazardous releases have been reported for the following properties:

City of Boston, DPW yard, 282 Highland Street: In April 1992 three underground storage tanks were removed from the property. The tanks were located just outside the DPW Garage along the Highland Street side of the building. A 3,000-gallon tank contained #4 fuel oil, a 1,000-gallon tank contained diesel fuel, and a second 1,000-gallon tank contained gasoline. Soil excavated adjacent to the 1,000-gallon tanks contained 580 mg/kg petroleum hydrocarbons. Soil excavated adjacent to the 3,000-gallon tank contained 1,500 mg/kg petroleum hydrocarbons. Groundwater (at depth of 16') had an oil sheen. The spill was reported to the Commonwealth in July 1993. The City has failed to meet the Department of Environmental Protection timelines for response.

Potential concerns: Petroleum contaminated groundwater flows from this property toward 1540 Columbus Avenue.

Urban Edge parcel, 1542 Columbus Avenue: An environmental assessment in March 2002 revealed high levels of lead and arsenic in the soils. A Phase I assessment has been completed. A Phase II assessment is due in July 2005. The source of the contamination is believed to be the fill material on the land. Petroleum may also be present due to a former underground storage tank on site and from fill materials. The contaminated soils are located under concrete, so no dermal contact is possible. See Appendix for site details.

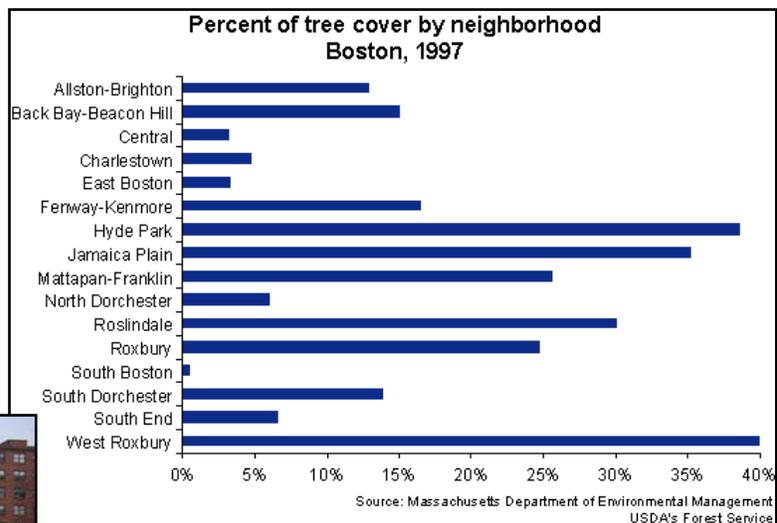
Potential concerns: Groundwater migration is to the west/northwest, which may impact the southern end of 1540 Columbus Avenue. Groundwater levels for arsenic and lead were not however, above the reportable standard. The highest levels of arsenic and lead in soils are located primarily in the northern end of the parcel that abuts 1540 Columbus Avenue, possibly indicating concern for fill materials on site.

See Appendix for a summary of hazardous releases reported to the Commonwealth of Massachusetts. See Appendix for a list of historic uses of the properties.

Tree Cover and Urban Forestry

Although the larger Jamaica Plain and Roxbury neighborhoods are well endowed with trees (between 25% and 35% tree cover), the area around Jackson Square and Columbus Avenue is relatively stark. Transportation infrastructure and current and former land uses have created a barren landscape that serves as a barrier between two otherwise green neighborhoods.

Trees are important assets in the urban environment, providing numerous tangible and intangible benefits. By providing simple shade and other more complex processes of transpiration and radiation, urban trees serve as natural air conditioning in the summer, cooling the surrounding air by up to two degrees. Trees planted near buildings can enhance



energy efficiency through shading in the summer and blocking winds in the winter. Tree cover also provides improved air quality, primarily through uptake through leaves of such pollutants as ozone, sulfur dioxide, carbon monoxide, nitrogen dioxide and particulate matter. Studies in New York City have shown that trees alone can improve air quality by up to 0.47%.

Urban trees are also important for providing a “sense of place”. The aesthetic and psychological benefits of a green neighborhood, where one can witness the changing seasons

are difficult to quantify, but few could deny that the tree-lined residential streets of Jamaica Plain and Roxbury are more welcoming and pleasing spaces than the bleak landscape around Jackson Square.

Open Space & Physical Activity

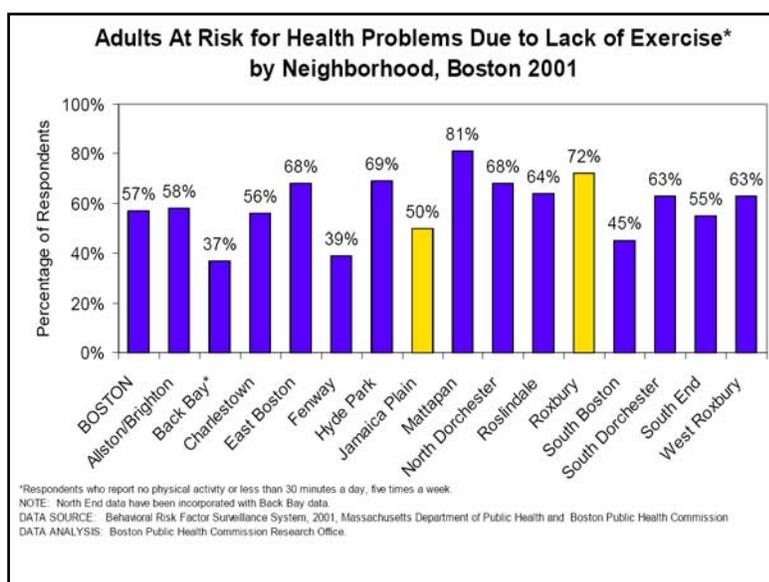
Jamaica Plain and Roxbury are blessed with a wealth of parks, recreation facilities, urban wilds, and other public open spaces. With 9.5 acres of open space per 1000 residents in Roxbury and 10.83 acres per 1000 residents in Jamaica Plain, both neighborhoods have well over the citywide average of 7.9 acres per 1000 residents. These numbers are greatly influenced by the presence of several of the city’s largest open spaces – Franklin Park, Arnold Arboretum, and the Jamaicaaway/Jamaica Pond – assets to the greater community certainly, but none is within three quarters of a mile of Jackson Square.



Open space in Jackson Square is anchored by the Southwest Corridor Park which provides active and passive recreation facilities, local and regional bicycle/pedestrian transportation, community gardens, and community gathering space, and the Marcella Park and playground, with sports fields, courts and play structures for children. Other local open spaces are primarily smaller parks and playgrounds of less than one acre. McLaughlin, Jefferson, and Malcolm X Parks are larger and offer more facilities, including fields, but are all at least ½ mile from Jackson Square. Community gardens have been a strong presence in Jamaica Plain

and Roxbury since the 1960s, and there are 15 gardens within ½ mile of Jackson Square. See Appendix for a list of all local open spaces and public recreational facilities.

There are no football or soccer fields within ½ mile. The Boston Parks Department recently constructed a new play facility for younger children on Forbes Street, but has identified a need for additional play facilities in this area. Community members have expressed concern for maintenance levels and public safety at local parks as well.



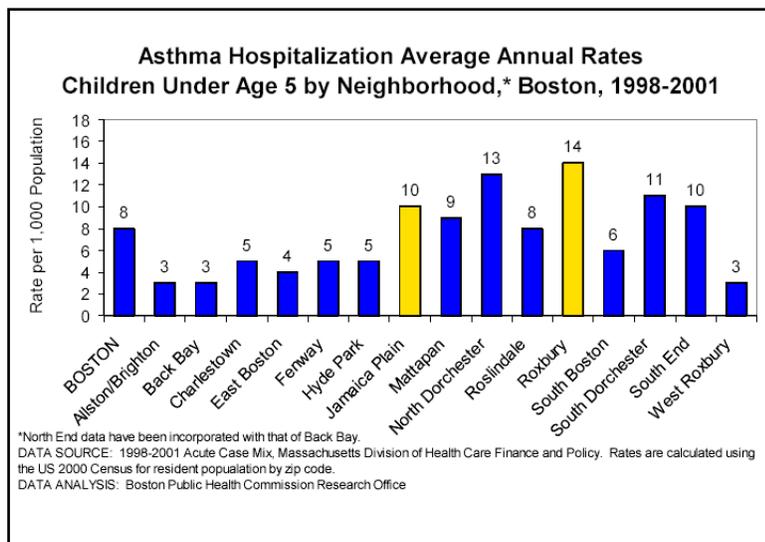
Public open space provides numerous quality of life benefits including recreational opportunities, gathering space, a place for trees to grow, and a sense of place and community. In the sustainability framework for Jackson Square however, the most critical role of open space and the surrounding built environment is its role in either promoting, or limiting, physical activity and exercise for recreation and transportation.

The connection between physical activity and public health is an emerging theme in

environmental health. Nationally, the problem of obesity has literally reached epidemic proportions. The Boston Public Health Commission estimates that 57% of adults in Boston (50% in Jamaica Plain and 72% in Roxbury) are at risk for health problems due to lack of exercise as of 2001. A recent study of youth physical activity and sports participation reported that 44% of 4th graders in Boston parochial school students were overweight or at risk for becoming overweight. This study also found that Black and Hispanic youth participate in organized physical activity at a lower rate than white youth and that youth residing in Boston had only one-third of the opportunities for after-school physical activities offered in suburban communities. Finally, it should be noted that physical inactivity is a significant risk factor for each of the three leading causes of death locally and citywide (cancer, heart disease and stroke), which together dwarf the rates of mortality due to all other causes (See Appendix).

Air Quality and Asthma

Asthma, particularly childhood asthma, is an environmental health problem of increasing severity that has been receiving more attention in terms of research and programming. Nationally, research has found that, between 1980 and 1994, asthma rates rose by 75% overall and by 160% among children under age four. Poor air quality, indoor and outdoor, is the primary risk factor for asthma. Jamaica Plain and Roxbury both have higher than citywide average rates of hospitalization for childhood asthma. Aside from being a significant problem in its own right, asthma is also a useful indicator of more general air quality and environmental justice issues.



Outdoor Air Quality

Vehicular emissions, particularly diesel exhaust, are the primary source of outdoor air quality concerns, and the primary outdoor asthma risk factor in the Jackson Square area.

According to the Massachusetts Department of Environmental Protection, levels of the “Criteria Pollutants” (Carbon Monoxide, Sulfur Dioxide, Nitrogen Dioxide, Lead, Ozone, and Particulates), rarely exceeded the National Ambient Air Quality Standards

(NAAQS) thresholds at Boston monitoring sites in 2002, and the Air Quality Index only went into the official “unhealthful” range for one day in 2002.

Many of the MBTA bus routes in the area have been converted to Compressed Natural Gas (CNG) fueled vehicles, and a program is underway to retrofit all Boston public school buses with particulate traps and ultra-low sulfur fuel. One quarter of the 400 bus fleet has been retrofitted to date, with the remainder to be completed by the end of 2004.

A detailed report on outdoor air quality in the Jackson Square area has been prepared by the Jackson Coordinating Group and the Harvard School of Public Health. The study includes extensive monitoring data as well as modeling of future conditions and a detailed discussion of the public health implications of outdoor air quality. Although the report has not raised any “red

flags” for outdoor air quality, either presently or under any of several modeled redevelopment proposals, Jackson Square remains a highly urbanized area with plenty of vehicular traffic and likely higher than average pollution levels.



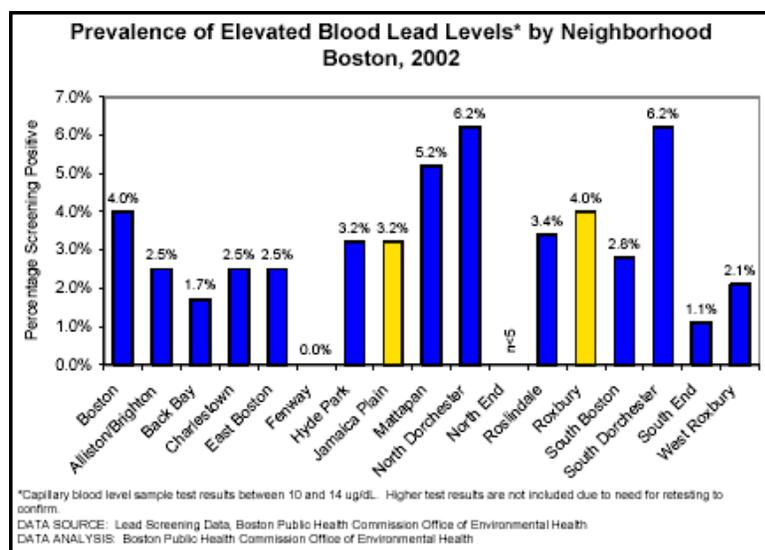
Indoor Air Quality

Primary sources of indoor air quality concern in the neighborhood are related to housing stock. As discussed previously, much of the existing housing stock in the project area is old (over 50% of units were built before 1940) and/or part of public housing projects. Air quality problems and specific asthma triggers commonly found in this type of housing include mold and moisture, pets and pests, large temperature swings, inadequate ventilation, toxic building materials and tobacco smoke. In addition, considering the length of time that employees spend in their workplaces, older commercial buildings probably pose similar health concerns.

There is a relatively high level of awareness of the indoor air quality/childhood asthma problem, and there are several notable existing programs in place to address it. In-home counseling to educate families about reducing exposure to hazards is offered by the Boston Public Health Commission and by the Jamaica Plain Asthma Environmental Initiative based locally in the Martha Eliot Health Center. The Boston Urban Asthma Coalition has developed Healthy Home Building Guidelines to minimize hazards in new construction.

Lead Poisoning

Childhood lead poisoning is another environmental health concern where, similar to asthma, children are at the greatest risk and risk factors are related to older, substandard housing stock (e.g. lead paint). Jamaica Plain and Roxbury have a rate of childhood lead poisoning roughly equal to the citywide average, which at 4% of all children screened, is well above the national



average and indicates an environmental justice issue. Fortunately, over time neighborhood and citywide rates of lead poisoning have been declining steadily. This suggests that community awareness of the problem and programs to reduce exposure to hazards have been effective in reducing, if not eliminating, the lead risk.

Environmental assessments have revealed the presence of lead hazards on the redevelopment parcels. While development of new housing on the site will move

residents out of older housing stock, it is critical that lead hazards on the project site be remediated to a level that will not pose a threat of lead poisoning, so that residents will not be "jumping out of the frying pan and into the fire."

Local Business Waste Streams

As detailed earlier, the commercial mix in the Hyde/Jackson area is dominated by retail and service sector businesses. Manufacturing and industrial sector uses typically associated with environmentally hazardous waste streams and emissions make up only 2% of the businesses. Although past industrial use of the redevelopment parcels has left a legacy of pollution and health hazards, current business activity has generally not raised many environmental "red flags" in the neighborhood.

While problems have not been reported relative to any of the specific businesses, the following *types* of businesses present in the neighborhood have the *potential* to create waste stream or occupational health problems:

- Auto-related businesses. Five exist currently. Solvents, petroleum products, paints, and other fluids and fumes.
- Dry Cleaner. One exists currently. Cleaning solvents.
- Nail/Beauty salons. 11 exist currently. Volatile compounds.
- Restaurants. 24 exist currently. Organic waste, pests, odors.

Brownfields, Environment & Public Health Sustainability Challenges

The environment and public health concerns outlined above are those that are most relevant to the process of redevelopment in Jackson Square and should *all* be considered in the planning process. To further define the framework for sustainable development and guide planning, however, we have refined the environment and public health concerns into a set of priority challenges that represent areas where sustainable development can add the most value to quality of life and quality of environment in Jackson Square, both in the short- and long-term.

Priority Challenges

- **Brownfields Risks and Remediation**
The promise of brownfields redevelopment is that abandoned and unsafe properties may be restored for community use. Brownfields regulations however, allow remediation to less than pristine conditions, depending on the intended re-use. A critical challenge for the sustainable development of the Jackson Square area is to ensure that remediation standards protect the health and safety of residents and visitors. Depending on remediation choices, future liability issues and the need for long-term control of environmental hazards may be a concern for JPNDC and future tenants and homeowners. Economically, the costs of assessment and remediation may impact the feasibility of desired re-uses. Assessing responsibility for cleanup and financing remediation efforts constitute a considerable challenge to sustainable development.
- **Air Quality and Asthma**
New development may generate increased vehicle traffic. This is a particular concern given that residents already experience asthma rates higher than surrounding communities.
- **Access to Open Space and Physical Activity**
Opportunities in the neighborhoods for recreation, physical activity and non-vehicular mobility are limited for all ages.

- Re-connecting the Jamaica Plain and Roxbury neighborhoods
Despite the relatively green character of greater Jamaica Plain and Roxbury, Jackson Square's relatively bleak landscape creates a forbidding barrier between the neighborhoods and sacrifices potential air quality benefits.
- Improving the overall environmental performance of small businesses.
Despite the lack of significant waste stream problems, recycling rates and other measures of environmental performance could be improved. Development of new businesses at the redevelopment site will add to resource use and waste streams in the area.

Recommendations for Sustainable Development

The preceding analysis has, in addition to providing a snapshot current community, economic, and environmental conditions in the neighborhood, defined the priority challenges for sustainable development in Jackson Square. Building on the initial principles and goals, we have identified specific opportunities - *what* we should do to promote sustainability. Although the opportunities are organized according to five identified goals, there is no strict segregation intended, and most, if not all, will serve multiple, integrated purposes.

Principles

- Improve the environment and public health
- Foster economically viable development
- Respond to community needs and desires

Goal: Eliminate human health and environmental risks on the parcels

- **Opportunity: *Remediate contaminated parcels***
Identify remediation needs, funding sources and reuse plans to ensure that future human use of these parcels does not pose a significant health risk. Redevelopment of Jackson Square must serve to decrease the overall environmental health risk in the neighborhood.

Goal: Incorporate sustainability into physical site development and building design

- **Opportunity: *Green and healthy buildings***
Achieve energy efficiency, cost savings, and environmental justice benefits by incorporating green building techniques in housing and commercial building designs and by leveraging existing resources and programming to restore healthy indoor environments.
- **Opportunity: *Provide quality open space and recreational facilities***
Jackson Square redevelopment presents an opportunity to encourage increased physical activity and public health. On-site open space, community center or commercial recreation/fitness facilities can provide recreation opportunities for adults and children.
- **Opportunity: *Integrate urban forestry values into redevelopment***
Thoughtfully and functionally integrating tree planting and urban forestry values into the redevelopment design and into the surrounding transportation infrastructure will provide air quality benefits and will help re-establish the critical physical and psychological connection between Jackson Square and the surrounding Jamaica Plain and Roxbury neighborhoods.

Goal: Target redevelopment of the parcels to meet the needs of area residents

- **Opportunity: *Identify commercial uses that will balance the diverse business recruitment goals of the community***
In order for the redevelopment of these parcels to respond to community needs, the new commercial uses must achieve the goals for business recruitment identified by the community. These goals include the recruitment of businesses that: are small scale-

retail, are locally-owned, provide comparison good stores, provide jobs, and strengthen existing business clusters.

- **Opportunity: *Identify economic engine(s) or economic draws***
A community center and affordable housing will not serve as an economic engine to attract sales from the Greater Boston market. At least one of the commercial uses must serve as a destination for surrounding communities, drawing in dollars and creating spillover effects for other local businesses.
- **Opportunity: *Target diverse markets***
A successful mix of commercial uses will appeal to both the existing customer profile and the target customer profile of Jamaica Plain/Roxbury. Retaining the character of Hyde/Jackson Square while simultaneously attracting a wider market will be a challenge, but addressing this issue will enable the creation of a vibrant and healthy commercial district, protected from the effects of gentrification.
- **Opportunity: *Support industrial ecology practice***
Supporting environmentally sound business practices in developing new commercial space, such as cooperative sourcing and waste management among clusters of similar businesses can reduce environmental impacts and costs to business.

Goal: Integrate and connect the surrounding neighborhoods

- **Opportunity: *Reconnect J.P. and Roxbury with linked open space, bicycle and pedestrian facilities and trees***
Planning may recommend changes to off-site transportation infrastructure and open space networks to develop new resources and connect existing resources to enhance bicycle and pedestrian mobility.
- **Opportunity: *Capitalize on transit, bicycle and pedestrian resources***
The Jackson Square area has excellent alternative transportation resources that can be leveraged to get people out of their cars.
- **Opportunity: *Improve transportation system to accommodate new development and decrease auto mode-share***
Think carefully about how much and what type of traffic is generated by the new development and look for ways to configure and limit automobile space that will provide adequate capacity, while encouraging transit users, pedestrians and bicyclists.

General Recommendations

Exactly how should we capitalize on the opportunities that have been identified? The remainder of this plan will offer recommendations in response to this question. Included are general recommendations that should serve as overarching guidance for planning and development, and specific recommendations offering substance and strategy for achieving each of the four goals of the sustainability framework.



Capitalize on the location.

This collection of contaminated, neglected and vacant parcels of land may seem unremarkable, even repellent, but the clean slate they offer for redevelopment and their geographic context - the density of the surrounding neighborhoods, nearby transit resources, a diverse and underserved population, and abundant opportunities for improving economic, social, environmental and public health conditions - add up to the ideal location for sustainable development. Indeed, there may not be another site in the Boston area that can match this

opportunity to achieve integrated economic, environmental and community goals.

Through physical development of the site and programming of the newly created place, Jackson Square redevelopment is in position to succeed relative to each of the Massachusetts Office of Community Development's (OCD) ten guiding principles for sustainable development:

1. *Redevelop First.* Support the revitalization of neighborhoods...Give preference to brownfields.
2. *Concentrate Development.* ...integrate uses...create walkable districts mixing uses with open space and housing for diverse communities.
3. *Be Fair.* Promote equitable sharing of the benefits and burdens of development... support for inclusive community planning.
4. *Restore and Enhance the Environment.* Promote developments that respect and enhance the state's natural resources.
5. *Conserve Natural Resources.* Reduce waste of water, energy and materials. Lead by example... Construct and promote buildings and infrastructure that use land, energy, water and materials efficiently.
6. *Expand Housing Opportunities.* Support the construction...of housing to meet the needs of people of all abilities, income levels and household types. Coordinate the provision of housing with...transit and services. Foster the development of housing...that is compatible with a community's character and vision.
7. *Provide Transportation Choice.* Increase access to transportation options...including...public transit, bicycling, and walking. Locate new development where a variety of transportation modes can be made available.
8. *Increase Job Opportunities.* Attract businesses...to locations near housing...and transportation options. Support the growth of new and existing local businesses.
9. *Foster Sustainable Businesses.* Support economic development in industry clusters consistent with regional and local character.
10. *Plan Regionally.* Support the development and implementation of...plans that have broad public support and are consistent with these principles. Consider the long-term costs and benefits to the larger Commonwealth. (See Appendix for additional detail)

Capitalize on the enabling environment.

Along with the ideal location, we may be planning for redevelopment of Jackson Square at just the right historical moment to take advantage of an unprecedented level of interest in sustainable development. To get the most out of the place, we must capitalize on the people, programs and processes that are currently supporting sustainable development. The creation of OCD and the principles referenced above, so well aligned with sustainability goals for Jackson Square, are the most obvious and tangible evidence of the strength of this enabling environment.

“OCD will encourage the coordination and cooperation of all agencies, invest public funds wisely in smart growth and equitable development, give priority to investments that will deliver living wage jobs, transit access, housing, open space, and community-serving enterprises, and be guided by a set of sustainable development principles.”

Put simply, “the time is right” for sustainable development in Jackson Square. Commitment and attention to sustainability on the part of government agencies, the media, private funders and the general public could translate into increased availability of funding and technical assistance, political and community support, streamlining of regulatory and permitting processes and increased demand from potential tenants. These advantages will help offset some of the less encouraging aspects of the current environment, such as declining overall government revenues and spending and the depressed rental market for office and commercial space.

Institutional and political conditions are favorable for more specific elements of the Jackson Square sustainability agenda as well. Brownfields remediation is a priority of the Massachusetts Department of Environmental Protection, and green building in Boston was in the news just days before this plan was completed. The president recently announced a federal program to combat obesity, and urban design to encourage physical activity is an emerging trend in public health practice.

Finally, consider the community-based enabling environment. The strong, diverse and enduring community involvement that has characterized planning for Jackson Square over the last several years, more than any support from City Hall, Beacon Hill or Washington DC, is what has brought the process to this point. The dedication of the Jackson Coordinating Group and a host of other organizations and individuals is the reason that the site is an opportunity for community-responsive sustainable development and not another anonymous big-box retail outlet.

Recognize connections and focus on integration

A cornerstone of sustainability theory and of this plan is that all of the principles, goals, opportunities and recommendations are integrally connected to one another. Some connections, such as the relationship between increased motor vehicle traffic and a diminished pedestrian environment, seem obvious, while others, like the ways energy efficient buildings may help offset some of the pressures of gentrification are more subtle but potentially no less important.

Practically speaking, we ask: How will the intervention affect progress toward each goal? And conversely, how will the full range of project goals influence the substance and strategy of the potential intervention? In describing the specific recommendations that follow, we will answer these questions and map the important connections.

Truly sustainable solutions are those that do more than simply broker tradeoffs and compromises among project goals. The challenge is developing an integrated set of

interventions that leverage one another to add value to multiple project goals while compromising none. The multiplier effect of integration allows a broad range of goals to be achieved more efficiently. Integration of the recommended interventions will enable the maximum return on a favorable location and enabling environment.

An integrated approach requires considering not only the connections among issues and solutions, but also the connections among people and processes that make up the enabling environment. A plan that takes a broad perspective in terms of issues will leverage support from a broad range of partners and stakeholders at levels from state and federal agency to neighborhood organizations and individuals. Recognizing and capitalizing on the relationships among these players and thinking holistically about “what’s in it for them” will maximize the ability to capitalize on the enabling environment.

Failing to keep these connections at the forefront of the planning process and taking a piecemeal approach to the issues and enabling environment will sacrifice many of the benefits and efficiencies that are what sustainable development is all about. Under a dis-integrated approach, interventions targeted at a single goal are likely to have unintended, negative consequences on other priorities and force compromises that might otherwise be unnecessary. Key stakeholders and potential partners may not be engaged or may even be alienated.

Accounting for the full range of connections does not, however, mean that the entire suite of recommendations proposed here must be implemented in order to advance sustainability. The realities of redeveloping Jackson Square will no doubt dictate that some compromising of objectives will be necessary. In considering these trade-offs, it is imperative that the full range of issues and the connections among them be considered. This will help prioritize efforts to maximize the economic, environmental and community benefits of development and the efficiency with which these benefits are realized.

Leverage existing capacities and develop new capacities for sustainability

Planning for a development of the size and complexity envisioned in Jackson Square will require that the coordinating organization bring a range of skills and experience to bear on the process. JPNDC has demonstrated strong capacities for community development, and these capacities must be effectively leveraged in what will be the organization’s most ambitious project to date. In Jackson Square, JPNDC will draw on its collective skills and experience to:

- Continue collaborating with stakeholders;
- Work effectively with political leaders and funders;
- Work productively with partner organizations;
- Provide affordable housing;
- Encourage small business and job development;
- Organize community residents and address their needs.

These existing capacities represent a good base and will be real assets in the planning and development process.

Integrating sustainability principles into the development will require JPNDC to develop new capacities for sustainable development and expand its areas of expertise to include issues of site remediation, green design, energy efficiency, environmental health, and transportation. New skills will be required to analyze and advocate for these issues. Familiar stakeholders such as the Jackson Coordinating Group and the community at large will need to be persuaded to add

sustainability to their lists of priorities for Jackson Square. Relationships will need to be built with new sets of stakeholders, partners, funders and political players.

