

Stuart Street Planning Study

Task 1: Analysis, mapping and modeling / 28 February 2008

- 1) **Analysis and Data Collection**
 - History and Historic Assets
 - Zoning
 - Open Space
 - Transportation Infrastructure
 - Parking
 - Groundwater Resources
 - Wind and Shadows
 - Urban Design
- 2) **Findings**
- 3) **3-D Model**
- 4) **Next Steps**

utile





Stuart Street Study Area

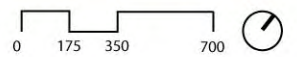


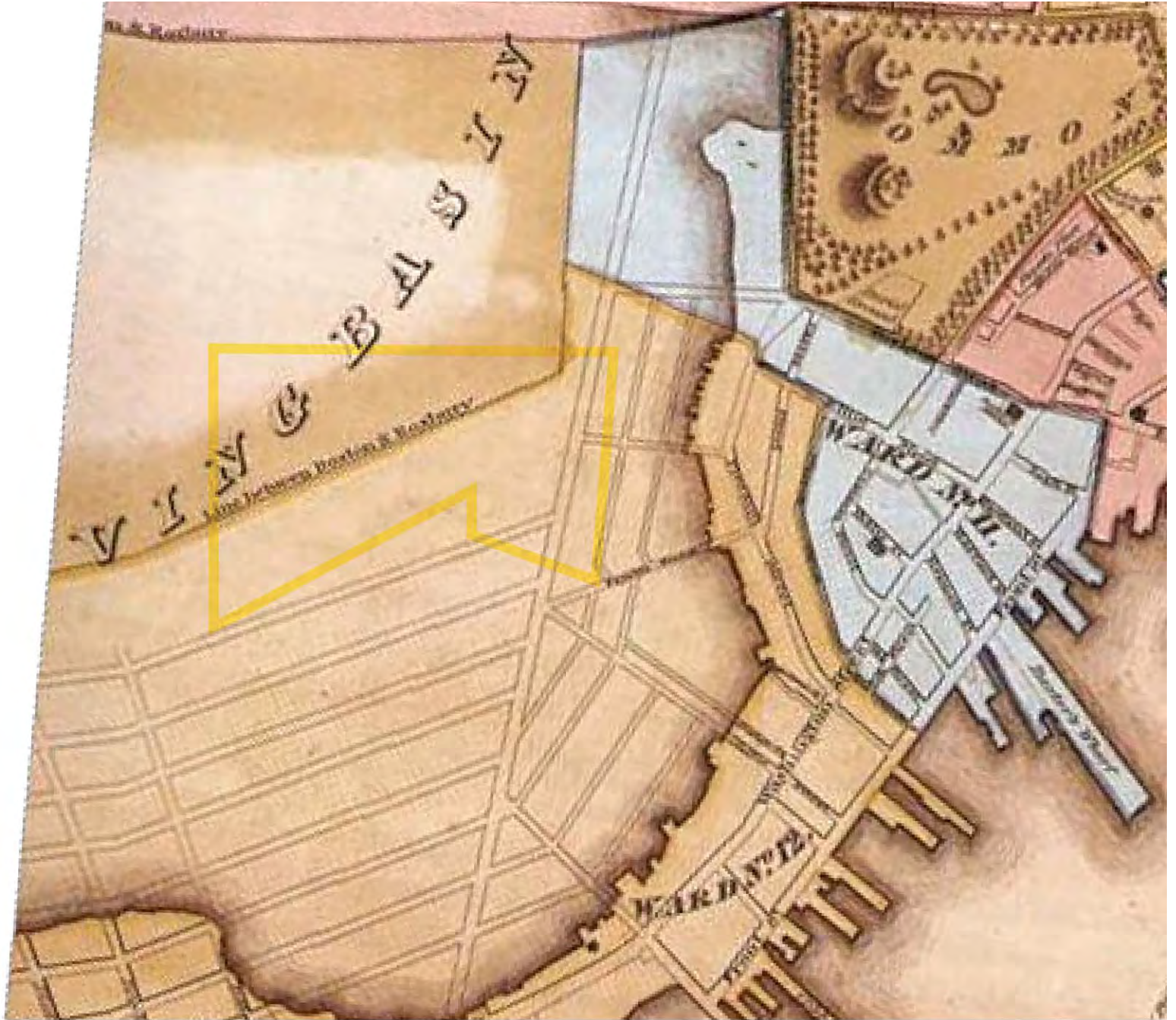
History and Historic Assets



1775

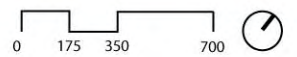
Source: The Boston Atlas; Library of Congress

