

Greenway District Planning Study

# Public Meeting 6

**01 Economic Assessment**

**02 Population and Use Analysis**

**03 Further Environmental Analysis**

**04 Revised Massing Heights**

**05 Format and Scope of Final Guidelines**



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# Rose Kennedy Greenway: Creating Long-Term Value

MARCH 2009

**HR&A**  
Analyze. Advise. Act.

**utile**

HR&A ADVISORS, INC.  
Prepared for The Boston Redevelopment Authority

Urban transformations  
taking place across North America.



# Transportation corridors repositioned as civic assets



*The High Line, New York City*



# Transportation corridors repositioned as civic assets



*Embarcadero and Ferry Building, San Francisco*



# Energizing downtowns



*Millennium Park, Chicago*



# Energizing downtowns



*Discovery Green, Houston*

# Energizing downtowns



*Fountain Square, Cincinnati*

This transformation creates  
local and regional value.



The City remains competitive,  
and public costs are mitigated.



New recreation space for  
urban dwellers

Urban development  
reduces environmental  
and municipal costs  
over time.

- 5-20% on local roads
- 8-15% on water and sewer services
- Reduce greenfield development

New value is created in surrounding districts



*Toronto: growth contained by the Expressway and GO Transit Lines*

# New value is created in surrounding districts



*San Francisco: development oriented away from Embarcadero and waterfront.*

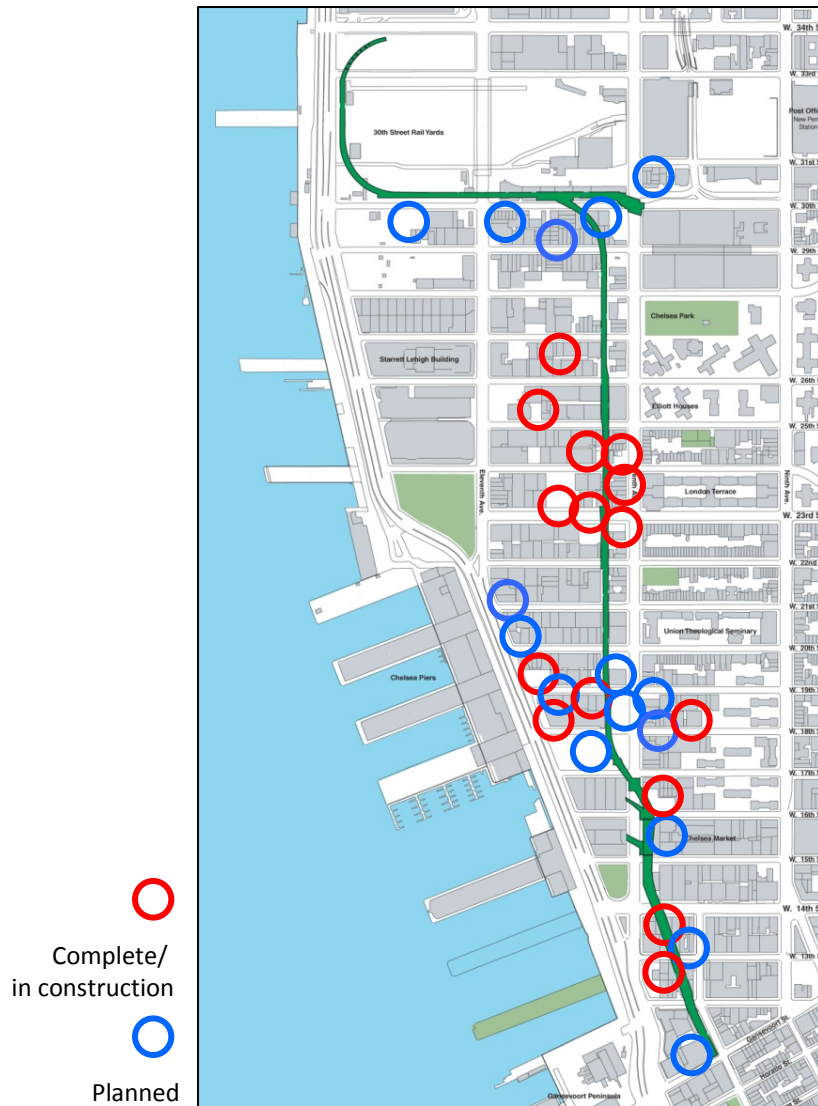
# New value is created in surrounding districts



*New York City: High Line creates real estate value.*



# New value is created in surrounding districts



10-15% incremental value

85 new development projects

*New York City: High Line creates real estate value.*



# New value is created in surrounding districts



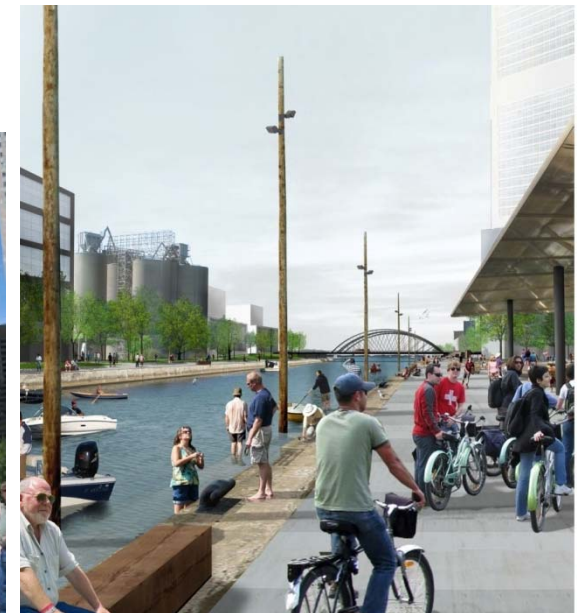
## Hudson River Park

20% of increase in Greenwich Village property values from 2002-2005.



## Millennium Park

25% of incremental residential value in the surrounding district in the first 10 years (\$1.4 billion)



## Toronto Don River Naturalization


1-3% property value increment increases property value by \$200-400 million

The Greenway's value creation to date.  
*Methodology*

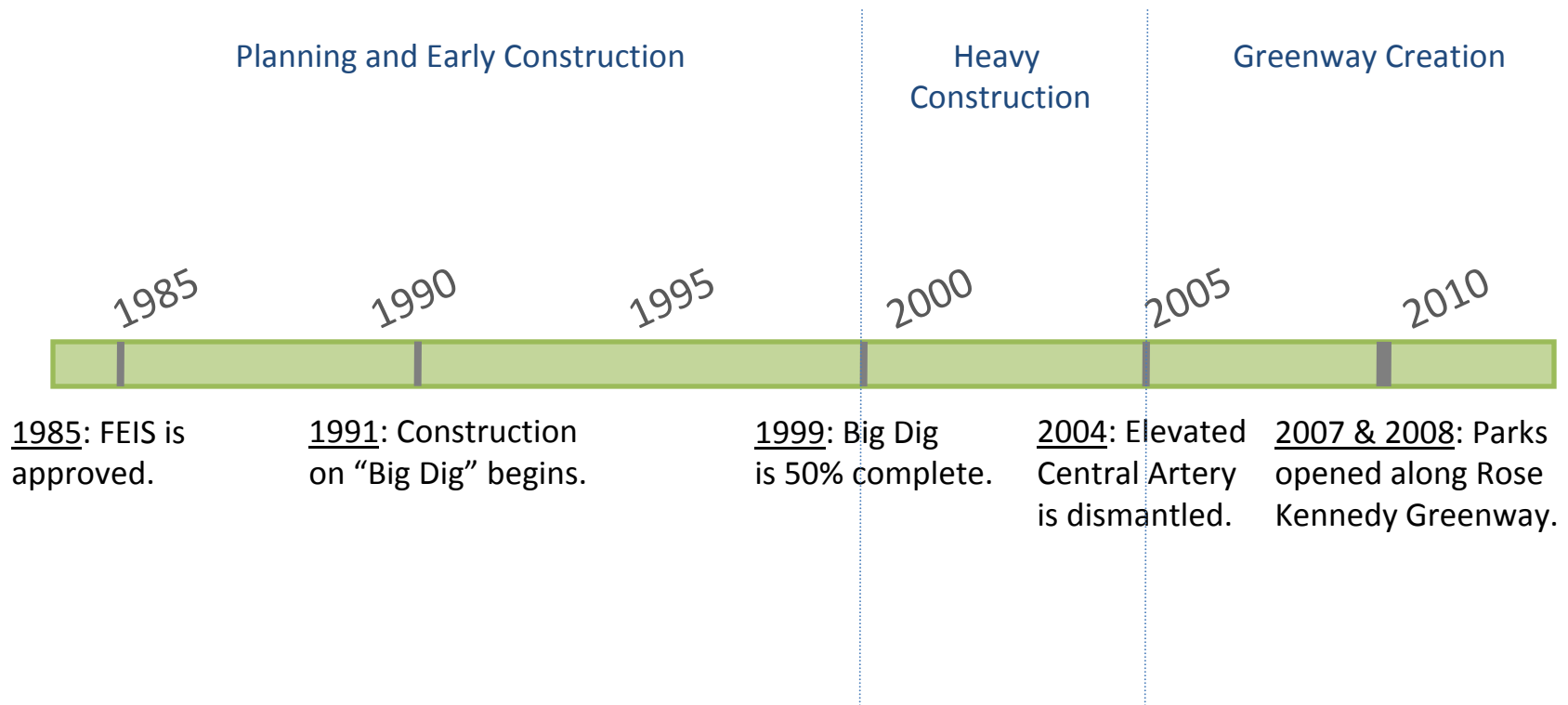


# Measuring the Greenway's contribution.

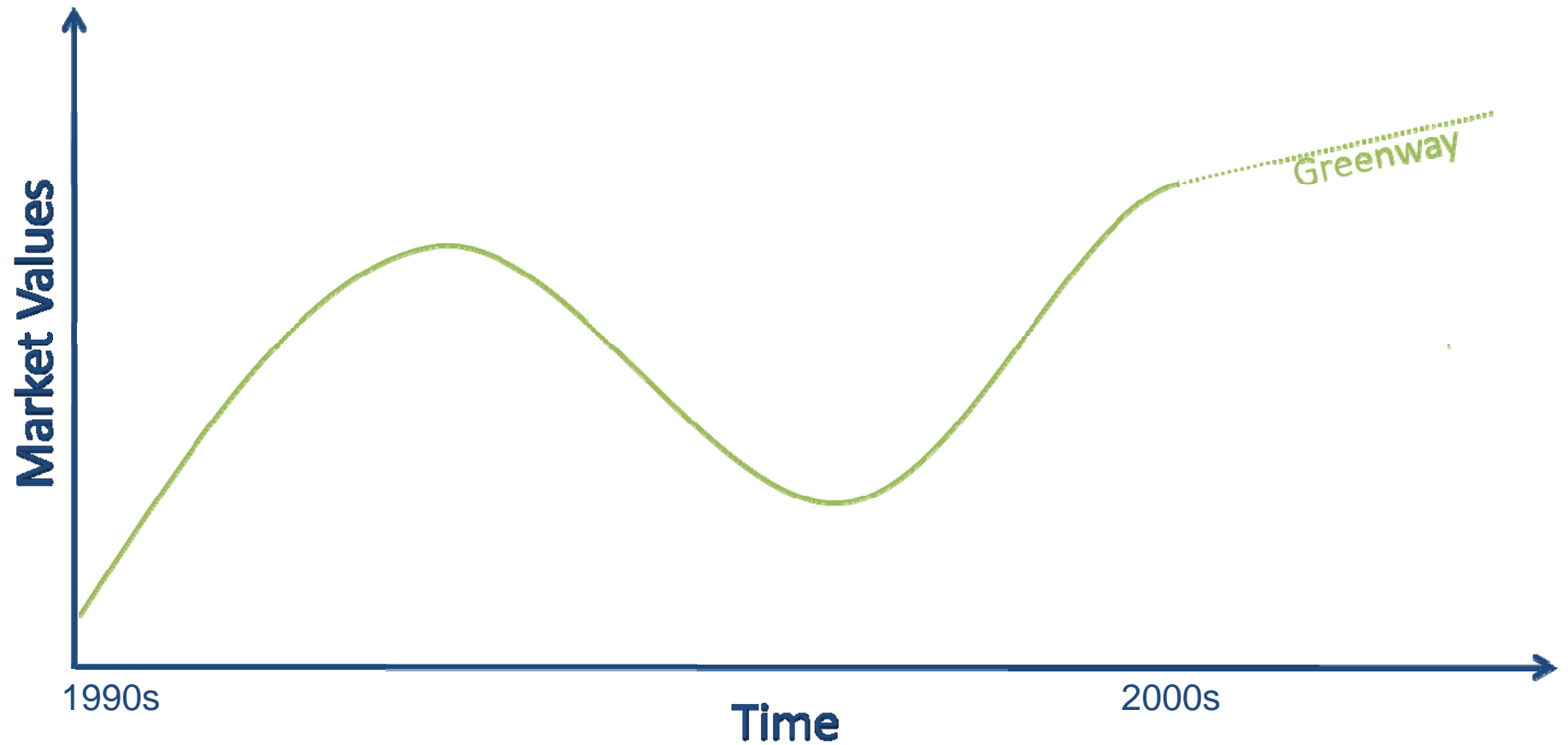
## Approach:

- Evaluate change in assessed values from 1995 through 2009.
  - Control for exogenous real estate trends including new real estate development.
  - Assess magnitude of pipeline development and land speculation.
  - Control for variations in the data set.
- 

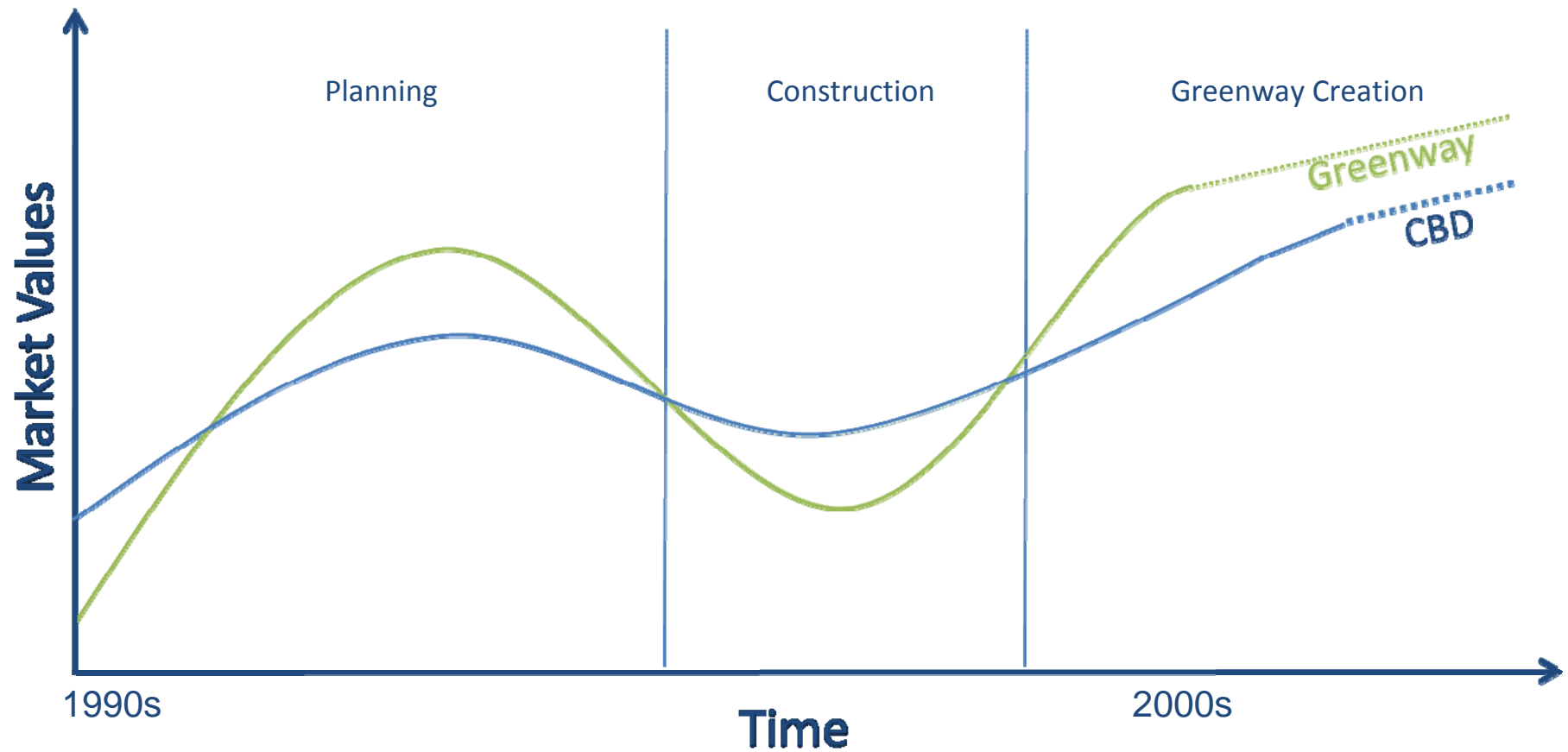
# Public infrastructure development timeline



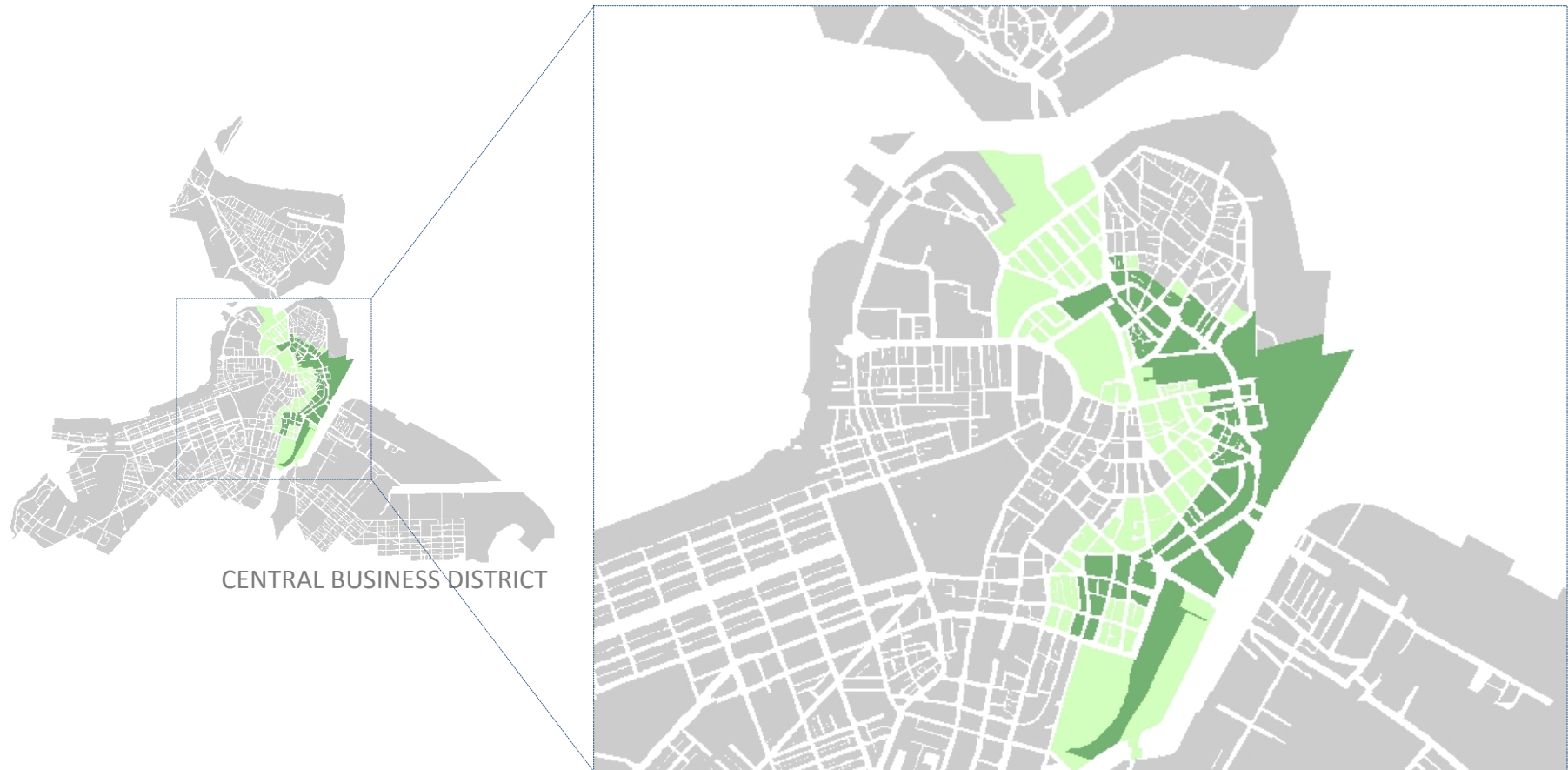
Cyclical nature of real estate market obscures incremental value analysis.



# Comparing growth rates controls for market fluctuations.



# HR&A compared growth rates of the Greenway Study Area to the Central Business District.



CENTRAL BUSINESS DISTRICT

PRIMARY AND SECONDARY  
GREENWAY STUDY AREAS

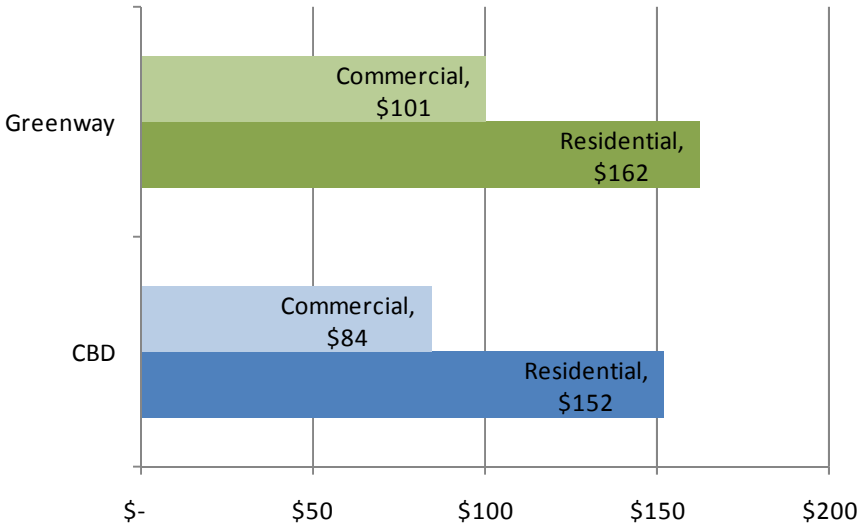
The Greenway's value creation to date.  
*Findings*



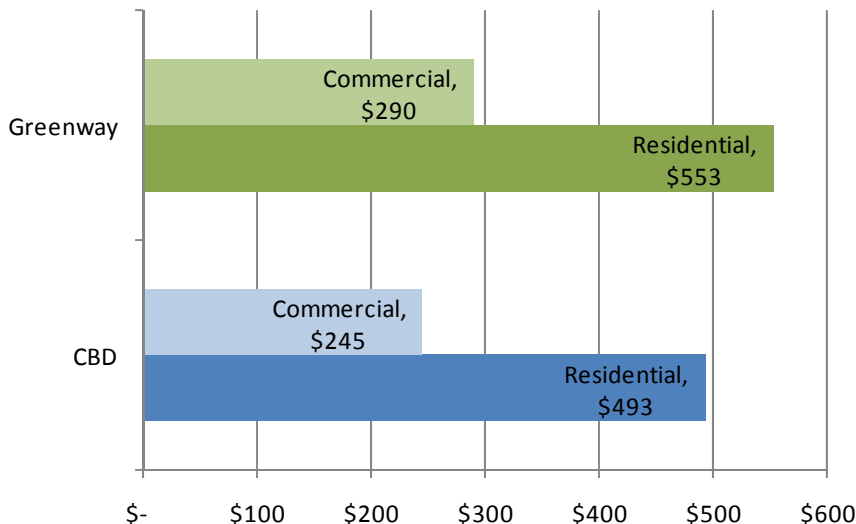


# Greenway district exceeds CBD in value.

2005 Assessed Values per Square Foot



2009 Assessed Values per Square Foot



# Speculative bubble: Greenway growth above CBD.



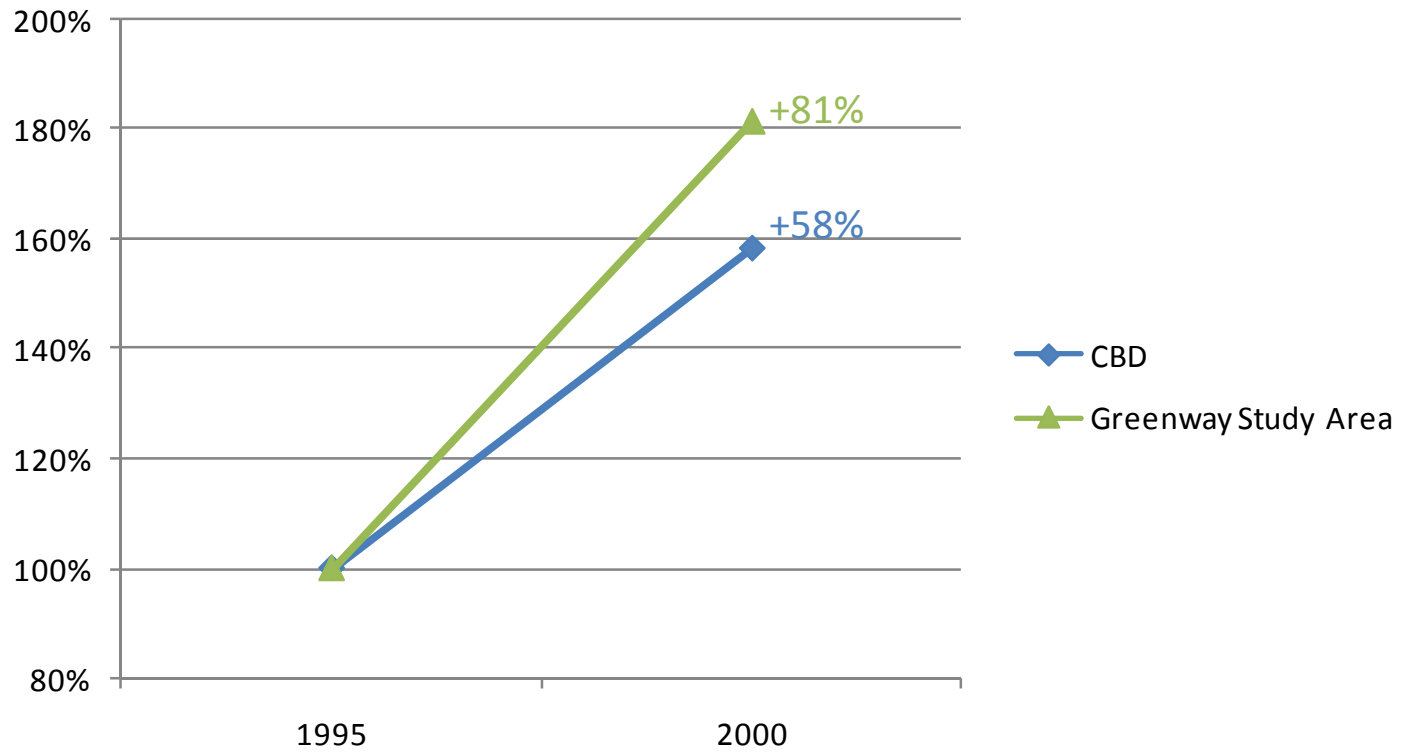
1985: FEIS is approved.