It is hoped that this report, by identifying issues and connections, making recommendations, and collecting information sources, will contribute to the development of new capacities to be deployed in the short term at Jackson Square. It is, however, only a first step to defining what the necessary capacities are and developing them. The Jackson Square experience will represent an opportunity to learn, adapt and improve organizational capacity for sustainability for the long term. Developing these new capacities will likely represent a non-trivial organizational shift, and will require a real commitment at multiple levels within JPND. The resulting benefits, this report will show, will be well worth the effort and cost.

Goal: Eliminate human health and environmental risks on the parcels

Funding brownfields assessment and remediation

Recommendation: Conduct initial site assessments of 1540 Columbus Avenue and the NSTAR property.



The Massachusetts process for assessing and remediating reported hazardous spills is divided into phases. The first two phases encompass the assessment procedures. In Phase I, a basic site assessment requires investigation to determine the types, amounts and location of contaminants. In Phase II, the source, nature and extent of the contamination is analyzed in greater depth. It is at this stage that the risks to public health and the environment are assessed. A rough estimate of costs for Phase I work includes \$2,000 for research of the property history and any reported

releases. The site work associated with Phase I generally includes soil and groundwater samples and may cost approximately \$7,000. For larger properties (3-4 acres) site work may cost \$10,000-\$12,000. Estimates of costs for Phase II assessments generally range from \$30,000-\$50,000.

An initial assessment of MBTA parcels 69, 70, 71 and A was conducted in 1989. The Boston Redevelopment Authority (BRA) recently released a request for proposals for more extensive assessment of these parcels, as well as an initial assessment of the Grassy Knoll. A report of conditions and estimate of remediation costs should be available this summer.

No such assessment exists for the NSTAR and 1540 Columbus Avenue parcels. Given the risks associated with prior commercial use and urban fill, JPNDC should assume that a basic site assessment (Phase I) will be required for the 1540 Columbus Avenue and NSTAR properties. Further assessment needs will depend on Phase I results.

Remediation

Recommendation: Allocate site uses strategically to reduce remediation costs.

Remediation procedures begin in Phase III with the evaluation and selection of a cleanup plan. Implementation of the cleanup plan takes place in Phase IV. Finally, Phase V covers the long-term monitoring of any remaining pollutants and the maintenance of protections. The costs associated with property cleanup are highly specific to contaminant conditions and the envisioned re-use. In general, remediation requirements are related to the potential for human exposure to contaminated soils and groundwater. Residential use requires the highest level of remediation due to the concern that children and other vulnerable populations will be exposed to contaminants. Remediation requirements may be reduced for uses where exposure to contaminants can be limited.

Exposure to contaminants in the soil may come from direct contact with contaminated soils or airborne soil particles. Typical remediation efforts may require excavating and treating or disposing of soil and/or limiting contact to soils, generally by maintaining paved surfaces. As

groundwater in Boston is not a source of drinking water, the primary concern is that volatile compounds may seep from groundwater into buildings, negatively impacting indoor air quality. In addition, if construction requires dewatering (that is if groundwater is contacted) treatment of contaminants may be required. Contact with groundwater is a concern given the low depths to groundwater on parts of the properties.

Achieving a sustainable outcome requires balancing the need to protect human health and improve environmental conditions in the area, with the imperative to lower costs in order to support the services and affordable housing needed and desired by the community. As noted previously, brownfields regulations permit remediation to less than pristine conditions depending upon the reuse of the property. The fundamental trade-off associated with a lowered remediation standard is that pollutants will remain in the ground. This may require on-going monitoring and can present future risks to the neighborhood if protections aren't properly maintained. In addition, use restrictions may impact future options for use of the property as well as property values.

Keeping these trade-offs in mind, there are options that may provide cost-savings for remediation. Basements increase remediation costs because of the need to treat larger volumes of soil and possibly groundwater. Foregoing basements, or locating buildings on areas of the properties with greater depth to groundwater may reduce these costs. The loss of usable space and income associated with the basements will have to be balanced against the savings achieved. Parking lots can be strategically placed in locations where access must be limited. Similarly, the siting of residential and commercial buildings should take into account contaminant locations. Costs associated with cleanup methods vary widely. It is not possible to review alternative remediation techniques in the absence of assessment information. In selecting cleanup methods JPNDC will need to balance health risks associated with various methods, with the cleanup time required and costs associated with alternative techniques. See Appendix for guidance on remediation techniques.

The politics of brownfields funding

Recommendation: JPNDC should take advantage of state priorities and the high profile of these properties to aggressively pursue city, state and federal support.

The Jackson Square redevelopment project is well positioned to take advantage of state priorities under the Romney administration. The goals of redevelopment in Jackson Square dovetail nearly perfectly with the work of the newly established Office of Commonwealth Development (OCD) headed up by Douglas Foy. In particular, encouraging brownfields redevelopment is a high priority of OCD. A task force appointed by the Governor has recently completed a review of the state's brownfields programs with the goal of increasing their effectiveness. Their proposals are currently under review by the governor. Announcements of new and revised programming and funding options are anticipated in the coming months.

Another key initiative of OCD is to foster "transit oriented development" by encouraging housing development on MBTA owned land adjacent to "T" stations. In November 2003, the state announced the first four pilot projects at Wonderland in Revere, Malden Center, Waverly in Belmont, and in Woburn. As many as thirty more sites may be under consideration for future projects. JPNDC may want to consider advocating funding of Jackson Square redevelopment as a pilot or demonstration project. Although the Jackson Square parcels will likely pass out of MBTA ownership prior to redevelopment, the unique characteristics of the envisioned project can be highlighted to argue for priority state support as part of their focus on transit oriented

development. OCD hopes to achieve a rate of 20% affordability for MBTA redevelopment projects. The Jackson Square affordability rates should compare extremely favorably. Other considerations that may advance the Jackson Square project include indications of neighborhood support, its location in an Environmental Justice area, and any aspects of the redevelopment proposal that feature sustainable development

Implementation of OCD's Sustainable Development Principles is highly dependent on the support of cities and towns, due primarily to their control of zoning and local budget priorities. According to state officials, OCD will evaluate dispersal of funding to cities and towns (including an annual \$500 million in grants and \$5 billion in capital investments) to ensure that local governments have incentive to align with states goals. This added impetus from the state may provide additional incentive to the City of Boston to provide support for Jackson Square redevelopment.

Finally, it should be noted that the Jackson Square properties have already achieved a high profile at the federal, state and local level. Every government official interviewed for this project was familiar with the properties and the redevelopment efforts. There appears to be a general recognition of the desirability of redevelopment in Jackson Square. Perhaps as evidence of this, one official noted that the method of funding the current assessment of the MBTA properties was unusual and somewhat controversial as state brownfields funding was used to pay for assessment of state-owned properties.

Financing Options

Recommendation: Investigate the prospects of pursuing funding from responsible parties and current owners, as well as government programs.

Responsible parties and current owners:

Funding sources for brownfields cleanup can be broadly categorized into three areas: responsible parties (those liable for the initial contamination), current owners and government programs. In this case, responsible parties may include current abutting property owners and former businesses that were the source of contamination. Assessment of MBTA parcels 69-71 and A, and 1540 Columbus Avenue in particular, may provide information about the liability of abutting property owners. It may also be possible to pursue businesses that were the source of contamination, even if they have ceased operations. Businesses that held Comprehensive Liability Insurance in the period prior to the mid-1960's have been successfully pursued for damages related to environmental contamination. JPNDC may want to consult with a company in the emerging field of "insurance archaeology" to determine whether further investigation may be fruitful

Finally, pursuit of funds from current owners who are not responsible parties is primarily a political, rather than legal strategy. It appears likely that the City of Boston may be the owner of all but the NSTAR property in the near future. The city has funding for remediation through its CDBG funds (see Government Funding Sources below). JPNDC may want to negotiate with the city for use of the funds on the Jackson Square properties. If redevelopment plans for Jackson Square achieve a high profile, NSTAR may find advantages in supporting cleanup efforts. The City of Boston may also be able to provide incentives for NSTAR support.

Government Funding Sources:

Federal

The U.S. Environmental Protection Agency (EPA) offers a variety of programs, including grants and loans, to assess and clean up brownfields sites. The **Brownfields Assessment Grant** provides up to \$200,000 for site assessment. The **Brownfields Cleanup Grant Program** provides up to \$200,000 for site cleanup. Municipalities can apply for these funds. The awarding of grants is highly competitive. In recent years applications have been due in December, grants are announced the following May.

The New England Region of EPA offers site assessment assistance under their **Brownfields Targeted Site Assessment** Program. The program is targeted to municipalities or their non-profits partners. Applicants must have redevelopment plans for a contaminated property. Assessment is conducted by environmental consultants under contract with EPA. The program does not provide assistance for site cleanup or building demolition activities. These grants may be somewhat less competitive than national EPA grants. Applications are accepted on a rolling basis.

State

MassDevelopment administers the state-financed **Brownfields Redevelopment Fund**.

Funding includes:

- Interest-free financing of up to \$50,000 for site assessment
- Financing of up to \$500,000 for site remediation. Loan terms are established on a case-by-case basis.

In the past, site remediation loans have been forgiven or financed at low rates. To date approximately \$25 million has been spent from the original \$30 million budget appropriation. As a result funding is becoming more competitive and underwriting conditions more conservative. MassDevelopment has a growing focus on funding affordable housing projects. Municipalities as well as developers can apply for funding. Applications are accepting on a rolling basis.

The **Urban Brownfields Site Assessment** program is funded through the Massachusetts Department of Environmental Protection. Funding for site assessment is targeted to Environmental Justice areas. The Boston Redevelop Authority received funding from this program to conduct the current assessment of the MBTA properties in Jackson Square. Municipalities are eligible to apply to this program; reimbursement of funds is required upon sale of the property.

The **Brownfields Redevelopment Access to Capital** (BRAC) Program provides state subsidized, volume discounted environmental insurance. Coverage includes a "Secured Creditor Policy" -- protection to the lender in the case of defaults on the loan by the borrower and "Cleanup Cost Cap/Pollution Legal Liability" -- protection for the borrower against unanticipated costs that arise in a brownfields cleanup project. The program is administered by the Massachusetts Business Development Corporation (MassBusiness).

The state **Brownfields Tax Credit Program** provides a tax credit of up to 50% after a cleanup is completed, and 25% for a cleanup that uses an Activity and Use Limitation (AUL). The tax credit may, in the future, be restructured to allow CDC's to transfer the tax benefit to private developers.

The state Department of Housing and Community Development administers **Community Development Action Grants** and **Public Works Economic Development Grants**. These grants are generally for infrastructure improvement for large economic development projects.

Future restructuring may make these programs available to support brownfields redevelopment. Cities must apply for these grants.

Local

The City of Boston receives **Community Development Block Grant** funding through the US Department of Housing and Urban Development (HUD). These funds are administered through the Department of Neighborhood Development. The City is currently in the midst of the comment and hearing process for the use of these funds for Fiscal Year 2004. The "Draft Action Plan for FY 2004" includes \$612,000 in funding for the Brownfields Environmental Program. The program provides assessment and remediation of brownfields properties. In addition, the City of Boston is eligible for the following HUD programs that specifically support brownfields efforts. The **Section 108 Loan Program** provides up to 5 times the annual CDBG allocation in guaranteed loans for brownfields redevelopment activities. The **Brownfields Economic Development Initiative** (BEDI) provides competitive grant funding for activities related to the redevelopment of brownfields sites. BEDI grants must be used in conjunction with a Section 108 loan commitment. The city can re-loan Section 108 and BEDI funds to a developer. BEDI funds are targeted primarily to job creation and business development.

The Boston Redevelopment Authority administers a \$500,000 **Revolving Loan Fund** (received from EPA). The funds can be used for site cleanup. Developers can apply for no or low interest loans. Thirty percent of loans to non-profit developers are forgiven. It is anticipated that an application process for these funds will be developed in the coming months.

Goal: Incorporate sustainability into physical site development and building design

The Case for Green and Healthy Buildings

Recommendation: Employ a green building approach towards the parcels around Jackson Square.

According to the US Green Building Council, buildings account for one-quarter of the world's wood harvest and two-fifths of its material and energy flows. In the U.S., buildings use one-third of the nation's total energy, account for two-thirds of its total electricity consumption and are responsible for more than one-third of carbon emissions. Since most people spend a vast majority of their time indoors, buildings have a significant impact on our social well being and personal health. As demonstrated in the existing conditions section of this report, asthma is a serious concern in the neighborhood, which may be indicative of poor indoor air quality within buildings in the neighborhood. Buildings impact things beyond their walls, too, such as watersheds, transportation patterns, neighborhood livability and storm water flow. The practice of green building leads very naturally to considering and integrating all these pressing neighborhood concerns from the very beginning of the design phase.



Green building is a loosely defined collection of land-use, building design, and construction strategies to reduce the environmental impacts that buildings have on their surroundings. Traditional building practices often overlook the interrelationships among a building, its components, its surroundings, and its occupants. Thus, typical buildings consume more of our resources than necessary and generate large amounts of waste. Green buildings have many benefits, such as more efficient use of materials, significant operational savings, and increased workplace productivity. One analysis documented a 16 percent productivity gain due to a new green building,

while student performance in schools and sales in retail stores improve when buildings feature natural lighting. Building green sends the right message about a company or organization – it is well run, responsible, and committed to the future. The Boston Department of Neighborhood Development, as part of a citywide initiative may soon require all CDCs to employ green building methods.⁴

Planning Framework

Recommendation: Use the LEED system and the BEES method as design frameworks to guide the building development process and make the best choices for the community.

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System measures the energy and environmental performance of buildings, allotting points within five core categories: site location, water efficiency, energy and the atmosphere, materials and

⁴ DND already specifies certain green building standards, such as using linoleum instead of vinyl

resources, and indoor environmental quality. LEED is a convenient method for a professional, business, or organization to integrate green building standards and practices.

Developers earn points by positioning buildings to maximize sunlight inside and to lower the wind's effect on heating needs. Tall windows that open to let in fresh air, with "light shelves" to bounce daylight into interior spaces, motion sensors to shut lights off when people leave rooms, and low-pressure under-floor HVAC systems trim energy costs. Green, or planted, roofs insulate and reduce runoff. Directing builders to use recycled and natural materials and recycle construction waste also earns LEED points.

The Jackson Square development parcels are perfectly positioned to capture LEED certification simply due to site attributes such as location (close to other built up areas, close to transportation options, revitalizing neighborhood) and brownfield status. Simply developing a site classified as a brownfield and located within a ½ mile of a subway station will earn LEED points.

While the LEED framework is a useful frame of reference when conceptualizing the design plan, it is important to note that the enrollment and documentation required for LEED certification is expensive and not something that many CDCs can achieve within budgetary constraints. There is also an emerging evaluation method, Building for Environmental and Economic Sustainability (BEES), designed to measure the environmental and economic performance of buildings with a life-cycle approach and intended to guide decisions within the LEED framework. Even if certification is not pursued, the LEED rating system, coupled with the BEES ranking method, will allow JPNDC to make informed decisions regarding environmental, health, energy efficiency and operating expense considerations.

Process and Phasing

Recommendation: Think green from the inception of planning, undertake an integrated design process and utilize a whole building approach.

Most important is to have design consultants and the construction team supportive of sustainability goals and involved as early as possible in an integrated design process. JPNDC should retain a local designer (potentially from The Hickory Consortium⁵ or Icon Architects, both local consultants who have worked with area CDCs) with prior experience in green building and an integrated design process. Developers, designers and contractors should think green from the inception of planning and use a whole building approach. There should be clear and detailed construction documents and specifications, with easily measured performance standards so that contractors are accountable for delivering a truly functional green building. For example, a "blower door test" to check the tightness of the building envelope might be administered prior to payment. This emphasis on tight specifications will help accommodate funders who require traditional a low-bid procurement system where construction contractors cannot be pre-selected and integrated from the beginning into the design process.

If official LEED certification will be pursued, the project should be registered with LEED at the earliest stages. As ongoing documentation is key to a successful LEED certification process, there should be a project manager or another staff person keeping track of all relevant supporting material. Documentation can, in fact, be a significant and helpful learning tool for subsequent project managers. Once construction is completed, a full building commissioning

⁵ Includes designers/consultants from Building Science Engineering and Elton + Hampton Architects

process should be completed to ensure that building systems are functioning efficiently and as designed.

Elements of Green Design

Recommendation: Invest in thoughtful and simple green design strategies that enhance building performance and community well being.

While there are innumerable possible combinations of green elements, a developer need not invest in complicated and expensive systems to advance sustainability. Many green techniques are simple strategies that may merely involve positioning the building to receive more sunlight during daylight hours, tighter insulation of the building envelope, using native drought-resistant plants in the landscaping, or using Energy Star appliances. See Appendix for selected case studies of green building development.

The Building Envelope and Passive Solar Gain

To maximize solar heat gain during the winter, orient the longer side of the building on the east-west axis. Eastern facades with large windows will speed up heat gain in the morning, while western façade with fewer windows will prevent heat gain in the late afternoon. Southern walls with many window surfaces can maximize heat gain in the winter. South facing windows allow solar energy into the buildings and are efficient at capturing the sun's energy. The higher the thermal mass in the walls and roof of the building, the longer time it takes for outside heat (or cold) to travel to the inside. These buildings will stay cool longer during the day and hold heat longer at night, translate into significant energy savings.⁶ Thickness of thermal mass materials should not exceed 6 inches and thermal mass floors should not be covered with wall to wall carpeting.

Low Impact Development (LID) is a sustainable storm water management strategy that is gaining rapid acceptance in the United States as a method for water efficiency and regulatory compliance. Green roofs can prevent storm water runoff, last longer than regular roofs, mitigate urban heat island effects, and decrease the energy load of building by regulating temperature. In Germany, the green roof industry is a community enterprise, comprising landscapers, drainage and irrigation systems designers, and maintenance workers.

Building Shape and Interior Layout

Minimizing the exterior wall and roof areas improves the heating and cooling efficiency of a building. Orient the building to take advantage of summer breezes and place windows and walls to circulate these breezes. Cupolas and other vertical air shafts can be used to channel hot air upwards, both for removing hot air in the summer and storing hot air in the winter.

Interior spaces requiring the most lighting, heating and cooling should be along the south face of the building. Less used spaces should be located on the north. Natural daylighting, skylights, and lightshelves can be used to spread natural light into the interior. Consider the year-long path of the sun when deciding where to place windows and overhangs - overhangs can be designed to provide shade during the summer months yet let in light during the winter when the sun is lower.

⁶ The "Superwindow" has a very high R-value (related to time it takes to transfer heat) and saves energy. Also, passive solar energy can be used to heat up water and reduce monthly costs.

Promoting Cultural and Regional Identity

Use of locally produced building materials is preferred to preserve regional identity, help the local economy, and provides a sense of ownership to the community. Similarly, using local designers and local contractors will not only enhance the building design but further the overall goals of sustainability.

Resourceful Building Materials

Building materials' environmental impact, toxicity, durability and life-cycle energy efficiency must be considered in addition to initial cost. Embodied energy ("emergy") is the amount of energy used to produce, transport, assemble and dispose of materials. Impacts of the materials should be considered, from their origin, to their end of use in the building, to their eventual disposal, recycling or reuse. Thus, wood may seem less energy intensive to produce and less toxic than steel, but steel lasts longer and can be reused. Sustainably harvested wood from local sources or engineered wood using lower quality trees or tree waste products may be preferable. Materials which slowly emit toxic fumes such as adhesives with formaldehyde-based glues, resins, lead and oil-based paints, and volatile organic compounds (VOCs) should be avoided. The *Sourcebook for Sustainable Design* produced by the Boston Society of Architects contains a list of green building materials.



Many products will meet more than one of the criteria, and should be valued accordingly (i.e. materials that contain a high percentage of recycled content and are low emitters of VOCs). A good approach for advancing materials sustainability might be to begin by carefully specifying and sourcing the 3 to 5 most-used materials.

Energy Efficiency

Following construction, a building commissioning agent should be hired to ensure that all building systems are working efficiently and that all equipment necessary for efficient operation has been installed, as well as to train facility managers and produce an operations manual. If possible, having the commissioning agent review the design before construction, as part of the integrated design process, could benefit the overall performance of the building. Outfit buildings with "Energy Star" or other energy-efficient appliances.⁷ Energy-efficiency coupled with renewable energy sources will multiply benefits. Daylighting is a simple means of reducing energy consumption during the day.

Productivity and Health

The true costs of poor indoor air quality are difficult to measure and are generally hidden in sick days, lower productivity, unemployment insurance and medical costs. Better siting alone, such as not placing air intakes next to parking garages, can lead to healthier surroundings. Carefully choosing less toxic materials will also have a noticeable positive affect on health. Buildings that use underfloor air for heating and cooling improve thermal comfort and ventilation. Building residents will more productive if they have greater individual control of ventilation, temperature, lighting and daylighting⁸.

⁷ N-Star provides rebates for energy-saving equipment.

⁸ LEED Gold level buildings provide greater productivity and health benefits than Certified or Silver level green buildings.

To complement the general LEED and BEES frameworks, building design should also incorporate the healthy building standards developed by the Asthma Regional Council of New England and the Boston Urban Asthma Coalition. These guidelines, developed for public and affordable housing design, construction and maintenance, prescribe specific measures for controlling moisture and mold, dust, toxic materials and other factors that contribute to poor air quality in housing. These organizations and others also provide home-based outreach programming to residents and tenants that should be applied in newly developed housing. The Jamaica Plain Asthma Environmental Initiative, based just across the street at the Martha Eliot Health Center, counsels families on strategies for minimizing air quality hazards in their homes.

Most of the green building literature on health deals only with air quality and physical health. Emotional health can be influenced by building design and function as well. Contact with sunlight and other natural elements can enhance emotional well-being, creativity and task engagement. Indoor and outdoor relaxation areas with vegetation and views enhance social interactions and a sense of belonging. Office employees have reported that having plants in the workplace makes them feel calmer. Such “Restorative Environments” where patches of grass or trees can be seen from the office, or representations of nature on interior walls are becoming more popular.

Costs

Recommendation: Use the “keep it simple” approach to maximize the cost benefits of green buildings.

Discussions of green building feasibility often hinge on issues of cost. Despite green design’s emphasis on energy efficiency and limiting resource use, the perception that environmentally friendly buildings cost more to design and build is a significant deterrent to pursuing green designs. Recent research, however, challenges this perception and makes a compelling case that up-front design and construction premiums tend to be modest and that operating cost savings are quite significant. For tenants and developers with a long-term ownership horizon, life-cycle cost analyses add significant financial advantages to the menu of benefits offered by green building. Recognizing and quantifying these advantages will be important for demonstrating financial viability to banks and other lenders. Reduced utility and health care costs will help residents offset the otherwise increased cost of living in a gentrifying neighborhood.

Many of the design features that yield the greatest operating cost savings, such as building orientation, daylighting, natural ventilation or improved insulation, will incur little or no additional cost in the construction phase. This will help ensure that construction costs remain under per-unit cost caps applied by government affordable housing development programs. Simple, passive designs will also minimize logistical burdens for building managers who will not need to familiarize themselves with new, complicated technologies. Property managers should be identified and involved from the early stages of the integrated design process.

A comprehensive review of financial costs and benefits prepared for California’s Sustainable Building Task Force found that, for buildings typical of commercial and institutional use, an increased initial capital investment of less than two percent of construction costs yields life cycle savings of over ten times the initial investment. In this analysis the life cycle of a building was conservatively assumed to be 20 years. The average “green premium” of slightly less than 2% was found to be attributable primarily to additional architectural and engineering services needed to integrate green design principles and practices into the design process. Financial

benefits measured included “lower energy, waste disposal, and water costs, lower environmental and emissions costs, lower operations and maintenance costs, and savings from increased productivity and health.” The table below summarizes the benefits and costs that can be expected, per square foot of new, LEED certified buildings.

Category	20-year NPV
Energy Value	\$5.79
Emissions Value	\$1.18
Water Value	\$0.51
Waste Value (construction only) - 1 year	\$0.03
Commissioning O&M Value	\$8.47
Productivity and Health Value (Certified and Silver)	\$36.89
Productivity and Health Value (Gold and Platinum)	\$55.33
Less Green Cost Premium	(\$4.00)
Total 20-year NPV (Certified and Silver)	\$48.87
Total 20-year NPV (Gold and Platinum)	\$67.31

Source: Capital E Analysis

Source: Kats, Greg. The Costs and Financial Benefits of Green Building, 2003.

As the table indicates, savings related to health care costs and increased office and retail productivity, though difficult to quantify, are where the most financial benefits accrue. Note that even if productivity and health benefits are completely discounted, the green premium is still more than recouped over the life of the building.

A current research effort of the Green CDCs Initiative in Massachusetts indicates that similar cost/benefit relationships hold true for green design as applied to affordable housing development. The case studies examined show that the varying opportunities and constraints of different projects may lead to varying results in terms of savings (see Appendix). This study does not account for health and productivity benefits, yet still paints an encouraging picture.

Funding

Recommendation: Employ sustainable best practices to attract positive attention from and cultivate strong relationships with funders.

Funders may be willing to overlook slightly higher cost estimates for building designs that reflect an earnest attempt at sustainable development. If the design is predicted to lower maintenance and operating costs over the long run, funders will consider the project a good investment. Funders have also responded positively towards projects that demonstrated economic and health benefits for residents in the neighborhood and the building. Alternatively, several banks have been involved in funding sustainable development projects, without knowledge that the projects were “green.” This “stealth green” approach is described by Esther Schlorholtz of the Boston Private Bank and Trust Company: “We saw all the goals of greening, such as quality, cost savings, and environmentally healthy aspects. We saw an enhanced experience for

tenants. “Greening,” however, was never mentioned. This is probably a good idea when talking to a bank.”⁹

A strong relationship with funders is a distinct advantage and one that JPNDC should cultivate. Sustainable development “best practices” afford avenues to stand out and attract positive attention. Apart from financial institutions like Boston Private Bank & Trust Company, Lend Lease, Federal Home Loan Bank of Boston, Boston Private Bank, LISC (Local Initiatives with Social Capital), which fund many affordable housing ventures, there are several other programs that provide grants earmarked for sustainable development projects (see Appendix).

Public Open Space

Recommendation: Integrate high-quality public open space into designs for Jackson Square redevelopment.

A key element of redeveloping the brownfields parcels will be incorporating public open spaces on-site that complement the new buildings, respond to the needs of the site tenants and the larger community, and help to advance multiple sustainability goals. Open spaces will have connections with all of the uses developed on the site, will be important for the mobility and streetscape recommendations related to reconnecting the neighborhoods, and will provide a place for some of the recommended programming.



A recent report prepared for the Trust for Public Land defined an “Excellent City Park System” with seven criteria that can serve as a framework for approaching open space planning in Jackson Square.

Due to the opportunities and constraints that may be imposed by community process, use planning or physical site development, new open spaces in Jackson Square may take on many shapes, sizes and characteristics. Regardless of the final configuration, it is recommended that the on-site open space plan provide:

An ongoing planning and community involvement process

Few things motivate community involvement more than the creation and fate of local parks, and the community has certainly been involved in Jackson Square planning to date. Be sure to tap into the existing community process for open space planning, and keep that process open and ongoing to consider park programming and management after open space is created.

A clear expression of purpose

A vision should emerge from the planning process of what benefits the open space will provide. These might include places for kids to play and adults to recreate, spaces for programming such as cultural festivals, composting or environmental education and space for a farmers’ market. Purpose should also reflect other sustainability goals such as improving the environmental performance of nearby buildings and the overall site.

⁹ Mentioned in a discussion between affordable housing financiers and CDCs at the following web pages: <http://www.newecology.org/docs/5.22.02.PDF> and <http://www.newecology.org/docs/Complete%20Forum1.pdf>

Equitable park access

Open space should be designed and programmed to encourage use by residents, commercial office tenants and also to attract and integrate the community at large. Residents may require some private space, but in general, parks should be accessible and inviting to all.

