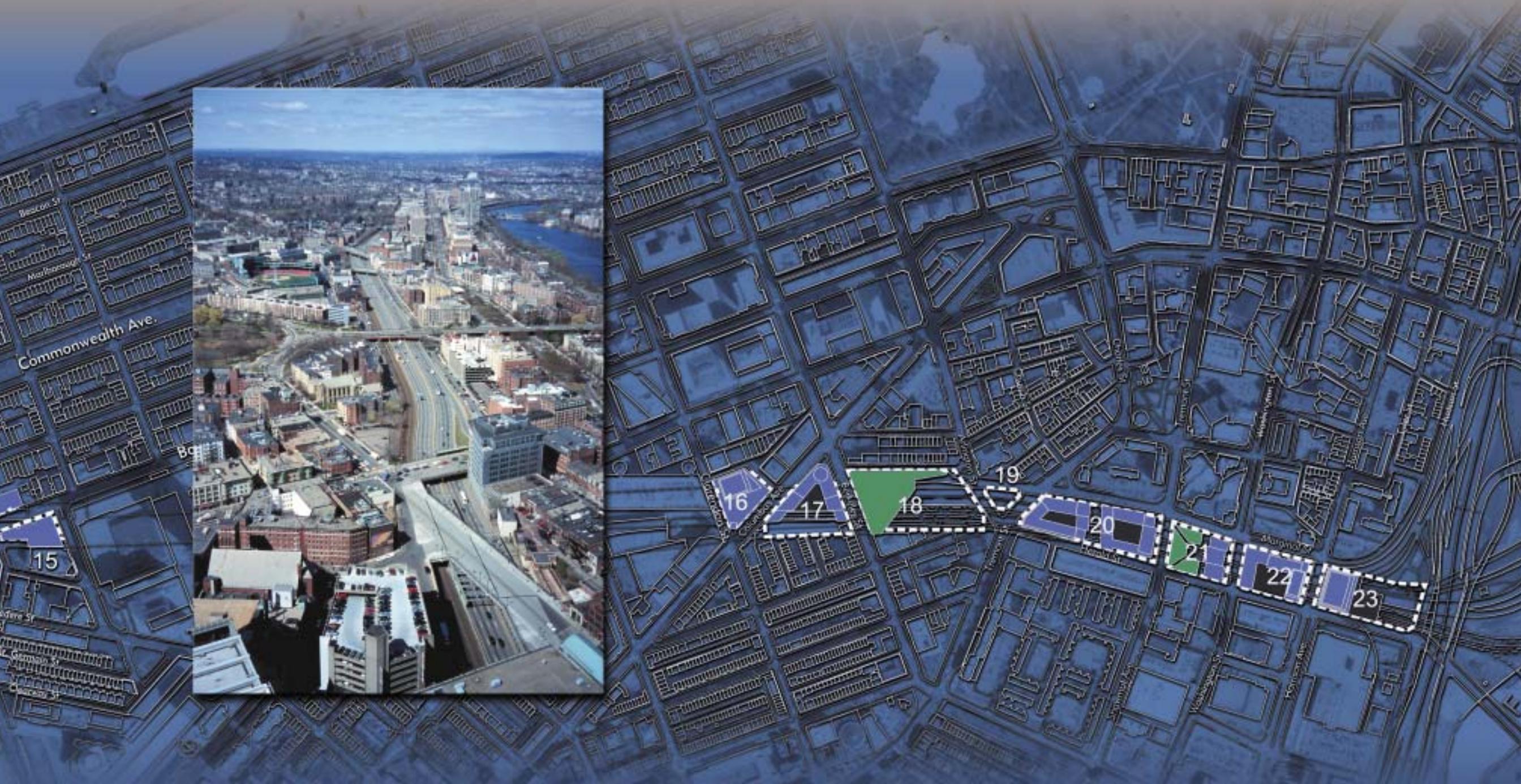
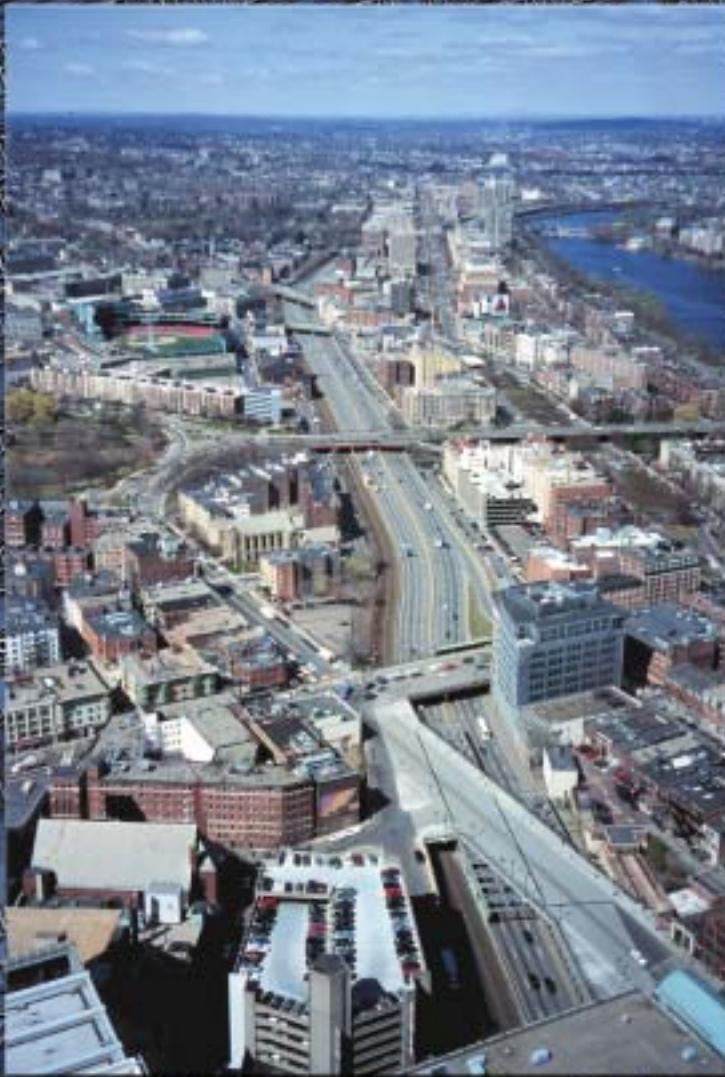


A CIVIC VISION FOR TURNPIKE AIR RIGHTS IN BOSTON

Thomas M. Menino, *Mayor of Boston*

Mark Maloney, *Director, Boston Redevelopment Authority*







June 2000

Dear Friends:

In September 1998, I commissioned a group to craft a vision for the air rights over the Boston Extension of the Massachusetts Turnpike. Working with City of Boston staff, these dedicated individuals spent more than two years carefully examining individual air rights parcels, meeting with neighborhoods, advocacy groups, and experts, and designing a comprehensive plan for reknitting the urban fabric along the Turnpike corridor. In this document you will find the culmination of that grand vision.

The people of Boston are indebted to the members of the Strategic Development Study Committee, and chair M. David Lee, for the time and energy they committed to this planning process. The Civic Vision for the Turnpike Air Rights in Boston is a thoughtful, exhaustive document that describes a clear plan to fulfill the needs of residents, businesses, and local institutions. It tackles difficult issues - transportation, economic development, and open space - with sensitivity and concern. It will serve as an essential guide to the City and its residents for years to come.

I congratulate and thank David Lee, the members of the Strategic Development Study Committee, and all of the community residents who contributed to this process. The City of Boston has committed substantial resources to this effort, and we will continue to work closely with state agencies, private developers, and future Citizen Advisory Committees to implement the goals of the Civic Vision.

The Turnpike air rights are among the most valuable development opportunities in the City of Boston. With the guidance of the Civic Vision, we will ensure that they become the most beautiful additions to our neighborhoods.

Sincerely,

A handwritten signature in blue ink that reads "Thomas M. Menino". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Thomas M. Menino
Mayor of Boston

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LETTER FROM DAVID LEE, *Chair of the Strategic Development Study Committee*

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June 2000

Dear Mayor Thomas M. Menino,

On behalf of the Strategic Development Study Committee (SDSC), I am pleased to present to you this Civic Vision for the Turnpike Air Rights in Boston.

Since its appointment in September 1998, the SDSC has worked with the Boston Redevelopment Authority, the Boston Transportation Department, and the Massachusetts Turnpike Authority to create a master plan for potential development of the Turnpike air rights in Boston. Composed of architects, lawyers, planners, artists, local business people, and residents, the SDSC was charged with creating an exciting yet realistic urban design vision for the Turnpike corridor that is responsible and sensitive to the abutting communities.

After numerous public meetings held in all of the neighborhoods along the corridor, and tremendous community input, our mission was clear:

- Improve public transportation by providing responsible recommendations for public transit options, reduced parking, and land uses with low traffic generation;
- Enhance neighborhoods in the air rights corridor by accommodating a mix of housing and business opportunities, producing neighborhood specific recommendations, and creating necessary community facilities;
- Invest in city building by accommodating Boston's world class science and technology opportunities, supporting Mayor Menino's affordable housing initiatives, creating for important cultural and entertainment facilities; and
- Promote the public realm by planning new pedestrian friendly connections, creating neighborhood parks, and mitigating the visual impact of the highway.

This document represents our consensus on how to enhance Boston as a wonderful place to live and work in the 21st century. It is a reflection of the thoughts and ideas provided by the people of Boston and experts in the fields of planning and design. It sets out guidelines to help focus the work of government officials, private developers, and future Citizen Advisory Committees.

As the chair, I would like to acknowledge the hard work, leadership and vision of the members of the committee. Everyone will not embrace all of the decisions, but it is my opinion that this report reflects the best thinking of the committee and its consultants over many months of deliberation.

We appreciate the opportunity to advance this community vision for the Turnpike air rights. It is our belief that with your leadership and the cooperation of city and state agencies, the strategic development of the turnpike air rights will add new gems to Boston's crown.

Sincerely,



M. David Lee, F.A.I.A., Chair of the SDSC



I. Overview

BACKGROUND

In the fall of 1998, Boston Mayor Thomas M. Menino took an important step and appointed a Strategic Development Study Committee (“SDSC” or “the committee”) of concerned citizens. He charged this committee with the task of creating a vision and strategy for the use of air rights over the Turnpike’s entire route through Boston. Mayor Menino also committed substantial resources to support the work of the committee. This task takes on increased importance because the state legislature had exempted Turnpike air rights in Boston from local zoning—the customary method for determining the use, scale, and other key parameters of development in Boston. The City will play a central role in shaping the course of this significant development which may enhance or diminish the livability of the city and its neighborhoods. The Mayor charged the SDSC with creating development Guidelines that the City could use to assess proposals for air rights development.

In this document, the SDSC responds to Mayor Menino’s challenge and puts forth a bold and achievable *civic vision*—translated into Guidelines—to govern the use of air rights. While the opportunities and challenges facing the city and its neighborhoods change over time, along with real estate markets and the technology of air rights construction, the SDSC has identified fundamental values that should inform a *civic vision* in any economy and across the length of the Turnpike in Boston. At its most basic level, this *vision* is simple: **repair the physical, social and economic breach presented by the railroad and the Turnpike’s cut through Boston.** Woven into this vision are four mutually reinforcing perspectives that touch at the very core of enhancing Boston as a livable city:

- Reinforce the vitality and quality of life in adjacent neighborhoods.
- Enhance Boston as a place to live, work, and invest.
- Repair and enrich Boston’s public realm.
- Foster increased use and capacity of public transportation and decreased reliance on private automobiles.

THE STRATEGIC DEVELOPMENT STUDY COMMITTEE

The 26-member SDSC saw its mission as creating a legacy of “found land” for future generations to be used to enhance quality of life and economic opportunity for Boston and its neighborhoods. The Mayor appointed David Lee, FAIA, a prominent Boston architect and urban designer, to chair the SDSC. The other 25 members represented a highly diverse group of dedicated volunteers drawn from Chinatown to Allston, other stakeholder groups, and elected officials; former Chairman Kerasiotes of the Massachusetts Turnpike Authority (“Turnpike Authority”) nominated half of the members. In asking members to serve on the Committee, the Mayor described the Committee’s planning process as:

“an important opportunity to re-connect many of the city’s neighborhoods and provide economic benefits for Boston’s residents and business...[that] will ensure an innovative vision...”

The SDSC members spent many hundreds of hours in public meetings and other forums sharing their perspectives and working together. They met with hundreds of people from local communities, with elected officials, and with representatives from the Boston Redevelopment Authority (“BRA”), the Boston Transportation Department (“BTD”), and the Massachusetts Turnpike Authority. These agencies, together with a large multidisciplinary consultant team led by Goody, Clancy & Associates, provided support to the SDSC throughout its deliberations. Both the City of Boston and the Turnpike Authority made it clear from the start that the SDSC was an independent body and that neither entity would direct the SDSC’s findings.

How the SDSC Came to Be

In 1997, after having been directed by the Legislature to agree on a procedure for reviewing future air rights developments, the City and the Massachusetts Turnpike Authority signed a memorandum of understanding (“MOU”) that sets forth a review procedure based on Article 80 of the Boston Zoning Code. While this MOU embodies the binding legal agreement between the City and the Authority, the City saw the benefit of conducting a broad strategic planning effort for the air rights throughout the Turnpike corridor. Consequently, the City proposed and the Authority agreed to engage in a year-long review of air rights development issues. This *civic vision*, while not a zoning code, provides a framework for the future Citizens Advisory Committees and the City of Boston to review air rights proposals.



Turnpike divides Back Bay, Bay Village, and the South End.



Civic vision: foster public transportation; strengthen neighborhoods; enhance Boston as a place to live, work and invest; and enrich the public realm.

SDSC MEMBERS

M. David Lee, FAIA (chair)
Peter Bassett
Pamela Beale
Robert Caporale
Christine Colley
Cheryl Cronin
Will Davis
Edward Dugger, III
Nan Myerson Evans
Mark Goldweitz
Monsignor Michael Groden
George Hagerty
Janet Hurwitz
Cynthia Keliher
Sue Ellen Kent
David Lapin
Brighton Lew
Paul Malnati
Fred Mauet
William G. Morton, Jr.
Daniel Mullin
Terri North
Paul Roiff
Mary Soo Hoo
Martha Walz
Steven Wolf

EX-OFFICIO MEMBERS

Honorable Stephen Lynch, State Senator
Honorable Dianne Wilkerson, State Senator
Honorable Byron Rushing,
State Representative
Honorable Paul Demakis,
State Representative
Councilor Michael Ross,
Boston City Council
Former Councilor Thomas Keane,
Boston City Council
Thomas B. Concannon, Chairman,
Metropolitan Highway System
Advisory Board

A. INTRODUCTION

Through extensive discussions, the SDSC forged this *civic vision* and Guidelines with the City of Boston, the Authority, and the community. The SDSC encountered sharp differences over questions of financial feasibility, impacts on neighborhoods, the adequacy of Boston's transportation system to handle new development, the need for public open space, and other difficult issues. The members of the SDSC worked to reach positions that, in the chair's words, "balance public purpose and economic feasibility, neighborhood concerns and citywide vitality."

Because the members of the SDSC so highly value the special qualities that define Boston and its neighborhoods, the committee believes it is essential that the use of air rights should:

1. Foster increased use and capacity of public transportation and decrease reliance on private automobiles by taking tangible steps to expand public transportation and other alternatives to the automobile, improve the pedestrian realm, and limit parking.
2. Strengthen the vitality and quality of life in neighborhoods along the Turnpike corridor by balancing the larger scale inherent in these projects with uses and massing that are compatible with adjacent neighborhoods and respecting the very different planning context presented by each of the communities along the Turnpike.
3. Enhance Boston as a place to live, work, and invest by taking advantage of exceptional opportunities to accommodate projects that generate broad civic benefits.
4. Repair and enrich the city's public realm by capturing unique opportunities to create a wide range of lively public spaces and designing buildings and public spaces to contribute to Boston's distinctive character.

HOW SHOULD THIS *CIVIC VISION* BE USED?

As anticipated by Mayor Menino, the *civic vision* and Guidelines will become the City of Boston's adopted plan for the use of air rights. Under the memorandum of understanding ("MOU") signed by Mayor Menino and former Chairman Kerasiotes of the Massachusetts Turnpike Authority in June, 1997, the Mayor will appoint a citizens advisory committee ("CAC") to review each air rights proposal. This *civic vision* will provide a framework for the future CAC's and the City of Boston to review air rights proposals. In addition, proponents of air rights projects should understand the *vision* and use the Guidelines to shape their proposals.

Many aspects of this *civic vision* incorporate planning ideals that the committee puts forward as positions that need to be advocated. This is particularly true with respect to open space and transportation issues such as parking ratios. Future CAC's will need to balance these planning ideals with the economic realities of what is achievable. Without in any way retreating from these beliefs, each future CAC is expected to make its own assessment as to whether an individual air rights project fulfills the spirit of the guidelines established today.

In shaping the *vision* and Guidelines, the SDSC had the benefit of an early test case. Concurrently with the SDSC's work, the first CAC, appointed by the Mayor in November 1998, has been reviewing the first air rights proposal to come forth in accordance with the MOU—a substantial and controversial mixed-use proposal for Parcels 11, 12 and 13. The experience of this first CAC, chaired by Cheryl Cronin and composed of 11 other SDSC members, provided the SDSC with important insights into the issues that proponents should consider in shaping air rights proposals, the kind of vision and guidelines that will be of most value to future CACs as they review proposals, and the most effective way for proposals to be brought to the public's attention. The SDSC also realized that future CACs will need technical support, both from the City of Boston and from consultants funded by the project proponents (a common practice in this region), to evaluate complex air rights proposals and suggest appropriate modifications.

WHY CREATE A CIVIC VISION NOW?

The Massachusetts Turnpike (“the Turnpike”) was planned in the 1950s to revive Boston's depressed economy and provide badly needed access to downtown. As the city's economy revived in the 1970s and 1980s; however, the civic cost of the Turnpike's open cut-divided neighborhoods, the loss of badly needed land, and the introduction of pollution on the doorsteps of thousands of residents—became unacceptable.

While these problems were critical, the economy at that time could not support air rights development. Such proposals foundered on high development costs and the absence of any substantial public subsidy. This dynamic has changed in recent years as a scarcity of land and rising land values have made such projects economically viable. The creation of the South End and the Back Bay illustrates Boston's long tradition of reclaiming land during prosperous times. As the economy booms and Boston searches for new sites to meet the need for diverse housing, public facilities, research facilities, and private investments the air rights parcels take on new significance. All along



The Turnpike's Boston Extension, built along a railroad corridor, was completed in the 1960s.

the Turnpike corridor, extraordinary opportunities exist that could not be realized without using air rights. Once only a dream, the ability to use air rights productively has become a reality.

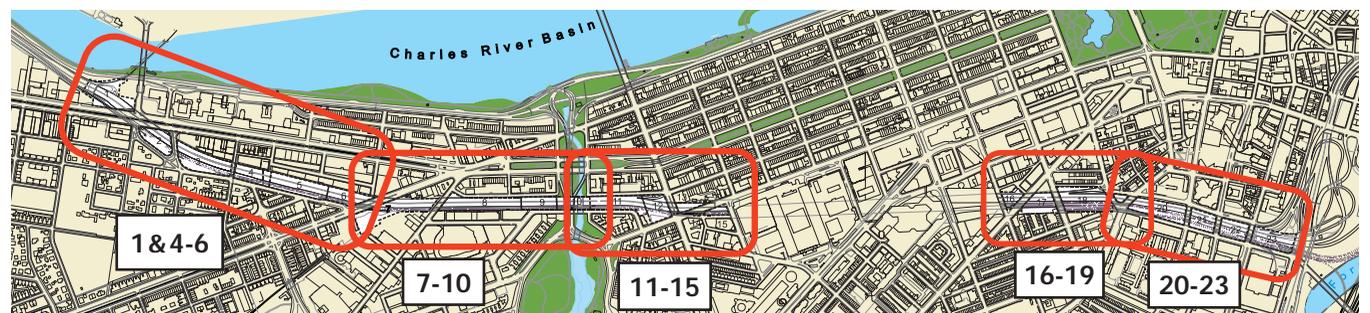
AIR RIGHTS PARCELS

The Turnpike Authority organized air rights into 23 parcels—generally defined by bridges or natural boundaries. These parcels group into five “districts” that correspond to the traditional neighborhoods that line the Turnpike and that represent the immediate context in which to plan for air rights:

- Allston-Brighton, Audubon Circle, Boston University: **Parcels 1 and 4-6 (Parcels 2 and 3 are located in Brookline and their use is governed by Brookline's local zoning)**
- Audubon Circle, Kenmore Square, the Fenway: **Parcels 7-10**
- Fenway, Back Bay: **Parcels 11-15**
- Back Bay, South End, Bay Village: **Parcels 16-19**
- Bay Village, Chinatown, South End: **Parcels 20-23**

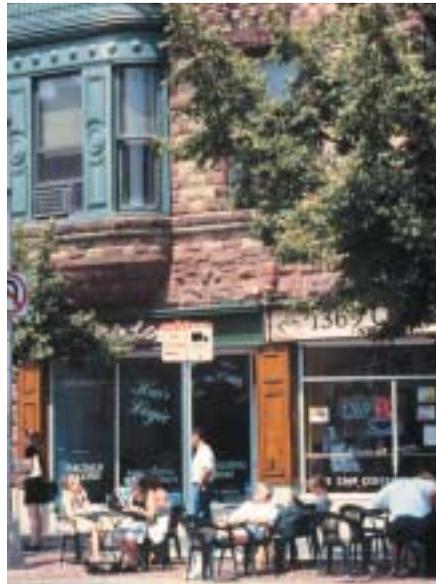


Twenty-three air rights parcels span five “districts”.





Green Line and other transit improvements are critical.



Balance costs and benefits to adjacent neighborhoods.



Air rights development can add more than two miles of pedestrian-friendly sidewalks to connect neighborhoods to each other and the Charles River.

B. SUMMARY OF FINDINGS

CONTEXT: THE SETTING FOR THIS *VISION*

To create the *civic vision* and Guidelines, the SDSC began by learning more about the opportunities and challenges facing each neighborhood and the City of Boston as a whole. Four critical perspectives arose from this process and form the basis of the committee's approach:

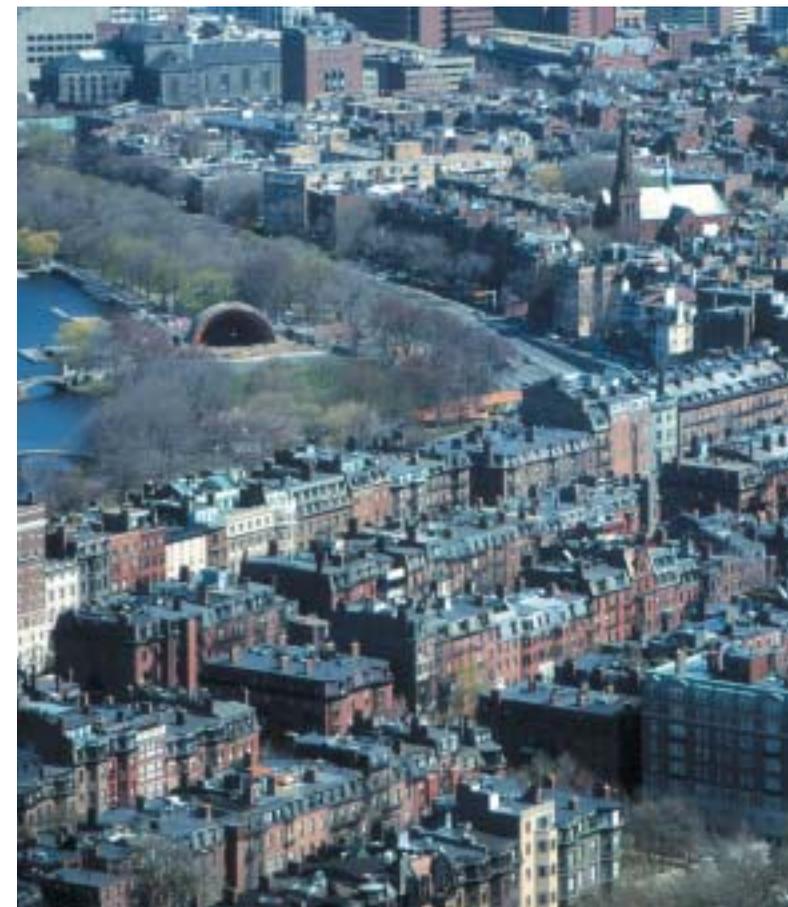
■ **The corridor is well served by public transportation, which has fueled intense economic growth that in turn has placed steadily increasing strains on the transportation system.** Rising local traffic levels and capacity constraints on the Green Line affect the corridor's capacity for new development. In the view of some, the Turnpike lacks adequate connections to the north and east. Improving transportation must be a fundamental consideration in air rights planning.

■ **The diverse and historic communities that line the Turnpike together house more than a quarter of Boston's population and represent many of the city's most historic and vital neighborhoods.** Perhaps more than any others, these neighborhoods have endured the costs and enjoyed the benefits of changes that have occurred over the past two decades. The costs are visible—congested streets; housing shortages (the 1999 residential vacancy rates were under 1%); and displacement of long-time residents in the face of surging housing costs. The benefits are just as striking—dramatic improvements in unemployment rate and income levels (instead of lagging, Boston now far exceeds national norms); and vibrant main streets (empty storefronts have largely disappeared). Finding the right balance between the costs and benefits of significant air rights projects will be central to the quality of life of these communities.

■ **Even more than many other major American cities, Boston as a whole continues to face dramatic new opportunities and challenges.** As the pace of economic change continues to quicken, Boston increasingly depends on new technologies and research to create new and better jobs. Faced with a continued decline in its share of the region's jobs, Boston must increasingly compete as a place to live, work, and invest by offering enhanced quality of life (culture, entertainment, open space, housing opportunities, services, urban design) and more competitive infrastructure (particularly transportation).

Lacking many development sites with regional visibility and access, Boston has a stake in the future of air rights development.

■ **Boston's public realm—grand linear parks like the Emerald Necklace and the Charles River Basin, intimate parks and squares, quaint neighborhoods, and lively sidewalks, represents a crucial component of its quality of life.** In stark contrast, all along its length the Turnpike creates windswept gaps, devoid of shops or other pedestrian amenities that divide neighborhoods from each other. To the west, a portion of the Turnpike parallels the Charles River and separates neighborhoods from this great open space resource. As the Turnpike turns away from the river after Back Bay, it passes through three neighborhoods with little open space and even less available land—Bay Village, South End, and Chinatown. Enhancing Boston's public realm and connections to existing public resources is a fundamental consideration in planning for air rights.



Air rights parcels are strategically located to expand housing, job, and research opportunities.

ANALYSIS: THE FORCES THAT SHAPE THE VISION

The SDSC spent more than a year working closely with the City of Boston and the Turnpike Authority to understand in depth the key forces that will shape the use of air rights over time:

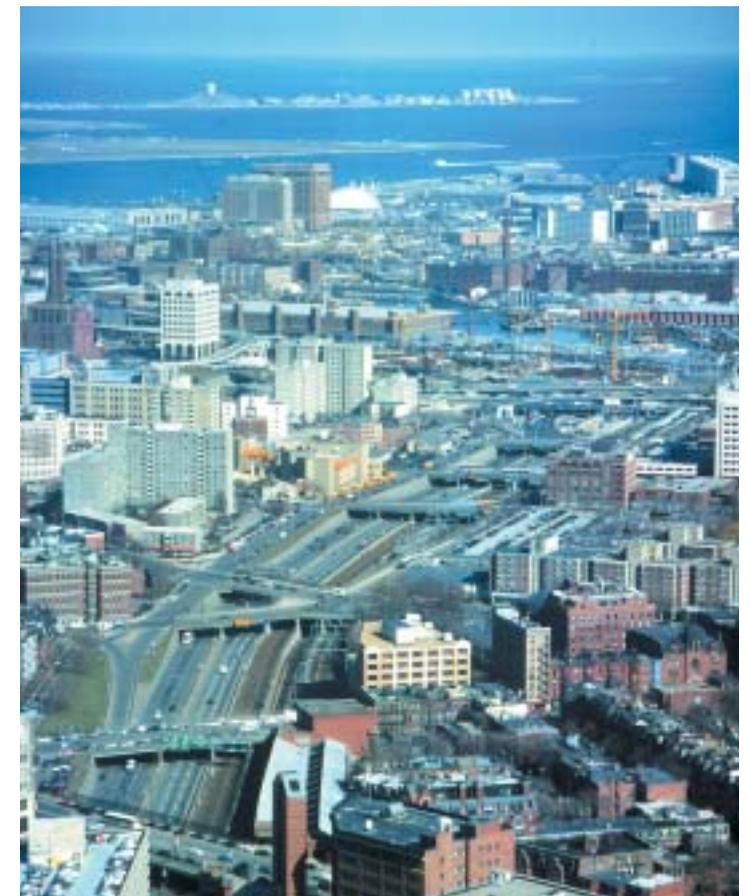
- **Air rights development must acknowledge significant traffic congestion issues. Substantial public transportation investments are needed to relieve this congestion.** For most of these parcels, housing—which generates the least traffic (far less than office space)—is the most appropriate use, followed by hotels and other uses with lower traffic generation. Parking provisions should be reduced in many neighborhoods to encourage increased use of public transportation. CACs will need to examine in detail the traffic and other transportation impacts of each air rights proposal. In addition, new public transportation will be necessary to avoid additional traffic on local streets. Some believe that transportation connections to the emerging South Boston Waterfront are insufficient, and therefore regional roadway changes should also be considered.
- **Community and city-building concerns shape much of the dialogue around air rights.** As Boston University (“BU”) explores ways to respond to pressures for growth and change faced by all academic research institutions, nearby Allston-Brighton and Audubon Circle seek a greater sense of transition between their neighborhoods and the university. Audubon Circle and the Fenway ask that air rights parcels be used for parking facilities that can replace surface parking lots in their neighborhoods and free up these lots for housing and other uses. The Back Bay, the South End, and Bay Village seek to protect historic blocks and streets from the shadows and other impacts of new buildings. Chinatown seeks to provide housing and other facilities to accommodate a bursting population. Everywhere residents worry about increased traffic. The City of Boston seeks to protect its neighborhoods while addressing shared long-term needs to create jobs, create affordable housing, and welcome appropriate investment.
- **Air rights can help achieve longstanding urban design and public realm goals:** introducing buildings that will fill the gaps in the urban grid between neighborhoods and bring lively street-level uses to foster foot traffic between them; creating paths to the Charles River west of Charlesgate; and providing community parks in the neighborhoods that lack land to create parks. Meeting these goals will require an aggressive effort to obtain

public and private funds. The design of air rights buildings and open spaces should enhance lively public streets and integrate respect for traditional buildings nearby with an expression of our era’s vitality and values. While some advocates argue for a continuous air rights park, this corridor is better suited to forging cross connections between the neighborhoods it has long divided. The costs of creating a linear park would be significant: for example, the cost of creating only one acre of air rights parkland could fund 25-30% of all improvements recommended for almost 9 miles of the Charles River Basin in the Metropolitan District Commission’s 2000 master plan. In addition, the use of public funds to create a linear park would generate pressure for substantial development in adjacent areas with high real estate values.

- **Building the decks over the highway for air rights raises significant financial and engineering feasibility challenges.** Cost premiums for a deck may range from less than \$250 per square foot to more than \$700 per square foot. In addition, the Turnpike Authority believes it has the fiduciary responsibility to seek lease fees for the use of air rights for development. Air rights present additional feasibility issues related to parking and the long-term costs of maintenance, lighting, and ventilation for the highway below. Even in 1999’s strong economy, development costs on air rights sites exceeded those on *terra-firma* sites, creating pressure for high-value uses (in 1999—high-end residential, research, hotels, retail) and larger projects. In the 1999 boom economy, the competitive cost of nearby *terra-firma* sites rose to the point at which air rights projects are being proposed where real estate values are highest—around Parcels 12-18. For other parcels, special circumstances can make air rights feasible. Examples include an abutter such as BU for Parcels 1 and 4-6; unique research or entertainment uses for Parcels 6-8; and taller buildings to secure a mix of housing opportunities for Chinatown and the South End (consistent with earlier neighborhood planning). For every parcel, balancing feasibility and appropriateness has been a critical SDSC concern and will be a central challenge for future CACs.



The boom of the late 1990’s made air rights development a reality.



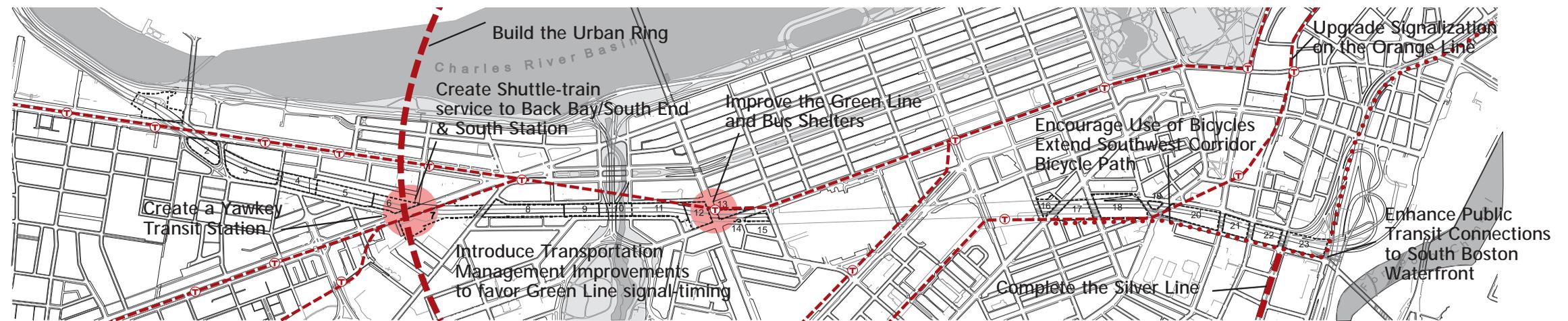
THE CIVIC VISION

The development of air rights should be used to enhance quality of life and economic opportunity for all Bostonians by:

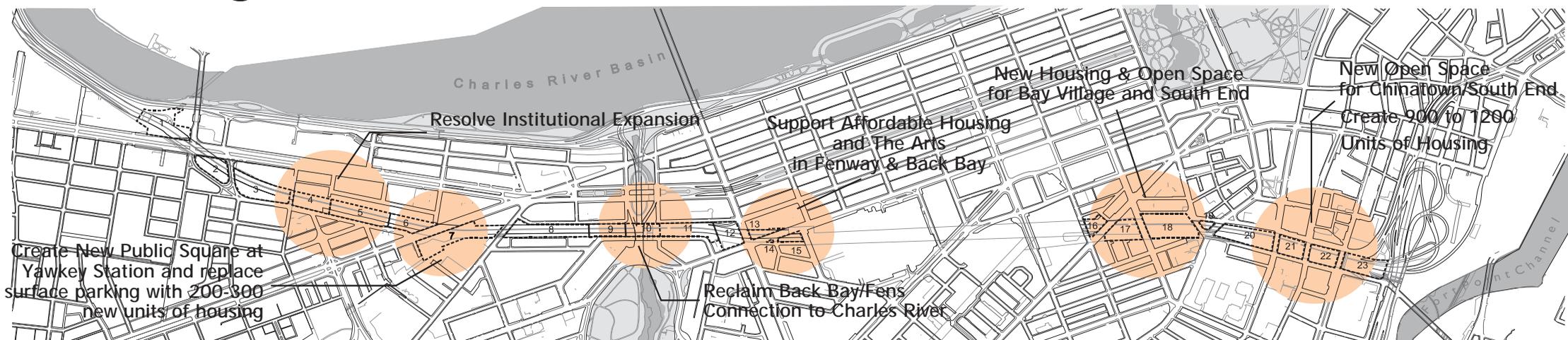
■ **Fostering increased use and capacity of public transportation and decreased reliance on private automobiles.** Located along busy sidewalks, heavily traveled streets, and in communities with Boston's highest percentage of public transit use, air rights development should be accompanied by commitments to improve the pedestrian realm—comfortably wide sidewalks lined with uses that engage pedestrians; limit parking to further encourage use of public transportation; expand public transportation—critical projects such as improving the Green Line, a commuter rail shuttle, and the Urban Ring; and encourage increased use of bicycles. The opportunity should not be lost to address the need for expanded public transit connections to the emerging South Boston Waterfront.

■ **Reinforcing the vitality and quality of life in adjacent neighborhoods.** Examined and understood neighborhood by neighborhood, air rights should be used to replace surface parking with housing and relieve pressures for institutional growth in Allston-Brighton and Audubon Circle; support continued revitalization of Kenmore Square; promote diversity and livability in the Fenway through support for the arts, affordable housing, and the historic connection to the Charles River; fill in missing links in one of America's most walkable districts to enhance the Back Bay; provide community parks and a range of housing opportunities for the South End, Bay Village, and Chinatown to connect these three neighborhoods. Everywhere, air rights should be used in appropriate ways that respect scale and character, manage transportation impacts, improve air quality, and support the special aspects of every neighborhood.

Improve Public Transportation



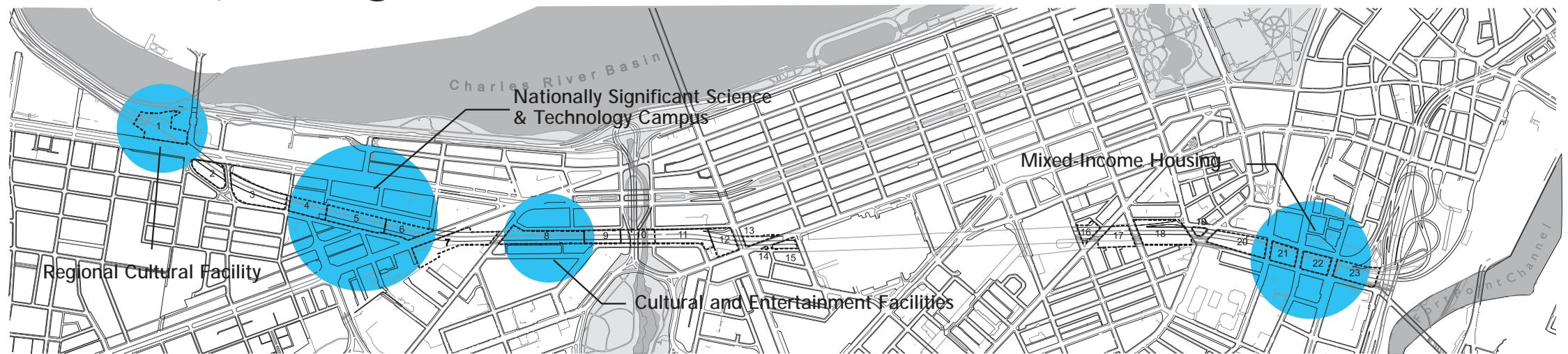
Enhance Neighborhoods



■ **Enhancing Boston as a place to live, work, and invest.** Air rights could add significant acreage to a city with almost no available land. Air rights should be used to provide a mix of housing opportunities; create a nationally significant science and technology campus—a significant step in attracting “industries of the mind” vital to generating economic opportunity; establish important cultural facilities—facing the Charles River and at the heart of the Back Bay; and establish entertainment facilities at Kenmore Square and Lansdowne Street.

■ **Repairing and enriching the city's public realm.** The Turnpike divides an incredible cross section of the city—historic neighborhoods and post-World War II commercial districts, a national university and Chinatown, quaint streets and grand boulevards. Air rights offer opportunities to repair these gaps *and* enrich Boston at almost every turn. Opportunities include creating common ground to bring Bostonians together—pedestrian-friendly sidewalks, public parks and squares, cultural facilities; enhancing civic design quality—removing the visual impact of a regional highway through Boston's historic midst; bolstering neighborhood connections—newly walkable streets lined with shops, cafés, exhibition spaces, and other uses that engage pedestrians; and creating new links to Boston's premier park systems.

Invest in City Building



Reconnect the Public Realm



IMPLEMENTING THE *CIVIC VISION*

The SDSC has worked closely with the City of Boston, the BRA, the Turnpike Authority, and the larger community to ensure that the *vision* is translated into an effective process for achieving the tremendous promise that air rights offer. This document includes a public selection process for developers, the funding of that selection process, the qualities that should be incorporated in every air rights development, and the specific qualities that relate to the special character of each district. The SDSC also recognized that the development of air rights and the planning for their use should include, where appropriate, the infusion of public funds to promote public benefits such as transportation, affordable housing, and public open space. The SDSC acknowledged, however, that the vast majority of funding for air rights development will come from private sources.

SELECTING DEVELOPERS

After considerable deliberations, the SDSC realized that a competitive process for designating developers was critical to achieving the fundamental goal of balancing public benefits and financial feasibility that is inherent in the *civic vision* and Guidelines. The SDSC structured a process to:

- Accommodate appropriate public review and comment on development proposals.
- Allow proponents to explain how they have wrestled with the difficult balance of financial feasibility and public benefit inherent in every air rights project.
- Ensure that the process of securing air rights development is a fair and appropriate way to make decisions about the use of public land.

The process used by the Turnpike Authority to select developers for its nearby Central Artery North Area (“CANA”) parcels offers a model of an open and participatory process that can serve as a vital starting point. This process will prove useful in shaping future selection efforts, and can be adapted to meet the spirit of the MOU and the unique challenges of building on air rights. For each air rights project, the Turnpike Authority should issue requests for proposals that incorporate the Guidelines. The CAC for each project offers the appropriate forum for developers to present their

qualifications and proposals to the local communities for public comment. CAC and public comments should be considered, and the Mayor should be consulted, as the Turnpike Authority selects a short list and then designates a developer.