1991: Construction on "Big Dig" begins.

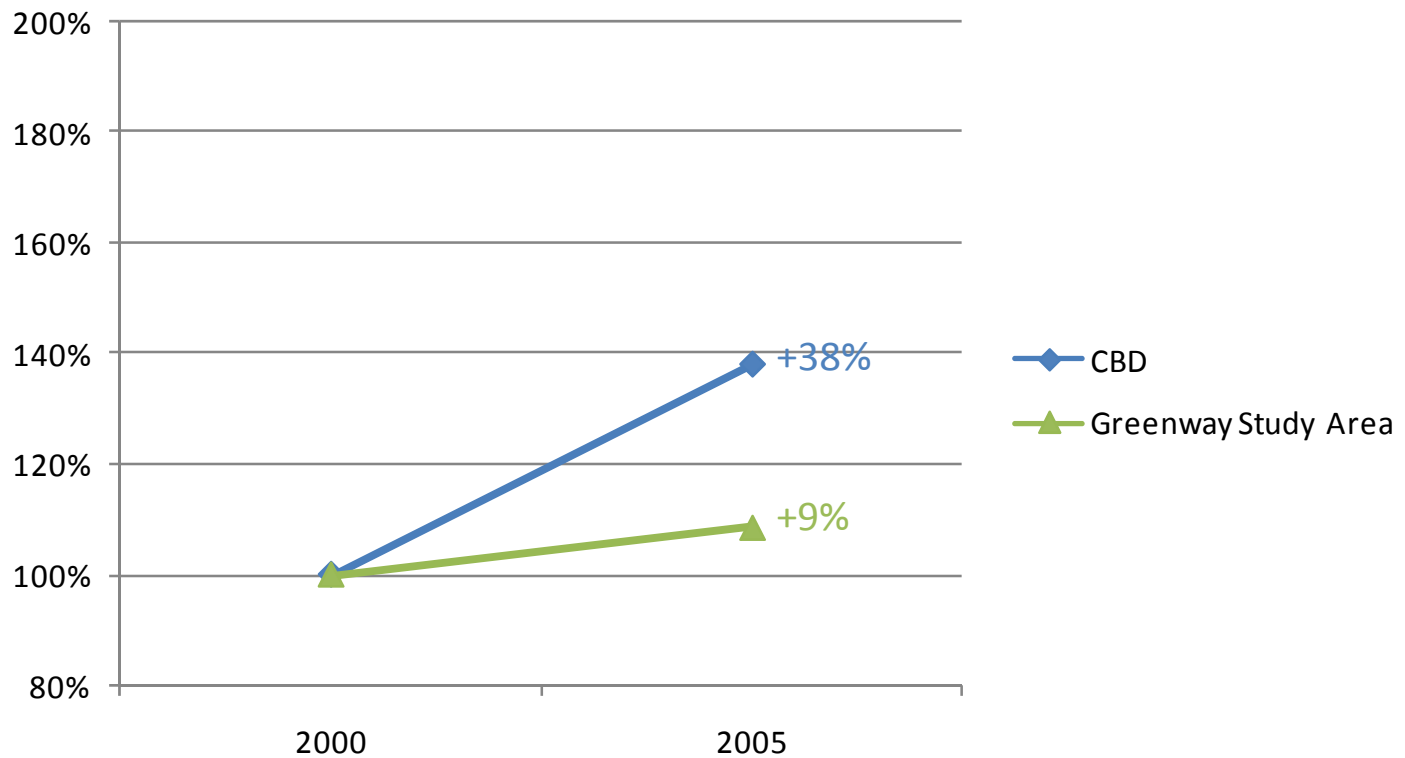
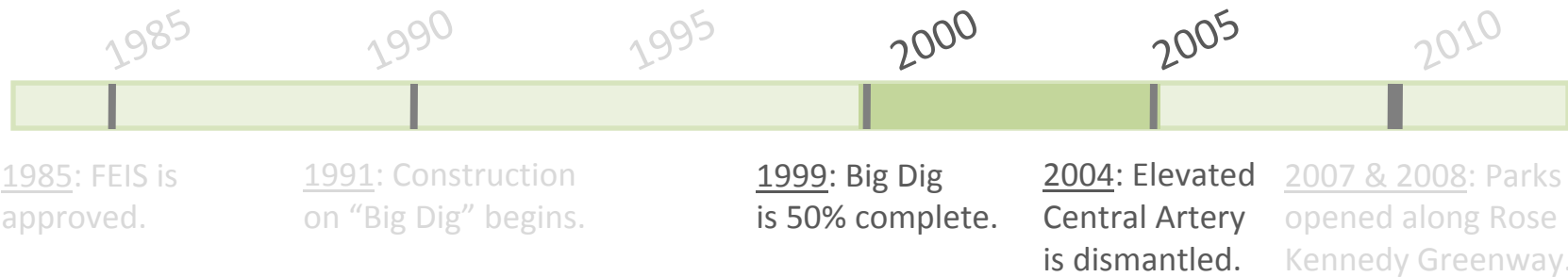
1999: Big Dig is 50% complete.

2004: Elevated Central Artery is dismantled.

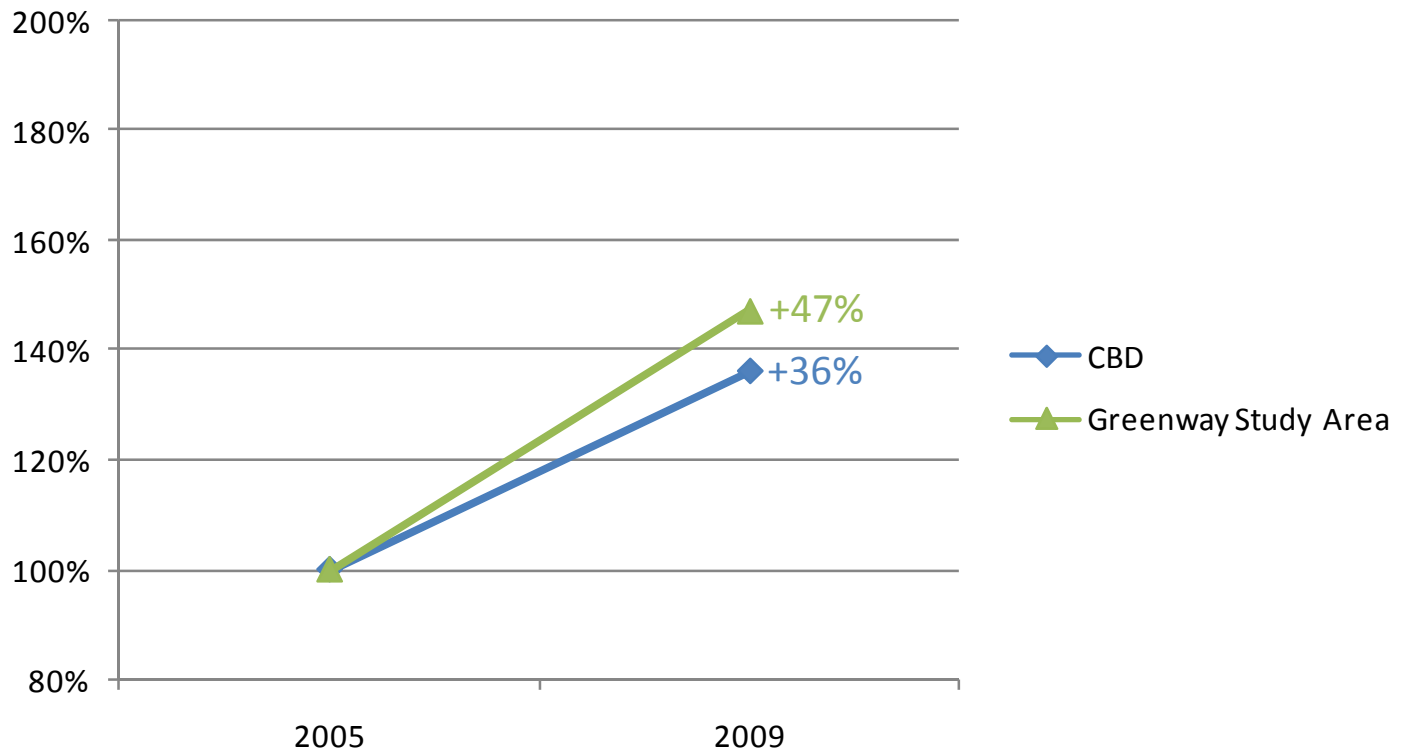
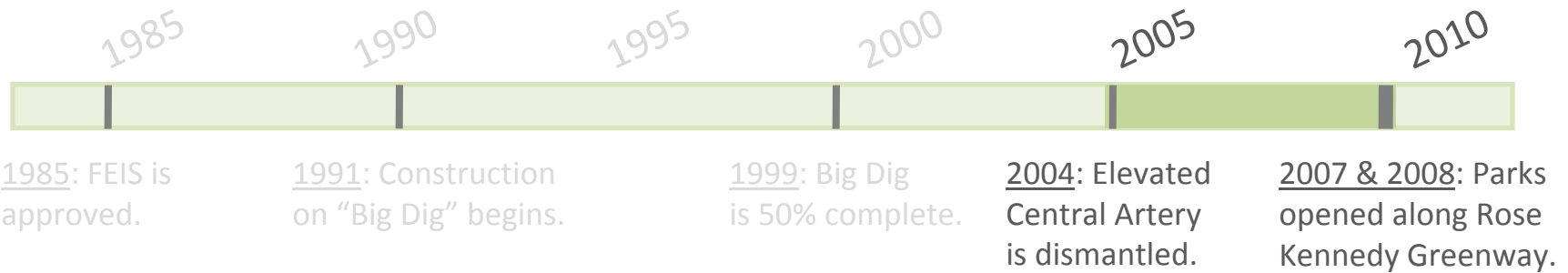
2007 & 2008: Parks opened along Rose Kennedy Greenway.



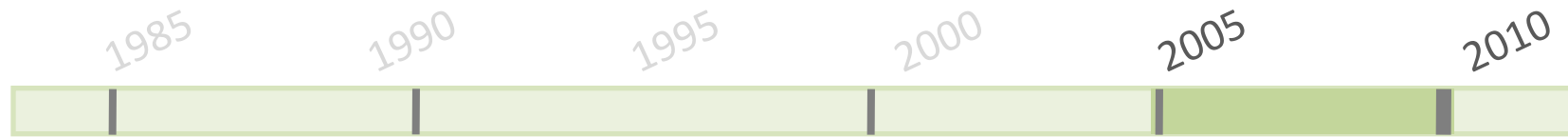
# Pain of construction: Greenway district lags significantly.



# Greenway era: Accelerating rate of growth as district catches up.



# Greenway era: High commercial concentration drives higher rate of growth.



1985: FEIS is approved.

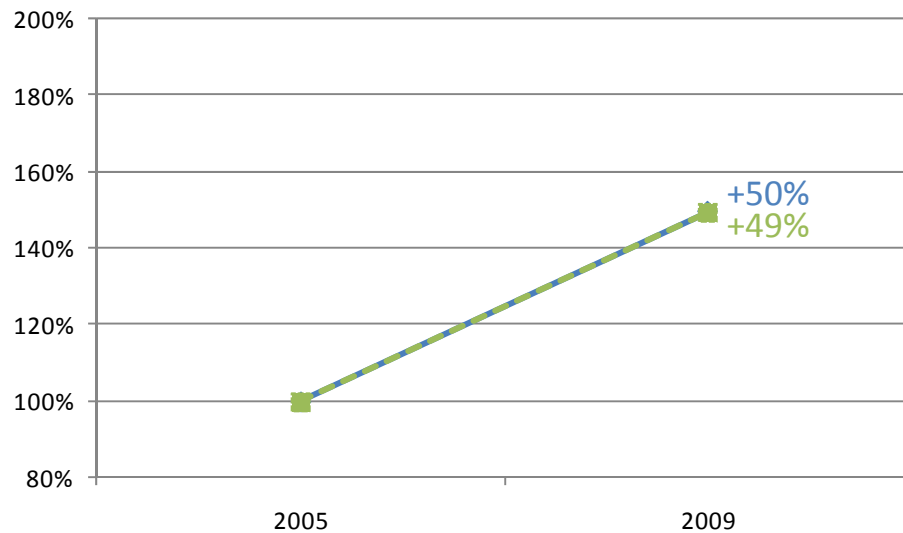
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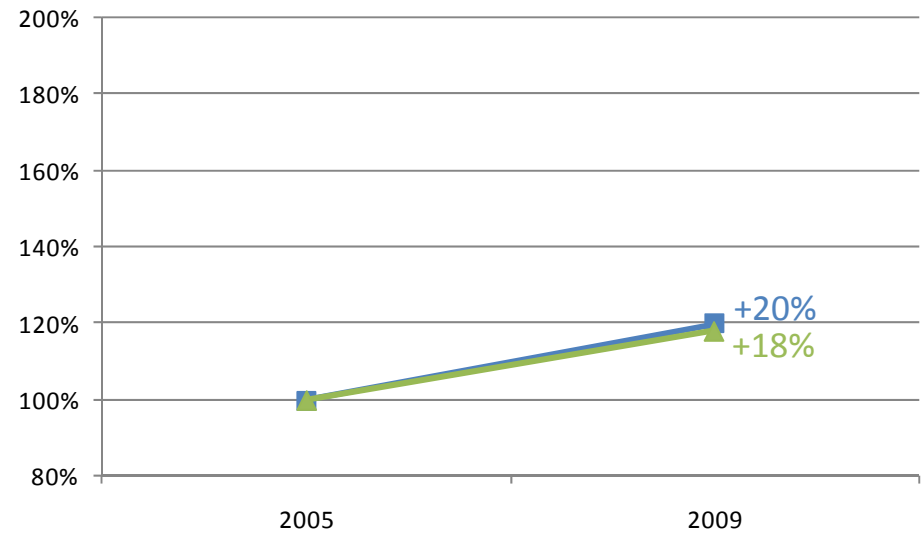
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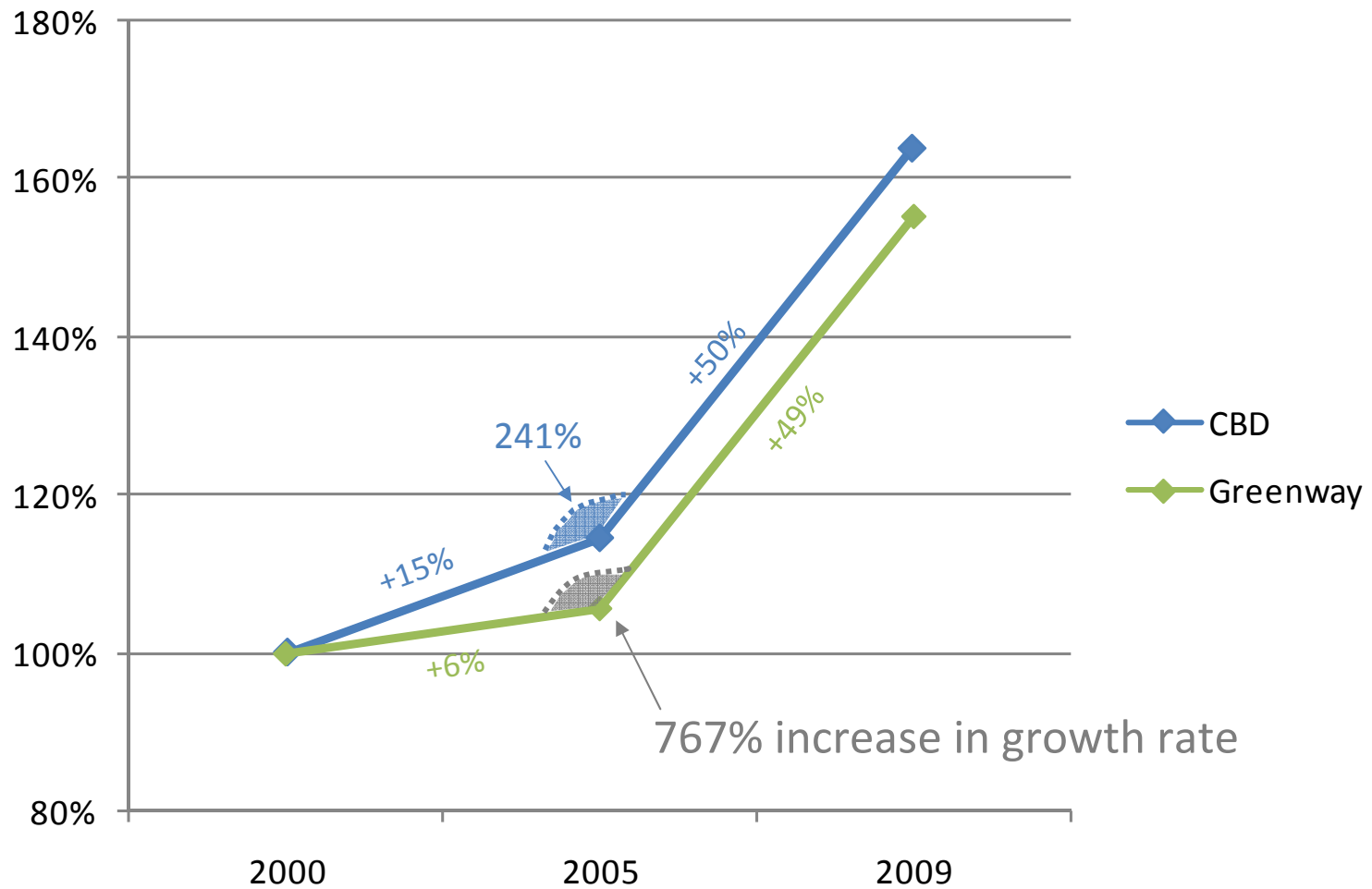
### Commercial



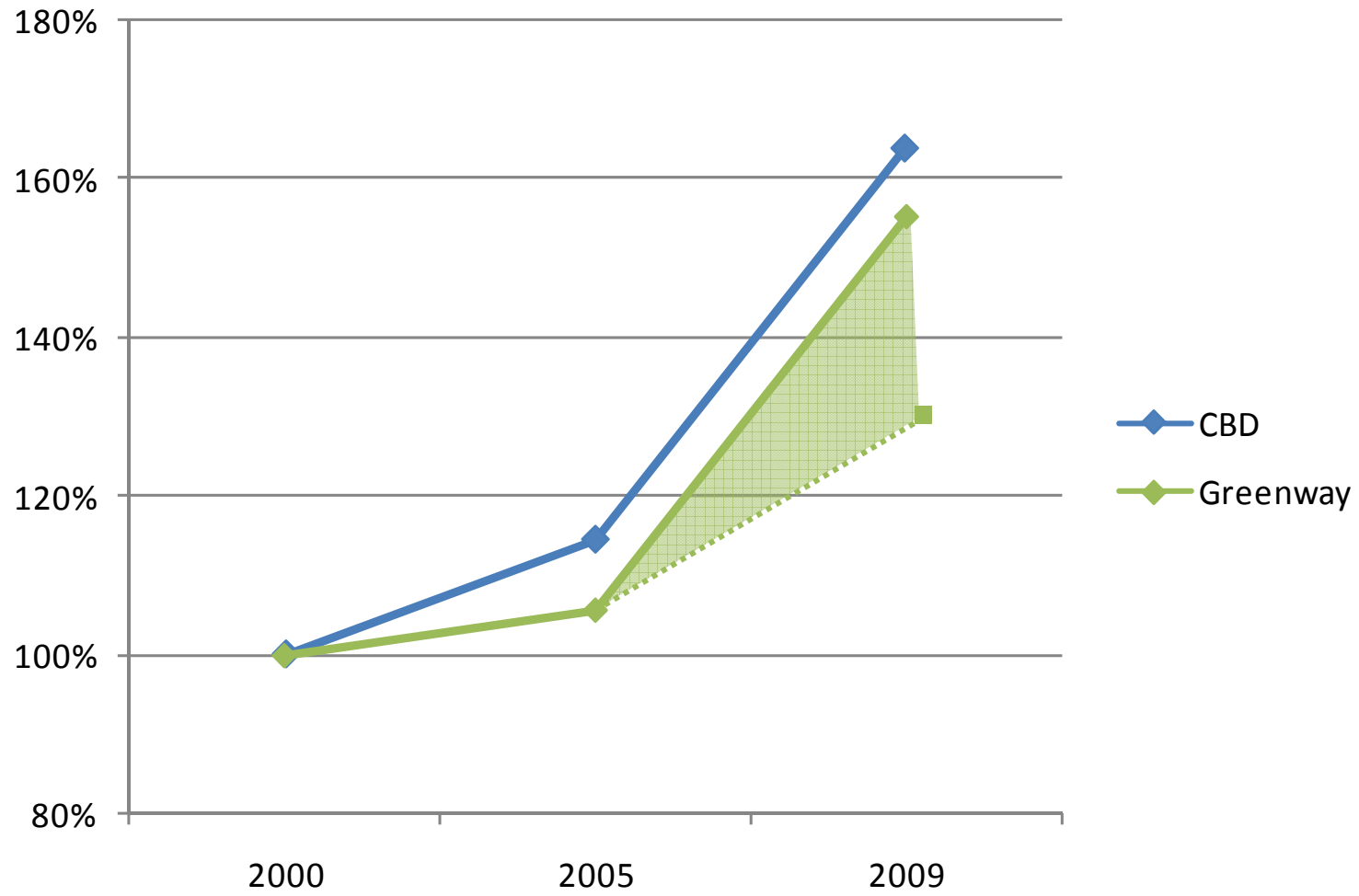
### Residential



# Value of Greenway Investment: Increased rate of commercial property value growth between Construction Era and Greenway Era.



# Increase in growth rate of commercial properties generated \$3.1 B in property value.



Transformation of value is long-term.





# Reorientation of development to capture value takes time.



*West Side Highway, New York City*



*173-176 Perry Street, New York City*

# Reorientation of development to capture value takes time.

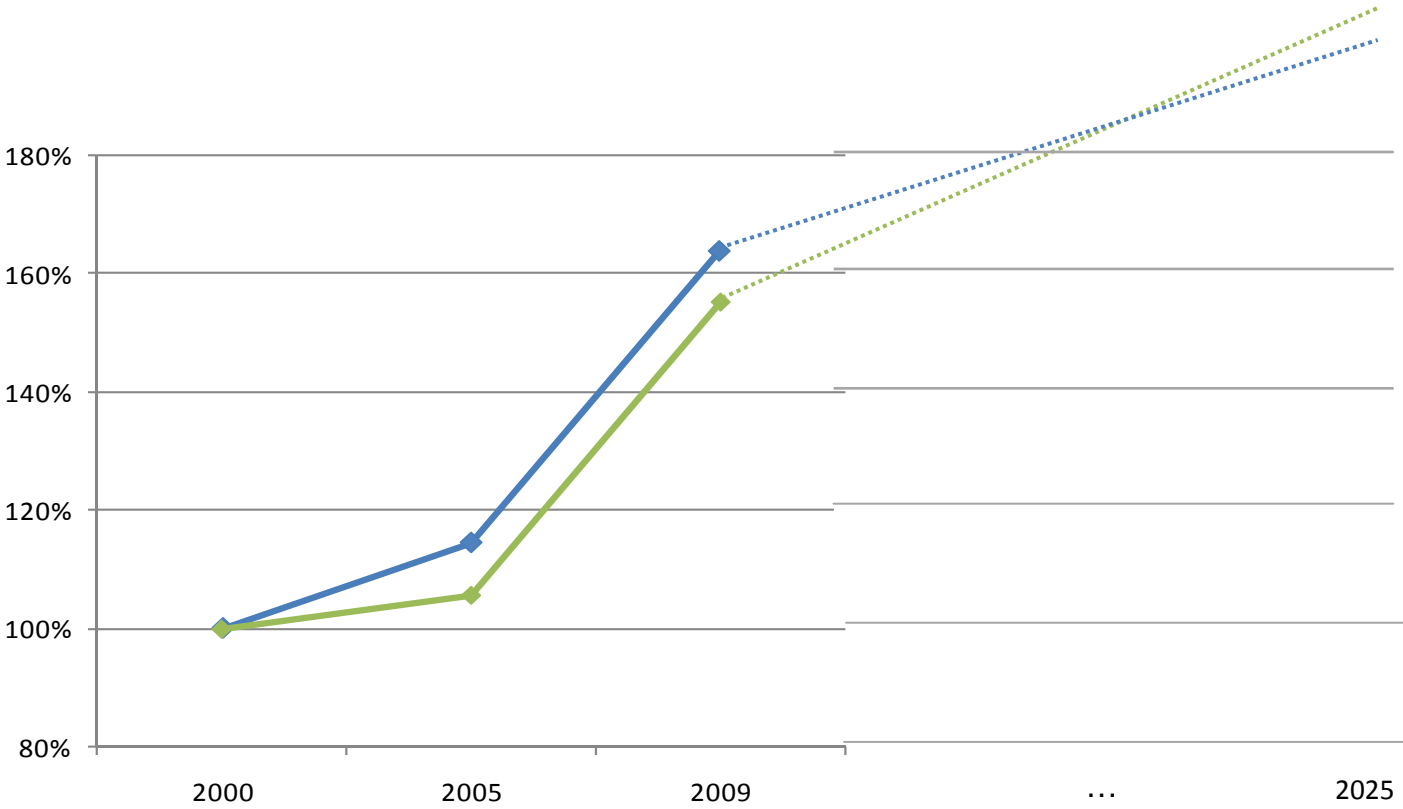


*Embarcadero, San Francisco*



*Ferry Building Marketplace, San Francisco*

# Incremental future tax revenue will be generated by incremental value and new investment.



Strong investment to date.