User satisfaction

Park spaces must be useful and inviting to those they are designed to serve. Lighting, seating, plantings, and other design features must be planned with the intended purposes in mind. Ensuring user satisfaction will be an adaptive process. Changes can and should be made in response to user feedback, and public involvement should be ongoing.

Sufficient assets in land, staffing and equipment to meet the system's goals

Adequate resources for management and maintenance are essential if open space is to fulfill its purpose and satisfy these criteria. Funding sources for operations may include common area fees assessed to tenants or donations. Funding needs can be minimized by incorporating energy and resource efficiencies into park design and by encouraging volunteer "friends" or "adopt-a-park" organizations.

Safety from crime and physical hazards

Parks with a vital purpose and a large constituency tend to engender a sense of ownership among their users. In addition to potentially easing the maintenance burden, this tends to increase public safety in and around these parks. and public safety concerns

Benefits for the city beyond the boundaries of the parks

Benefits must extend to populations beyond the project site, and should serve goals broader than those typically associated with parks. As a green design element, Jackson Square open space can host trees that will increase the energy efficiency of surrounding buildings. Open space can serve to capture stormwater for irrigation, and eliminate discharge to city storm drains.

Several key strategies for developing on-site open space are outlined above - maintain an ongoing community process, adapt to ensure user satisfaction, and reduce funding requirements with efficient design and volunteerism. The Boston Parks Department and the state Department of Conservation and Recreation can offer expertise on volunteer development for open space.

The Boston Greenspace Alliance is one of the most effective advocates in the city for the type of parks envisioned above, and could assist with design, programming, and political strategy. The Project for Public Spaces is a national nonprofit focused on "placemaking for communities" that can offer technical assistance on most any aspect of creating and managing public spaces.

Potential partners related to tree planting and urban forestry include the Community Forest Partnership, which facilitates community-led urban forestry and tree planting projects in underserved areas of Greater Boston. The Massachusetts Department of Conservation and Recreation's (DCR) Urban and Community Forestry program provides technical assistance and grants to municipalities and nonprofit organizations. DCR's MassReLeaf and Planning and Education grant programs may be particularly applicable for tree planting and stewardship projects in Jackson Square.

Goal: Target redevelopment of the parcels to meet the needs of area residents

Economic Development of the Parcels



The Jamaica Plain and Roxbury communities have voiced desire for a variety of commercial uses on the Jackson Square parcels. These include family entertainment, a business services center, ice cream shop, gym/fitness center, full-service restaurant, art supply/craft/hobby store, and a furniture store/home décor store. These commercial uses will add to the economic viability of the commercial center as a whole. In addition, we make recommendations for three commercial uses that have the potential to meet the needs of the Jamaica Plain/Roxbury community while

acting as an economic draw from a larger region. These include a Latino Mercado, a non-profit tenant center, and a farmers' market. The additional recommendations provide a balance for the commercial uses by catering to a more diverse customer market, providing high quality jobs, and strengthening the existing business clusters. The commercial uses requested by the community combined with these new uses could transform the corner of Centre Street and Columbus Avenue into a vibrant, economically and ethnically diverse commercial center that could attract consumers from all corners of New England.

Innovative Commercial Uses

Recommendation: Create an indoor Latino Mercado that supports local, minority-owned businesses, acts as a draw for both local residents and visitors, and appeals to diverse ethnic groups.

A Latino Mercado, or market with a Latino-theme, could serve as a supplier of necessary goods and services as well as a cultural attraction for both Latinos and non-Latinos in Greater Boston. Twenty-six percent of individuals from Jamaica Plain and Roxbury are of Hispanic/Latino origin, representing a 31% increase since 1990. Meanwhile 32% of Jamaica Plain residents are of Hispanic/Latino origin. This represents a strong Latino presence. A Latino Mercado can build upon this growing Latino identity.

JPNDC must address several issues if it decides to create a Mercado:

- The Mercado must provide the goods and services that the local community needs. In order to encourage repeat business from local consumers, there must be a mix of products and services which provide more than novelty items that are purchased infrequently. Products such as CD's, clothing, baked goods, and fresh foods and services such as legal counseling, travel, and money transfers would encourage a repeat customer-base.
- The Mercado must not drive out existing Latino-based businesses, but rather serve to complement those businesses and increase foot traffic for those businesses. In order to garner the support of existing Latino-owned businesses, those business owners must be brought into the planning process from the beginning. Their needs, concerns, and

suggestions should be incorporated into the Mercado, and they should be viewed as allies, rather than adversaries, to the success of the venture.

- The Mercado must attract Latinos and non-Latinos from surrounding communities and Greater Boston in order to be economically viable and not alienate other large segments of the community, such as whites and African- and Caribbean-Americans. In order to attract non-Latino customers, the Mercado could create an international theme on weekends by encouraging kiosks or pushcarts selling items from other nations. Diverse vendors and products could attract a wider customer base to the Mercado. The kiosks could also support the growth of small businesses that may not be large enough to afford a dedicated site within the Mercado.
- The Mercado must have a “Pan-Latin” theme; its identity should not be limited to one or two Central or South American countries. Thus, colors, design elements, marketing materials, music, and events should reflect and appeal to a “Pan-Latin” community.

This Latino Mercado can be envisioned in a number of ways. Two examples of successful Mercados from Minnesota could serve to guide JPNDC’s vision of this project. The Plaza Latina is an indoor Latino market on the East Side of St. Paul, Minnesota, a growing Mexican neighborhood. It is composed of 10 businesses, including one full-service restaurant. All of these businesses are owned by local, Latino entrepreneurs who attended intensive entrepreneurial training classes in order to open their business. A three story building, the Plaza Latina occupies 7,000 square feet on the first floor; offices occupy the top two floors. The City of St. Paul provided most of the funding through a sales tax fund for inner-city revitalization.

The Plaza Latina was planned and implemented as a partnership between the East Side Neighborhood Development Company (ESNDC) and the Neighborhood Development Center (NDC). The NDC provided the business training program for entrepreneurs, while the ESNDC focused on site selection and working with the building owner (who was also the developer) to design and redevelop the site. Each organization currently provides one staff person to act as a liaison between the building owner and businesses, market the Plaza Latina, and provide technical assistance,.

The Plaza Latina is governed by the Plaza Latina Business Association, composed of the entrepreneurs in the building. The Business Association was formed during the training class; the members chose which businesses would be part of the Plaza Latina. Currently they include a candy shop, Latin music store, arts & crafts store, hair salon, jewelry shop, clothing store, café, and full-service restaurant. The businesses each pay a total of \$655 per month in rent, marketing fees, and common area repair and maintenance fees. Each business occupies a 14’X16’ space.

A number of events occur monthly in the large common space in the middle of the Plaza Latina. The events serve to attract youth, adults, Latinos, and non-Latinos to the Plaza throughout the day and evening hours to create a community gathering place. Events include Mexican Independence Day, Dia de Los Muertos, Virgin de Guadalupe, and Las Posadas. There are also musical performances twice a month, including Mexican folk guitar, flamenco, and bolero music.

The Plaza Latina has encouraged the development of thirty more Latino-based businesses in the area, as well as a farmers’ market across the street.

The Plaza Latina itself was modeled after the Cooperativa Mercado Central in Minneapolis. The Mercado opened in 1999 and is composed of 49 tenant businesses, which include imported art and handicrafts, Latin books and music, clothing and jewelry shops, restaurants, fresh foods, and professional services. The Mercado opened as a result of a collaboration between Neighborhood Development Center (a local CDC) and a faith-based organization. The Mercado is owned cooperatively by the businesses and is governed by a Board of Directors. Similar to the Plaza Latina, all of these businesses are owned by local, Latino entrepreneurs who attended NDC's entrepreneurial training classes. The NDC continues to provide technical assistance, pro-bono legal services, group marketing, and low-overhead costs. In its first year, the Mercado Central businesses had combined sales of \$3.5 million.

The costs for the Mercado Central were approximately \$2,466,440. The project was funded by \$1,208,816 in grants, \$1,085,000 in loans, and \$110,000 from other funding sources. WIND NDC in St. Paul, MN is a CDC that currently undertakes the daily management of the Mercado.

Since opening, the Mercado has been credited with transforming a depressed urban neighborhood. It serves as a community gathering place, attracts hundreds of consumers from the Twin Cities metropolitan area, and is a cultural hub for Mexican food, art, and music. It has also been credited with increasing the sense of safety in the neighborhood and bringing public investment back to the neighborhood. Finally, one of the goals of the project was to act as a wealth-building engine in the neighborhood, which it is slowly accomplishing by supporting the success of Mexican entrepreneurs in the Mercado Central.

Recommendation: Develop a non-profit tenant center for upper floor office space, whose tenants can provide jobs, serve the JP/Roxbury community, attract community-minded employees, and increase foot traffic for other businesses.

A non-profit tenant center provides affordable space, shared resources, and capacity-building opportunities for multiple non-profit organizations. Non-profit organizations have the potential to provide a variety of jobs, serve the communities in which they are located, and act as stable, productive members of the community. Allocating a percentage of the square footage of upper floor office space to a non-profit tenant center in the new development could provide a number of benefits to the community, including:

- Addressing gentrification pressures by keeping commercial rents affordable for non-profits
- Supporting the capacity-building of non-profits such that they can effectively serve the residents of Jamaica Plain and Roxbury
- Supplying professional, high-quality jobs to the community
- Attracting community-minded employees who are sensitive to the needs of the neighborhood
- Promoting neighborhood safety by occupying previously vacant land
- Attracting government, corporate, and private foundation investment into the community
- Increasing the foot traffic for local area businesses
- Providing affordable, safe, stable space for non-profits that are finding it increasingly difficult to find space
- Creating a vibrant non-profit cluster that could promote JP's diverse identity, by focusing on organizations that serve the arts, youth, or immigrant populations.

We do not recommend that the tenant center be an incubator space for newly formed or fledgling non-profits. In order for the tenant center to quickly establish economic feasibility, it is

necessary for the tenants to be well-established, larger non-profits that will be able to pay rent and common area expenses.

According to the Multi-Tenant Non-Profit Resource Center, there are a number of questions that JPNDC should consider if it decides to create a non-profit tenant center. These considerations can be summarized as follows:

Mission and Objectives:

- Will the tenant center be open to all non-profits, provide services to a shared population, or have a programmatic theme, e.g. the environment, youth, arts, etc.?

Real Estate:

- How will rents be determined? Subsidized or sliding scale?
- How will space be allocated among tenant uses, common areas, reception, supply/storage rooms, utility rooms, conference rooms, kitchen, etc.?
- Will there be an option for the tenant to eventually buy their space?
- How will community-oriented tenants be recruited, e.g. brokers, word of mouth, advertising?

Building Management and Amenities:

- Who will manage the building's tenants, repair and maintenance needs, and rent collection?
- What types of tenant services, if any, will be provided, such as professional development seminars, internet access, food concessions, social gatherings, etc.?
- There are several amenities offered by non-profit tenant centers that can greatly reduce costs to the non-profits. These amenities include:
 - Shared announcement boards, kitchen areas, and storage space
 - Shared reception area
 - Shared administrative staff, such as IT, mail/copy room, and reception
 - Shared conference rooms, large and small meeting spaces, and lunch rooms
 - Shared transportation demand management coordinator to organize vanpools
- How will these common services be provided, who will manage the service delivery, and how will the service expenses be charged to the tenants?

Governance:

- What will be the ownership structure of the center? Options include a tenant cooperative, an anchor tenant that subleases the space to other non-profits, or JPNDC owns the space and leases it to other non-profits.

Some suggestions for non-profit center management that can improve the likelihood for success include:¹⁰

- Affordability is the prime issue for potential non-profit tenants. Shared services and costs is a secondary factor.
- Create a business plan outlining long-term sustainability.
- Plan for future growth by allocating ample space for tenant's needs.
- Install a lead agency or non-profit to own and govern the center.
- Hire a property manager to manage the property.

¹⁰ Provided by the Foraker Group, a non-profit organization that provides capacity-building services to non-profits in Alaska. <http://www.forakergroup.org/>

- Create a tenant's association to act as a liaison between the lead agency and the tenants.

There are a number of examples of non-profit tenant centers that can serve as a guide for JPND. Third Sector New England (TSNE) has just acquired an eight-story, 123,000 square foot office complex in the South Station/Leather district area to create a large non-profit tenant center. TSNE is in the process of recruiting tenants who focus on advocacy, education, and organizing. The organization anticipates site acquisition, development, and renovation costs to be \$100-\$185 per square foot. Funding sources that are being explored by TSNE include bank loans and soft loans, tax-exempt bonds, tax credits and incentives, and grants.

The Fireweed Project in Alaska is owned by the United Way and contains 7 tenants, including Big Brothers/Big Sisters, Alaskan AIDS Association, Victims for Justice, American Cancer Society, and Foster Grandparents-Senior Companions. These tenants pay 40% below market rates and will share in the appreciation of the building if it is sold. The building was financed by the United Way and a non-recourse bond financed by Wells Fargo.

The South Oxford Space in Brooklyn, NY was established in 2000 and provides affordable space for 20 theatre companies. The Alliance of Resident Theatres/New York (A.R.T./New York) purchased and renovated the five-story office building to provide office space to small and mid-size theatre companies at below-market rate rent. The building provides several shared amenities to its tenants, including conference room, mail room, kitchen, rehearsal studios, and copy and fax machines.

Recommendation: Establish a farmers' market that can provide local residents with fresh produce, act as a draw for visitors, provide a community gathering place, and promote sustainable agriculture.

A seasonal farmers' market would complement a Latino Mercado. With the increasing popularity of farmers' markets across the United States, the USDA and state agencies are providing grants and technical assistance for the creation and promotion of farmers' markets. A farmers' market could provide various benefits to the residents of Jamaica Plain and Roxbury, including:

- Access to high-quality, fresh, locally-grown fruits, vegetables, and herbs
- Opportunity for adults and children to directly interact with the growers of their food
- A community gathering place
- Additional foot-traffic and complementary goods to a Latino Mercado and other nearby businesses
- Promotion of sustainable agriculture in New England

A farmers' market also provides local farmers with direct access to consumers and supplemental income. An additional benefit of a farmers' market is that if the market became large enough, or sold fruits and vegetables that are commonly consumed by particular ethnic groups, it could create a draw for people from outside of the immediate community. Finally, low-income mothers and children could also benefit from a farmers' market through the USDA's Farmers' Market Nutrition Program (FMNP). Eligible mothers can use FMNP coupons at farmers' markets that have been approved by the state.

While there are two farmers' markets that already exist in Jamaica Plain, one is located on Centre Street approximately $\frac{3}{4}$ of a mile from the new development and the other is in Franklin

Park. In addition, there is only one farmers' market in Roxbury (located at Dudley Street and Blue Hill Avenue). Thus, nearby residents of Hyde/Jackson Square and the Fort Hill neighborhood do not have a convenient, neighborhood-based large-scale farmers market to buy fresh fruits and vegetables. In an attempt to differentiate itself from the markets in Roxbury and Jamaica Plain, this market could sell products from different growers, sell a different mix of products, or open at different hours.

Recommendations/Considerations for a Farmer's Market:

- Promote a 6-month selling season. The market could provide fruits and vegetables from summer through fall and sell Christmas trees, wreaths, and holiday foliage in November and December. This would increase the economic benefits to the farmers and provide goods to residents for an extended period of time.
- Provide a wide-range of products that could appeal to a broad base of consumers, including baked goods, jams & jellies, eggs, syrup, honey, cheeses, flowers, and plants.
- Create a marketing campaign to promote the market, including signage, flyers, placement on tourist brochures, and a website (www.durhamfarmersmarket.com is a good example).

Some basic steps for starting a farmer's market are outlined below.

- Formulate goals and objectives for the market
- Find community partners and funding sources that could assist in creating and maintaining the market
- Develop a market research plan to determine product demand, competition, and product supply
- Create a business plan, including financial projections and marketing plan
- Develop a detailed implementation plan for the market
- Consider site issues, including parking, consumer accessibility & visibility, truck accessibility, water, and shade
- Determine what will be sold, by whom, and fees charged (which may include marketing, security, and daily selling charges)
- Determine operating months, days, and hours
- Create a board of directors, by-laws, and incorporate the market
- Obtain permits and insurance
- Assign a market manager and other necessary staff

Several on-line resources for starting and managing farmers markets are included in the Appendix.

Commercial Uses Desired by the Community

Recommendation: Recruit community-oriented, locally-owned (either independent or franchised) for-profit businesses that respond to an unmet demand in the community, including a business services center, community cinema, ice cream shop, fitness center, and full-service restaurant.

The following assumptions were made for the purposes of these recommendations:

- Family entertainment is a movie theater or community-based cinema

- Full-service restaurants were not included as part of this analysis. JPNDC is encouraged to partner with Hyde/Jackson Main Streets to recruit local restaurateurs or potential restaurateurs to open an independently-owned full-service restaurant.
- Department Store/furniture store/home décor stores were not included in this analysis, as all three uses are very distinct. The community needs to define this need further before an analysis can be conducted of this use.
- The community center is not included as part of this analysis. JPNDC has engaged Technical Development Corporation (TDC) to create a report with recommended programming options for the community center.
- This report will not explore attracting for-profit businesses to the office space on the upper floors. It is however, an important component of the economic viability of the new development. One option for business recruitment includes health-care tenants such as Longwood Medical offices.

The section below provides brief summaries on the requirements for each type of use. See Appendix for Site Requirements for Commercial Uses, including detailed demographic and site selection requirements for a variety of different businesses for each identified commercial use. In addition, see Appendix for Detailed Tenant Information for Potential Commercial Uses, including details regarding gross leasable area, sales per square foot, rate of percentage rent, and rent per square foot for each of the business uses requested by the community.

Movie Theaters/Cinemas

Attract a small, independently-owned community theater that offers 3-6 film screens as well as community-oriented events for children and adults.

Family-oriented entertainment options, and movie-theaters in particular, are virtually unavailable in the Jamaica Plain and Lower Roxbury neighborhoods. There are currently only a handful of movie theaters in the City of Boston, mostly located in the Back Bay. The distribution of movie theaters is highlighted in the map of Boston below. Neither Jamaica Plain nor Roxbury has any movie theaters, and the closest theater to Jamaica Plain and Lower Roxbury is the General Cinema located at Fenway's Landmark Center (approximately a 20 minute drive). Thus, the community is in a "free-film" zone; attracting a theater to this development would provide a much-needed family-oriented entertainment option for the area. The map below shows the distribution of movie theaters in the City of Boston.¹¹

¹¹ Please note that the data source for these maps is Reference USA, which may include some outdated business location information.



JPNDC has two options for attracting a movie theater – a community-oriented, privately-owned movie theater company or a national chain. The requirements for a national chain movie theater are quite extensive. For example, General Cinema, which is a Massachusetts-based national theater chain, requires 45,000-110,000 square feet of space, 3 parking spaces for every 1000 square feet, and prefers other entertainment co-tenants. Magic Johnson Theaters, which is reputed to open theaters in urban markets, has extensive site requirements, including a 60,000-100,000 square foot building, 10-15 screens, and 1 parking space for every 3 seats.

According to the Urban Land Institute, large theater chains have median sales per square foot of \$75.58, which is 47% higher than a local chain's median sales per square foot. In addition, most national theater chains are slow to enter urban markets. The large requirements for square footage and parking reflect the preference for stadium-seating, multiple-screens, and suburban theaters. The prices at these theaters may also be prohibitive for families in Jamaica Plain/Roxbury and surrounding communities. Thus, it may be difficult to attract this type of movie theater to the site, and the large scale of such a theater may not be appealing to the Jamaica Plain/Roxbury community.

The other option, community-based theaters, is more feasible for this development. Independent theaters have a median GLA (gross leasable area) of 10,654 square feet. Parking requirements for an 11,000 square foot cinema, based on the Boston Transportation Department estimate of .75-1.25 spaces per 1,000 square feet, would be between 8-14 parking spaces.

There are a few community-oriented theaters in the Greater Boston-area that may be interested in expanding their locations – the FEI Theatres and The Coolidge in Coolidge Corner. FEI Theatres, a small family-owned cinema business, manages the Capitol Theater in Arlington and the Somerville Theater in Davis Square. The Somerville Theater offers live music in addition to their movies. The theater also offers their three movie auditoriums for rental, which are 900 seat, 194 seat, and 117 seat venues. The Capitol Theatre is similar to the Somerville. It offers movies and rental of its 6 movie auditoriums, which range from 97 to 315 seats. The prices at FEI Theatres are much lower than national chain theaters, and may be more feasible for lower-income families.

The Coolidge Theater is also a good example of a community-oriented theater. It offers a variety of programming for different age groups, including family and senior film programs. The Coolidge also hosts a variety of film festivals, including the Boston Jewish Film Festival, the Human Rights Watch Film Festival, and the Boston International Festival of Women's Cinema. The Coolidge has three theaters, a main theatre that seats 600, a secondary theater with live music stage that seats 250, and a third theater which is a 45-foot screening room.

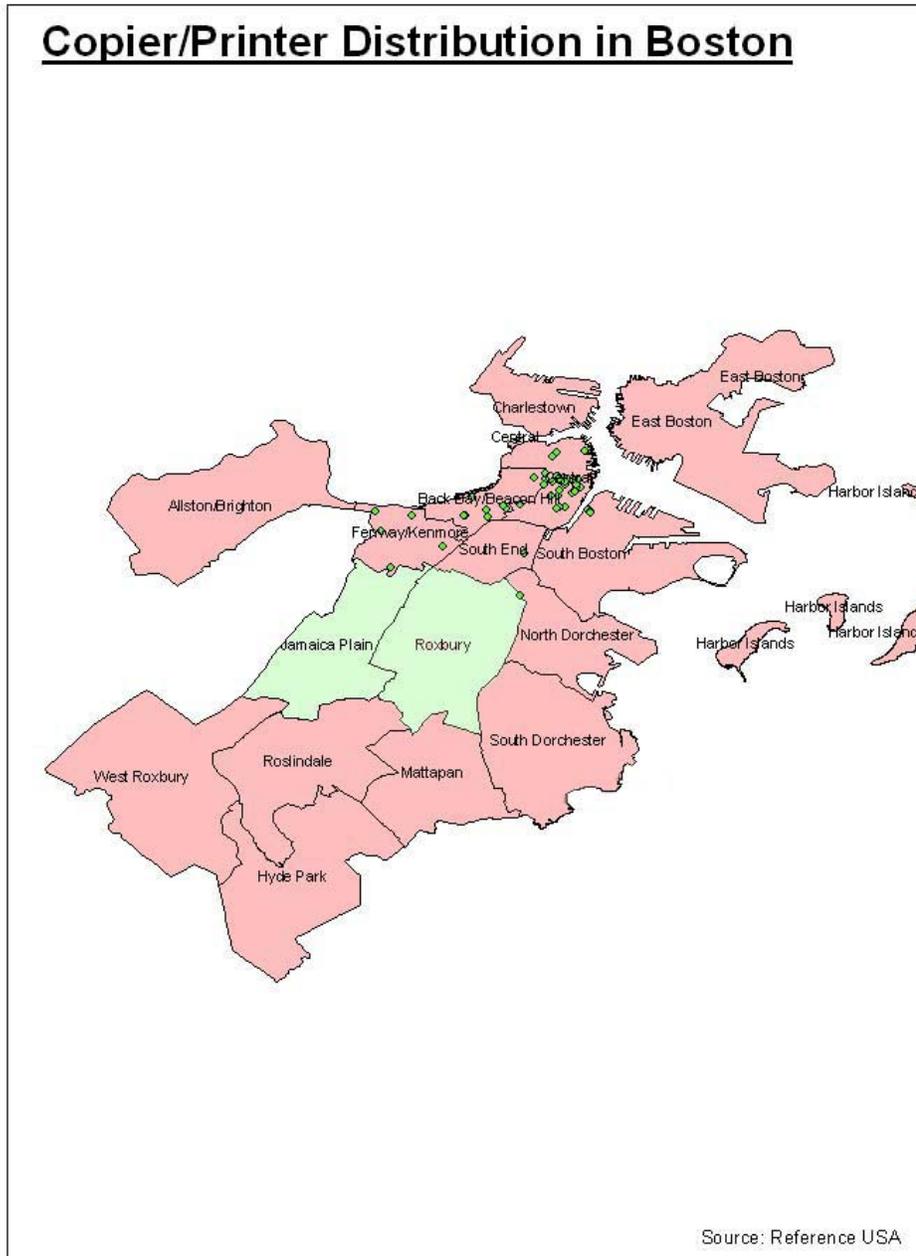
Landmark Theatres is also another option for this site, but it is not as ideal as a community-oriented theater. Landmark Theatres is the nation's largest art-house chain, and features first-run independent and foreign films. The largest Landmark theater is in Kendall Square and prices are similar to other national theater chains. The Kendall cinema has ten screens, but most of the other theaters around the country have 3-8 screens. The films screened by the Landmark are probably not the ideal movies that would appeal to family-oriented movie-goers in the Jamaica Plain/Roxbury communities.

Business Services Store

Attract a photocopier/printer business to the commercial district, either through a franchisee such as Sir Speedy or Minuteman Express, or by attracting expansion of a locally-owned, independent photocopier/printer businesses, such as Copy Cop.

The Hyde/Jackson Square business community has expressed a need for a business services company in the district, particularly a photocopier/printing business. There are approximately forty healthcare, FIRE (financial, insurance, real estate), and institutional (government, non-profit, educational, and religious) organizations in Hyde/Jackson Square. In addition, FIRE

businesses alone comprise approximately 13% of retail space. However, there are no businesses in the area that provide photocopying, printing, or office supply services to these local establishments. The map of existing photocopier/printer businesses shows the death of these types of business in the immediate area.



JPNDC has three options for attracting a photocopier/printer business – an independent, privately-owned company, a national chain, or a franchise. While a national chain may not be

JPNDC's first choice, some organizations may provide an advantage that other national companies do not. For example, Kinko's has a commitment to global sustainability and created a 2002 Sustainability Report. The report highlights efforts by Kinko's including crafting sustainable purchasing policies, purchasing 30% post-consumer recycled paper fiber, reducing retail energy consumption and increasing use of renewable energy, and implementing recycling programs for paper, toner, and cardboard. Thus, while Kinko's may not meet JPNDC's desire for a locally-owned, independent business, it does fulfill the need for a sustainable and environmentally-conscious business in the new development.

There are also franchising opportunities for photocopier/printer businesses. Sir Speedy, Minuteman Express, and Kwik Kopy all provide franchises. Franchise fees range from \$20,000 - \$44,000 with licensing fees of 4-8%, depending on the company. Minimum net worth and minimum investment requirements vary greatly between the three companies, with Sir Speedy requiring up to \$150,000 in investment and Minuteman Express requiring a \$35,000 investment. The primary challenge with franchise options is finding a potential local franchisee who will meet the financial criteria specified by each company.

Two locally-owned independent photocopier/printer businesses were also contacted for this analysis, including Gnomon Copy and Copy Cop. Each Gnomon Copy location is privately owned by an independent owner and each location has been in existence at least 20 years (i.e. no new Gnomon Copy stores have opened recently), according to one of the owners that was contacted. The organization does not franchise. However, each of the various owners should be contacted separately to determine if any one of them may be interested in expanding to a new location. Copy Cop has 14 locations in the Greater Boston area which are privately owned, and the owner should be pursued further regarding his intentions to expand and his site selection criteria.