GUIDELINES

In translating the *civic vision* into Guidelines that will endure over the years during which the air rights will be developed, the SDSC believes it is essential to set out key premises and principles that inform all of the Guidelines. The SDSC urges all those who use the Guidelines to consider these premises and principles, along with the *vision*, when interpreting the spirit of the Guidelines.

Because the members of the SDSC so highly value the special qualities that define Boston and its neighborhoods, the committee believes it is essential that the use of air rights development reflect three basic premises:

- Given the cost premiums related to air rights, the right balance between economic feasibility and public benefits provided in the Guidelines may only be achievable during strong real estate cycles. These Guidelines establish the basic premises for all future air rights development regardless of the overall economic climate.
- Given Boston’s congested local streets and strained public transportation, the time has come for the City of Boston and the Massachusetts Turnpike Authority to work with the Massachusetts Bay Transit Authority (“MBTA”) to improve public transportation in part to sustain air rights development and to improve transportation options throughout the city.
- Given the scarcity of public open space in some neighborhoods, the City of Boston and the Turnpike Authority should work with private developers to secure a variety of public and private funding for parks, squares, pedestrian connections, and other types of public amenities essential to the livability of Boston’s dense urban neighborhoods.

The Guidelines should serve as the basis for air rights proposals. Proponents for specific projects may advocate for changes based on economic feasibility, new ideas, or other criteria.

The Guidelines respond to certain opportunities and challenges that are common for all parcels:

1. Filling the gaps between neighborhoods and along major public streets by lining these streets with shops (emphasizing local businesses, not national franchises), cafés, exhibit spaces, and other lively uses, creating a variety of new pedestrian links, public spaces and parks; and paying special attention to the ways in which buildings and public spaces can enrich the public realm.
2. Promoting use of public transportation by reducing parking provisions below levels prevailing at the time of this report and improving public transportation.
3. Creating architecture that combines respect for Boston's unique historic character and expression of the vitality and character of our era.

Other Guidelines focus on the unique characteristics and needs of each community along the corridor:

Allston-Brighton, Audubon Circle, Boston University: Parcels 1 and 4-6

- Create a "landmark" cultural or academic use facing the Charles River on Parcel 1, together with a state-of-the-art research campus adjacent to BU on Parcels 4-6.
- Create a small park and landscaped buffer adjacent to Audubon Circle and new paths to the Charles River; and a lively pedestrian realm along Commonwealth Avenue and Beacon Street.
- Set taller buildings back from the neighborhood.
- Accommodate the Urban Ring and any other public transportation improvements.

Audubon Circle, Kenmore Square, Fenway: Parcels 7-10

- Locate housing next to Audubon Circle together with a mix of research, office, entertainment, hotel, and similar uses closer to Kenmore Square.
- Accommodate the Yawkey multimodal Station, integrate it with new buildings, and connect it to Beacon Street by a lively public square.
- Locate and design buildings to link nearby neighborhoods to Kenmore Square along Beacon Street and Brookline Avenue.
- Scale buildings up from the existing residential and commercial buildings toward Kenmore Square.

Fenway, Back Bay : Parcels 11-15

- Maintain the natural northern exposure for the historic Fenway Studios.
- Emphasize housing and other low-traffic generating uses, with careful attention to transportation improvements and impacts in this highly congested area.
- Line public sidewalks along Massachusetts Avenue and Boylston Street with shops and other pedestrian-friendly uses, avoiding internal retail malls.
- Accommodate waiting and lobby facilities for Green Line and bus patrons.

- Create no more than one taller building (over 15 stories) on these parcels.
- Respect the Back Bay Architectural District.

Back Bay, Bay Village, South End: Parcels 16-19

- Emphasize housing and other low-traffic generating uses, again with careful attention to transportation impacts.
- Line Clarendon Street, Columbus Avenue, Berkeley Street, and Arlington Street with a mix of shops and other uses that engage pedestrians—avoid internal retail malls.
- Provide no more than one taller building (over 150') on these parcels, and carefully scale buildings up from historic neighborhoods to preserve sunlight for Bay Village (which is located to the north of these parcels).
- Explore the opportunity to link development on a potentially very valuable site (Parcel 16) to support creation of a neighborhood park on Parcel 18.
- Respect the South End Landmarks District and the Bay Village Historic District.

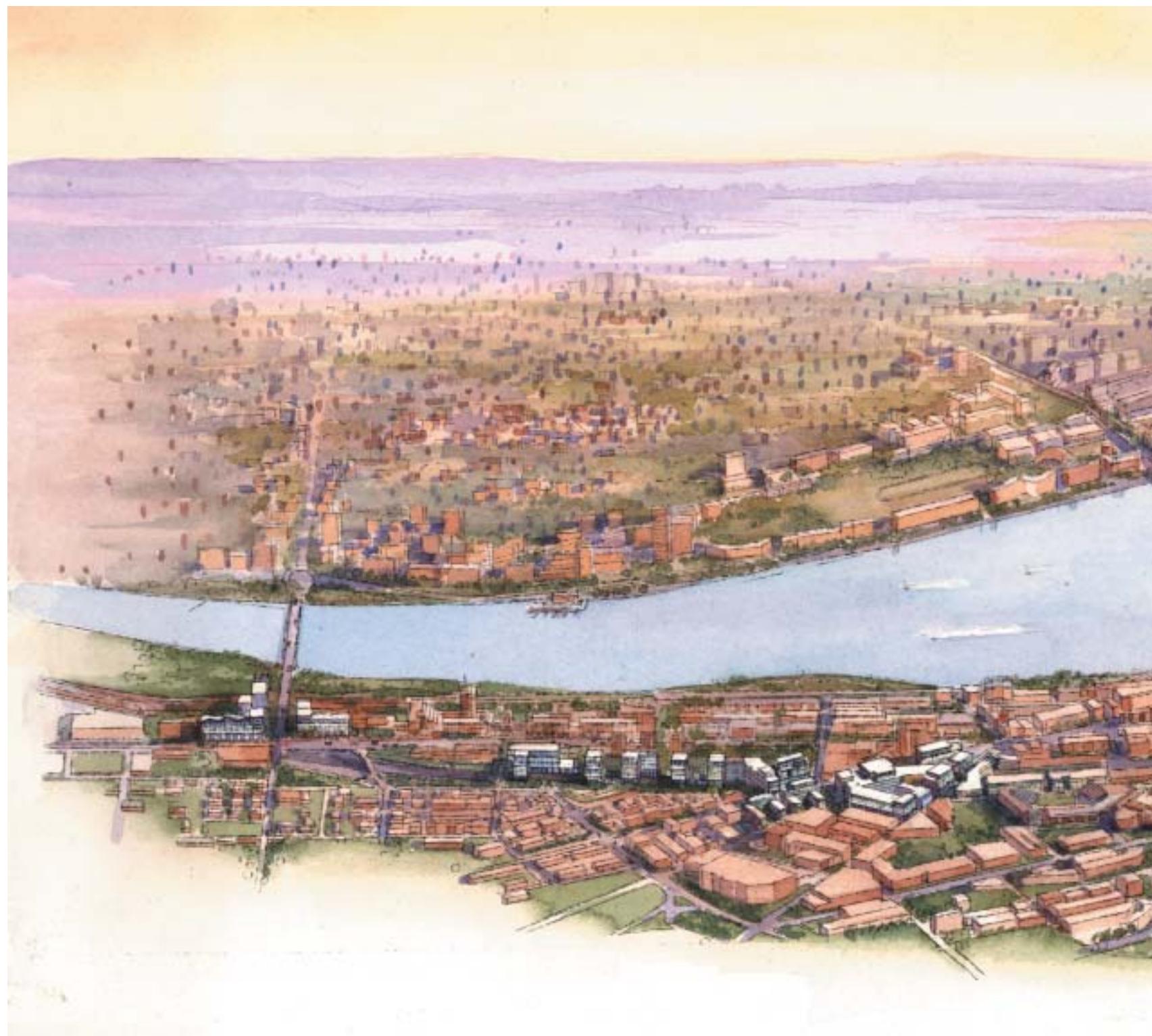
Bay Village, Chinatown, South End: Parcels 20-23

- Emphasize housing, a park, and other public and community uses that reinforce livability and provide economic opportunity for Chinatown and nearby dense neighborhoods, carefully considering traffic impacts.
- Link Chinatown to the South End with a mix of shops, a park, and other uses that engage pedestrians along Shawmut Avenue, Washington Street, and Harrison Avenue.
- Scale building height up from the historic row-houses of Bay Village.
- Explore opportunities to create a mix of market-rate and affordable housing, which would require taller buildings.
- Respect the South End Landmarks District and the Bay Village Historic District.

C. NEXT STEPS

Using air rights offers Boston and each of the neighborhoods along the Turnpike tremendous benefits if this development is appropriate and accompanied by the following public initiatives. The SDSC strongly urges that:

- The City and the Turnpike Authority adopt the *civic vision*, Guidelines, and process for designating air rights developers.
- The City and the Turnpike Authority move aggressively to initiate the critical public transportation improvements addressed in this report.
- The City and the Turnpike Authority also move aggressively to identify public and private funds to support the air rights public realm improvements addressed in this report.
- CACs proceed to use the Guidelines within the framework of the MOU and that the City and the Turnpike Authority provide the essential support CACs will require to review and respond meaningfully to air rights proposals, with proponent developers providing funding for that review.



Appropriate use of air rights will repair the physical, social and economic breach presented by the railroad and the Turnpike's cut.



Independent Citizen Advisory Committees will review all air rights proposals. The first CAC is reviewing a significant proposal by Millennium Partners at Massachusetts Avenue and Boylston Street. The Guidelines call for "one taller building...on either Parcel 12 (shown here) or Parcel 15 (shown above)" on these parcels.



II. Context

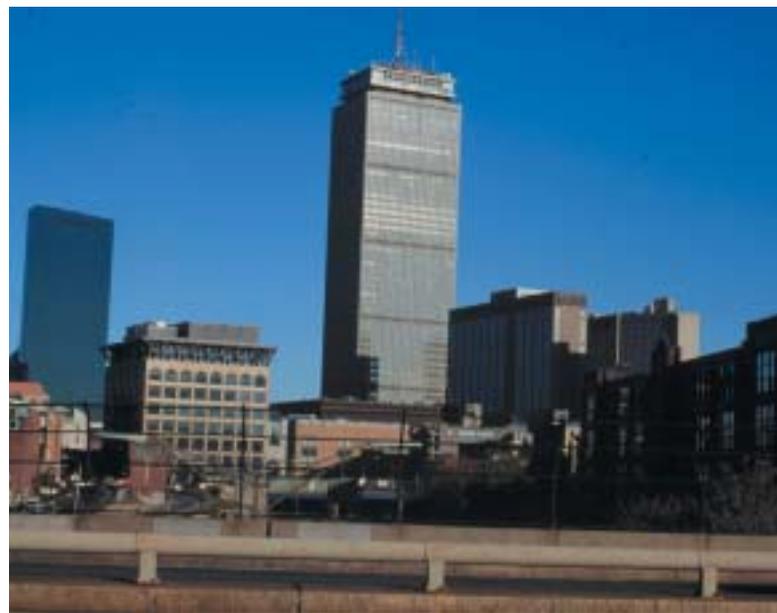
A. HISTORY AND ITS LESSONS

To understand the influence of history in planning for Turnpike air rights, it is important to look at two themes that intersect in the work of the SDSC: the Boston extension of the Turnpike and Boston's zoning.

THE BOSTON EXTENSION OF THE TURNPIKE

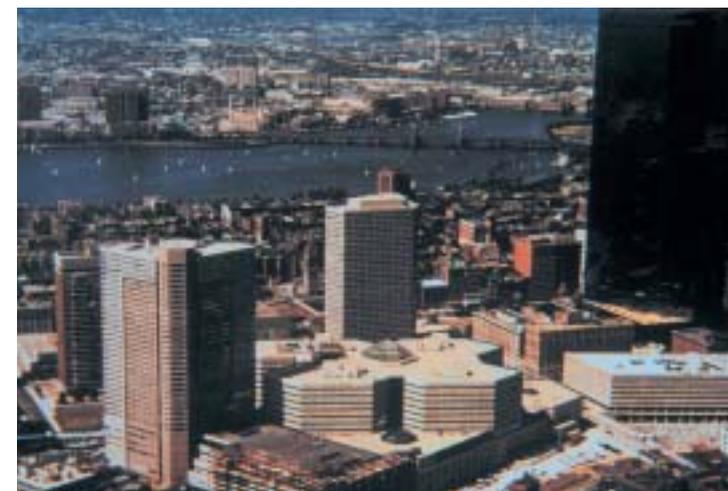
The Boston extension of the Massachusetts Turnpike was built along side the Boston and Albany mainline of the New York Central Railroad. The railroad tracks, which date to the mid-19th century, represented a significant barrier that dictated the street pattern and configuration of entire neighborhoods and formed a barrier dividing the South End from the Back Bay, Bay Village, Chinatown, and downtown. Land adjacent to the railroad became an industrial corridor that further separated neighborhoods and extended almost continuously from downtown to Allston-Brighton.

Efforts to deck over the Turnpike began almost as soon as the extension was completed. In the 1960s, the first major air rights project – the Prudential Center – emerged as the result of Urban



Renewal efforts. The Prudential Center was grossly out of scale with its historic neighbors and intensified a growing sentiment that the rail and highway corridor through the heart of the city was unacceptable. Copley Place, planned in the 1970s, illustrated the challenges of developing air rights in the absence of a very strong real estate market. That project shared important characteristics with the Prudential complex—it was out of scale with its neighbors and required public subsidies.

In 1993, the Turnpike Authority sponsored a comprehensive *Development Options* study that explored more appropriate urban design and uses for all of the air rights parcels. That study's recommendations—supported at the time by many communities along the Turnpike—ultimately failed to attract interest from the development community because they did not take into consideration the economic realities of air rights development. The SDSC has drawn important lessons from this history: it sees the value of continuing the movement to repair the damage from earlier eras, the need to look to surrounding blocks for cues in planning and designing air rights development, and the need to address financial feasibility.



The Prudential Center and Copley Place covered the Turnpike but lacked appropriate scale; future air rights projects must respond to the character of adjacent neighborhoods.

ZONING

Boston enacted a zoning ordinance to manage its growth and development, a law that after 1924 remained essentially unchanged for decades. With the boom of the 1980s, however, the need to manage growth and zoning again became a topic of significant debate. The BRA launched a series of community-based zoning studies and revised zoning for many of the city's neighborhoods.

Air rights development raises many issues that the City normally addresses through zoning, but the law creating the Turnpike Authority exempts air rights parcels in Boston from zoning. There are differing views as to whether the *terra-firma* that is included with air rights parcels is subject to this exemption. The Legislature required the Turnpike Authority, after consultation with the Mayor Menino but prior to leasing air rights parcels, to ensure that any air

rights development “shall preserve and increase the amenities of the community.” In 1997, the Legislature required the Turnpike Authority to enter into an MOU with the City of Boston regarding the review and approval of air rights development.

The SDSC has examined the issues presented by air rights development. The City’s lack of zoning deprives it of an essential tool in protecting the public environment. Without the development “rights” that zoning confers, the City, the Turnpike Authority and potential developers have no clear baseline in terms of uses or scale of development—a situation that leaves large projects particularly vulnerable to opposition. The Guidelines should bridge these two positions by providing a clear basis for the City and CACs to review air rights proposals and, establishing a clear baseline as to what may be developed on air rights parcels.

B. THE CORRIDOR: OPPORTUNITIES AND CHALLENGES

1. PARCELS

Considered collectively, the twenty-three air rights parcels total more than 44 acres of found land. They range in size from just under 500 square feet (Parcel 14), the size of a small one-bedroom apartment, to well over 170,000 square feet (Parcel 7), which equals approximately four acres of land or about the size of the playing field at Fenway Park. In contrast, the surface of the depressed Central Artery totals approximately 27 acres; Boston Common, about 48 acres; and the Public Garden, approximately 26 acres.

The Boston extension of the Massachusetts Turnpike stretches more than 2.5 miles through the city, and sits adjacent to residential, commercial, and institutional uses. The corridor spans from just west of Commonwealth Avenue near the BU/Cottage Farm Bridge to just east of Washington Street, near the I-90/I-93 interchange in the Chinatown/South Bay area. In a one half-mile stretch in the Back Bay, existing air rights already developed include the John Hancock parking garage, Copley Place Mall, the Prudential Center, and the Hynes Convention Center.

For purposes of consistency, the SDSC used the same parcel numbering and boundaries used in the 1993 air rights study. In considering development, some parcels have been subdivided due to their large size, and others have been considered in conjunction with adjacent vacant land, which has been referred to as *terra-firma*.



In a land-poor city, air rights parcels collectively offer almost as much land area as the 46-acre Boston Common.





Air rights parcels could support several thousand research jobs and housing units to support a fast-evolving economy.

2. THE CITY

ECONOMIC OPPORTUNITY

Boston's landscape and skyline reflect the transformation of the city from a major port and regional manufacturing center to a vibrant service and technology-based economy. Over the past thirty years, Boston has grown as a hub for finance, real estate, medical, technology, government, and educational services.

While this shift has led to overall prosperity, certain sectors of the economy still suffer:

- The long-term loss of port and manufacturing jobs left Boston with few jobs that created real opportunities for people without highly developed skills; the city needs hotel and other "low barrier" jobs that offer a new version of the traditional ladder of opportunity offered by manufacturing jobs.
- As the region recovered from the early 1990s, most new service jobs went to the suburbs and many residents left seeking lower housing costs. Unlike the boom of the 1980s, for example, the city saw relatively little office development in the early 1990s. Boston needs more than ever to take advantage of its status as a leader in education and venture capital to create jobs and investment tied to the city's long-term strengths as a center for technology and learning.

- Along with other cities across the country, Boston seeks to build on its historic and other resources to claim a share of this country's fast-growing visitor industry. After watching our city's share of national tourism drop for more than two decades, Boston needs to expand its limited hotel supply and continue to provide new cultural and other attractions that benefit residents and draw visitors.

A recent study reported that housing costs had risen more than 90% since 1995 in many neighborhoods along the Turnpike. Spiraling housing costs have caused people to move out of the city. Mayor Menino has made affordable housing a top priority and now requires that any development containing ten or more units of housing have no fewer than 10% of its units designated affordable to moderate and middle-income households. Of these units, no fewer than 50% must be affordable to moderate households earning less than 80%-120% of median income. A developer can also choose to build 15% of the total number of units off-site or make a dollar contribution to an affordable housing fund calculated by multiplying the total number of units in the residential project by 15% and then multiplying the units by \$52,000 per unit. All affordable units created, whether on-site or off-site, must be comparable in size and quality to the average market-rate units in the development and ensure long-term affordability for the maximum period by law.

Planning for air rights should consider the important role many parcels can play in creating economic opportunity but it must also respect the needs of nearby neighborhoods.

INSTITUTIONS

Boston's long-term livability depends on the health of both residential neighborhoods and the nationally significant institutions next door. A substantial share of quality new jobs in Boston emanates either directly or indirectly from two institutions near the Turnpike: BU and the Longwood Medical Area ("LMA"). For years BU has been one of the city's largest employers. The LMA draws more federal research dollars than 44 states. Other institutions along the Turnpike enrich the city in important ways. Berklee College of Music educates more than 4,000 students. Tufts New England Medical Center not only carries on significant research but also provides medical services for a wide spectrum of city residents. Appropriately developed, a number of air rights parcels can contribute to resolving land-use conflicts between neighborhoods and these institutions.



A substantial portion of Boston's high quality jobs come from institutions near the Turnpike, e.g., Boston University.

A Civic Vision for Turnpike Air Rights in Boston

URBAN DESIGN

The creation of more than 200,000 new jobs in downtown and the Back Bay has transformed Boston's skyline and brought an explosion of restaurants, shops, and other pedestrian-friendly uses to the streets of a city that in 1950 appeared to have been bypassed by the 20th century. Throughout the Turnpike corridor, building height and massing should relate to the character of adjacent communities. Everywhere along the Turnpike corridor, street level uses should enliven the pedestrian realm. At either end of the corridor lie sites with the potential to create "gateways" of regional significance—Parcel 1, which faces onto the Charles River and Parcel 23, which faces the I-90/I-93 interchange.



University. The university's expansion replaced many former residents with students and has resulted in many housing units being occupied by university-affiliated individuals. As a result, there is a need for additional residential development, which will replace housing lost to institutional use. Neighborhood residents are concerned about institutional expansion and are hopeful that air rights development can provide alternative locations for much of this growth while improving connections to the Charles River.

Fenway/Kenmore Square, bordered by the Charles River, Brookline, Mission Hill and the South End, is separated from the Back Bay by the Turnpike. The Back Bay Fens, created in 1875, is a critical link in the chain of parks known as the Emerald Necklace. Fenway/Kenmore has one of the youngest populations in the city, a reflection of the concentration of educational institutions in the vicinity and their students. The Turnpike separates Kenmore Square from Fenway Park, making pedestrian circulation to and from this important transit and retail hub difficult and dangerous. The Turnpike has also blocked open space access and divided the parcel near the Bowker Overpass. Residents are particularly interested in maintaining the neighborhood's income diversity, avoiding displacement of the arts community, and assuring that new development respects the district's historic scale and character. Reduction of traffic and parking are also high on their list of concerns, as is the desire to see surface parking lots redeveloped into other uses.



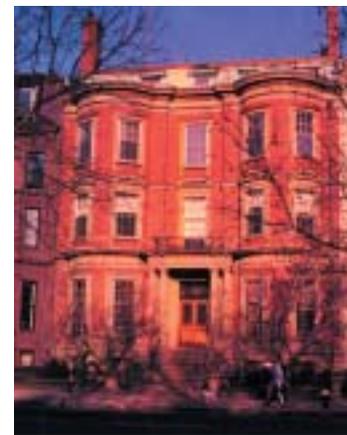
3. NEIGHBORHOODS

The seven neighborhoods abutting the Boston extension are some of the densest and most desirable urban communities in the region; in fact almost 25% of Boston's population lives within one-half mile of the Turnpike corridor. While the character and demographics of each neighborhood may vary, they share many concerns, from assuring affordable housing to easing local traffic congestion and parking woes.

Allston-Brighton is bordered by the Charles River, Newton, and Brookline. The area examined in this study has a more mobile population than other areas of the city, and includes many students from Boston University, Boston College, and Harvard Business School. Allston-Brighton residents are concerned with preserving the residential character of their neighborhood, ensuring that BU locates new facilities outside of existing residential areas, and the creation of homeownership opportunities to encourage long-term residents.



Audubon Circle is a compact neighborhood that straddles the Brookline/Boston line and abuts the Turnpike and Boston



The **Back Bay** is an historic area of 19th-century townhouses bounded by the Charles River, Fenway/Kenmore, the South End, and the Boston Public Garden. Modeled after Paris, the neighborhood comprises large, rectangular blocks of bow-front townhouses. While the district is mainly residential, it does contain the Newbury and Boylston Street commercial areas—a major attraction for residents and tourists alike. Several air rights structures are located in the Back Bay, including Copley Place, the Prudential Center, the Hynes Convention Center, and the John Hancock garage. The most noticeable impacts of the Turnpike in the Back Bay are at the intersection of Massachusetts Avenue and Boylston Street, where the highway divides the row-house neighborhood. Residents in the Back Bay share many of the concerns of their Fenway/Kenmore Square neighbors.

Bay Village is an historic neighborhood adjacent to Chinatown and the Back Bay and separated from the South End by the Turnpike.

Development in Bay Village began in the 1830s after the tidal flats were filled. The area was called the Church Street district in the 1860s, when the entire neighborhood was raised 18 feet above the mean low water level. After years of physical deterioration and economic difficulty, the 1960s brought revitalization, with new public improvements and private rehabilitation of existing buildings. Most buildings in the neighborhood are narrow, two- or three-story red brick 19th-century row-houses. Although a majority of Bay Village is residential, there are some institutional and commercial uses. Like its neighbor, Chinatown, Bay Village has little open space. Residents in Bay Village are concerned about the scale of new development, preservation of the neighborhood's residential character, limiting traffic, improving transportation, and preserving light. Residents would like to reduce the negative air quality/noise impacts of the Turnpike.



The **South End** is south of Downtown, west of Chinatown, east of the Back Bay and north of Roxbury and is the nation's largest Victorian row-house neighborhood. Originally marshland, the area was filled in the 1850s and built up as single-family row-houses. With the construction of the grander houses in Back Bay, the South End quickly became housing stock for working class immigrants with whom came a vibrant mix of ethnic restaurants, hotels, theaters, and jazz clubs. Urban Renewal efforts in the 1960s saw the removal of many blocks of row-houses and the creation of affordable housing. Not long after, in an effort to ensure the preservation of the neighborhood's character, local residents nominated the area to the National Register of Historic Places and the South End Landmark District was established. Rising property values in the 1990s changed the character of the South End again, with many of the remaining rooming houses and bars redeveloped into expensive condominiums and restaurants.



Currently, many sections of the South End rival the Back Bay and Beacon Hill in housing costs.

The South End population, however, remains diverse, both ethnically and economically. As new housing is built and existing housing is renovated, young professionals and families have been moving into the South End. Issues of rising property taxes and rents as well as other issues of gentrification are a concern among long-time residents. Residents are also interested in preserving existing residential character, protecting open spaces, supporting local businesses, avoiding negative traffic impacts, improving pedestrian crossings along the corridor, resolving parking shortages, and improving public transit. Air rights development would connect the South End with Bay Village and Chinatown.

Chinatown, located adjacent to downtown Boston and bordered by Bay Village and the South End, mainly originated as landfill in the early 1800s. The largely Asian population is one of the fastest-growing in Boston and the neighborhood serves as the focus for the region's Asian community. Land uses in Chinatown are mixed and include residential, commercial, and institutional uses such as Tufts Medical School and New England Medical Center. During the 1960s a significant portion of Chinatown's housing was demolished for Urban Renewal and the construction of the Southeast Expressway and the Turnpike. In one of Boston's densest residential area—and one with the least amount of open space—housing and open space, traffic, safety, congestion, and the environmental effects of the highway (particularly noise and pollution) are major neighborhood concerns.



In one of Boston's densest residential area—and one with the least amount of open space—housing and open space, traffic, safety, congestion, and the environmental effects of the highway (particularly noise and pollution) are major neighborhood concerns.

A Civic Vision for Turnpike Air Rights in Boston



The Turnpike separates neighborhoods from Boston's greatest open space, the Charles River.

URBAN DESIGN

The character of city blocks, buildings, public open spaces, and streets has a profound effect on livability of each of these neighborhoods. Boston's striking economic resurgence has affected the urban design and quality of every corner of the city. The impact of these changes on traditional urban neighborhoods is nowhere more obvious than along the Turnpike corridor. Boston's struggle to accommodate entire new service and research sectors created a dramatic skyline next to historic neighborhoods: a generation of taller research buildings near BU and the LMA, affordable housing complexes in Chinatown and the South End, and office and hotel towers next to the South End, Bay Village, and the Back Bay. At the same time, subtle changes have revived these neighborhoods: empty storefronts have disappeared, dilapidated housing has been restored, and cafés and markets have returned to main streets.

The past four decades of dramatic change have set the stage for much of the debate regarding air rights development. Residents argue that tall buildings overshadow and overwhelm 19th-century row-house neighborhoods and that additional large-scale development threatens both the character and livability of these fragile environments. Proponents argue that tall buildings already dot the skyline next to these neighborhoods, and that selectively covering the Turnpike—which will require large projects—will



Appropriate scale, uses, and pedestrian-friendly streets are keys to connecting neighborhoods.

enhance these neighborhoods. At the heart of this debate are three core concerns that are critical to the urban design character and quality of the neighborhoods along the Turnpike:

- **Scale and Massing.** While Audubon Circle, the Fenway, Back Bay, the South End, and Bay Village each maintain a relatively distinct character and scale, all of these neighborhoods were shaped by 19th-century concepts of neighborhood planning. Although its buildings are more diverse, Chinatown maintains an equally distinct and cohesive character—found particularly in the human scale and liveliness of the uses that line its streets. The narrow streets and dense building fabric of several of these neighborhoods make them particularly sensitive to shadow impacts. The corridor has never been a welcome neighbor. The potentially large size of air rights development, however, requires that buildings be carefully scaled—in terms of both height and massing along the street—to ensure appropriate transitions to the existing neighborhoods.
- **Connections.** The corridor itself has never been a cohesive part of Boston's urban form, separating the neighborhoods and commercial districts that grew up along each side. Air rights development offers a unique

opportunity to connect these neighborhoods, but it will require a scale, an architecture, and in particular, uses and design of street levels that extends the existing fabric to either side.

- **Walkable Streets.** Boston is known across the country for walkable streets, lined with buildings and public spaces that engage pedestrians. The previous generation of air rights developments—the Prudential complex and Copley Place—violated this legacy with blank walls, street façades that lack human scale, and lifeless, isolated open spaces. The next generation of air rights buildings and public spaces must create scale, massing, architecture, and street level uses that enliven the pedestrian experience.



Boston's public realm ranges from handsome parks to lively sidewalks

4. PUBLIC REALM AND OPEN SPACE

Over the course of the last year, the SDSC has learned some fundamental lessons about the relationship of the Turnpike to Boston's public realm. These insights have shaped the *vision* and Guidelines and should inform all future proposals for air rights development.

USERS OF THE PUBLIC REALM

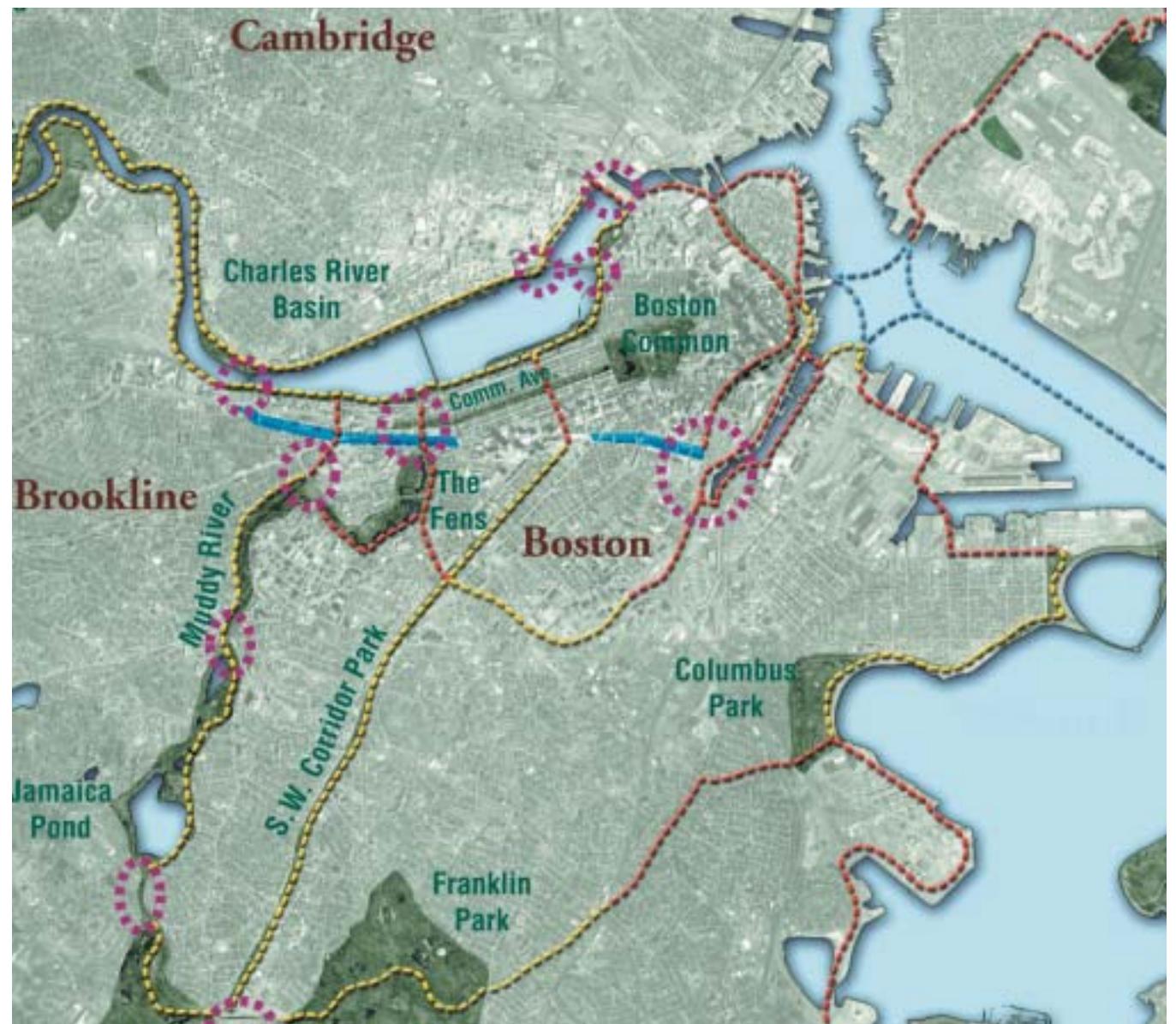
A variety of people use the public realm in the vicinity of the Turnpike corridor: students, faculty, Red Sox fans, commuters, residents, and visitors. Ideally the public realm should serve all of these users and minimize conflicts between them.

DISTRICTS

The Turnpike is not a cohesive part of Boston's urban form. Boston is a city of distinct districts; the Turnpike's arbitrary slice through these districts erodes the diversity of place for which Boston is famous.

OPEN SPACE CORRIDORS

Boston has several parkland corridors that help knit our city of neighborhoods together. They include the Charles River Reservation, the Emerald Necklace, Commonwealth Avenue, and the Southwest Corridor Park. (See Figure X.) Most of these open space corridors interconnect and have a distinct beginning and end. The SDSC concluded that the Turnpike corridor would not serve the city well as a continuous open space corridor for a number of



The Turnpike crosses and parallels a number of important regional open space corridors

A Civic Vision for Turnpike Air Rights in Boston

reasons. Continuous open space on the air rights would be isolated and would fail to connect important places in the city. In the western portion it would be redundant with the Charles River Reservation and the Emerald Necklace greenway and would create a barrier between these two great open spaces.

VIEWS OF BOSTON

The Turnpike corridor provides dramatic views of the Boston skyline for drivers arriving from the west. These signature views shape a visitor's first impression of the city and reinforce our sense of place. Air rights development should take skyline views of the city into consideration.

CONNECTIONS – STREETS AND BRIDGES

The gap the corridor creates between Chinatown, Bay Village, the Back Bay and the South End is lined by frontage roads and bridged at block intervals by eight streets. This existing street grid defines eight parcels, all but two of which (Parcels 14 and 19) can be considered within the range of Boston's city block size. Public realm improvements on these vital links and frontage roads would have a profound impact on the quality of life in abutting neighborhoods.

The eight crossings of the Turnpike corridor west of the Back Bay are spread out over a much greater distance. The Turnpike creates barriers of over a 1,000 feet in three instances. Half of the connections are long diagonal bridges or elevated structures that challenge pedestrians. In some places, the Turnpike is close to grade, forcing bridges to rise high into the air to clear it, and adding to the difficulty of walking alongside it. As a result of historic street layouts, neighborhoods to the south of the Turnpike – the Fenway and Audubon Circle – are virtually cut off from Commonwealth Avenue and from the Charles River Basin.

Air rights development can create safe, comfortable, and attractive streets and walkways between currently isolated neighborhoods.

5. TRANSPORTATION

The SDSC organized a special Transportation Working Group ("TWG") to advise the SDSC on transportation issues. The TWG met monthly to review air rights-related transportation issues. The TWG drew wide attendance from neighborhoods along the



The Turnpike corridor has excellent transit access, which is heavily used; one result is minimal Green Line capacity.



Additional facilities would encourage greater use of bicycles

corridor and from advocacy groups and individuals with a citywide interest in transportation issues. Two members of the SDSC led the TWG, Peter Bassett (TWG chair) and Martha Walz (TWG vice-chair and chair of the Regional Connections Subcommittee, which focused on certain corridor-wide transportation issues). The TWG addressed issues related to managing local transportation impacts of air rights development and surrounding transportation conditions as well as regional issues related to improving access to and from destinations in the Turnpike corridor.

Traffic levels on many of the local streets in the corridor increased in the 1990's. The degree of traffic growth varied from 1% to 135% increase, with typical increases in the 10% to 25% range. In fact, as illustrated in Figure X, limited capacity exists at most, but not all, intersections that would be affected by air rights development (based on standard definitions for urban streets- see Figure X and Table X). There are significant differences along the length of the corridor. Traffic congestion on local streets is noticeably more severe east of Charlesgate, particularly in the Back Bay and parts of the South End, Bay Village and Chinatown. Residents, however, raised transportation issues relating to every parcel, and the transportation context was evaluated in each area.

The ability to develop air rights parcels must be closely linked to the quality and capacity of public transportation, which is a defining characteristic of the neighborhoods along the Turnpike. In fact, these neighborhoods already maintain some of the region's highest rates of public transportation use. For example, in most neighborhoods along the corridor, 40%-65% of trips to work are by public transit, compared to less than 40% by automobile, this is a beneficial contrast to the pattern in other parts of the city less well served by public transit, where the overwhelming majority of trips are by automobile.

The Turnpike corridor already has the potential for excellent regional **public transportation** access. The value of this access, however, is limited by a number of factors, including local traffic congestion that impedes bus effectiveness, limited capacity of the Green Line, the lack of a convenient commuter rail station, *and incomplete connections to the regional highway system* for bus access. A series of improvements examined by the study could significantly increase public transportation access to key points along the corridor and increase air rights development options.

The corridor is notable for the absence of designated facilities for **bicycles**. Although bicycle travel is permitted along most city

Unsignalized Intersections

- LOS A represents a condition with little or no delay to minor street traffic.
- LOS B represents a condition with short delays to minor street traffic.
- LOS C represents a condition with average delays to minor street traffic.
- LOS D represents a condition with long delays to minor street traffic.
- LOS E represents operating conditions at or near capacity level, with very long delays to minor street traffic.
- LOS F represents a condition where minor street demand volume exceeds capacity of an approach lane, with extreme delays resulting.

Signalized Intersections

- LOS A describes operations with very low delay; most vehicles do not stop at all.
- LOS B describes operations with relatively low delay. However, more vehicles stop than LOS A.
- LOS C describes operations with higher delays. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delay in the range where the influence of congestion becomes more noticeable. Many vehicles stop and individual cycle failures are noticeable.
- LOS E describes operations with high delay values. Individual cycle failures are frequent occurrences.
- LOS F describes operations with high delay values that often occur with over-saturation. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Level-of-Service Criteria for Intersections

Level of Service	Unsignalized Intersection Criteria Average Total Delay (Seconds per Vehicle)	Signalized Intersection Criteria Average Stopped Delay (Seconds per Vehicle)
A	≤ 5.0	≤ 5.0
B	5.1 to 10.0	5.1 to 15.0
C	10.1 to 20.0	15.1 to 25.0
D	20.1 to 30.0	25.1 to 40.0
E	30.1 to 45.0	40.1 to 60.0
F	> 45.0	> 60.0

Source: Highway Capacity Manual, Special Report 209, Third Edition; Transportation Research Board; Washington, DC; 1994. Pages 9-6 and 10-12.



Some neighborhoods complain of parking shortages; others oppose parking to discourage new traffic.



Barren pedestrian Turnpike crossings contrast with lively nearby sidewalks that mark some of America's most walkable neighborhoods.

streets, no real accommodations exist to promote it. Connections to the Charles River Basin, the Fens, and Southwest Corridor Park are tenuous, and both recreational and commuter cyclists must navigate roadways that were designed with auto travel in mind. Public bicycle racks are located throughout the corridor, although many of them suffer from lack of use because of security concerns.

High concentrations of pedestrian activity are evident all along the corridor. **Pedestrian** connections in the corridor, however, could be improved. There are limited opportunities for crossing the Turnpike, poor connections to recreational areas such as the Fens, and the Charles River Basin, and long detours imposed by the Turnpike itself. Although sidewalks exist along most of the city streets, in some cases they are not adequate by today's design standards, offer limited pedestrian capacity, and provide poor levels of service.

Parking is a polarizing issue for many residents along the corridor. In virtually every neighborhood, many residents report a lack of sufficient resident parking and complain that commercial and institutional users encroach on the residential parking supply. Off-street spaces in private commercial facilities are too expensive for many residents. For all neighborhoods east of Charlesgate, the demand for on-street resident spaces (as measured by on-street parking permits) exceeds supply, in some cases by substantial margins. At the same time, many residents argue strongly against permitting extensive parking in conjunction with air rights development because this parking will increase local traffic.



III. Analysis: Forces that shape the *Civic Vision* and Guidelines

A. PUBLIC REALM

The SDSC discovered a wide variety of conditions and numerous opportunities for improvements to the quality and character of the public realm.

PARCELS 1 AND 4-6 BU BRIDGE TO BEACON STREET BRIDGE

From the west, the elevated Turnpike crosses the Beacon Yards and abuts the edge of the Charles River with its views of the Boston skyline before descending under Commonwealth Avenue. The oblique angle of this approach opens a large gap in the dense fabric of Boston that will be difficult to fill.