**CURRENT AND ONGOING GREENWAY DISTRICT INVESTMENT**

**4M SF**

**\$1.4B**

**FUTURE DEVELOPMENT ENVELOPE**

**3-5M SF**



Placemaking activities will bolster long-term  
value creation.



# Create and activate the open space asset



# Create and activate the open space asset



*Workers*



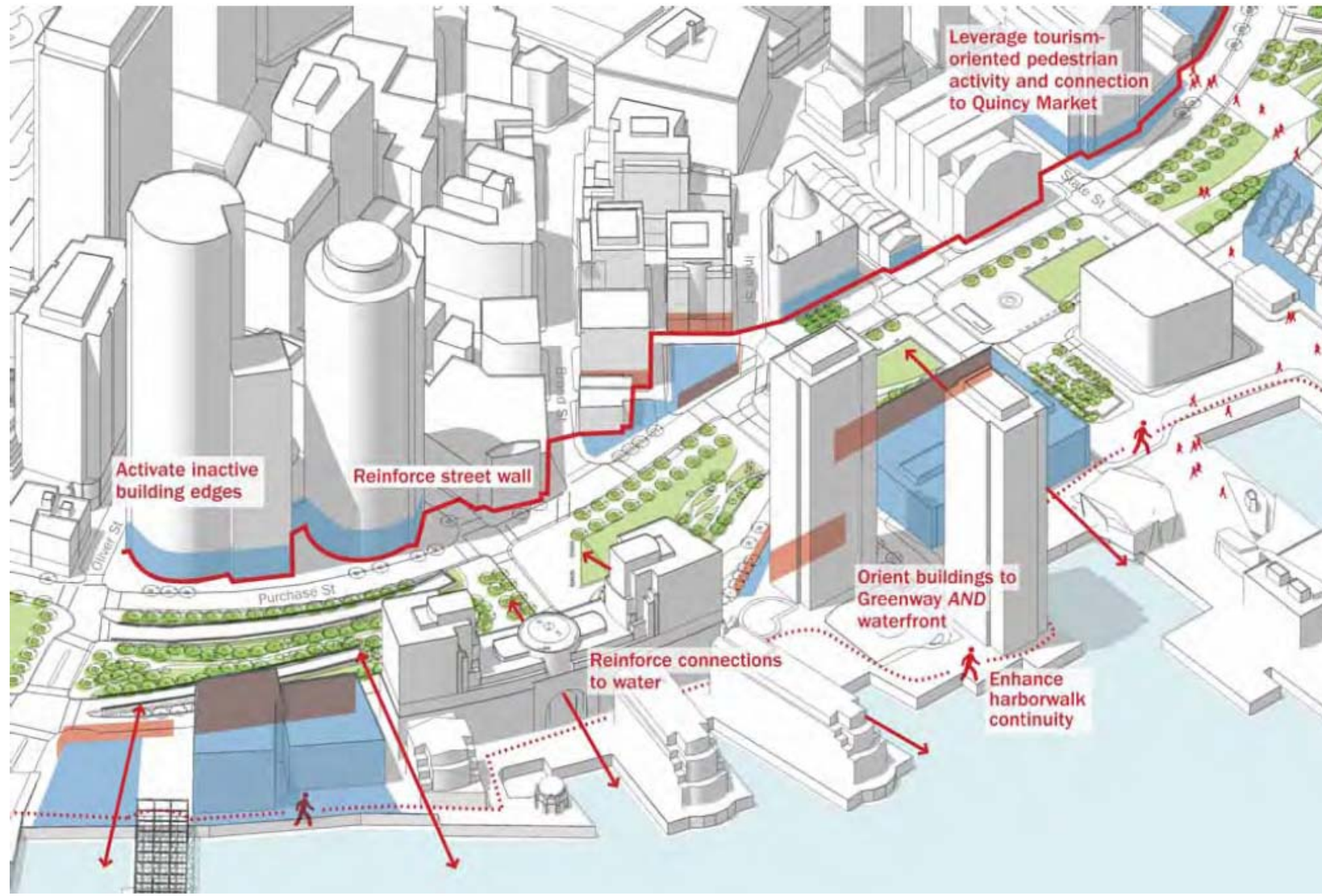
*Residents*



*Tourists*

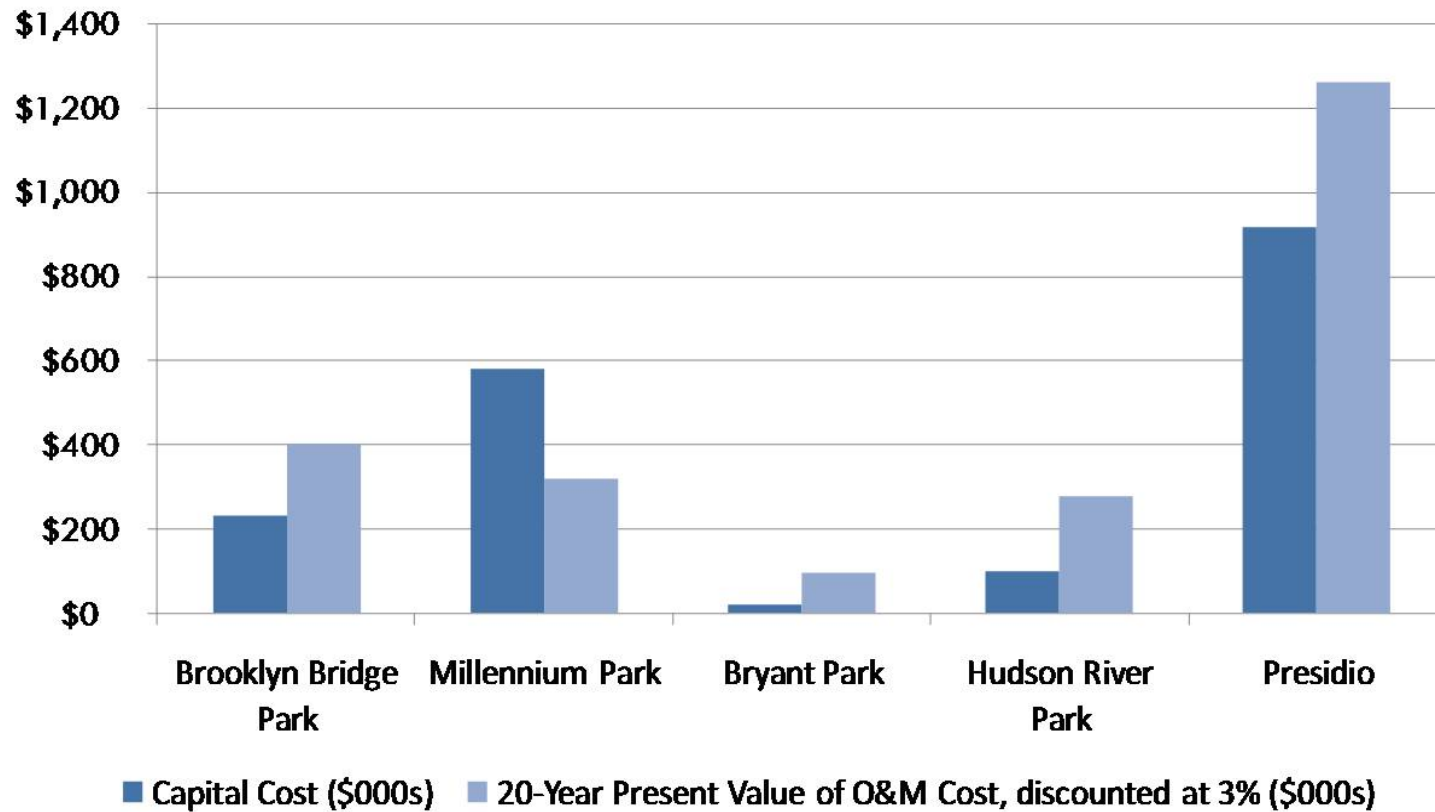


# Create a complementary urban district.

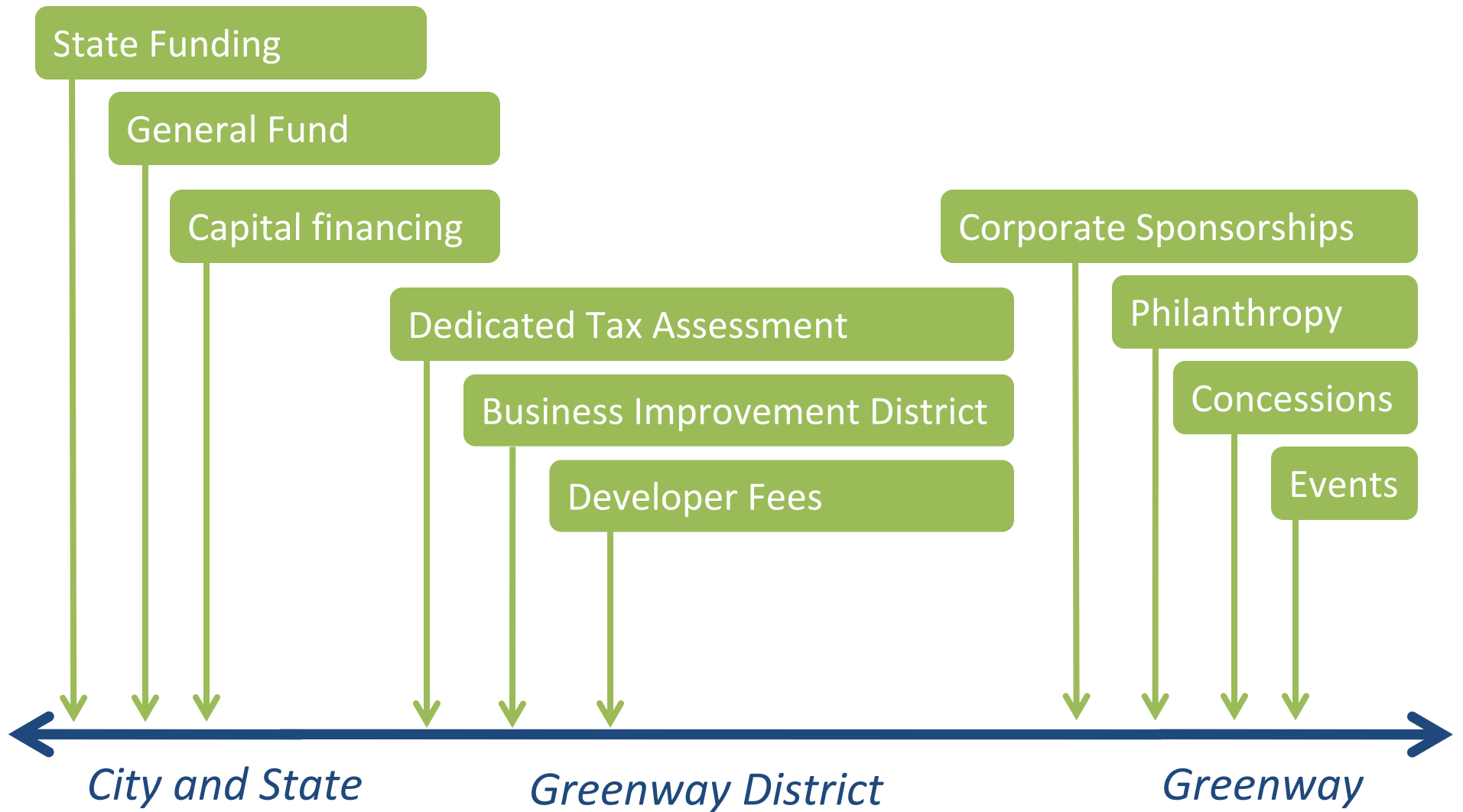




# Attain an adequate standard of O&M



# Attain an adequate level of O&M funding



Greenway District Planning Study

# Public Meeting 6

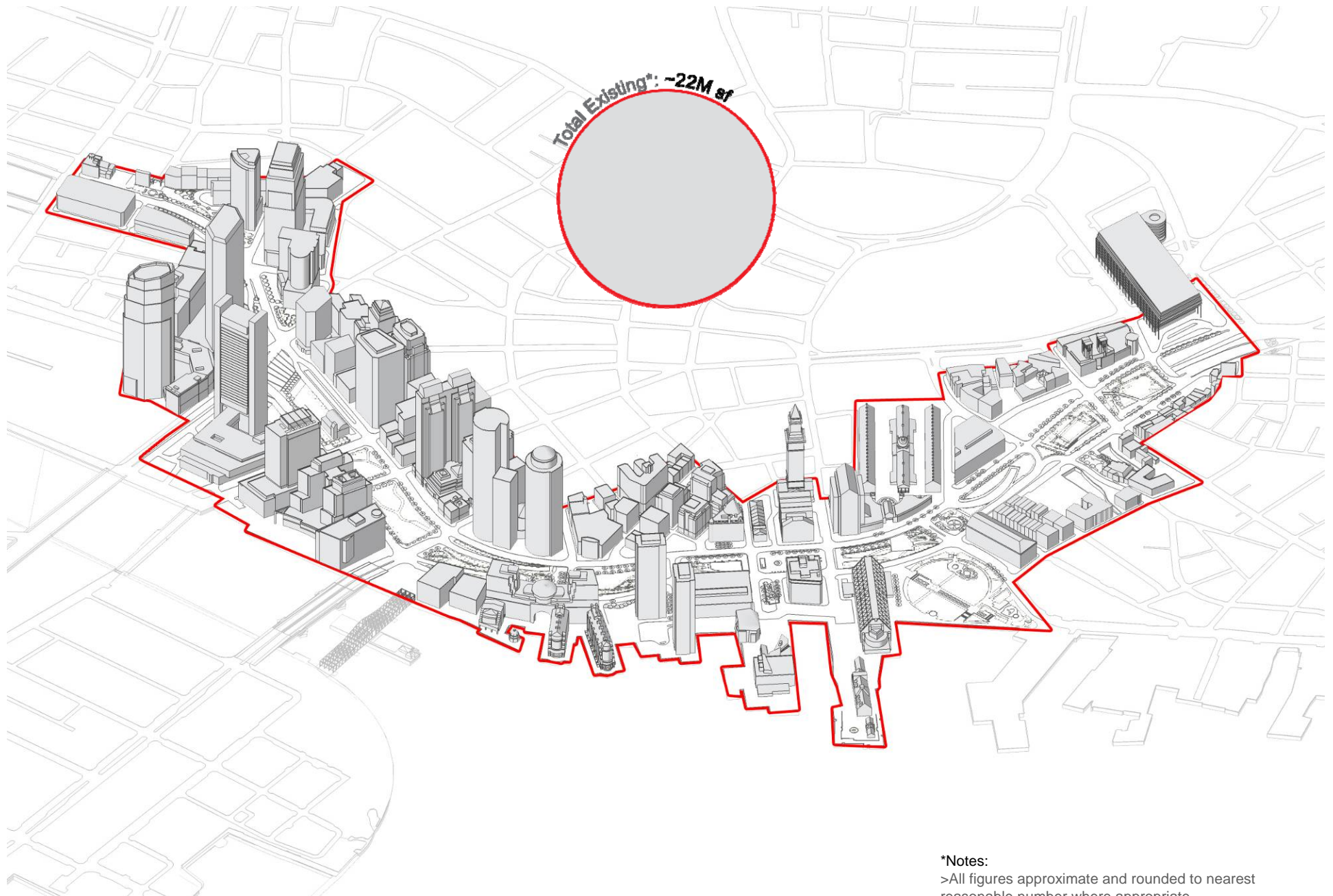
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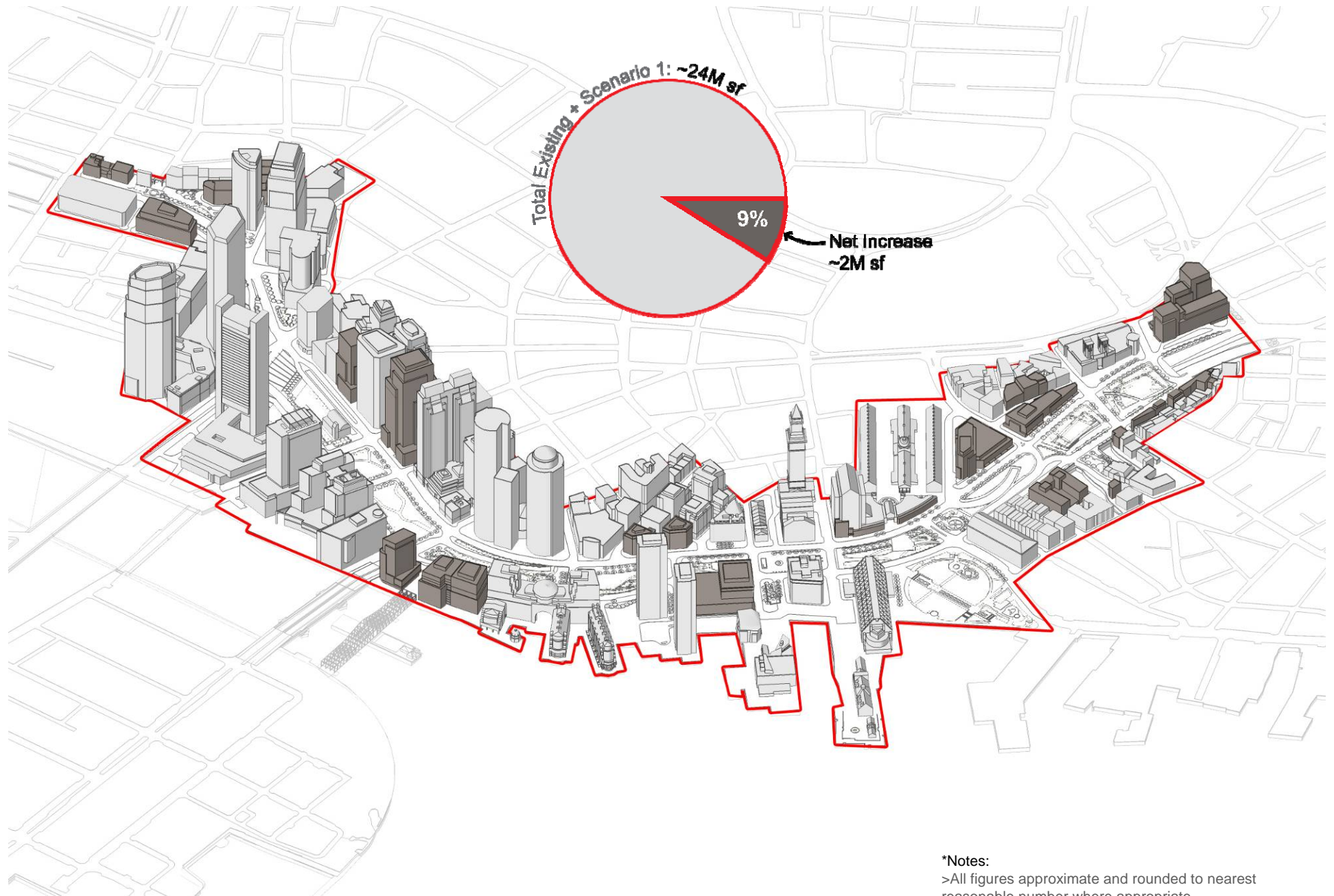
Total Existing\*: ~22M sf

## Existing Built Program Greenway District Study Area

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### \*Notes:

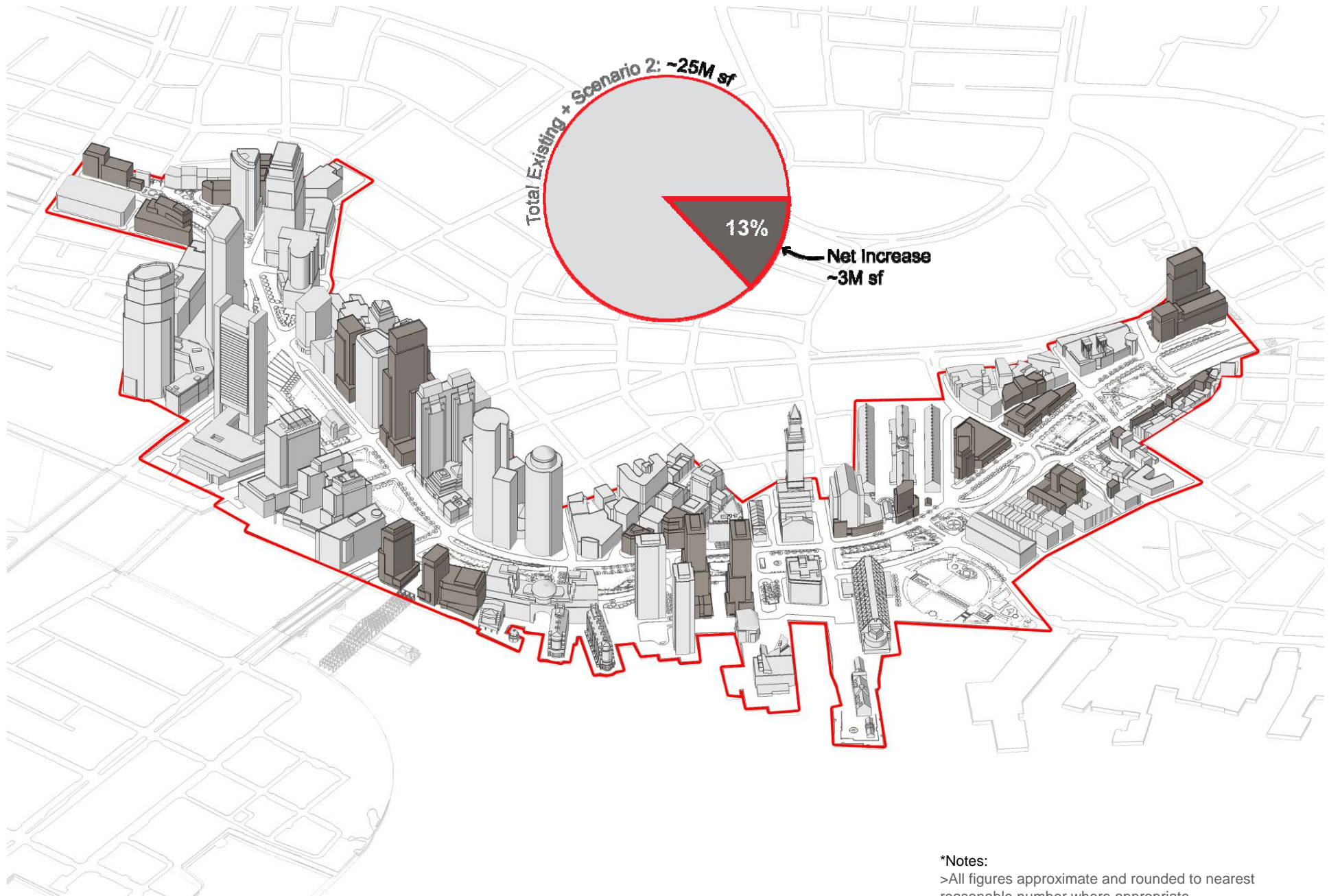
- >All figures approximate and rounded to nearest reasonable number where appropriate.
- >'Existing Program' calculations include permitted and under construction projects.
- > Calculations exclude below-grade parking.



## Scenario 1 Greenway District Study Area

**\*Notes:**

- >All figures approximate and rounded to nearest reasonable number where appropriate.
- >'Existing Program' calculations include permitted and under construction projects.
- > Calculations exclude below-grade parking.



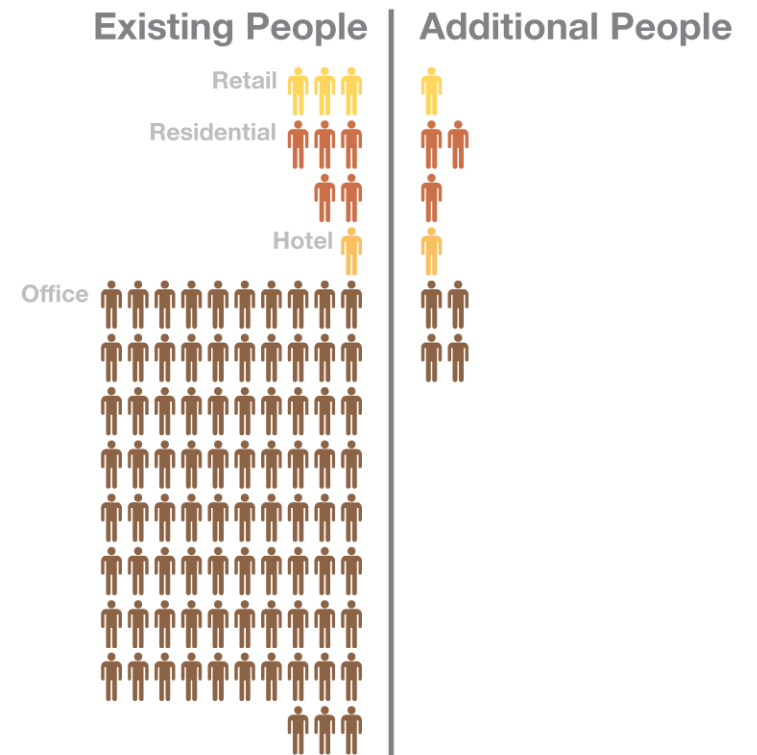
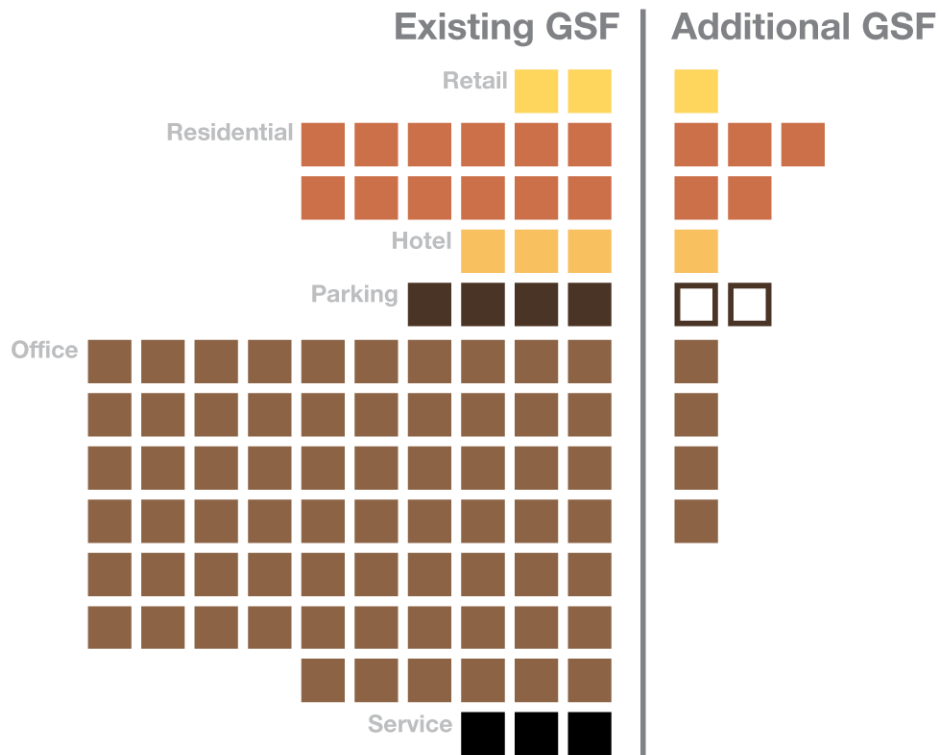
## Scenario 2 Greenway District Study Area

**\*Notes:**

- >All figures approximate and rounded to nearest reasonable number where appropriate.
- >'Existing Program' calculations include permitted and under construction projects.
- > Calculations exclude below-grade parking.