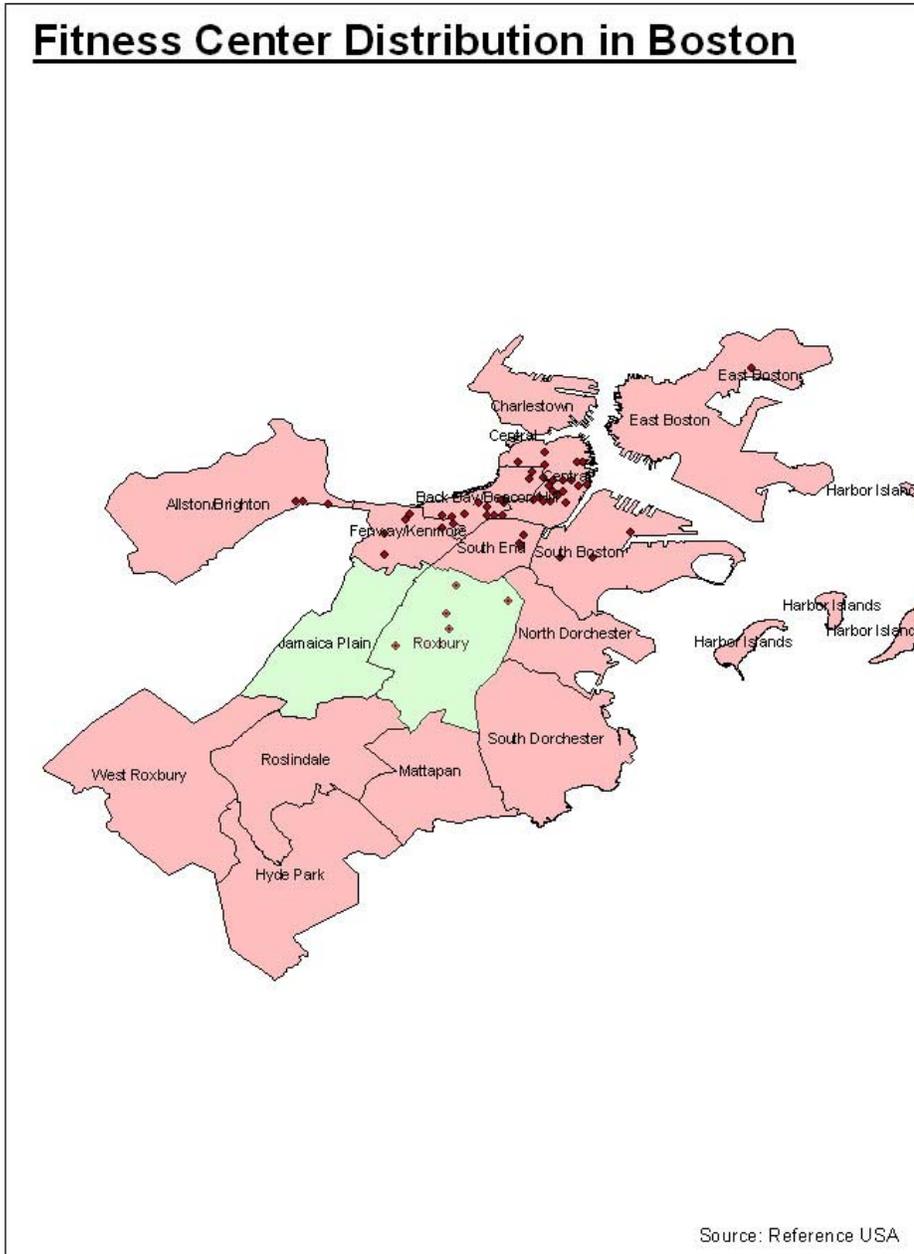
The ULI does not have median square footage information for photocopier/printer businesses. However, information from Kinko's reports these stores are in the 2,000-10,000 square foot range. Assuming a 3,000 square foot store for the new development, parking requirements would be between 3-4 parking spaces according to the BTM.

Fitness Center/Gym

Attract either a neighborhood-oriented gym franchisee, such as Mike's Gym, or dedicate a portion of the community center for gym/athletic facilities for adults/teens.

Another business use that is absent in the Hyde/Jackson and Lower Roxbury area are fitness centers/gyms. Gyms and fitness centers can enable local residents and employees to stay fit and healthy. Jamaica Plain and Roxbury residents and/or employees of local businesses who are interested in joining and frequenting fitness centers must travel to other parts of Boston. The map below shows gym locations in Boston. There are no gyms in Jamaica Plain and a handful in nearby Fenway and Lower Roxbury.

Fitness Center Distribution in Boston



Several national fitness centers provide franchise opportunities. These include Bally's Total Fitness, World Gym, Gold's Gym, and Curves. However, national fitness centers have demanding site selection requirements and they vary tremendously depending on the company. World Gym and Gold's Gym require GLA's of anywhere from 9,500-30,000 square feet with franchise fees of \$13,000 and \$20,000 respectively. In addition, a new World Gym option, which may be a better alternative for this site, is called World Gym Express; it is a smaller gym (5,000-6,000 square feet) that focuses on cardiovascular equipment. Bally's Total Fitness

(which is the least feasible option) has the most demanding franchise requirements, including franchise fees of \$30,000, up to 12% in licensing fees, 30,000 vehicles per day, 35% of the population between 18-39, and a minimum investment of \$100-\$1.5 million (depending on the size of the establishment). According to the ULI, the median GLA for a national fitness center is 19,590, which would require between 15-25 parking spaces, probably more than the site could support. Curves, a circuit-training fitness center, requires only 1,000-1,500 square feet, and may be the most feasible national chain. However, Curves is only available to women.

A few local gym owners have already expressed interest in the Hyde/Jackson Square area, with potential franchisees from both Curves and Mike's Gym inquiring about the Brewery. Each of these franchisees were interested in locations that were close to a transit stop, that did not have other gyms nearby, and that provided parking. The franchisee from Curves was more interested in locating in a main retail district. The franchisee from Mike's Gym was interested in a site that offered at least 10,000 square feet, provided at least 30 parking spaces, and served the surrounding communities of Egleston Square, Lower Roxbury, Hyde Park, and Roslindale as well as Jamaica Plain. This owner implied that Mike's Gym is a more neighborhood-oriented fitness center. The new development could certainly provide a location that fits most, if not all, of these site selection criteria.

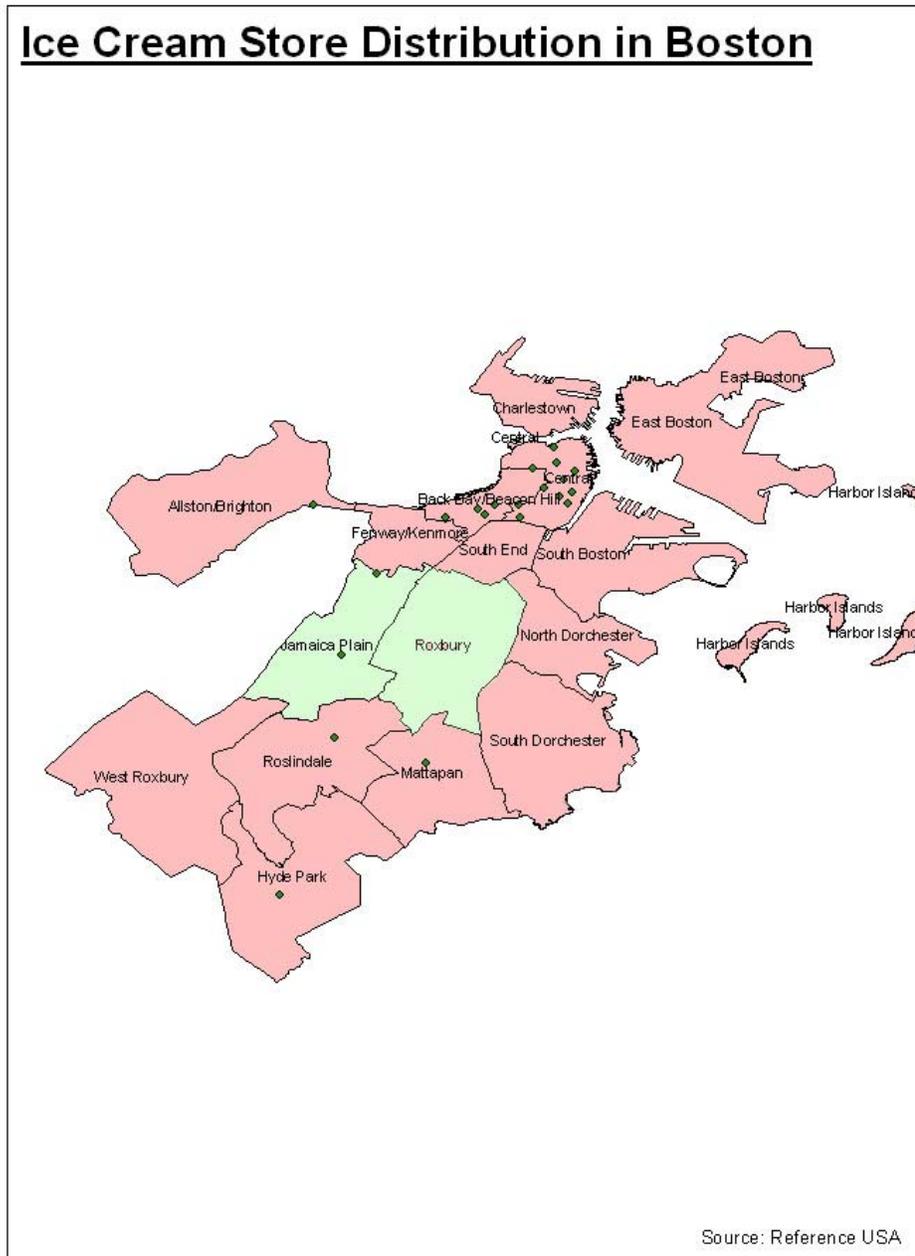
Another option that JPNDC should consider for providing a gym/fitness center option for Jamaica Plain and Roxbury residents is to dedicate part of the new development's community center space for adult fitness center services, including weight machines and fitness classes. The management of the community center could offer "gym memberships" to the community center to local-area residents, potentially at a reduced rate for residents of affordable housing units. The community center/fitness center combination could eliminate the need to recruit a fitness center franchisee, could create two necessary uses from one physical space, and could provide customized services and fees to address the needs of the community.

Ice Cream Shop

Attract either a locally-owned ice cream store chain, such as JP Licks or Herrell's or open a Ben & Jerry's PartnerShop.

Ice cream shops are extremely popular in New England and provide a family-oriented daytime or evening activity for local residents. The region is actually home to several locally-owned or locally-grown ice cream businesses, including Ben & Jerry's, Herrell's Ice Cream, Brigham's, and JP Licks. Ben & Jerry's and Herrell's Ice Cream continue to open corporate stores as well as provide franchise opportunities. The map below shows the distribution of ice cream stores in Boston. There is only one ice cream shop in Jamaica Plain and one diner on the edge of Jamaica Plain that serves ice cream. Except for those two locations, there are no pure ice cream parlors in the Jamaica Plain/Lower Roxbury areas.

Ice Cream Store Distribution in Boston



GLA's can be anywhere from 600 square feet to 4,000 square feet, depending on the location. JP Licks prefers larger sites, as it has expanded its product offerings to include coffee and pastries, as well as ice cream. All of these shops prefer heavy pedestrian traffic, high density of teens and adults, and co-location with other traffic producing tenants, such as restaurants and entertainment venues. JP Licks also stated that it considers distance from other JP Licks locations as a major consideration in order to prevent customer cannibalization. JP Licks is actually interested in the new development, and will conduct a feasibility analysis of opening a

new store at the Centre/Columbus location. JPNDC is encouraged to stay in contact with JP Licks regarding the new development.

Brigham's, which is now under new local ownership, is no longer opening stores in neighborhood or community shopping centers. Its focus is now on opening small ice-cream only shops in enclosed malls. However, the new development, with its proximity to pedestrian traffic from Jackson Square T, its wealth of restaurants, its density of youth, could still be an ideal location for an ice cream store, particularly JP Licks or Herrell's Ice Cream.

Ben & Jerry's may not be an ideal candidate since it is no longer locally-owned (Unilever of the Netherlands purchased Ben & Jerry's), and it generally caters to a higher-income customer base. Franchisees can open a Ben & Jerry's store with a \$15,000 fee, up to 6% in marketing fees, and a minimum investment of \$129,500 to \$316,000.

However, an interesting option for JPNDC to consider is to open a Ben & Jerry's PartnerShop. PartnerShops are Ben & Jerry's stores whose franchise fees are waived for non-profit organizations. Ben & Jerry's also provides start-up assistance, employment, and job training for local youth to work in the ice cream store.

Criteria for PartnerShops include:

- Annual operating budget of more than \$3,000,000
- More than 5 years in operation
- Job training and life skills development programs for youth and young adults, ages 15 - 21
- Experience operating a social purpose business
- Knowledge of the retail foodservice industry and/or franchising
- The desire and capacity to operate a social enterprise business
- A staff and board with small business expertise
- An excellent credit history
- Financial acumen and stability
- A record of fundraising success
- The willingness and the capacity to manage the complexities of developing a new business

JPNDC meets most, if not all of these criteria, so it may be valuable to contact Ben & Jerry's regarding the possibility of implementing this innovative program in the new development. Parking requirements for ice cream stores are relatively flexible. Most ice cream stores in urban parts of Boston, such as JP Licks on Centre Street, do not have dedicated parking but do have on-street metered parking available. If a 1,000 square foot store were to open on the site, BTDC's parking recommendations would be between .75-1.25 spaces.

Art Supply/Hobby Store

We do not recommend that JPNDC consider opening an art supply or hobby/craft store in the near future.

Some residents have also requested a store that offers art and craft supplies that would serve the local artist community as well as parents who are interested in craft projects for their children. These types of stores can either be more art-oriented or more craft/hobby oriented. Two major art-oriented stores, Utrecht and Charrette, do not franchise. While Charrette is

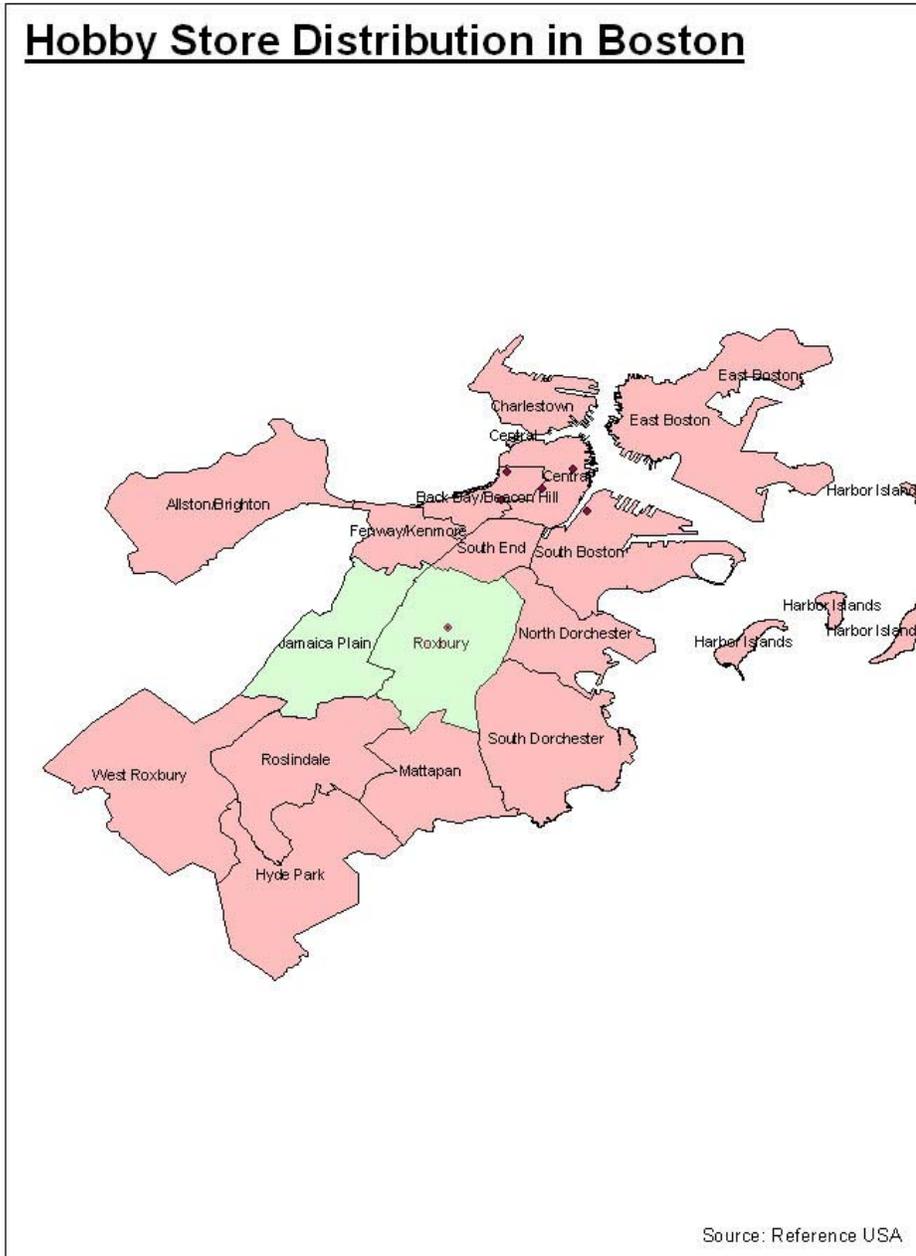
locally-based, it is no longer opening retail stores and has closed all but one store in Woburn due to decreased profitability of the direct-to-consumer market. Utrecht is a national chain but also is not currently considering any new retail locations. Since neither Utrecht nor Charrette is interested in opening new stores currently, it may be an indicator that art-oriented stores are not experiencing financial growth, and thus a craft/hobby store may be the more feasible option of the two.

Craft/hobby stores are generally large, national chains, including Hobby Lobby and Michael's. Unfortunately, neither of these companies offer franchise opportunities, neither of them are locally-based, and neither of them may be attracted to a development opportunity in Jackson Square. Hobby Lobby stores are generally quite large - the average GLA's for Hobby Lobby stores are between 55,000-75,000 square feet. In addition, the target customers are mid-income females. Michael's requires an average square footage of 18,200 square feet and targets mid-high income females. In addition, it prefers fashion-oriented or upscale co-tenants. Both Michael's and Hobby Lobby require population densities of 150,000 within the trade area. Most of these national chains have large, dedicated parking lots; for an 18,000 square foot establishment, BTDC recommends between 14-23 parking spaces.

The opportunity to open a craft/hobby store in the new development may be most likely to occur through an independent owner. However, identifying a potential entrepreneur with a viable business plan to open a craft/hobby store will be very challenging. Thus, JPNDC should continue to seek potential independent craft/hobby stores, but postpone the plan to obtain such a tenant until the development has been completely leased and a vacancy is available some period of time in the future.

The map below shows the distribution of craft/hobby stores in Boston. Most of these stores are small, independently owned shops such as Windsor Button in Boston. The closest craft/hobby type store to Jackson Square is More Than A Basket in Roxbury.

Hobby Store Distribution in Boston



Summary of Commercial Development Uses

As described previously in the Economic Development of the New Parcels section, community members and community organizations have several goals in mind with regard to business recruitment for the new commercial development. The goals and how the various commercial use options relate to those goals are summarized in the table below.

Table 9: Grid of Commercial Development Uses & Community Goals

	Small Scale Retail	Independently - Owned	Provide High-Quality Jobs	Provide Comparison Goods	Strengthen Existing Clusters	Destination Draw	Support Diversity of JP	Provide Evening Activity
Movie Theaters					Y	Y		Y
Art Supply/Hobby/Craft	P	P					P	
Health Club/Fitness		P	Y			P		
Ice Cream Shop	Y	P			Y			Y
Photocopier/Printer	Y	P			Y			
Full-Service Restaurant		Y			Y	Y	P	Y
Non-Profit Tenant Center			Y		Y		P	
Farmers Market	P	Y			Y	Y	Y	
Latino Mercado	Y	Y	Y	Y	Y	Y	Y	P

Y = Yes; P = Potentially (depending on specific store, e.g. chain vs. franchise); Blank = No

Each use fulfills at least three of the business recruitment goals set out by the community. Some, such as the ice cream shop, full-service restaurant, farmers' market, and Latino Mercado, meet more than three goals. There are clearly trade-offs involved in recruiting some of these businesses. For example, while the movie theater is not small-scale, may not be privately owned, does not provide a number of high-quality jobs, is not a comparison good, and does not promote the diversity of JP, it does strengthen the existing restaurant cluster, it is a destination draw for consumers outside of the immediate neighborhood, and it provides a much-needed evening entertainment option for adults and youth in the Jamaica Plain/Lower Roxbury community. JPNDC will need to consult with the community to determine which of these goals are most important and how those trade-offs will be manifested in the new development.

Site Development: Costs, Business Recruitment & Re-Branding

There is obviously a limited amount of developable space on the parcels. Thus, space and parking trade-offs with regard to commercial uses will also have to be made. The following table provides an estimate of commercial square footage and parking requirements for the new uses.

Table 10: Square Footage & Parking

Business Type	Square Footage	Parking	Assumptions
Movie Theaters	11,000	8-14	Based on ULI data on GLA for independent cinemas
Health Club/Fitness	10,000	8-13	Based on large local chain data
Ice Cream Shop	1,000	.75-1.25	Based on ULI data on GLA for independent ice cream parlors
Photocopier/Printer	3,000	2-4	Based on low-end of Kinko's requirements
Full-Service Restaurant	4,000	3-5	Based on ULI data on GLA for independent restaurants
Non-Profit Tenant Center	25,000	19-31	6 tenants occupying 3000 s.f. each with common areas
Farmers Market	3,000	2-4	20 vendors occupying 100 s.f. each, including common areas
Latino Mercado	3,500	3-5	10 vendors occupying 250 s.f. each, including common areas
For-Profit Office	25,000	19-31	Assumes equal square footage as non-profit tenant center
Total	85,500	65-108	

According to the sales/leakage analysis mentioned previously in this report, the customer base within ½ mile and 1 mile of the site could support significant additional square footage for restaurants, apparel & services, entertainment, personal care, and household furnishings and equipment.

The commercial space, including all uses except the farmers' market, could require a building footprint of 32,500 square feet (the office space would be on the upper floors), not including parking spaces. If each parking space is a standard 9'x19', parking for 65-108 spaces translates to 11,115 – 18,468 square feet. Assuming the gym/fitness center was incorporated into the community center, the building footprint would be reduced to 22,500 square feet, not including parking spaces. If the farmers' market were to take place on weekends, empty office parking could be used for the market space and parking.

The figure below provides a very rough estimate of development costs for the retail and office space in the new development. Using estimates for development from GLC and assuming: All of the uses above are included in the new development (except the farmer's market)

- Brownfield remediation, financing, and site work costs are not included
- Higher-end (i.e. conservative) estimates for construction and parking costs

Retail costs per square foot would be approximately \$237.88 and office costs per square foot would be approximately \$261.22, for an *estimated* total development cost of \$20,792,000.

Lower soft costs may be achieved by realizing economies of scale from using the same architects, lawyers, and other professionals on the entire development, including the community center and housing. There are a variety of funding sources that JPNDC can pursue in addition to commercial loans to finance the new development. Several of these sources are included in the Appendix.

Table 11: Development Costs

Retail		Office	
Square Feet	32,500	Square Feet	50,000
Construction per s.f.	\$140	Construction per s.f.	\$150
Soft costs	30%	Soft costs	30%
Tenant Allowance per s.f.	\$45	Tenant Allowance per s.f.	\$55
Parking costs per space	\$3,000	Parking costs per space	\$3,000
Retail Construction Cost	\$4,550,000	Office Construction Cost	\$7,500,000
5% construction contingency	\$227,500	5% construction contingency	\$375,000
Tenant Allowance	\$1,462,500	Tenant Allowance	\$2,750,000
Soft Costs	\$1,365,000	Soft Costs	\$2,250,000
Parking Costs	\$126,000	Parking Costs	\$186,000
Total Retail Development Costs	\$7,731,000	Total Office Development Costs	\$13,061,000

Commercial Business Recruitment

JPNDC is encouraged to pre-lease the space to tenants in order to increase the probability of receiving favorable develop financing terms. In order to attract these businesses, JPNDC should consider creating a business recruitment campaign that emphasizes the many positive aspects of siting a business in this location, including:

- Opportunity to meet unmet customer demand in a variety of market segments
- Access to a high-density and diverse customer base
- Easy access to MBTA train and bus service
- Leases in newly constructed green buildings that will save on operating costs
- A welcoming business environment with support from local business development organizations such as Hyde/Jackson Main Streets and JPNDC.

According to the Hyde/Jackson Square Main Streets program, lease rates for retail space in the Hyde/Jackson Square area are \$20-\$25 per square foot triple-net. Leasing rates for commercial office space are lower, at \$18-\$20 per square foot gross.

Once the business recruitment process begins, each specific business should be analyzed with regards to their commitments to sustainability and their effects on the environment. Questions that should be asked of these businesses include:

- Are there any hazardous chemicals that are created or used by this business?
- If so, how are these chemicals transported and/or disposed of?
- What are the major wastes created by the business?
- Does the business recycle any of these wastes?
- Does the business promote and support use of alternative means of transportation (besides auto-use) for their employees and/or customers?
- Do they hire local employees?
- Do they source their materials from local suppliers?

These questions are explored further in the Industrial Ecology section.

“Re-Branding” the Neighborhood

Due to crime on the Southwest Corridor and at the Jackson Square T station, Jackson Square has the reputation to some outside residents as unsafe or unappealing to families. If the new development is to attract consumers from outside of Jamaica Plain/Roxbury and become a draw for Latinos and non-Latinos from the Greater Boston area and New England region, it must overcome this negative reputation. The economic success of the new development depends on its ability to market itself to a wider audience.

One option for addressing this issue is called “re-branding”, which is a relatively new trend in economic development and marketing of commercial districts. Re-branding is a tool that neighborhoods and commercial districts can use if it is interested in improving its reputation to outside residents, marketing a new identity to potential consumers, or appealing to a larger target market. There are dozens of examples of re-branding across the United States, including SOHO in New York, the Ladder District in Boston, and SOMA in San Francisco. There is a potential issue with re-branding that has come to light in some communities. If the re-branding becomes “too successful” and the neighborhood becomes a draw for new residents, the neighborhood could start to gentrify, threatening the original fabric and personality of the community.

One very successful example of re-branding is the Avenue of the Arts in Philadelphia. The Avenue of the Arts is a 3.5 mile long stretch of museums, music and dance venues, theaters, restaurants and shopping along what was once called Broad Street. A well-funded private-public partnership between non-profit Avenue of the Arts, Inc. (AAI), the City of Philadelphia, the state, and various foundations, turned what had been a handful of art venues in the mid-1990’s into a vibrant commercial district that draws thousands of locals and visitors each year. The AAI’s prime goal is to “engage in activities that will increase the overall economic and cultural strength, and hence economic impact of the entities that call the Avenue North and South home.” The AAI’s roles include: planning & development, which entails long-term planning and visioning for the district; marketing, which includes collateral materials such as official guides and maps, radio promotion, print ads, and marketing supplements; and streetscape maintenance & beautification, which includes decorative sidewalk paving, street lamps, landscaping, and signage. Thus, AAI built upon an existing strength of the district, the arts, and turned it into an economic engine for the community.

While the re-branding that JPNDC might consider would probably not be as extensive as the Avenue of the Arts, this is a tool that could be used to promote the vitality and appeal of a new commercial identity to current and new visitors to the Hyde/Jackson Square commercial district. However, JPNDC should keep the prevention of gentrification in mind as it creates an implementation plan for a re-branding of Jackson Square.

Industrial Ecology

Recommendation: Implement innovative supply-chain management tools to improve sustainability of uses on the site.

One of the clearest pathways to sustainability for the commercial, residential and other users of the site will be along the so-called “supply chain” of material inputs and outputs. Consideration of the type of supplies and the type, volume, and eventual fate of wastes will result in environmental and health benefits at the local, regional, and global scale, and modest, but

important, economic benefits to local tenants. The following recommendations respond to the opportunity, identified earlier in the report, to support “eco-industrial” practice.