Streets and walks

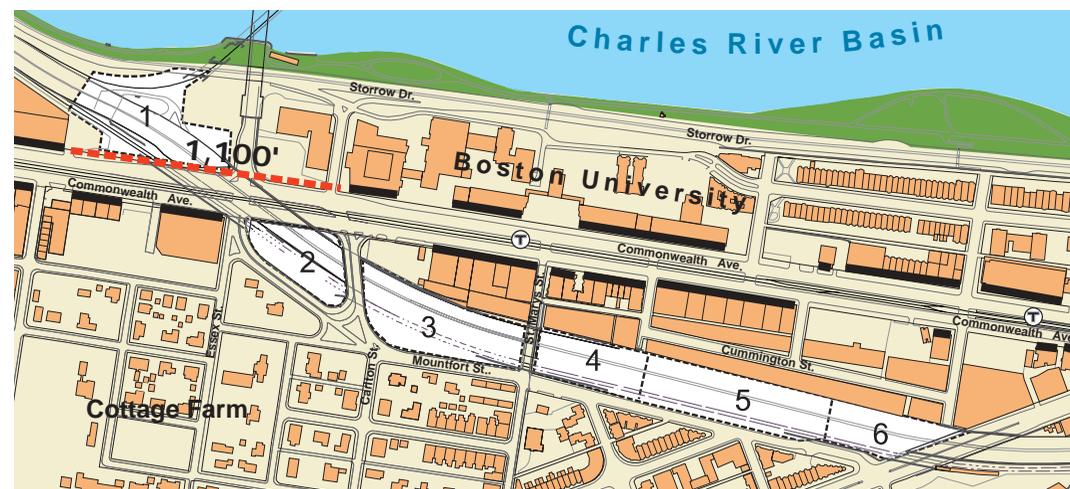
BU's campus is divided by Commonwealth Avenue and by the BU Bridge where the Turnpike crosses under Parcel 1. Commonwealth Avenue loses its urban feel near the BU Bridge, where the street walls vanish. Each day, thousands of students cross this 1,100-foot gap on their way to and from class. Air rights development on Parcel 1 should reinforce the urban character of Commonwealth Avenue and support some of the heaviest pedestrian activity in the city.

Mountfort Street provides an edge and buffer of trees between the Turnpike and the Audubon Circle and Cottage Farm neighborhoods. There are only two pedestrian connections across the Turnpike in this section. One (Carlton Street) is dominated by cars. The other, St. Mary's Street, leads residents from Audubon Circle to the campus, with many pedestrians spilling off the sidewalk onto the street. Air rights development on this bridge should help buffer pedestrians from the noise and wind of the Turnpike. A new pedestrian crossing halfway between the St. Mary's Street Bridge and the Beacon Street Bridge would help to take the pressure off St. Mary's Street Bridge.

Open space

Boston University has developed courtyards facing Commonwealth Avenue that help create a campus quality for this urban university. Any campus development over the Turnpike should reinforce and strengthen this pattern while establishing a strong edge along Commonwealth Avenue. The removal of the empty gas station across Mountfort Street from Parcel 4 could make room for a small park.

The Charles River Basin cannot be reached from the BU Bridge, where stairs dead-end at Storrow Drive. The development of a



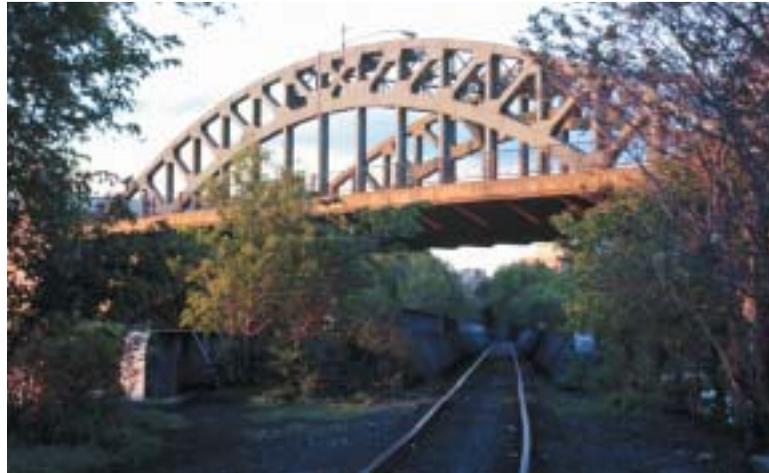
Pedestrian counts along Commonwealth Avenue fall more than 50% from the eastern to the western side of the 1,100' gap over the Turnpike.



The Boston skyline from the Beacon Yards

A Civic Vision for Turnpike Air Rights in Boston

pedestrian and bicycle path down through Parcel 1 and across the abandoned half of the railroad bridge would provide residents and BU students direct access to either side of the river. The Metropolitan District Commission master plan for the Charles River Basin supports this concept.



A path across Parcel 1 could connect pedestrians to both sides of the Charles River via the rail bridge.

Urban design

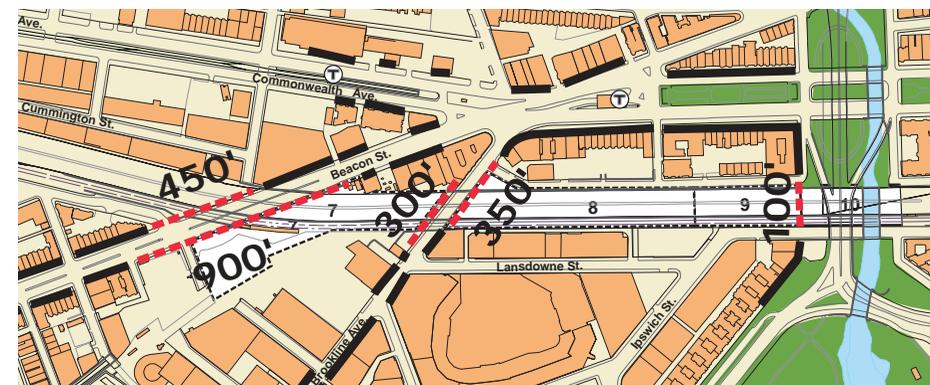
An opportunity exists to create a landscaped buffer between the neighborhoods and air rights, maintaining an appropriate separation between air rights buildings and the adjacent neighborhood. Air rights buildings should be configured perpendicular to the Turnpike and along cross-streets to avoid “walling off” the neighborhoods from the river to the north and to preserve views of the sky.

Commonwealth Avenue in this area could be one of the city’s most walkable streets. New buildings facing Commonwealth Avenue could extend a sense of campus and create a pedestrian-friendly environment in the area. Parcel 1 is located at a significant crossing of the Charles River and is ideally situated for a prominent “gateway” building.

PARCELS 7-10 BEACON STREET BRIDGE TO CHARLESGATE

Streets and walks

The Turnpike interrupts pedestrian movement from the residential and entertainment districts to the south and Kenmore Square to the north. East and west, Beacon Street rises 25’+/- to clear the Turnpike at an acute angle. This is the longest exposed pedestrian crossing along the Turnpike corridor. Brookline Street also rises to clear the Turnpike but has a shorter distance to cover. Its narrow sidewalks are inadequate to handle the crowds heading from the Kenmore Square MBTA stop to Red Sox games. An outstanding view of the Boston skyline, however, can be had after crossing the bridge.



The Turnpike bridges, with barren and narrow sidewalks, isolate Kenmore Square from the west.

The Bowker Overpass should be rebuilt to reconnect the two halves of upper Newbury Street, providing much needed access to the isolated and underutilized Charlesgate Park. Sufficient space exists to build decorative screen walls and landscaping along the entire Turnpike edge in this area, increasing the quality of Newbury Street. A similar treatment should be considered for frontage roads along the Turnpike, including Ipswich Street, where Fenway Studios is located.

An opportunity to create a pedestrian walkway exists along the MBTA’s Riverside Line corridor leading from Park Drive to Kenmore Square. A pedestrian crosswalk





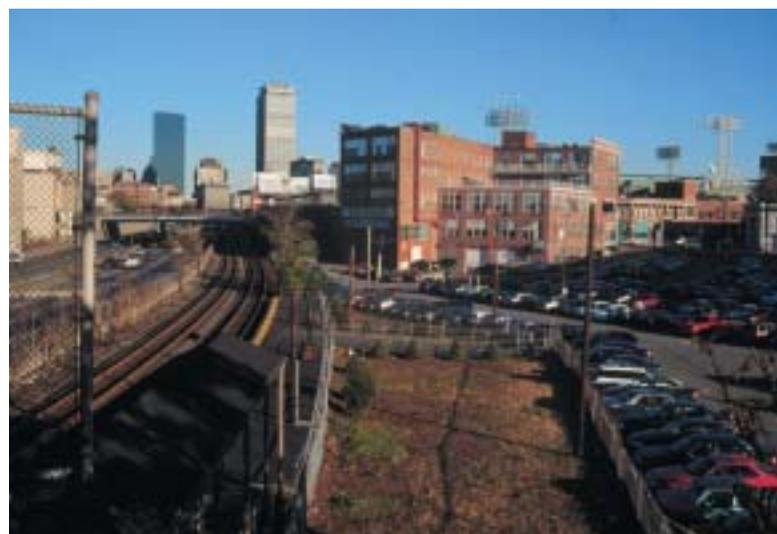
A new Yawkey multi-modal station should have a strong pedestrian connection to Kenmore Square.

from a new Yawkey Station across Beacon Street would provide a critical link to Blandford Street, where an improved stairway and ramp are also needed.

Open space

The Charles River and Muddy River corridors wrap around three sides of the Kenmore Square/Fenway Park district. Open space resources in this area are substantial but they are difficult to reach. Turnpike air rights should be used to provide access to these resources. The introduction of pedestrian and bicycle paths from the Fens, the Charles River, and Newbury Street will go a long way to reconnecting this area.

A single multi-use path could link three major open space corridors – the Charles River Basin, the Fens, and the Commonwealth Mall. Walkers, runners, skaters, and cyclists would be able to traverse the city without leaving the park environment. Support from Turnpike air rights development, along with the reconstruction of the Bowker Overpass would provide an opportunity to reclaim this forgotten piece of Boston open space.



Surface parking on Parcel 7 discourages pedestrians and isolates Audubon Circle from Kenmore Square.

Urban design

Kenmore Square and Fenway Park about the Turnpike, along with the backside of former warehouse structures housing entertainment and other enterprises. The lights of Fenway Park loom above. Apartment buildings about Parcel 7 to the west and the Turnpike at Charlesgate.

While Kenmore Square and attractions like Lansdowne Street and Fenway Park could make this area one of Boston's most cohesive pedestrian realms, the area is highly fragmented due in large part to the long stretches of exposed bridges along Beacon Street and Brookline Avenue. Large surface parking lots on Parcel 7 further erode the fabric. There is an opportunity to capture this area's potential by filling the gaps along Beacon and Brookline with new buildings that line the sidewalk edges and engage pedestrians at street level. These new buildings should form a transition from the row-house and small apartment building scale of Audubon Circle to the larger, commercial, scale of Kenmore Square.

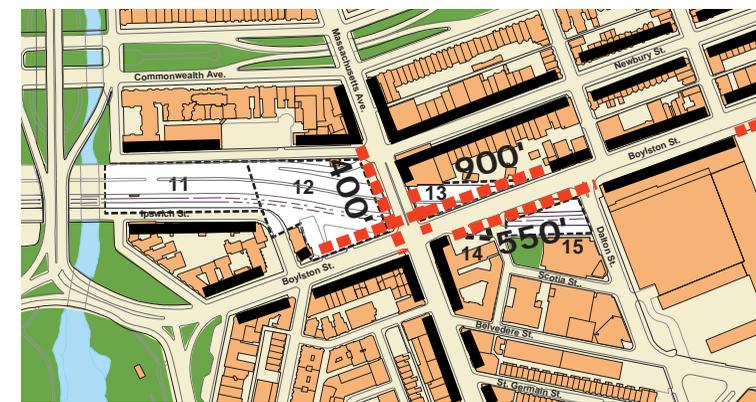
PARCELS 11-15

CHARLESGATE TO HYNES CONVENTION CENTER

Streets and walks

The large gaps in the Back Bay grid at the intersection of Massachusetts Avenue and Boylston Street make travelling along these streets very unpleasant. An unsightly bus shelter at the 400-foot gap along Massachusetts Avenue provides inadequate protection from wind, noise, and exhaust fumes.

Boylston Street, with a mix of large- and small-scale buildings, is the commercial spine of the Back Bay. The gap created by the Prudential Center, the Hynes Convention Center, and the Turnpike has created a long inactive zone along the streets and has isolated the block of small commercial stores west of Massachusetts Avenue. Air rights development on these parcels should reestablish the broader sidewalk widths across the Turnpike. Sidewalks on Massachusetts Avenue around the Tower Records building (360 Newbury Street) should be wider and include bus turnouts.



Barren Turnpike bridges discourage pedestrian connections between the Back Bay and Fenway.

A Civic Vision for Turnpike Air Rights in Boston

Newbury Street's variety of stores, wide sidewalks, and outdoor dining offer good models for air rights development.



Newbury Street mixes residences and retail uses in historic townhouses set back 34 feet from the curb. The street changes to all-commercial use in the last block before Massachusetts Avenue. The narrower walks and increased commercial activity in this last block make for a lively atmosphere. The Public Garden terminates the view down Newbury Street to the east and Fenway Studios terminates it to the west. There is, however, no hint of the bend in the Back Bay grid, and future development on Parcel 12 should address this opportunity.

Open space

The Fens is the focus of the Fenway neighborhood. Copley Square, the Commonwealth Avenue Mall, the Public Garden, and the Charles River Basin all contribute significantly to the quality of life in the Back Bay. Development of these parcels should establish a comfortable and vital pedestrian environment. None of the Turnpike parcels would be appropriate for open space. Air rights development on Parcel 12 should provide generous sidewalks on Boylston and Newbury Streets to connect to the Fens and Charlesgate Park.

Urban design

At this point, the Turnpike crosses into Boston's historic core. Both the Fenway and Back Bay include substantial historic districts, one of which overlaps Parcel 13. The Fenway Studios, a National Historic Landmark, uniquely benefits from the northern light afforded by the corridor. Future air rights development should protect this asset.



Air rights development offers an opportunity to fill the gaps along these streets in ways that maintain the character and quality of the nearby pedestrian realm. Redevelopment of former rail yards and air rights into the Prudential Center complex set the stage for a dramatic contrast to the historic row-house scale and character of buildings north of Boylston Street. Air rights development on Parcels 14 and 15, south of Boylston Street, could help form a transition between these very different scales. The scale and character of development on Parcels 12 and 13 should be carefully scaled to respect the historic Back Bay.



The historic Fenway Studios, which depend on unobstructed natural light, face Parcel 11.

EXISTING AIR RIGHTS DEVELOPMENT DALTON STREET TO CLARENDON STREET

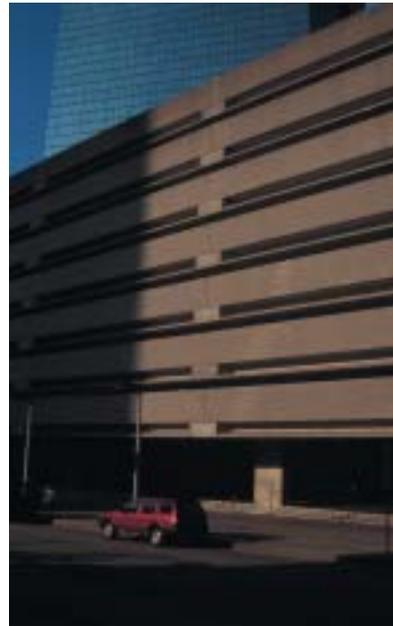
Openings to natural light and views

At Dalton Street drivers leave the sunlight and pass underneath four existing air rights projects: the Hynes Convention Center, the Prudential Center, Copley Place, and the John Hancock garage. Entering this 3,000-foot tunnel in the Back Bay and coming out next to Chinatown can be disorienting. This experience underscores the importance of preserving intermittent openings along the Turnpike to provide a sense of connection to and orientation within the city.

Lessons learned

The quality of the public realm in and around the existing air rights projects highlights some of the pitfalls of these developments.

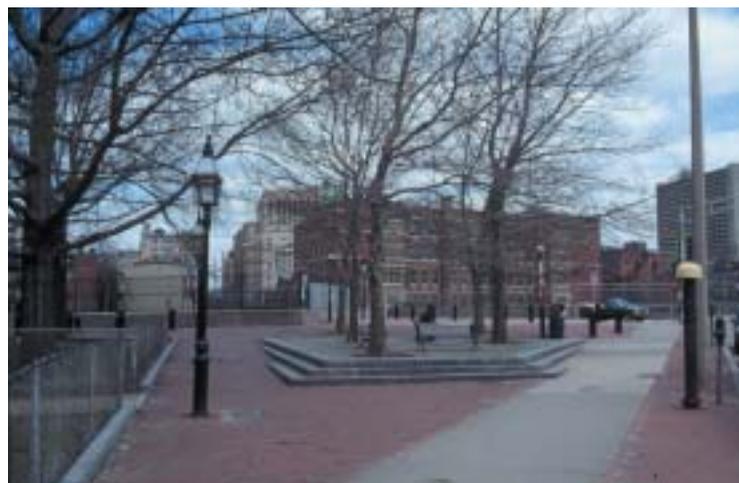
- The pressure to maximize building footprints to avoid height at Copley Place resulted in the complete loss of sidewalks in some areas. The empty plaza at the corner of Dartmouth and Stuart Streets or the flight of stairs at the base of the Hancock garage demonstrate awkward resolutions of grade changes over structure.



Future air rights parking should not be visible from public sidewalks.

- Along city sidewalks, buildings should step down with the grade to make multiple entrances and windows at street level possible. This is difficult but not impossible to do. The Hancock garage, however, also shows how wide driveways and inactive street walls create an unfriendly pedestrian environment.

- Finding ways to incorporate parking in future air rights development will be one of the many tough challenges developers will face.



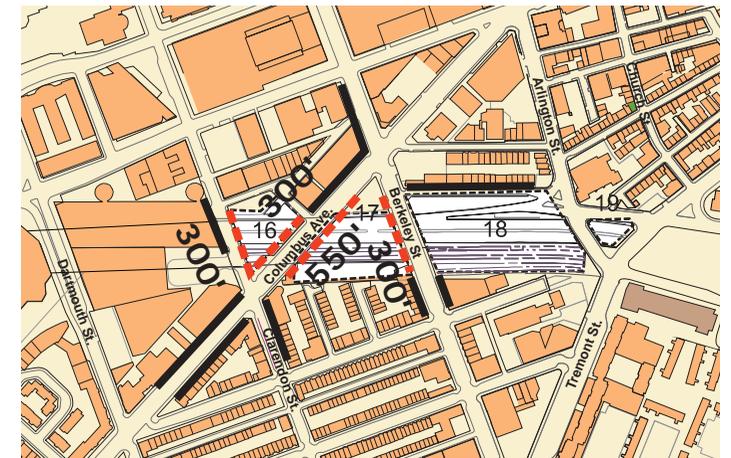
Air rights development could relocate the generally empty Chandler Park, adjacent to Parcel 18, to a more appropriate location.

PARCELS 16-19 CLARENDON STREET TO TREMONT STREET

Streets and walks

The streets of the Back Bay – Arlington, Berkeley, Clarendon and Dartmouth – connect directly across the Turnpike to the South End and re-create a portion of the Back Bay grid in the South End. Pedestrian traffic between these districts is particularly heavy on Dartmouth and Clarendon Streets, where the entrances to the Back Bay/South End Station are located.

Columbus Avenue slices diagonally across the grid of streets. Its width suggests the need for sidewalks more generous than the prevailing 12-foot-wide sidewalks.



The Turnpike isolates Back Bay and Bay Village from the South End.

Open space

Neighborhoods in this area are among the densest in Boston and have little open space. The land along the Turnpike ramp directly in front of Cortes Street offers a rare opportunity to create some open space for this district. By building an attractive retaining wall and backfilling, this parcel could be made level with Cortes Street. A linear urban park could then be established at relatively small expense compared to parks constructed on decking. An expansion of this park could occur over a portion of Parcel 18. The Guidelines also recommend leaving Parcels 10 and 11 undeveloped, or adding park features on parts of these parcels. All or part of Parcel 18 should be added as a park to this list for several reasons. This parcel has great width and length and has room for beautifully landscaped edges unlike much of the rest of the Turnpike corridor. It also provides wonderful views of the Boston skyline.

The small park at the terminus of Chandler Street is rarely used and not well maintained. This site happens to be the focal point of four streets and would make an excellent site for a civic building to help bridge the gap between neighborhoods. The guidelines contemplate a tradeoff of this *terra-firma* parkland for the construction of a building in return for a considerably larger park above air rights on Parcel 18.



Parcel 18 could accommodate a community park that balances the impacts of new development.

A Civic Vision for Turnpike Air Rights in Boston

Urban design

The Turnpike passes through some of Boston's most historic areas in this district. Like Parcels 11-15, this portion of the Turnpike is at the edge of distinctly different residential and commercial districts. One block to the north of Parcels 16 and 17 is Boston's tallest building, the John Hancock Tower, while one block to the south lie the four- and five-story row-houses of the South End Landmark District and Bay Village Historic District. Parcels 18 and 19 rest between the South End with its long narrow blocks of Victorian row-houses and the Bay Village with its short narrow streets and tightly packed townhouses. Bay Village, which was the home to many artisans who constructed houses on Beacon Hill, has one of the most intimate scales of any Boston neighborhood. Air rights development on these parcels should make careful scale transitions between these very different contexts, locating taller buildings to the north of Columbus Avenue.



Air rights development on Parcels 16-19 must mediate between the scale of commercial Back Bay and adjacent historic neighborhoods.

The degree to which the pedestrian realm along these streets can be enhanced is best measured by the transformation that air rights development brought to Dartmouth Street in the early 1980s. The development of Back Bay/South End Station, Tent City, the Southwest Corridor Park, and Copley Place, including shops and restaurants facing the street, converted a barren bridge into a lively urban street and connection between the South End and the Back Bay. The opportunity exists to line Clarendon Street, Columbus Avenue, and Berkeley Street with streetwalls that match the different existing scales along these streets. Parcel 18's frontage along Berkeley and Cortes Streets would be well suited for a community park. The *terra-firma* facing Cortes Street offers one of the few opportunities for significant tree planting on air rights parcels and the Berkeley Street frontage would make the park readily accessible to the adjacent neighborhoods.



Tent City helped reconnect neighborhoods when it replaced a former rail yard next to the South End.

PARCELS 20-23

TREMONT STREET TO SOUTHEAST EXPRESSWAY

Streets and walks

The cross streets of Charles Street, Shawmut Avenue, Washington Street, and Harrison Avenue provide critical links between Chinatown, Bay Village and the South End. Washington Street is one of the South End's main commercial streets and the route of the future Silver Line. All of the Turnpike crossings should be lined with wide sidewalks.



Herald Street is and will remain very busy, feeding traffic to the Southeast Expressway. Marginal Street is a more local roadway, and with some reduction of its width, could be transformed into a tree-lined residential street. Dividing Parcel 20 will allow for additional pedestrian crossings and shorten the distance between these connections.

Open space

The only open space near Chinatown is the small park between Shawmut Avenue and Tremont Street. The Josiah Quincy School addresses the lack of open space by locating athletic courts on rooftop terraces. These work by day for students

but have limited usefulness for the rest of the community. Air rights parcels offer one of the few sites remaining for green space in or near Chinatown.

Urban design

Chinatown is one of the densest neighborhoods in the city, with many residents living in residential towers. Portions of the South End near the Turnpike are underdeveloped with surface parking lots or older parking structures facing the Turnpike. These air rights parcels not only offer an opportunity to provide badly needed housing for Chinatown, but also to enhance the setting and encourage redevelopment of the parking lots and structures to the south into housing and other more appropriate uses.

A figure/ground diagram for this area demonstrates the wide variety of building scales and types. Historic townhouses sit right next to modern towers, which in turn are next to office and institutional buildings. The rich variety, texture and history of buildings in this area makes this district one of the most physically diverse along the Turnpike and suggests that air rights development could include a variety of scales and configurations. Buildings should step up from the row-houses of Bay Village. Across the adjacent neighborhoods, most buildings come to the edge of the street, resulting in a lively urban character. Parcel 23 sits at the edge of Chinatown and serves as a gateway to the neighborhood.

B. TECHNICAL CHALLENGES AND ECONOMIC FEASIBILITY

Consideration of economic feasibility is very important in crafting an achievable *civic vision* and Guidelines. For air rights development to deliver the substantial benefits that the SDSC envisions, the economics must work. Public subsidy should be considered in cases where air rights can serve a public purpose such as affordable housing, parks or community facilities that cannot be provided elsewhere due to a lack of land. In most cases, however, air rights development must depend on private or other non-public sponsors. These air rights projects must generate sufficient income to cover the comparatively high costs of buildings over the Turnpike. The SDSC's *vision* and Guidelines do not suggest the sacrifice of public benefits to achieve economic feasibility. At the same time, the SDSC recognizes that every development project in a dense and historic city raises questions, generates debate, and requires compromises.

The SDSC believes inappropriate air rights development—projects that generate too much traffic or require buildings that diminish the character of their surroundings—should not be built. Real estate markets will continue to change over time, increasing or decreasing the value of different uses in response to the overall strength of the real estate economy. The Guidelines provide a careful balance that should permit development of many air rights parcels given the strong real estate economy of 1999. In other cases, air rights development may not be feasible under conventional private development models, but may be achievable because of special conditions related to an abutter or a unique public purpose that enables the project to move forward.



Air rights development would replace this open cut with hundreds of housing units, lively sidewalks, a park and other community facilities. An enhanced environment should spur redevelopment of the parking that faces the Turnpike to the south.

Ideally, air rights development should occur during strong economies that will support the best quality projects. A strong economy offers an opportunity to achieve projects that are both appropriate in scale and character and are also financially feasible. These Guidelines should not be compromised in response to weak real estate conditions.

Air rights development will be shaped by the need to respond to a range of technical considerations:

COST PREMIUMS

It is difficult to compare the economics of air-rights and *terra-firma* development. Building on air rights parcels involves unique added costs for creating the deck on which development will sit. This cost, together with lease payments to the Turnpike Authority, constitutes the price of transforming an air rights parcel into a buildable site. Only after factoring in these unique costs to prepare an air rights parcel, is it meaningful to compare the cost of development over air rights to the cost of development on *terra-firma*

The SDSC's consultants and the Turnpike Authority's consultants each assessed the magnitude of air rights cost premiums. While the exact premiums associated with any development project must be analyzed in detail to arrive at an accurate figure, both consultants agreed upon an order-of-magnitude range that is sufficient for planning purposes. The components of this premium include:

- The cost of building the "deck" over the air rights—or forms other than a literal deck such as columns, beams spanning the Turnpike, a deck to support landscaping or roadways, or other methods. The cost applies to the area over the Turnpike (and adjacent railroad) that is covered. While this cost is a function of the geometry of parcels and other site-specific issues, it consistently increases with the height of buildings to be supported and/or the distance that the deck must span. In 1999 dollars, these ranges translated into deck costs as low as \$175 to \$225/sf for buildings of five or fewer floors and for spans ranging from 48' to 80' and as high as \$400 to \$600+/sf for 35-story buildings and for spans ranging from 48' to 80'. Taller buildings or longer spans may further increase costs.
- Additional cost premiums that collectively add another \$75 to \$150/sf of deck cost include:

A Civic Vision for Turnpike Air Rights in Boston



More than 1,000,000sf of air rights development has been proposed because rising prices for equivalent sites on terra-firma have begun to make air rights development economically feasible.



- The cost of maintaining Turnpike operations during construction.
- The costs of providing special lighting, ventilation, signage, life safety and other requirements that may be required, depending on the scale and location of the project, to support Turnpike operations.
- The ongoing costs of maintaining a deck, subject to freezing and the impacts of weather and other wear.

Together these costs, which can range from less than \$250/sf to more than \$700/sf, represent the cost of creating air rights sites. In addition, the Turnpike Authority believes it must seek lease payments for the right to use the air rights and to cover the operational costs related to air rights over a highway. These lease payments are negotiated between the Turnpike Authority and a potential air rights developer. To understand the impact that these cost premiums and Turnpike Authority lease payments have on overall development costs, it is essential to compare them to the land value of a comparable *terra-firma* site.

LAND VALUES: LOCATION, DENSITY AND USE

Land values along the corridor fluctuate greatly according to real estate market conditions. Land values are difficult to estimate for comparative sites. There is no established value for a specific quantity of land. Land is valued by its potential to generate income, less the cost of generating that income, all over time.

Location, density, and land use all play important roles in determining land values. The simplest way of understanding this is to pick a particular location, look at the density allowed, and assess the value of the uses permitted on it. Thus the market value depends on location to determine the value of a square foot of building and zoning to determine the number of square feet of building allowed on a square foot of land. For example, if zoning allows a landowner to build an office building at a floor area ratio (“FAR”) of 8.0, or 8 times the area of the lot, and the market has established that a developer will pay \$50/sf of building area to purchase land for an office use in that location, the value of an acre of land under this example is:

$$43,560\text{sf/acre} \times 8(\text{FAR}) \times \$50/\text{sf} = \$17,424,000$$

Assuming a 20-story building with mid-range spans could reasonably involve a cost of \$350/sf to create a one-acre deck and an additional \$125/sf to cover additional premiums, the comparable cost to create this one-acre air rights site (not including the cost of Turnpike Authority lease payments) would be:

$$43,560\text{sf/acre} \times \$450/\text{sf} = \$19,602,000$$

Even before factoring in the cost of Turnpike Authority lease payments, this air rights project would need to be 10-15% larger than on a *terra-firma* site to support the same economics. Barring unique circumstances, a private sponsor will not choose to undertake an air rights project unless the project can support economics that are competitive with a *terra-firma* project. As long as *terra-firma* land values are less than the cost of creating and leasing air rights sites, air rights developers will need to compensate by creating larger projects than those that could occur on *terra-firma* sites.

Historically, office uses have commanded higher land values than residential uses. In the boom economy of 1999, residential land values have risen relative to office land values along most of the corridor, creating opportunities to build residential projects that now may or may not be as achievable in the future. Certain uses in special circumstances can support unusually high values per buildable square foot. For example, a laboratory building may be far more valuable located near other research facilities, and therefore be able to support economics that could not be achieved by more conventional housing or commercial uses in that same location.

For the foreseeable future, land values for housing and most other uses will probably continue to be highest in the areas around Parcels 11-18, which explains why air rights development proposals are being put forth in this area in 1999 and 2000. Land values have risen dramatically all along the Turnpike corridor over the course of the current real estate boom, far faster than the cost premiums associated with air rights. There is no way to predict if land values will continue to rise relative to cost premiums. In this current real estate cycle, it is likely that private market-driven air rights proposals will continue to focus on Parcels 11-18. Future real estate cycles may make appropriate, privately sponsored, air rights development feasible elsewhere along the corridor.

BOSTON REAL ESTATE TRENDS

It may take several real estate cycles before all appropriate air rights parcels are substantially developed. The current strong real estate market and the projects it can support provide a good indication of the issues that will shape privately sponsored air rights development elsewhere along the corridor.

The residential vacancy rate in neighborhoods surrounding the project is under 1%, and there is unprecedented demand for high-end residential properties. A January 2000 report indicated that housing prices in the Back Bay, the South End, and Bay Village rose more than 90% between 1995 and the end of 1999 (after in many cases falling 25% to 50% during the real estate recession in the early 1990s). It is projected that the new convention center and other factors will create demand for over 3,000 new hotel rooms in the next 5-10 years. Boston has a strong retail market fueled by significant disposable household income, tourism, and strong street-level retail. Even in a climate of inflated construction costs, developers are interested in meeting the demand for these uses.

The immediate vicinity of the air rights parcels contains a wide variety of uses, including commercial, residential, entertainment, and institutional. From a development perspective, air rights parcels should become increasingly attractive over the long term as available *terra-firma* sites are developed, leaving air rights parcels as the only viable locations for larger retail floorplates.

OTHER FEASIBILITY ISSUES

Air rights projects also carry unusual risk in absorption rates, sales prices, rents, and other factors that affect an expected income stream. That the project will likely be large in scale to absorb the cost of air rights development premiums only increases the magnitude of risk for a developer, and the financial impact of development decisions about massing, height, and uses.

Rental and affordable housing, or other uses that support lower land values, may be desirable for a specific parcel. For these uses, greater density may be needed to cover deck cost premiums as well as payments to the Turnpike Authority.

Air rights development uses leased land. Homebuyers have expressed wariness about buying on leased land; condominium and other types of uses may face financing hurdles.



Air rights proposals reflect sharply rising housing prices (up 90% between 1995-99 in several neighborhoods along the Turnpike). Strong demand also exists for hotels and retail.

HOW SHOULD THE ECONOMICS OF AIR RIGHTS PROPOSALS BE ASSESSED?

As CACs, the City, and the community review air rights proposals brought forth by the Turnpike Authority and developers, the economics of each proposal must be carefully understood and evaluated. Critical questions that must be answered include:

- How do the cost premiums associated with the parcel in question compare with potential *terra-firma* sites, given real estate values in the surrounding area, allowable densities, and uses that are in demand?
- What is the impact on the project of Turnpike Authority lease payments?
- What are the values, per square foot of built space, for the uses that are proposed—how large does the project need to be to compete with comparable *terra-firma* projects?
- Are there other appropriate uses that might generate higher values per square foot, allowing the project to become smaller?
- What is the impact of other feasibility issues, such as unique risk, on the project's economics?

No particular perspective, including economics, has been the determining factor in developing these guidelines. The task of translating this *civic vision* into an achievable reality will fall to individual CACs. They will be responsible for evaluating the manner in which these principles will intersect with economic realities. Individual CACs will need to take this basic economic evaluation much further and determine how this broad range of deck costs manifests itself in proposals for specific parcels. These Guidelines are meant to assist that analysis, but ultimately, the judgment of the CAC will be the most important factor in applying the principles of this *civic vision* in any particular case.

PLANNING AND DESIGN ISSUES RAISED BY SPECIFIC USES

Each of the likely uses that the SDSC has considered for air rights development brings its own specific configuration issues to each project. The following examples do not represent hard-and-fast requirements, but illustrate the planning issues that each use presents.

Planning and Design Issues

- Hotel floorplates for the types of smaller hotels that would be appropriate on most Air Rights parcels generally range between 10-15,000sf per floor to accommodate cost efficient numbers of rooms per floor and building widths that generally do not exceed 60' to allow sufficient light and views for each room. The minimum likely size for these hotels would be 150 to 200 rooms given market conditions that have prevailed in recent years. These parameters would translate into a minimum requirement of 10 to 15 floors to accommodate guest rooms; one floor for lobby and street level retail; one or more larger floors to accommodate restaurants, function rooms, and back of house spaces; and three to five floors to accommodate parking and servicing. The minimum building height would therefore need to be in the range of 15 to 23 floors to create a hotel on air rights. Each site and hotel operator is unique, a parcel and operator which both supported particularly high values may be able to be more flexible in terms of minimum number of rooms, floor layouts, and other factors.
- Office floorplates are far larger, reaching 25,000sf or more with far more flexibility regarding the depth of floors. The minimum likely size for an office building that served as the primary use on an air rights site would probably be 250-400,000sf to attract major tenants and support marketing and other operational costs. An office building that fits these parameters would translate into 10 to 15 floors of office space, one floor for lobby and street level retail; and three to five floors of parking. The minimum building height would therefore need to be in the range of 14 to 21 floors.
- Housing floorplates can be smaller than hotel floorplates, ranging from as much as 15,000sf to less than 10,000sf, and considerably smaller for very high value residential. While it is difficult to identify a minimum size, it is likely that developers would not choose to develop less than 50 to 75 units, given the costs of marketing etc. The resulting minimum project size may therefore range from less than 100,000sf to 200,000sf or more. While housing projects could be much smaller than hotel or office projects, the value per square foot of residential space is particularly enhanced by height. The development team that proposed the Boylston Place project for Parcels 11-13 projected that per square foot values of condominiums were twice as high for the top floors (of a 49 story proposal) as for the lower floors. Because higher floors carry greater per square foot values, the total number of square feet required is reduced and ironically for condominium projects, increased height can translate into lower total building area.
- Research and Development floorplates vary according to the type of research, but can readily exceed 20,000sf. At the same time, most R&D tenants do not seek tall buildings, and overall height can often be held to 150'. Floor to floor heights are often higher, particularly for laboratories, resulting in fewer floors and less square footage than a comparably tall residential, hotel, or office project. Parking requirements can also be lower because these buildings often have fewer employees per 1,000sf and more space devoted to equipment.

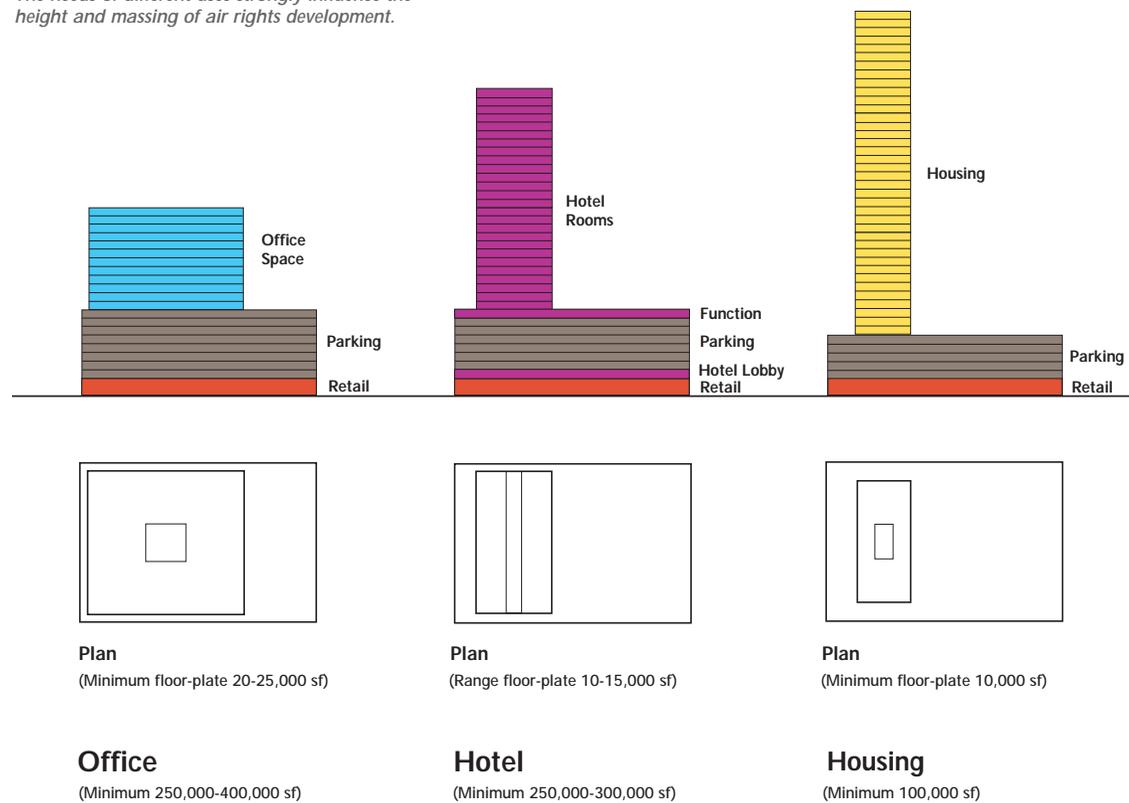
SITE PLANNING

Many air rights sites actually include a combination of *terra-firma* and literal “air rights” over the Turnpike and adjacent railroad. Because the costs and other complications of building on *terra-firma* are less than those encountered in building on top of the highway and railroad, developers will almost always locate as much of their proposals as possible on *terra-firma* adjacent to the Turnpike. This inclination is particularly clear-cut for taller buildings, for which the cost premium can be considerably higher. For example, the Boylston Square proposal for Parcels 12-13, which includes a tower and lower buildings, locates the entire tower footprint on the *terra-firma* portion of Parcel 12, the only *terra-firma* available in this location.

REPRESENTING THE MARKET

Air rights development requires many actors. Developers bring a perspective that must be considered, along with community and other concerns, in shaping successful air rights projects. In effect, developers represent the needs and desires of the larger market, translating those forces into tangible development programs for air rights parcels. Successful air rights development will occur only when developers, the community, the Turnpike Authority, the City, and other stakeholders engage in meaningful dialogue that considers all of the opportunities and challenges that must shape these projects.

The needs of different uses strongly influence the height and massing of air rights development.



C. TRANSPORTATION

The Transportation Working Group (“TWG”) focused in detail on transportation issues within the study area. The charge of the group was to develop strategies to resolve the complex transportation issues already facing much of the corridor and the need to expand public transportation service to relieve existing congestion as well as serve air rights development. The TWG reported its analysis and recommendations to the SDSC, which has incorporated them into this document.

In applying these goals to the issues raised by air rights development and other transportation challenges along the corridor, the SDSC and TWG quickly came to realize that the Turnpike corridor faces two related, yet distinct transportation issues:

The TWG’s analysis was based on the following goals for the corridor:

Develop community-based transportation strategies that protect and enhance the quality of life that is unique to the neighborhoods adjoining the Boston Extension of the Turnpike.

- Protect and enhance the residential scale of the streets that are part of the fabric of the surrounding neighborhoods. Recognize and celebrate the distinct character of Chinatown, Bay Village, South End, the Back Bay, Fenway/ Kenmore Square and Allston-Brighton.
- Protect the residential neighborhoods from transportation-related noise and air-pollution. Protect the residential neighborhoods from inappropriate parking pressures. Utilize as opportunities existing assets like excellent transit and walk-to-work connections.
- Recognize the need to plan for special events like street-fairs and parades.

Develop a transportation vision that works in tandem with the larger civic vision.

- Create a pedestrian friendly street environment that is safe and conflict-free.
- Enhance and encourage the use of public transportation including shuttles.
- Provide efficient vehicular access for residents and businesses.
- Alleviate congestion and improve traffic circulation.
- Encourage the use of bicycles.