250,000 gross square feet

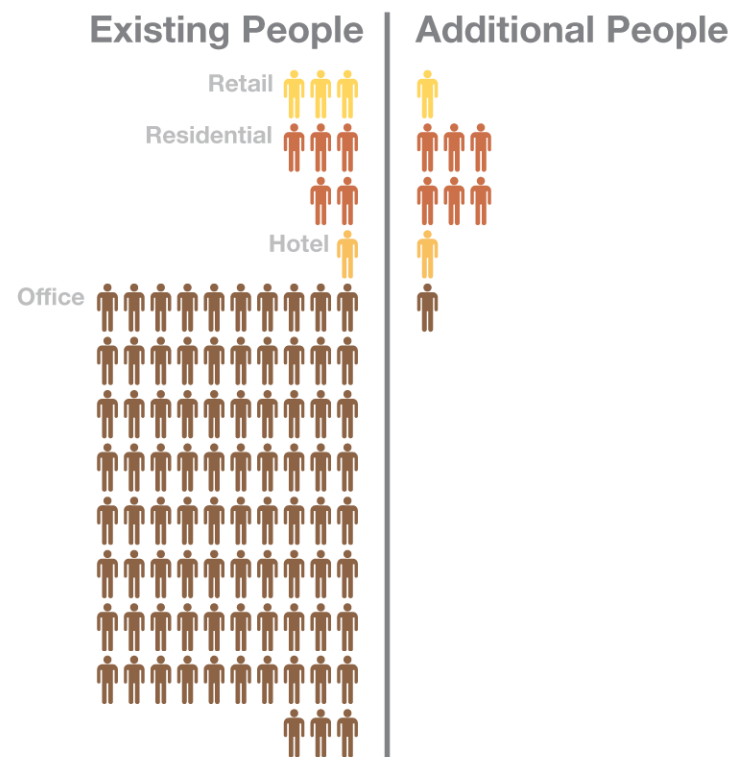
1,000 people



# Population and Use Analysis Development Scenario 1

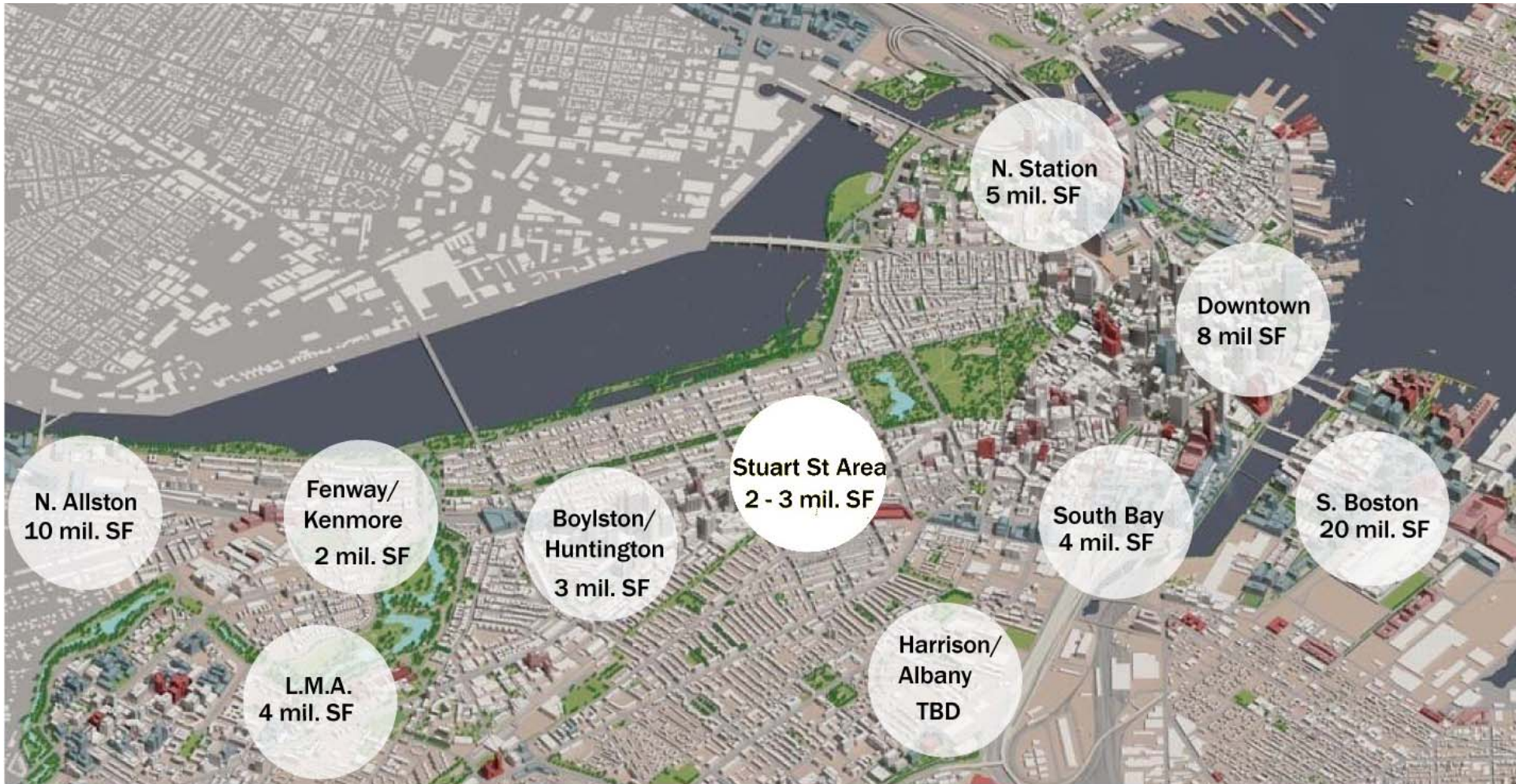
250,000 gross square feet

1,000 people

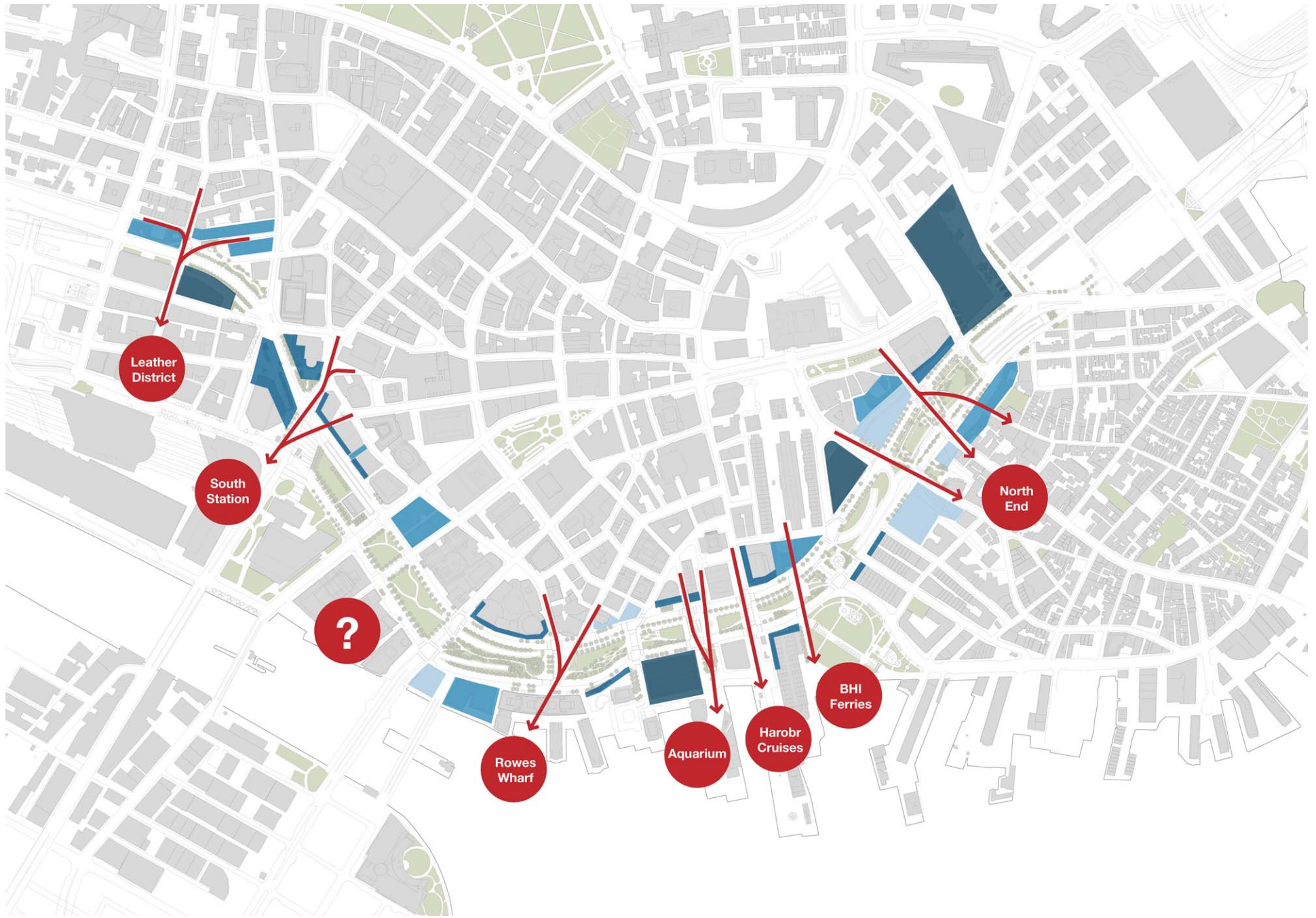


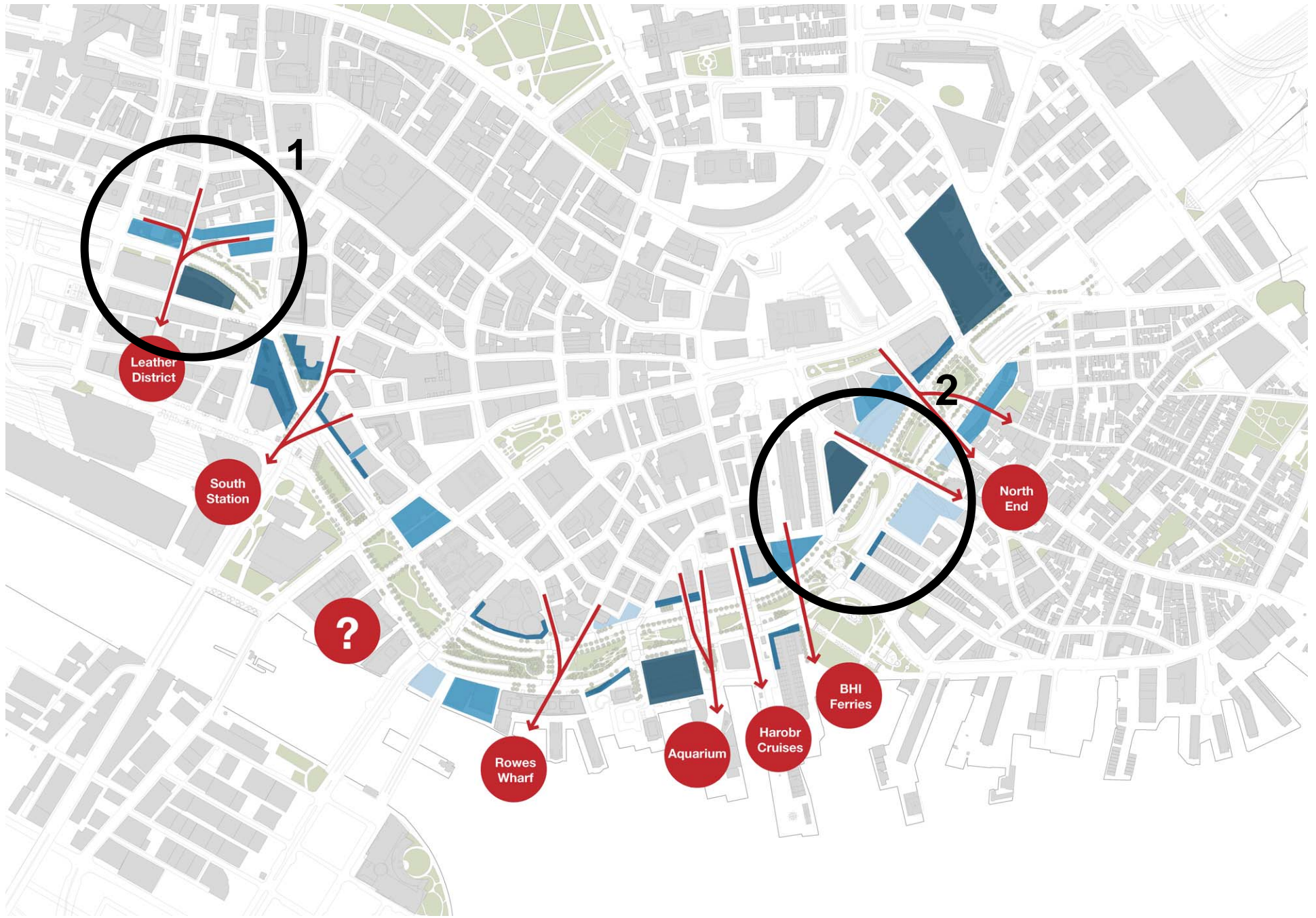
# Population and Use Analysis Development Scenario 2

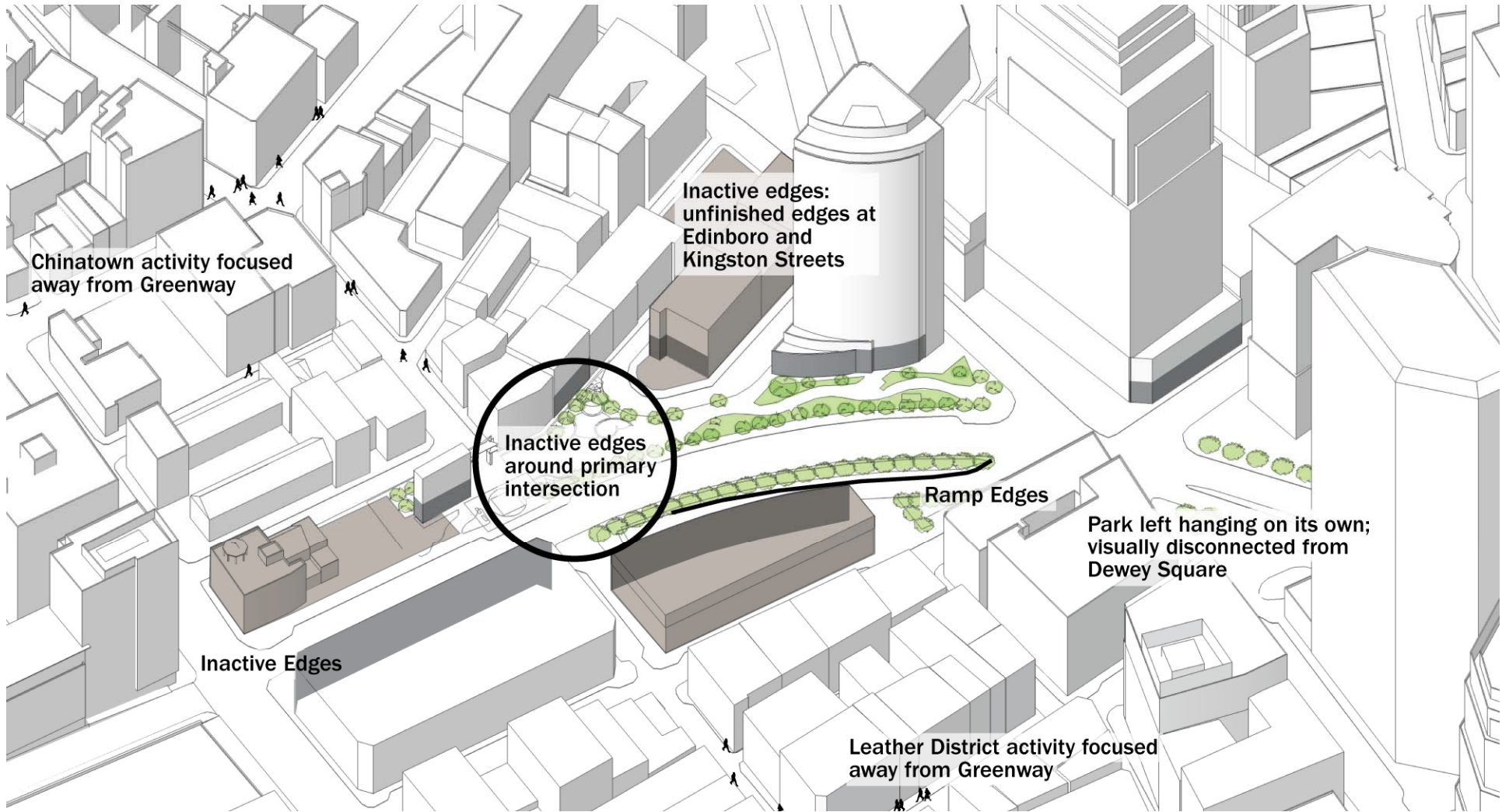




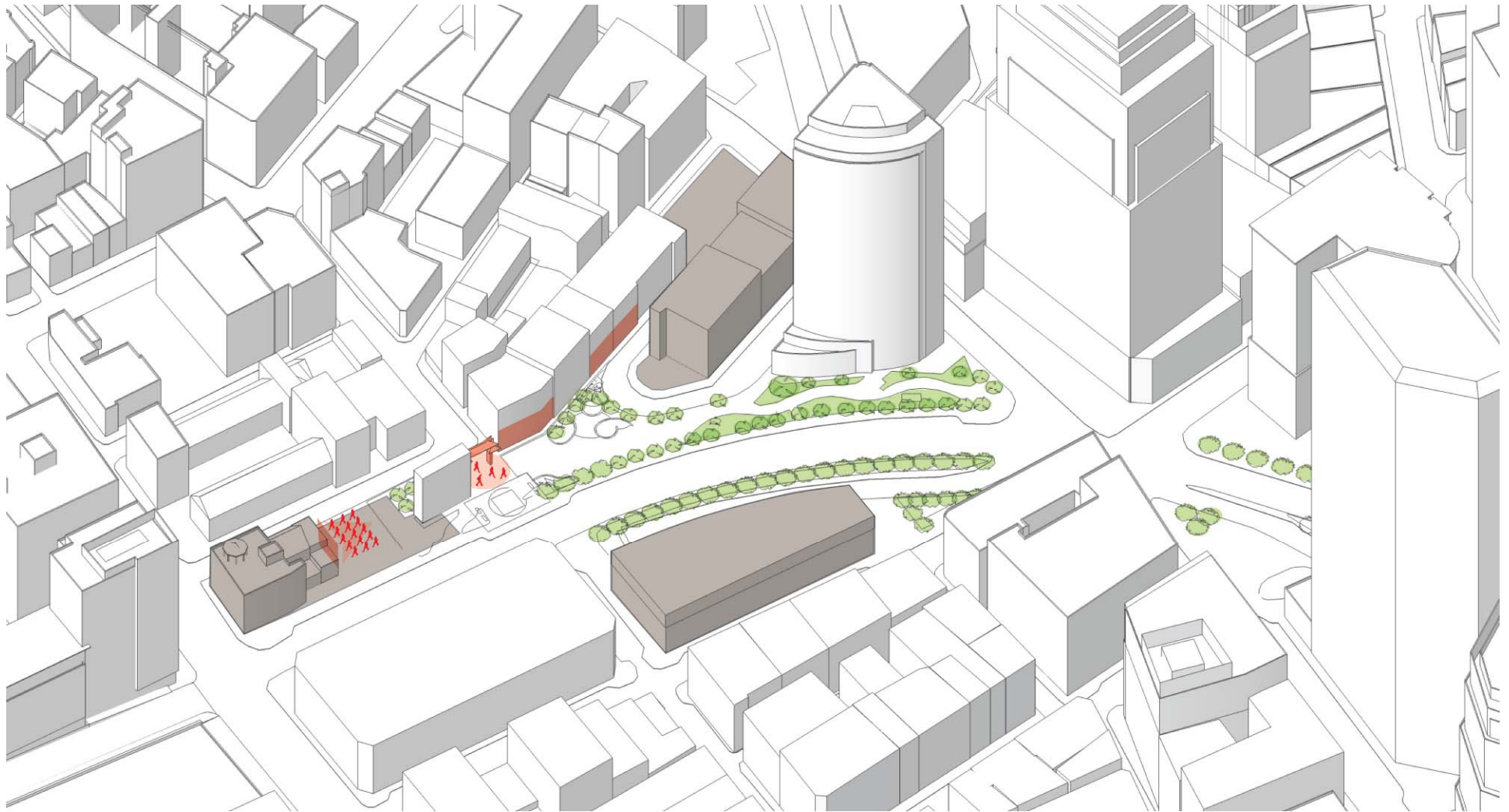
## Boston Projected Growth



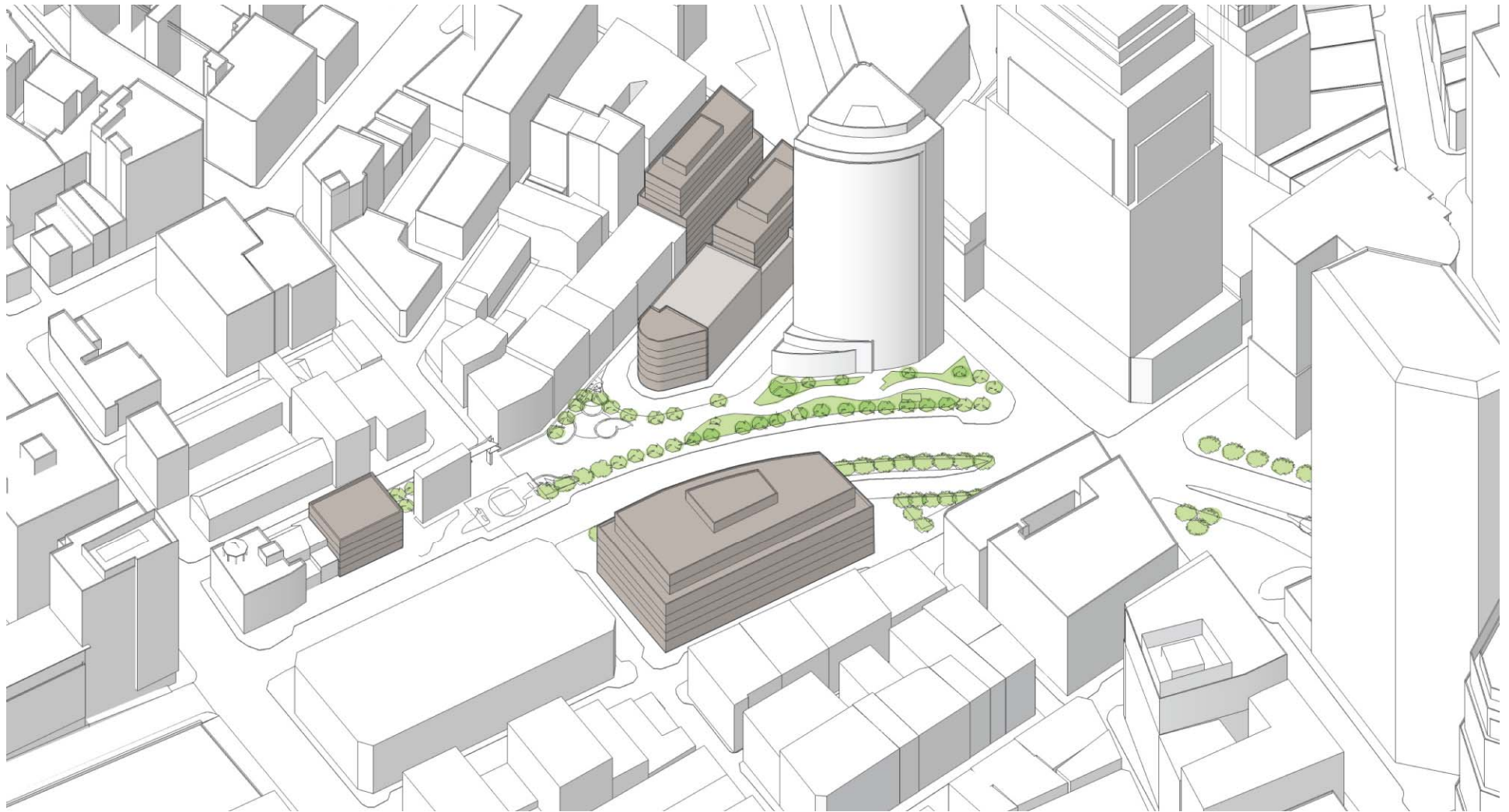




## Chinatown Existing Challenges



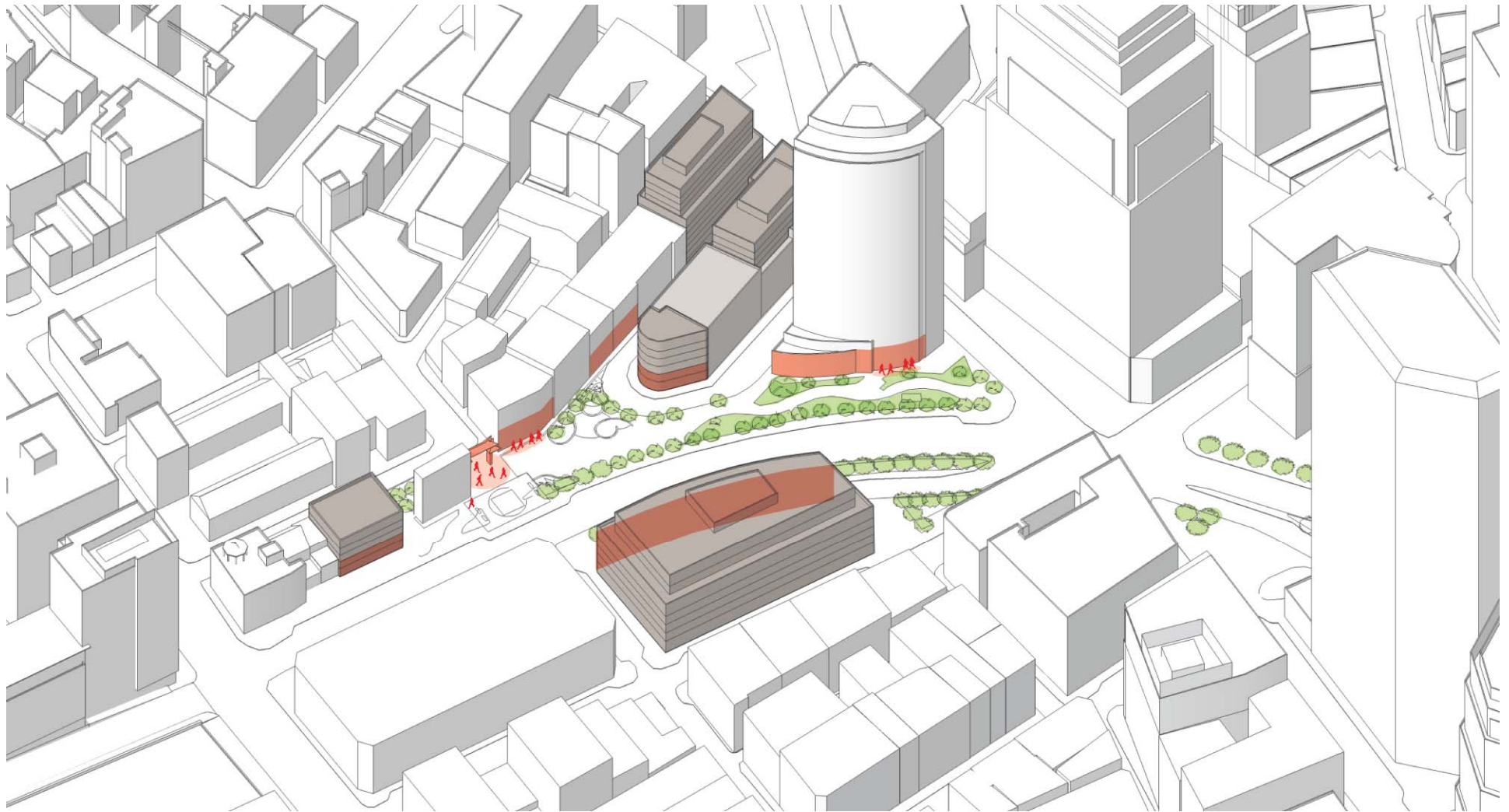
## Chinatown Existing Activities and Active Edges