Environmentally Preferable Purchasing Cooperative

JPNDC or a partner organization should organize an Environmentally Preferable Purchasing (EPP) cooperative among commercial, office, and possibly residential tenants. EPP is a well-established model by which businesses, government, agencies evaluate supply purchase choices based on products’ environmental qualities, such as recycled content, durability, toxicity, embodied energy, or life-cycle costs.



Some examples of products that might be purchased under an EPP program for Jackson Square tenants:

- Chlorine-free or tree-free paper
- Recycled-content office supplies
- Non-toxic cleaning supplies
- Paint with low volatile organic compound (VOC) content
- Cellulose insulation
- ENERGY STAR®-labeled electronic equipment

The Jackson Square EPP program should be organized as a cooperative, allowing the numerous small businesses and organizations to pool their buying power and enjoy volume discounts.

The Massachusetts Operational Services Division operates a state government-wide EPP program that has received national recognition, and could provide technical assistance, including its list of environmentally preferable examples of nearly every conceivable product and service. Other valuable resources will include the how-to guidance offered by the US EPA and technical assistance from the Northeast Regional Council.

Resource Management waste contracting cooperative

At the other end of the local supply chain, JPNDC or the eventual property managers should arrange for a single waste-hauling contract to serve all of the commercial and office tenants on the site. This would allow tenants to take advantage of economies of scale similar to those offered by the EPP program, roughly estimated at 5% per unit of volume disposed. Shopping malls around the country typically employ a collective waste contract. Such an arrangement would also decrease the number of truck trips and possibly dumpsters in the neighborhood, contributing to air quality, public health, and general livability gains.

The collective waste disposal contract should be based on the “Resource Management” model. Resource Management contracts change the traditional profit incentive for waste haulers and structure their compensation around how well they minimize waste generated and recycle what waste is generated. For example, hauling fees might be capped at a less-than-profitable level, with performance-based bonuses awarded for reductions in waste volumes or increased recycling efficiency. Contracts also ensure that generators realize cost savings for decreasing waste volumes and increasing recycling.

Waste-reduction and recycling strategies under Resource Management are typically several steps beyond the traditional “put your bottles, cans, and newspapers in a separate bin” approach. In the Jackson Square case, the proposed restaurant, farmers’ market, Mercado and

other potential food-related businesses should work with the contractor to develop a composting program that could arrange to transfer organic materials to Greenleaf Compost in Jamaica Plain, or engage a community group to compost on-site and use the product at on-site or local open spaces or community gardens;

Much of the work to develop and scale the Resource Management has been done by the Boston-based Tellus Institute, in partnership with the EPA and the Massachusetts Department of Environmental Protection. These resources can be tapped for additional detail on the Resource Management concept, technical assistance, case studies and sample Resource Management contracts.

Resource Management contracting has, to date, been pursued primarily by large, stand-alone entities/ Establishing a contract for a cooperative of small businesses and organizations will represent an innovation in this young practice and will generate interest as well as likely grant funding opportunities. On the contractor side the highly competitive hauling industry in Massachusetts, has seen both Waste Management and Allied Waste Industries/BFI develop capacity and experience with Resource Management contracting.

Two important challenges for implementing these supply-chain recommendations are how to enable, encourage or require participation, and how to make the financial numbers work for all involved parties.

Creative lease agreements with tenants are one possible way to require or incentivize participation. We recommend that participation in the EPP program be optional, but that JPNDC consider offering rent subsidies or business development services to participants if the cost-savings incentives generated by the program itself are not enough to encourage widespread participation. Participation in the cooperative Resource Management waste contract should be a mandatory "part of the deal." With one centrally administered contract, waste disposal/recycling fees could even be factored into the monthly rent payment.

Precisely how to structure these programs, and whether to implement them at all, will require some careful analysis of the financial costs and savings, non-monetary benefits, and their distribution among the parties. Any participation incentives beyond the economies of scale and efficiency savings generated by the programs themselves will ultimately need to be paid for by someone. The costs to centrally administer these programs will not be trivial. Meaningful calculations cannot be made until the scale of development is determined, the number and type of tenants is known, and their procurement and waste disposal needs are considered.

Dropping rents below market rates through by subsidizing participation will effectively lose money for JPNDC and will negatively impact their ability to accommodate non-profitable community-serving uses on the site. Surcharges for not participating, and any real or perceived logistical barriers to participation, will effectively push rents above market rates and drive potential tenants elsewhere in a renters' market.

These cooperative supply chain programs may not be feasible if they do not create enough savings to be self-incentivizing. Economies of scale - volume discounts - will be key and will depend directly on how many and which tenants participate. Thus, the support and commitment of a large anchor tenant will be critical for maintaining program momentum and sustaining sufficient volumes to create economies of scale

Expanding the programs off-site (for example to include businesses in Hyde Square and at the JPNDC brewery complex) could also help achieve the necessary economies of scale, but would also entail additional administrative costs.

Goal: Integrate and connect the surrounding neighborhoods

Parking

Recommendation: Minimize provision of off-street parking, engage Zipcar, improve bike parking and implement Transportation Demand Management.

On-street parking

Minimize provision of off-street parking by taking advantage of additional on-street parking from road reconfigurations, parking space sharing, and transportation demand management measures.

Free provision of parking is one of the most important attractants of vehicular traffic. It was with this understanding that the City of Boston placed a moratorium on new parking spaces in the downtown area. In order to encourage residents, visitors, and employers to walk, bicycle, use public transit or carpool to the Jackson Square development, parking spaces should be minimized. As discussed in the *economic development of the parcels* portion of this report, Boston Transportation Guidelines call for .75 to 1.25 parking spaces per residential unit or per 1000 sq. ft. of commercial space in the Jackson Square area. As suggested in the JCG report, off-street parking can be reduced by including newly available on-street parking from Centre Street, Columbus Ave, and Amory Street reconfigurations in parking requirements. Transportation demand management measures, as discussed below, sharing spaces between commercial uses and residential uses, and by using vehicle services such as Zipcar can also reduce the need for parking spaces.

Amory Street conversion to perpendicular parking for development

Since Amory Street is a public easement, it will be difficult, if not impossible to include it in the developable properties. However, it can be used to provide loading access to businesses as well as “off-street” parking.

Zipcar

Provide parking spaces for Zipcar vehicles in development.

According to their website, “each Zipcar replaces 7 to 10 privately owned cars”. It reduces trips by about 50%, since the full cost of owning and operating the vehicle is paid for each trip. But since users only pay when they use a car, it is a cost saving program for individuals and businesses alike. Zipcar, the car sharing company in the Boston area has programs for businesses to become members. This is an excellent opportunity for businesses, employees, and residents of the Jackson Sq. Development, as well as other area residents to take advantage of a program to reduce the number of vehicle trips to and from Jackson Sq. and limit the number of parking spaces needed. Another benefit of Zipcar membership if residential units are leased is a partnership between Zipcar and Masshousing that provides eligibility for location-efficient mortgages.¹²

¹² MassHousing Web site at www.masshousing.com: Zipcar members who have been members for at least six months are eligible to apply for a MassHousing Take the 'T' Home Mortgage Program. This is a zero-down payment mortgage program that provides up to 100% financing, and has loan terms more favorable than can be found at conventional lenders, to buy a home. Call MassHousing at 1-877-309-HOME or visit masshousing.com for details and a list of participating banks

Zipcar's requirements for vehicle placement include a parking space, as well as sufficient demand, both residential and businesses. They have been trying to push their member catchment area into Roxbury and have seen the Jamaica Plain neighborhood as essential in achieving this goal. Placing vehicles in Jackson Sq. is an ideal move for them in attaining this goal, particularly since they already have vehicles placed in several locations along Centre Street. They have found that placing clusters of vehicles in the same place or near each other is advantageous in signing new members. This may be another opportunity for coordinating with the MBTA. Zipcar has placed vehicles at other MBTA stations, and it may be worthwhile to use one or more of the spaces that the Development is required to provide to the MBTA for Zipcars. JPNDC should coordinate with Zipcar and the MBTA on this matter early in the process, to ensure that expectations of all parties are on track, and to ensure that the placements are ideally placed and successful. Information for Zipcar is included in the Appendix.

Secure bike parking

Provide secure short-term and long-term bicycle parking for residents, employees, visitors, and MBTA users.

Bicycle parking should be included in the development design, to encourage residents, employees, and visitors to use bikes. Bike racks are of course necessary, but the plan should also include secure long term parking, possibly in the form of a locked bike room for residents and employees as an element of the green building strategy. A shower room or coordination with a gym or community center could also be arranged to encourage employees to bike to work. Portland, Oregon¹³ has instituted a program in cooperation with local athletic clubs to provide secure bike parking, showers, and a locker to the individuals for a fee. In Jackson Square this benefit could be provided in coordination with the community center or a local gym, as an employee benefit. Short-term bicycle racks should be protected from the weather and installed correctly. The City of Pittsburgh's "Bicycle Parking Guidelines" is a good resource for this.

Figure 19: Bike room in Pittsburgh, Pennsylvania



The MBTA should also be encouraged to install secure long-term bicycle parking at the Jackson Sq. Station for those who bike to the station and commute into Downtown. This will increase the catchment area of the station by making it accessible to those outside walking distance. Secure bike parking can be provided on racks inside the station, or in bike lockers outside the station. It is important that these are located in a well-lit area to improve security. If there is adequate demand, in the future, a bicycle station could also be incorporated into the Jackson Sq.

Station or the development. Bicycle stations provide attended bike parking and other services to bicycle commuters¹⁴.

Transportation Demand Management (TDM)

Transportation demand management entails a series of services that make it easier, quicker, and cheaper for people to use modes other than the single-occupancy vehicle. The following

¹³ Portland, Oregon's Bike Central program: <http://www.trans.ci.portland.or.us/bicycles/BikeCentral.htm>

¹⁴ For more information on bicycle stations, see <http://www.bikestation.org/>

recommendations would generally be implemented once the development area is occupied. However, demonstration of intent to provide these services, and requirement of participation by tenants, may help in reducing the on-site parking requirements.

Hire a transportation demand management coordinator for the development or coordinate with an existing Transportation Management Association.

Transportation demand management is an effective means to decrease the number of trips to and from the area by providing information, coordination, and incentives. Often large companies have a transportation coordinator to provide these services to employees; some areas also contract with a local organization that pools the resources of several large and small employers to provide greater commute options within a local area. An example of these *Transportation Management Associations (TMA)* is Transportation Solutions for Commuters, Inc., serving businesses in the South End. Few, if any TMA's serve residents as most incentive programs are geared towards employers. However, as part of a development such as Jackson Square services could be paid for through a transportation fee linked to leases. A higher rate could be charged to residents and employees requiring a parking space; a lower fee could be charged to those not needing a space, similar to a condominium fee. Such a fee structure would encourage lower car ownership. If residents and business know other options are readily available to them, they may be convinced to either sell their vehicles or not purchase additional vehicles.

It would be necessary to hire at least one person to coordinate a demand management program. This person would coordinate with transportation providers such as the MBTA and Zipcar, alternative transportation advocates such as Walk Boston and Bikes Not Bombs; match people for carpools, vanpools, and walking school buses; and administer commuter checks, guaranteed ride home, and other programs. Transit passes and information, and possibly a Zipcar reservation center could also be provided. Another option is to contract with an existing transportation management association (TMA) to extend their service area to Jackson Square and the Jamaica Plain and Roxbury neighborhoods, and open a branch office. These programs are described in greater detail below.

MBTA: coordinate with the MBTA to sell passes, provide route and schedule information, and act as liaison for the Jackson Sq. development businesses, residents and visitors. The MBTA may also be able to provide space for such an office if the services are open to the general population.

Zipcar: One of the problems that Zipcar has faced in lower income communities is that membership requires a credit card and is easiest with internet access. The coordinator could arrange with Zipcar methods to allow people to become members without a credit card and could provide an internet station to reserve the vehicles. More information on Zipcar is located in the *parking* section.

Carpools and Vanpools: Carpools are a good way to provide efficient transportation options to locations where there is not sufficient demand to warrant a bus route. The TDM coordinator would match people with carpools and vanpools, and may administer them if payment is involved. For locations where a larger number of people commute to, vanpools are often a better option. Seats are reserved and paid for on a monthly basis; vehicles are usually either owned by the driver or the employer. Drivers usually get additional benefits and usage of the vehicle at home.

Commuter Checks: This is a program by which employers can provide employees with checks that can be used to purchase transit passes and tokens. These can either be provided free as an additional employee benefit, or taken from paychecks pre-tax.

Walking School Bus: Similar to a carpool or school bus, a “walking school bus” picks children up at stops or their homes and delivers them to school under adult supervision. Parents often take turns walking neighborhood children to school. This lowers the number of vehicle trips to deliver children to school, while at the same time provides for adult supervision of young children. Like carpools, the TDM coordinator could match families for walking school buses.

Guaranteed Ride Home: An often cited reason for not using alternative transportation is the potential for a home emergency that would require a mid-day trip home. A Guaranteed Ride Home service provides taxi fare or other fare reimbursement in the case such an emergency arises for those registered as using alternative transportation.

Coordination with Advocacy Groups: Working with advocacy groups such as Walk Boston and Bikes Not Bombs, will provide a constant push to improve alternative transportation services and facilities. Since they also operate in national networks this they can also provide important ideas, experience from other areas of the country, and expertise for little to no cost. And are usually current on new and existing funding sources for alternative transportation.

Install secure bike parking: One of the most effective ways to convince people to use alternative transportation modes is to make it easy and safe for them. Installation of secure bike parking is an easy way to make bicycling a more feasible transportation option. For more information on this please see the section on bike parking above in the *parking* section.

Street and signal configuration

Recommendation: Reconfigure Columbus Avenue and Centre Street, and adjust Columbus Avenue/Centre Street intersection signals and timing.

Reconfigure Columbus Avenue

Reduce Columbus Avenue to four through traffic lanes, turn lanes at intersections; add one parking lane on the north side of the road, and widen the southern sidewalk/landscaping strip and center median.

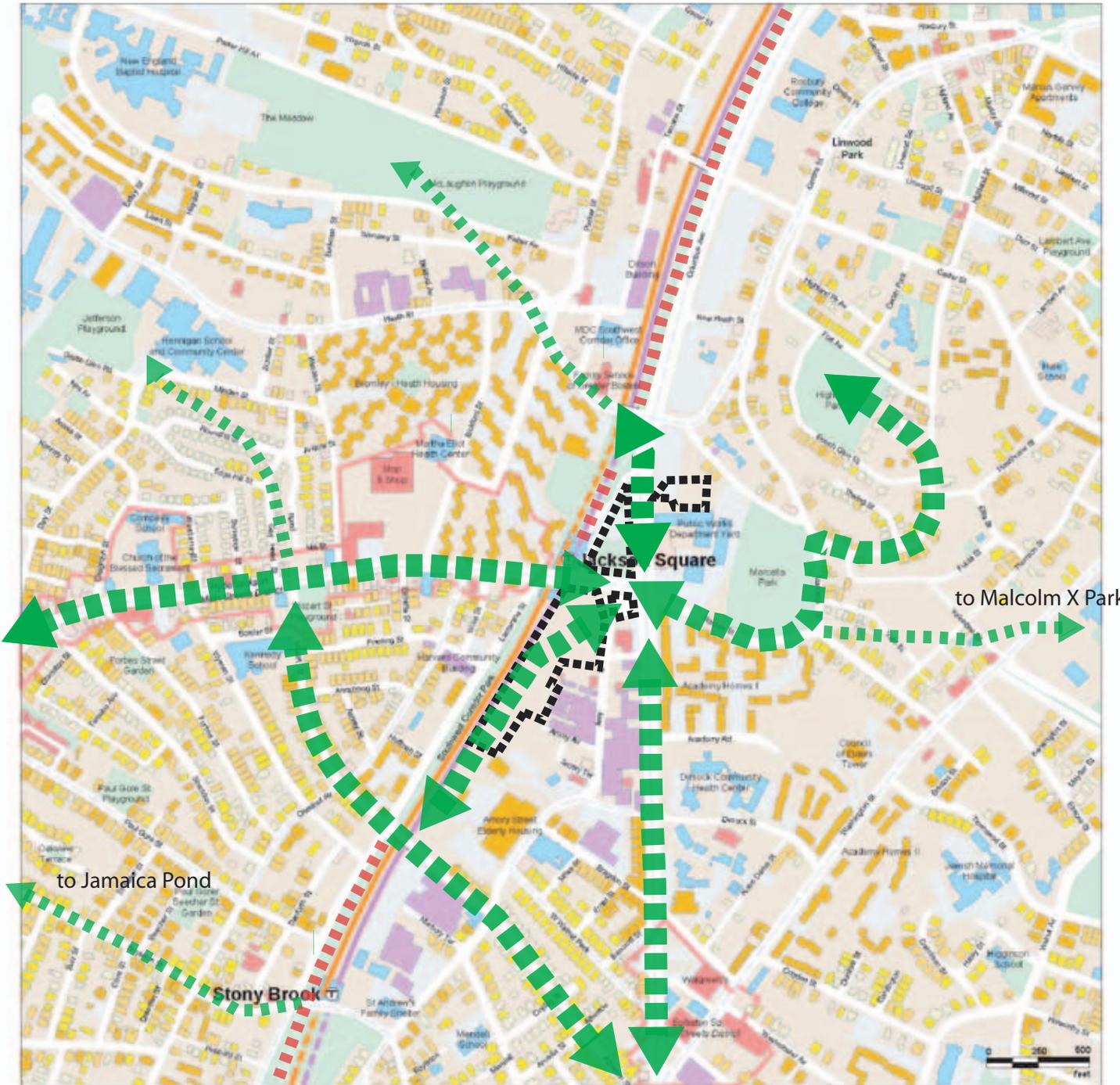


Columbus Avenue/Tremont is two lanes in each direction with one lane of parking on each side for most of its length. It increases to three lanes with no parking between Melnea Cass Blvd. and just beyond the Centre/Ritchie intersection. JCG’s recommendation to reduce the number of travel lanes to two in each direction with turn lanes should be pursued. However unlike the JCG plan, we recommend that there be parking on only one side of the road, and that the median and southern sidewalk width be increased, and landscaped with trees. This will reduce the visual width

of the road and encourage slower speeds, and improve pedestrian facilities, by providing a larger center refuge when crossing Columbus and greater protection from traffic on both sides of the road.

Jackson Square

Jamaica Plain & Roxbury
Conceptual Greenways Plan



-  Redevelopment Parcels
-  Priority Greenways
-  Future Connections
-  Southwest Corridor (existing)



source: Boston Redevelopment Authority

2002 traffic counts at Columbus and Dimock, show that average daily traffic is 31,000. If calculated over a 10-hour period, this means there is an average of 516 vehicles per lane per hour. Standard lane capacity is 1,900 vehicles per hour.¹⁵ Reducing Columbus Avenue to two traffic lanes (one in each direction) plus turn lanes would likely not reduce capacity, with the average vehicles per hour at 1,550. Because transportation officials are usually anxious about reducing the number of lanes, and to provide for additional trips caused by the new development, we recommend that Columbus is reduced to four lanes (two in each direction) plus turn lanes. This will keep it considerably below lane capacity at 775 vehicles per lane per hour. For a more in-depth explanation of “road diets” and case studies see the report “Road Diets: Fixing the Big Roads” by Dan Burden and Peter Lagerway.

Columbus Avenue is designated as a state and national route. Boston has considerable power in the Commonwealth to alter state roads, this could extend the permitting process. It is recognized at the Boston Transportation Department¹⁶ that the Columbus Avenue/Centre Street intersection operates poorly and that some element of reconfiguration will be necessary with re-development at Jackson Square. While Governor Romney¹⁷, and the State Office of Commonwealth Development has a goal that state roads should preserve and enhance the towns and neighborhoods they pass through rather than concentrate entirely on vehicular throughput based on statewide standards. This emphasis on *context-sensitive* design will be an important OCD goal to leverage in the development of Jackson Square. At the same time, Columbus Avenue is a major artery for commuters. Creating a configuration that will provide enough capacity while also improving the pedestrian environment will be a challenge.

Reconfigure Centre Street

Reduce Centre Street, between Columbus and Lamartine Street to two lanes of through traffic (one lane in each direction). Add bulb-outs at crosswalks, and loading/drop-off bays and on-street parking. Move stop bar for west-bound Centre Street at the Lamartine intersection back.

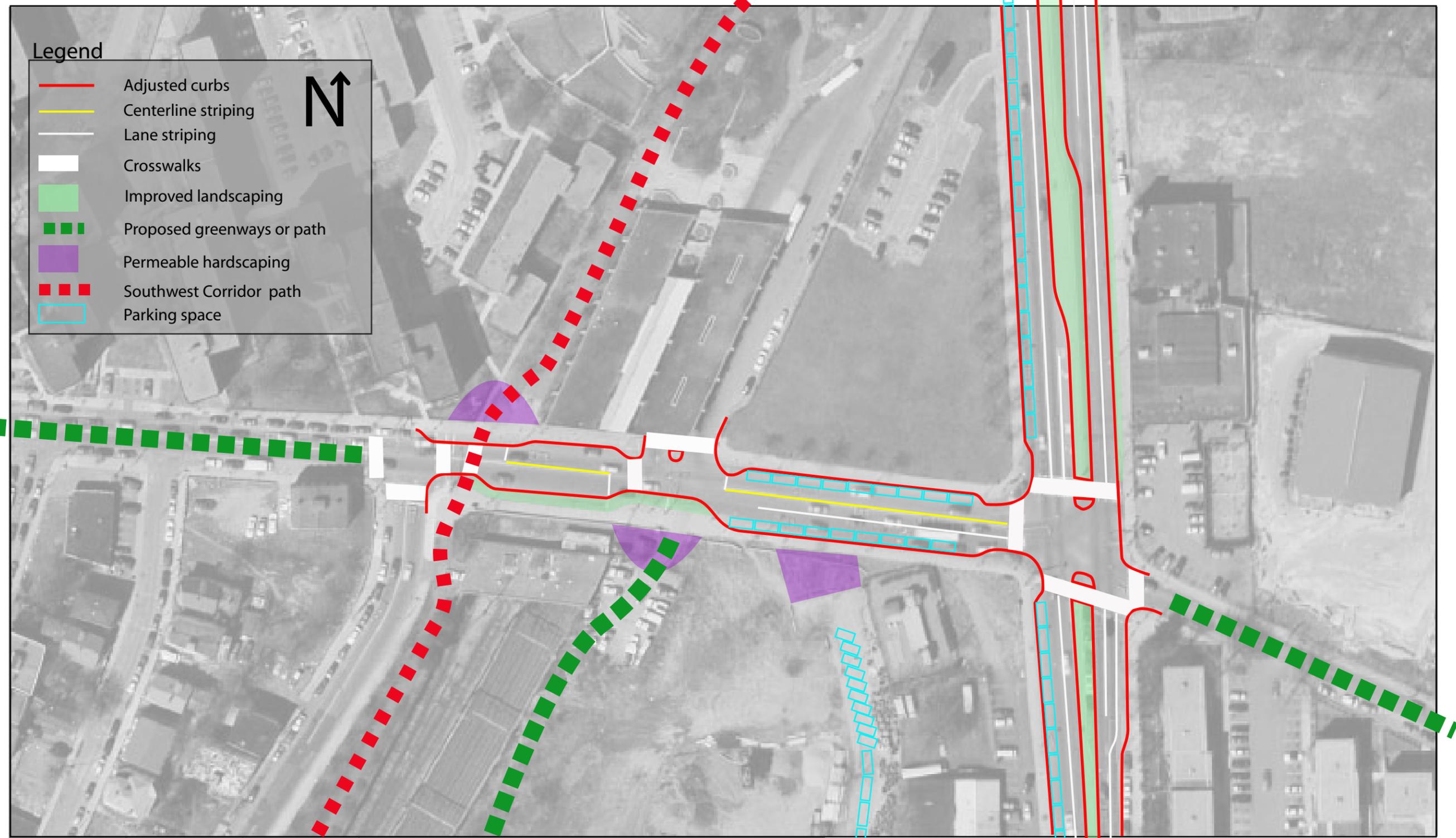
These improvements will allow lane configurations on Centre Street, between Columbus and Lamartine to coincide with those northwest of Lamartine, and will remove the clutter of vehicles merging from two lanes to one. Drop-off bays will allow vehicles to move out of the through lanes to drop off passengers at the MBTA station. On-street parking will be a useful addition when the retail establishments are built at Jackson Sq, and may serve to reduce the onsite parking requirement of the Jackson Sq. development. Moving the stop bar back on Centre Street is intended to improve the bicyclists and pedestrians crossing Centre Street from the Southwest Corridor Path. The Path should be widened, adjacent to the MBTA station to further improve the crossing.

¹⁵ Dan Burden and Peter Lagerway. “Road Diets: Fixing Big Roads”. Walkable Communities, Inc. March 1999.

¹⁶ Jim McCarthy, Boston Transportation Department, Policy and Planning Division, (617) 635-4839

¹⁷ Governor Mitt Romney, Commonwealth of Massachusetts, “Statewide Road and Bridge Policy” 1/27/03.

Proposed Lane Configuration and Transportation Facilities at Columbus Ave. and Centre St.



Adjust Columbus/Centre Signals and Timing

Adjust signal timing to allow pedestrians to cross the entire street in one signal phase. Install countdown signals to provide further information to pedestrians and bicyclists, and to allow for a range of crossing speeds.

The timing of the pedestrian signal at Columbus Avenue and Centre Street is currently not long enough for pedestrians to cross Columbus Avenue in one signal cycle. Changing the signal timing is an important factor in making walking safer and pedestrians more comfortable in Jackson Square. Countdown signals provide information on the amount of time left to cross the street, allowing pedestrians to adjust their walk speed to safely cross the street. These two features will considerably improve the pedestrian environment with relatively minor investment.

Urban Greenways and Bicycle and Pedestrian Amenities

Recommendation: Develop urban greenways with improved bicycle and pedestrian amenities and facilities to connect new development with existing neighborhood resources.

Improving the safety, accessibility and general attractiveness for pedestrians and bicycles will represent a significant improvement to the overall transportation system in and around Jackson Square. Currently, the Jackson Square pedestrian and bicycle environment is deficient in several respects:

- The area along Centre Street between Bromley-Heath and Columbus Avenue is expansive and barren with few destinations. The lack of activity in this area has been a factor in the area's security problems.
- Columbus Avenue is a barrier to crossing bicyclists and pedestrians due to its width, fast-moving traffic, lack of traffic separation from the sidewalk (by a shoulder, parking lane or landscaping strip), and poor signal timing at the Columbus Avenue/Centre Street intersection.
- The length of Columbus Avenue between Jackson and Egleston Squares suffers from a poor pedestrian and bicycle environment. The streetscape here is sorely lacking in greenery, pedestrian amenities, and safe crossings, effectively isolating Roxbury from Jackson Square and the rest of Jamaica Plain.

Establish greenways on four greenway corridors

Building on this connection to transportation and mobility issues, and recognizing that there are very few opportunities for new open space in the densely developed neighborhoods around Jackson Square, redevelopment should encourage the creation off-site open space in the form of greenways along existing streets.



Greenways in this context means creating linear corridors of usable public open space by reconfiguring street rights of way to add environmental, recreational and transportation value. Design elements would include some combination of increasing the width of right of way devoted to pedestrians; additional street trees, grass and other plantings; street furniture and appropriate lighting; and on or off-street bike lanes, improved crossings, vehicular traffic calming measures, and other measures. These greenways will be similar in character to, and will

complement the existing Southwest Corridor Park.

Greenway benefits are numerous and cross-cutting. They will serve as attractive and functional gateways to Jackson Square, Jamaica Plain and Roxbury; the new development will be directly connected to existing commercial, residential, and open space resources. Increased bicycle and foot traffic will lead to enhanced economic vitality both on- and off-site; and whether for utilitarian or recreational purposes, will create public health benefits through increased physical activity. Reduced vehicular trips will help improve air quality and safety, while lowering demand for parking in the new development. Tree cover and landscaping the street corridors will provide improved air quality and beautify the now barren expanse between Roxbury and Jamaica Plain, knitting the two communities together. These improvements together will generate a sense of place and community ownership, which will contribute to improved public safety.