- Address off-street and on-street parking concerns.
- Make the most efficient use of the regional transit and highway systems to reduce congestion on local streets.

Develop strategies to keep regional traffic in the regional highway system and local traffic on local streets.

- Identify regional travel "attractions" and "destinations."
- Establish local travel routes.
- Include roadway/highway/transit infrastructure proposals outside the corridor which have an effect on travel patterns.
- Identify options and alternate routing for region use.
- Include a "toolbox" of implementable and appropriate measures such as traffic calming, congestion pricing, premium user pricing.

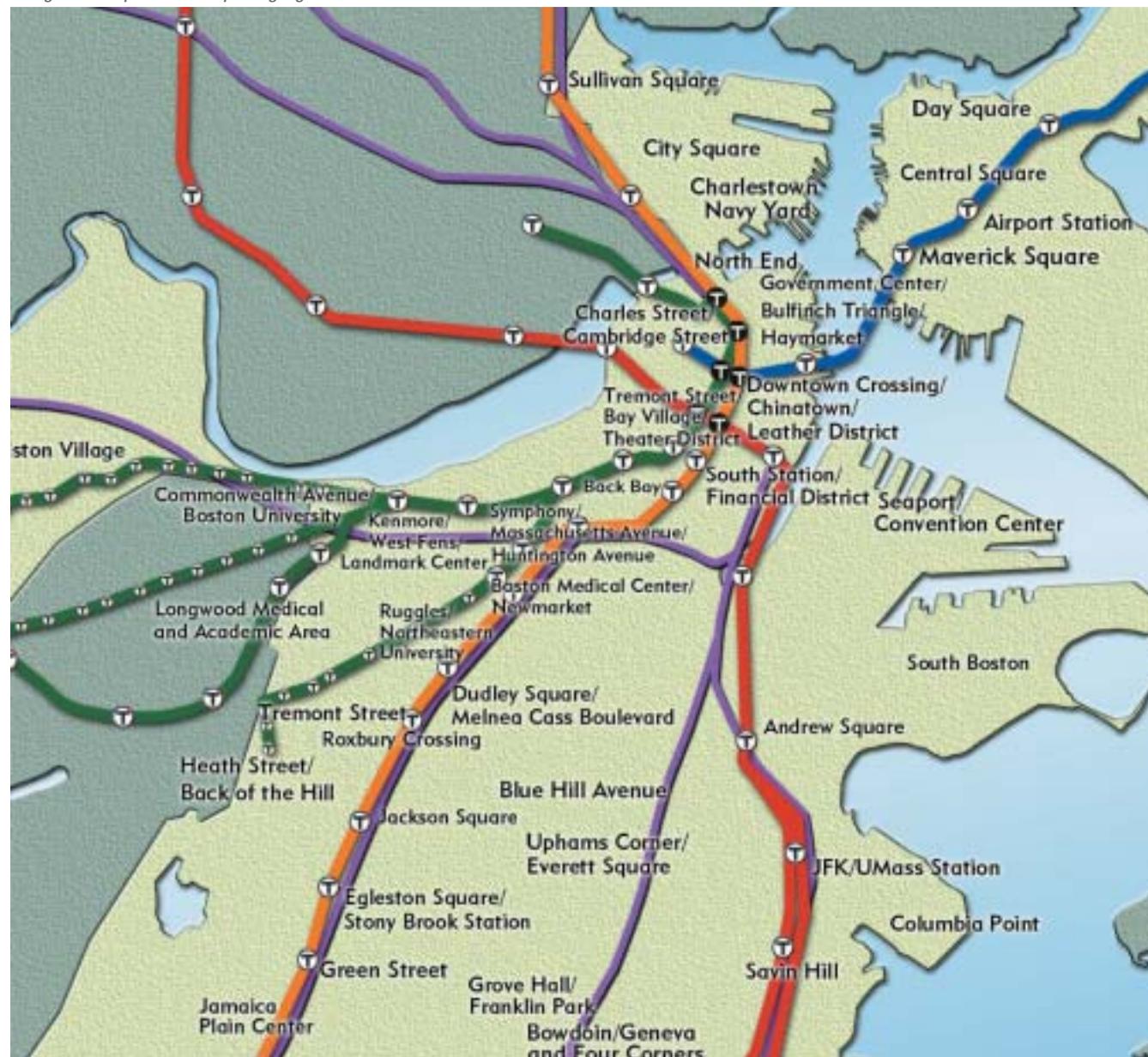
Develop strategies to manage the cumulative transportation impacts of air rights and other development.

- Consider the effect of various "build-out" scenarios for all planned development projects within and outside the corridor.
- Include highway and transit initiatives.
- Examine ways to have development owners to coordinate amongst themselves to share transportation related facilities.

A Civic Vision for Turnpike Air Rights in Boston

- Local transportation issues directly related to accommodating new travel demand generated by air rights development, managing transportation impacts of air rights development, and improving transportation conditions in the vicinity of a given development.
- Regional transportation issues related to improving vehicular and public transit connections between Logan Airport and the South Boston Waterfront to the east and destinations in the Turnpike corridor to the west.

Enhanced public transportation is central to accommodating air rights development and improving regional connections.



REGIONAL TRANSPORTATION CONNECTIONS

Due to the high level of interest in the regional transportation issues, and the complexity of these issues, the TWG formed a Regional Connections Subcommittee. The subcommittee examined the regional public transit and highway systems and analyzed possible opportunities to improve connections to the Turnpike corridor. Recognizing that any proposed improvements would have impacts on neighborhoods and stakeholders beyond those represented on the SDSC, the subcommittee invited representatives from South Boston, the South End, and the business and tourism industry to participate in its meetings.



South Boston development is increasing pressure for expanded regional transportation connections.

The Central Artery/Tunnel Project's extension of the Massachusetts Turnpike to the emerging South Boston Waterfront and Logan Airport will connect these growing economic centers to the Turnpike Extension. However, the lack of a westbound off-ramp or an eastbound on-ramp in the Back Bay precludes using the Turnpike to provide vehicular connections between the Back Bay and the South Boston Waterfront or Logan Airport. Development in the South Boston Waterfront, the new convention center, and passenger growth at Logan Airport will generate new traffic. Without the Back Bay connections to and from the Turnpike, traffic may increase the demands on the existing east-west connections, which include A Street, D Street, the Fort Point Channel bridges, Kneeland Street, Storrow Drive, and Berkeley Street.

Existing public transit service does not permit effective connections between the Back Bay and the Waterfront. Transit riders heading to the Back Bay will have to transfer from the South Boston

Waterfront: the South Boston Piers Transitway/Silver Line to the Red Line to the Green or Orange Line. The full-build Silver Line, with its tunnel connection to the Silver Line’s Washington Street service, would improve this to a manageable one-transfer ride, but this tunnel connection currently is unfunded. Improved Green Line capacity and a downtown commuter rail shuttle service also have the potential to improve this east-west connection. Without improved public transit connections, however, travelers would have to make two or more transfers for this trip. Travelers unwilling to make two or more transfers will either drive or forego making the trip.

A review of alternatives for improving connections produced broad support among subcommittee members for proposals to improve transit connections along the corridor between the Back Bay, the South Boston Waterfront, and Logan Airport. This support is reflected in the final report’s strong advocacy for the public transit improvements noted above.

The subcommittee also reviewed ideas for possible new street connections and Turnpike ramps. Ramp alternatives the subcommittee considered included proposals contained in an earlier study as well as a new concept in which the Back Bay connections would be made by modifying the Turnpike corridor to allow cars to use existing ramps. While there was a diversity of opinion among the members about the advisability of additional highway connections, the members did agree that any proposed highway connection must be thoroughly reviewed to determine its impacts, and that these impacts must be compared to those of a no-build approach and to public transit alternatives.

The subcommittee developed these ideas in a draft scope of work, which is attached as Appendix XX. This document reflects the work of a cross-section of interests to define the issues raised by regional transportation connections, to list potential alternatives, and to identify the impacts that must be assessed in evaluating any alternative. The SDSC believes that improved connections should be the focus of significant further study by the BTM and the other transportation agencies, and that both the content and the breadth of representation on the subcommittee should be reflected in “scoping” an environmental impact report (“EIR”) under the Massachusetts Environmental Protection Act (“MEPA”) for any future proposal for new regional connections.

AIR RIGHTS DEVELOPMENT

CORRIDOR-WIDE ISSUES

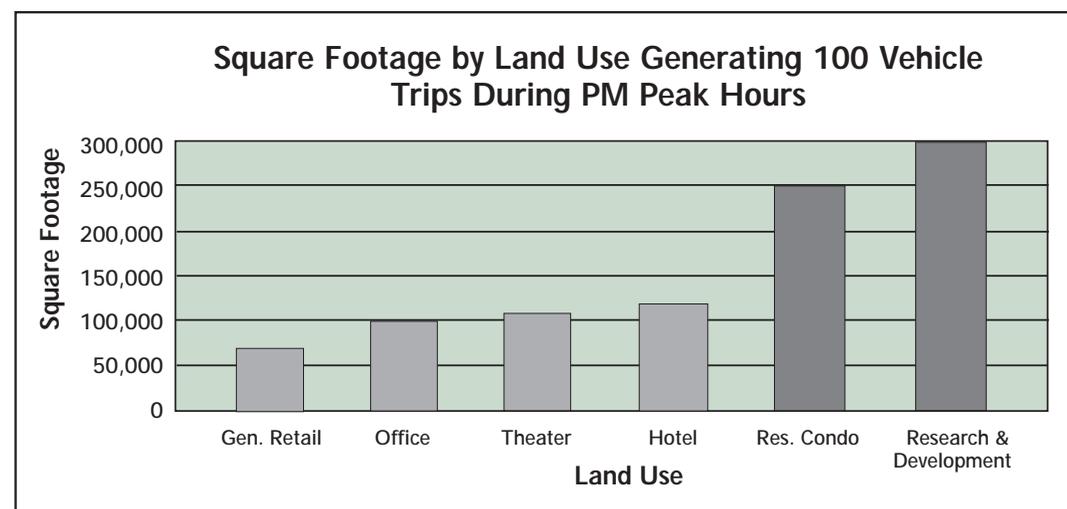
To set the stage for parcel-specific analysis, the SDSC began by assessing three corridor-wide factors that help define what types of air rights development might be appropriate from a transportation perspective:

■ **Land use.** Different land uses generate very different traffic impacts during peak hours. For example, 100,000 square feet of each land use would generate very different vehicle trips during peak hours

- 50 trips for 100,000 square feet of housing
- 67 trips for 100,000 square feet of hotel
- 133 trips for 100,000 square feet of office

(Data based on typical mode splits for air rights parcels, based on US Census Data)

For most parcels, housing generates the lowest volume of peak-hour vehicular traffic, followed by hotel or other relatively low traffic-generating uses.



Land uses generate very different traffic levels.

■ **Use of public transportation.** The SDSC believes that certain public transportation improvements planned or proposed for the corridor will be critical to accommodating significant air rights development. The SDSC believes that over the long-term the Turnpike corridor cannot sustain continued growth without increasing the already high rates of public transit use. Increasing system capacity and improving service are key to increasing usage.

■ **Parking ratios.** Reducing allowable parking ratios could be an effective tool in encouraging public transportation use and discouraging private automobile use. Figure X lays out the SDSC's goals for reduced parking ratios (amount of allowed parking per unit of housing, per room in a hotel, or per 1,000sf for most other uses), developed in consultation with the BTM. These parking ratios assume increases in public transportation use of 20%-50% (depending on the time of day and location) and decreases in automobile usage of 15%-25%. In every case, these figures reduce substantially the ratios approved in different parts of the corridor. For much of the corridor,

Transportation Management Goals			
Parcels 1-6	Parcels 7-10	Parcels 11-19	Parcels 20-23
<p>Mode Share—auto below 50%</p> <p>Parking Ratios:</p> <p>Hotel—.75/unit</p> <p>Office/ R&D— 1/ 1000sf</p> <p>Retail— to be determined by CAC</p>	<p>Mode Share—auto below 30%</p> <p>Parking Ratios:</p> <p>Housing—.75 to 1/unit *</p> <p>Hotel—.5/unit</p> <p>Office/ R&D— .75 to 1/1,000sf</p> <p>Retail— to be determined by CAC</p> <p>Cinemas— to be determined by CAC</p>	<p>Mode Share—auto below 30%</p> <p>Parking Ratios:</p> <p>Housing—.75 to 1/unit *</p> <p>Hotel—.5/unit</p> <p>Office—.75/1,000sf</p> <p>Retail— none if possible</p> <p>Cinemas— to be determined by CAC</p>	<p>Mode Share—auto below 30%</p> <p>Parking Ratios:</p> <p>Housing— community review</p> <p>Hotel—.5/unit</p> <p>Office/ R&D— .75/1,000sf</p> <p>Retail— to be determined by CAC</p>
* Depends on unit type and demand			
Current Mode Share and Approved Parking Ratios			
Parcels 1-6	Parcels 7-10	Parcels 11-19	Parcels 20-23
<p>Mode Share—auto 50-60%</p> <p>Parking Ratios:</p> <p>Hotel—.75/unit</p> <p>Office/ R&D— to be determined</p> <p>Retail— ?</p>	<p>Mode Share—auto auto 30-40%</p> <p>Parking Ratios:</p> <p>Housing—.75/unit</p> <p>Hotel—.5-.9/unit</p> <p>Office/ R&D— 1.25-1.5/1,000sf</p> <p>Retail— ?</p>	<p>Mode Share—auto 30-40%</p> <p>Parking Ratios:</p> <p>Housing—1.3-1.5/unit</p> <p>Hotel—.5-1/unit</p> <p>Office— 1.5-2/1,000sf</p> <p>Retail— none if possible</p> <p>Cinemas— ?</p>	<p>Mode Share—auto ?%</p> <p>Parking Ratios:</p> <p>Housing—?</p> <p>Hotel—?</p> <p>Office— less than 1/1,000sf</p> <p>Retail— ?</p>

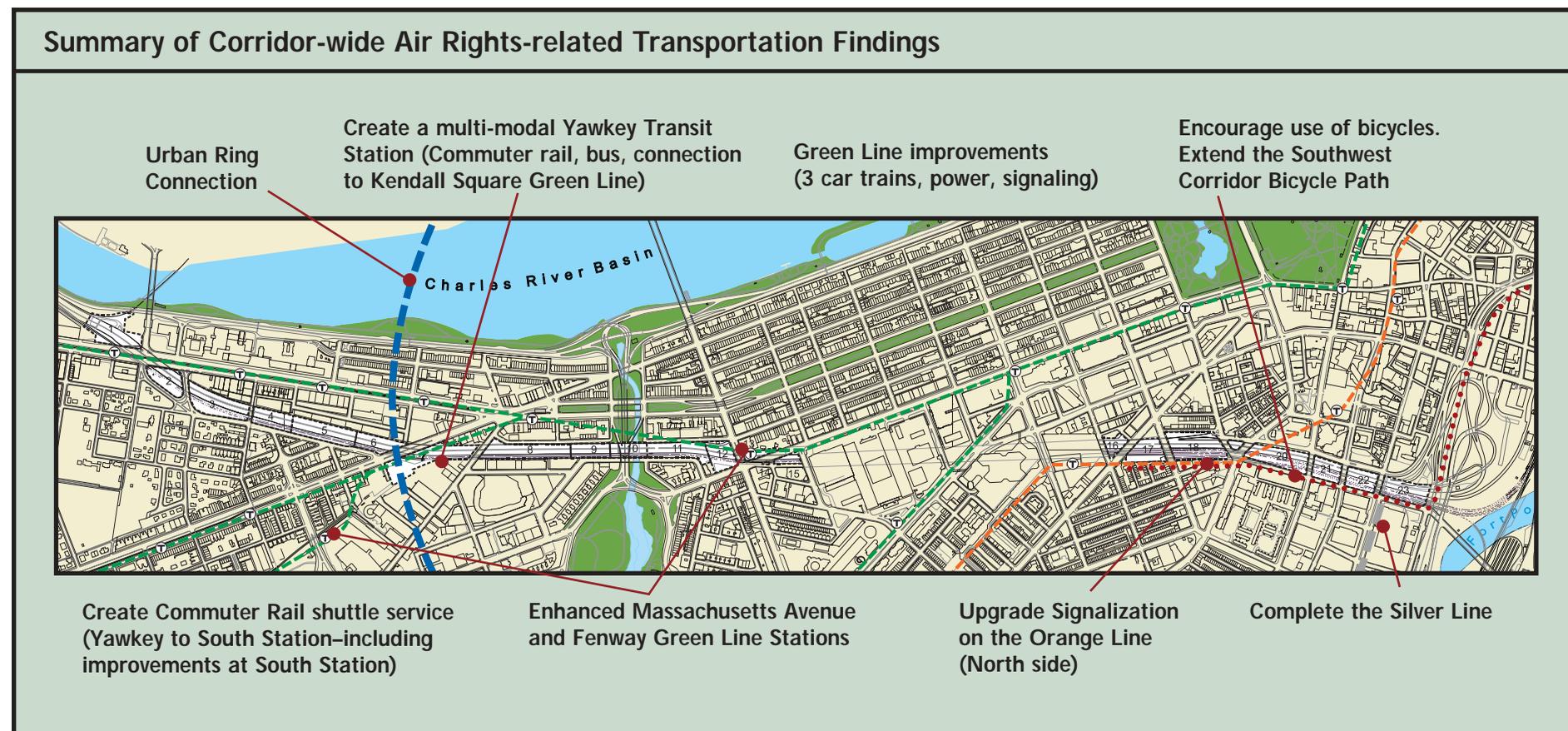
the SDSC recommends that CACs carefully review whether uses like retail or cinemas require any additional parking or should be served by a combination of public transportation, walking trips, and use of other available parking (for example, nearby office parking not in use on evenings or weekends). Overall, however, the SDSC believes that, wherever possible, parking should be reduced in the corridor neighborhoods. As parking is less of an issue in neighborhoods farther from the city's core, the recommended parking ratios in more distant neighborhoods tend to be higher than those in the city's central neighborhoods.

- **Development review and transportation impacts.** This document outlines major transportation issues and opportunities for improvements that have been identified to date. The development of these parcels is expected to take place over decades, and the committee expects that transportation conditions and priorities will change significantly over that time. Future CACs should require a

full analysis of any transportation impacts of proposed development, and add to or change these recommendations as circumstances require.

**PLANNED AND PROPOSED
PUBLIC TRANSPORTATION PROJECTS**

The following regional and corridor-related public transportation initiatives could substantially relieve congestion on local streets and create increased capacity for air rights development. The committee finds that the implementation of many of the following improvements may be necessary to achieve the full development program covered by these guidelines, in particular Green Line capacity, Yawkey Station and shuttle would particularly address these impacts. It therefore recommends that the Turnpike Authority and the City, as members of the Metropolitan Planning Organization, advocate for them in the 2020 Trans Plan as important future elements of the corridor.



A Civic Vision for Turnpike Air Rights in Boston

■ **For transit service, the Green Line presents the greatest opportunity for service due to its proximity to the Turnpike.** Particularly west of Copley Square, existing Green Line stations are within easy walking distance of air rights Parcels 1-15 (see Transit Opportunities Graphic). East of Copley Square, the Green Line shifts northerly along Boylston Street. Parcels 16-19 fall just outside a 1/4 mile-walking radius of Arlington Street station; re-opening the Berkeley Street entrance has the potential to enhance accessibility of these parcels to the Green Line. However, the proximity of the Green Line is only a part of the equation. The Green Line has significant capacity constraints. Currently at 91% of its capacity at Copley Station (peak hour, peak direction), the Green Line is essentially “full”, limited by an outdated signal system, insufficient power supply and inefficiencies introduced by surface street conflicts outside the central (underground) subway. Without improvement, the Green Line cannot accommodate substantial increase in demand. Although capacity may be tweaked at individual stations, the bottleneck at the Copley Station is the weak link. A capacity-optimization study is currently under way. Provision of three-car trains may be essential to adding capacity.

■ **A multi-modal Yawkey Station, serving commuter rail and regional buses, could provide direct connections to western suburbs for the area to the west of Kenmore Square.** A convenient Green Line connection, particularly at Kenmore Square, would extend this benefit to much of the rest of the corridor. The MBTA is currently studying the location, level of service, and other aspects of this station. Transforming Yawkey Station into a year-round, multi-modal facility expands transit access opportunities for air rights parcels and other users (residential, commercial and institutional). The presence of major regional attractions (BU, LMA, Fenway Park) near Yawkey Station makes this an ideal opportunity. Establishing a shuttle service to the LMA would greatly enhance ridership and thus the feasibility of this important link.

■ **Commuter rail service already runs parallel to the corridor,** and an opportunity may exist for enhanced use of the corridor and long term shuttle train between Yawkey Station, Back Bay/South End Station, South Station, and the South Boston Waterfront, which would in effect provide an additional public transit service to much of the corridor. This shuttle service may require increasing the availability of tracks/berths at South Station and providing storage tracks at Yawkey Station. Existing tracks can



Commuter rail shuttles between Yawkey, Back Bay/South End and South Stations represent one of a series of significant public transportation investments.

provide a direct connection among Yawkey, Back Bay/South End, and South Stations. An extension of the shuttle service from South Station to the South Boston Waterfront (at the Boston Convention and Exhibition Center) would require station and railyard track switching, which could slow train service.

■ **The Silver Line comprises two separate components that are currently funded:**

- The Washington Street Replacement Service, which passes through Parcels 20-23 in Chinatown, Bay Village and the South End, would create direct links to Roxbury and downtown.
- The South Boston Piers Transitway, which connects South Station to the South Boston Waterfront via an underground tunnel. This tunnel also provides access between South Station and Logan Airport on the Airport Intermodal Transit Connector (“AITC”).

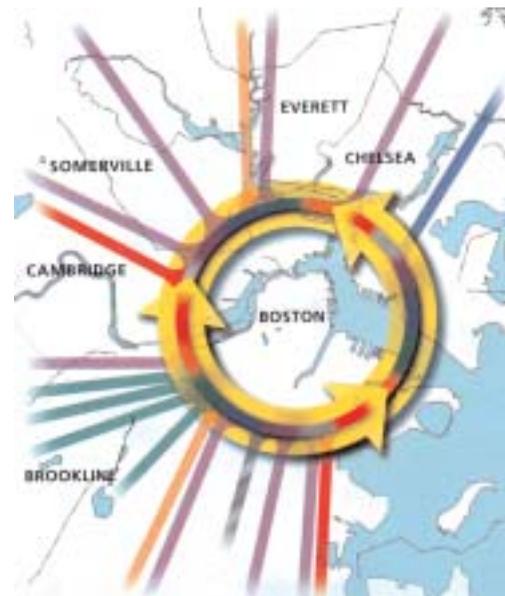
The full-build Silver Line would link these two separate services into a single, unified transit line via a new tunnel under Essex Street. This would enable single-seat, end-to-end service from Dudley Square in Roxbury to the South Boston Waterfront, and would provide all points along the line with connections to the Green Line at Boylston Street Station, the Orange Line at Chinatown Station, and the Red Line and commuter rail at South Station. The MBTA proposes to complete this tunnel and realize the full-build Silver Line by 2008, but the tunnel connection is not yet designed or funded. The full-build Silver Line is very important for providing public transit access in the Turnpike corridor, and the MBTA should actively pursue funding for the design and construction of the tunnel connection.

The Silver Line



■ **The Urban Ring, a circumferential transit line, has the potential to relieve over-crowding in the central subway system—particularly the Green Line—and add important new connections that currently are not convenient via public transit.** For example, the Urban Ring would provide direct links between communities west of Kenmore Square (and via the Green Line, for the rest of the corridor) to major centers of jobs and culture such as Kendall Square and the Longwood Medical Area. The MBTA has not yet committed to implementing the Urban Ring, which is implementing a major investment study that will determine its feasibility, costs, potential route, station locations, vehicles, phasing, and other key qualities. Two alternative alignments are being considered. The first is through Parcel 2 in Brookline. The second is in the area of Parcels 7-10, potentially connecting with the proposed Yawkey Station. The time it takes to implement the Urban Ring will be somewhat dependent upon the demand and trip density along the Urban Ring corridor. Development at a number of these parcels could aid in realizing the Urban Ring by boosting ridership and creating opportunities for joint development of Urban Ring stations and facilities as part of air rights developments.

■ **The Orange Line provides the next best opportunity for service to air rights parcels, particularly for Parcels 16-23, located east of Copley Square.** Back Bay/South End, Chinatown, and New England Medical Center stations are within easy walking distance of these parcels. The southern



The Urban Ring would connect neighborhoods to jobs and relieve transit over-crowding in the core.

section of the Orange Line, which was upgraded during the Southwest Corridor Park project, is currently operating well below capacity at Back Bay/South End Station; this is projected to continue through 2010. The northern section of the Orange Line has its critical juncture at North Station where the line is approaching capacity; this segment will benefit from the Orange Line Signal Improvement Program. With anticipated future growth and without improvements, this northern section of the Orange Line will be over capacity by 2010.

■ **The North-South Rail Link (connecting heavy rail between North and South Stations) would facilitate travel to the corridor, via Back Bay/South End Station, from the north and relieve crowding on the Orange (north) and Green Lines.**

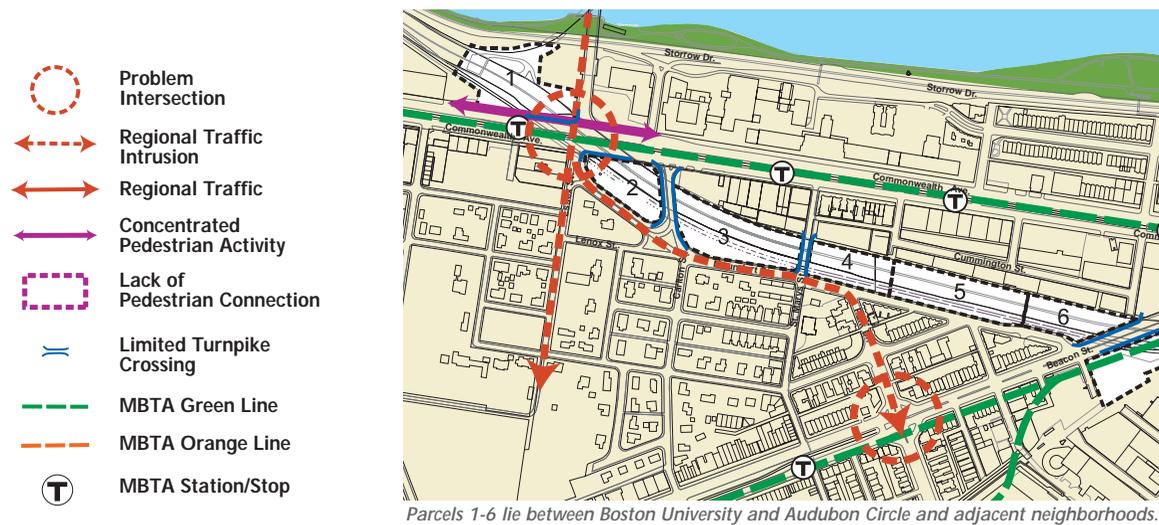
■ **Public and private bus service can improve public transportation access.** Bus hubs are located at Kenmore, Back Bay/South End, and South Station. Increased commuter bus service by private carriers and the MBTA could reduce automobile demand. MBTA local bus service can also provide connections to areas of the Boston core that are not well-served by rail transit. Bus transit, however, can have negative impacts that are not typically associated with rail transit: i.e., buses contribute to roadway congestion, and on-street “staging” of the private buses is a quality-of-life issue, particularly because of noise and air-quality degradation.

■ **While a number of roadway improvements have been proposed or are underway, most notably along Commonwealth Avenue west of Kenmore Square, at Kenmore Square, and along Massachusetts Avenue, these improvements are focused on enhancing pedestrian movement and streetscape quality, rather than increasing traffic capacity.** (The notable exception is improvement of the Sears Rotary proposed as part of the Landmark Center project, which are intended to correct existing deficiencies as well as to address impacts generated by the Landmark Center and other nearby projects.)



Back Bay/South End Station demonstrates how public transportation can enhance urban design quality.

A Civic Vision for Turnpike Air Rights in Boston



ANALYSIS BY DISTRICT

PARCELS 1 AND 4-6

The neighborhoods in this district—Audubon Circle, Fenway and Kenmore—host three major regional uses: BU, Fenway Park, and the LMA. These uses draw one of the region's most diverse populations, including residents; university faculty and staff; LMA employees, researchers, clients; Red Sox fans; and others traveling through the area to reach downtown, Cambridge, or the western suburbs. Each of the major regional uses is engaged in planning that will affect transportation in this area; these plans have been factored into this analysis.

Pedestrian

Pedestrian activity is concentrated on Commonwealth Avenue and radiates out from and in toward the Kenmore Square Green Line station transportation hub. North-south access across the Turnpike is limited to three bridges (Essex, Carlton and St. Mary's) clustered on the western parcels and Beacon Street to the east. BU and Fenway Park generate highly intense pedestrian activity, particularly close to Kenmore Square. Pedestrian and vehicular traffic volumes are very high at the intersection of the BU Bridge and Commonwealth Avenue and often conflict.

Commonwealth Avenue, the primary pedestrian corridor for east-west travel, experiences heavy crossing activity. With BU on either side and the Green Line in the median, major crossings coincide with transit stops and BU activities. Beacon Street and Brookline Avenue funnel pedestrians between the LMA and Kenmore Square.



The intersection of Saint Mary's Street and Commonwealth Avenue accommodates more than 2,000 pedestrians per day.

On game days, Brookline Avenue becomes a *de facto* pedestrian mall. Commonwealth Avenue pedestrian volumes are highest (over 2,000 pedestrians per day) at Kenmore Square, Cummington Street, and St. Mary's Street. By comparison, other Commonwealth Avenue intersections have 800-1,000 pedestrian crossings per day, which is still very heavy. Audubon Circle, at Beacon Street and Park Drive, experiences moderate volume (250-300 pedestrians). Likely air rights development could generate roughly 2,300 peak hour pedestrian trips per day.

Air rights development should accommodate and help fund redesign of Commonwealth Avenue to provide enhanced pedestrian amenities, including wider sidewalks, shorter crossings, and enhanced pedestrian refuge areas.

Public transit

Currently 65-80% of trips in this area are by foot or by transit, and future air rights planning should reinforce this high ratio by providing well-designed pedestrian connections between new development and transit stations. While the Green Line B branch serves these parcels a short walk away along Commonwealth Avenue, its value is marginal due to the lines capacity constraints east of Kenmore Square. In addition to addressing those capacity constraints, setting traffic signal timings to favor Green Line vehicles would increase transit capacity and convenience in this area.

A new Yawkey Station, which could be accommodated on Parcels 5 and 6, would provide substantial benefits—including convenient direct access to the western suburbs. Commuter rail shuttle service between Yawkey Station, Back Bay/South End Station, South



Air rights development related to BU's research and education activities would produce limited traffic impacts, in contrast to a comparable mix of office and housing.

Station, and the South Boston Waterfront would provide an alternate to the Green Line for local travel. The Urban Ring would also provide significant benefits to this area, relieving pressure on the Green Line and providing new cross-town access to important regional centers of education and research, including the LMA, Harvard, and MIT. Ample capacity exists on most bus service routes, and MASCO shuttles augment public bus service. Linking the MASCO shuttle system with a new Yawkey Station could also provide direct access between a new BU research campus and the LMA.

Bicycle

Bicycle accommodations are truly a “share the road” experience: cyclists compete with autos, buses and trolleys for space. Crossings of the Turnpike and connections to open space are limited. The institutional context and presence of recreational open space attracts increased bicycle use. Bicycle connections between neighborhoods and the Charles River, and adjacent to and through the BU campus should be expanded.

Parking

A recent parking survey conducted by the Central Transportation Planning Staff, the region's major transportation statistical survey center, shows 2,600 on-street parking spaces and 4,500 off-street spaces in the district. Roughly 25% of these spaces are designated for residential use, either by permit or ownership. Community residents want new air-rights-related facilities to include some additional parking to avoid further loss of resident spaces. As such, the SDSC's parking goals for this district are;

- Research & Development (the likely predominant use) – maximum of 1.0 space per 1,000 square feet
- Hotel (the most likely commercial use in the immediate future) – maximum of .75 space per room

Future CACs should carefully consider what parking should be permitted for residential and other uses.

Traffic operations

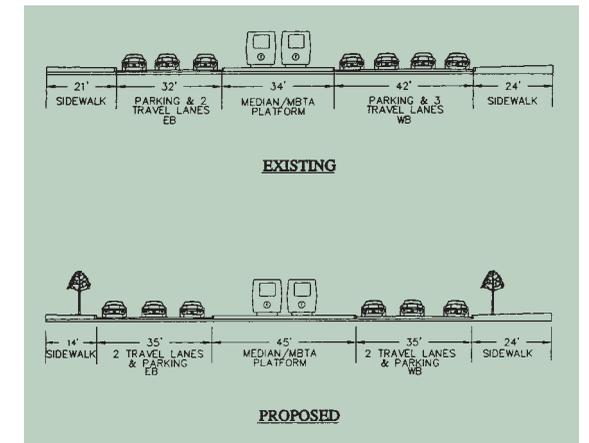
The district's intense commuter traffic is fed by the LMA and BU. Congestion is severe, with many intersections at or near capacity: BU Bridge/Commonwealth Avenue/Carlton Street/University Road, Audubon Circle, and Kenmore Square. Multi-functional Commonwealth Avenue struggles to meet demands placed on it by all modes. The City and other stakeholders are planning a variety of infrastructure improvements in this area.

Accommodating air rights development.

The SDSC asked its consultants to review the traffic and other transportation impacts of air rights development that met the spirit and letter of the Guidelines. The consultant team analyzed scenarios mostly devoted to a mix of research and development with retail space facing Beacon Street for Parcels 4-6 and a cultural use together with housing on Parcel 1. The consultant team assumed a worst-case future scenario in which none of the desirable public transportation or other improvements for this area had been implemented.

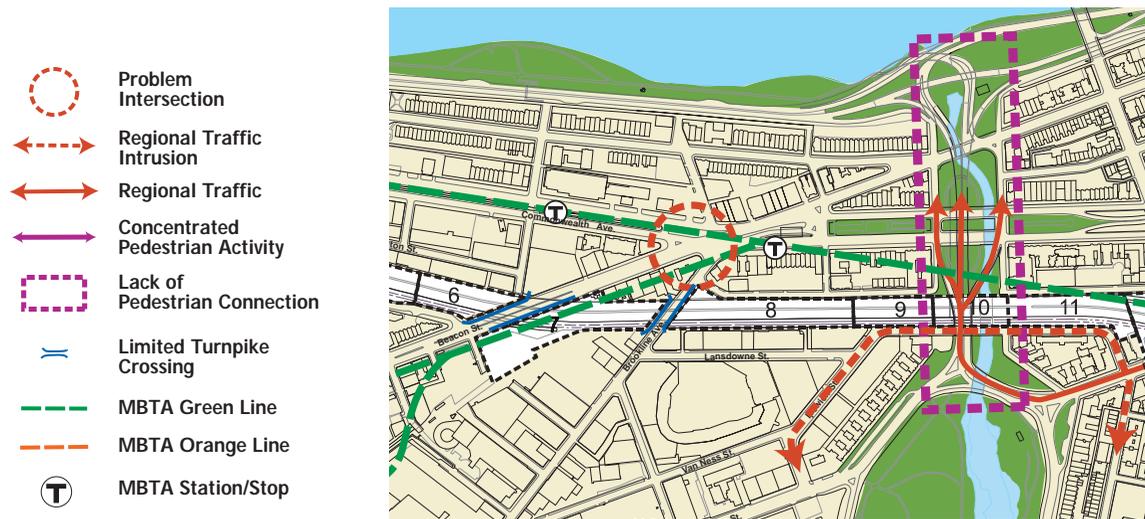
The consultants reported that the expected research and related uses would be closely associated with BU's existing operations and carry relatively low trip-generating potential. Roughly 90% of these trips are already present in the district and would primarily be redistributed, extended, or inter-campus trips, and have little impact on overall traffic and transit operations. In contrast, scenarios with a similar total square footage but consisting of a mix of office and housing located on Parcels 4-6 produced significant traffic impacts, degrading the level of service at nearby intersections.

Air rights development in this area could boost ridership, and therefore feasibility, for an Urban Ring and/or Yawkey Station. Any development on these parcels should be required to include whatever Urban Ring or Yawkey Station transit facilities are needed. Green Line capacity east of Kenmore Square would also need to improve, although to a lesser extent, to support this development.



The City's Commonwealth Avenue improvements will add landscaping and decrease roadway width.

A Civic Vision for Turnpike Air Rights in Boston



PARCELS 7-10

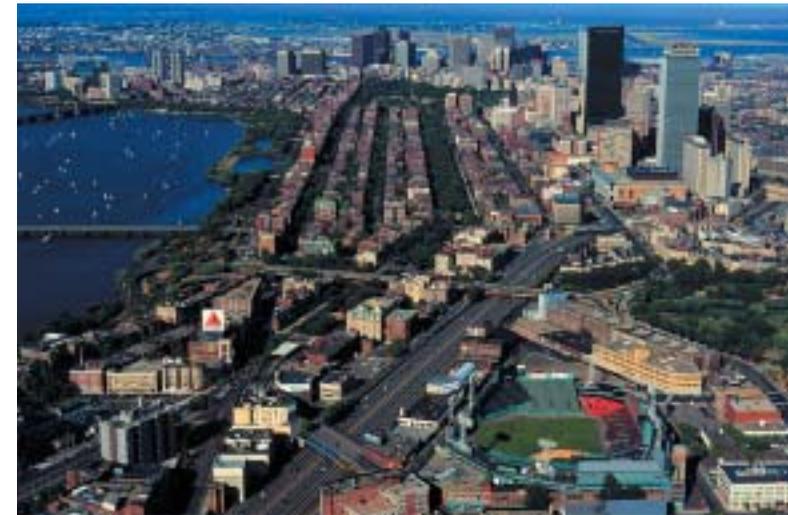
This area combines a uniquely diverse population of residents, employees, and visitors. Residential Audubon Circle and the Fenway, mixed-use and entertainment districts at Kenmore Square and Lansdowne Street, and regional uses like the Red Sox, LMA, and BU all place different demands on the local transportation system.

Pedestrian

Pedestrian activity is intense and fueled by the presence of regional uses. Kenmore Square Station is situated within a short walk of Parcels 7 and 8, and travel between the station, the neighborhoods, Fenway Park and nightclubs along Lansdowne Street is reflected in the radial street pattern. On game days, Brookline Avenue, Lansdowne Street, Yawkey Way and Ipswich Street are inundated with pedestrians.

Public transit

In this district, the location of the Green Line is excellent, but capacity limitations exist. Capacity of the Green Line is more of an issue inbound of Copley Station. Green Line surface routes are slow and make transit less attractive, but re-setting signal timings to favor the surface routes could address that problem. Reliance on the Green Line (approximately 80% of transit riders are expected to use it for access) means Green Line enhancement is the most important component of the transportation element for this *civic vision*.



Parcels 7-10 lie in the midst of a very diverse mix of residential, commercial, and entertainment districts.

A full-service, multi-modal Yawkey commuter rail station—also under study—would create important tangible benefits for this district and for potential air rights development. In addition to direct commuter rail access to the western suburbs, this station—together with storage tracks—could accommodate commuter rail shuttle service to the Back Bay/South End Station, South Station, and the South Boston Waterfront. The Urban Ring would also bring significant benefits, comparable to those for the previous parcels, including taking some pressure off of the Green Line. Expanded Medical Academic and Scientific Community Organization (“MASCO”) shuttle service to the LMA would not only augment local bus service but enable more transit trips to be concentrated in this area. Collecting MASCO parking facilities—now scattered on surface lots—into a parking garage on Parcel 7 may support creation of more frequent and convenient shuttle service that would be available to the public.

Bicycles

Accommodations for bicyclists are again truly a “share the road” experience, as cyclists compete with autos, buses and transit trolleys for space. Crossings of the Turnpike and connections to open space are limited. Air rights development should take advantage of opportunities to expand and enhance bicycle connections between neighborhoods and the Charles River, and adjacent to and through the BU campus.



Parcel 7 could accommodate a new Yawkey multi-modal station linked to a public square.

Parking

Of 3,000 public on-street spaces, 60% are designated for holders of a residential parking permit. The 3,200 public off-street spaces have only 2% residential use. Proposals by the Red Sox and other regional uses indicate a small increase in proposed parking in this district. The use of residential parking spaces by Red Sox patrons is a significant public concern. While it is necessary to improve public transportation to this area, the right balance must be found for air rights development to ensure that its users do not compete with residents for parking spaces. The SDSC’s parking goals for potential uses in this district are, as everywhere, intended to encourage increased use of public transit, and in accord with the Fenway Planning Task Force’s efforts, reflect the particularly difficult traffic congestion issues facing the Fenway:

- Housing—maximum of .75 space per unit (depending on unit type and likely occupants)
- Office and R&D—maximum of .75 space per 1,000 square feet
- Hotel—.5 space per room

Traffic Operations

The current degree of traffic congestion in this district is a function of the area’s regional attractions and proximity to regional roadways. For six months of the year, Red Sox games produce frequent “peak events.” Even with games starting at 7:00 p.m., fans overlap with the commuter peak because they come early to the ballpark and nearby bars and restaurants. City-sponsored improvements will provide better organization and guidance through Kenmore Square and along Commonwealth Avenue, but they will not significantly increase roadway capacity.