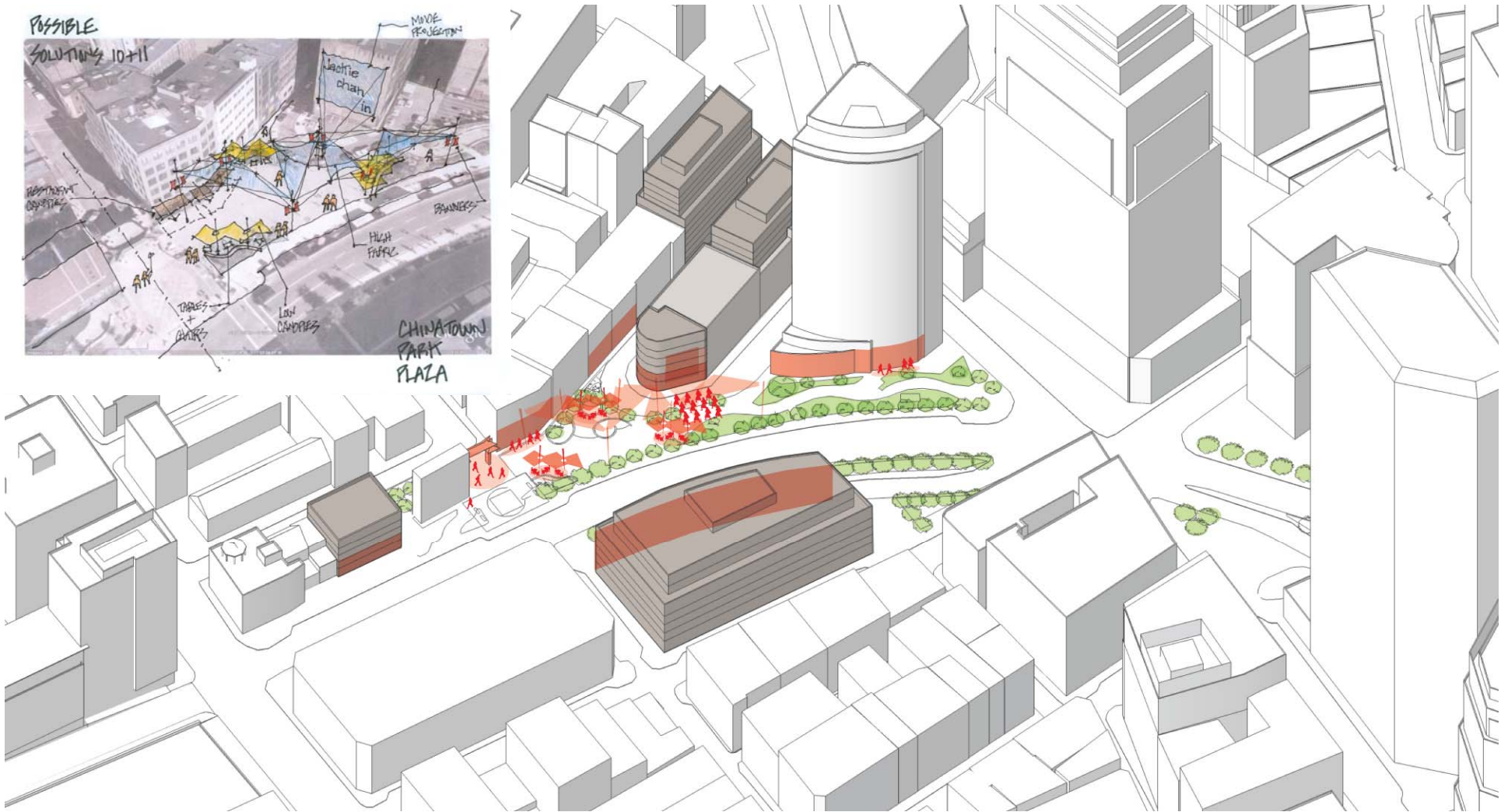
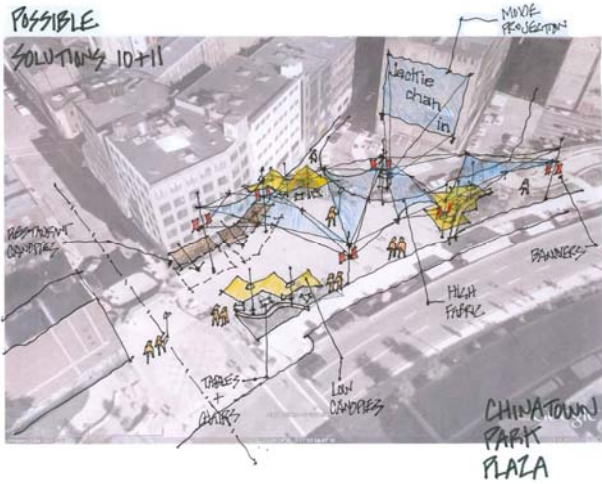
## Chinatown Development Scenario Study

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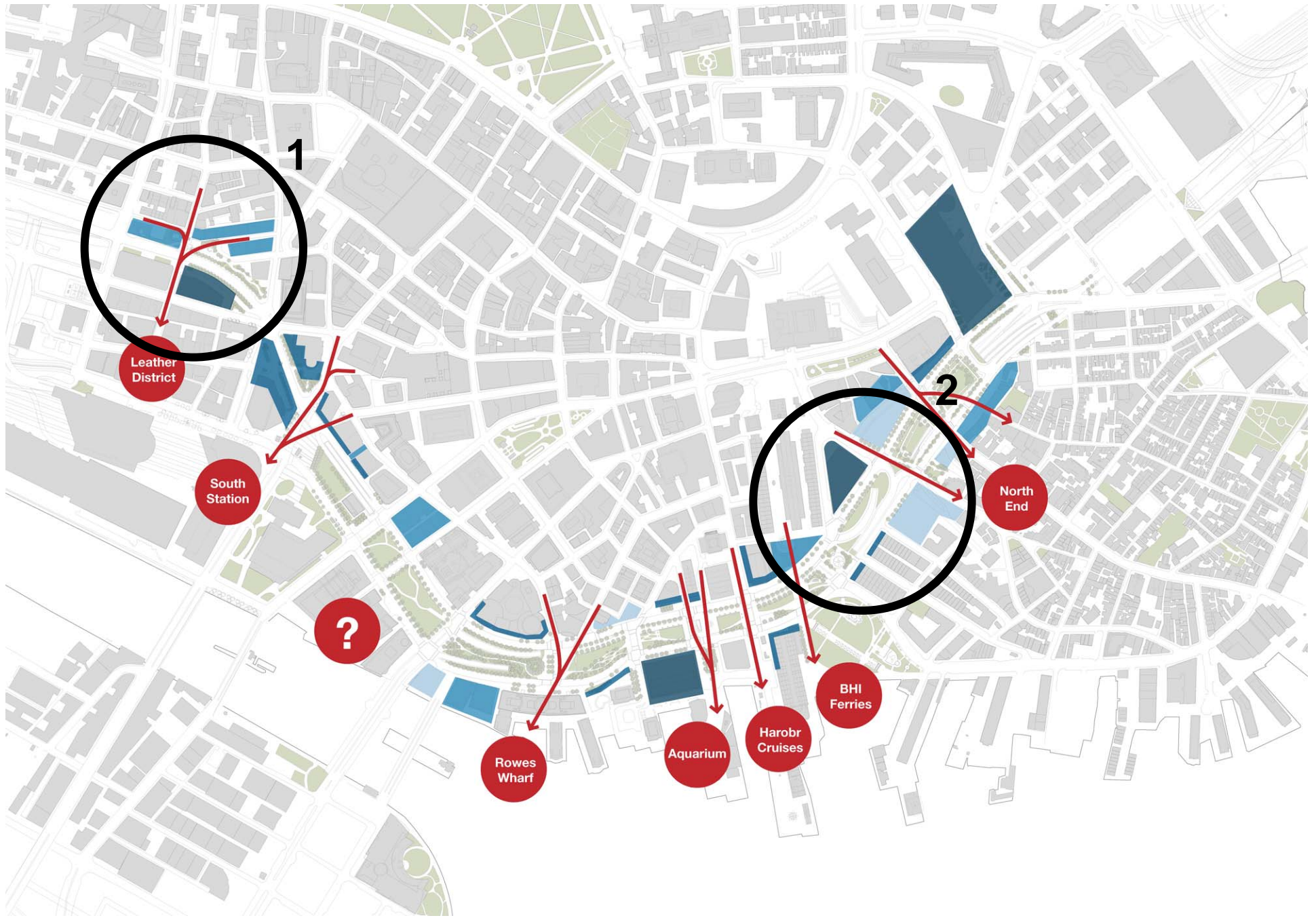


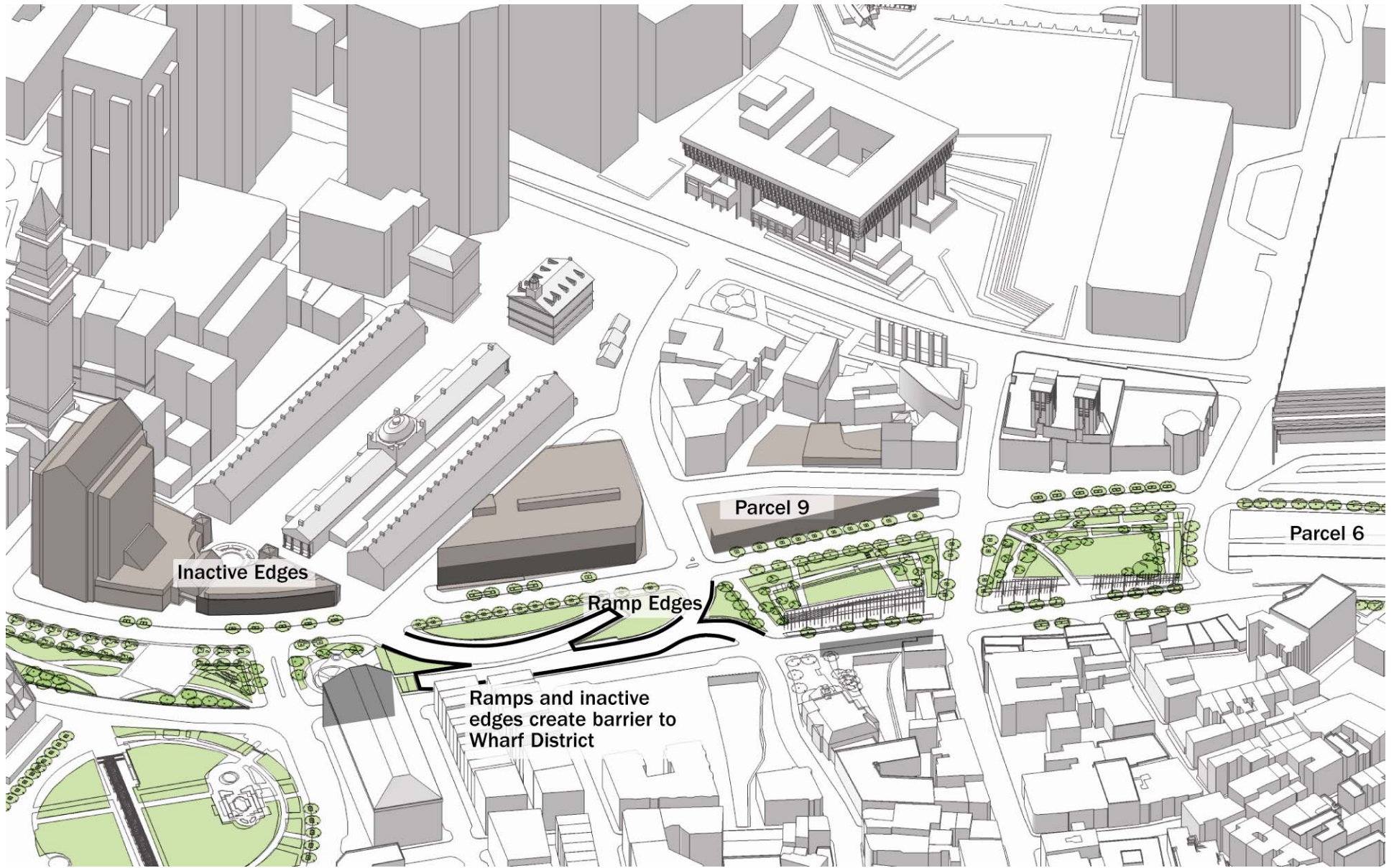
## Chinatown Existing Activities and Active Edges + New Active Edges



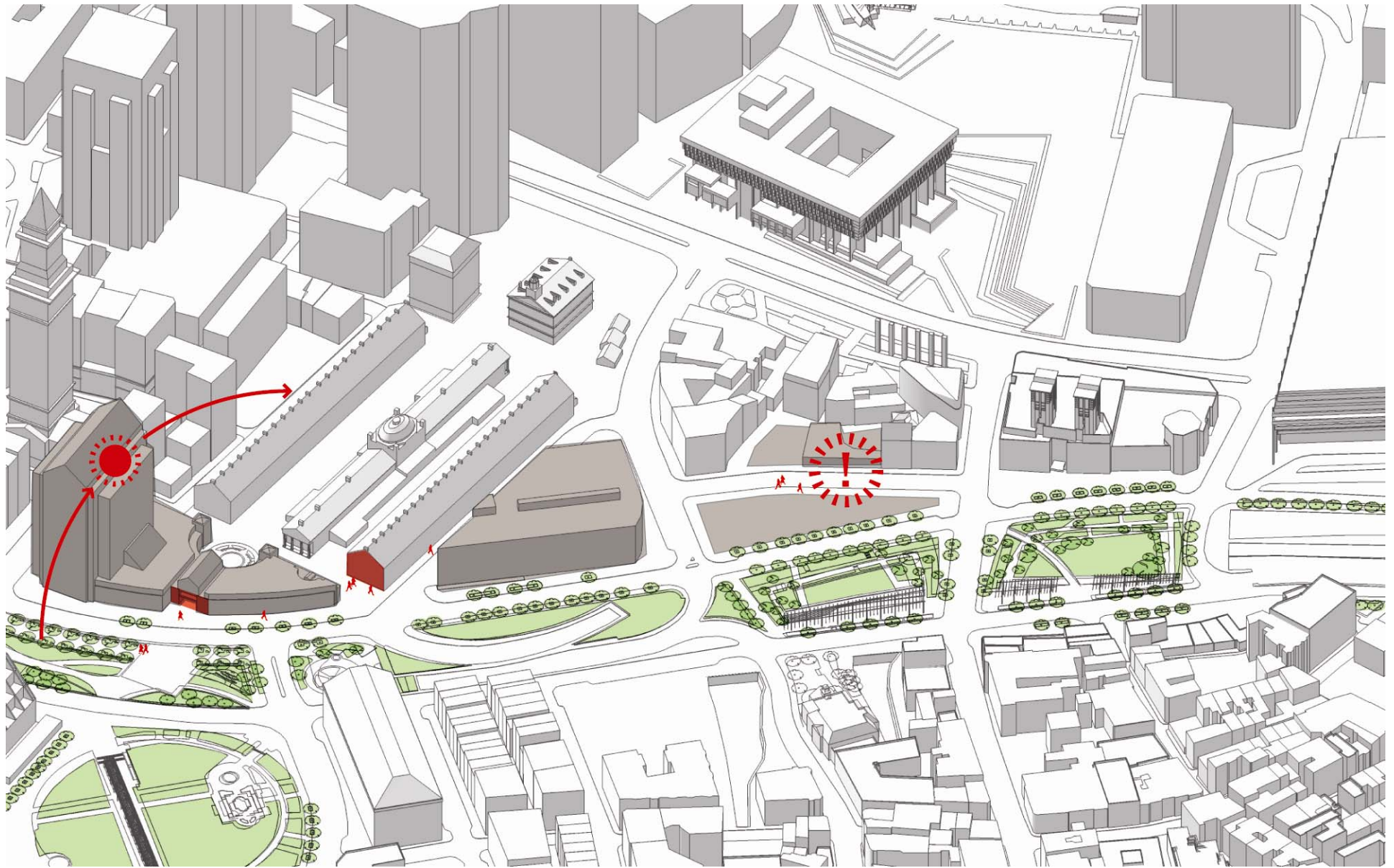
## Chinatown Existing Activities and Active Edges + New Active Edges + Proposed Greenway Projects



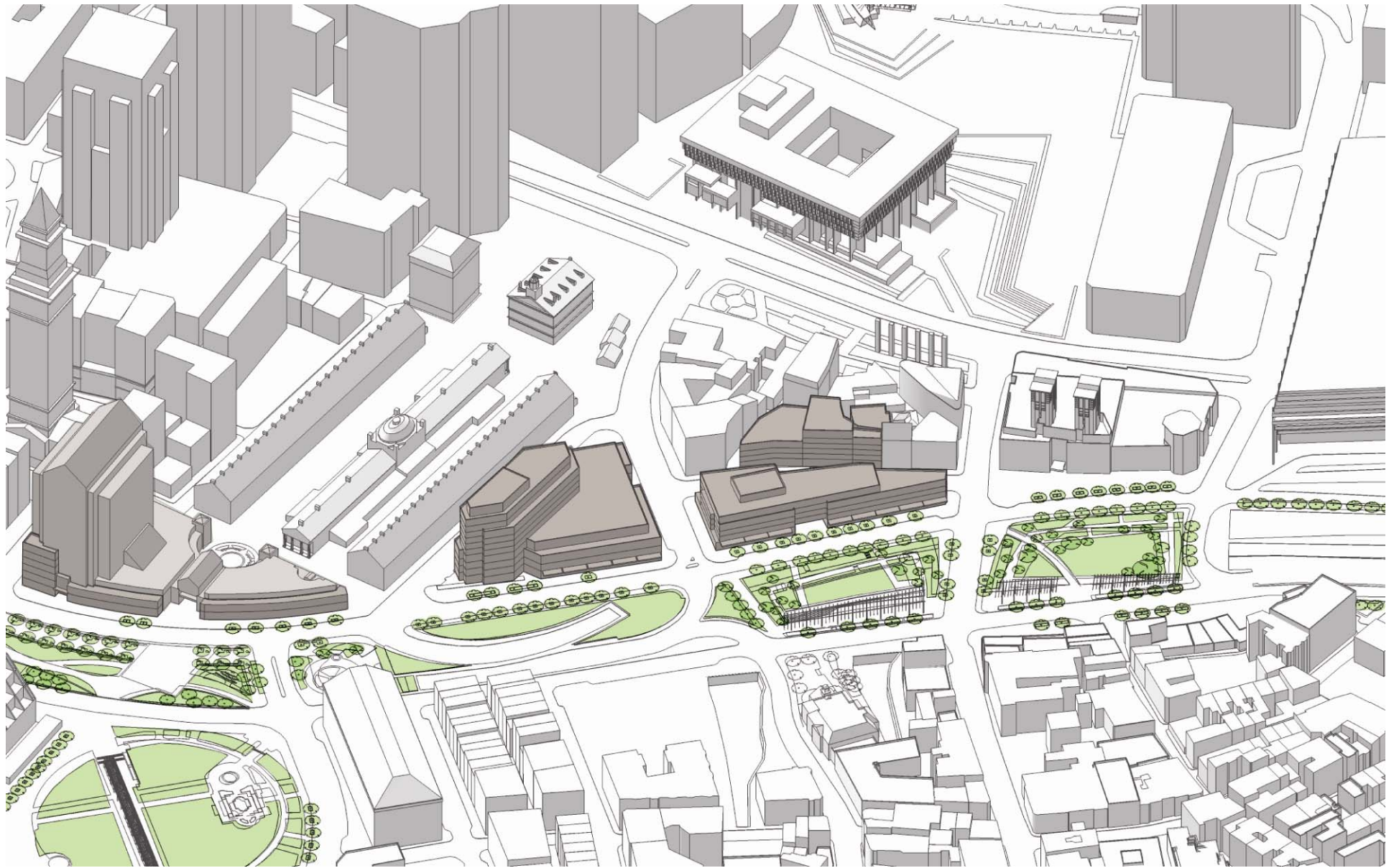




## Market District Existing Challenges



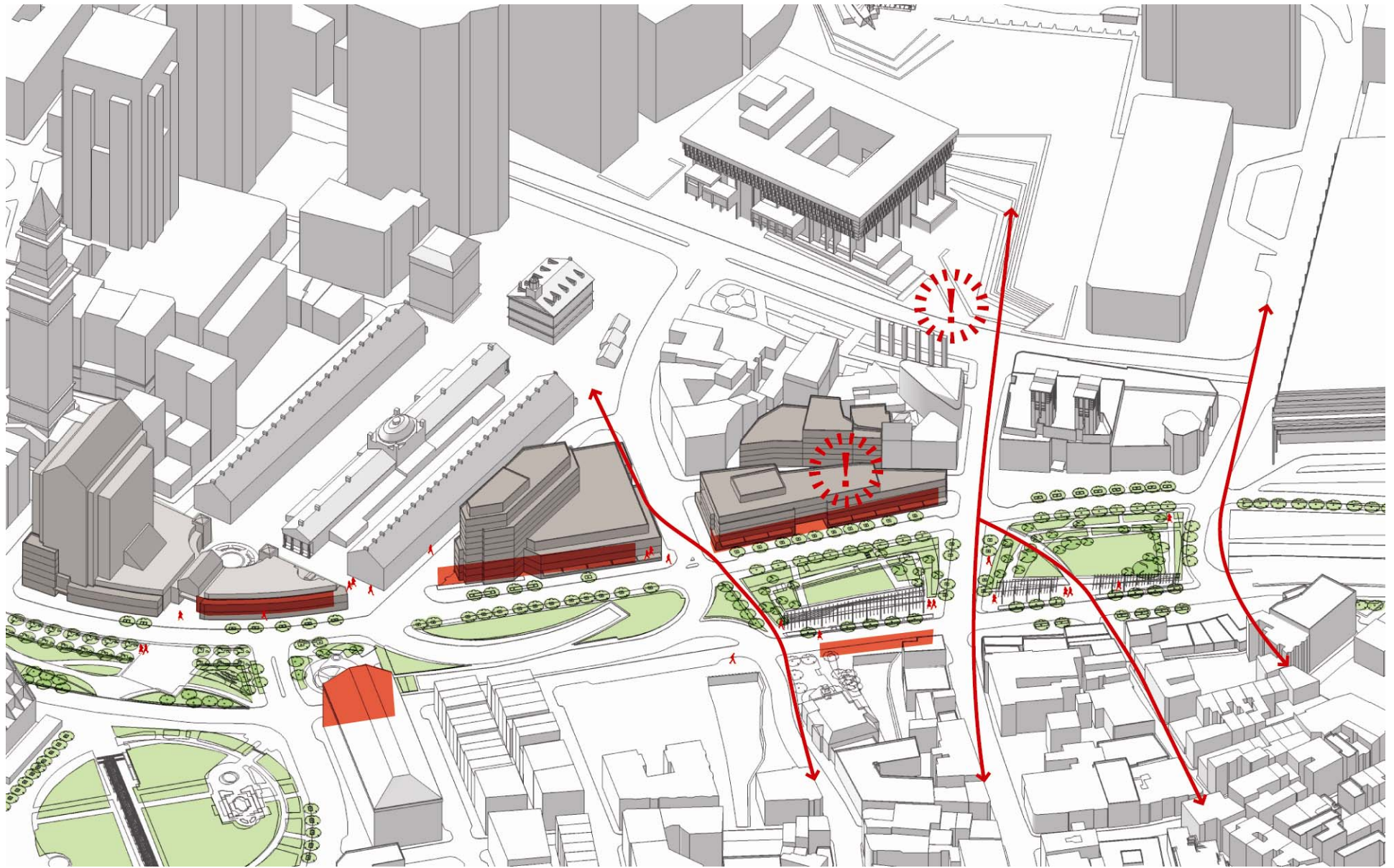
## Market District Existing Activities and Active Edges