Four corridors should be prioritized for greenway development:

- Along Centre, Ritchie and Highland Streets, to connect the Hyde Square Main Streets District and Bromley-Heath to the west, the Southwest Corridor and Jackson Square, and Marcella Park and Academy Homes I and the Fort Hill neighborhood to the east;
- Along Columbus Avenue, to connect Bromley-Heath, the Southwest Corridor, Jackson Square, Academy I, the Dimock Community Health Center, and the Egleston Square Main Streets District;
- Along Mozart and Atherton Streets, to connect Hyde Square, the Mozart Street Playground, the Kennedy School, the Southwest Corridor, the southern end of the Jackson Square redevelopment, and Egleston Square.
- Through the MBTA parcel, roughly paralleling the Southwest Corridor, to connect the Jackson Square T station, an existing pedestrian cut-through to Amory Street, the interior of the redevelopment, and the proposed greenway along Mozart Street.

On a larger scale, these greenways could be extended, by less obvious routes, to connect to the significant open space and recreational resources at the Jefferson Playground/Hennigan School in Jamaica Plain and across Washington Street to Malcolm X Park in Roxbury. Making this connection will help ameliorate the existing shortage of playing fields and active recreation facilities in the neighborhoods.

Greenways could be extended further to connect the Jackson/Hyde/Egleston area west to Jamaica Way and Jamaica Pond, linking them to the Emerald Necklace, one of the most significant open space resources in Greater Boston. While two major north-south open space corridors are enhance this part of the city, it is lacking an east-west connector that could establish a functional and aesthetic link between them. Such a connection could be developed along Boylston Street extending as far as Franklin Park. The Boston Parks Department has recognized this problem and has received funding through the Federal Transportation Enhancements program for a project aimed at "Connecting the Corridors," first in the Fenway – Lower Roxbury area, but with a long term goal of multiple connections further to the south.

As greenway development will occur outside the boundaries of the redevelopment parcels, JPNDC's role in implementing this recommendation will consist primarily of advocacy and coordinating with other agencies and stakeholders.

It is important that greenways are integrated into plans and placed on the bargaining table early in the process. The City must make the ultimate commitment to greenway creation. Negotiation

of this commitment must take place at one or more stages. Due to the shape and character, greenway establishment is considerably more as an afterthought. Street reconfiguration by the city or state should consider inclusion of greenway components from the start.

The Boston Public Works Department and possibly the Massachusetts Highway Department will be crucial partners in the effort to create on-street greenways. Equally important, the Boston Parks Department priorities, as outlined in their 2002-2006 Open Space Plan, are well aligned with the greenways concept. The “Connecting the Corridors” initiative mentioned above falls under a general Parks Department goal of “advancing connectivity” of open spaces by “enhanc(ing) major...thoroughfares like Columbus Avenue...so that they will be more green and bicycle-friendly. This will improve the area’s image as well as access its nearby open spaces.”

Further synergies can be found in the Parks Department’s priorities for managing public shade trees. Tree planting and maintenance efforts are focused on boulevards, as the “gateways and major thoroughfares of Boston.” Certainly Centre Street and Columbus Avenue are both prominent Boston boulevards and should be leading candidates for improvement under the Parks Department initiative:

“It is important that these gateways greet people and emphasize the importance of trees in our urban environment. Through partnerships with the Public Works Department and the Massachusetts Highway Department, extensive planting projects have been completed and are planned for the future. These plantings will link the neighborhoods of Boston as a unified community of trees.”

Another aspect of the favorable enabling environment for greenways is the recent attention to the role of regular physical activity in promoting public health. Specifically, the role that urban design plays in encouraging or discouraging physical activity is one of the emerging trends in public health practice. Some of the most applicable resources in this field include the Robert Wood Johnson Foundation’s “Active Living by Design” programs, the Rails-to-Trails Conservancy, a special issue of the American Journal of Public Health, and researchers at the Schools of Public Health at Harvard and Boston University.

The Office of Commonwealth Development’s Commonwealth Capital program, and the Executive Office of Environmental Affairs’ Environmental Justice policy could be leveraged to direct state resources to Jackson Square for greenway development. Federally, the Transportation Enhancements program funds non-vehicular transportation-related capital projects and has built many bicycle, pedestrian and greenway projects in Massachusetts and nationally.

MBTA

Recommendation: Improve amenities for transit users, improve security and adjust bus routes.

Improve amenities for transit users

Provide maps, schedule, and signage information.

Improved amenities in the station make using transit easier and more comfortable. Information and signage, including e a full system map as well as schedule information for buses that stop at Jackson Sq, and stop signage for each bus route.



Incorporate services and economic development into the station.

The MBTA has a program for leasing commercial space within stations and on station property. These can take the form of pushcarts for food and merchandise, or more permanent kiosks. These can provide jobs for area residents in addition to making transit use more amenable. Providing neighborhood services within transit stations reduces trips as well, since customers can link them to their commute trips. Business development within the station should be coordinated with the

development, and could broaden the extent of the Latino Mercado to the transit gateway. Transit Realty Associates is responsible for management of commercial ventures for the MBTA. They're contact information can be accessed through the MBTA website.

Improve security

Coordinate with MBTA to improve security and increase police presence at the station.

According to a representative at the MBTA, they are currently looking into increasing the police presence at the Jackson Sq. Station, but are not planning on incorporating a police substation there, as at the Dudley Station. The development should coordinate with the MBTA on ways to make the area more secure. The development itself will provide more "eyes on the street", however building design can foster greater security by providing natural light and good night-time lighting in outside places, and not including unsurveyed areas that could become traps for pedestrians. The Southwest Corridor path, as it passes along the north side of Jackson Sq, between the station and the Bromley Heath fence would be a good location to install bicycle lockers, improve lighting, and to remove the fence, to make the area feel more open.

Adjust bus routes

Extend bus Route 14 to from Heath Street Brookline Heights, and into the Jackson Sq. Station.

Jackson Sq. provides excellent accessibility to most parts of Greater Boston via the Orange Line subway and several bus routes. Route and schedules should be adjusted to improve upon this accessibility.

The MBTA conducts route adjustments every two years. This is currently taking place at writing of this report. Several bus routes that stop in Jackson Sq. were adjusted during the last cycle in 2002, and will be not be adjusted at this time to allow for additional data collection. Schedule adjustments and other modifications will be made to improve on-time performance on Routes 22 and 44 during the current cycle, which were noted as problems in the JCG Transportation report. The next cycle will be ripe for routes to be adjusted further.

As suggested in the JCG transportation report, **Route 14** should be extended to the Brookline Heights Station on the Green Line "D" Branch. Currently this trip would require two transfers not including transfer onto the Green Line. Additionally, the route should be adjusted from crossing Columbus at Heath Street to enter the Jackson Sq. Bus Station via Columbus Ave, and continuing from there to Centre, Columbus Avenue and to the eastern side of Centre Street While the distance is not far to Heath Street, it is an important route extension in terms of both transfer efficiency (to other bus routes and to the Orange Line) and passenger comfort, particularly during the winter months. These extensions would provide quicker access to Dudley Sq. and to Longwood Medical Center, an important employer in the area.

Figure 20: Proposed adjustments to Route 14



Recognizing that the MBTA has limited resources and it is often difficult for them to increase service, another option for the Jackson Square Development and the wider neighborhood is to promote the use of carpools and vanpools to further reduce vehicle use.

Conclusion

This plan provides actionable recommendations that emphasize integration among economic, environmental and social goals. The Jackson Square parcels provide an unparalleled opportunity for JPNDC and residents to revitalize an important gateway to their community. Responsibly remediating the parcels, incorporating environmentally sensitive design principles into the new development, recruiting commercial uses that meet the needs and desires of the community, and focusing on the connections with surrounding neighborhoods are the keys to advancing sustainability in Jackson Square.

Appendix A: Transportation Data

Appendix Table 1. Information from the 1994 CTPS passenger survey at Jackson Square

Mode	Access %	Egress %	Walk Time	Access	Egress	
Walk	959	42.3%	59.4%	0-5 min	58%	55%
Bus		40.9%	33.4%	6-10 min	26%	31%
Park & Ride	246	10.8%	1.1%	11-15 min	10%	3%
Drop off/pick up	116	5.1%	6.3%	16-20 min	6%	12%
Bicycle	12	0.5%	0%	TOTAL	100%	100%
Taxi	9	0.4%	0%	Mean	7.2 min	8.1 min
TOTAL	1342	100%	100%			

Ann. Household Income	
< \$20,000	21%
\$20 to \$30	29%
\$30 to \$40	20%
\$40 to \$60	20%
\$60 to \$80	7%
> \$80,000	4%
Total	100%

Age	
17 and under	3%
18-24	17%
25-34	28%
35-44	27%
45-64	20%
65+	4%
Total	100%

Gender	
Male	30%
Female	70%
Total	100%

Auto Available for Trip	
Yes	36%
No	65%
Total	100%

Appendix Table 2. Bus routes in Jackson Square

Route Description			Service		Riders/day	Inbound		Outbound	
Route	Name	Via	Hours	Interval		On	Off	On	Off
14	Heath St-Roslindale Sq.*	Dudley, Warren, Amer. Legion Highway	M-S, 7 am to 7 pm	30 to 45 min	1450				
22	Ashmont-Ruggles	Columbus, Seaver, Blue Hill, Talbot	all	8 to 20 min	8300	125	1164	818	137
29	Jackson Sq-Mattapan	Columbus, Seaver, Blue Hill	M-F, limited Sat	16 to 60 min	2250				
41	Monument-UMass*	Centre, Dudley	all	20 to 40 min	1000	99	57	105	67
44	Jackson Sq-Ruggles	Columbus, Humboldt	all	11 to 45 min	4050	547	0	0	581
48	Jamaica Plain Loop	Centre, Paul Gore, Lamartine, Amory, Washington, Green	M-S 9 to 5PM	30 to 35 min	200	0	18	14	0

Appendix Table 3. Orange Line boardings and alightings for stations between Forest Hills and Massachusetts Avenue (CTPS, MBTA 2002)

				Total Daily Passengers (2002)	Total Daily Passengers (2004)
Forest Hills (Terminal)	Northbound	Ons	13,069		
		Offs	n/a		
	Southbound	Ons	n/a	24,557	25,785
		Offs	11,488		
Green St	Northbound	Ons	2,935		
		Offs	290		
	Southbound	Ons	319	6,410	6,731
		Offs	2,866		
Stony Brook	Northbound	Ons	2,142		
		Offs	300		
	Southbound	Ons	263	4,553	4,781
		Offs	1,848		
Jackson Square	Northbound	Ons	3,962		
		Offs	551		
	Southbound	Ons	689	8,553	8,981
		Offs	3,351		
Roxbury Crossing	Northbound	Ons	2,729		
		Offs	975		
	Southbound	Ons	1,293	7,070	7,424
		Offs	2,073		
Ruggles	Northbound	Ons	6,587		
		Offs	1,558		
	Southbound	Ons	1,565	16,357	17,175
		Offs	6,647		
Mass Ave	Northbound	Ons	3,611		
		Offs	1,562		
	Southbound	Ons	1,559	10,434	10,956
		Offs	3,702		

*2004 is a 5% adjustment above 2002 data, which is consistent with 2004 counts on other portions of the line. On this portion of the Orange Line, 2004 counts are not yet available.

Appendix B: Hyde Jackson Business Inventory

General Merchandise
99 Cents Stop Store
Food
Estrella Bakery
Evelyn's Market
Super Stop & Shop
Mozart Market
Pimentel Market
Gentileza's Market
Hi-Lo Supermarket
7-Eleven
Freddy's Market Bodega
Centre Street Meatland
Cristal Fruit
Jamaica Plain Market
Food Service, Bars
Brendan Behan Pub
Triple D's
Dunkin Donuts
Yely's Coffee Shop
Miami Restaurant
El Oriental de Cuba
Alex's Chimis
Food Wall Chinese Restaurant
Young Kong Restaurant
Latino Restaurant
La Pupusa Guanaca
Tacos El Charros
Prince Street Catering
Cappy's Pizza
Rizzo's Pizza
Captain Nemo's Pizza
Bella Luna/Milky Way Lounge and Lanes
Zon's Restaurant
Cristal Café
Sorella's Restaurant
Junebug Café
Zesto's Pizza
Pizza Oggi
Pizza Pizza

Clothing and Accessories
La Gran Via Men's Fashions
Tello's Clothing Store
Sonia's Bridal Boutique
Del Valles's Children Gift Shop
Vasallo's Men's Fashions
Centre Boutique Children's Clothing
Laundry, Cleaning, Tailor, Shoe Repair
Centre Tailor Shop
Jamaica Plain Laundromat
Clean-Brite Laundromat
Super One Hour Cleaners & Tailoring
Other Personal Services
Associated Family Child Care Services
Quisqueyana
Tony's Travel Envio de Valores
Atlantic Travel
Fernandez Travel Agency
Ducor Express Travel
The Video Underground
Auto Related Services
JP Auto Service
Muffler Mart of Boston
Economy Auto Supply
FIRE, Legal, Accounting
Fleet Bank
Greater Boston Mortgage
Western Union
Robert R. Amador - Electronic Tax Filer
All Checks Cashed
La Nacional Corp.
Boston Check Cashers
Boston Private Bank & Trust Co. Loan Center
Gaughen, Gaughen, Lane & Hernando Attorneys
Batista and Associates
JEM Real Estate
Thomas Amoroso Attorney

Health Care
Peter Hanley DMD
Barron Chiropractic
Day Street Physical Therapy
Shoes
Expressions
Payless Shoe Source
Home Furnishings
City Mart Furniture
Rent-A-Center
Electronics, Music
Boston Electronics
Franklin's CDs
Skippy White's Records
JP Record Shop
Automotive Retail
Mr. V's Auto
Boston Auto Salvage
Gifts, Specialty, Florist
La Casa de los Regalos
Jewelry
A&M Jewelry Repair Shop
Liquor
Tropical Market & Liquors
Centre Liquor Store
Drugs, Health, Beauty
City Beauty Supply
Beauty International Supply
Other Retail and Used Goods
The House of Mother Nature
Castillo Beepers
Cellular & Paging of Boston

Personal Care/Salon
Fernandez Barber Shop
Rocky's Barber Shop
Alexandra Beauty Salon
Christopher Emery Salons
Ultra Beauty Shop
Magic Shears Unisex Hair Salon
Angela Unisex Beauty Salon I & II
Davis Beauty Salon
Fat Ram's Pumpkin Tattoo
Julie's Nail Salon
Lilly's Nails
Community, Govt., Non-Profits, Institutions
Bromley Heath Tenant Management Corporation
Family Service of Greater Boston Center
Bikes Not Bombs
Oficina Hispana de la Comunidad
JP APAC
Hyde/Jackson Square Main Street
JSPCA Boston Shelter/Angell Hospital
Hyde Square Task Force
Connolly Branch Library
Volunteers of America
Jamaica Plain Head Start
Martha Elliot Health Center
Iglesia de Dios Pentecostal
Fellowship Church of God
United Baptist Church
Blessed Sacrament Church
Blessed Sacrament Church School
River of Life Church and Offices
Other Businesses
El Mundo Newspaper
A.C. Fine Vinyl Windows & Siding
Re-Jan Electrical Co.

Appendix C: Hazardous Releases in Jackson Square

Appendix Table 4. Summary of hazardous releases reported to the Commonwealth of Massachusetts: Jackson Square Development Area

RTN	Address	Current Owner	Report Date	Status	Date of Status	Phase	RAO Class	Chemical	Detail	Potential Impacts
3-0003573	MBTA A, 69, 70,71	MBTA	4/15/91	1D	8/11/97	In default		Oil	Petroleum based oil/ Phase I Assessment complete/Phase II RFP in process	Will impact development costs and options.
3-0021430	41 Amory St.	Cappadona/ Urban Edge	1/23/02	Tier 2	1/21/03	Phase II due 1/05		Hazardous Material	Petroleum products, automobile fluids, metals	Possible impact on MBTA parcels 69, 70,71 due to groundwater flow
3-0021463	85-95, 20-26, 3 Amory	Urban Edge	1/23/02	RAO	1/21/03		B1	Hazardous Material	Benz[A]Anthracene 6 mg/kg Benz[E] Acephenanthrylene 5.9 mg/kg Benzo[A] Pyrene 5.6 mg/kg	Unlikely impact on MBTA parcels from groundwater flow. Property study suggests material will biodegrade.
3-0019660	59 Amory St.	Mordy Levin	6/23/00	Tier 2	6/21/02	Phase II due 6/04		Oil	Petroleum	Possible source of MBTA contamination at well JS7.
3-0016908	71 Amory St.	Mordy Levin	6/11/98	RAO	10/26/98		A2	Oil	Petroleum	Contained. No likely impact. Sabotaged well suspected.
3-0023138	Amory & Columbus	NSTAR	9/1/03	RAO	9/15/03		A2	Oil	150 gallons	
3-0021935	1542 Columbus Ave	Urban Edge	7/12/02	Tier 2	7/14/03	Phase II due 7/05		Oil and Hazardous Material	Petroleum based oil 490 mg/kg Arsenic 620 mg/kg Lead 3,200 mg/kg	Groundwater flow (unlikely?). Possibility of similarly contaminated fill for City owned 1542 Columbus.
3-0012084	1540 Columbus Ave	City of Boston	1/20/95	RAO	1/26/96		A2	Oil	Waste oil	
3-0004345	282 Highland	City of Boston DPW Yard	7/15/93	1D	8/11/97	In default		Oil	Petroleum based oil. Release to groundwater and soil.	Could impact 1540/1542 Columbus Avenue due to groundwater flow.

RTN: Release Tracking Number

RAO: Response Action Outcome. Indicates an RAO statement was submitted asserting that response actions were sufficient to achieve a level of no significant risk, or at least ensure that all substantial hazards were eliminated.

Tier 2: Sites are classified using the Numerical Ranking System which scores sites based on factors including complexity, type of contamination and potential for human or environmental exposure.

Tier 2 is the lower score category. Permits are unnecessary; a licensed site professional can complete response actions without prior DEP approval.

Tier 1D: the responsible party has failed to DEP deadlines.

Phase II: Comprehensive Site Assessment. During Phase II, the risks posed to public health, welfare and the environment are determined. (In Phase I site analysis is done to determine types, amounts and locations of contaminants.)

RAO Class: Remedial Action Outcome. **Class A:** Remedial work was completed and a level of no significant risk has been achieved. **Class B:** Site assessment indicates that no significant risk exists. No remedial work was necessary.

Appendix D: Remediation Estimates for MBTA Parcels

Summary of Haley and Aldrich 1990 Remediation Estimates for MBTA Parcels A, 69, 70, 71 and Haley and Aldrich 1989 Environmental Assessment

1990 Remediation Assessment

The 1989 assessment revealed priority pollutant volatile organic compounds and petroleum products in soil and groundwater. The highest pollutant concentrations are near the underground storage tanks. The remediation assessment is based on the following proposed commercial/industrial uses.

- Proposed Building A with basement near well JS1 (northernmost part of properties). Groundwater is 20 ft. below the surface; it is not expected to be a major factor. In-state landfill disposal and/or on-site reuse of soil is recommended due to urban fill.
- Proposed Building B with basement near well JS3 (border of parcels 71 and 70 near Amory Street). Groundwater is 13 ft. below the surface and may be encountered. In-state landfill disposal and/or on-site reuse of soil is recommended due to urban fill. Excavation will encounter groundwater; treatment and disposal will be necessary.
- Proposed Building C with basement near well JS7 (parcel 69, abutting 55-75 Amory Street). There are high levels of pollutants, and groundwater within 6 ft. of surface will be encountered. Off-site treatment of soils contaminated with petroleum is recommended. Excavation will encounter groundwater; treatment and disposal will be necessary. Additional treatment of phase-separated liquid hydrocarbons may be required. Due to shallow depths to groundwater, a permanent underdrain would likely be required; treatment of recovered groundwater would be required.
- Proposed roadway near wells JS4-6 and test pits TP3-5 (behind 55-75 and 41 Amory Street). There are high levels of pollutants. Groundwater levels are 7-15 ft. below surface. UST's will need to be removed. Groundwater remediation may be required on parcel 69.
- Proposed parking lot along the MBTA embankment. No subsurface explorations have been conducted in this area.

Remediation Cost Estimates

- | | |
|----------------------------|------------------------|
| • Tank removal | \$60,000 to \$85,000 |
| • Soil Disposal/Treatment | \$1.7 – \$3.0 million |
| • Water Disposal/Treatment | \$205,000 to \$240,000 |
| • Total | \$2.0 - \$3.3 million |

Cost estimates are based on the following assumptions: no more UST's are identified, disposal of 15,000 gallons of liquid will be required, disposal of 50,000 tons of soil will be required, dewatering for buildings B and C will be required for 60 days.

The remediation estimate is reduced to \$1.1 to \$1.6 million, if Building C does not have a basement.

The cost estimate for long-term remediation (6 years) of groundwater beneath parcel 69 is \$677,000 to \$850,000.

1989 Environmental Assessment

The environmental assessment included

- 14 boring sites (denoted JS)
- 10 observation wells at the boring sites (denoted OW). Groundwater samples were taken from wells JS 1, 6 and 8 only
- 6 soil excavation sites (denoted TP)

Depth to groundwater (assessed 10/89) ranges from 6-15 ft. Groundwater flows northerly and westerly.

Results by parcel (north to south)

Parcel 71

- Observations from JS/OW 1, 2, and 3. JS1 is located in the northern portion of the property. JS2 and 3 are located on the border of parcels 71 and 70.
- Depth to groundwater: JS1: 20 ft.; JS2: 16 ft.; JS3: 13 ft.

-
- JS1: Oil and Grease: 1.2 mg/L, Total petr. hydrocarbons: .5 mg/L
 - JS1: Tetrachloroethylene: 2.6 ug/L
 - JS1: Trichloroethylene: 6.3 ug/L
 - JS1: Volatile Organic Compounds (VOC's) from soils 3-52 ppm
 - JS2: Petroleum odor, 2-4 and 14-18 ft. (fill)
 - JS2: VOC's 3-30 ppm
 - JS3: VOC's 1.6-30 ppm

Parcel 70

- Observations from JS/OW 4 and TP6. JS 4 is located adjacent to the northern boundary of 41 Amory St. TP6 is located at the rear corner of the northern boundary of 41 Amory St. at the site of a former oil house and coal storage.
- Depth to groundwater: JS4: 14.5 ft.

-
- JS4: VOC's 4-100 ppm (among highest readings)
 - TP6: VOC's 5-7 ppm

Parcel A

- Observation from JS5. JS5 is located at the western boundary of 41 Amory Street.
- Depth to groundwater: 16 ft.

-
- JS5: petroleum odor, 16-19 ft. (sand)
 - JS5: VOC's 3-36 ppm
 - Surface staining observed along chain-link fence separating Parcel A and auto junk yard.

Parcel 69:

- Observations from JS6, and TP 3,4,5. These site are at the location of 8 UST's, at boundary of A, near southwest corner of 41 Amory St. JS7 is located at the western boundary of 55-75 Amory Street. JS8 and TP1, 2 are located at the southern edge of the property near Amory Avenue, at location of former 2 USTs-1,500-gallon crude oil and two-barrel naptha.
- Depth to groundwater: JS6: 8.5 ft., JS7: 6 ft., JS8: 9 ft.

-
- Heavy oil staining and water with an observable surface film noted in the concrete-lined boxes that provide access to underground storage tanks. Eight underground tanks excavated (currently still on site) at TP3 (7 id'd from historical search). Located in concrete bunker 40' by 25' by 7' deep. Most tank covers open and tanks are filled with liquid, observable film of phase-separated petroleum hydrocarbons on the water surface in tanks. Contents: 3, 2,000-gallon, 3, 2,500-gallon, 1, 1,800-gallon, 1, 3,000-gallon tanks.

- JS6: Petroleum odor and sheen, 5-17 ft. (fill/sand)
- JS6: 1,428 mg/kg Petroleum hydrocarbon (Weathered #2 Fuel Oil/Diesel Fuel)
- JS6: (soil) Oil and Grease: 6,300 mg/kg, Total petr. hydrocarbons: 5,900 mg/kg
- JS6: (GW) Oil and Grease: 505 mg/L, Total petr. hydrocarbons: 384 mg/L
- JS6: VOC's 16-104 ppm (among highest readings)
- TP3: petroleum odor/sheen, 1-7 ft. (fill)
- TP4: petroleum odor/sheen, 10-11 ft. (sand)
- TP5: petroleum odor/sheen, 9-10 ft. (sand)

- JS7: petroleum odor, 5-16 ft. (sand/till)
- JS7: phase-separated liquid hydrocarbon 1/8 inch thick on water table
- JS7: Oil and Grease: 11,800 mg/kg, Total petroleum hydrocarbons: 11,100 mg/kg
- JS7: VOC's 3-200 ppm (among highest readings)

- JS8: Petroleum odor, 10-12 ft. (fill)
- JS8: (soil) Oil and Grease: 7,050 mg/kg, Total petr. hydrocarbons: 6,500 mg/kg
- JS8: (GW) Oil and Grease: 900 mg/L, Total petr. hydrocarbons: 890 mg/L
- JS8: (GW) Trichloroethylene 28 ug/L

- JS8: VOC's 6-280 ppm
- TP2: Petroleum odor and sheen, 10-11 ft. (fill)
- TP2: Oil and Grease: 7,050 mg/kg, Total petroleum hydrocarbons: 6,400 mg/kg

Trichloroethylene (TCE) is used in metal degreasing, solvent drying, dry cleaning etc.

The Massachusetts MCL (legal limit) for drinking and groundwater is 5.0 ppb.

Tetrachloroethylene (PCE) is a dry-cleaning solvent, drying agent, degreasing solvent.

The Massachusetts MCL (legal limit) for groundwater is 5.0 ppb.

Appendix E: Historic Use of Properties

MBTA Parcel 69

1890 Suffolk Iron Works, Peninsular Novelty Co., Rockland Brewery
1897-1950 Trimount Manufacturing (1,500-gallon UST crude oil, UST naphtha tank, forge shop)
1955 Tee Vee Toys, Inc. (plastic toy manufacturing)
1958-present Vacant

MBTA Parcel A

1897-1950 Trimount Manufacturing (above ground tank, crude oil #6 fuel; 7 UST's crude oil)
1906-1919 West End Street Railway Co., Boston Elevated Railway Co.
1958-present Vacant

MBTA Parcel 70

1890 Vacant
1897 West End Street Railway Co. (coil storage and oil house)
1906-1915 West End Street Railway Co., Boston Elevated Railway Co.
1919 Boston Elevated Railway Co., Armory Street Car Station
1930-1955 Vacant
1958-1965 Acme Industrial Equipment Co.
1970-present Vacant

MBTA Parcel 71

1890 Vacant
1897-1915 West End Street Railway Co.
1919 Boston Elevated Railway Co., Armory Street Car Station
1935-1958 Acme Industrial Equipment, Co. (Sheet metal works, oil house)
1960-1965 Wickberg B.G. Co. (ventilation systems)
1970-present Vacant

MBTA Parcel "Grassy Knoll"

1888 Residential use. Stony Brook abuts the property approximately where Columbus Avenue is now located. The property is bisected by Stony Brook Place and Weeks Place.
1897 Residential use. Columbus Avenue now developed; Stony Brook is culverted. The property is bisected only by Stony Brook Place.