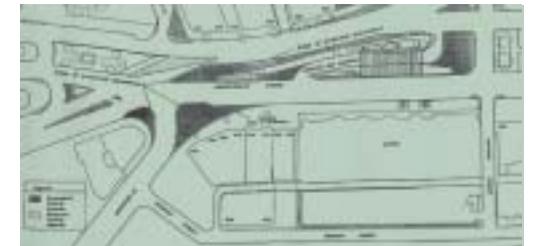
Accommodating air rights development

The SDSC asked its consultants to review the traffic and other transportation impacts of air rights development that met the spirit and letter of the Guidelines. These scenarios included housing (with street-level retail facing Beacon Street) together with mixed-use development over the Turnpike on Parcels 7 and 8. In addition, the SDSC asked the consultants to incorporate the added impact of a parking garage proposed by the Red Sox for Parcel 7. To encourage reuse of surface parking lots for housing and other more appropriate uses, the SDSC also asked the consultant team to assume that LMA-related parking, currently located on nearby surface lots, was consolidated into the parking garage proposed by the Red Sox in assessing traffic impacts. The SDSC asked its consultants to assess the impacts of this air rights development by assuming a worst-case future in which none of the desirable public transportation or other improvements for this area had been implemented. The consultants analyzed a mix of housing, hotel, entertainment, and research and development uses, together with the parking structure proposed by the Red Sox.

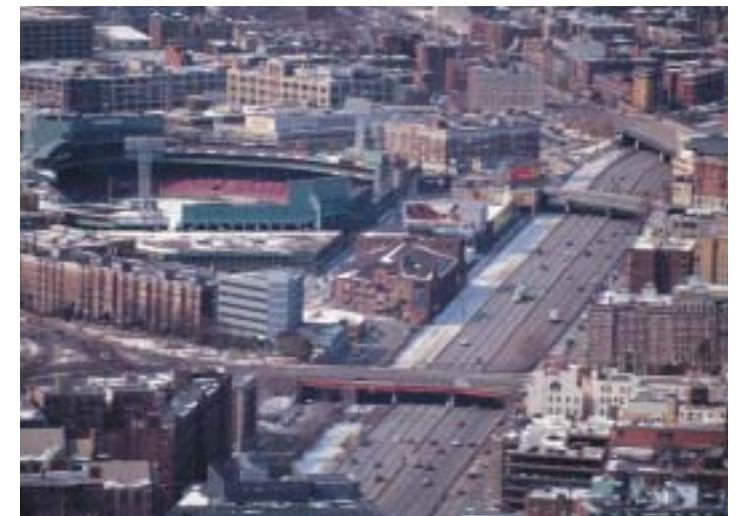
For the mix of uses studied, the consultants reported that air rights development should result in little net impact on overall traffic and transit operations. In contrast, scenarios with a similar total square footage but consisting primarily of office space produced significant traffic impacts negatively affecting the level of service at nearby intersections.

Air rights development in this area could boost ridership, and therefore feasibility, for an Urban Ring and/or Yawkey commuter rail station. Any development on these parcels should be required to include whatever Urban Ring or Yawkey Station transit facilities are needed. Development would also, although to a lesser extent, increase the need to improve Green Line capacity east of Kenmore Square.

Development of these parcels that includes an Urban Ring station, a Yawkey commuter rail station, and/or consolidated MASCO parking could create a trip density that makes MASCO shuttle services to and from the LMA very effective. Conversely, MASCO shuttle services could help make these transportation improvements more feasible.

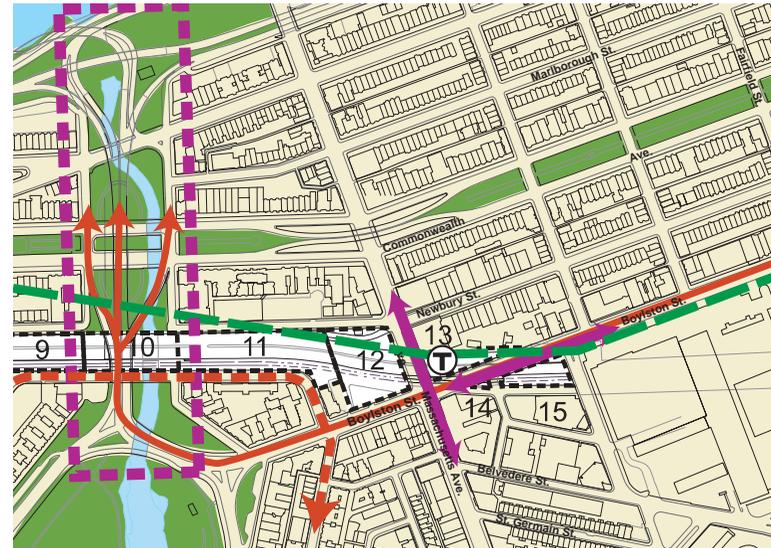
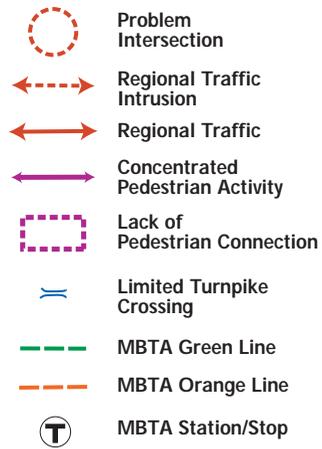


The City’s proposal to make Kenmore Square more pedestrian friendly would link to new sidewalk connections over the Turnpike.



Air rights development focused on housing and research, and possible consolidation of Red Sox parking, would produce limited traffic impacts, in contrast to comparable office development.

A Civic Vision for Turnpike Air Rights in Boston



Parcels 11-15 are a crossroads, surrounded by high levels of traffic, pedestrians, and transit usage.



Expanding employment in Cambridge and Back Bay has increased traffic on Massachusetts Avenue and Boylston Street, two major north/south and east/west connectors.

PARCELS 11-15

At a crossroads between the Back Bay and the Fenway, these parcels are located along important streets that provide well-used connections among a number of neighborhoods, downtown, and Cambridge. Massachusetts Avenue, a congested arterial running essentially north-south, connects a series of Boston neighborhoods to the Back Bay and Cambridge. The east-west cross streets, Boylston and Newbury Streets, represent the major commercial streets of the Back Bay and provide connections to downtown and neighborhood to the east. A westbound Turnpike on-ramp is located at the intersection of Newbury Street and Massachusetts Avenue.

Pedestrian

Concentrated pedestrian activity exists on Massachusetts Avenue between and at intersections with Boylston and Newbury Streets. The presence of the Hynes Convention Center Green Line station, MBTA bus stops along Massachusetts Avenue, Newbury Street commercial area and Berklee College of Music result in high sidewalk and crossing volumes. Traffic congestion, often resulting in gridlock, blocks pedestrians and encourages widespread jaywalking. Sidewalks are relatively narrow (8-10 feet wide) along Massachusetts Avenue, and pedestrians occasionally spill onto the street, particularly near the station entrances at peak periods. Air rights development in this area should include wider sidewalks.

Berklee College of Music is one of a number of significant pedestrian generators.



Public transit

The Hynes Convention Center/I.C.A. Green Line station is located at the center of this parcel grouping, on the east side of Massachusetts Avenue. Connections to all other rapid transit lines can be made downtown. Indirect commuter rail service is available from the Back Bay/South End Station to the east, but requires a 2,600-foot walk or transfer to another mode (bus, transit, taxi) to reach the district. Yawkey Station is located 2,600 feet to the west, and a new, full-service station, if located near Kenmore Square, could provide some service to these parcels. MBTA bus routes 1, 10, 55, CT1 and 39 serve the area as well, and bus stops are located on the east and west sides of Massachusetts Avenue.

The proximity of the Green Line, as at other locations throughout the corridor, has diminished value because of the constrained capacity. Currently at 91% of capacity in the peak direction (inbound at Copley), the line is subject to further interference and schedule disruptions on the surface lines to the west. Narrow sidewalks bracketing the station entrance also contribute to the general confusion in this area. While solving the Green Line's capacity limitations and adding cars to the Green Line would address capacity for transit, simply adding buses will not resolve capacity issues, because buses already run at short headways during peak hours, and roadway congestion would limit additional service during peak periods.

Bicycle

Nearby university/institutional use creates a higher potential for bicycle travel, and some accommodations for bicycle parking are made in the area. Well-used bicycle racks are located near the Berklee College of Music, but in other locations bicycles are chained to any convenient pole or structure, which can encroach on the already limited walking space. Connections for bicycle travel to and through the district are limited, as is the case throughout the corridor.

Parking

Public on-street parking spaces number 1,200 in this district, with 50% designated for residential-permit parking. Only 2% of the 4,100 public off-street spaces are designated for residential use. The off-street spaces are predominantly in the Prudential Center garages. On- and off-street parking is fully utilized throughout the day. The SDSC's parking goals for potential uses in this district are, as everywhere, intended to encourage increased use of public transit:

- Housing—.60 to 1 space per unit (depending on unit type and likely occupants)
- Office and R&D— maximum of .75 space per 1,000sf
- Hotel—.5 space per room
- Retail, cinema—to be determined by a CAC

Traffic operations

Portions of Massachusetts Avenue proximate to Parcels 11-15 are ranked among the 25 most congested arterial segments in the Commonwealth (Central Transportation Planning Staff Congestion Management System Avenue Report for 1997 [August 1998]). Traffic congestion occurs all along the corridor, from Melnea Cass Boulevard to Beacon Street. High traffic volumes, on street parking, public bus routes and busy intersections with other urban arterials are all factors that contribute to the level of congestion that results in frequent gridlock.

The intersections of Massachusetts Avenue with Boylston and Newbury Street are currently over capacity. Other Massachusetts Avenue intersections, as well as the Charlesgate east and west surface street intersections with Beacon Street and Commonwealth Avenue, and the Boylston Street/Fenway intersection are also at or near capacity. For northbound and southbound movements on



The CAC will need to resolve very difficult transportation access challenges for these parcels.

Massachusetts Avenue, the intersection queues frequently spill back into adjacent intersections, blocking through movement.

Restricting parking along both sides of Massachusetts Avenue, adjacent to the parcels and reallocating this space to provide exclusive left turn lanes (northbound and southbound), and for bus pull-outs offers some relief. However, the Massachusetts Avenue/Boylston Street intersection will still be over-capacity even with these improvements. Queuing and congestion at this location will continue to influence those at Newbury Street (and potentially elsewhere). More dramatic and far reaching actions such as circulation changes, turn restrictions, and trip reduction strategies that reduce reliance on the automobile are required to achieve any real benefits. The impact of any of these actions must be reviewed in the broader context to ensure no shifting of impact occurs.

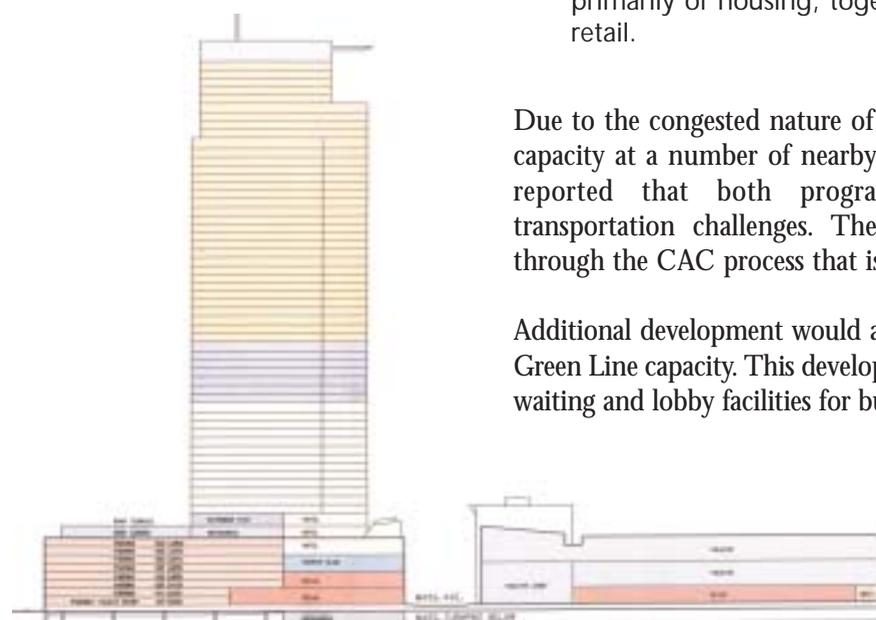
Accommodating air rights development

The SDSC asked its consultants to review the traffic and other transportation impacts of air rights development that met the spirit and letter of the Guidelines. The SDSC asked its consultants to review two basic scenarios for these parcels:

- A proposal already put forth by the Turnpike Authority and Millennium Partners Boston, termed "Boylston Square," to develop roughly one million square feet of housing, hotel, cinemas, retail, and a health club; and
- A reduced program of mixed-use development consisting primarily of housing, together with a hotel and street-level retail.

Due to the congested nature of Massachusetts Avenue and limited capacity at a number of nearby intersections, the consultant team reported that both programs would present significant transportation challenges. These challenges should be resolved through the CAC process that is already in place for these parcels.

Additional development would add pressure to the need to improve Green Line capacity. This development should also provide enhanced waiting and lobby facilities for bus and Green Line patrons.



The CAC rejected the 49-story mixed-use tower proposed on Parcels 12 and 13 before the SDSC Guidelines were produced.

A Civic Vision for Turnpike Air Rights in Boston



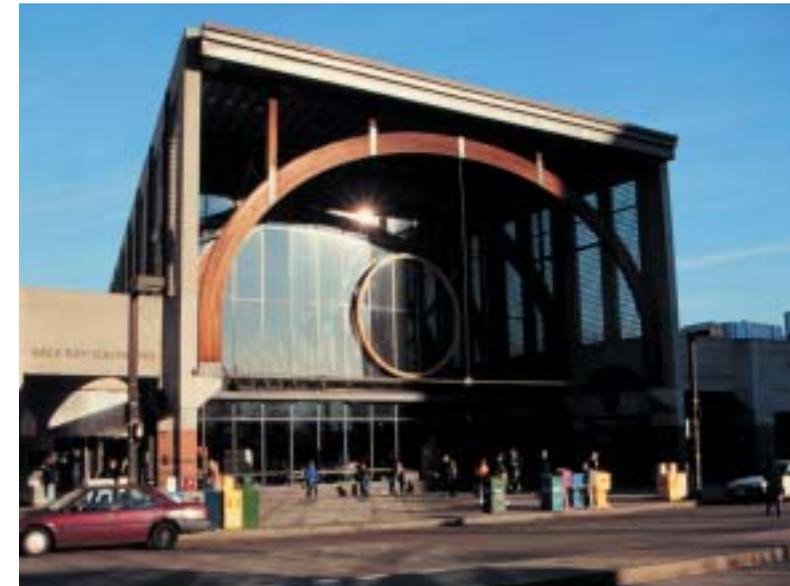
Parcels 16-19 lie at the juncture of the Back Bay commercial district and residential neighborhoods of Bay Village and the South End.

PARCELS 16-19

Neighborhood meets city center in this transition area between South End/Bay Village residential areas and the Back Bay commercial district. The transportation context is defined by the presence of a high activity transit hub at the Back Bay/South End Station (an air rights structure itself), use of Clarendon Street as an urban arterial, linking Storrow Drive and the Southeast Expressway and other regional connection to the Massachusetts Turnpike via ramps at Copley/Prudential and Clarendon Street. South of Columbus Avenue and north of Newbury Street, Clarendon Street passes through decidedly residential areas. Issues of through traffic intrusion, pedestrian access and safety and general traffic congestion are prevalent.

Pedestrian

The accessibility of transit service, the residential uses south of the Turnpike and high-density commercial to its north produce a combined transit-and-walk mode share of over 60%. The patterns follow the north-south roadways perpendicular to the Turnpike and Columbus Avenue toward downtown. The highest activity occurs along Clarendon Street, adjacent to the Back Bay/South End Station. The intersection with Stuart Street and Columbus Avenue are also focal points for pedestrian activity. Parking garage access and a Turnpike westbound on-ramp introduce additional conflicts on Clarendon Street. Police officers sometimes provide additional



Back Bay/South End Station provides the best public transportation access found along the Turnpike corridor.

control for pedestrian crossings on Stuart and Clarendon Streets during the PM peak hours.

Public transit

Well-served by the Orange Line, commuter rail, and buses at the Back Bay/South End Station, these parcels rely much less than others along the corridor on the overtaxed Green Line. Parcel 16 fronts on Clarendon Street, directly opposite the Back Bay/South End Station and bus plaza. Green Line service is still within reach from Copley and Arlington stations, but the inbound movement at Copley is essentially at capacity. Heading outbound (from Park Street toward Parcel 19) and exiting at Arlington Street, all branches of the Green Line offer additional capacity at some hours. The Silver Line will be within reasonable walking distance, particularly of Parcel 18, or with transfers to the Orange Line at New England Medical Center station. Re-opening the Berkeley Street entrance to Arlington Station would further enhance T accessibility for these parcels.

Bicycle

Bicycle racks are located at the rear of the Back Bay/South End Station. These racks are infrequently used and considered insecure. Bicyclists instead lock their bicycles inside the station.

Parking

Existing parking supply in this district includes 2,600 public on-street spaces and 2,600 public off-street spaces. The Hancock parking garage is located directly across the street from Parcel 16. All spaces are fully used throughout the day. The SDSC's parking goals for potential uses in this district are, as everywhere, intended to encourage increased use of public transit:

- Housing—maximum of .75 space per unit (depending on unit type and likely occupants)
- Office and R&D—maximum of .75 space per 1,000sf
- Hotel—.5 space per room
- Retail, cinema—to be determined by a CAC

Traffic operations

Arlington and Berkeley Streets have historically functioned as a north-south couplet connecting Storrow Drive and the Southeast Expressway, and are often in an effort used to bypass congestion at Leverett Circle and the Central Artery. This activity has increased with the ongoing construction of the Central Artery/Tunnel (“CA/T”). Residents on these streets are concerned about through-traffic intrusions. This concern extends to Clarendon Street, which is also experiencing the effects of traffic diverted from the congested regional roadways. On-ramps to the Central Artery at Waltham Street (via Clarendon Street) explain the increase in traffic volumes through this area. Traffic operations at most local intersections in 2010 (after the CA/T is complete) will be under capacity. Notable exceptions include the Arlington Street /Stuart Street /Columbus Avenue intersections and the “knuckle” formed by Arlington/Marginal/Herald Streets.



The intersection near the Arlington Street Turnpike on-ramp has limited additional capacity.

The SDSC asked its consultants to review the traffic and other transportation impacts of air rights development that met the spirit and letter of the Guidelines. These scenarios included mixed-use buildings on Parcels 16 and 17, primarily housing together with a hotel and street-level retail. As the SDSC did across the corridor, the Committee asked its consultants to assess the impacts of this development by assuming a worst-case future in which none of the desirable public transportation or other improvements for this area had been implemented. The consultant team reported that this air rights development should result in little net impact on overall traffic and transit operations. In contrast, scenarios with a similar total square footage but primarily consisting of office space produced significant traffic impacts that negatively affected the level of service at nearby intersections.

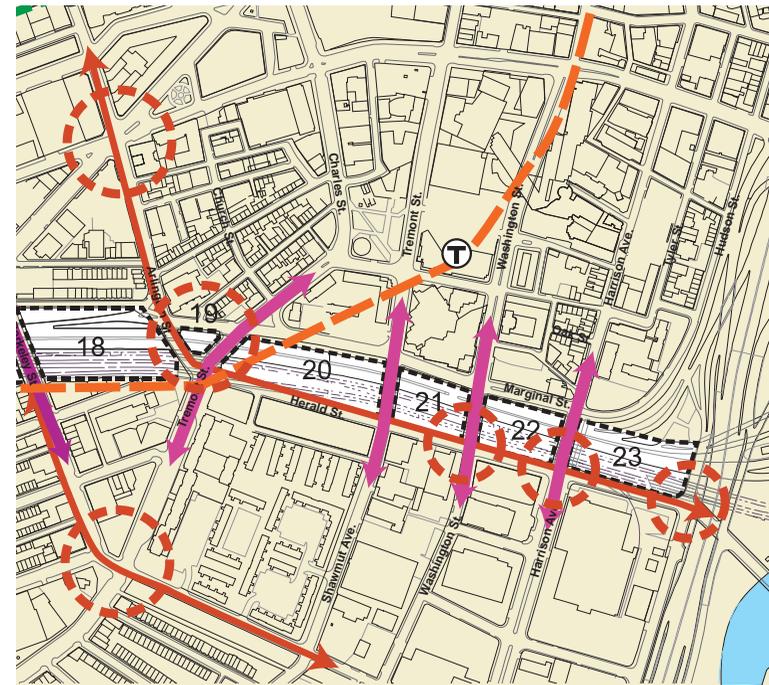
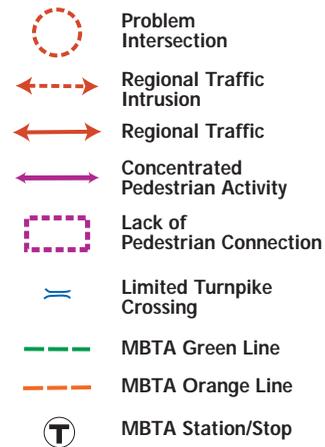
The SDSC also asked its consultants to assess the impacts of air rights development on Parcel 18. The consultants reported that congestion at the Arlington/Marginal/Herald Streets intersection limits the development potential of this parcel without reconfiguring this intersection to increase its capacity. A future CAC should carefully consider the level of development that could be accommodated on Parcel 18; in any event, housing or similar low-traffic-generation uses should be the primary use.

The direct proximity to the Back Bay/South End Station is critical to the anticipated high transit usage associated with this air rights development. Additional development would boost ridership for commuter rail shuttles to Yawkey Station, South Station, and the South Boston Waterfront. This development would add some pressure to the need to improve Green Line capacity.



Air rights development focused on housing and hotel uses would produce limited traffic impacts, in contrast to comparable office development.

A Civic Vision for Turnpike Air Rights in Boston



Parcels 20-23 are surrounded by the Chinatown, Bay Village, and South End neighborhoods.

PARCELS 20-23

These parcels are located along a series of cross streets that serve a diverse mix of neighborhood and through-traffic. Shawmut Avenue, Washington Street, and Harrison Avenue serve Chinatown, connecting it to adjacent neighborhoods, and provide access to downtown from the South End and communities to the south. The parcels also line Herald Street, which carries a substantial portion of the regional traffic connecting to the Southeast Expressway, Central Artery, and Turnpike (westbound). Chinatown, Bay Village, and the South End neighborhoods experience the effects of commuter traffic on roadways that connect to Herald Street, as well as further intrusion as drivers seek ways to avoid construction-related congestion.

Pedestrian

The predominant pedestrian pattern is north-south across the Turnpike between Chinatown and the South End. Currently, there is less activity parallel to the Turnpike, particularly along Herald Street. Pedestrian accommodations are very limited, with narrow sidewalks and limited pedestrian space at intersections, and outdated signals favors vehicles and delay pedestrians. Limited pedestrian level street lighting creates an unfriendly environment.

Air rights development would encourage much greater pedestrian activity along the cross streets—Washington Street, Shawmut Avenue, and Harrison Avenue.



Public transit

The Orange Line provides primary service to the district, with conveniently located stations at New England Medical Center and Chinatown. Connections to other lines are made through transfers at Downtown Crossing or Park Street. The first phase of the Silver Line will restore transit service to Washington Street, with stops planned adjacent to the air rights parcels. Capacity is available on each of these lines to accommodate future growth. Completion of the Silver Line Transitway and related South Boston Piers Transitway (to the South Boston Waterfront and Logan Airport), the Urban Ring, and potentially the North-South Rail Link will relieve other congested transit lines and provide an incentive to use public transit.



Marginal Street could be transformed into a more residential street with lower traffic volumes.

Bicycle

No special accommodations exist for travel through the area on bicycle. As is true elsewhere throughout the corridor and the city generally, bicycle riders must compete with vehicular traffic and parked vehicles on city streets. The creation of a direct connection from the Southwest Corridor Park bicycle path to downtown is highly desirable. A connection to the South Bay Harbor Trail is another opportunity to consider.

Parking

Parking supply in Chinatown, Bay Village, and the South End is a mix of on-and off-street parking. Almost 7,500 parking spaces exist today: 3,300 on-street and 4,200 off-street. Twenty-three percent of the total spaces are designated for residential use. Residents have reported the need for additional residential parking, including



Air rights development focused on housing would produce limited traffic impacts, in contrast to comparable office development.

opportunities for shared parking (e.g., nighttime use of commercial spaces by residents).

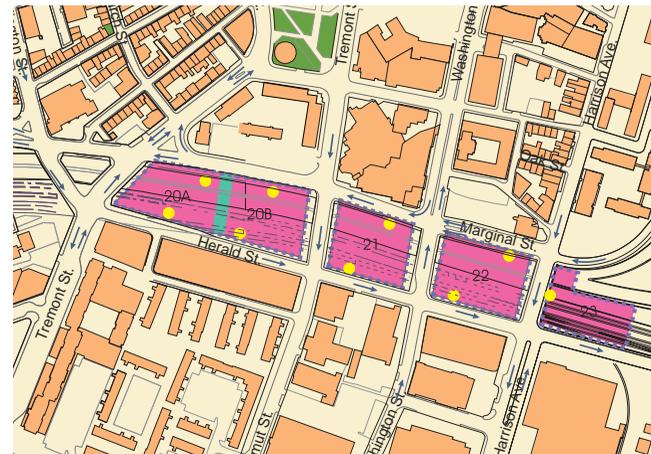
- Housing– community review
- Hotel–.5/unit
- Office/ R&D– .75/1,000sf
- Retail– to be determined by CAC

Traffic operations

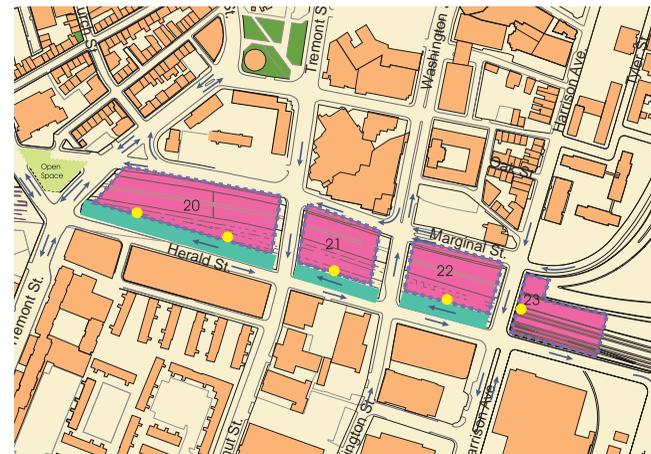
After completion of the CA/T Project, traffic operations adjacent to these parcels are expected to function better than they did in 1999. Through-traffic on Marginal Street should be discouraged, enhancing this street as a residential environment. Three alternative configurations for Herald Street were examined during this study (illustrated in Figures A,B, and C) and include:

- **Option A:** The existing street grid is retained and an additional cross street added in parcel 20 to reinforce the traditional block pattern. The one way traffic pattern and small blocks allow drivers to circulate easily.
- **Option B:** Herald Street becomes a wide two-way boulevard. Marginal Street becomes a local street terminated by a park on parcel nineteen. West-bound traffic is diverted from Marginal to a new Herald Street Boulevard to reach the turnpike on-ramp.
- **Option C:** Marginal Street is shifted south out over the air rights parcels creating narrow development parcels to the south and expanding existing parcels to the north.

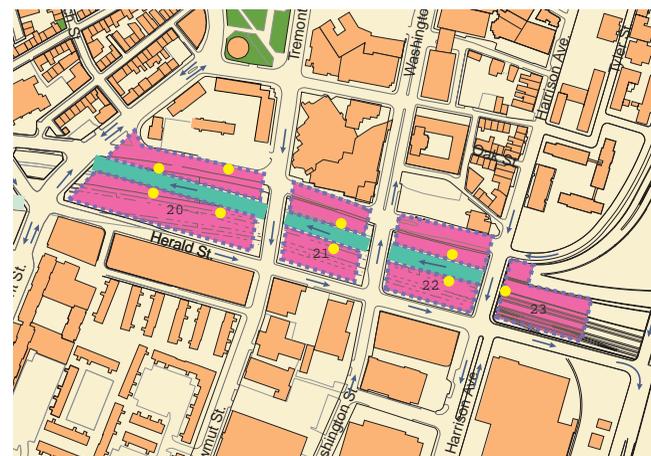
A



B



C



Various options have been proposed for Herald Street and Marginal Street; this study concluded that the current alignment was preferable in terms of transportation impacts, urban design advantages, and feasibility of air rights development.

Review of these options included a discussion of advantages and disadvantages, from traffic operations (pedestrian and vehicular), community, and urban design perspectives. The extension of Herald Street from Columbus Avenue/Claredon Street to Tremont Street was also considered by the TWG.

The TWGs concluded that option A provided the most desirable street layout, primarily because of its functionality with respect to accommodating both pedestrian and auto circulation, ease of implementation (it exists now), and expected lower cost. The Chinatown neighborhood supports Option A and believes that the Herald Street extension is not something that will serve their neighborhood. The TWG and the SDSC do not recommend the Herald Street extension or Boulevard concepts. However, the guidelines have been structured to allow any of the three roadway options to be considered in the future, should public or private funding become available.

Accommodating air rights development. The SDSC asked its consultants to review the traffic and other transportation impacts of air rights development that met the spirit and letter of the Guidelines. These scenarios consisted primarily of housing together with street-level retail on Parcels 20-22. As the SDSC did across the corridor, the committee asked its consultants to assess the impacts of this development by assuming a worst-case future in which none of the desirable public transportation or other improvements for this area had been implemented. The consultant team reported that this air rights development should result in little net impact on overall traffic and transit operations. In contrast, scenarios with a similar total square footage but consisting primarily of office space produced significant traffic impacts negatively affecting the level of service at nearby intersections.

The consultant's findings were based in part on the relatively low automobile usage of current residents in this area and did reflect the advent of the Silver Line. The consultant team did not assess the impacts of a significant development on Parcel 23.

D. ENVIRONMENT

The SDSC is highly concerned about the environmental impacts of air rights development. While these concerns will be addressed at the CAC level, there are a number of environmental issues that should be addressed at the corridor level. These include daylight and shadow, lighting and glare, noise, wind, air quality, groundwater levels and utility infrastructure. Many of these impacts will need to be addressed at construction as well as at project completion phases.

DAYLIGHT AND SHADOW

Light and threat of shadow have been of considerable concern throughout the air rights planning process. As a result, these issues are an important consideration in the Guidelines portion of the SDSC report. Recommendations focus on building heights and appropriate setbacks.

Shadow lengths and locations are dependent on structure height, building massing, and the locations of nearby structures, as well as topography, time of day, and the sun's position relative to the earth. In the Northern Hemisphere, the sun's position in the sky is highest and shadows are shortest at the summer solstice, June 21. Shadows are longest and the sun dips below the equator to reach its lowest point on the Winter Solstice, December 21. Scoping for air rights development projects will require shadow studies for the solstices as well as for the vernal and autumnal equinoxes. In addition to studying shadow impact on the ground, project proponents will be required to look at the effects of shadow on building facades.

LIGHTING AND GLARE

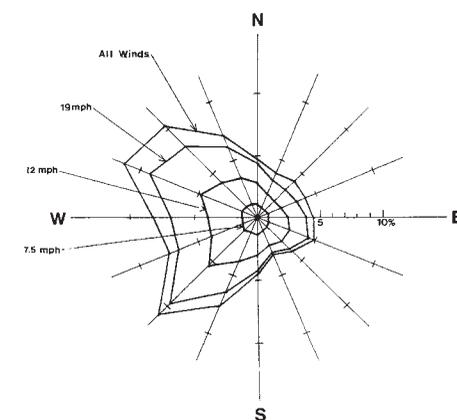
With the use of curtain wall construction and the current preference of many architects and designers to specify reflective glass and/or metal surfaces for the exteriors of buildings, glare is of significant concern with respect to air rights construction. In addition, exterior lighting plans for projects should be developed so that they meet security and operational needs while being sensitive to the impacts of light pollution. Project scoping and design review will address lighting and glare on a project-specific basis.

NOISE

Noise impacts that are most noticeable are construction-related, particularly when the air rights are spanned and structures are



Detailed evaluation of environmental impacts will be critical for each air rights proposal.



erected. Heavy equipment required for these activities brings noise to the area and sensitive receptors, including residents, schools, healthcare facilities, abound along the corridor. Construction activities can be restricted to limit times of impact as well as to obtain noise levels compliant with City regulations.

Post-construction noise includes that associated with normal activity, and may also include an increase in traffic noise as well as noise from mechanical and heating, ventilation, and air conditioning systems. Any increase in post-construction noise for the uses proposed should be confined to normal business hours and a localized increase in noise is anticipated at vehicular access points (parking and loading). To protect sensitive receptors, the Guidelines call for internal loading activities and location of access points to minimize impacts.

Regulations for the Control of Noise in the City of Boston, administered by the Boston Air Pollution Control Commission through the Boston Environment Department, must be followed in any development scenario.

Traffic noise from the Turnpike also will be a consideration for any Turnpike air rights development project.

WIND

Major buildings, especially those that protrude above their surroundings, often cause increased local wind speeds at pedestrian levels. Typically, wind speeds increase with elevation above the ground surface. Taller buildings intercept these faster winds and deflect them down to the pedestrian level. The funneling of wind through gaps between buildings and the acceleration of wind around corners of buildings may also cause increases in wind speed. Conversely, if a building is surrounded by other structures of equivalent height, it may be protected from the prevailing upper-level winds, resulting in no significant changes to the local pedestrian-level wind environment.

Wind will be an extremely important consideration in development planning for and scoping of individual air rights parcels. Project proponents will be asked to ensure that new buildings do not aggravate existing daily wind conditions in such ways as to either increase the wind velocity to undesirable levels or to deflect it from places it would be desirable. Because this is a *civic vision* which emphasizes public amenities such as wide sidewalks and pedestrian

plazas, the consideration of wind is crucial since high winds at street level often deter pedestrian activity.

AIR QUALITY

Existing and expected traffic congestion affects air quality. Despite a parking freeze (which seeks to limit commercial parking spaces), the increased fuel efficiency of cleaner automobiles and Boston's substantial public transit system, air quality continues to be a major concern. Air quality analysis will be required for each air rights development project, as a component of Boston Redevelopment Authority, Boston Environment Department and Massachusetts Environmental Policy Act reviews. Analysis includes identifying impacts associated with each project, and follows the protocol established by the Massachusetts Department of Environmental Protection. Project proponents will also be required to assess the air quality impact on residential projects from Turnpike traffic.

GROUNDWATER

Groundwater levels are influenced by weather conditions, precipitation, the infiltration of surface water runoff, construction activities, leakage into or out of utility pipes and tunnels, building underdrain systems, localized water recharging, and other factors. Temporary lowering of groundwater levels often occurs with construction dewatering activities.

In historic neighborhoods, many homes and historic buildings are built on wood-pile foundations. If groundwater drops to a level that exposes the tops of the wood piles to air for significant periods of time, the exposed portions of the piles will begin to decay, which may cause settlement and damage to the structures. This is of significance in many neighborhoods abutting the Turnpike where a number of buildings have suffered major structural damage due to prolonged groundwater depletion.

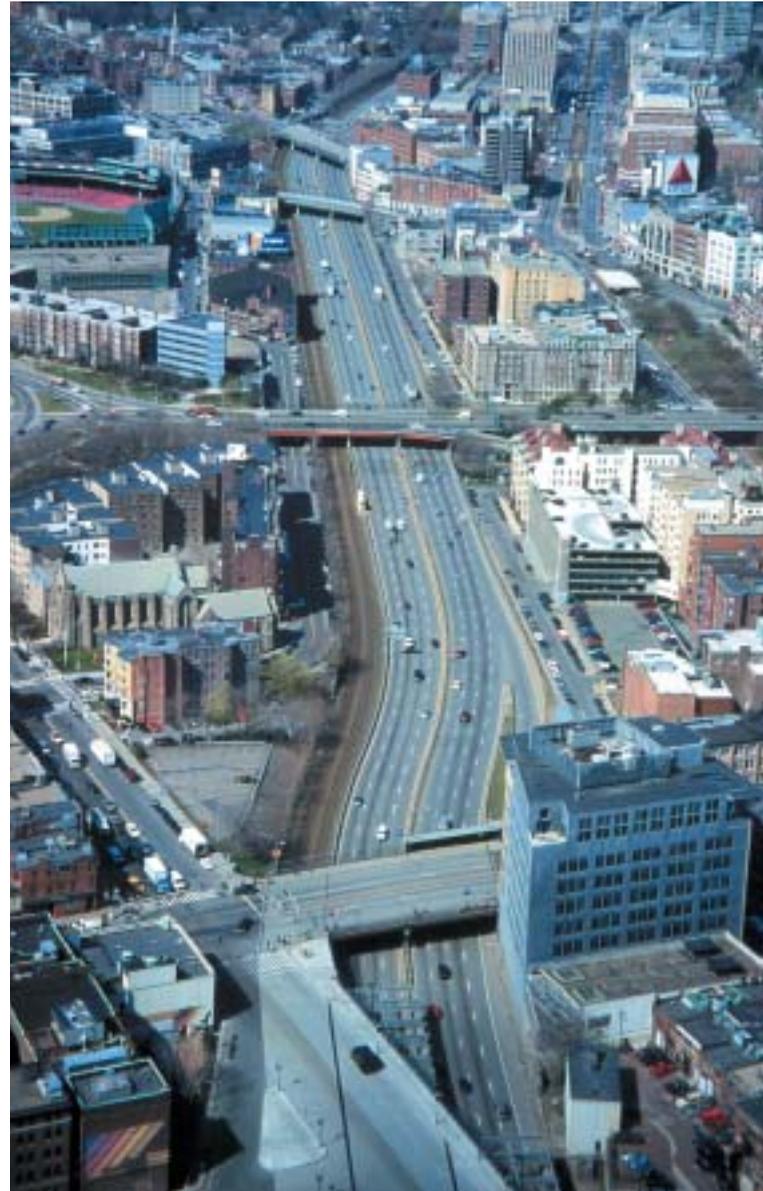
Seasonal fluctuations of the groundwater level within areas of the Back Bay are typically in the range of about two feet or less. However, fluctuation can be larger if extreme weather or other unusual events occur. As such, maintaining and possibly restoring groundwater levels is particularly important in the Fenway, the Back Bay, the South End and Chinatown because of the large number of buildings supported on untreated wood pilings.

Deteriorating existing conditions might require investigation to determine the source of draw-down and a remediation plan that will

Recent geotechnical studies prepared as part of the EIR and DPIR for the 10 St. James project and the 131 Dartmouth Street project provide additional groundwater data and well measurements. The DPIR for the 131 Dartmouth Street project mentions that in the early 1980's, groundwater levels near the Back Bay/South End station were observed between El. 3 and El. 4. The depressed levels in this area have been attributed to drains in the former railroad right-of-way, which parallels the Turnpike alignment.

An April 1990 Stone and Webster report on Groundwater Observation Wells prepared for the Inspectional Services Department and the City of Boston described structures impacted by deteriorating pile foundations. These included four Hudson Street buildings located in Chinatown that collapsed, reportedly due to deterioration of foundation pilings, and the underpinning of two residential buildings on Hemenway Street on Northeastern University's Huntington Avenue Campus.

restore groundwater to normal levels. Information on groundwater levels extracted from various studies conducted specifically on this topic or from private developments located adjacent to the corridor reveal pre-existing lowering of groundwater levels at monitoring sites abutting the Turnpike corridor.



Air quality evaluation must also include the impacts of Turnpike traffic on residential air rights development.

The following components of any proposed project will aid in the protection of groundwater levels and adjacent buildings:

- Determining pre-construction groundwater levels including study of precondition flow patterns
- Selecting a lateral earth support system capable of maintaining pre-construction groundwater levels and limiting ground movements
- Performing precondition surveys of adjacent structures prior to construction
- Prescribing and implementing appropriate remediation measures as determined by the Boston Redevelopment Authority, Boston Environment Department, and Inspectional Services Department
- Implementing a groundwater and building monitoring program during construction
- Implementing contingency plans, if required, during construction to protect groundwater levels and adjacent buildings
- Providing groundwater observation wells for long-term groundwater monitoring

All proposed air rights projects will require construction methods that maintain existing groundwater levels and minimize temporary or long-term impact on utilities and structures in the area during project construction and following project completion.

UTILITY INFRASTRUCTURE

Utility infrastructure (electric, gas, telephone, water, sewer, and storm drain) is present in streets abutting the air rights parcels, and it is anticipated that service connections to existing systems will be made to serve individual air rights parcels.

Site specific assessments of available infrastructure capacity and the estimated demands placed on it by the proposed air rights development will be required, if and when they come on-line. As routine upgrades or strategic infrastructure improvements evolve over the course of time, consideration of potential air rights demands can be incorporated.