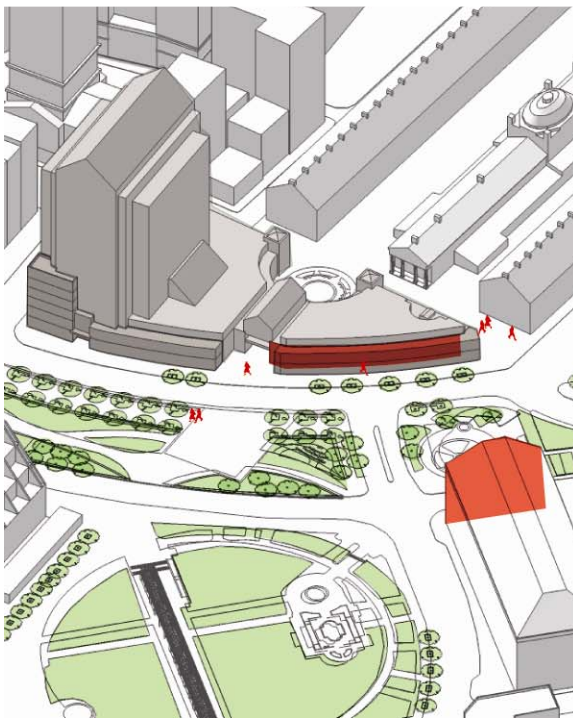
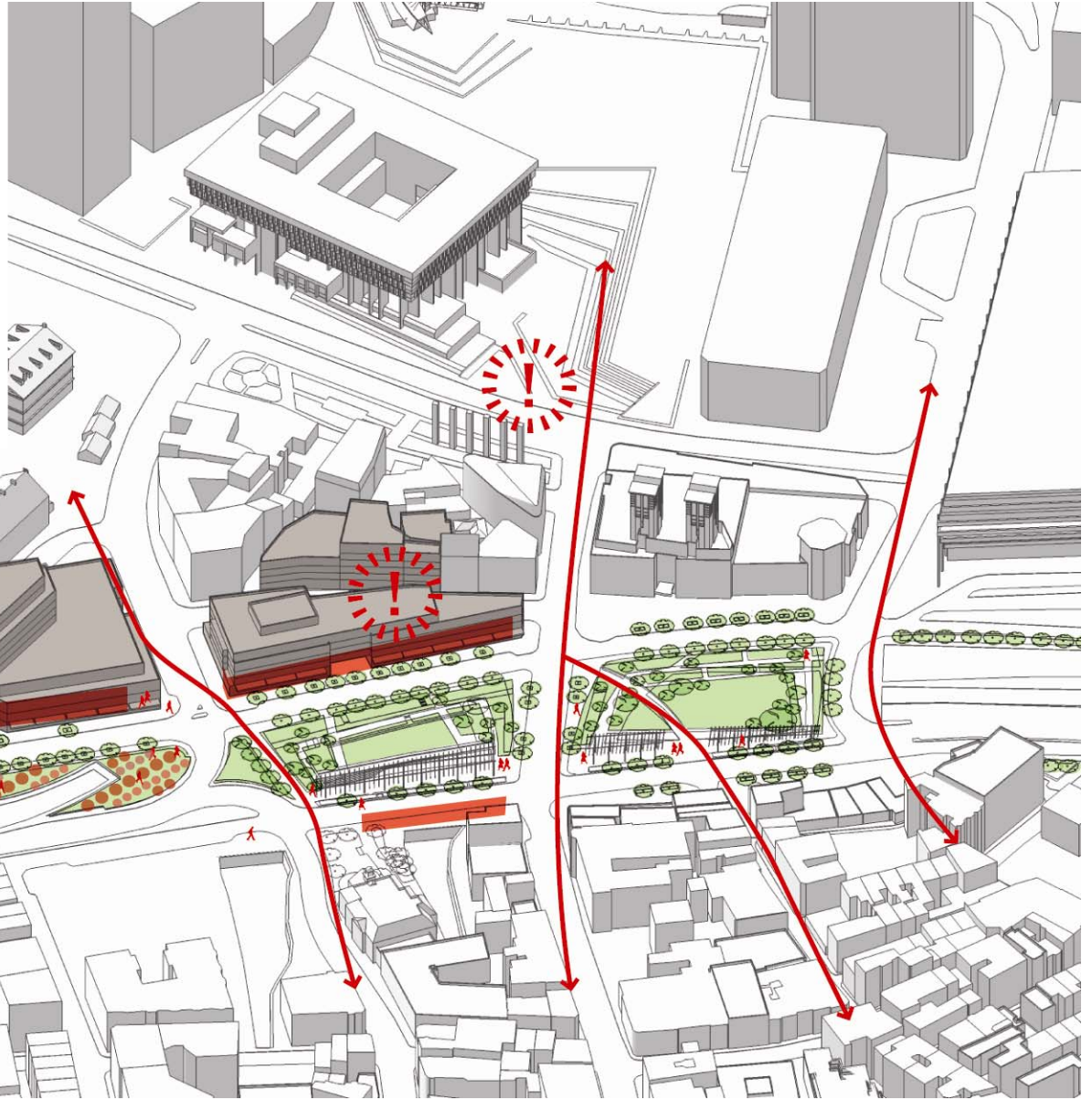
## Market District Development Scenario Study

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## Market District Existing Activities and Active Edges + New Active Edges



## Market District Existing Activities and Active Edges + New Active Edges + Proposed Greenway Projects

Greenway District Planning Study

# Public Meeting 6

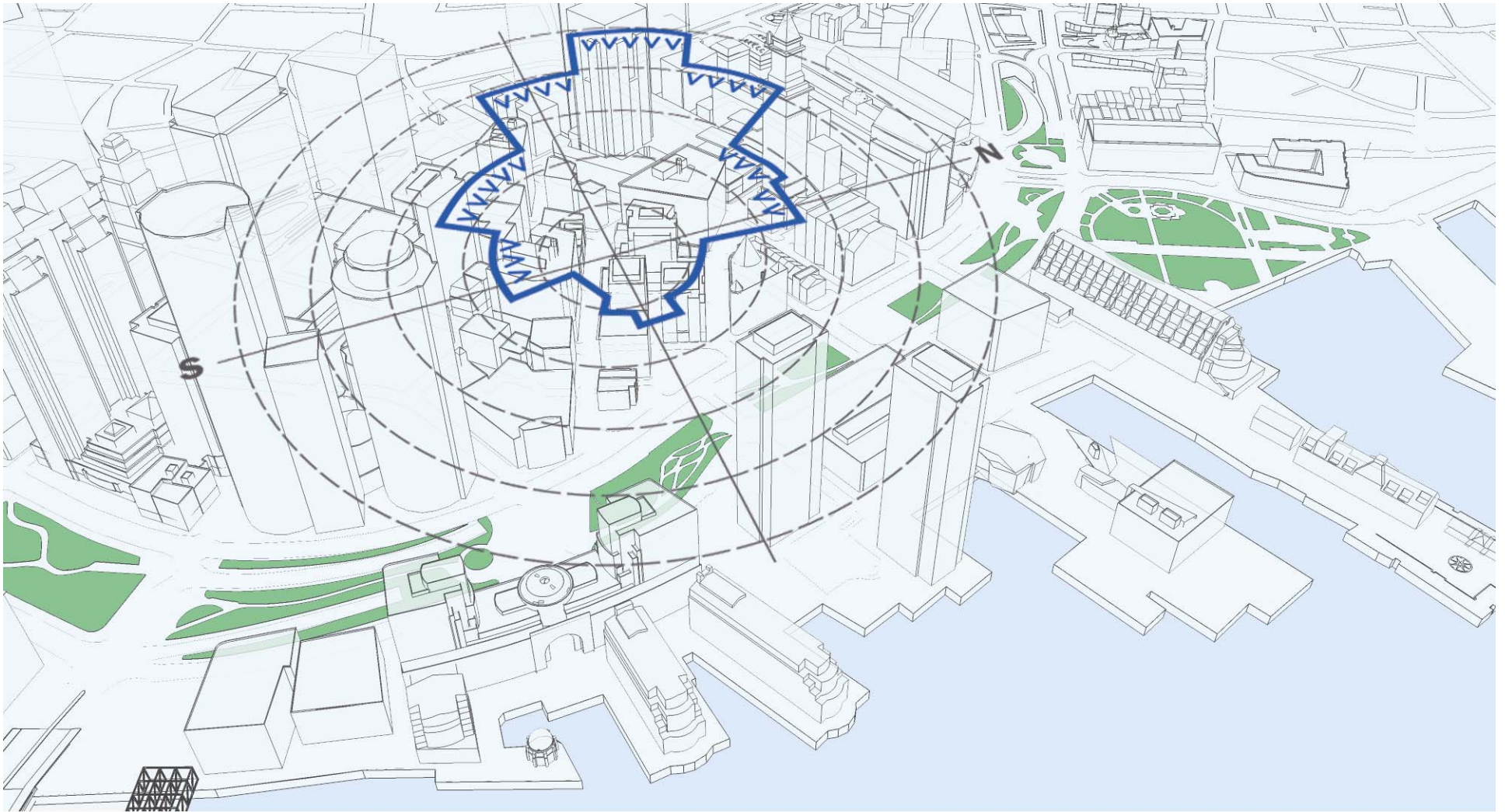
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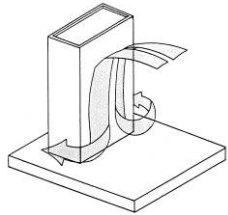
**04 Revised Massing Heights**

**05 Format and Scope of Final Guidelines**



## Winter: Directional Distribution of Wind Environmental Character

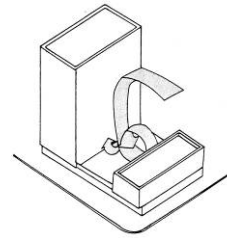




### Podium

A podium can deflect downwashing and oblique flows from pedestrian areas.

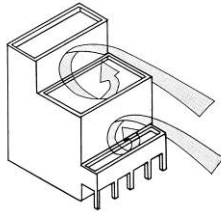
A 25-foot setback on the north and west sides is recommended.



### Sheltering Effect

Locating a taller building upwind of a shorter building can create calmer wind conditions immediately downwind.

The opposite scenario can also work if used in conjunction with a podium.



### Setbacks

A series of setbacks can reduce downwashing flows.

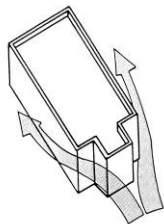
Setbacks should be oriented perpendicular to the strong northwesterly winds.



### Building Massing

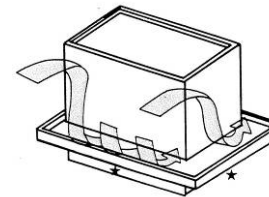
Circular and octagonal buildings reduce more downwashing flows than square and rectangular buildings.

An undulating façade oriented perpendicular to prevailing winds can also deflect wind flows.



### Align Narrow Buildings with Prevailing Winds

A small windward façade can help limit oblique flows and downwashing flows.

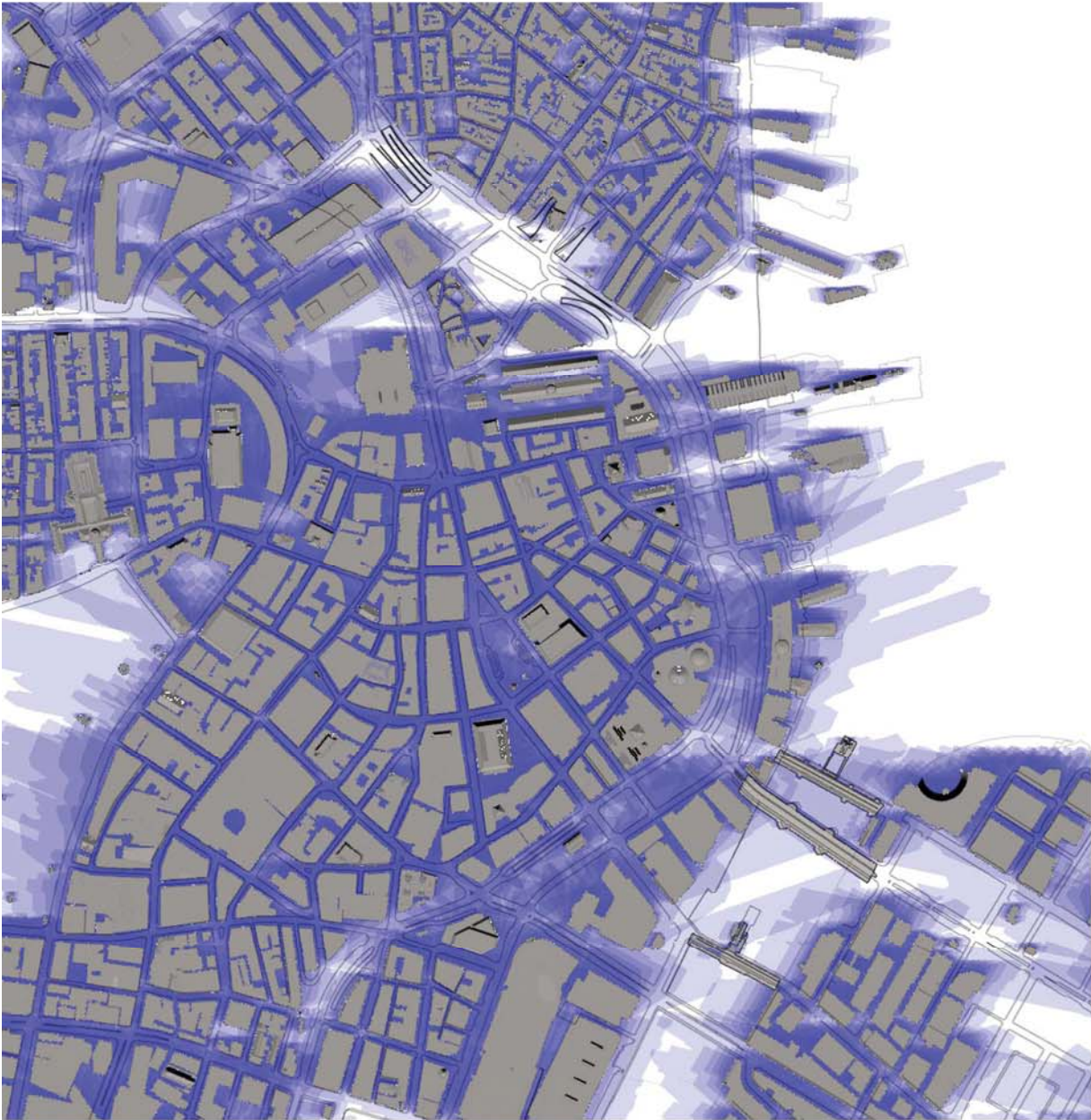


### Colonnades

If a podium or setback is not possible, a colonnade can protect pedestrians from downwashing flows.


# Greenway District Planning Study

## Existing shadows



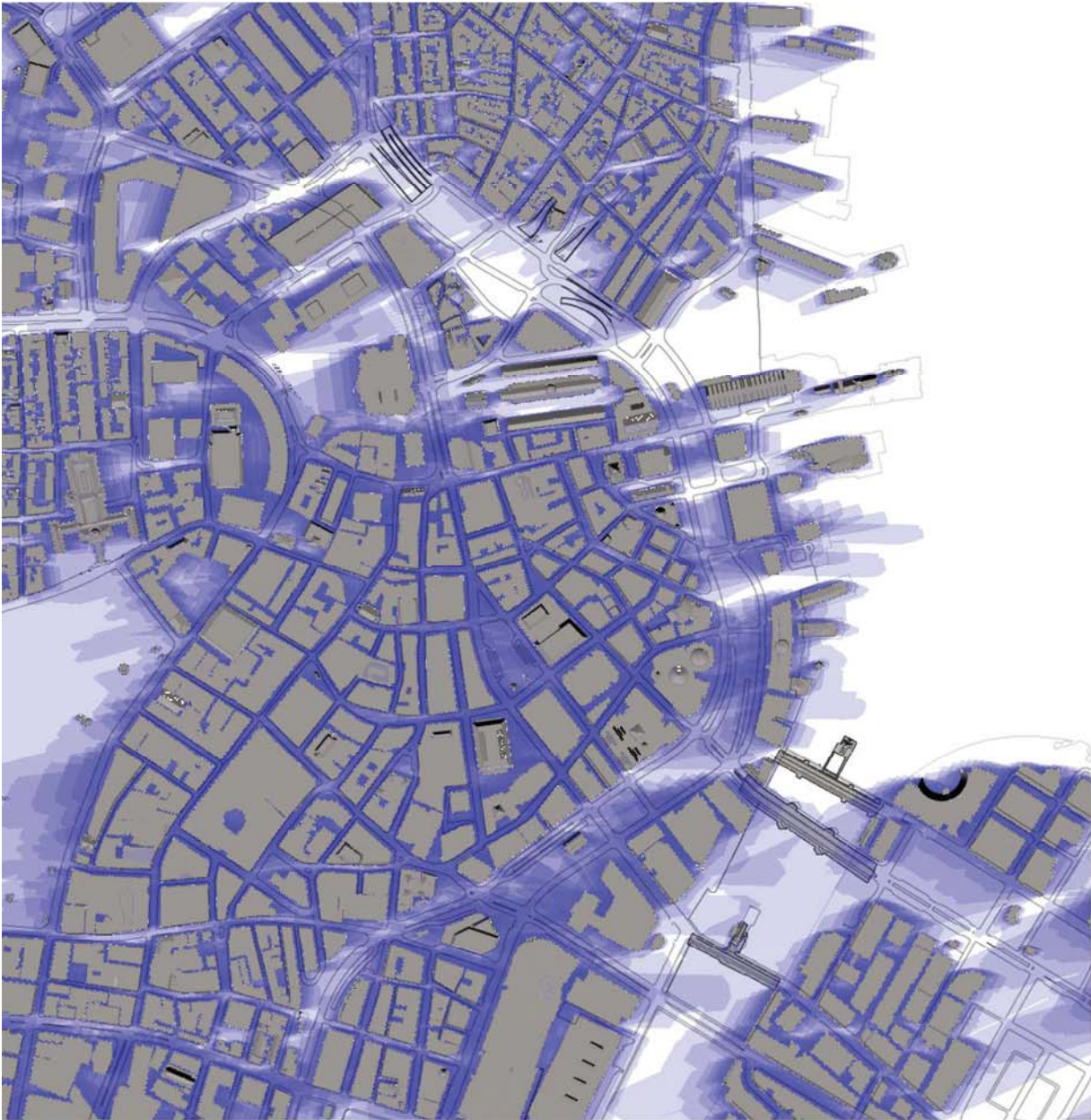
### Existing Condition

March/September 21 8:00 a - 5:00 p (sunrise 6:46 a, sunset 6:56 p)

- Existing shadows:
  - Up to 1 hour
  - Up to 2 hours
  - Up to 3 hours
  - Up to 4 hours
  - Up to 5 hours
-  Boston Redevelopment Authority


# Greenway District Planning Study

## Existing shadows

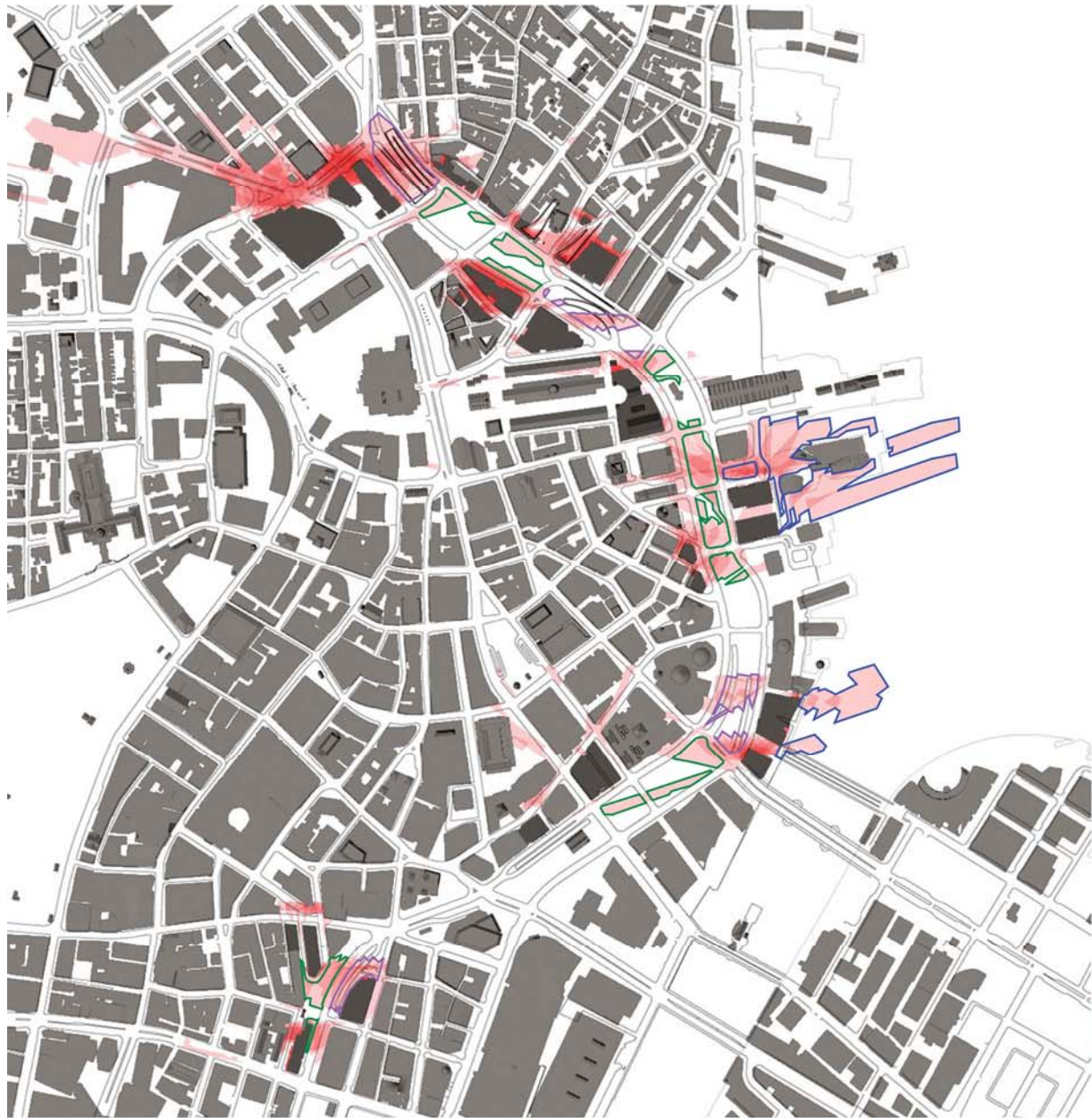


### Existing Condition

June 21 6:00 a - 5:00 p (sunrise 5:08 a, sunset 8:24 p)

- Existing shadows:
- Up to 1 hour
  - Up to 2 hours
  - Up to 3 hours
  - Up to 4 hours
  - Up to 5 hours
-  Boston Redevelopment Authority

February, 2010



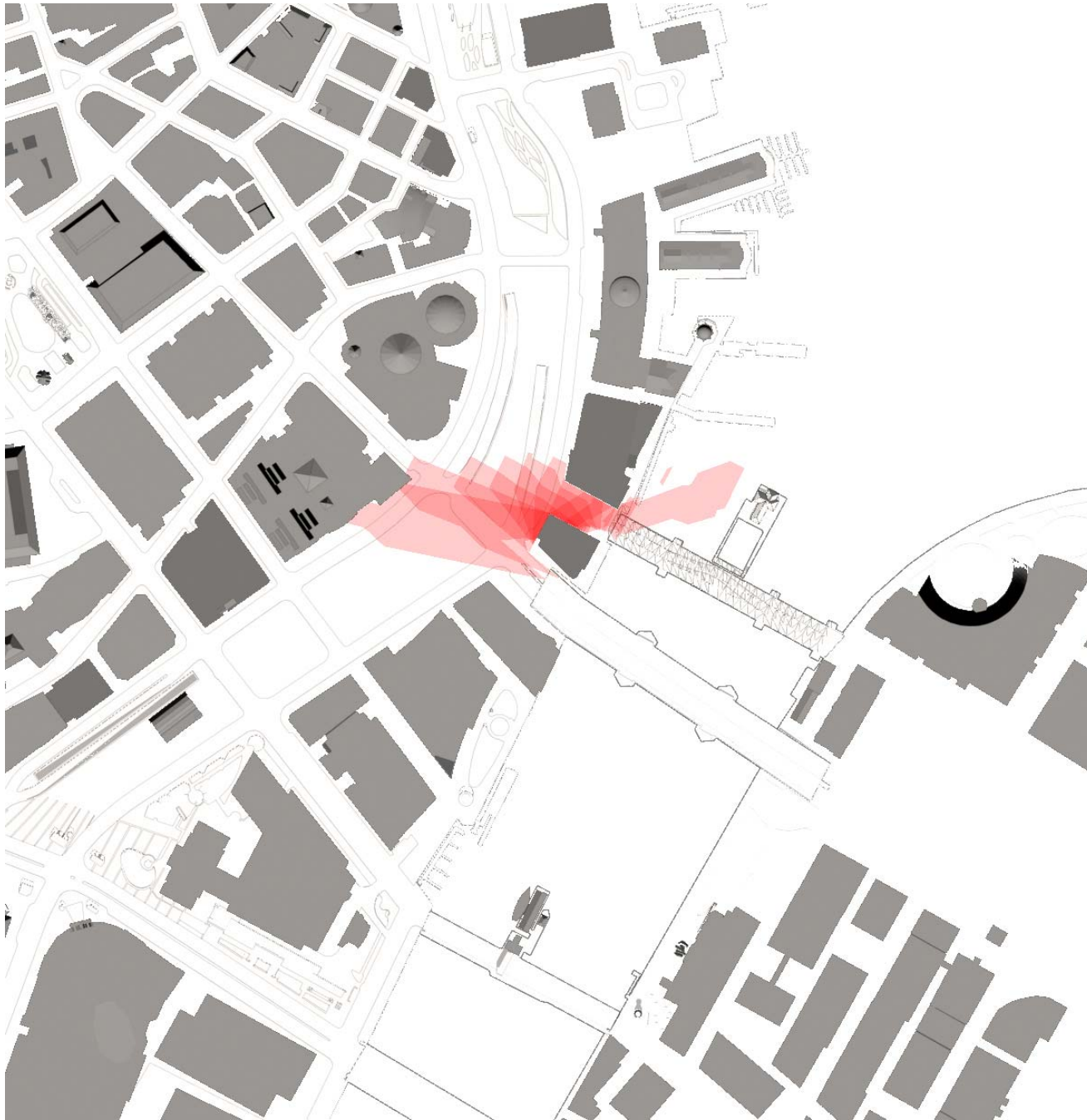
- Park Parcels
- Water Sheet/  
Harborwalk
- Ramp Parcels