1919 Residential use and a machine shop. Stony Brook Place renamed Echo Street.
1949* Uses include residences, auto repair and filling station.
1962: No residential use. Uses include auto repair shop and used auto sales.
1974-present: Vacant

NSTAR Parcel Columbus Avenue and Centre Street

1888 Vacant
1897 Residential use
1919 Residential use
1949* Residential use and filling station.
1962 Filling station, meter house (current use)
1974-present Meter house

City of Boston Parcels 1540/1542 Columbus Avenue

1888 Vacant
1897 Residential use, primarily vacant.
1919 Auto garage and “wagon” manufacturing
1949* Used auto sales, auto body shop, pipe warehouse
1962-1995: Auto sales and service, auto body shop, auto storage and parts
Present: Vacant

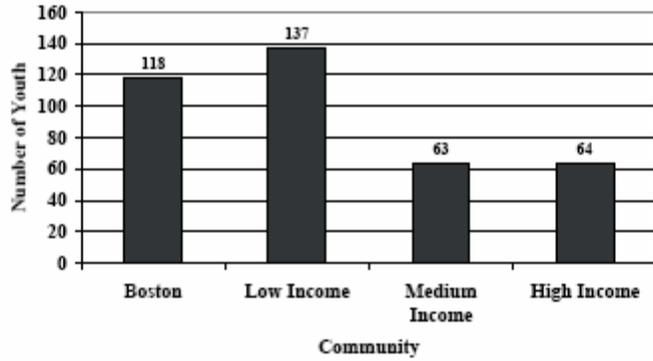
* Precise date unknown. Survey done between 1919-1949.

Information for MBTA Parcels 69, 70, 71, and A is from a 1989 evaluation of the property prepared by Haley & Aldrich, Inc. All other information is from Sanborn maps.

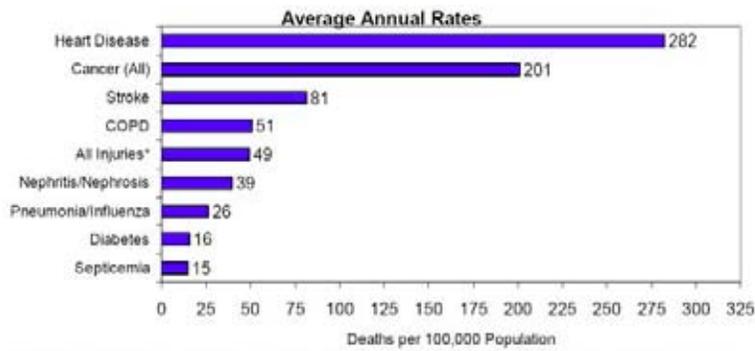
Chart 23: Estimated Number of Physical Activity Participants, Census Population and Ratio of Participants to Population by Community 1999-2000

Community	Estimated Participants	Census Population	Participant to Population Ratio
Boston	96,900	95,251	1.02
Low Income	8,300	8,488	0.98
Medium Income	10,500	7,394	1.46
High Income	8,600	4,297	2.00

Chart 26: Number of Youth per Facility in Boston and Comparison Communities 2000-2001

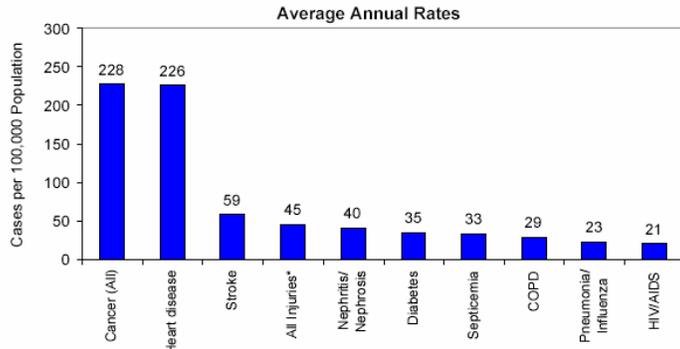


**Leading Causes of Death Age-Adjusted Rates
Jamaica Plain, 2000-2001**



*Deaths due to all injuries combined include unintentional deaths (accidents, motor vehicle related), intentional deaths (homicide and suicide), and injuries with intent unknown at the time when the death certificate was issued.
 DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health. Rates are calculated using the US Census 2000 by resident population.
 DATA ANALYSIS: Boston Public Health Commission Research Office

Leading Causes of Death Age-Adjusted Rates Roxbury, 1999-2000



*Deaths due to all injuries include unintentional deaths (accidents, motor vehicle related), intentional deaths (homicide and suicide), and injuries with intent unknown at the time when the death certificate was issued.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health. Rates are calculated using the US Census 2000 for resident population.
DATA ANALYSIS: Boston Public Health Commission, Research Office

Appendix H: Green Case Studies and Best Practices

Jamaica Plain, Massachusetts

The Cohousing proposal calls for the construction of a 34,500 sq. ft., 30-unit residential development. The group has hired well-known green building consultant Mark Kelly, who worked on Erie Ellington and Cambridge Co-housing, two noteworthy projects that

consume 50%-60% less energy and water than conventionally constructed developments.

Aspects of "green" development currently proposed by JPCH include numerous energy and water saving measures, a strong recycling/composting program, and other environmental measures designed to conserve resources. The goal is to use only 30% of the energy utilized in the running of a conventional home.

Highlights:

- Energy Efficiency: **Clustered buildings** to reduce heat-loss and heat-gain; **well-placed windows** to provide lighting to units. **Passive solar and high insulation** in the walls, roof and foundation. **Tight weatherization** to minimize air leakage. Boiler/baseboard heating system with highly efficient gas furnace. **Multiple heating zones** in the units to allow for conservation. Fluorescent lights in all units and common areas. **Energy Star** appliances.
- Air Quality: **Mechanical ventilation** to ensure a healthy air environment in the units. Structure design that encourages **natural ventilation** and eliminates the need for air conditioning.
- Water Efficiency: Water-saving measures for irrigation. **Water-saving fixtures** on all faucets, showers and toilets (beyond the minimum code requirements).
http://www.architects.org/emplibrary/digitas_JP_Cohousing.pdf

Worcester, Massachusetts

Main South CDC developed three, new three family homes designed to complement historically significant buildings in the neighborhood. These new homes were built on a parcel of abandoned land. Beacon-Oread Street is a project that balances environmental impact concerns while prioritizing the needs of the community at large. It not only creates affordable housing in close proximity to several community anchors, Beacon-Oread Street adds to neighborhood stability by creating community, reducing the residents' energy consumption, and diminishing the dependence on automobiles.

Highlights:

- Thermal performance: Air sealing the building envelope resulted in lower utility bills and improved comfort by eliminating drafts. **Cellulose insulation** has low embodied energy (energy consumed in the manufacturing process). It is made from 80% recycled wood fiber, primarily recycled newspaper and helps prevent air infiltration.
- Energy efficiency: **85 AFUE direct vent Buderus gas boilers with integrated hot water tanks**. The boiler monitors outside air temperature using an outdoor thermostat, and adjusts the water temperature of the boiler, based on outdoor temperatures for optimal efficiency. All of the refrigerators and lighting fixtures were **Energy Star** rated for energy savings. <http://www.nesea.org/buildings/buildingawards/Beacon.pdf>

Somerville, Massachusetts

Consisting of 42 units of housing Linden Street Family Housing became one of the largest new affordable housing developments in Somerville in almost 20 years. Mostue & Associates' helped reclaimed this former brownfield for the community and created an inexpensive, environmentally-friendly place to live.

Highlights:

- Insulation: The exterior walls are insulated with 5.5" of damp-sprayed **cellulose insulation**. Slabs-on-grade have an **insulated thermal break** to prevent cold floors and condensation at the floor slab/foundation wall joint. Rigid foam insulation is installed at all thermal breaks and below all slabs to improve thermal efficiency. Roofs trusses are insulated and sealed with **lcynene foam** to R-40.
- Building Systems: **Mechanical ventilation** of each residence for automatic exhaust of stale air. The **mechanical systems are centralized** in just seven locations to achieve higher efficiency heat and hot water production. The **roof drainage system** recharges rainwater into groundwater.
- Durability: The clapboards are **fiber-cement siding** with a long-term paint warranty, helping to control future maintenance costs. **Steel railings** at balconies and porches will prove more durable than wood in this heavy-use urban environment.

<http://www.nesea.org/buildings/buildingawards/Linden.pdf>

Somerville, Massachusetts

The Family Center is a non-profit mental health and social services facility that serves more than 500 families and couples each year. The \$2.8 mil project was completed in Fall 2002. The building is predicted to operate at a minimum of 32% improved energy efficiency over Massachusetts Energy Code.

Highlights:

- Insulation: Tight building envelope and high-quality (recycled content) **cellulose insulation**.
- Energy Efficiency: **Operable windows** at ground-level and clerestory windows to increase natural daylighting. High-performance, **argon-filled low-E windows**. Occupant control of heating and cooling. High-efficiency fluorescent lights with occupancy sensors. Sealed-combustion 87% AFUE boiler and high EER chiller.
- Air Quality: **Heat Recovery Ventilation** for individual fresh air supply. **Low-VOC** paints and carpets; linoleum, wood, and recycled-tire flooring. Low impact cleaning materials with trained crews.
- Resourceful Products: Engineered lumber and **Hardiplank** siding.

<http://www.architects.org/emplibrary/EltonHampton.pdf>

<http://www.nesea.org/buildings/buildingawards/FamilyPlace.pdf>

Bronx, New York

Melrose Commons II, also known as Sunflower Way, is a development of 30 three-family homes in the Melrose section of the South Bronx. This development is a part of the "Building American Program" run by the US Department of Energy. The project was conceived with two basic premises in mind. One, provide affordable housing to families with incomes at 80% of the area AMI, and two, incorporate energy saving and green building features for an income group that would not normally have these options available to them. There are 30 homes (90 dwelling units) that are grouped in four major clusters and one detached home. The grouping of these homes provides for far less exterior surface area than a similar number of units configured in a detached or semi attached configuration, thereby saving vast amounts of heating and cooling energy.

Highlights:

- Building Performance: **Panelized concrete** and brick building system to create tighter envelope. **Rigid EPS insulation board** between metal studs and exterior walls to prevent thermal bridging. **Rigid fiberglass insulation** on all exterior cellar walls.
- Energy Efficiency: 87.4% efficient **sealed combustion direct vent boiler**. High efficiency 60 gallon **indirect water heater**. Digital **programmable thermostats** and computer boiler controller with outdoor temperature sensors. **Energy Star** refrigerators, dishwashers and compact fluorescent lighting fixtures.
- Water Efficiency: 'Low flow' shower controls, faucets and toilets.
- Improved Air Quality: **Low-VOC paints** throughout the house. **Low-VOC latex acrylic sealants** throughout the interiors. Solid wood and plywood used in lieu of particle board in kitchen cabinets and countertop substrates with **low-VOC lacquer finishes** on the cabinets. <http://www.nesea.org/buildings/buildingawards/Melrose.pdf>

Great Lakes, Illinois

The recently completed Bachelor Enlisted Quarters complex at Great Lakes Naval Training Center (NTC) is one of eight initial sustainable showcase projects selected by Naval Facilities Engineering Command to gain experience with sustainable design. The U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) Building Rating System was used to define and measure the project's sustainability in terms of environmental impact, energy efficiency, occupant comfort and other criteria.

Highlights:

- Sustainable Materials: To maximize sustainable features in the project, individual products were reviewed for durability, ease of maintenance, and recyclability before being approved. Subcontractors were encouraged to find and submit alternative sustainable materials for consideration and approval.
- Energy-efficiency: Increased **perimeter insulation** (roof, walls, and foundation). High-performance windows. **Maximum use of day-lighting** and high efficiency electric lighting with dual settings. **Use of the existing steam system for heating**. Variable speed drive motors on mechanical equipment and energy-efficient transformers.
- Process: A comprehensive **commissioning program** is also being instituted to ensure proper turnover of the building to facility managers and optimal operation and maintenance of equipment and systems. Throughout the project, a formal process was employed to foster **teamwork** between the BEQ staff, design/build contractor and contracts staff. <http://oikos.com/library/showcase/greatlakes/index.html>

Santa Cruz, California

Mercy Housing California, an affordable housing developer incorporated many green features into a project while working within a limited budget. A 48-unit urban infill project, Nueva Vista reduces car trips by including a child care facility and a city community center on-site, improves the health of residents by using a variety of non-toxic finishes, and lowers operating costs by incorporating solar electricity and other energy efficient measures.

Nueva Vista grew out of a lengthy organizing and community design effort in conjunction with the project's very low and low-income residents and the green aspects of the project helped build political support from the Santa Cruz City Council. Both green design and affordable housing experience were used as key criteria in the selection of the design team. A system of "bid alternates" was devised so that the contractor would obtain cost information for green materials that were not included in the original budget. This gave

Mercy Housing the flexibility to choose and prioritize which features could affordably be incorporated into the development. The success of Nueva Vista was instrumental in leading Mercy Housing California, one of the state's largest developers of affordable housing, to establish green building guidelines for all its future building projects.

Highlights:

- Energy Efficiency: Individual electrical and gas meters to promote energy conservation. Gas-powered hot water heaters do double duty by providing space heating in each apartment. **Energy Star appliances**. All fluorescent lighting. Double paned windows with low-E, hard-coat glazing. Building orientation to capture breezes, window-shading and through units to utilize **natural ventilation** to cool the building instead of mechanical air conditioning. **Hard-coat glazing** allows for heat gain during the cold winter months but still reflects harmful ultraviolet rays.
- Renewable Energy: **10 kW AC solar electric system** installed on each building. 140 roof-mounted solar panels generate approximately 35,000 kilowatt-hours per year. Digital display of solar generation in each building, displaying \$350/month in operating cost savings
- Water Efficiency: Highly efficient drip irrigation system with scheduled timing. Permanent **water flow restrictors** reduce water use in sinks by two-thirds. Native, drought-resistant plants with low water needs.
- Air Quality and Health: Fully vented cooking. **High-capacity bathroom fans** to reduce spread of mold. **No-VOC paint**. Formaldehyde-free counter substrates.
- Resourceful Materials: **Sustainably harvested plywood**, FSC-Certified. **Natural linoleum** flooring in kitchens and bathrooms. **Recyclable carpet** with high level of recycled content. http://www.globalgreen.org/pdf/casestudy_NuevaVista.pdf

Case studies detailing green building components of MassTech Collaborative grantees: http://www.cleanenergyfunds.org/Innovative%20Practices%20Report/MA_Green_Buildings.pdf

LEED (Leadership in Energy and Environmental Design)

The LEED building rating system from the US Green Building Council provides a handy guide to designing and constructing an energy efficient and environmentally responsible building. There are five core categories that can be used to assess the “green” level of a building’s design:

(1) Sustainable Sites

Prerequisite: erosion/sedimentation control

Points available for: not building in greenfields; redeveloping brownfields; urban sites; location near mass transit; bicycle racks, carpooling programs, and shared parking lots.

(2) Energy and Atmosphere

Prerequisite: engaging a commissioning authority to review design and implementation of building systems; building envelope and building systems designed to reduce energy consumption; new HVAC systems that do not have CFC refrigerants

Points available for: renewable energy sources such as solar energy.

(3) Materials and Resources

Prerequisite: designated recycling areas

Points available for: construction waste recycling; using salvaged materials in building; using post-consumer and post-industrial products; local or regional materials/products; rapidly renewable products such as bamboo or natural linoleum; certified wood products.

(4) Indoor Environmental Quality

Prerequisite: HVAC systems should meet minimum ventilation standards for IAQ, air intake should be located away from garages; ban smoking or provide smoking areas with separate ventilation.

Points available for: HVAC system with monitoring sensors; optimized air change/ventilation system; controlling air pollution during construction; testing air quality before occupancy; adhesives, paints, carpets, composite woods that do not contain high VOC materials; personal control over light, air and temperature; maximized interior daylighting; building/interior layout that emphasizes indoor and outdoor connections/views.

(5) Water Efficiency

Points available for: drought-resistant landscaping with indigenous plants; composting toilets and waterless urinals; recycling stormwater/grey water for non-potable uses.

(6) Innovation and Design Process

Points available for: exceeding LEED guidelines through high energy or water efficiency; other benefits such as community development, educational programs, lifecycle analysis of materials and design choices; having a LEED certified member in the project team.

Appendix I: Site Requirements for Commercial Uses

Business Type	Franchises?	Franchise Fee	Royalty/ Licensing Fee	Min. Sq. Ft.	Other Requirements	Demographics	Min. Investment	Min. Net Worth	Contact/ Website
Fitness Centers/Gyms									
World Gym	Yes	\$13,000	\$7000/year	9500 s.f. (prefers 15000 s.f.)		Radius of 50,000 people (sic)	\$100-\$300K (depending on size)		310-827-7705; www.worldgym.com . HQ - Marina Del Rey, CA
Gold's Gym	Yes	\$20,000	N/A	12,000-30,000 s.f.	Will consider neighborhood strip centers; will consider all co-tenants	N/A	\$300K	\$800K	1800-457-5375 x3063; www.goldsgym.com ; HQ - Venice, CA
Mike's Gym	Yes	N/A	N/A	10,000 s.f.	Accessibilty to public transit, 30 parking spaces, low proximity to other gyms	N/A	N/A	N/A	Omar Argote – franchisee of Mike's Gym 857-891-4903
Curves	Yes			1000-1500 s.f.	Will consider all co-tenants; Prefers 3-5 yr lease	Population density = 10,000-40,000 in 10-mile radius; Customer base - mid-income, adult, senior, female			www.curvesinternational.com ; 800-848-1096. HQ - Waco, TX

Business Type	Franchises?	Franchise Fee	Royalty/ Licensing Fee	Min. Sq. Ft.	Other Requirements	Demographics	Min. Investment	Min. Net Worth	Contact/ Website
Bally's Total Fitness	Yes	\$30000 for new club	8% + up to 4% mktg.	Preferred GLA: 15,000-45,000 s.f. w/ minimum frontage of 150 ft.	Will consider community strip center; Prefers entertainment & grocery co-tenants; Prefers 15 yr. lease w/ 2 5-year opt.; 30,000 vehicles per day	Population density = 75,000 in 3-mile radius; Customer base - mid-income teen, adult, senior, 35% of population aged 18-39	\$100K-\$1.5 million (depending on size) with \$200K in cash	N/A	800-410-2582; http://www.ballyfitness.com/company/franchising.aspx ; HQ - Chicago, IL
Business Services									
Sir Speedy	Yes	\$20,000	4-6% + 1-2% marketing				\$125K-\$150K	\$350K	949-348-5000; www.sirspeedy.com/franchiseops ; HQ - Mission Viejo, CA
Kwik Kopy	Yes	\$25,000	4-8%				\$84,000	\$250K	888.280.2053; www.kwikkopy.com ; HQ - Cypress, TX
Minuteman Express	Yes	\$44,000	6%				\$35,000		631-249-1370; www.minutemanonline.com/franchise HQ - Farmingdale, NY

Business Type	Franchises?	Franchise Fee	Royalty/ Licensing Fee	Min. Sq. Ft.	Other Requirements	Demographics	Min. Investment	Min. Net Worth	Contact/ Website
Kinko's	No			2,000- 10,000 s.f.	Will consider community strip center or neighborhood strip center; Will consider all co-tenants; Prefers 10- year lease w/ 2 5-yr opt.; Prefers 14.5 ft ceilings; zoned for 24-hr operations				www.kinkos.com; 805-652-4000; HQ - Ventura, CA; Eastern US Real Estate - 770-551-6900
Gnomon Copy	No			N/A	N/A	N/A			617-492-7767; www.gnomon- copy.com
Copy Cop	No			N/A	N/A	N/A			617-267-044; www.copycop.co m;
Art Supply/Hobby Stores									
Charrette	No			N/A	N/A	N/A			No longer opening retail locations. 781- 935-6000; www.charrette- corp.com; HQ - Woburn, MA
Utrecht's	No			N/A	N/A	N/A			Not currently opening retail locations. www.utrechtart.c om 1-800-223-

Business Type	Franchises?	Franchise Fee	Royalty/ Licensing Fee	Min. Sq. Ft.	Other Requirements	Demographics	Min. Investment	Min. Net Worth	Contact/ Website
									9132; HQ - Cranbury, NJ
Michael's	No			Avg. 18,200 sf (6,500-23,500 preferred)	Will consider community strip center or neighborhood strip center; Prefers fashion, upscale co-tenants; Prefers 5-year lease w/ 4 5-year opt.	Population density = 150,000 in trade area; Customer base - mid-high income female adults			www.michaels.com; 972-409-1300; Eastern US Agent: Wendi Frost - 704-442-9744. HQ - Dallas, TX
Hobby Lobby Stores	No			55,000-75,000 s.f.	Will consider community strip center or neighborhood strip center; Will consider all co-tenants; Prefers 10-year lease w/ 2 5-yr opt.	Population density = 150,000 in trade area; Customer base - mid-income, female			405-745-1606; www.hobbylobby.com; HQ - Oklahoma City, OK
Movie Theaters									
FEI Theatres (Somerville)	No								www.somervilletheatreonline.com; 617-354-4466; HQ - Cambridge, MA
Coolidge Corner	No								www.coolidge.org; 617-734-2500;

Business Type	Franchises?	Franchise Fee	Royalty/ Licensing Fee	Min. Sq. Ft.	Other Requirements	Demographics	Min. Investment	Min. Net Worth	Contact/ Website
									HQ - Brookline, MA
Magic Johnson Theatres	No			14 acres w/ 60,000-100,000 s.f. building	10-15 screens; 3200-5000 seats; 1 parking space for every 3 seats; located in power centers, regional malls, urban projects, outlet centers	MSA's > 400,000; Target audience of >200,000-250,000; Minority and suburban markets			www.johnsondevelopmentcorp.com/theaters/index.html
General Cinema Theatres	No			45,000-110,000 s.f.	Will consider community strip center, neighborhood strip center; Prefers entertainment co-tenants; Prefers 20 yr. lease w/ 4 5yr. opt.; Requires 3 parking spaces per 1000 s.f.	Population density = 150,000-200,000 in 5-mile radius			www.generalcinema.com; 617-277-4320; HQ - Chestnuthill, MA
Ice Cream									
JP Licks	No			2400-4000 s.f.	High density, high foot traffic, sufficient distance from other JP Licks locations				617-524-5266. HQ - Jamaica Plain, MA

Business Type	Franchises?	Franchise Fee	Royalty/ Licensing Fee	Min. Sq. Ft.	Other Requirements	Demographics	Min. Investment	Min. Net Worth	Contact/ Website
Ben & Jerry's	Yes	\$15,000	2% + 4% marketing	600-1200 s.f. w/ 20 ft. min. frontage	Will consider downtown, central business districts; Prefers upscale or entertainment co-tenants; Prefers 10 yr lease w/ 1 10-yr opt.; 10 ft. ceilings; heavy pedestrian traffic	Population density = 50,000+ in 3 mile radius; Customer base - high-income, teen, adult	\$129,500 to \$316,000	\$300K w/ \$120K in cash	www.benandjerrys.com; 802-846-1543 ext. 7831; HQ - South Burlington, VT
Herrell's	Yes	NA	NA	1200 s.f.	Will consider downtown, central business districts; Will consider all co-tenants	NA	NA	NA	www.herrells.com; 413-586-9700; HQ - Northampton, MA
Brigham's	No Longer			400-600 s.f.	Only opening stores in enclosed malls; Will consider all co-tenants; Prefers 10 yr. lease	Customer base - teen, adult, senior			www.brighams.com; 781-648-9000; HQ - Arlington, MA

Appendix J: Detailed Tenant Information for Potential Commercial Uses

	Gross Leasable Area			Sales Per Square Foot			Rate of % Rent			Rent per Square Foot		
	Lower Decile	Median	Upper Decile	Top 10%	Median	Top 2%	Lower Decile	Median	Upper Decile	Top 10%	Median	Top 2%
Entertainment (Cinema)	10,633	24,517	59,903	\$115.67	\$ 60.57	\$ 153.09	5.10	10.00	10.00	\$ 14.74	\$ 8.72	\$ 22.95
National Chain	12,495	28,128	65,000	\$129.19	\$ 75.58	\$ 155.60	5.00	8.00	10.00	\$ 13.71	\$ 9.95	\$ 22.15
Local Chain		23,411			\$ 51.26			10.00			\$ 5.50	
Independent		10,654									\$ 6.73	
Restaurant w/ Liquor	2,100	5,124	9,275	\$580.10	\$295.03	\$1,019.46	3.00	5.35	7.00	\$ 30.03	\$16.73	\$ 51.87
National Chain	4,524	7,486	11,166	\$754.47	\$442.01	\$1,103.87	2.98	5.00	8.00	\$ 38.56	\$24.52	\$ 57.44
Local Chain	1,860	5,338	8,004	\$517.37	\$275.51	\$ 607.70	3.90	6.00	6.05	\$ 29.73	\$18.12	\$ 35.69
Independent	1,800	3,747	6,348	\$479.57	\$246.18	\$3,446.81	4.00	6.00	6.00	\$ 25.96	\$14.50	\$ 43.49
Art Supply/Craft Store	1,459	3,000	35,372	\$321.93	\$118.08	\$ 379.35	3.00	6.00	8.50	\$ 28.50	\$10.03	\$ 37.19
National Chain		22,825			\$125.97						\$10.00	
Local Chain		2,400			\$ 97.84						\$14.00	
Independent	1,380	2,105	7,302		\$165.10			6.00		\$ 30.60	\$ 7.99	\$ 36.08
Health Club	3,827	12,096	31,874							\$ 16.80	\$10.98	\$ 26.07
National Chain		19,590									\$12.82	
Local Chain		6,960									\$ 9.81	
Independent												
Ice Cream Parlor	627	1,163	1,691	\$543.61	\$286.34	\$1,216.43	5.70	6.00	9.30	\$ 45.96	\$24.72	\$242.05

	Gross Leasable Area			Sales Per Square Foot			Rate of % Rent			Rent per Square Foot		
National Chain	600	1,193	1,708	\$749.36	\$286.34	\$1,237.55	5.40	6.00	9.60	\$142.52	\$25.44	\$260.84
Local Chain		1,068									\$19.55	
Independent		1,181									\$24.33	
Photocopier/Printer	1,050	3,223	6,307		\$307.56					\$24.91	\$17.50	\$30.94
National Chain		5,980									\$19.80	
Local Chain												
Independent												
Furniture Store	2,405	4,809	24,210	\$480.02	\$215.26	\$580.71	3.00	5.00	6.00	\$26.40	\$14.09	\$34.06
National Chain	2,570	4,246	38,684	\$436.67	\$221.39	\$802.40	2.00	4.00	6.00	\$30.20	\$14.00	\$38.33
Local Chain	2,331	5,173	10,980	\$506.40	\$216.71	\$547.57	5.00	6.00	6.00	\$25.42	\$14.41	\$35.23
Independent	2,223	3,900	11,686	\$493.40	\$238.03	\$557.98	3.70	5.00	7.90	\$25.13	\$14.06	\$30.42
Home Accessories	1,840	4,789	19,260	\$395.29	\$162.72	\$586.69	3.00	5.00	8.00	\$37.50	\$13.88	\$52.61
National Chain	2,400	5,922	17,825	\$343.63	\$162.72	\$395.82	3.00	5.00	5.50	\$24.90	\$12.25	\$37.98
Local Chain		4,789			\$169.23			4.50			\$14.50	
Independent	1,146	3,293	6,385		\$152.82			8.00		\$44.89	\$16.99	\$55.50

APPENDIX K: Resources, Funding Sources, and Contacts

General Sustainability

Beatley, Timothy and Kristy Manning, *The Ecology of Place: Planning for Environment, Economy, and Community*, 1997.

The Boston Foundation is a key funder, with a variety of grant programs. Their website also hosts the Boston Indicators project, with data on numerous measures of sustainability in the city. Suggested contact Gita Pradaha, who is also a board member at Urban Edge CDC. <http://www.tbf.org/>

The Main Street Landing Company is currently developing mixed use on former brownfields on the Burlington, VT waterfront with an integrated, sustainable approach. Website provides details and contact information: <http://mainstreetlanding.com/>

The National Resources Defense Council's website on Cities and Green Living features information on Smart Growth and sprawl, green building, and recycling. <http://www.nrdc.org/cities/default.asp>

Roberts, Brian and Michael Cohen, "Enhancing Sustainable Development by Triple Value Adding to the Core Business of Government" *Economic Development Quarterly*, Volume 16, No. 2, May 2002.