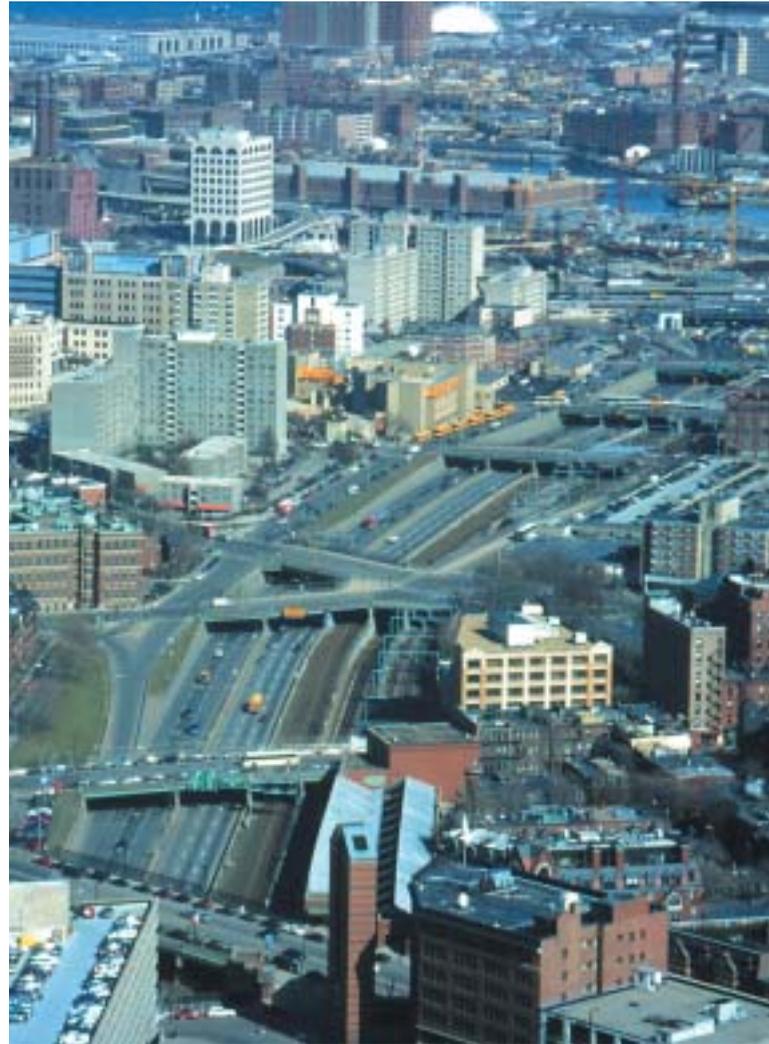
The capacity assessment will include other nearby projects that are tributary to the same supply systems. If adequate capacity does not exist, measures to increase capacity must be identified and implemented. Conservation measures aimed at mitigation or minimizing demands and impacts are appropriate for any development (i.e., water and energy conserving fixtures).

Stormwater management has been of particular concern in the downtown communities bordering the turnpike. Developers must comply with the Stormwater Management Policy of the Massachusetts Department of Environmental Protection as well as any other requirements mandated by water management and/or quality offices of the City and State.

SOLID AND HAZARDOUS WASTE RECYCLING

In accordance with City of Boston policy, it is essential that any air rights development project in the city be designed with adequate sorting, storage and pick-up space in anticipation of increasing rates of recycling over the operational life of the buildings.

While projects will be considered on a parcel-by-parcel basis by their respective CACs, all air rights development is subject to review and modification by the Boston Environment Department, Massachusetts Department of Environmental Protection, and Boston Redevelopment Authority. As the full range of environmental impacts must be carefully analyzed during a CAC review, the SDSC believes that from an environmental perspective, it is important to bring forth air rights proposals that meet the spirit and letter of the Guidelines.





IV. Implementation

A. CIVIC VISION

The SDSC's *civic vision* to guide the use of Turnpike air rights is both bold and achievable. This vision is simple: Heal the physical, social and economic breach presented by the Turnpikes passage through Boston. Woven into this vision are four complementary goals to enhance quality of life and economic opportunity for all Bostonians.

1. Air rights development should foster increased use and capacity of public transportation and decreased reliance on private automobiles. Some of Boston's most dense neighborhoods and commercial districts line the Turnpike corridor. These areas have busy sidewalks, congested streets, and the region's highest reliance on public transit. All along the corridor, the SDSC's vision demands a dual commitment to walkable streets and less reliance on private automobiles. This commitment requires:

- Improving the pedestrian realm in a city that prides itself on walkable streets. Dramatic opportunities for enhancing the pedestrian environment range from creating wide sidewalks in heavily traveled areas like BU and the Back Bay to quality-of-life enhancements like cafés that spill out onto sidewalks.
- Expanding public transportation and other alternatives to the automobile. The corridor offers major opportunities for meeting this goal—beginning with lower parking allowances for new development to encourage less reliance on automobiles and more use of public transportation. Development should not outpace public transit improvements. From there, important opportunities follow:



The civic vision embodies a transportation vision, a neighborhood vision, a citywide vision, and a public realm vision.

- **Improve the Green Line** to increase public transportation capacity along much of the corridor.
 - **Create a Yawkey transit station**, with subway, train and bus service linking the corridor to the western suburbs, direct access to the Green Line's Kenmore Station, and shuttle trains to Back Bay and South Stations.
 - **Build the Urban Ring** to link the corridor more effectively to the regional transit system, relieve pressure on the Green Line, and reduce surface bus routes.
 - **Complete the Silver Line** to improve access from Roxbury, the South End, and Chinatown to downtown and the South Boston Waterfront.
 - **Upgrade signalization on the Orange Lines north section** to increase public transit usage from the north.
 - **Introduce transportation management improvements** to favor Green Line trains in signal timing; coordinate existing and new van shuttles to make public transit more effective, and therefore more attractive to new users.
 - **Encourage the use of bicycles** with a bikeway connection to downtown and extensive bike storage in every new building.
- **Enhancing public transit connections to the Turnpike corridor and the South Boston Waterfront**

2. Air rights development should strengthen the vitality and quality of life in neighborhoods along the Turnpike corridor.

With superb access to cultural amenities, educational institutions, and public transportation, the neighborhoods along the Turnpike are very desirable places to live. Yet these benefits come at a cost in terms of traffic, lack of open space, rising housing costs, development pressures, and other threats to neighborhood quality of life. Residents argue passionately about issues of development. Where? How high? What uses? How much traffic?

With air rights, the answers to these questions change with each neighborhood: Air rights should be used very differently in each neighborhood along the extension. Air rights development can:

- **Replace surface parking lots with 200 to 300 units of new housing and remove pressures for institutional growth to support Audubon Circle's recovery as a residential community.**

- **Create a lively new public square at Yawkey Station and opportunities for new entertainment uses removed from residential areas to support continued revitalization of Kenmore Square.**
- **Create significant opportunities for affordable housing, provide financial support for the arts, and reclaim the Back Bay Fens' historic connection to the Charles River in the Fenway.**
- **Fill in missing links in one of America's most walkable urban districts, provide support for affordable housing, enhance the Back Bay's unique character, and help preserve it as a community in which a variety of people can live.**
- **Provide open space, public squares, pedestrian-friendly connections, and support for mixed-income housing in the South End, Bay Village and Chinatown.**
- **Create 900 to 1200 units of mixed-income housing, commercial space, a new park and other public uses (for example, a community center, library or school), and new pedestrian-friendly connections to accommodate population growth, long-term quality of life and neighborhood identity for Chinatown, the South End and Bay Village.**

These guidelines are intended to insure that air rights are developed in appropriate ways in every neighborhood— that scale and character of buildings are appropriate, that adverse traffic impacts are minimal, and that all new uses contribute to the special qualities and character of each neighborhood.

3. Air rights development should enhance Boston as a place to live, work and invest. The Turnpike crosses half the city and occupies 44 acres, nearly double the area of the land being freed by demolition of the Central Artery. Developing the air rights could:

- **Offer sites for residential development.** Rising demand and limited additions to the stock of housing citywide and in the neighborhoods along the Turnpike has made the creation of mixed-income housing one of the City's priorities.
- **Create economic opportunity on new land.** This includes permanent jobs created by new development. The most significant example is a nationally significant science and technology campus at BU. With virtually no

other options for responding to increasing research and learning needs, this campus would attract the industries of the mind that are increasingly the sources of opportunity.

- Offer sites for major facilities and attractions as investments in the city. Examples include an expanded commercial/entertainment district at Lansdowne Street/Kenmore Square, a regional cultural facility along the Charles River, and a new or refurbished Red Sox stadium.

4. Air rights development should repair and enrich the city's public realm. The Turnpike divides the city – from historic neighborhoods to post-World-War-II commercial districts – diminishing the quality and character of every area through which it passes. Air rights offer opportunities to repair gaps and other problems created by the highway *and* enrich the public realm at almost every turn. Buildings and open space atop air rights could:

- Create new common ground to bring Bostonians together. Key elements include roughly two and half miles of pedestrian-friendly sidewalks linking neighborhoods and creating paths to the region's greatest open space, the Charles River; public parks in three neighborhoods; a new public square and expanded commercial/entertainment district at Kenmore Square; a regional cultural facility along the Charles River; and new community facilities between Chinatown and the South End.
- Enhance the city's civic design by repairing the visual damage from a six-lane highway built through Boston's historic heart. Replacing windswept bridges with shops and other neighborhood uses will dramatically transform more than a dozen major streets. New signature buildings facing the Charles River and lining the highway will provide the city with exciting gateways. New public spaces and stations will celebrate the role of public transportation.
- Connect communities with streets where shops, cafés, exhibition spaces and other uses will engage pedestrians. Bay Village, Chinatown, and the South End will enjoy pedestrian-friendly connections for the first time. The historic Back Bay and Fenway will no longer abruptly divide at a highway bridge. Beacon Street and Brookline Avenue will provide stronger connections between

Kenmore Square and the neighborhoods to the west. BU's campus, oriented along Commonwealth Avenue, will be made whole for the first time.

- Create public parks and squares. Two new parks serving Bay Village, Chinatown, and the South End will meet a long-standing need for open space. A small street will be transformed into a car-free setting for music and cafés between the South End and Back Bay. A lively public square will mark the new Yawkey Station near Kenmore Square. A small park and linear landscaped buffer will help create an appropriate transition from Audubon Circle to BU.
- Establish new links to and within the park systems of Boston. Completion of the Southwest Corridor Bikeway, which now ends at Copley Square, will extend the bikeway to the heart of downtown. New development will help reconnect the Emerald Necklace across Charlesgate to the Charles River. New pedestrian-friendly sidewalks and other pathways will remove obstacles that separate neighborhoods west of the Back Bay from the Charles River.

Each of these elements is critical—and all are equally important—to this *civic vision*.

B. GUIDELINES

These Guidelines address concerns typically raised by major projects in Boston as well as special issues posed by building atop the Turnpike. In writing them, the SDSC has attempted to capture the tremendous potential air rights offer for enhancing quality of life and creating economic opportunity. The SDSC has also worked to balance the cost and feasibility issues that building on air rights presents against the essential need for air rights projects to fit into the established context of the city and its neighborhoods.

The Guidelines rest on key principles:

Air rights development should:

1. Foster increased use of public transportation and decreased reliance on private automobiles by taking tangible steps to expand public transportation, enhance the pedestrian realm, and limit parking.
2. Reinforce the vitality and quality of life in adjacent communities by balancing the larger scale inherent in these projects with uses and massing that are compatible with adjacent neighborhoods and respecting the very different planning context presented by each of the communities along the Turnpike.
3. Enhance the city as a place to live, work, and invest by taking advantage of exceptional opportunities to accommodate projects that generate broad civic benefits, not readily achievable without using air rights.
4. Repair and enrich the city's public realm by capturing unique opportunities to create a wide range of vital public spaces and designing buildings and public spaces to contribute to Boston's distinctive character and sense of itself as a community.



These Guidelines assume a long time frame for air rights development. Given the cost of building on air rights, the balance we have tried to strike between economic feasibility and public benefits may only be achievable on some parcels in strong real estate markets. Nevertheless, the SDSC believes the *civic vision* embodied in these guidelines will bring substantial benefits to Boston and its neighborhoods.

Proponents should also review planning studies prepared for specific neighborhoods (e.g., the current Chinatown Air Rights Development Plan and the Neighborhood Association of the Back Bay Development Guidelines).

For background information about how these guidelines were established, please refer to Section I.

**1 & 4-6 (2 & 3 ARE IN BROOKLINE)-
BALANCE COMMUNITY AND INSTITUTION**



USES

■ Given its prominent location along the Charles River, potential as an important gateway, and proximity to a major university, Parcel 1 represents an appropriate location for a major museum, performance or other significant cultural or academic facility. It may be necessary to incorporate housing, hotel and other commercial uses to achieve financial feasibility. Consider uses that would benefit the public, including, but not limited to performance facilities or other cultural spaces, affordable housing, facilities for seniors, assisted living, and childcare or similar facilities.

Street Level:

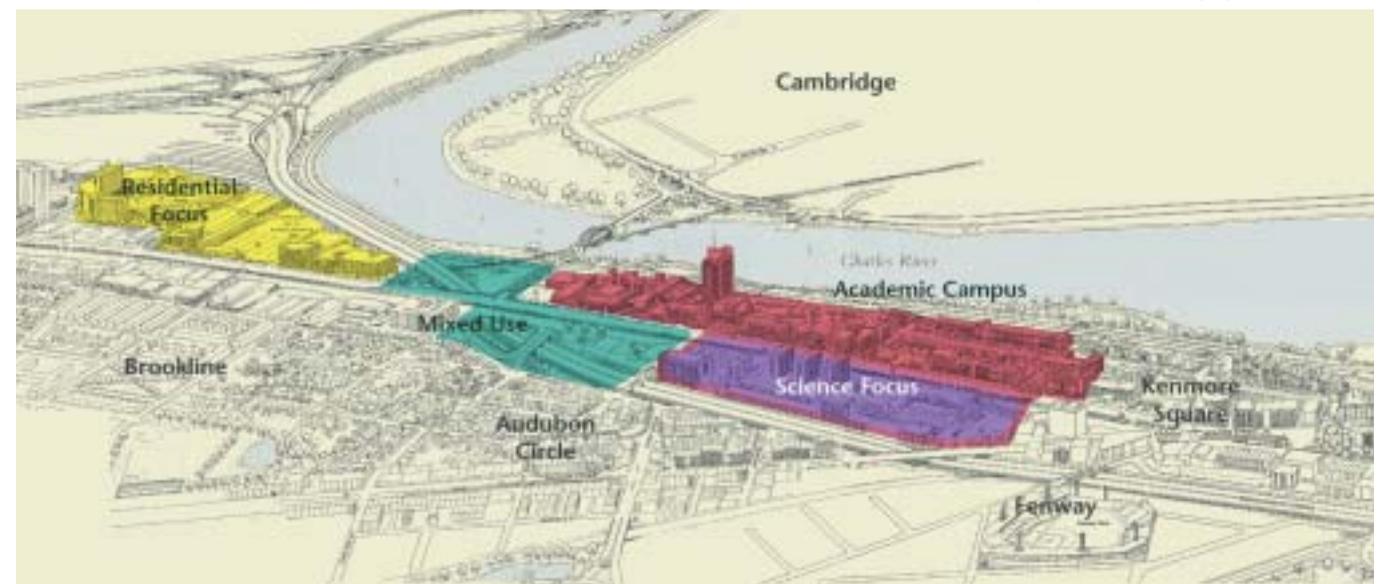
- Active public spaces related to cultural uses, shops, restaurants, cafés, and similar active uses should enliven as much of the Commonwealth Avenue frontage as possible (in this location, it would be appropriate that active uses occupy at least half the street frontage).
- A mix of active uses, lobbies, cultural facilities and similar uses should face the BU Bridge.
- No blank walls or parking levels should face directly onto public streets or the Charles River.



The Guidelines suggest a significant civic use facing the Charles River on Parcel 1 together with a nationally significant research campus on Parcels 4-6. Air rights could accommodate BU's future needs away from adjacent neighborhoods-by providing an appropriate edge that includes a setback, stepped down heights, and a landscaped buffer. Brookline has zoning control over Parcels 2 and 3 and will conduct a study of these parcels.

■ Parcels 4-6 represent an opportunity to accommodate research (e.g., laboratories), academic, and related facilities that support the creation of a nationally important research campus. These facilities could be developed by BU and/or other proponents. A portion of the air rights should be used to create a handsome campus setting.

Parcels 4-6 are adjacent to BU's emerging science campus.



A Civic Vision for Turnpike Air Rights in Boston

Street level:

- Enliven the Beacon Street frontage with shops, restaurants, cafés, and public exhibit spaces related to academic activities, or similar active uses (in this location, it would be appropriate that active uses occupy at least half the street frontage).
- Transform the edges of parcels facing adjacent neighborhoods into a mix of usable open space and landscaped buffer to enhance the transition from neighborhood to university.
- No blank walls or parking levels should face directly onto public streets.

- **For Parcels 1 and 4-6, developers must seek the input of the Audubon Circle Neighborhood Association, Civic groups from the Allston neighborhood, Kenmore Square Business Association, Kenmore Residents Association, Cottage Farm Neighborhood Association, Boston University and similar organizations to identify potential businesses.**



Street level use and design guidelines will help Commonwealth Avenue and Beacon Street achieve their potential as pedestrian main streets of a diverse community of students, long-term residents, employees, visitors, and many others.

TRANSPORTATION

■ Pedestrian circulation

- Provide a minimum of 12-foot wide sidewalks along Mountfort Street and streets that cross the Turnpike to allow room for pedestrian activity, street furniture and trees.
- Provide a pedestrian connection to Blandford Street as part of development of Parcel 6.
- Provide pedestrian and bicycle access across Parcel 1 to the railroad bridge that crosses to Cambridge, to support the Metropolitan District Commission's master plan for the Charles River Basin (which recommends providing pedestrian and bicycle access along the railroad bridge).

■ Parking

- Provide sufficient parking to serve new uses. The City's goals are to reduce reliance on automobiles and increase the use of public transit. In line with this policy, parking supplies should be based on targets that exceed current levels for walking/transit use (65-80%) and auto-occupancy (at least 2 people per auto).
- Parking ratio goals for these parcels are:
 - ◆ Residential—1.5 space per unit

- ◆ Hotel—.75 space per unit
- ◆ Office/ Research & Development: 1/1000 SF
- ◆ Retail: to be determined by the CAC through a parking study (see below); the goal is to minimize parking required for these uses.

- To refine these goals, a proponent should conduct a parking study to determine the size of proposed parking facilities based on target levels of more than 20% transit use (the 2000 level is 10 to 20%) and less than 50% auto use (the 2000 level is 50 to 60%). This study should identify opportunities for shared parking. The number of spaces proposed in any new facility must reflect a detailed inventory of all public spaces within walking distance of the parcel, and their availability to serve the new project. The need for on-site parking should be further documented by studying adjacent developments, including incentives in use to promote non-auto access. Allocate a portion of new parking for use by the community. For these parcels, this study should take into account the entire context, including BU, the Red Sox, and other major traffic generators.

- Locate parking access to minimize neighborhood impacts; for example, locate parking for Parcels 4-6 off of Cummington Street, if possible.

- Maximize setback of garage entrances from intersections to prevent interference with street queues.
- Provide audible and visible warnings at garage exits to protect pedestrians.
- Locate significant loading and servicing within buildings.

■ Public transportation

- Accommodate right-of-way, station access, and other needs for the Urban Ring, including possible station facilities.
- A new Yawkey Station and transit hub should be considered in design and development of Parcel 6, if the MBTA proposes to locate the station on this parcel.

■ Traffic management

- In order to advance the City's goal of reducing automobile use, encourage project proponents to participate in Neighborhood Transportation Management Associations (for example, the nearby BRA/BTD Neighborhood Transportation Management Association in the Fenway); and

- Provide adequate space for any necessary on-street loading and restrict loading to non-peak periods and not before 7:00 AM or past 11:00 PM.

■ **Vehicular access and circulation**

For Parcel 1:

- Provide a single point of access for parking, servicing, and other access off Commonwealth Avenue as far from the intersection with the BU Bridge as possible. (The introduction of any curb cut on the BU Bridge will further degrade an already overburdened road.)

For Parcels 4 -6:

- Locate all servicing and other access off of Cummington Street, if possible.

■ **Bicycle**

- To the extent possible, build bicycle paths to the Charles River.
- Provide secure bicycle storage in new buildings.

PUBLIC REALM

■ **Public open space, connections, and sidewalks**

- A small public park at the corner of Mountfort and Beacon Streets should be provided. This park would represent an appropriate gateway to the Audubon Circle neighborhood. A landscaped buffer should continue along Mountfort Street.
- A generous public sidewalk (minimum 12-foot wide) should face Beacon Street. A building facing Beacon Street should provide for continuous public access to active street-level uses as that street rises to cross the Turnpike – for example, by providing a public arcade as part of the building.
- Buildings facing Commonwealth Avenue should form street walls that line sidewalks in a manner similar to Boston University's School of Theology and College of Arts and Sciences buildings and should frame courtyards and landscaped spaces. Buildings facing Beacon Street should form street walls that contribute to a transition from the residential scale of Audubon Circle to the more commercial scale of Kenmore Square.



Looking west from the corner of Mountfort and Beacon Streets. Sketch shows how a small park and landscaped buffer should mark the transition from campus to neighborhood.

- A pedestrian connection across the Turnpike from the end of Arundel Street should be provided.
- New buildings on Parcels 4-6 should frame generous open spaces that form quads, courts, and other campus-like public spaces to create a campus environment along Cummington Street.

■ **Streetscape**

- Improvements along all public streets should reflect the Boston Transportation Department's *Streetscape Guidelines for Boston's Major Roads*.
- Streetscape elements such as lighting fixtures, furniture, and other items should coordinate with the City's plan for streetscape and pedestrian improvements along Commonwealth Avenue.

■ **View corridors**

- Preserve views toward the Charles River along Blandford Street from Beacon Street.
- Preserve sky views along Arundel Street.

A Civic Vision for Turnpike Air Rights in Boston



In contrast to the "Photonics Building," air rights buildings on Parcels 4-6 should avoid visually walling off neighborhoods from the River.

FORM

■ Building locations

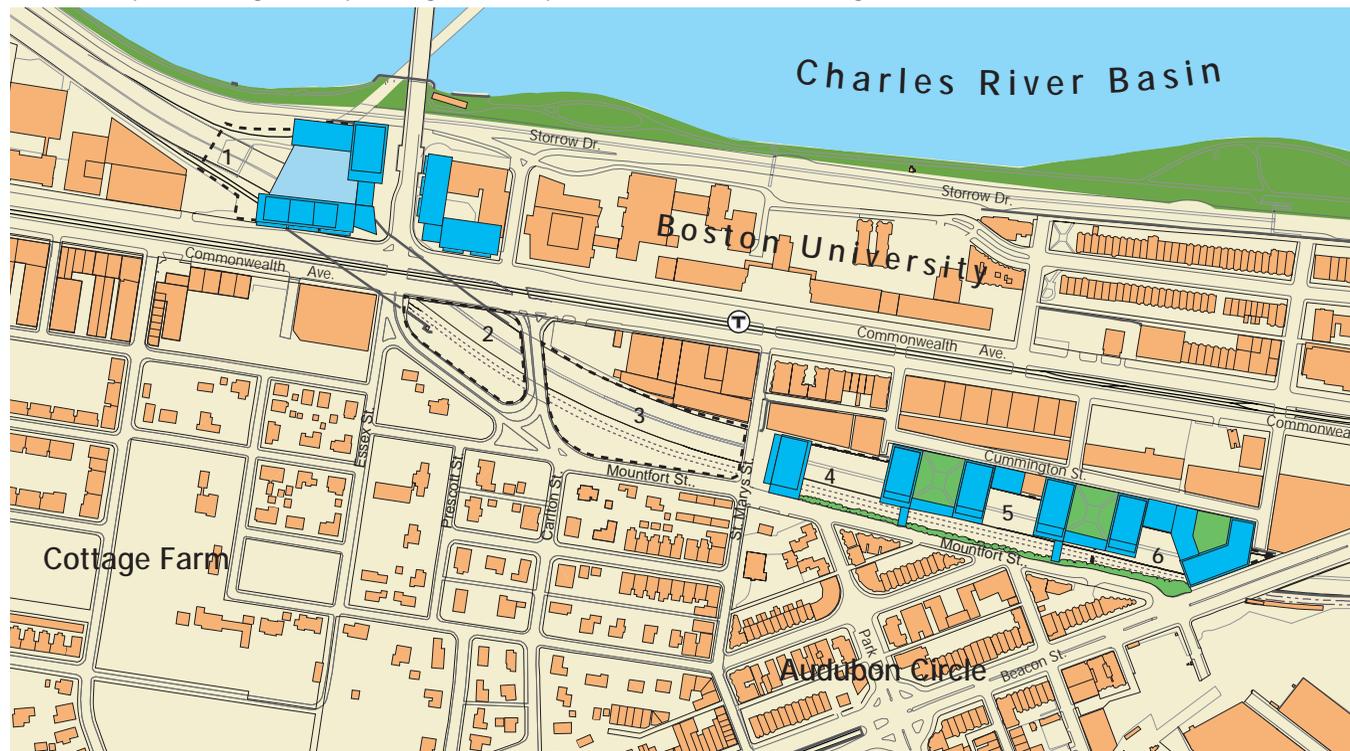
- The absence of building frontages along Commonwealth Avenue and Beacon Street at Parcels 1 and 6 represents a significant gap in the public realm along these important streets. Air rights development that meets the Guidelines is highly desirable on these parcels and should occupy as much of the frontage along Commonwealth Avenue and Beacon Street as possible.
- Buildings should avoid creating a symbolic wall between the Charles River and adjacent neighborhoods. Massing should generally be perpendicular to Mountfort Street. The single exception would be new buildings facing Beacon Street, which should reflect that street's orientation.
- To accommodate the substantial shift in scale from larger university buildings to smaller neighborhood buildings along Mountfort Street and the fact that the Turnpike is close to grade at Mountfort Street, air rights buildings should be set back at least 60 feet from the edge of Mountfort Street. The only exception to this would be for a building facing onto Beacon Street.

■ Scale and massing

Buildings on Parcel 1 should:

- Create a street wall facing Commonwealth Avenue that is comparable in scale, setback from the street, and massing to the nearby School of Theology, College of Arts and Sciences and Law School buildings. Buildings on Parcel 6, facing Beacon Street, should create a street wall of four to six stories (approximately 55 feet to 75 feet), comparable in height to many of the buildings along nearby blocks.
- Emphasize the traditional scale of the street wall by setting back additional massing above the height of the street wall (at least 6 feet, preferably one building bay), and possibly using different materials or colors, to create a visible distinction between the street wall and taller elements.
- Contribute to the formal institutional character that distinguishes the north side of this important street through careful consideration of the length and composition of building façades facing Commonwealth Avenue. These façades should offer similar building widths, configurations that frame formal courtyards, and details that emphasize formal composition. Single buildings with longer widths along the street (exceeding 100') should pay special attention to reinforcing this traditional scale through the use of design elements that break down the scale of their façades.

Plan illustrates potential air rights development, together with improvements to the east of the BU Bridge.



Buildings should create street walls that respond to the height and character of existing structures and include ground level retail and other uses that engage pedestrians (looking east on Beacon Street, approaching Kenmore Square— sketch shows new construction on Parcel 6, facing Beacon Street).

Buildings on Parcels 4-6 should:

- Create a street wall facing Beacon Street that makes a transition from the scale of the nearby residential buildings (four to six stories or approximately 55 feet to 75 feet) to the scale of Kenmore Square (represented by the Buckminster Hotel).
- Emphasize the traditional scale of the street wall by setting back additional massing above the height of the street wall (at least 6', but preferably one building bay), and possibly using different materials or color, to create a visible distinction between the street wall and taller elements.
- Reflect the prevailing scale and character of nearby buildings- including traditional rhythm created by a variety of building widths (approximately 25 feet to 100 feet), building bays (16 feet to 25 feet), and variety of design details. A single building with more extensive width along the street (exceeding 100 feet) should pay special attention to reinforcing this traditional scale in its façade.

■ **Height**

- Most of Parcel 1 should be used for lower buildings. A portion of the height may be used for a slender taller building; if so, its height should not exceed the height of the BU School of Law tower (as measured from the surface of the Charles River).
- Buildings on Parcels 4-6, in addition to being set back from Mountfort Street, should step up toward Cummington Street to make a gradual transition from neighborhood to university scale. The maximum height should be 60 feet within 100 feet of Mountfort Street. To accommodate significant research and academic buildings without overwhelming the nearby neighborhood, the maximum allowable heights should be 150 feet.

■ **Design character**

Buildings on Parcel 1 offer important opportunities to:

- Enliven the pedestrian experience along Commonwealth Avenue by including arcades, extensive awnings, innovative signage and lighting, and similar elements.
- Create buildings that continue the formal massing of the School of Theology, College of Arts and Sciences and Law School buildings, which convey the character and quality of BU.

- Create a strong gateway at the BU Bridge, including a visually strong corner at Commonwealth Avenue that announces the Charles River crossing.
- Take advantage of this parcel's prominence along the Charles River to create a landmark building.

Buildings on Parcel 6 offer important opportunities to:

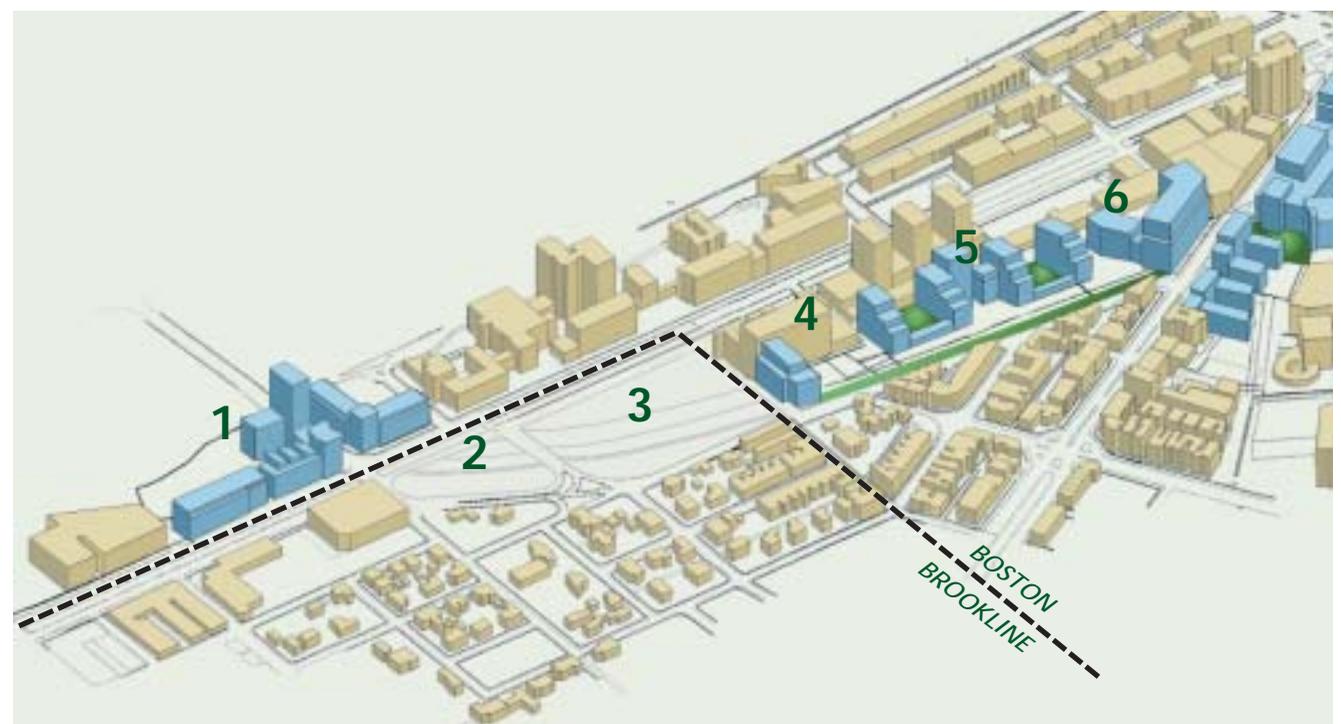
- Enliven the pedestrian experience along Beacon Street in much the same way as buildings on Parcel 1 could enrich Commonwealth Avenue.
- Create a formal academic presence on Beacon Street that contributes to the diversity in this area.

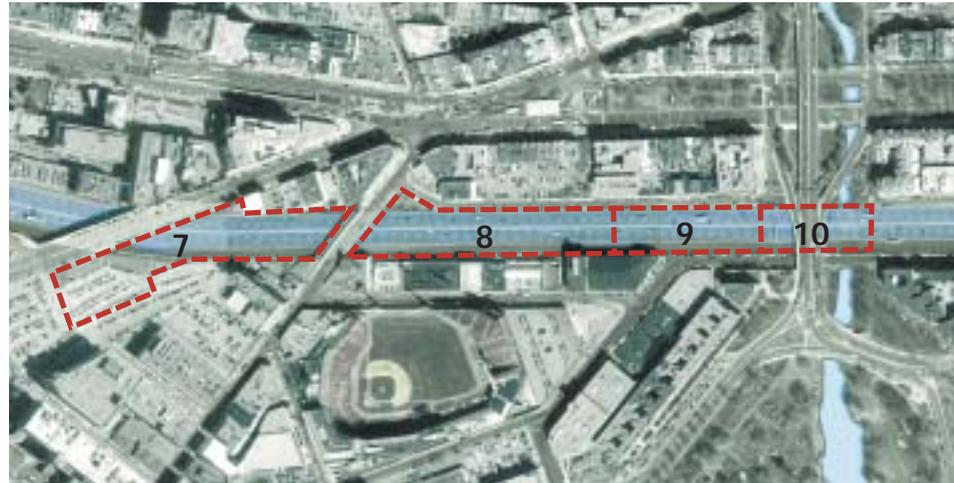
Buildings on Parcels 4-6 should also:

- Face Mountfort Street with façades that include windows opening onto occupied space at every level, together with architectural articulation.
- Form a rich array of quads and other campus-like public open spaces along Cummington Street.



Illustration of maximum height and massing envisioned in the Guidelines. Building-heights scale down from Commonwealth Avenue toward adjacent neighborhoods; if a taller building is required to support creation of a civic use on Parcel 1, it should not be taller than BU's Law School Building (above).





PARCELS 7-10 FENWAY/KENMORE SQUARE, AUDUBON CIRCLE

USES

■ Parcel 7 offers important opportunities to fill in gaps in the public realm along both Beacon Street and Brookline Avenue, forging stronger connections between Kenmore Square and the districts to the west; adding diverse housing to replace some of what has been lost in the Audubon Circle neighborhood; and creating a lively public setting for an important new commuter rail and bus station. The parcel could also accommodate parking for a potential new Fenway Park. Consider uses that will benefit the public, including but not limited to affordable housing, facilities for seniors, assisted living, childcare, facilities for children and similar uses. This mix of opportunities suggests a wide range of uses.

Upper floors:

- The western portion of the parcel, which faces Beacon Street and is located on *terra-firma*, represents an excellent opportunity to create mixed-income housing that would serve Audubon Circle. Parking (other than parking required to serve new housing) should not be located on this *terra-firma* portion of the parcel for two reasons: it would displace Audubon Circle-related housing, and its creation over the Turnpike would support development of this parcel's air rights.

- The eastern portion of the parcel represents an opportunity to accommodate a wide range of uses, possibly together with parking, including research related to the nearby Longwood Medical Area, office space, a hotel, possibly housing, or other uses that would contribute to the areas vitality. Structured parking on this parcel should replace surface parking lots in the surrounding area, including lots north and south of Boylston Street in the West Fens.

Street level:

- Shops, restaurants, cafés and similar active uses that enliven the public realm are highly desirable along Beacon Street and Brookline Avenue. These uses should occupy most of the street-level frontage (in this location, it would be appropriate that active uses occupy at least three-quarters of the street frontage). A diverse mix of independent businesses should line these streets, rather than large chain businesses that are readily available elsewhere.
- Internal malls are discouraged (see further discussion under Sidewalks for Parcels 16-19).
- No blank walls or parking levels should face directly onto public streets.

■ Parcel 8 offers a significant opportunity to reconnect Kenmore Square to Lansdowne Street. In addition, development of Parcel 8 for commercial/entertainment uses will offer an opportunity to concentrate these popular uses away from residential areas. This parcel is uniquely suited for entertainment, retail, restaurants, a hotel, possibly housing, and other uses that would draw people to this special district.

Upper floors:

- Hotel, cinemas, and possibly retail and housing are desirable uses.

Street level:

- Shops, restaurants, cafés, cinema lobbies, music venues, and similar active uses that enliven the public realm are highly desirable facing Brookline Avenue. These uses should occupy a substantial majority of the street-level frontage (in this location, it would be appropriate that active uses occupy at least three-quarters of the street frontage). A diverse mix of independent businesses should line these streets, rather than large chain businesses that are readily available elsewhere.
- No blank walls or parking levels should face directly onto public streets.

Existing conditions, Beacon Street.



Air rights housing along Beacon Street (Parcel 7) would face a BU science building and small park (Parcel 6).



- For Parcels 7 and 8, developers must seek input from the Audubon Circle Neighborhood Association, Fenway Civic Association, Fenway Community Development Corporation, Kenmore Square Business Association, Kenmore Residents Association, Bay State Road Neighborhood Association, Symphony United Neighbors, and similar organizations to identify potential businesses.
- Parcel 9 offers a unique opportunity to enhance Boston's Emerald Necklace. Air rights development on this difficult parcel should focus foremost on replacing the lost pedestrian connections between the Fens and the Charles River. Office space, housing, or possibly a hotel might be appropriate if they could meet the guidelines in this document and create a well-designed pedestrian connection.
- Parcel 10 offers a unique opportunity to reconnect the Fens and the Charles River and enhance the setting for the Muddy River.

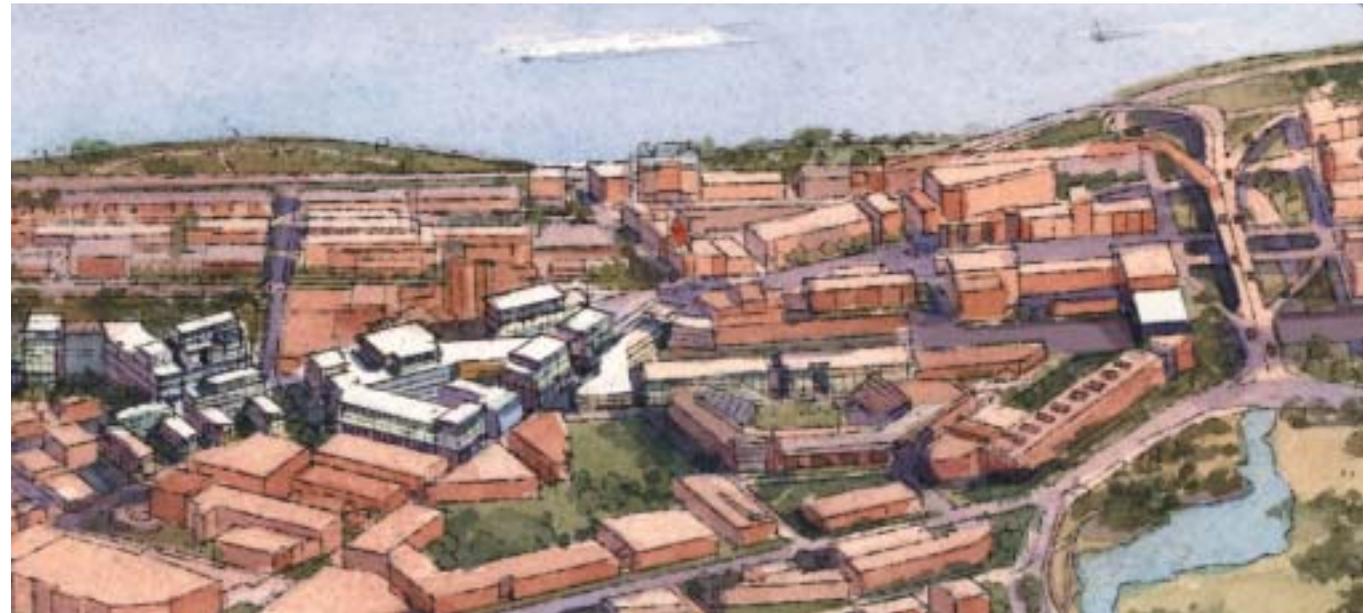
TRANSPORTATION

■ Pedestrian circulation

- Integrate development on Parcels 7 and 8 with the creation of a multi-modal Yawkey Station.
- Use air rights frontage on Parcels 7 and 8 to provide wider sidewalks on Turnpike bridges (minimum clear width 18').
- Continue pedestrian connection of Blandford Street as part of Parcel 7 development.
- Use Parcel 10 open space to forge stronger pedestrian links among the Fens, Muddy River and Charles River.

■ Parking

- Establish parking ratios that promote use of public transportation and encourage development of uses that generate less traffic.
- Parking ratio goals for these parcels are:
 - ◆ Residential—.75 to 1 space per units
 - ◆ Hotel—.5 space per unit
 - ◆ Office/ R&D—.75 to 1/1,000 SF
 - ◆ Retail and cinema—to be determined by a CAC.

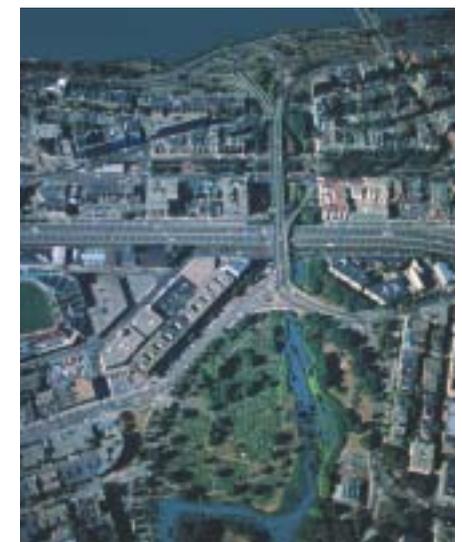


The Guidelines suggest housing on the terra-firma portion of Parcel 7 (and the parking lot to the west) to expand Audubon Circle and create a neighborhood gateway. A new Yawkey multi-modal station would face a lively public square opening to Beacon Street; the balance of Parcel 7, located over the Turnpike, would accommodate parking and possibly research or other uses. A hotel, retail, and similar active uses on Parcel 8 would link Kenmore Square to Lansdowne Street. A new building on Parcel 9 could provide a pedestrian connection from the Fens to the Charles River.