March/September 21 8:00 a - 5:00 p

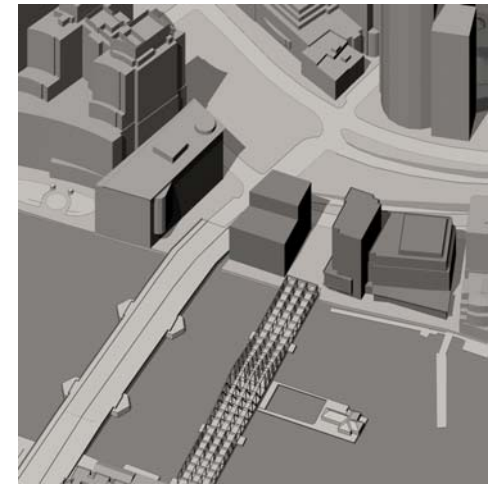
- Net new shadows:**
- Up to 1 hour
  - Up to 2 hours
  - Up to 3 hours
  - Up to 4 hours
  - Up to 5 hours



## Massing Study: Public Meeting #5 (September 2009) Scenario 2



**Allowable Height under Existing Zoning**



**Hook Lobster Site**

March/September 21 8:00 a - 5:00 p

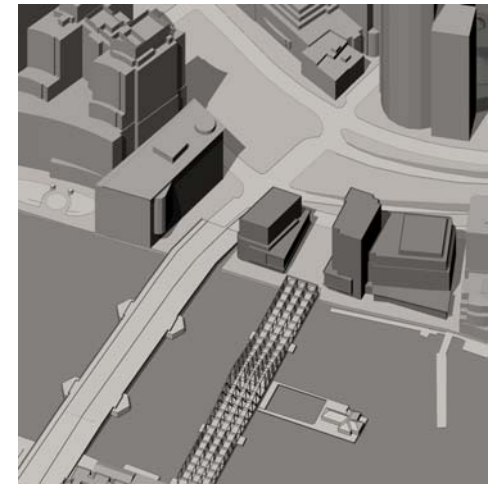
**Net new shadows:**

- Up to 1 hour
- Up to 2 hours
- Up to 3 hours
- Up to 4 hours
- Up to 5 hours



**Scenario 1 - 125'**

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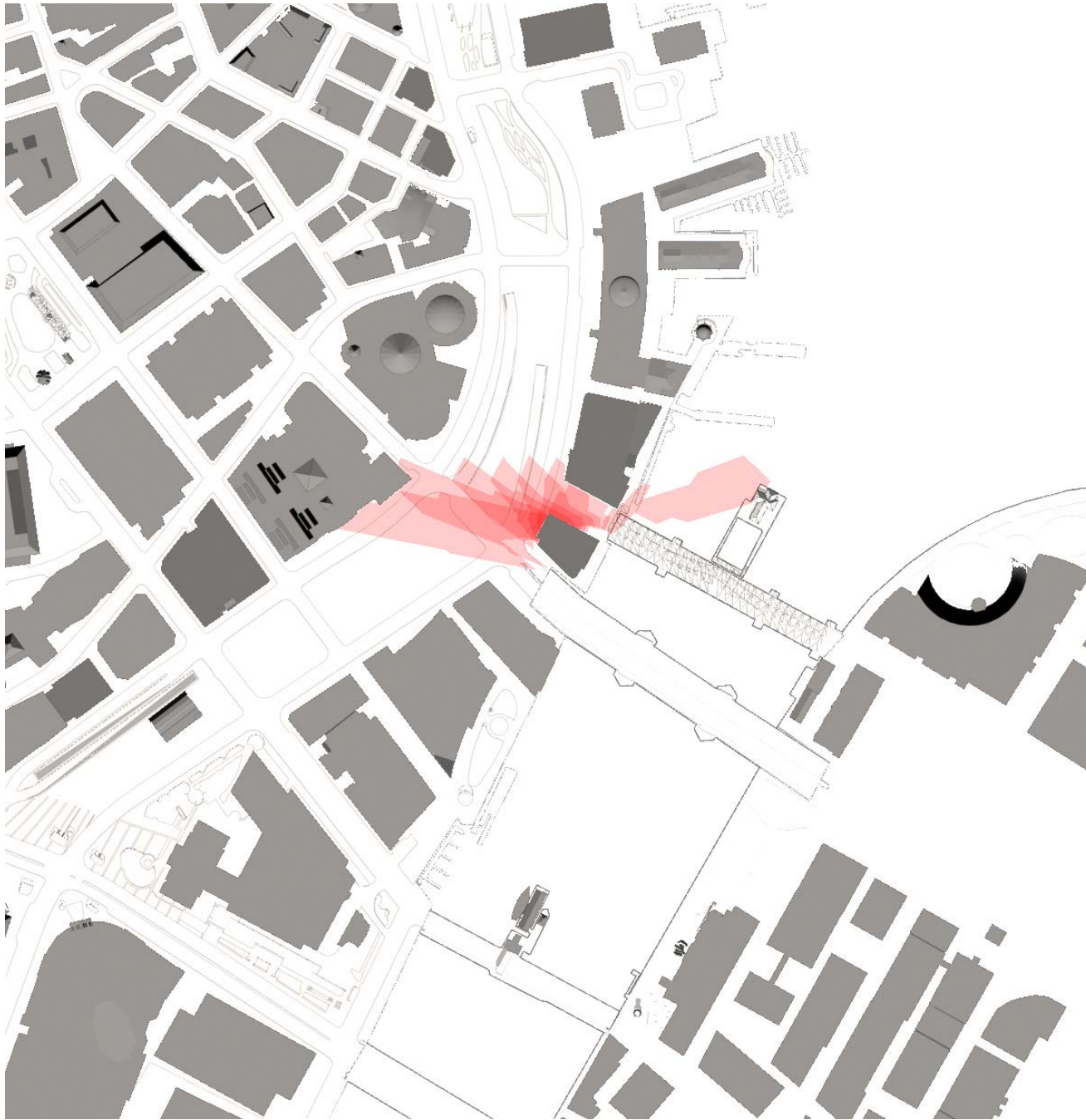


**Hook Lobster Site**

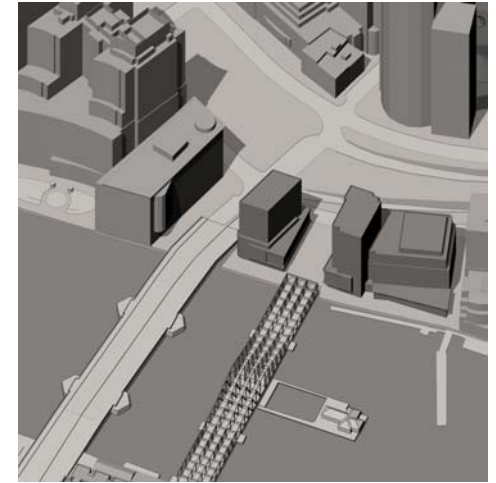
March/September 21 8:00 a - 5:00 p

**Net new shadows:**

- Up to 1 hour
- Up to 2 hours
- Up to 3 hours
- Up to 4 hours
- Up to 5 hours



**Scenario 2 - 175'**



**Hook Lobster Site**

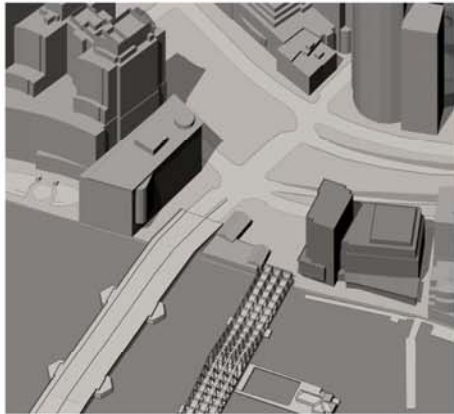
March/September 21 8:00 a - 5:00 p

**Net new shadows:**

- Up to 1 hour
- Up to 2 hours
- Up to 3 hours
- Up to 4 hours
- Up to 5 hours

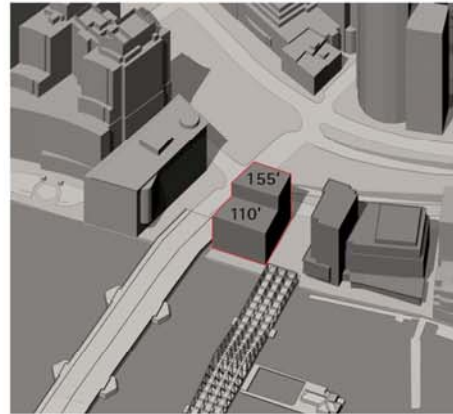
Existing

15'



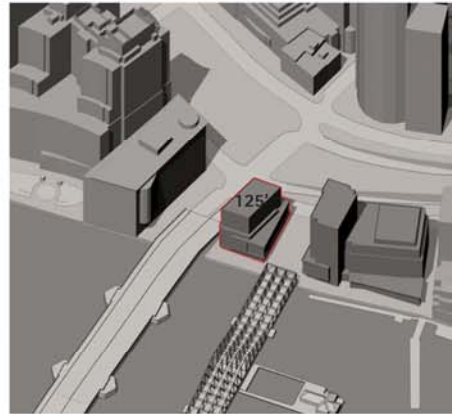
Current Zoning

110'/155'



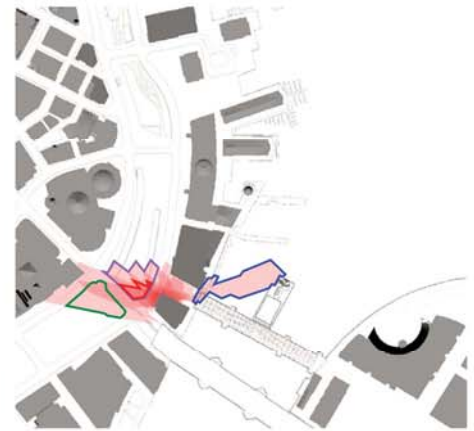
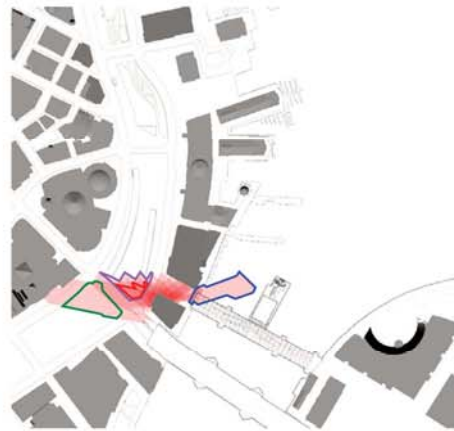
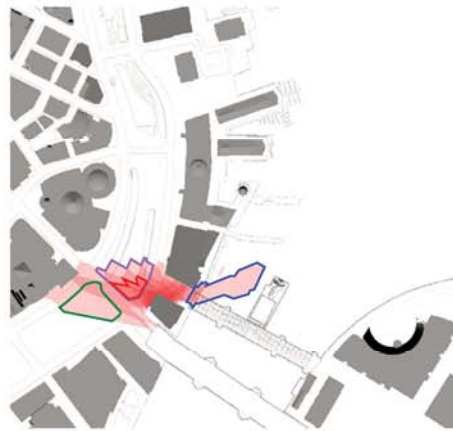
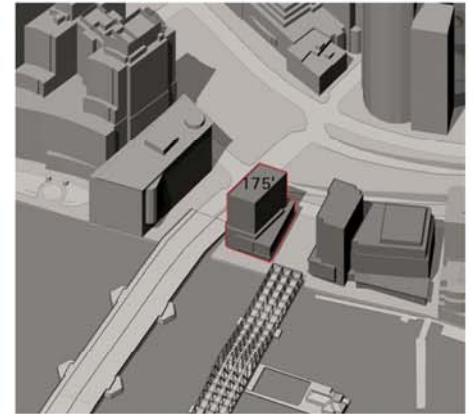
Scenario 1




125'



Scenario 2

175'



-  Park Parcels
-  Water Sheet/  
Harborwalk
-  Ramp Parcels

March/September 21 8:00 a - 5:00 p

Net new shadows:

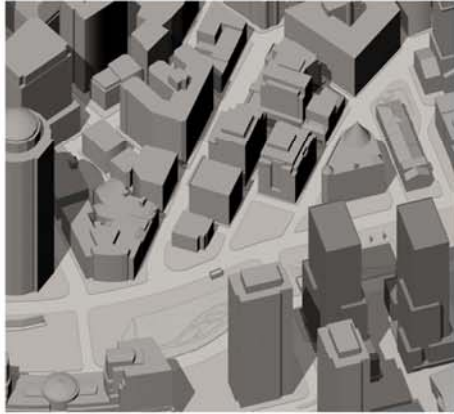
-  Up to 1 hour
-  Up to 2 hours
-  Up to 3 hours
-  Up to 4 hours
-  Up to 5 hours

Hook Lobster Site



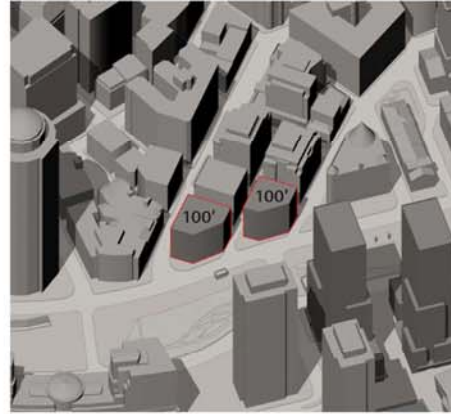
Existing

47'



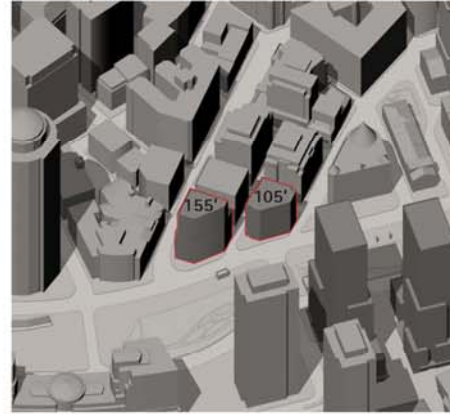
Current Zoning

100'



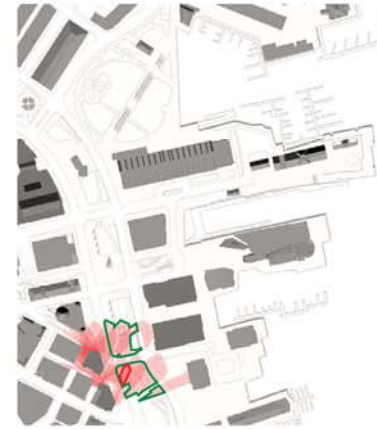
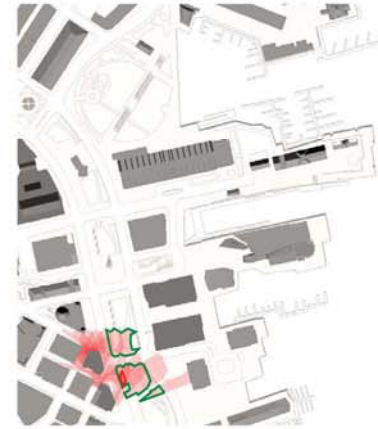
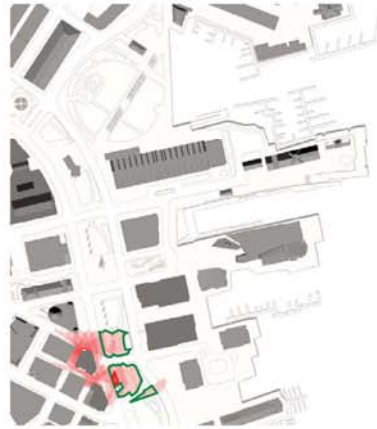
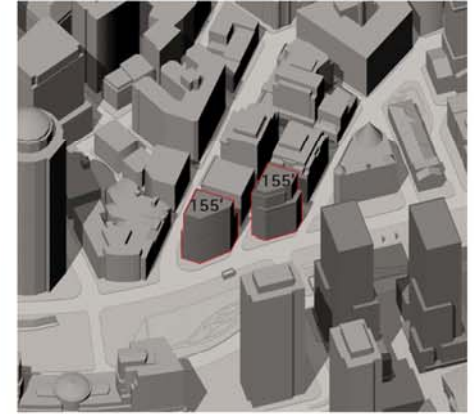
Scenario 1

155'/105'



Scenario 2

155'



Park Parcels



Water Sheet/  
Harborwalk



Ramp Parcels

March/September 21 8:00 a - 5:00 p

Net new shadows:

Up to 1 hour

Up to 2 hours

Up to 3 hours

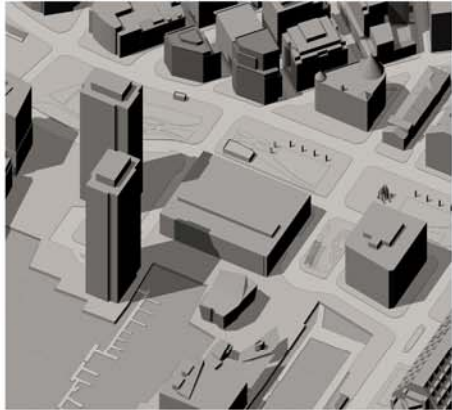
Up to 4 hours

Up to 5 hours

India Street Sites

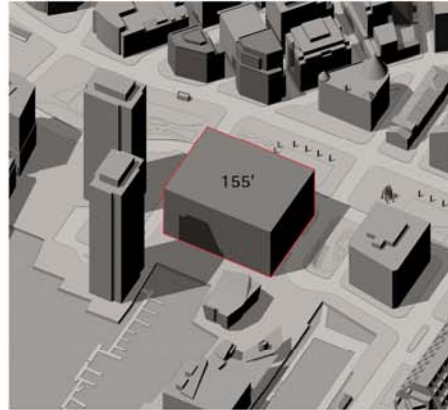
**Existing**

70'



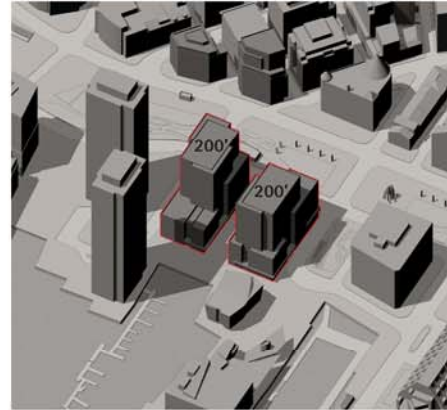
**Current Zoning**

155'



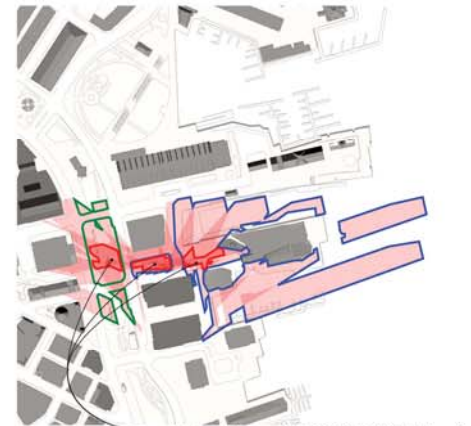
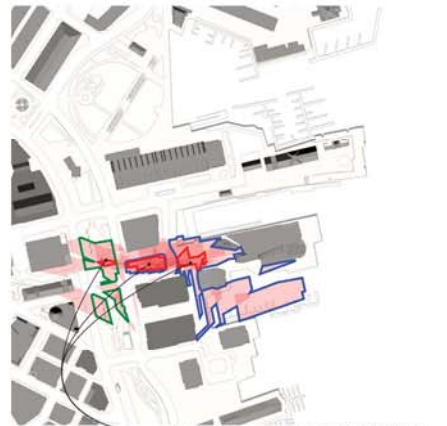
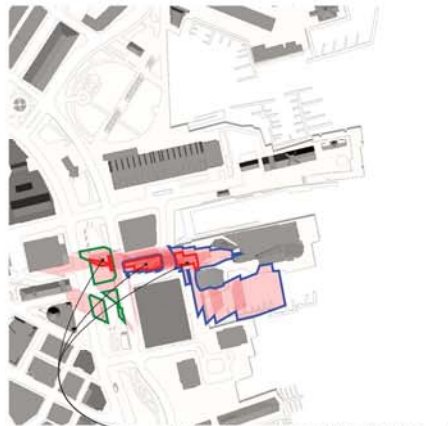
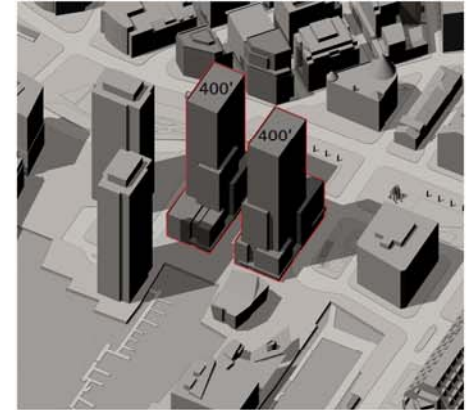
**Scenario 1**

200'/200'



**Scenario 2**

400'/400'



**Park Parcels**



**Water Sheet/  
Harborwalk**



**Ramp Parcels**

March/September 21 8:00 a - 5:00 p

**Net new shadows:**

-  Up to 1 hour
-  Up to 2 hours
-  Up to 3 hours
-  Up to 4 hours
-  Up to 5 hours