Rocky Mountain Institute, *Green Development: Integrating Ecology and Real Estate*, John Wiley & Sons, 1998.

Brownfields

Brownfields Redevelopment: A Guidebook for Local Governments and Communities, Second Edition

by the International City/County Management Association

<http://www2.icma.org/main/ld.asp?ldid=15931&hsid=1&tpid=19>

Brownfields Redevelopment Access to Capital

http://www.mass-business.com/site/content/brown_tools.asp

Brownfields Tax Credit Program

http://www.dor.state.ma.us/help/guides/abate_amend/personal/issues/brownfld.htm

City of Boston FY 2004 CDBG proposal

<http://www.cityofboston.gov/DND/ActionPlan04/PDFs/DraftFY04summary.pdf>

City of Boston FY 2004 CDBG proposal companion map for likely locations of abandoned building testing/cleanup:

<http://www.cityofboston.gov/DND/ActionPlan03/images/map2.jpg>

City of Boston FY 2004 CDBG proposal companion map for likely locations of land testing clean up:

<http://www.cityofboston.gov/DND/ActionPlan03/images/map8.jpg>

Commonwealth of Massachusetts Brownfields Funding and Information:
<http://www.mass.gov/dep/bwsc/brownfld.htm>

EPA Region 1: Brownfields Resources
<http://www.epa.gov/region1/brownfields/index.html>

Insurance archaeology article
<http://www.iagltd.com/mending.asp>

MassDevelopment administers the Brownfields Redevelopment Fund.
[www. Massdevelopment.com](http://www.Massdevelopment.com)
617.451.2477 or 800.445.8030 (in-state calls only)

MIT/DUSP
Healthy Lands/Healthy Communities: Brownfield Redevelopment to Affordable Housing
May, 2003

US Department of Housing and Urban Development, Brownfields Economic Development Initiative (BEDI)
<http://www.hud.gov/offices/cpd/economicdevelopment/programs/bedi/index.cfm>

US Department of Housing and Urban Development, Section 108 loans:
<http://www.hud.gov/offices/cpd/communitydevelopment/programs/108/index.cfm>

US EPA: Grant and loan information
<http://www.epa.gov/brownfields/pilot.htm>

Open Space and Physical Activity

Boston Greenspace Alliance advocates for and helps develop and maintain quality park spaces in the city: <http://www.greenspacealliance.org/>

Boston Parks Department's Open Space Plan 2002-2006 contains a detailed analysis of the current state of the city's open space, recreational facilities and shade trees, as well as goals for the future. Individual chapters are devoted to each neighborhood, including Jamaica Plain and Roxbury. The plan is available online at
<http://www.cityofboston.gov/parks/openspace.asp>

Boston Public Health Commission – various community health programs, including Cardiovascular Health Initiative: <http://www.bphc.org/programs/default.asp>

The Harvard School of Public Health's Prevention Research Center released the *Play Across Boston*: report in 2002, a quantitative study of youth opportunities and participation in sports and recreation in the city, with attention to individual neighborhoods and race, class and gender differences.

The Community Forest Partnership supports and assists communities with urban forestry issues. On the web via the Urban Ecology Institute: <http://urbaneco.org/>

The Massachusetts Department of Conservation and Recreation's Urban and Community Forestry program provides technical assistance and grants:
<http://www.state.ma.us/dem/programs/forestry/urban/index.htm>

The Project for Public Spaces website has a wealth of information on creating, managing, and funding urban parks and public spaces: <http://www.pps.org/>

The Robert Wood Johnson Foundation, focused on health care for all Americans, has several competitive funding programs including Active Living and Obesity, and Local Initiative Funding Partners: <http://www.rwjf.org>

Air Quality and Asthma

Asthma Regional Council of New England is working to retrofit Boston school buses and has published detailed guidance documents for healthy home building and maintenance which references additional resources: www.asthmaregionalcouncil.org

Boston Public Health Commission's Environmental Health program focuses on asthma and lead poisoning, including "Healthy Homes," "Kids With Asthma," and "Healthy Cities" initiatives: <http://www.bphc.org/programs/default.asp>

The Boston Urban Asthma Coalition focuses on interventions in homes, especially public housing, and has published a concise guide to healthy home building and maintenance: www.buac.org

Jamaica Plain Asthma Environmental Initiative serves elementary school students and their families in Jamaica Plain with home visits and assistance to schools: <http://www.jpasthma.org/>

Green Building

Affordable housing and green design strategies
<http://www.newecology.org/docs/5.22.02.PDF>
<http://www.newecology.org/docs/Complete%20Forum1.pdf>

BEES (Building for Environmental and Economic Sustainability)
<http://www.bfrl.nist.gov/oea/software/bees.html>

Building envelope
<http://www.buildingenvelopes.org/>

Building materials
<http://www.wbdg.org/design/index.php?cn=2.3&cx=0>

The Costs and Benefits of Green Building: A Report to California's Sustainable Building Task Force, prepared by Greg Kats, is the most comprehensive survey to date of the financials of green commercial/institutional building.

Energy efficiency
<http://www.wbdg.org/design/resource.php?cn=2.8.6&cx=0&rp=7>

Energy Star: A step-by-step guide to implementing energy-efficient design
http://www.energystar.gov/index.cfm?c=building_design.bus_new_building_design

Hickory Consortium: leading green designers and consultants who work with affordable housing CDCs in Massachusetts

<http://www.hickoryconsortium.org/members.htm>

The Green CDCs Initiative, coordinated by New Ecology and the Tellus Institute, is presently completing a detailed report on the costs and benefits of green affordable housing: <http://newecology.org/programs.html#leaf>

Green Roofs

<http://www.wbdg.org/design/resource.php?cn=0&cx=1&rp=41>

Green Round Table

<http://www.greenroundtable.org/>

LEED (Leadership in Energy and Environmental Design)

www.usgbc.org/leed/leed_main.asp

N-Star: Energy-saving solutions and rebates

http://www.nstaronline.com/your_business/construction.asp

Passive Solar Heat Gain

<http://www.nesea.org/buildings/info/passivesolar.html>

Rocky Mountain Institute is an authority on green design and other aspects of sustainability: <http://www.rmi.org>

Storm water management – Low Impact Development (LID)

<http://www.wbdg.org/design/resource.php?cn=2.8.1&cx=0&rp=42>

US Green Building Council (USGBC)

www.usgbc.org/

Whole Building Design

<http://www.wbdg.org/index.php>

Economic Development

Avenue of the Arts, Inc. <http://www.avenueofthearts.org/>

Byrne McKinney & Associates. *Commercial Market Study*. May 2003.

Cambridge Systematics. *Hyde Square/Jackson Square Market Study*. June 1994.

The Farmer's Market Coalition. <http://www.nafdma.com/FMC>.

Federation of Massachusetts Farmers Markets. <http://www.massfarmersmarkets.org>.

Hyde/Jackson Square Main Street Commercial District. *"Business Development/Recruitment Priorities."*

Jackson Square Coordinating Group. *Jackson Square Development Priorities report*.

Kinko's. *2002 Sustainability Report*. http://www.kinkos.com/about_us/sustainability.php.

Massachusetts Department of Agricultural Resources Bureau of Markets
http://www.state.ma.us/dfa/markets/farmersmarkets/Start_a_market.htm.

MIT/DUSP. *"Egleston Square Inside and Out: Vision and Strategies for Neighborhood Revitalization."* May 2003.

Mt. Auburn Associates. *Hyde/Jackson/Egleston Square Area Shopper Survey Draft Report*. February, 2000.

Multi-Tenant Non-Profit Centers. <http://www.nonprofitcenters.org>

National Mall Monitor Inc. *Retail Tenant Directory 2002*.

Northeast Midwest Institute. <http://www.nemw.org/farmersmarkets/>

OKM Associates. *Hyde/Jackson Square Business District Profile and Analysis of Commercial Mix*. September 2003

OKM Associates. *Dudley Square Retail Market Analysis*. July 2003

Third Sector New England. *Concept Paper: A Multi-Tenant Center for Boston-area Non-Profits and Community Organizations*. May 2002.

Urban Land Institute. *Dollars & Cents of Shopping Centers 2002*. 2002.

US Department of Labor Bureau of Labor Statistics. *Consumer Expenditure Survey 2001-2002*. <http://www.bls.gov/cex/home.htm>.

Industrial Ecology

Environmental Purchasing Programs

EPA website, including guidance documents: www.epa.gov/epaoswer/non-hw/reduce/wstewise/pubs/wwupda15.pdf

Massachusetts Department of Environmental Protection coordinates various programs for small business waste reduction, including RM:
<http://www.mass.gov/dep/recycle/business.htm>

Massachusetts state government Environmental Purchasing program:
<http://www.mass.gov/epp/enviro.htm>

The Massachusetts Strategic Envirotechnology Partnership Program assists businesses with the development and promotion of innovative, technology-based solutions to environmental problems: <http://www.stepsite.org>

Northeast Regional Recycling Council operates the EPPnet listserv bulletin board:
<http://www.nerc.org/>

Pollution Prevention Information Center, guidance documents and links:
<http://www.p2ric.org/TopicHubs/toc.cfm?hub=13&subsec=7&nav=7>

Resource Management Waste Contracting

Tellus Institute website hosts a comprehensive library of RM documents: "Supply Chain Management" link at <http://www.tellus.org/b&s/index.html>

TomVotta, former Tellus staff member, an authority on RM: tomvotta@comcast.net

The US Environmental Protection Agency offers various waste management resources and programs: <http://www.epa.gov/epaoswer/osw/index.htm>

Transportation

Bay Area Rapid Transit

www.bart.gov/guide/bikes/bikeoverview.asp

BikeStation

www.bikestation.org

Bureau of Transportation Statistics, National Transportation Library
ntl.bts.gov/data/energy-env/air/00489.html

California's Safe Routes to School Clearinghouse
www.4saferoutes.org

Carsharing Network
www.carsharing.net

Central Transportation Planning Staff
www.ctps.org/bostonmpo/data/data.htm

City of Boston: Access Boston 2000-2010
www.cityofboston.gov/accessboston/

City of Pittsburgh Bicycle Parking Guidelines.
www.bike-pgh.org/pdf/pgh-bikeracks.pdf

Institute of Transportation Engineers
www.ite.org/activeliving/index.asp

KnowledgePlex
www.knowledgeplex.org

MapJunction
www.mapjunction.com

Massachusetts Executive Office of Transportation and Construction
www.mass.gov/eotc/programs/programs_grants.html

Massachusetts Executive Office of Transportation and Construction
www.commute.com

MassHighway
www.state.ma.us/mhd/trafficc/traffic.htm

National Center for Bicycling and Walking
www.bikewalk.org

National Transportation Enhancements Clearinghouse
www.enhancements.org

Smart Growth Network
www.smartgrowth.org

Transportation Alternatives
www.transalt.org/features/bikeparking.html

Transportation Management Association in South End
www.transcomm.org

Trip Generation Rates from Montgomery County VA study
www.mc-mncppc.org/transportation/latr_guidelines

US Department of Energy
www.eere.energy.gov/cleancities/other_sources.html

US Environmental Protection Agency
www.epa.gov/otaq/transp.htm

Walkable Communities, Inc.
www.walkable.org

WalkBoston
www.walkboston.org

Zipcar
www.zipcar.com

Funding Sources

Green Building

Green Buildings Program (Massachusetts Technology Collaborative - Renewable Energy Trust): The program provides funding in three separate areas: for feasibility studies, design and construction grants and education and awareness programs.
www.mtpc.org

Pending Green Building Tax Credit: Tax credits for investing in measures to increase energy efficiency, improve in-door air quality and reduce the environmental impact of buildings.

<http://www.gbreb.com/greenbuildings/>

Kresge Foundation Green Building Initiative
<http://www.kresge.org/initiatives/index.htm>

US Department of Energy website devoted to financing green affordable housing.
<http://www.eere.energy.gov/buildings/multifamily/index.cfm?flash=yes>

Funding Sources for projects incorporating energy efficiency.
<http://committees.architects.org/green/Funding.htm>

Links to various funding toolkits through the Department of Energy's Smart Communities Network <http://www.sustainable.doe.gov/greendev/finance.shtml>

Smart Growth website funding sources
<http://www.smartgrowth.org/library/bytype.asp?typ=16&res=1024>

Financial Institutions:

Boston Private Bank & Trust Company
http://www.bostonprivatebank.com/products_services/community_banking.asp

LISC (Local Initiatives with Social Capital)
http://www.lisc.org/boston/programs/affordable_4388/index.shtml

Federal Home Loan Bank of Boston
<http://www.fhlbboston.com/communitydevelopment/fundingprograms/index.jsp>

Bank of America has pledged \$750 billion over the next 10 years for community development
http://www.bankofamerica.com/community/index.cfm?template=cdb_press2004&context=jan072004

Citibank's Center for Community Development Enterprise (CCDE)
<http://www.citigroup.com/citigroup/citizen/community/data/02ccde.pdf>

Economic Development

Federal:
Economic Development Administration

www.doc.gov/eda

The EDA was established to generate jobs, help retain existing jobs, and stimulate industrial, technological, and commercial growth in economically-distressed areas of the United States.

The Public Works Program empowers distressed communities in economic decline to revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term private sector jobs and investments.

Health & Human Services

<http://www.acf.hhs.gov/grants/open/HHS-2004-ACF-OCS-EC-0017.html>

The Community Services Block Grant Community Economic Development Discretionary Grant Program

The Community Services Block Grant (CSBG) Act of 1981 authorizes the Secretary of the U. S. Department of Health and Human Services to make grants to provide technical and financial assistance for economic development activities designed to address the economic needs of low- income individuals and families by creating employment and business development opportunities. OCS will soon release an RFP for public market-related programs through the Community Service Block-Grant Discretionary Program.

US Department of Agriculture

www.reeusda.gov/crgam/cfp/community.htm

Community Food Projects Competitive Grants Program

Grants to Develop Community Food Projects for Low-Income Residents

The Community Food Projects Competitive Grants Program is an excellent source of funds to assist farmers' markets. These grants are intended to help eligible private non-profit entities that need a one-time infusion of Federal assistance to establish and carry out multipurpose community food projects. Projects are funded from \$10,000-\$300,000 and from one to three years.

US Department of Treasury

www.cdfifund.gov/programs/nmtc/index.asp

New Markets Tax Credit (NMTC) Program

The New Markets Tax Credit (NMTC) Program permits taxpayers to receive a credit against Federal income taxes for making qualified equity investments in designated Community Development Entities (CDEs). Substantially all of the qualified equity investment must in turn be used by the CDE to provide investments in low-income communities. The credit provided to the investor totals 39% of the cost of the investment and is claimed over a seven-year credit allowance period. NMTCs will be allocated annually by the Fund to CDEs under a competitive application process. These CDEs will then sell the credits to taxable investors in exchange for stock or a capital interest in the CDEs. The Fund is currently accepting applications from entities seeking CDE certification.

State/Local:

Massachusetts Department of Agricultural Resources

<http://www.state.ma.us/dfa/>

The Massachusetts Department of Agricultural Resources' mission is to support, promote and enhance the long-term viability of Massachusetts agriculture with the aim of helping this state's agricultural businesses become as economically and environmentally sound as possible.

The Department of Food and Agriculture provides technical assistance to individuals and groups trying to start a farmers' market, helps farmers find appropriate farmers' markets to participate in, and encourages consumers to patronize farmers' markets through the publication of consumer listings, news releases, and other promotional activities.
Community Economic Development Assistance Corporation

www.cedac.org

In 1978, the Commonwealth of Massachusetts created CEDAC to serve as a vital resource for organizations engaged in community economic development. CEDAC is a public-private, community development finance institution that provides technical assistance, pre-development lending, and consulting services to non-profit organizations involved in housing development, workforce development, neighborhood economic development, and capital improvements to child care facilities. These organizations may include community or neighborhood development corporations, non-profit developers, and tenants' associations.

Foundations:

There are several local and national private foundations that include among their funding priorities programs that serve minority or low-income populations. A few are listed below – more funding sources can be found at Associated Grant Makers at www.agmconnect.org or call 617.426.2606.

Harry Chapin Foundation

<http://fdncenter.org/grantmaker/harrychapin/>

Mission: To address the problems of the disadvantaged and promote educational programs that lead to a greater understanding of human suffering.

The Foundation focuses its funding program in the following areas:

Community education, programs to identify community needs and mobilize resources to meet them, fostering social and economic justice.

- Arts in education programs and other approaches to educating young people. To create a healthier and more peaceful world.
- Agricultural programs that support the preservation of individually-owned farms; support for citizen organizations that promote equitable food production and distribution.
- Environmental programs that promote a safe and sustainable environment.

Grant sizes range from a few hundred dollars to our maximum of \$10,000.

Jessie Smith Noyes Foundation

<http://www.noyes.org>

The Jessie Smith Noyes Foundation promotes a sustainable and just social and natural system by supporting grassroots organizations and movements committed to this goal.

Funding Priorities:

Our funding priorities are shaped by a view of the Earth as one community, an interconnected web of life in which human society is an integral part.

- Protect The Health And Environment Of Communities Threatened By Toxics
- Advance Environmental Justice
- Promote A Sustainable Agricultural And Food System
- Ensure Quality Reproductive Health Care As A Human Right

The Boston Foundation

www.tbf.org

The Boston Foundation grantmaking priority is given to community-building strategies that help children and their families overcome poverty. The Foundation makes grants to ongoing programs and special projects that help children and families gain access to quality housing, health care, education and jobs. Grants also are made to efforts that promote active citizenship and strengthen community fabric.

Hyams Foundation

<http://www.hyamsfoundation.org>

The mission of the Hyams Foundation is “to increase economic and social justice and power within low-income communities in Boston and Chelsea, Massachusetts.” The Foundation’s current grantmaking guidelines build on its past experience and expertise while bringing greater focus to its funding strategies. The guidelines also draw together the Foundation’s work in a more comprehensive way by focusing on the following four community priorities or outcomes:

- increased civic engagement, with a special focus on immigrant communities;
- more affordable housing, especially for very low-income families;
- increased family economic self-sufficiency; and
- enhanced opportunities for low-income teens.

Transportation

Several funding sources are available for transportation improvements. For many of these the official applicant must be the municipality or a public agency. This is not a reason not to pursue them; it is generally understood that non-profit corporations and advocacy groups often take the lead on projects, and coordinating with the City early can be beneficial in the long run. The following table provides a brief outline of available funding sources.

Grant Name	Sponsoring Organization	Eligible Applicants	Eligible Projects	Contact Info	Additional Info
PWED: Public Works Economic Development Grant	Executive Office of Transportation and Construction	Municipality	Eligible projects shall include but not be limited to projects for the design, construction and/or reconstruction of existing and/or newly located public access roads, streets and bridges, curbing, sidewalks, lighting systems, traffic control and service facilities, drainage systems and culverts associated with a municipal economic development effort which seeks to or will: A. retain, establish, expand or otherwise revitalize industrial or commercial plants or facilities; B. create or retain long-term employment opportunities; C. have a positive impact on local tax base; D. leverage high ration private investments, and; E. strengthen the partnership between public and private sectors. Maximum of \$1,000,000; exceptions exist for projects over this amount.		http://www.mass.gov/eotc/programs/pwedpg1.html
Federal Transit Administration Section 3037: Section 3037, the Job Access and Reverse Commute Program	Executive Office of Transportation and Construction		Provide transportation services in urban, suburban, and rural areas to assist welfare recipients and other low-income individuals in accessing employment opportunities, and to increase collaboration among the regional transportation providers, human service agencies and related service providers, employers, metropolitan planning organizations, the state, and affected communities and individuals.	Joanne Champa Executive Office of Transportation and Construction All Federal Grants 5310, 5311, 5311(f), 5311(b)(2) and 3037 joanne.champa@state.ma.us	http://www.mass.gov/eotc/programs/fedgrants.html
Federal Transit Administration Section 5310 Program: For the purchase of vehicles and related equipment to be used in the provision of transportation services to the elderly, persons with disabilities, and families transitioning from public assistance	Executive Office of Transportation and Construction	Non-profits, some public agencies	Section 5310 of the Federal Transit Act provides for capital assistance to private non-profit corporations and certain public agencies for the purchase of vehicles and related equipment to be used in the provision of transportation services to the elderly, persons with disabilities, and families transitioning from public assistance to employment for whom existing public and/or private mass transportation is unavailable, insufficient, or inappropriate. Massachusetts has placed special emphasis on the coordination and cooperation of agencies serving the transportation needs of the elderly, persons with disabilities, and families transitioning from public assistance to employment.	Joanne Champa Executive Office of Transportation and Construction All Federal Grants 5310, 5311, 5311(f), 5311(b)(2) and 3037 joanne.champa@state.ma.us	http://www.mass.gov/eotc/programs/fedgrants.html

Grant Name	Sponsoring Organization	Eligible Applicants	Eligible Projects	Contact Info	Additional Info
The Statewide Access to Jobs Initiative: the transportation component of welfare reform in Massachusetts.	Executive Office of Transportation and Construction		It provides public transportation subsidies for up to twelve (12) months to clients of the Department of Transitional Assistance transitioning from welfare to employment. As the state moves toward a coordinated system of information, counseling, training, job search and placement, and transportation services, the Access to Jobs Program goal is to ensure that transportation is not a barrier to gainful employment.	Lorna Wilson Executive Office of Transportation and Construction The Statewide Access to Jobs Initiative lorna.wilson@MHD.state.ma.us	http://www.mass.gov/eotc/programs/stategrants.html#Anchor-The-20141
Transportation Demand Management Grant Program (TDM)	Executive Office of Transportation and Construction	Municipalities or Transportation Management Associations	Transportation Demand Management measures, funding is on a reimbursement basis.		I've seen information on this for previous years, but could not find any current information. Pursuing To pursue this type of funding source, contact staff in EOTC grants programs as listed for other grant programs.
Transportation Improvement Program (TIP)	Boston MPO/Metropolitan Area Planning Council (MAPC)		Funding for infrastructure construction, improvements, and maintenance relating to roads, bikes and ped, transit, transportation demand management, etc. Projects that foster regional connections, promote infill development, and re-use of brownfields are favored.	Barbara Lucas at (617) 451-2770 ext. 2043 or via e-mail at blucas@mapc.org	http://www.mapc.org/regional_planning/transportation/transportation_projects.html
Transportation Enhancements	MassHighway	municipality, public agency, authority, or commission. Project proponents (ie. Non-profits, advocacy groups) may prepare the application and/or manage the project for the applicant.	Projects and activities that relate to transportation but go beyond what is considered ordinary environmental mitigation to reduce project impacts. There are four eligible project categories: Programs, Property Acquisition, Final Design, and Construction. \$50,000 minimum		Must use pre-approved MassHighway consultant for project development and design, exceptions if not approved consultant has required experience. Transportation Enhancements resources given to JPND. www.enhancements.org

Grant Name	Sponsoring Organization	Eligible Applicants	Eligible Projects	Contact Info	Additional Info
Congestion Management and Air Quality (CMAQ)			CMAQ projects can generally be classified in one of the following categories: -Transit Improvements -Shared-Ride Services -Traffic Flow Improvements -Demand Management Strategies -Pedestrian and Bicycle Programs -Inspection and Maintenance Programs		http://www.epa.gov/otaq/retrofit/ma.htm
Safe Routes to School (SR2S, SRS)	Executive Office of Transportation and Construction, Masshighway		Funding to improve bicycle and pedestrian facilities and programs near schools.		SR2S resources given to JPND, or Walk Boston pedestrian advocacy group www.walkboston.org

Contacts

Brownfields

Boston Redevelopment Authority

<http://www.ci.boston.ma.us/bra/>

617-918-4319

John Walser, Senior Project Manager, Brownfields

Dorchester Bay Economic Development Corporation

617-825-4200 X238

Mark Norton

EPA, Region 1

<http://www.epa.gov/region1/brownfields/index.html>

617-918-1394

James Chow, Massachusetts Brownfields

Lawrence Community Works

978-685-3115 X20

Kristen Harol

Loitherstein Environmental Engineering

508-872-6400

Joel Loitherstein

Massachusetts Attorney General Office

<http://www.ago.state.ma.us/>

617-727-2200 X3354

James Farrell, Director, Brownfields Unit

Massachusetts Department of Environmental Protection

<http://www.mass.gov/dep/bwsc/brownfld.htm>

617-556-1138

Catherine Finneran, Brownfields Coordinator

Green Building

Action Environmental Inc.

781-893-9922

http://www.mhfadata.com/mwbe/mwbe_results_63.asp

Marcia Berger

Allston Brighton CDC

<http://www.allstonbrightoncdc.org/developments.htm>

617-787-3874 ext. 203

Matt Engle/Kristin Blum

Bikes Not Bombs

<http://www.bikesnotbombs.org/about.htm>

617-442-0004

Mira Brown

Building Science Engineering

978-456-6950

Mark Kelley, III

Dudley Square Main Street

<http://www.cityofboston.gov/mainstreets/dudley.asp>

617-541-4644

Joyce Stanley

Elton+Hampton Architects

617-783-0674

Nick Elton

Fort Hill Civic Association

617-442-3799

Peter Lee

Green Round Table

<http://www.greenroundtable.org>

617-374-3740

Barbra Batshalom

Hickory Consortium

<http://www.hickoryconsortium.org/members.htm>

978-456-6950

Jennifer Pinck

Icon Architects

<http://www.iconarch.com/Services/index.html>

617-451-3333 ext. 122

Bill Grover

Marville House, Episcopal City Mission

617-731-8923

Al Scott

Lyme Properties

(617) 225-0909

Dan Winny/Adam Sichel

YWCA Boston

<http://www.ywcaboston.org/programs/parlin/ywcabostonproject.html>

617-351-7645

Judith Parks

Economic Development

Brigham's

www.brighams.com

Phone: 781-648-9000 x231

Contact: George Trafton

Charrette

www.charette.com

Phone: 1.781.935.6000

Contact: Rich Johnson, COO

City of Boston Department of Neighborhood Development
Phone: 617-635-0076
Contact: Stephen Gilman, Main Streets Neighborhood Business Manager

CopyCop
www.copycop.com
Phone: 617-267-0441
Contact: Donna Maderer in Human Resources at dmaderer@copycop.com

East Side Neighborhood Development Company
Plaza Latina
Phone: 651-771-1152 ext. 109 phone or azepeda@esndc.org
Contact: Alicia Zepeda, Program Manager

Economic Development Assistance Consortium
Phone: 617-742-4481 or edacmark@aol.com
Contact: Mark Weiss, President (consultant for Mercados)

FEI Theatres
<http://www.capitoltheatreonline.com/>
Phone: (617) 354-4466
Contact: Sherri Belski

GLC Development
Phone: 617 262-2131 x205
Contact: Loryn Sheffner

Gnomon Copy
www.gnomon-copy.com
Phone: 617.492.7767
Contact: Current Owner

Hyde/Jackson Square Main Streets
(617) 522-3694
Contact: Valerie Grabiell, Program Manager

JP Licks

Phone: 603-502-3349

Contact: Matt Hollenbeck, Director of Operations

Mike's Gym

Phone: 857-891-4903

Contact: Omar Argote (current franchisee)

Mission Hill Main Streets

Phone: 617-427-7399

Contact: Maggie Cohen, Director

Mission Hill Neighborhood Housing Services

Phone: 617-566-6565

Contact: Jim Hoffman, Executive Director

Urban Edge

Phone: 617-983-3500

Contact: Noah Maslin

Utrecht

www.utrechtart.com

Phone: 1-800-223-9132

Contact: Executive Assistant to President John Dowers