- To refine these goals, a proponent should conduct a parking study to determine the size of proposed parking facilities based on target levels of more than 25% transit use (the 2000 level is 20 to 25%) and less than 30% auto use (the 2000 level is 30 to 40%). This study should identify opportunities for shared parking. The number of spaces proposed in any new facility must reflect a detailed inventory of all public spaces within walking distance of the parcel, and their availability to serve the project. The need for on-site parking should be further documented by studying adjacent developments, including incentives in use to promote non-auto access. Allocate a portion of new parking for use by the community. For these parcels, this study should take into account the entire context, including BU, the Red Sox, and other major traffic generators.
- Locate parking access to minimize neighborhood impacts.
- Maximize setback of garage entrances from intersections to prevent interference with street queues.
- Provide audible and visible warnings at garage exits to protect pedestrians.
- Locate significant loading and servicing within buildings.



Air rights buildings would continue the scale and character of existing street walls.



The priorities for Parcels 9 and 10 are reconnecting the Fens and Charles River and enhancing the Muddy River's setting.

A Civic Vision for Turnpike Air Rights in Boston

■ Traffic management

- In order to advance the City's goal of reducing automobile use, encourage proponents to participate in Neighborhood Transportation Management Associations (for example, the nearby BRA/BTD Neighborhood Transportation Management Association in the Fenway).
- Provide adequate space for any necessary on-street loading and restrict to non-peak periods and not before 7:00 AM or past 11:00 PM.

■ Public transportation

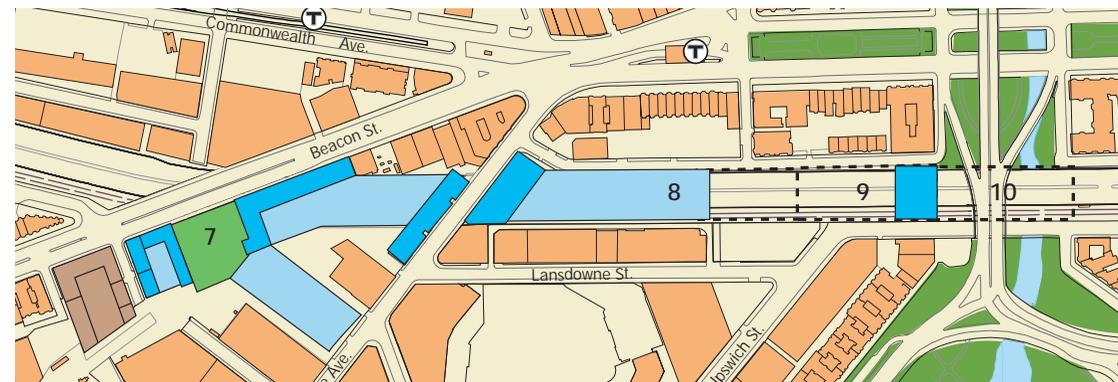
- Integrate development on Parcels 7 or 8 with the creation of a multi-modal Yawkey Station, if the MBTA locates the station on one of these parcels.
- Accommodate right-of-way, station access, and other needs for the Urban Ring, including possible station facilities.

■ Vehicular access and circulation

- For the *terra-firma* portion of Parcel 7, locate all parking, servicing, and other access off Maitland Street.
- For the air rights portions of Parcels 7 and 8, minimize the number of vehicular curb cuts along Beacon Street and Brookline Avenue.
- Ramp connections to/from air rights garages should be considered in Parcels 7 and 8, without allowing access from the Turnpike onto local streets.
- Accommodate proposed Kenmore Square improvements, which consist of primarily streetscape/pedestrian enhancements.
- If necessary, consider modifications of signal timing/phasing to reduce traffic congestion.



A lively public square celebrating a new multi-modal Yawkey Station.



Plan illustrates potential air rights development, together with housing on the surface parking lot to the west of Parcel 7.

■ Bicycle

- Provide secure bicycle storage in new buildings.
- Improve bicycle access across Parcel 10.

PUBLIC REALM

■ Public open space, connections, and sidewalks

Facing Beacon Street:

- Development should create a lively new public square in conjunction with a potential multimodal Yawkey Station serving commuter rail and other modes. The square should be lined with shops, cafés, and other active uses at pedestrian level, and it should open directly onto Beacon Street. The Square should align with Blandford Street to provide a greater presence in the adjacent communities.
- Buildings to the east of the new square should form continuous street walls with existing adjacent buildings to emphasize a sense of connection to Kenmore Square.
- Buildings to the west of the new square should form continuous street walls with existing adjacent buildings.

Facing Brookline Avenue:

- Buildings should form continuous street walls with existing adjacent buildings.
- As the street rises to cross the Turnpike, buildings should provide for continuous public access to active street level uses, for example by providing a public arcade as part of the building.

■ **Streetscape improvements along all public streets should reflect the Boston Transportation Department's *Streetscape Guidelines for Boston's Major Roads* in addition to specific plans for Kenmore Square.**

■ **View corridors**

- Buildings should frame views toward Kenmore Square down Beacon Street and Brookline Avenue.

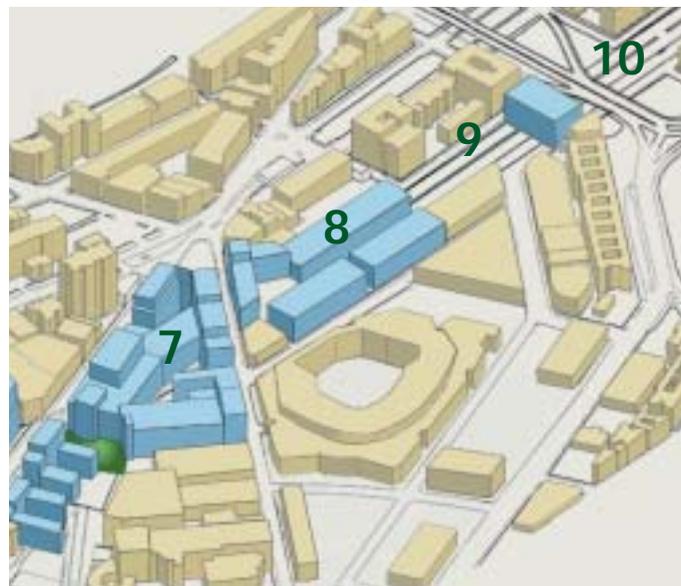


Illustration of maximum height and massing envisioned in the Guidelines.

FORM

■ **Building locations**

- The absence of buildings along Beacon Street and Brookline Avenue represents a significant gap in the public realm along these important streets, isolating Kenmore Square from the communities to the west. Air rights development should fill as much of the frontage along Brookline Avenue and Beacon Street as possible.

- Buildings should be located at the sidewalk edge and around the new square at Yawkey Station.
- A clear strategy for developing the air rights portion of Parcel 7 (directly over the Turnpike) should be in place before approving development on the *terra firma* portion of the parcel to ensure that development covers the Turnpike facing Beacon and Brookline Avenue.

■ **Scale and massing**

Facing Beacon Street and Brookline Avenue:

- Buildings facing Beacon to the west of a new square on Parcel 7 should reproduce the scale of the more substantial nearby residential buildings, creating a street wall of four to six stories (approximately 55' to 75'). Buildings facing Beacon to the east of the square on Parcel 7 (and buildings facing Brookline Avenue) should match the street wall of the Buckminster Hotel.
- To emphasize the traditional scale of the street wall, set back additional massing above the height of the street wall (at least 6', but preferably one building bay), and possibly use different materials or colors, to create a visible distinction between the street wall and taller elements.
- The length and composition of building façades should reflect the scale of nearby buildings, including traditional building widths (approximately 25'-100'), bay rhythms (16' - 25'), and variety of design details. A single building with longer widths along the street (exceeding 100') should pay special attention to reinforcing this traditional scale in its façade.

Facing Charlesgate:

- The special conditions that would shape a suitable air-rights development for this site suggest that a CAC should determine specific guidelines appropriate to a building that will help frame the historic Fens.

■ **Height**

- Buildings on Parcels 7 and 8 should step up toward Kenmore Square to form a gradual transition from Audubon Circle, rising from the lower end of the scale for traditional mid-rise Boston buildings (7 -10 stories) to the higher end (150') closer to Kenmore Square.
- The height of a building on Parcel 9 should be determined by a CAC, due to the unique setting and other conditions that will shape this development.

■ **Design character**

Buildings on Parcel 7 and 8 offer important opportunities to:

- Enliven the pedestrian experience along Beacon Street and Brookline Avenue and surrounding the new square by including arcades, extensive awnings, innovative signage and lighting, and similar elements.
- Create buildings that continue the strong street walls formed by existing buildings along both sides of Beacon Street and the north side of Brookline Avenue. Buildings facing Brookline Avenue, in particular, should reinforce the strong traditional street wall formed by the Buckminster Hotel.
- Create innovative architecture that responds to the area's visual diversity— a mix that includes row houses, former warehouses, Fenway Park, the CITGO sign, and early 20th century hotels.

Buildings on Parcel 9 should frame the Fens and create visual continuity with existing buildings along the west side of the Fens.



PARCELS 11-15 BACK BAY, FENWAY/KENMORE SQUARE

USES

■ **Parcel 11:** The first priority for this parcel is to preserve and protect the sunlight and natural northern exposure of the adjacent Fenway Studios artists' housing cooperative. As the only federally designated National Historic Landmark along the entire Turnpike, Fenway Studios should be protected from any negative impacts, and no development should be allowed on this parcel that would negatively impact the studios. *[Note: Before the City grants approval on adjacent air rights Parcels 12-15, the Turnpike Authority must provide a signed covenant stating that this natural northern exposure across Parcel 11 will be preserved in perpetuity.]*

■ **Parcels 12-15:** These air rights should be devoted to uses that foster a lively pedestrian-friendly public realm along Massachusetts Avenue and Boylston Street, draw diverse residents to the neighborhoods, and minimize traffic. Parcel 14 is too small to be developed on its own and should be included in any redevelopment of the Berklee College of Music site or in conjunction with development of Parcel 15.

Upper floors:

- A range of housing opportunities would be highly desirable for these parcels. Hotels, and other uses with equally low traffic-generation characteristics, would also be desirable.
- Developers should include on one or more of these parcels uses that would benefit the public, including but not limited to performance or other cultural facilities, affordable housing, facilities for seniors, assisted living, childcare, and facilities for children that are available to local schools.
- Offices, entertainment venues such as cinemas, or other uses that generate greater amounts of traffic (using customary urban traffic-planning assumptions) may be acceptable for these parcels only if these uses limit significant traffic generation. Any proponent of development on these parcels must conduct preliminary traffic studies (ahead of Article 80 requirements) to assist the CAC in evaluating whether the proposed mix of uses are acceptable.
- Parking should not face directly onto Massachusetts Avenue or Boylston Street at any level.

Street level:

- Shops and similar active uses that enliven the public realm are highly desirable along Massachusetts Avenue and Boylston Street. A diverse mix of independent businesses should predominate, rather than large chain businesses that are readily available elsewhere.
- Developers must seek input from the Neighborhood Association of Back Bay, the Newbury Street League, the Back Bay Association, the Fenway Civic Association, the Fenway Community Development Corporation, and similar organizations to identify potential desirable businesses for this unique location.
- A new public entry and lobby space for the Green Line station should face Massachusetts Avenue on Parcel 13.
- Active uses (including a Green Line entry) should occupy a substantial majority of the sidewalk frontage facing Massachusetts Avenue and Boylston Street. Building lobbies and other uses that do less to enliven the sidewalk should occupy limited frontage (in this location, it would be appropriate for active uses to occupy at least three-quarters of the street frontage). Internal malls should be avoided.
- A portion of this street frontage could be used for a public performance space or other cultural uses.



Development should not block Fenway Studios' natural light.



New construction on Parcels 12-15 should create a pedestrian-friendly public realm.



The Guidelines suggest a mix of housing, retail, and other uses that fill the gaps along Massachusetts Avenue and Boylston Street. Retail would take the form of a variety of shops and restaurants that line the street, not an internal mall. A performance center or other civic use should occupy a prominent location. A taller building could be located on Parcel 15 (left) or 12 (right).

- No blank walls or parking levels should face onto public sidewalks along Massachusetts Avenue and Boylston Street.
- Pedestrian-friendly use at the southwest corner of Newbury Street and Massachusetts Avenue is highly desirable; creating this use may require relocating the existing Turnpike access ramp further to the west along Newbury Street.
- Pedestrian-friendly use at the northwest corner of Boylston Street and Massachusetts Avenue is highly desirable.

TRANSPORTATION

■ Pedestrian circulation

- Air-rights development on Parcels 12-15 should accommodate and support the areas existing intense pedestrian activity. The configuration and design of sidewalks, location of building and parking entrances, and other aspects of development should accommodate unusually high pedestrian volumes with wide sidewalks and enhanced access to destinations such as the Hynes Convention Center, Tower Records (360 Newbury Street), Green Line station, Newbury Street, and local colleges (i.e., Berklee, MIT, Boston Architectural Center), as well as to Fenway Park and the Lansdowne entertainment district.

- New development should provide for enhanced pedestrian crossings, including bulb-outs and curb extensions, at the Massachusetts Avenue intersections with Boylston and Newbury Streets.
- Traffic signal timings and operations should be designed to give priority to pedestrians.

■ Parking

- Establish parking ratios that promote use of public transportation and encourage development of uses that generate less traffic.
- Parking ratio goals for these parcels are:
 - ◆ Residential- .75 to 1 space per unit
 - ◆ Hotel- .5 space per unit
 - ◆ Office- .75/1,000SF
 - ◆ Retail- None if possible.
 - ◆ Cinemas- to be determined through a parking study and the CAC; the goal is to minimize parking required for these uses.

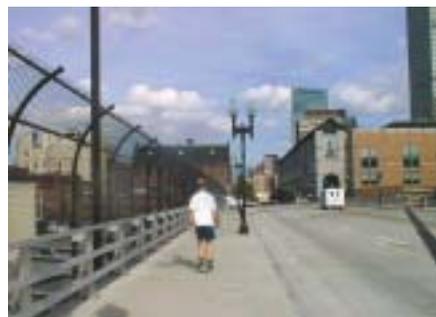


Development should make the Green Line station and bus facilities more inviting.

A Civic Vision for Turnpike Air Rights in Boston



Relocating the Turnpike ramp would allow a pedestrian-friendly use at this strategic corner.



Existing sidewalks are narrow.

- To refine these goals, a proponent should conduct a parking study to determine the size of proposed parking facilities based on target levels of more than 30% transit use (the 2000 level is 20 to 30%) and less than 30% auto use (the 2000 level is 30 to 40%). This study should identify opportunities for shared parking. The number of spaces proposed in any new facility must reflect a detailed inventory of all public spaces within walking distance of the parcel and their availability to serve the project. The need for on-site parking should be further documented by studying adjacent developments, including incentives in use to promote non-auto access. Allocate a portion of new parking for use by the community. For these parcels, this study should consider the entire context, including other major traffic generators.
- Designate any on-street metered spaces for residential use after 6:00 PM.
- Locate garage access to minimize neighborhood impacts by promoting use of the Turnpike; consider an egress point from the garage directly to the Newbury Street ramp.
- Locate garage access points to avoid creating queues on public streets.
- Provide audible and visible warnings at garage exits to protect pedestrians.
- Locate all significant loading and servicing within buildings to avoid creating trucking queues on public streets.

■ Public transportation

- As described elsewhere in these guidelines, air rights development should accommodate facilities for bus patrons and a new entry and lobby for the Green Line station.

■ Traffic management

- In order to advance the City's goal of reducing automobile use, encourage proponents to participate in Neighborhood Transportation Management Associations (for example, the nearby BRA/BTD Neighborhood Transportation Management Association in the Fenway).
- Identify opportunities for alternative parking strategies (valet, shared cars).
- Provide adequate space for on-street loading and restrict loading to non-peak periods and not before 7:00 AM or past 11:00 PM.

■ Vehicular access and circulation

- Identify Massachusetts Avenue intersection and traffic-control improvements to maximize efficiency of operation, with equal consideration of all modes and functions. Evaluate the addition of storage lanes and the legalization of left turns at intersections in conjunction with circulation changes and the resulting impacts locally.
- Roadway and intersection improvements associated with air-rights development must resolve increased pedestrian/auto conflicts due to Parcel 12 development.
- Maintain existing Turnpike on-ramp.

■ Bicycles

- Provide secure bicycle storage in new buildings.



Looking west on Newbury Street towards the Massachusetts Avenue intersection.

Development on Parcel 12 should be designed to provide a focus for the view corridor down Newbury Street.



PUBLIC REALM

■ Sidewalks

- In the spirit of the goal of using air-rights development to enrich and enliven the public realm in this area, the programming, configuration, and design of air rights buildings should encourage the use of the public sidewalks as much as possible. Shops and other active uses should line the sidewalks, with primary entrances for each business accessible from the street. Internal malls are discouraged.
- Public sidewalks should be wide (a minimum of 24 feet is suggested) and animated with outdoor dining or other activities along Massachusetts Avenue and Boylston Street.
- Buildings along Massachusetts Avenue and both sides of Boylston Street should form street walls that line sidewalks in a manner similar to the existing street walls along Massachusetts Avenue and the north side of Boylston Street.
- Streetscape improvements along all public streets should reflect the Boston Transportation Department's *Streetscape Guidelines for Boston's Major Roads*. Streetscape elements such as lighting fixtures, furniture, and other elements should also reflect the BRA's master plan along Boylston Street and should be compatible with this master plan along Massachusetts Avenue.

■ Public transportation facilities

- Air rights development on Parcels 12 and 13 should include sheltered waiting facilities for bus patrons.
- The entry to the Green Line station should be visually prominent and should include signage and nighttime lighting.



Buildings should face Boylston Street with diverse retail uses with individual entries, set into a street wall that maintains the street's rhythm of facades.

■ View corridors

- Parcel 12 terminates a view corridor along Newbury Street. Explore ways to preserve this view corridor or to create an appropriate architectural focal point through massing and design.
- Developers should make every effort to minimize the impacts of traffic, wind, shadow and other adverse effects and suggest steps to mitigate these impacts on the community.



Plan illustrates potential air rights development.

FORM

■ Building locations

- Parcels 12-15 represent some of the most visible gaps in Boston's public realm; air rights development is desirable on these parcels consistent with these guidelines.
- Buildings on these parcels should occupy as much of the street frontage as possible.
- Only one taller building (15+ stories) is to be located on these parcels; all additional buildings should be less than 15 stories.

■ Scale and massing

- Buildings facing directly onto Massachusetts Avenue and Boylston Street should reinforce the existing visual vitality and diversity of these streets. Appropriate street wall heights in these area generally range between four and six stories (approximately 50 feet to 75 feet). To encourage

A Civic Vision for Turnpike Air Rights in Boston



Existing buildings suggest a variety of street wall heights and a sense of variety in façades.



variety, portions of these street walls could reflect height and massing comparable to the Tower Records building, which is eight stories and 118 feet tall.

- To reinforce the visual integrity of these street walls and maintain an appropriate scale relationship to other nearby buildings, additional massing above this base should be set back at least one building bay (approximately 20 feet) from the building's street wall.
- As important as the height of street walls and other massing concerns in reinforcing the valued vitality and diversity of Massachusetts Avenue and Boylston Street is the length of frontage that each building presents along the street.
- Reflect the prevailing scale and character of nearby buildings- including traditional rhythm created by a variety of building-widths (approximately 25 feet to 100 feet), building bays (16 feet to 25 feet), and variety of design details. A single building with more extensive widths along the street (exceeding 100 feet) should pay special attention to reinforcing this traditional scale in its façade.

■ Height

- The SDSC endorses the rejection by the Boylston Square Citizens Advisory Committee (CAC) of Millennium Partners 49-story proposal for Parcel 12 and believes that 49 stories is substantially higher than what should be the maximum allowable height of the taller building constructed on these parcels.
- Only one taller building above 15 stories should be allowed on either Parcel 12 or 15. No other buildings on these parcels should exceed 14 stories. Some members of the SDSC believe the taller building should be located on Parcel 12; others believe it should be located on Parcel 15.
- There must be minimal adverse transportation, shadow, wind and other environmental impacts, as determined by environmental studies, on the residential portions of the Back Bay, Fenway and Kenmore Square, and such impacts must be mitigated to the greatest extent possible. Shadow impacts shall include the impacts on the tops and sides of buildings.



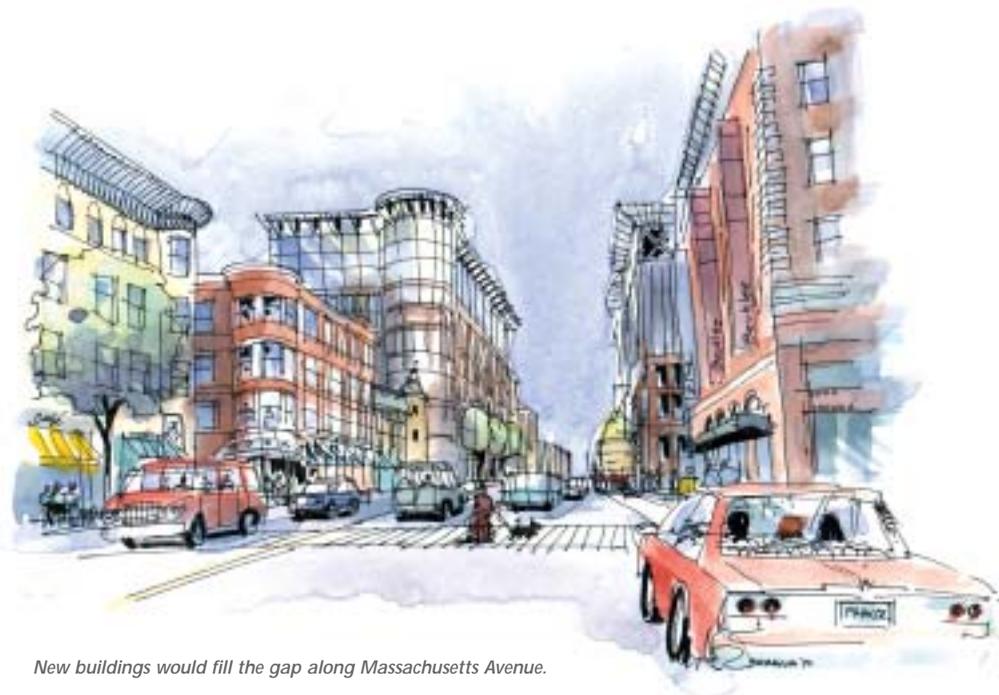
A taller building stands alone on Parcel 12 (above). A taller building on Parcel 15 (below) joins the collection of taller buildings that already mark the commercial Back Bay district.



- Lower heights are appropriate for Parcel 13, which is in the Back Bay Architectural District. Heights should not exceed the adjacent Tower Records building (118 feet without mechanicals). Development should also respect adjacent 2 story carriage houses on the last block of Newbury Street.
- Parcel 14 is too small to accommodate more than street-wall-scaled building elements.

■ **Design character**

- The Tower Records building (360 Newbury Street) offers a mix of exciting design elements, durable materials and detailing, and a pedestrian-friendly street level that represents a desirable precedent for buildings on the air-rights parcels. While new buildings should not literally resemble the Tower Records building, these new buildings should incorporate the qualities and spirit exemplified by that building.
- The design at the street level facing Massachusetts Avenue and Boylston Street should enliven the pedestrian experience by including creative signage and lighting, handsome store fronts (at least half of the street frontage should be transparent), awnings, and/or other pedestrian-friendly elements.



New buildings would fill the gap along Massachusetts Avenue.

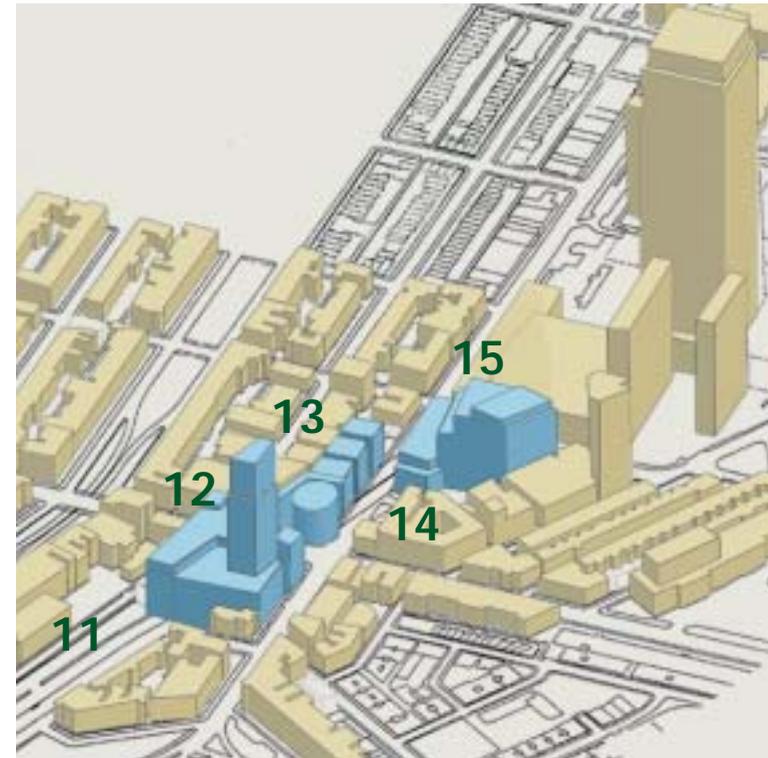
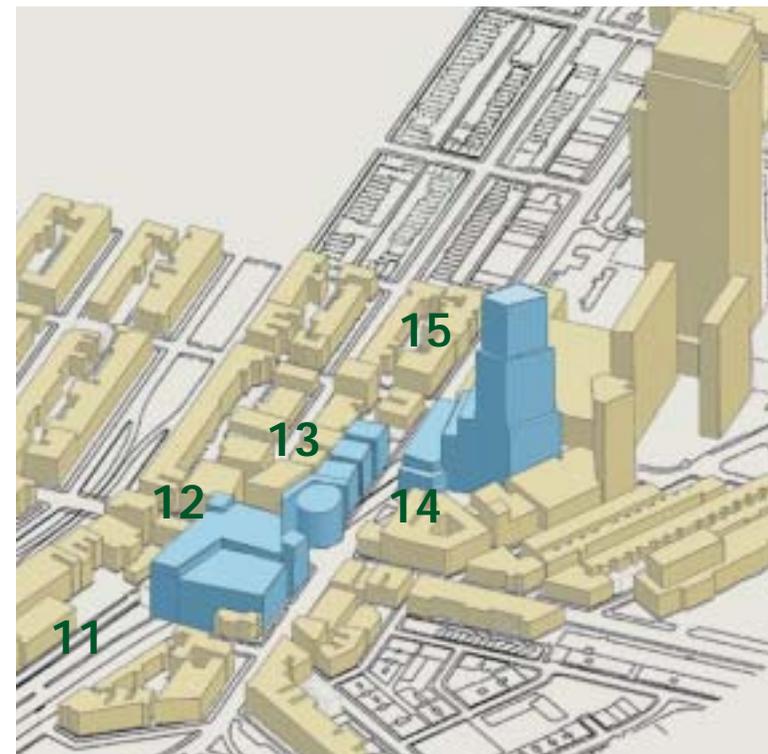
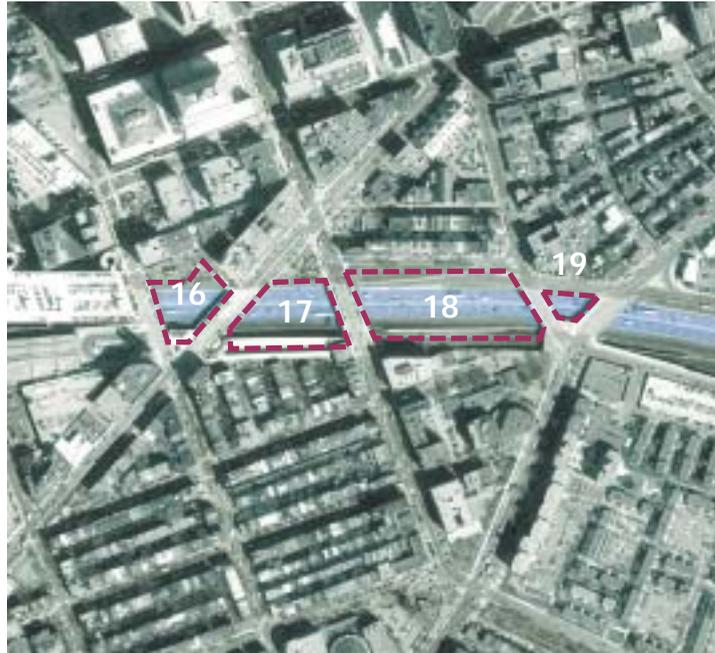


Illustration of maximum height and massing envisioned in the Guidelines. Because of proximity to other taller buildings, more height was viewed as appropriate on Parcel 15 than on Parcel 12.



A Civic Vision for Turnpike Air Rights in Boston



PARCELS 16-19

BACK BAY, BAY VILLAGE, SOUTH END

USES

- **Parcel 19:** This parcel's small size and irregular geometry render it infeasible for development. The committee believes that either it should be left open— hopefully with streetscape improvements that improve its visual quality— or covered and landscaped.
- **Parcels 16 -18:** These air rights should be used for a mix of buildings that foster a lively pedestrian-friendly public realm along Columbus Avenue and adjacent streets; create diverse housing opportunities for these neighborhoods; provide badly needed public open space; and minimize traffic and other impacts.

Upper floors:

- A range of housing opportunities would be highly desirable for these parcels. Hotels, and other uses with equally low traffic-generation characteristics, would also be desirable. Developers should include uses that will benefit the public, including but not limited to performance spaces or other cultural facilities, affordable housing, facilities for seniors, assisted living, childcare, and similar facilities. Office space or other uses that generate greater amounts of traffic (using

customary urban traffic-planning assumptions) may be acceptable for these parcels if these uses represent a small portion of the total development and/or in other ways avoid significant traffic generation.

- Parking should not face directly onto Columbus Avenue, Clarendon Street, Berkeley Street, or Arlington Street at any level.

Street level

- Shops, restaurants, cafés and similar active uses that enliven the public realm are highly desirable along Columbus Avenue, Clarendon Street, and Berkeley Streets. A diverse mix of unique businesses is preferred to large chain businesses that are readily available elsewhere. Internal malls should be avoided.
- These same active uses should face onto Stanhope Street, which should be transformed into a pedestrian street to accommodate outdoor dining, weekend music, and other public activities.
- Developers must seek input from the Bay Village Neighborhood Association, the Ellis Neighborhood Association, the Tremont Street Business Association, the Neighborhood Association of Back Bay, the Back Bay Association, and similar organizations to identify potential businesses.

The Guidelines suggest the possibility of a taller building on Parcel 16 to support the cost of creating a public park on Parcel 18. A building on Parcel 17 would be limited in height and step down to respect the scale of historic Bay Village and the South End. Street levels would be devoted to a lively mix of pedestrian-friendly uses, avoiding internal malls.



- A substantial majority of the sidewalk frontage along Columbus Avenue and Stanhope Street should be dedicated to these active uses (in this location, it would be appropriate for active uses to occupy at least three-quarters the street frontage). In addition, at least half of the sidewalk along Clarendon Street and Berkeley Streets should be dedicated to these active uses.
- Any frontage along Cortes Street should be used for public open space or row-house-scale housing.
- Parcel 18, or possibly Parcel 17, would be very appropriate as a site to provide a public park to serve the Back Bay, Bay Village, the South End, and other nearby communities. Parcel 18 would be more desirable because it includes *terra-firma* that would support more intensive landscaping.
- Active uses would also be desirable facing Arlington Street; if market conditions do not support these uses, the street levels should include "occupied" space (e.g., lobbies) that are visible as much as possible to passersby along the street.
- No blank walls or parking levels facing onto public sidewalks should be permitted along any of these streets.

TRANSPORTATION

■ Pedestrian circulation

- Calm traffic on Clarendon Street between Stuart Street and Columbus Avenue.
- New development should provide for enhanced pedestrian connections, including bulb-outs on Clarendon Street at Stuart Street and on Berkeley Street at Columbus Avenue; a speed table/raised crosswalk mid-block on Clarendon Street at the Back Bay/South End Station; and a shortened and simplified crossing of Cortes Street and the Arlington Street on-ramp.

■ Parking

- Establish parking ratios that promote the use of public transportation and encourage development of uses that generate less traffic.
- Parking ratio goals for these parcels are:
 - ◆ Residential– .75 to 1 space per unit
 - ◆ Hotel– .5 space per unit
 - ◆ Office– .75/1,000 SF

- ◆ Retail– None if possible
- ◆ Cinemas– to be determined through a parking study and the CAC; the goal is to minimize parking required for these uses.

- To refine these goals, a proponent should conduct a parking study to determine the size of proposed parking facilities based on target levels of more than 30% transit use (the 2000 level is 20 to 30%) and less than 30% auto use (the 2000 level is 30 to 40%). This study should identify opportunities for shared parking. The number of spaces proposed in any new facility must reflect a detailed inventory of all public spaces within walking distance of the parcel, and their availability to serve the project. The need for on-site parking should be further documented by studying adjacent developments, including incentives in use to promote non-auto access. Allocate a portion of new parking for use by the community. For these parcels, this study should take into account the entire context, including other major traffic generators.

- Site garage exits for Parcels 16 and 18 to allow the most direct entry to existing Turnpike ramps (Clarendon and Arlington Streets).
- Designate any on-street metered spaces for residential use after 6:00 PM.
- Locate garage access to minimize neighborhood impacts by promoting use of the Turnpike.
- Locate garage entries to avoid creating queues on public streets.
- Provide audible and visible warnings at garage exits to protect pedestrians.
- Locate all significant loading and servicing within buildings.

■ Traffic management

- In order to advance the City's goal of reducing automobile use, encourage project proponents to participate in Neighborhood Transportation Management Associations (for example, the BRA/BTD Neighborhood Transportation Management Association in the Fenway); and



Air rights development at Berkeley and Columbus will transform a barren environment into a lively connection between the South End and Back Bay.

A Civic Vision for Turnpike Air Rights in Boston



A portion of Stanhope should be transformed into a pedestrian street for outdoor dining and music.



- Identify opportunities for alternative parking strategies (valet, shared cars).
- Provide adequate space for on-street loading and restrict loading to non-peak periods but not before 7:00 AM or past 11:00 PM.

■ Public transportation

- Add an entrance to the exit for the Back Bay/South End Station at Clarendon Street/Columbus Avenue and reopen the Orange Line entrance on the Clarendon end of the station lobby.
- Re-open the Berkeley Street entrance to the Arlington Station of the Green Line to shorten outdoor walking distance.

■ Vehicular access and circulation

- Bulb-out the northwest curb corner at Arlington Street/Cortes Street/Turnpike On/Marginal Street to simplify and shorten pedestrian crossings and eliminate high-speed crossing and turning maneuvers.
- Define travel lanes on Berkeley Street along its length to better organize traffic.

■ Bicycle

- Provide secure bicycle storage in new buildings.

PUBLIC REALM

■ Public open space and connections

- A new public park should:
 - ◆ Face the full extent of the Berkeley Street frontage.
 - ◆ If located on Parcel 18, face as much of Cortes Street as possible, possibly in conjunction with row-house-scale housing.
 - ◆ If located on Parcel 18, use the *terra-firma* portion adjacent to Cortes Street for extensive landscaping.
- A CAC should investigate the desirability of incorporating the rarely used Chandler Park adjacent to Parcel 18 as a development site in exchange for enhancing the size and quality of a park on Parcel 18.
- In conjunction with air-rights on Parcel 16, Stanhope Street should be transformed into a lively pedestrian mews between Clarendon Street and Cahners Way, eliminating through traffic (except for emergency vehicles).

■ Sidewalks

- In the spirit of the broad goal of using air rights development to enrich and enliven the public realm in this area, the programming, configuration, and design of air rights buildings should encourage people to use public sidewalks as much as possible. Shops and other active uses should line sidewalks, with individual entrances for each business. Internal atriums or malls should not be used to provide access to these kinds of active uses.

Facing Columbus Avenue:

- Sidewalks should be generous (a minimum of 24' is suggested), in keeping with the street's boulevard character, and animated with outdoor dining or other activities.
- Buildings should form a continuous street wall.

Facing Clarendon Street and Berkeley Street:

- Buildings should form street walls that maintain the existing sidewalk widths or create wider sidewalks that accommodate outdoor dining or similar activities.
- As these streets rise to cross the Turnpike, buildings should provide for continuous public access to active street level uses— for example, by providing a public arcade as part of the building.

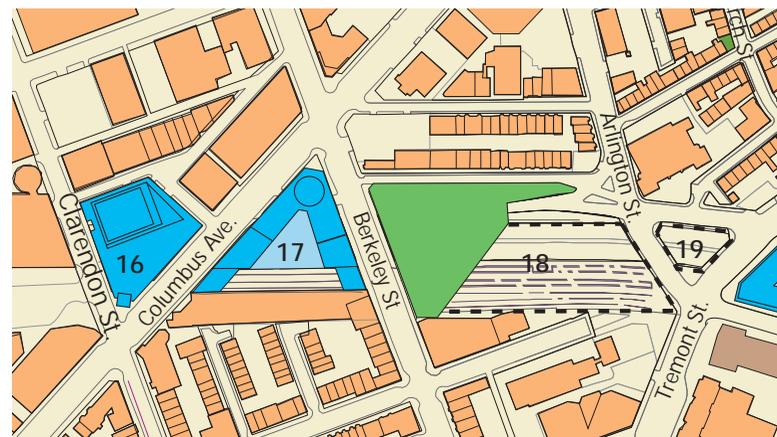
Facing Arlington Street:

- Buildings should form street walls that maintain the existing sidewalk widths or create wider sidewalks that accommodate outdoor dining or similar activities.
- Create a bicycle path connection from the Back Bay/South End Station (see diagram).

■ **Streetscape improvements along all public streets should reflect the BTD's Streetscape Guidelines for Boston's Major Roads and should be consistent with guidelines for the South End Landmark District and Bay Village Historic District.**

■ **View corridors**

- The southeast corner of Parcel 18 represents a unique focus for a series of view corridors and would represent a desirable site for public art that responds to these views.



Plan illustrates potential air rights development.

FORM

■ **Building locations**

- Parcels 16 -18 represent significant gaps in Boston's public realm, isolating the South End from adjacent parts of the city. Air rights development that meets the Guidelines is highly desirable on these parcels.
- Buildings on these parcels should occupy as much of the street frontage as possible.

- Any development located on Parcels 16-18 falls within the South End Landmark District and the Bay Village Historic District, and is subject to review by both Districts.
- New buildings must avoid shadowing residential Bay Village.

■ **Scale and massing**

Parcel 16:

- Buildings should reinforce the existing scale of Columbus Avenue by creating street walls that range between the heights of the nearby Pope Bicycle and Pledge of Allegiance buildings on Columbus Avenue. The street wall should maintain this height as it turns the corner along Clarendon Street.

- To accommodate the transition in scale from the taller buildings found nearer Copley Square to the more traditional scale found at Columbus Avenue, massing above this base should be set back modestly from the street wall along Clarendon Street (at least 6 feet) and much more noticeably from the street wall along Columbus Avenue (at least two to three bays, or approximately 40 feet to 60 feet).

- Buildings should reflect the traditional urban scale that currently contributes to vitality and diversity along these streets, including traditional building widths (approximately 25 feet to 100 feet), bay rhythms (16 feet to 25 feet), and variety of design details. Single buildings with more extensive widths along the street (exceeding 100 feet) should pay special attention to reinforcing this traditional scale to their façades.

Parcel 17:

- Buildings should form a visible transition from the row-house-scale of the residential South End toward the greater scale of Columbus Avenue by creating street walls that begin at four floors at the southern end of the parcel (approximately 40 feet to 50 feet) and step up to the height of the Pope Bicycle or Pledge of Allegiance buildings at Columbus Avenue.

- Buildings should line as much of the street as possible—extending at least the portion of the building that faces directly onto both Columbus Avenue and Berkeley Streets as close to the commuter rail platforms and shed as possible.