**Harbor Garage Site**

Greenway District Planning Study

# Public Meeting 6

**01 Economic Assessment**

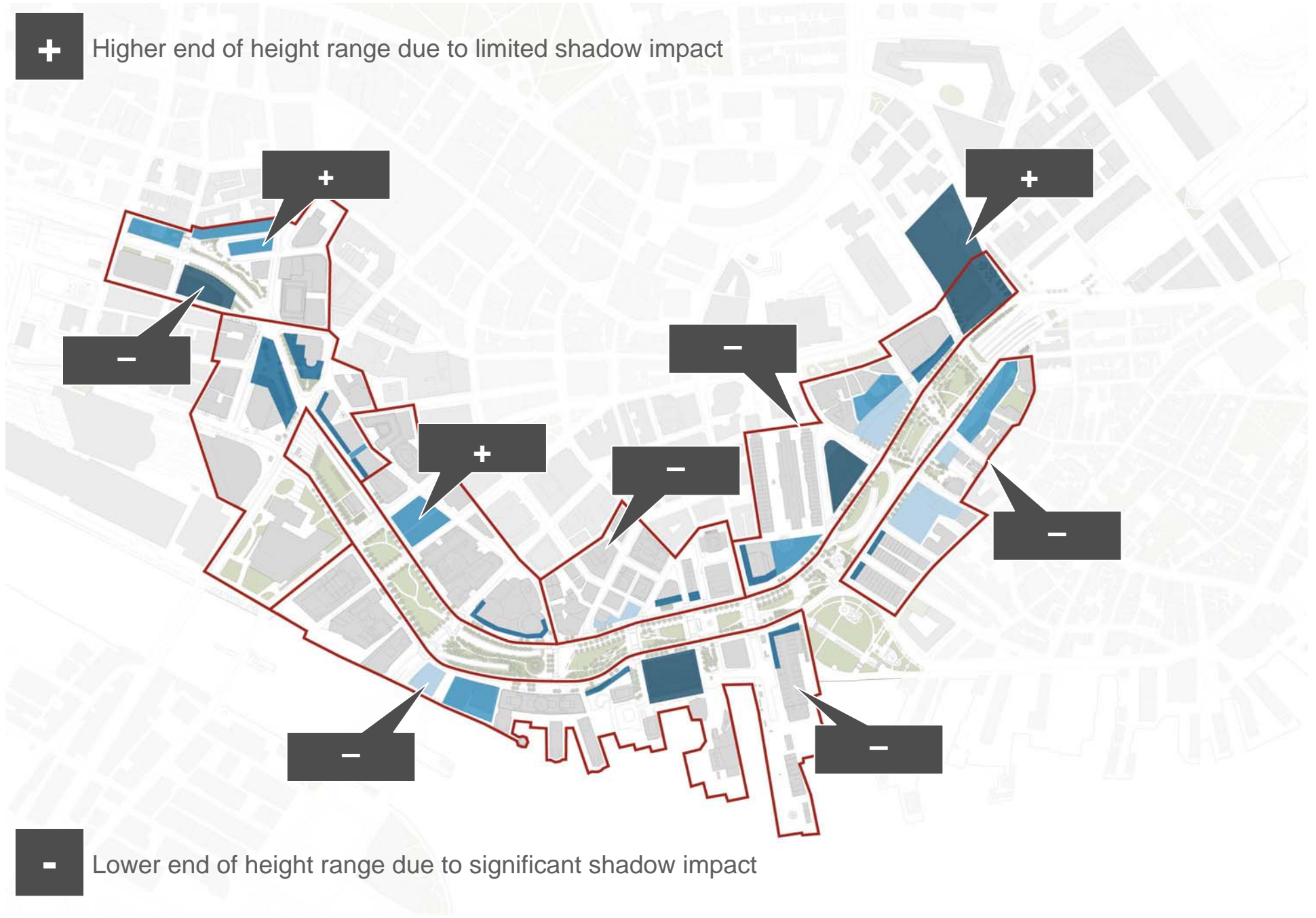
**02 Population and Use Analysis**

**03 Further Environmental Analysis**

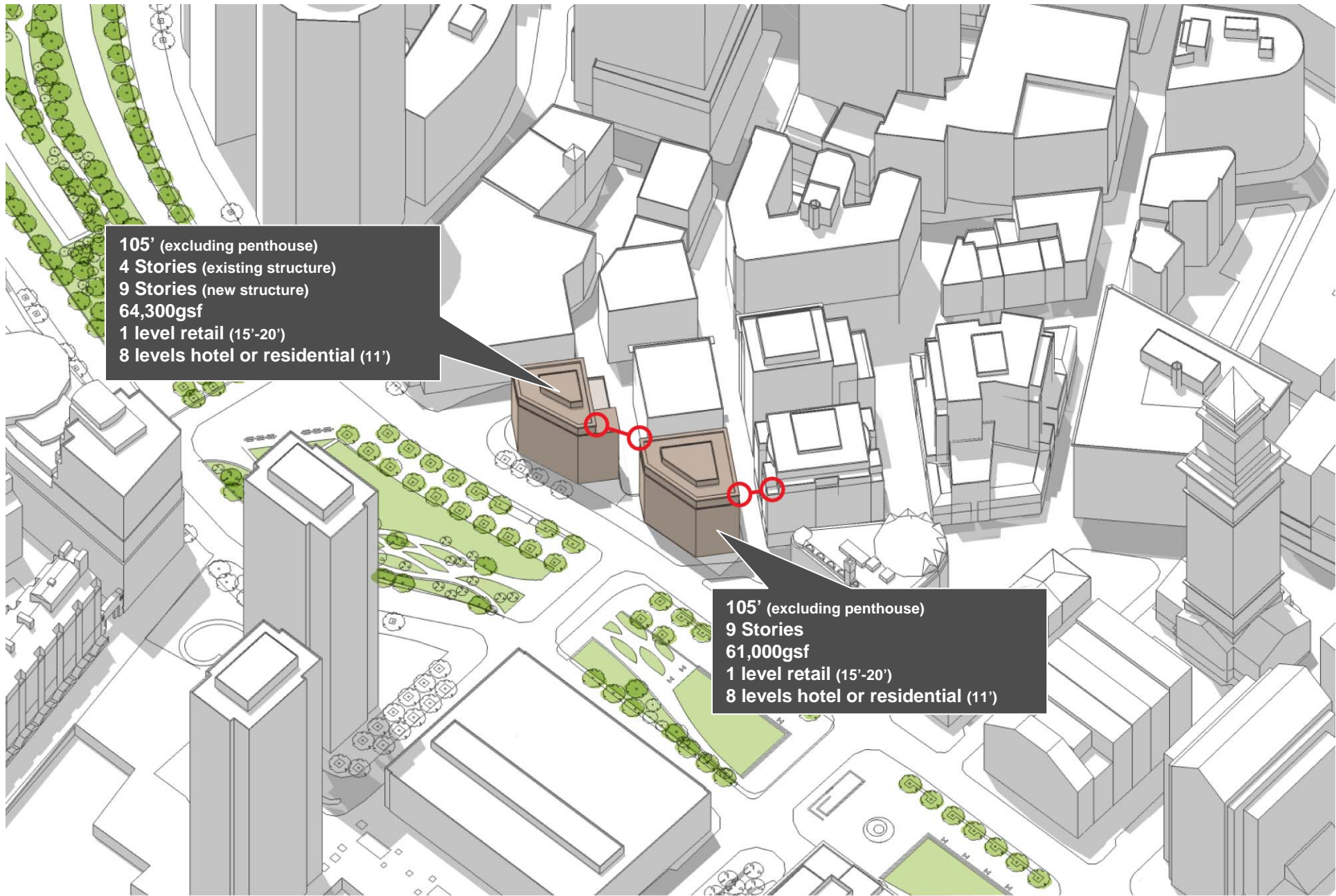
**04 Revised Massing Heights**

**05 Format and Scope of Final Guidelines**

**+** Higher end of height range due to limited shadow impact



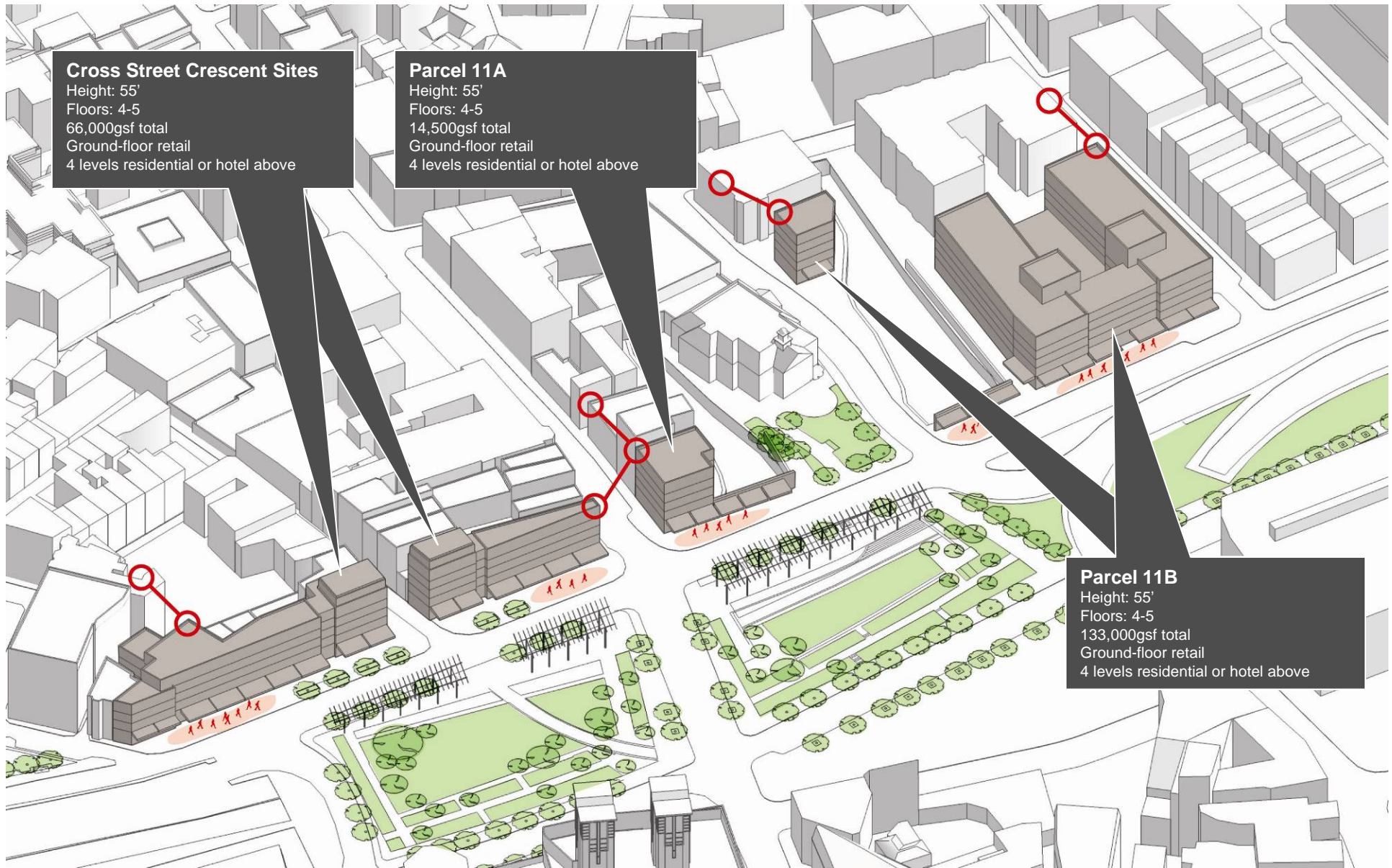
**-** Lower end of height range due to significant shadow impact



105' (excluding penthouse)  
4 Stories (existing structure)  
9 Stories (new structure)  
64,300gsf  
1 level retail (15'-20')  
8 levels hotel or residential (11')

105' (excluding penthouse)  
9 Stories  
61,000gsf  
1 level retail (15'-20')  
8 levels hotel or residential (11')

## India Street Sites



**Cross Street Crescent Sites**

Height: 55'  
Floors: 4-5  
66,000gsf total  
Ground-floor retail  
4 levels residential or hotel above

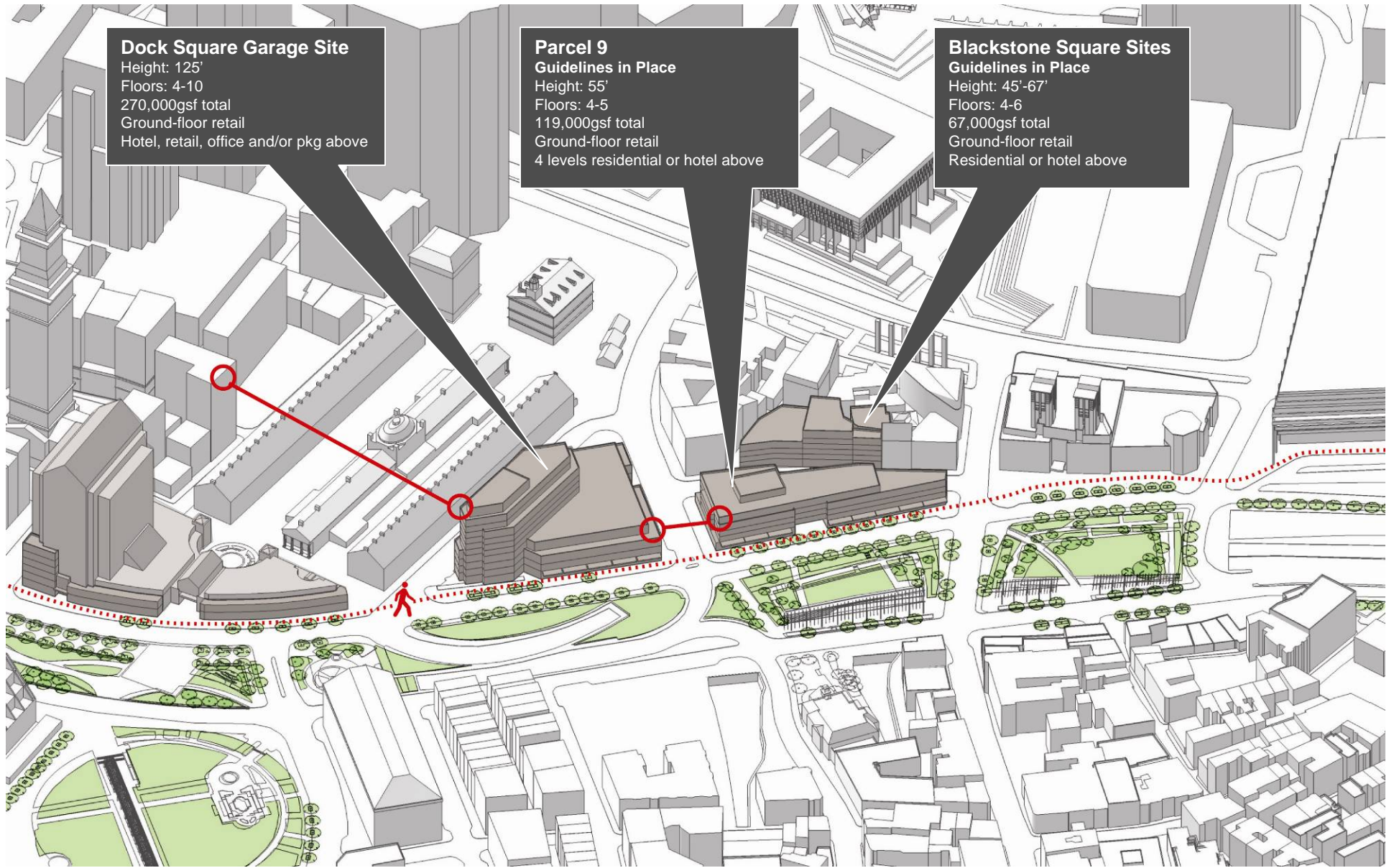
**Parcel 11A**

Height: 55'  
Floors: 4-5  
14,500gsf total  
Ground-floor retail  
4 levels residential or hotel above

**Parcel 11B**

Height: 55'  
Floors: 4-5  
133,000gsf total  
Ground-floor retail  
4 levels residential or hotel above

**Cross Street Sites**

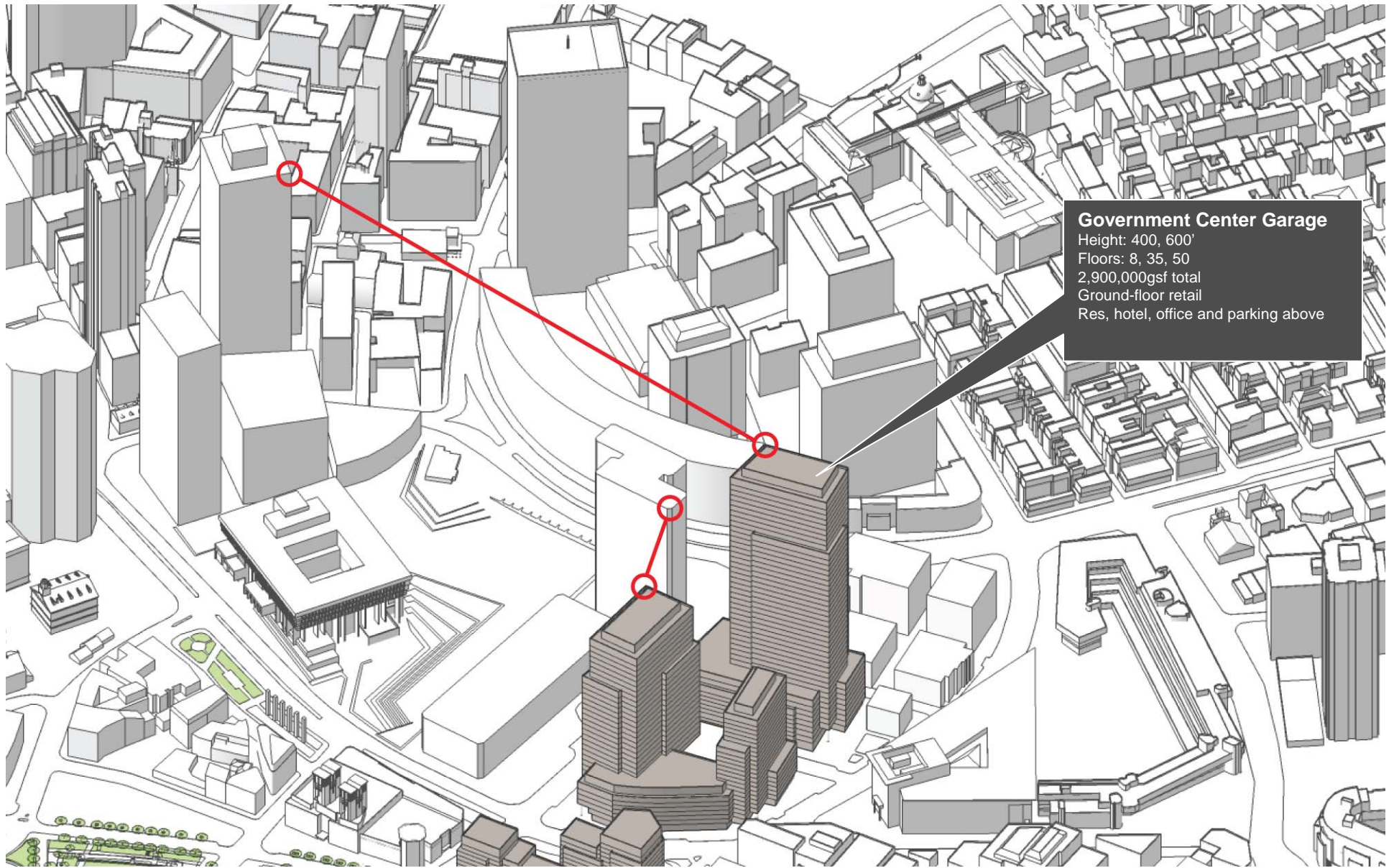


**Dock Square Garage Site**  
Height: 125'  
Floors: 4-10  
270,000gsf total  
Ground-floor retail  
Hotel, retail, office and/or pkg above

**Parcel 9**  
Guidelines in Place  
Height: 55'  
Floors: 4-5  
119,000gsf total  
Ground-floor retail  
4 levels residential or hotel above

**Blackstone Square Sites**  
Guidelines in Place  
Height: 45'-67'  
Floors: 4-6  
67,000gsf total  
Ground-floor retail  
Residential or hotel above

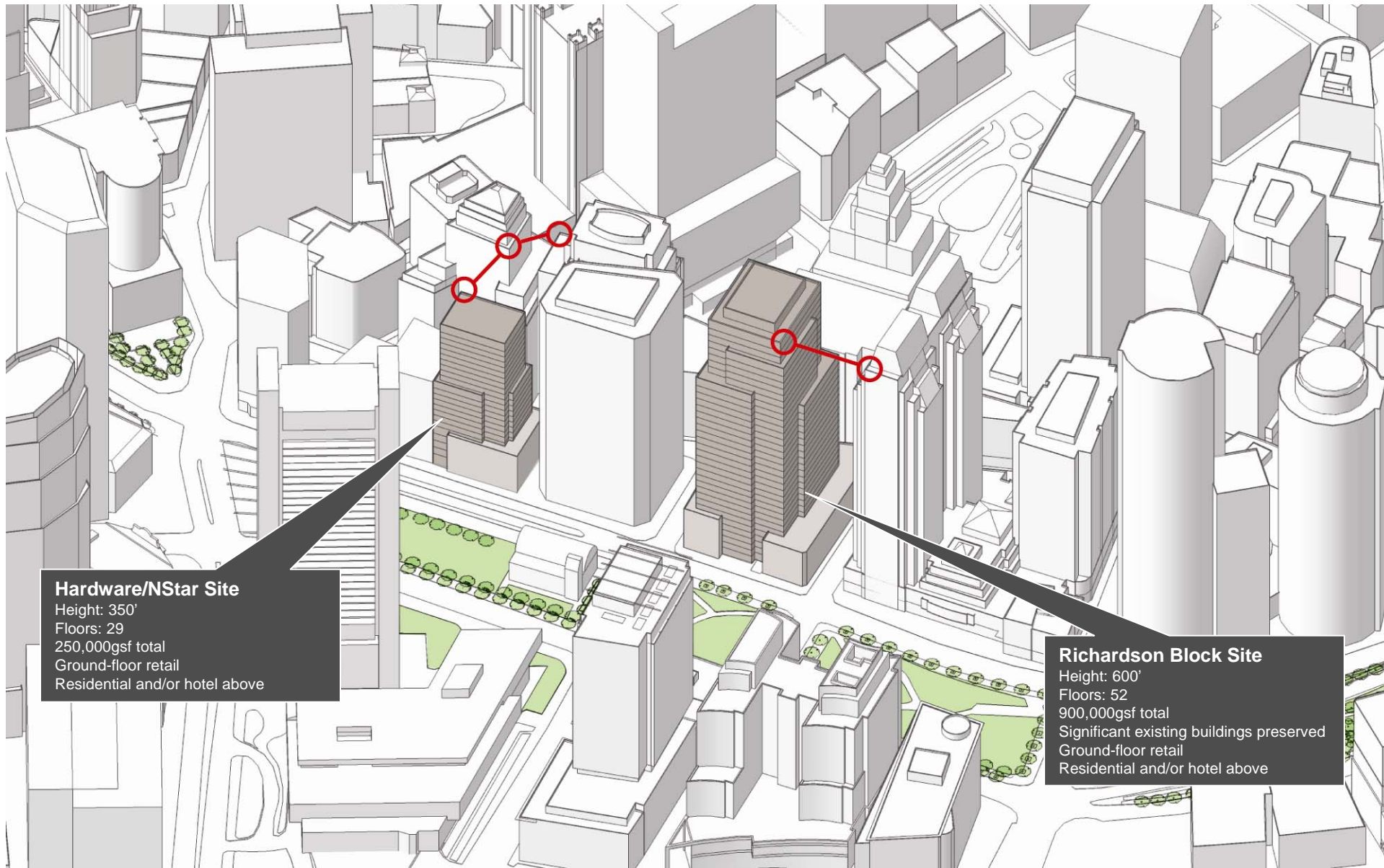
## Market District Sites



**Government Center Garage**  
Height: 400, 600'  
Floors: 8, 35, 50  
2,900,000gsf total  
Ground-floor retail  
Res, hotel, office and parking above

## Government Center Garage Site





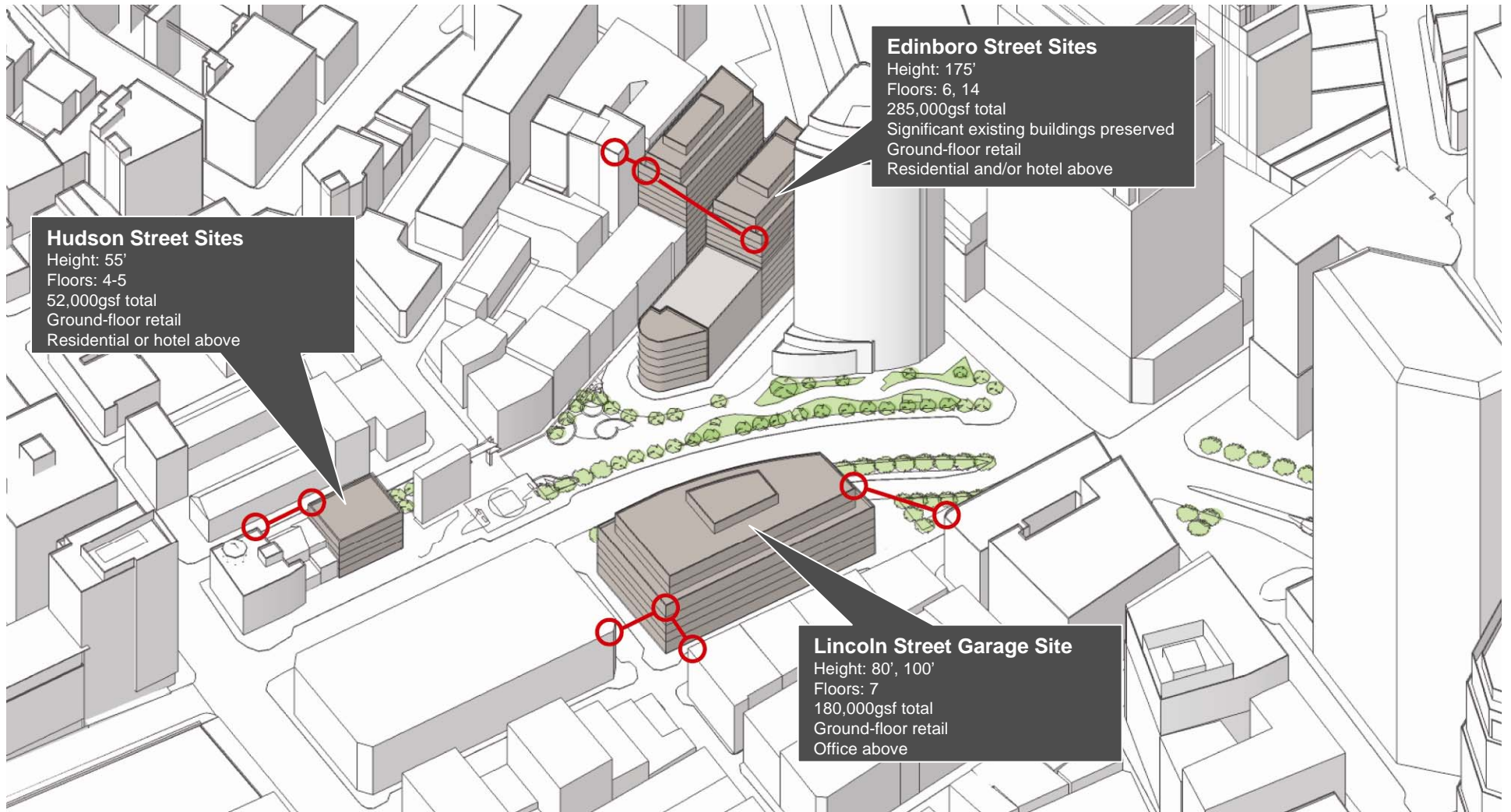
**Hardware/NStar Site**

Height: 350'  
Floors: 29  
250,000gsf total  
Ground-floor retail  
Residential and/or hotel above

**Richardson Block Site**

Height: 600'  
Floors: 52  
900,000gsf total  
Significant existing buildings preserved  
Ground-floor retail  
Residential and/or hotel above

**Dewey Square & Richardson Block Sites**



**Hudson Street Sites**  
 Height: 55'  
 Floors: 4-5  
 52,000gsf total  
 Ground-floor retail  
 Residential or hotel above

**Edinboro Street Sites**  
 Height: 175'  
 Floors: 6, 14  
 285,000gsf total  
 Significant existing buildings preserved  
 Ground-floor retail  
 Residential and/or hotel above

**Lincoln Street Garage Site**  
 Height: 80', 100'  
 Floors: 7  
 180,000gsf total  
 Ground-floor retail  
 Office above

## Chinatown/Leather District Sites

Greenway District Planning Study

# Public Meeting 6

**01 Economic Assessment**

**02 Population and Use Analysis**

**03 Further Environmental Analysis**

**04 Revised Massing Heights**

**05 Format and Scope of Final Guidelines**

## Guidelines Summary and Structure

- 1) Initially, the guidelines will provide a set of recommendations, which will serve as a basis for evaluating proposals eligible for Article 80 review.

The guidelines will provide direction to encourage better, Greenway-appropriate design, as well as a set of criteria for judging proposals in the larger context of the Greenway and projected city-wide development.

- 2) The guidelines may be adopted as a zoning overlay and/or municipal harbor planning, subject to further review with respect to Chapter 91 legislation.