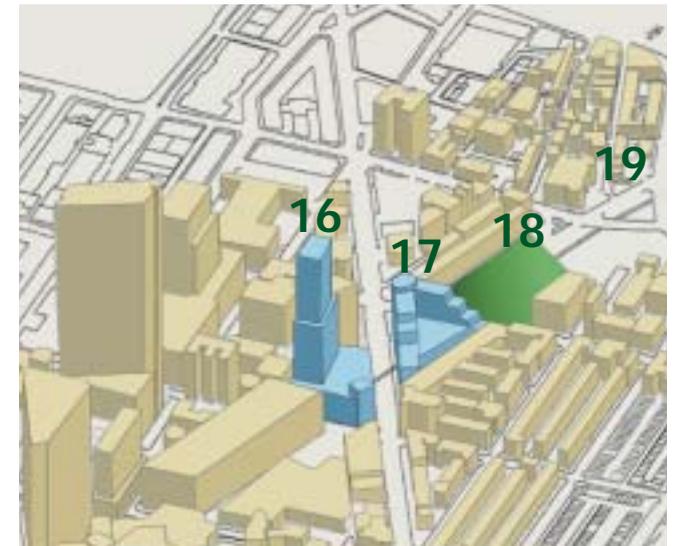


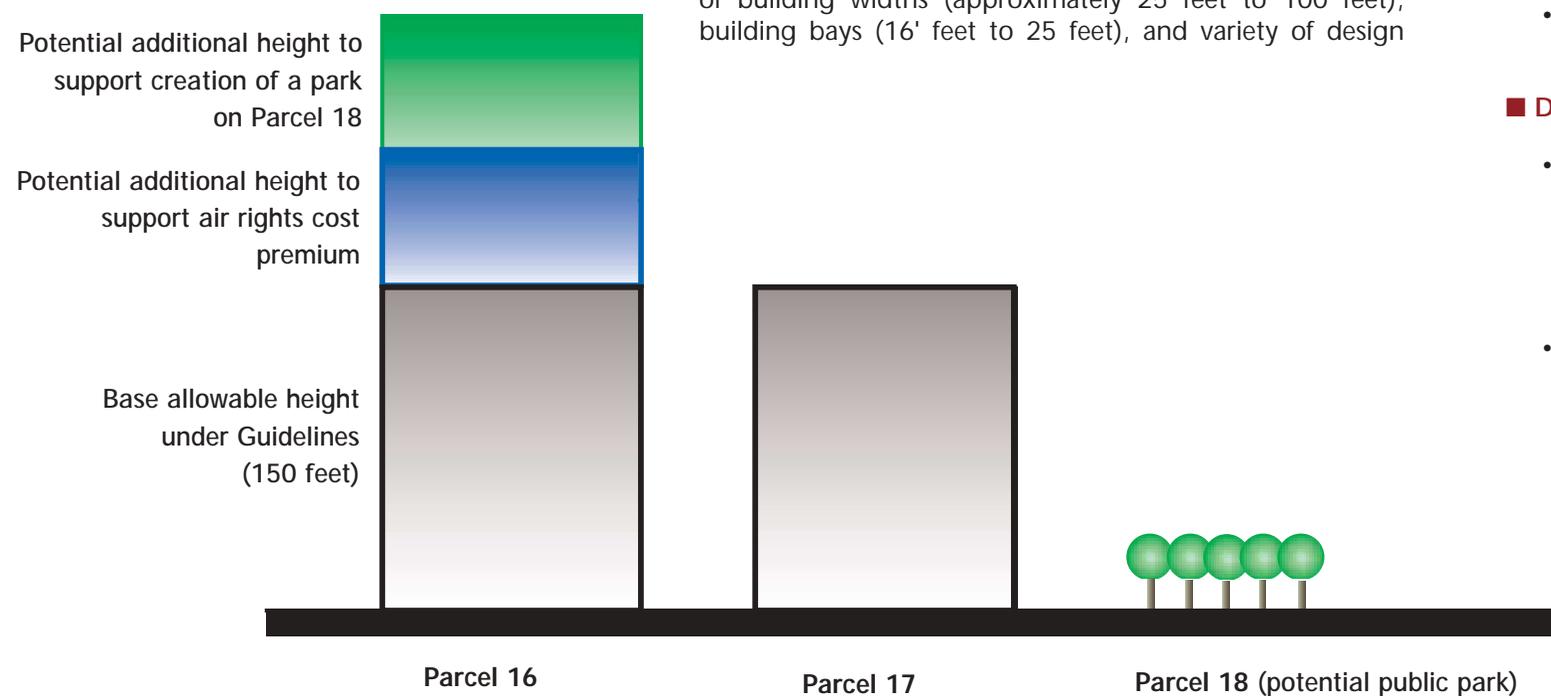
Illustration of maximum height and massing envisioned in the Guidelines. Greater height would be more acceptable for Parcel 16 because it is further from the historic row house neighborhoods.

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- To reinforce a sense of transition, additional massing above this base should be set back visibly from the building's Berkeley Street and Columbus Avenue street walls (at least 6 feet).
- Buildings should reflect the mix of scales found along Berkeley Street in this area, including traditional widths (approximately 20 feet to 100 feet), bay rhythms (20 feet to 25 feet), and design details. A single buildings with more extensive width along the street (exceeding 100 feet) should pay special attention to reinforcing this traditional scale in its façades.

Arlington Street:

- Buildings should form a visible transition from the row-house-scale of Bay Village to the larger scale found along Tremont Street by creating street walls that begin at three to four floors at the northern end of the parcel (approximately 35 feet to 50 feet) and step up to the height of Castle Square's street wall.
- To reinforce a sense of transition, additional massing above this base should be set back at least one building bay (approximately 20 feet) from the building's street wall and at least three building bays (approximately 60 feet) from Cortes Street.
- Reflect the prevailing scale and character of nearby buildings- including traditional rhythm created by a variety of building widths (approximately 25 feet to 100 feet), building bays (16' feet to 25 feet), and variety of design



details. A single building with more extensive width along the street (exceeding 100 feet) should pay special attention to reinforcing this traditional scale in its façade.

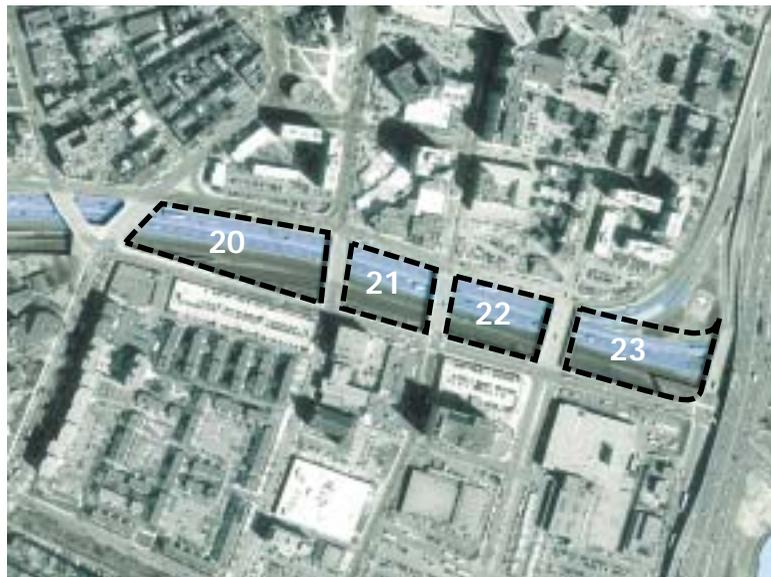
■ Height

- In order to preserve quality of life while still securing feasible air rights development on these parcels, buildings taller than 150 feet may be acceptable on Parcel 16 in return for the creation of a substantial public park on Parcel 18 or possibly Parcel 17. Because Parcel 17 is adjacent to Bay Village and the South End and abuts historic row house blocks, buildings on this parcel should be lower. The maximum height on Parcel 17, next to existing row houses at the southern end of the parcel, should begin at 7-10 stories (the low end of traditional Boston mid-rise buildings) and rise to 150 feet (the maximum height of traditional Boston mid-rise buildings) at the corner of Columbus Avenue and Berkeley Street.
- The maximum height on Parcel 18 is 150 feet. This height should step up from the row-house-scale at the northern side of the parcel (35 feet to 45 feet) toward greater height at the corner of Arlington and Tremont Streets. A CAC could also consider whether existing Chandler Park facing Tremont Street should be incorporated into Parcel 18 to create a *terra-firma* site as part of the parcel. In this case, this park should be replaced with further improvements on a park on Parcel 18.
- Floorplates of buildings over 150 feet should not exceed 15,000sf.

■ Design character

- New buildings should integrate a traditional respect for "street-building"-including street walls, durable materials and detailing, prominent building entries, and lively pedestrian-friendly street levels-with innovative design that reflects contemporary vitality and values.
- The design of street levels should enliven the pedestrian experience, including creative signage and lighting, store fronts (at least half of the street frontage should be transparent), awnings, and/or other pedestrian-friendly elements.

A CAC will consider the possibility of creating a taller building on Parcel 16 to support the cost of air rights on Parcel 18.



PARCELS 20-23
CHINATOWN, BAY VILLAGE, SOUTH END

USES

- **Parcel 23:** This air rights parcel could be devoted to a significant housing, institutional, public, or commercial use that takes full advantage of the parcel's unique visibility and regional access.
- **Parcels 20-22:** These air rights should be devoted to uses that create diverse housing and job opportunities for these neighborhoods, foster a lively pedestrian-friendly public realm, provide public open space and community facilities, and minimize traffic and other impacts.

Upper floors:

- A range of mixed-income housing opportunities would be highly desirable for these parcels. Hotels, and other uses with equally low traffic-generation characteristics, would also be desirable.
- At least one of these parcels should include a community or public facility, possibly a school, given the lack of other available sites in this area.
- Office space, a variety of small businesses, or other uses that generate greater amounts of traffic (using customary urban traffic-planning assumptions) may be acceptable for these parcels if these uses represent less than one-third of the total



The Guidelines suggest a mix of housing opportunities in buildings that rise in height from historic Bay Village. A park would face Washington Street, across from the Quincy School, possibly together with another community facility. A taller building beyond Harrison Avenue would form a gateway to the regional highway system.

development and/or in other ways avoid significant traffic generation. A special transportation management study to determine whether these uses would be acceptable from a transportation perspective should be conducted before these uses are brought to a CAC for review.

- Structured parking should not face directly onto Marginal Street, or onto the cross streets (Shawmut Street, Washington Street, and Harrison Avenue) at any level.

Street level:

- Shops, restaurants, cafés and similar active uses that enliven the public realm are desirable facing Shawmut Street, Washington Street, and Harrison Avenue. A diverse mix of businesses should line these streets.
- Developers must seek input from the Chinatown Neighborhood Council, the Chinatown Coalition, Asian Community Development Corporation, Washington Gateway Main Streets, Tremont Business Association, Old Dover Neighborhood Association, Ellis Neighborhood Association, Castle Square Tenants Organization, Bradford Street Organization, Bay Village Neighborhood Association, and similar organizations to identify potential businesses.
- A new public park or square (for this area that lacks open space) should front the most prominent of the cross streets, Shawmut Avenue. This park would represent an excellent location for a community or public facility, possibly a school to be located on the Washington Street side of Parcel 21.

A Civic Vision for Turnpike Air Rights in Boston

New housing and a park would connect the portions of Chinatown on either side of the Turnpike, connect Chinatown and the South End, and provide new pedestrian routes to downtown.



- As appropriate, new buildings on Washington Street should include sheltered waiting space for Silver Line patrons.
- Active uses (including a Silver Line or community facility-related spaces) should occupy a substantial majority of the sidewalk frontage facing the cross streets and a new park (in this location, it would be appropriate for active uses to occupy at least half the street frontage). Building lobbies and other uses that do less to enliven the sidewalk should occupy limited frontage.
- Blank walls or parking levels facing public sidewalks should be avoided.

TRANSPORTATION

■ Pedestrian circulation

- Development on these parcels should result in Marginal Street's transformation into a pedestrian-friendly residential street.
- New development should provide for enhanced pedestrian crossings, including bulb-outs at intersections to increase visibility (of and for pedestrians) and signs prohibiting right-turn-on-red and warning cars to yield to pedestrians in crosswalk.
- Provide concurrent and protected (push-button) pedestrian crossings at important crossing points.

■ Parking

- Site garage entries/exits for residential uses off of Marginal Street, and/or provide controlled use of Herald Street.

- If Parcel 23 is developed for non-residential use, locate any garage entry off Herald Street.
 - Establish parking ratios that promote use of public transportation and encourage development of uses that generate less traffic.
 - Conduct a parking study to size proposed garages based on target levels of more than 25% transit use (the 2000 level is 20 to 30%) and less than 30% auto use. This study should identify opportunities for shared parking. The number of spaces proposed in any new facility must reflect a detailed inventory of all public spaces within walking distance of the parcel and their availability to serve the project. The need for on-site parking should be further documented by studying adjacent developments, including incentives in use to promote non-auto access. Allocate a portion of new parking for use by the community. Parking ratio goals for these parcels are:
 - ◆ Residential—to be determined by the community and a CAC
 - ◆ Hotel— .5 space per unit
 - ◆ Office/ R&D— .75/1000 SF
 - ◆ Retail—to be determined by a CAC
 - Designate any on-street metered spaces for residential use after 6:00 PM.
 - Locate garage access to minimize neighborhood impacts by promoting use of the Turnpike.
 - Locate garage access points to avoid creating queues on public streets.
 - Provide audible and visible warnings at garage exits to protect pedestrians
 - Locate all significant loading and servicing within buildings.
- #### ■ Public transportation
- Accommodate right-of-way, station, and other requirements of the Silver Line.
 - Promote and accommodate anticipated high use of the New England Medical Center Orange Line stop (Shawmut Avenue and Washington Streets) through provision of wide and well-lit sidewalks (18 feet minimum), particularly along Shawmut Avenue and Washington Streets.

■ Traffic management

- In order to advance the City's goal of reducing automobile use, encourage project proponents to participate in Neighborhood Transportation Management Associations (for example, the BRA/BTD Neighborhood Transportation Management Association in the Fenway); and
- Require active participation in a TMA for each development, with sponsorship (partial or whole) of innovative parking or travel management techniques.
- Promote shared use and other strategies to limit the amount of parking required and to promote non-auto access to the air rights parcels.
- On- and off-street parking supply and utilization in the vicinity of the air rights parcels must be considered when evaluating the impact of a development.
- Identify opportunities for alternative parking strategies (valet, shared parking, etc.).
- Provide adequate space for on-street loading and restrict loading to non-peak periods but not before 7:00 AM or past 11:00 PM.

■ Vehicular access and circulation

- Maintain current grid system, but if desirable at a future date, accommodate a relocation of Marginal Street as an interior street extending through the parcels.
- Access for residential parking to be provided off of Marginal Street.

■ Bicycle

- Continue a bicycle way that connects from the Southwest Corridor Park Bikeway to a Central Artery Bikeway/ South Bay Harbor Trail.
- Continue east-west connection to Southwest Corridor and the Boston Harbor Trail.
- Provide north-south connection to Charles River bike path (to Back Street and Arthur Fiedler Footbridge).
- Provide north-south connection to Melnea Cass bike path.



City Square Park, Charlestown

PUBLIC REALM

■ Public open space and connections

- A new public park should:
 - ◆ Face the full extent of the Shawmut Avenue frontage.
 - ◆ Include a mix of active recreation facilities, a paved area (with appropriate electricity and other services) to accommodate community gatherings and festivals, and quieter seating areas.
 - ◆ Provide limited opportunities for food service.
- A new public street should divide Parcel 20 to create a more neighborhood-like scale to the new blocks.
- Marginal Street should be transformed into more of a neighborhood residential street, including:
 - ◆ Curbside parking
 - ◆ Tree planting
 - ◆ Wider sidewalks and narrower vehicle right of way and other steps to discourage through traffic.

■ Sidewalks

- Public sidewalks along the cross streets should be generous (a minimum of 24 feet is preferred) and animated with outdoor dining, retailing, or other activities.
- Public sidewalks along Marginal Street should be appropriate to an urban neighborhood street (a minimum of 16 feet is preferred, including tree-planting areas).

A Civic Vision for Turnpike Air Rights in Boston

- Buildings along the cross streets and Marginal Street should form street walls that line sidewalks in a manner similar to the existing handsome street walls along Boston's more urban residential streets.
- Sidewalks along Herald Street should meet the Boston Transportation Departments standards (minimum of 12 feet) and should bulb out at the cross streets to facilitate pedestrian crossing. Where possible, street trees should be planted along Herald Street.

■ **Streetscape improvements along all public streets should reflect the Boston Transportation Departments *Streetscape Guidelines for Boston's Major Roads* and other guidelines created by previous community-planning initiatives for Chinatown, Washington Street, and the South End.**



Plan illustrates potential air rights development, together with improvements to the south of Herald Street.

FORM

■ Building locations

- Parcels 20-23 represent significant gaps that divide and separate Chinatown from the South End and Bay Village; air rights development that meets the Guidelines in this document is highly desirable on these parcels. Securing air rights development on Parcels 20-22 should be a public priority.

- Buildings on these parcels should occupy as much of the street or park frontage as possible.

■ Scale and massing

- Buildings facing directly onto Marginal Street and the cross streets should contribute to the livability and pedestrian-friendly quality of these streets and should range between four and six stories (approximately 50 feet to 75 feet) in height. Within this range, street walls should display a variety of heights. Street walls on the western portion of Parcel 20 should be limited to four stories to form a transition to the row house scale of Bay Village.
- To reinforce the visual integrity of these street walls and maintain an appropriate scale relationship to other nearby buildings, additional massing above this base should be set back at least one building bay (approximately 20 feet) from the building's street wall.

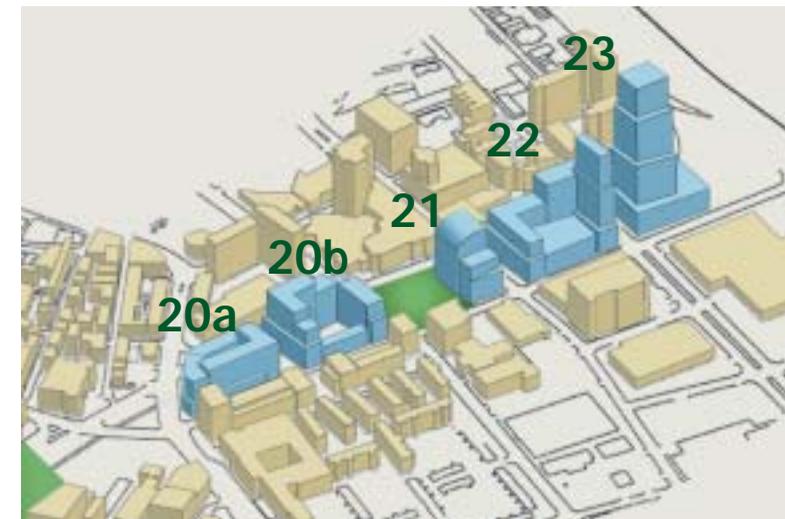


Illustration of maximum height and massing envisioned in the Guidelines.

- Reflect the prevailing scale and character of nearby buildings- including traditional rhythm created by a variety of building widths (approximately 25 feet to 100 feet), building bays (16 feet to 25 feet), and variety of design details. A single building with more extensive width along the street (exceeding 100 feet) should pay special attention to reinforcing this traditional scale in its façade.

■ Height

- The economics of development on Parcels 20-23 may require buildings that exceed Boston's traditional allowable height of 150 feet. The Chinatown community has prepared zoning for these parcels that under certain circumstances allows for greater height. Increased height above 150 feet is only appropriate to provide mixed-income housing, commercial space, and other community benefits. Due to the proximity of Parcel 20 to the much lower scale of historic Bay Village, maximum heights on the western half of this parcel should range from four stories adjacent to Bay Village to eight stories closer to Chinatown. Taller buildings may be located on the balance of Parcel 20 and on Parcels 21 and 22.
- Parcel 23 represents an excellent opportunity to create a significant new downtown building, and its height should be commensurate with other significant downtown buildings.
- Floorplates of buildings over 150 feet should not exceed 15,000sf.

■ Design character

Buildings on Parcels 20-23 offer important opportunities to:

- Enliven the pedestrian experience on Marginal Street, the cross streets, and surrounding a new park, including arcades, extensive awnings, innovative signage and lighting, and similar elements.
- Use continuous street walls to emphasize the new connections along the cross streets; emphasize this continuity with design details that reflect the character of Chinatown, Bay Village, and the South End.
- Create innovative architecture that responds to the area's visual diversity—a mix that includes row houses in Bay Village, new loft buildings along Washington Street, large residential blocks in Chinatown, the Josiah Quincy School, and lively storefronts.

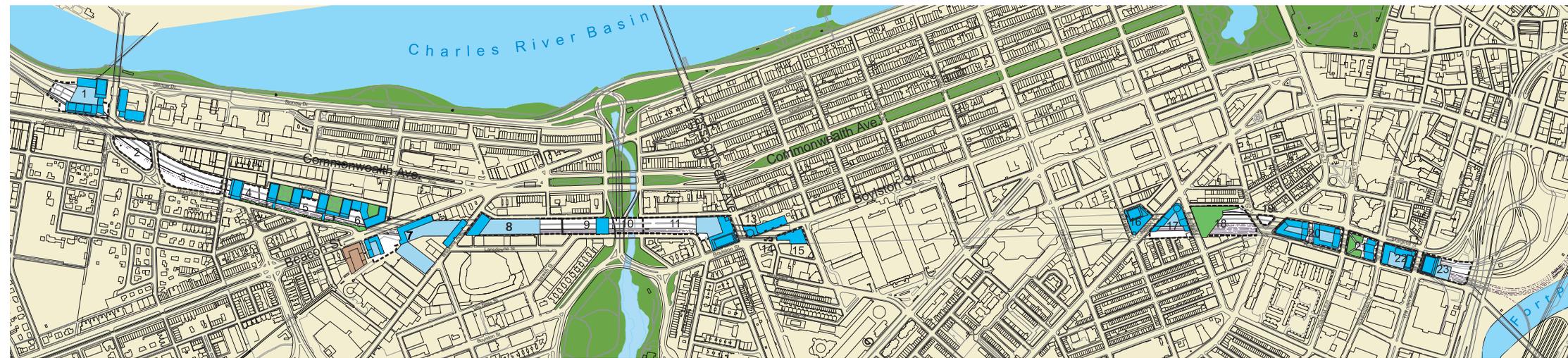
Buildings on Parcel 23 should create a significant downtown gateway that represents a proud addition to Boston's skyline.



View looking west along Marginal Street from east of Harrison Avenue.



Existing conditions along Marginal Street.



C. PROPOSED DEVELOPMENT PROCESS FOR TURNPIKE AIR RIGHTS

The following developer designation process builds on the successful process used by the Turnpike Authority to select developers for the Central Artery North Area (“CANA”) parcels in Charlestown and adapts this process to the spirit and letter of the Memorandum of Understanding (“MOU”) governing air rights. It is the intention of the SDSC to develop an open and competitive process as early as possible. The process applies to air rights parcels along the Boston extension of the Massachusetts Turnpike.

1. Turnpike Authority notifies the BRA and announces potential air rights development opportunity, which triggers the following steps.
2. Turnpike Authority, after consultation with the BRA, issues an Request for Qualifications (“RFQ”) that includes the SDSC Guidelines for the parcel(s).
3. Mayor of Boston appoints a Citizens Advisory Committee (“CAC”), as provided by the MOU.
4. Potential developers submit qualifications submissions (including description of how each team would respond to the Guidelines).
5. CAC solicits community comments and reviews the developers' qualifications submissions.
6. CAC submits comments on developers qualifications submissions to the Turnpike Authority.
7. Turnpike Authority, after consultation with the mayor, selects the short list of developers. Such consultation should include the construction and use of proposed projects or other matters that preserve and increase the amenities within the City of Boston.
8. Short-listed developers submit detailed development and design proposals.
9. CAC reviews the developers proposals and solicits community comments.
10. CAC submits comments on developers' proposals to the Turnpike Authority.
11. Turnpike Authority selects developer after consultation with the Mayor.

Following the designation of a developer for the parcel(s), the developer will submit an Environmental Notification Form/Project Notification Form to the BRA, triggering an Article 80 like process as outlined in the MOU between the City of Boston and the Turnpike Authority dated June 1, 1997. The entire MOU process continues to apply once the developer is selected.



Appendix

ACRONYMS USED IN THE DOCUMENT

SDSC	Strategic Development Study Committee
CAC	Citizens Advisory Committee
BRA	Boston Redevelopment Authority
BTD	Boston Transportation Department
MTA	Massachusetts Turnpike Authority
MBTA	Massachusetts Bay Transportation Authority
MOU	Memorandum of Understanding
FAIA	Fellow of the American institute of Architects
CANA	Central Artery North Area
B.U.	Boston University
LMA	Longwood Medical Area
TWG	Transportation Working Group
LOS	Level of Service
MASCO	Medical Academic and Scientific Community Organization
FAR	Floor Area Ratio
BCEC	Boston Convention and Exhibit Center
ICA	Institute of Contemporary Art
CA/T	Central Artery Tunnel
MEPA	Massachusetts Environmental Policy Act
DEP	Department of Environmental Protection
TMA	Transportation Management Association

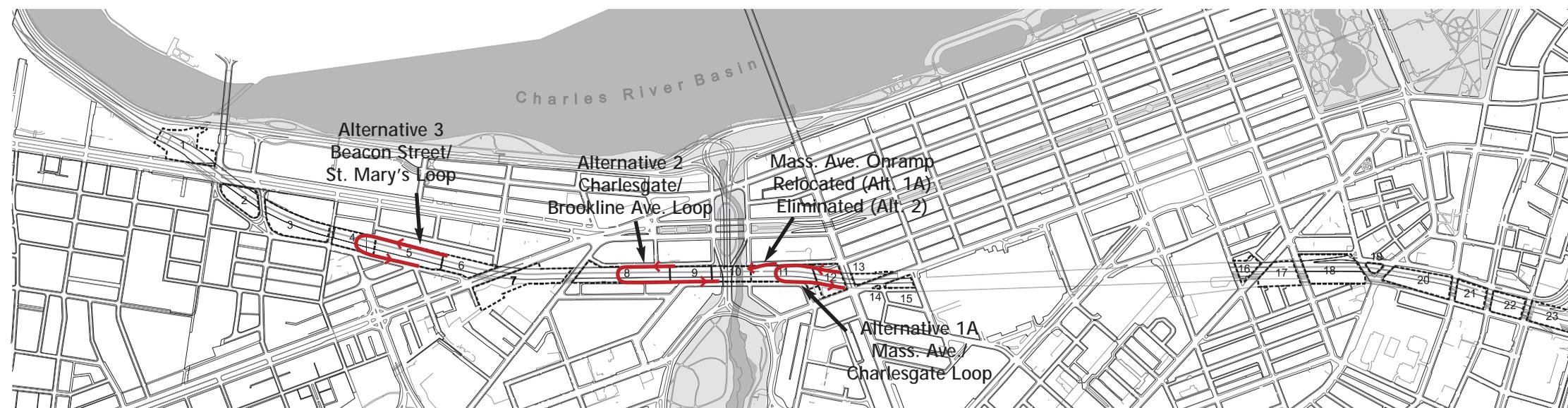
BOSTON EXTENSION OF THE MASSACHUSETTS TURNPIKE AIR RIGHTS
STRATEGIC DEVELOPMENT STUDY COMMITTEE
TRANSPORTATION WORKING GROUP
REGIONAL CONNECTIONS SUBCOMMITTEE

ENVIRONMENTAL IMPACT REPORT -
OUTLINE FOR SCOPE OF STUDY

Revised - April 4, 2000

INTRODUCTION

During the Strategic Development Study Committee's Transportation Working Group meetings, a recurring issue was the challenge of effectively moving people to and from major destinations along the downtown Boston I-90 corridor, while minimizing congestion and the impacts of these trips on the environment, the community, and local streets in the neighborhoods surrounding the Turnpike. The Regional Connections Subcommittee was formed to review existing, planned and proposed transportation connections to and from destinations in the Turnpike corridor that have "regional" significance. The Subcommittee examined both public transit and highway connections in the Turnpike corridor. This proposed outline of a scope of study for an Environmental Impact Report (EIR) identifies the alternatives and potential impacts that the Subcommittee identified. This outline is designed to set the tasks and issues that would need to be addressed by any entity that may propose enhanced connections to the Turnpike corridor. This outline does not represent an endorsement by the Subcommittee of any specific alternative.



Summary of EIR

I. Project Description

- A. Study Area
- B. Problem Statement
- C. Purpose of Project

II. Project Alternatives. These alternatives will consist of combinations of these specific potential improvements.

- A. No-Build
- B. Transportation Systems Management (TSM)
 - i. Roadway improvements
 - ii. Public transit
- C. Public Transit
- D. Turnpike Ramps
- E. Surface Street Connections

III. Existing Conditions

- A. Land Use
- B. Wetlands, Waterways, and Tidelands
- C. Transportation
- D. Air Quality
- E. Wind
- F. Shadow
- G. Historic

IV. Assessment of Impacts

- A. Land Use
- B. Wetlands, Waterways, and Tidelands
- C. Transportation
- D. Air Quality
- E. Wind
- F. Shadow

G. Historic

V. Statutory and Regulatory Standards and Requirements

VI. Mitigation Measures

VII. Proposed Section 61 Findings

VIII. Response to Comments

IX. Appendices

A Civic Vision for Turnpike Air Rights in Boston

I. Project Description

A. Study Area. The study area includes the following:

- i. Massachusetts Turnpike / Interstate 90 corridor in the Boston core, from the Allston Tolls to the I-90 interchange in the South Boston Waterfront, including adjacent and nearby land uses and unbuilt parcels that can support land uses or open space. Note: "Turnpike corridor" refers to the Massachusetts Turnpike / I-90 and the areas adjacent to the Turnpike / I-90. The highway itself will be referred to as "the Turnpike."
- ii. The surrounding neighborhoods that are affected by traffic and travel patterns in the corridor, including Fenway / Kenmore, Back Bay, South End, Bay Village, Chinatown, South Boston, and Beacon Hill.
- iii. Major external feeders to the downtown Turnpike corridor, including highways connecting to the Turnpike (Route 1A / Logan Airport / Ted Williams Tunnel, the Southeast Expressway, the I-93 Northern section, the Callahan and Sumner Tunnels, and Storrow Drive) and all major public transit lines (subway lines, bus routes, and the commuter rail).

B. Problem Statement. Trip demand in the downtown Turnpike corridor is expected to grow in the coming years. These new trips will be the result of increasing per capita travel trends, as well as new development. New development is anticipated to be concentrated in the Turnpike corridor, especially in the Back Bay and the South Boston Waterfront, as well as in the Southwest Corridor, Crosstown, and nearby municipalities such as Chelsea, Somerville and Cambridge. In the coming years, the existing and currently-planned public transit and highway systems may not provide effective access to, from, and between many destinations in the downtown Turnpike corridor. Therefore, the preferred means for making many trips to and from destinations in the downtown Turnpike corridor may be by vehicle, via the surface streets of the neighborhoods adjacent to the Turnpike. New transportation capacity may be needed to:

- i. Provide connections among new developments that are anticipated in the Turnpike corridor and adjacent neighborhoods.
- ii. Connect Turnpike corridor development to and from major origin and destination points in the Boston metropolitan area.
- iii. Effectively carry traffic along and across the Turnpike.
- iv. Reduce the incentive for vehicular regional "through-trips" on local surface streets.

C. Purpose of Project. The proposed project alternatives' purpose is to improve travelers' ability to access destinations in the Massachusetts Turnpike / Interstate 90 corridor in the downtown Boston core, to provide a transportation framework to guide beneficial development in the Turnpike corridor, and to reduce congestion on Boston's surface streets, especially streets that are principally residential. The project alternatives are designed to satisfy existing demand, and the anticipated increases in

travel demand described in the "Problem Statement." Analysis of the project alternatives should be based on their effectiveness at transporting people, rather than automobiles.

II. Project Alternatives. Horizon Year: 2010. Although specific improvements are presented individually and discretely, the alternatives that the environmental review process will ultimately prefer will most likely be combinations of promising improvements in various modes. The combinations should be designed to provide a balanced, multimodal approach to the problem, and to maximize benefits. The alternatives should also be reviewed in the context of the land use, urban design, and transportation recommendations of the Turnpike Air Rights Strategic Design Study Committee's report. The review should include examination of opportunities for incorporation of transportation improvements into any Air Rights developments. Highway alternatives should include an examination of direct connections to parking facilities.

A. No-Build. Assumes completion of the Central Artery / Tunnel Project (CA/T) and anticipated major development projects, as well as reasonable growth assumptions. These growth assumptions should be based on an accepted source, such as the Central Artery / Tunnel Project's "Land Use Projections for the Expanded Boston Metropolitan Core 1990 - 2010" (CA/T Green Book). However, the CA/T Green Book's land use assumptions should be revised and updated to reflect current information.

B. Transportation Systems Management (TSM). TSM comprises improvements that can typically be done with relatively low capital costs, minimal alterations to existing infrastructure, and no requirement for an EIR.

i. Travel Demand Management (TDM)

- a) Ridesharing
- b) Telecommuting
- c) Parking freeze: expansion and/or strengthening
- d) Increased supply of taxi medallions

ii. Roadway improvements

- a) Traffic signal system optimization
- b) Improved enforcement
- c) Review of truck and bus routes
- d) Minor improvements to increase capacity at key bottlenecks
- e) Bike lanes

iii. Public transit

- a) Promotion and subsidization (abetted by new federal tax regulations, i.e. pre-tax transit pass deduction). Constrained by current transit system capacity.

- b) Free transfers between public transit modes
 - c) Bus
 - i) Increase frequency on key bus routes in and around the Turnpike corridor
 - ii) Shift to 60' articulated bus fleet on key bus routes in and around the Turnpike corridor
 - iii) Create new bus routes in and around the Turnpike corridor, where needed
 - iv) Institute signal priority for transit vehicles
 - v) Enforce uniform headways, explore possible use of geographic information systems (GIS) to do so
 - d) Commuter Rail
 - i) Commuter Rail schedule / stop adjustments
 - (a) Yawkey Station. Stop all trains on Framingham / Worcester line at Yawkey Station to provide convenient connections to Kenmore Square area and to enable crosstown connections.
 - (b) Back Bay Station. Stop all trains on the Framingham / Worcester, Needham, and Providence lines at Back Bay Station to provide convenient connections to Back Bay / Copley Square and to enable crosstown connections.
 - ii) Promotion / increased utilization of existing trains into South Station for cross-town / Turnpike corridor travel
- C. Public Transit
- i. Commuter Rail.
 - a) New shuttle service using existing commuter rail tracks: Yawkey Station - Back Bay Station - South Station - potential stop / station at the Boston Convention & Exhibition Center (BCEC)
 - b) Additional tracks at South Station
 - c) Additional train coaches and locomotives
 - ii. Rapid Transit
 - a) Green Line
 - i) Three-car trains
 - ii) Improved / new signal system
 - iii) Improved / new power system
 - iv) Diversion of E Branch to utilize existing tunnel under Stuart Street
 - b) Orange Line
 - i) Improved signal system on northern tier (north of North Station)
 - iii. Full-Build Silver Line with Essex Street tunnel

- D. Turnpike Ramps. All ramp alternatives must be considered with and without peak hour or all-day high-occupancy-vehicle (HOV) or commercial vehicle restrictions (with appropriate enforcement mechanisms)
 - i. Berkeley Street WB off-ramp
 - ii. Stuart Street WB off-ramp
 - iii. Arlington Street EB on-ramp
 - iv. Massachusetts Avenue - Bowker Overpass U-Turn ramp - elevated
 - v. Bowker Overpass - Brookline Avenue U-Turn ramp - elevated
 - Sub-option: include direct connection to adjacent parking facility
 - vi. Bowker Overpass - Brookline Avenue U-Turn ramp - tunnel
 - Sub-option: include direct connection to adjacent parking facility
 - vii. Beacon Street - St. Mary's Street U-Turn ramp - elevated
 - Sub-option: include direct connection to adjacent parking facility
 - viii. Beacon Street - St. Mary's Street U-Turn ramp - tunnel
 - Sub-option: include direct connection to adjacent parking facility
 - ix. Allston Tolls U-Turn ramp - elevated
- E. Surface Street Connections
 - i. Herald Street Extension
 - ii. Herald Street Extension, with grade separation at Tremont Street
- F. Bicycle Network
 - i. South Bay Harbor Bike Trail
 - ii. Other crosstown bicycle connections, on-street or off-street

III. Existing Conditions. Existing conditions include current traffic volumes, public transit infrastructure and service, as well as a description of the effects of Central Artery / Tunnel Project (CA/T) construction and the anticipated impacts of new land development.

- A. Land Use
 - i. Character of neighborhoods
 - ii. Buildings affected by changes to Turnpike, Turnpike corridor
 - iii. Recreational uses affected by changes to Turnpike, Turnpike corridor
 - iv. Roadways affected by changes to Turnpike, Turnpike corridor
 - v. Public spaces affected by changes to Turnpike, Turnpike corridor

A Civic Vision for Turnpike Air Rights in Boston

- vi. Permitted and under-construction development projects affected by changes to Turnpike, Turnpike corridor
- vii. Major destinations in Turnpike corridor

B. Wetlands, Waterways, and Tidelands

- i. Muddy River
- ii. Charles River
- iii. Fort Point Channel

C. Transportation

- i. Public transportation system, limitations in serving Turnpike corridor
 - a) Current ridership and capacity on rapid transit lines and bus lines
 - b) Green line capacity constraints
 - c) Orange line capacity, schedule constraints
 - d) Commuter rail capacity, schedule constraints
 - e) Bus system routes and capacity
 - f) Available connections to and from destinations in the Turnpike corridor
- ii. Traffic characteristics in downtown Turnpike corridor and adjacent neighborhoods
 - a) Major trip generators
 - b) Major vehicular routes to and from destinations in Turnpike corridor
 - c) Level of capacity / congestion at critical intersections in Turnpike corridor
- iii. CA/T construction and its impacts on traffic, access in Turnpike corridor
- iv. Pedestrian conditions
 - a) Major pedestrian corridors, zones
 - b) Pedestrian conditions around public transportation hubs
 - c) Areas of pedestrian congestion
 - d) Points of major pedestrian / vehicle conflict
- v. Bicycle conditions

D. Air Quality

E. Wind

F. Shadow

G. Historic

IV. Assessment of Impacts. Impacts will be assessed for all proposed alternatives. The No-Build alternative will serve as a baseline. This is critical, considering the major changes that will take place between 2000 and 2010 (e.g. the completion of the Central Artery / Tunnel Project, the BCEC, development in the South Boston Waterfront).

Note: Unless a better alternative is available, the EIR analysis should use traffic projections based on the Central Artery / Tunnel Project's Tranplan traffic model for 2010, updated to reflect the best available information. The assessment of impacts must take into account the CA/T full-build condition. Because the downtown Boston roadway network will be so dramatically different in 2010 relative to 2000, analysis of 2010 conditions requires the use of a model of transportation conditions. The CA/T Tranplan model has been developed and maintained over many years, and represents the best currently-available transportation information for the purpose of this analysis. However, the CA/T Tranplan model is very large and complex, and contains certain anomalies. Therefore, the model must be reviewed and calibrated to reflect any new information, and any aberrant data should be corrected.

A. Land Use

- i. Character of neighborhoods
- ii. Buildings affected by changes to Turnpike, Turnpike corridor
- iii. Recreational uses affected by changes to Turnpike, Turnpike corridor
- iv. Roadways affected by changes to Turnpike, Turnpike corridor
- v. Public spaces affected by changes to Turnpike, Turnpike corridor
- vi. Permitted and under-construction development projects affected by changes to Turnpike, Turnpike corridor
- vii. Major destinations in Turnpike corridor
 - a) Fenway Park
 - b) Back Bay hotels, restaurants, retail, cultural, and other uses
 - c) BCEC
 - d) South Boston Waterfront hotels, cultural, restaurant, retail, recreational attractions, and other uses
 - e) Logan Airport

B. Wetlands, Waterways, and Tidelands

- i. Muddy River
- ii. Charles River
- iii. Fort Point Channel

C. Transportation

i. Public transportation system impacts

- a) Ridership, capacity utilization on all rapid transit and bus lines
- b) Increase / decrease in ridership relative to baseline
- c) Impacts of new and enhanced transit services on congestion at key transit nodes / stations
- d) Travel time benefits / costs to public transit riders relative to baseline

ii. Traffic impacts

- a) Traffic volumes in key corridors under each alternative
 - i) Massachusetts Turnpike
 - ii) Storrow Drive
 - iii) Callahan Tunnel
 - iv) Sumner Tunnel
 - v) I-93
 - vi) Surface streets that connect to highway off-ramps and on-ramps
 - vii) Surface routes to and from Back Bay, other Turnpike corridor destinations
 - (a) Arterial roadways
 - (b) Local streets
- b) Turnpike operations
 - i) Ramp capacity (existing and new ramps)
 - ii) Mainline capacity
 - iii) Volumes and demand on mainline, ramps
 - iv) Resulting operations and safety
- c) Level of capacity / congestion at key surface intersections
- d) Increase / decrease in volume on key corridors / intersections relative to baseline
- e) Increase / decrease in vehicle-miles traveled (VMT) relative to baseline
- f) Impacts of Storrow Drive vehicle restrictions (tractor trailers from the Port of Boston, shuttles from the BCEC)
- g) Travel time benefits / costs to drivers and vehicle passengers relative to baseline

iii. Pedestrian impacts

- a) Traffic impacts on pedestrian conditions at key intersections
- b) Traffic impacts on conditions at open spaces
- c) Public transit impacts on pedestrian volumes, conditions
- d) Effects of improved connectivity in Turnpike corridor

iv. Bicycle impacts

- a) Effects of other proposals on existing bicycle routes
- b) Potential benefits of improved bicycle connections in facilitating crosstown travel

D. Air Quality

E. Wind

F. Shadow

G. Historic

V. Statutory and Regulatory Standards and Requirements. List of regulatory permits, associated permitting agencies, and regulatory standards.

VI. Mitigation Measures

- A. Measures to minimize and mitigate physical, noise, and visual impacts for adjacent buildings and neighborhoods
- B. Measures to mitigate traffic increases on Turnpike mainline, Turnpike ramps
- C. Measures to mitigate traffic increases at surface intersections
- D. Traffic circulation changes to mitigate congestion due to increases in traffic volumes
- E. Measures to minimize traffic incursion into residential areas
- F. Measures to accommodate increased pedestrian traffic at public transit nodes
- G. Measures to mitigate adverse impacts of new transit services on existing transit services

VII. Proposed Section 61 Findings

VIII. Response to Comments

IX. Appendices

Acknowledgements

A Civic Vision for Turnpike Air Rights in Boston

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