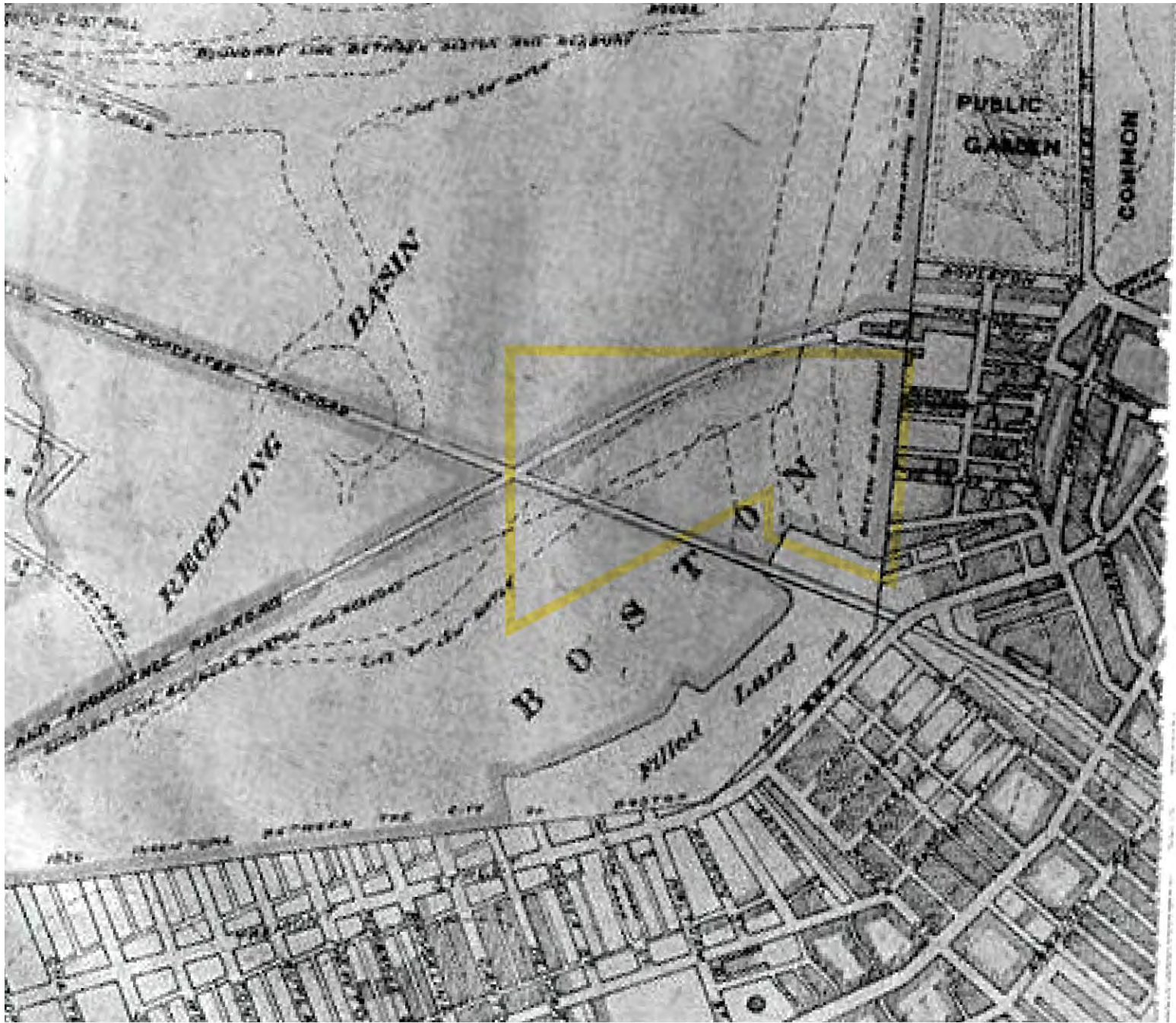




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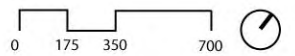
Source: The Boston Atlas; Harvard Map Collection

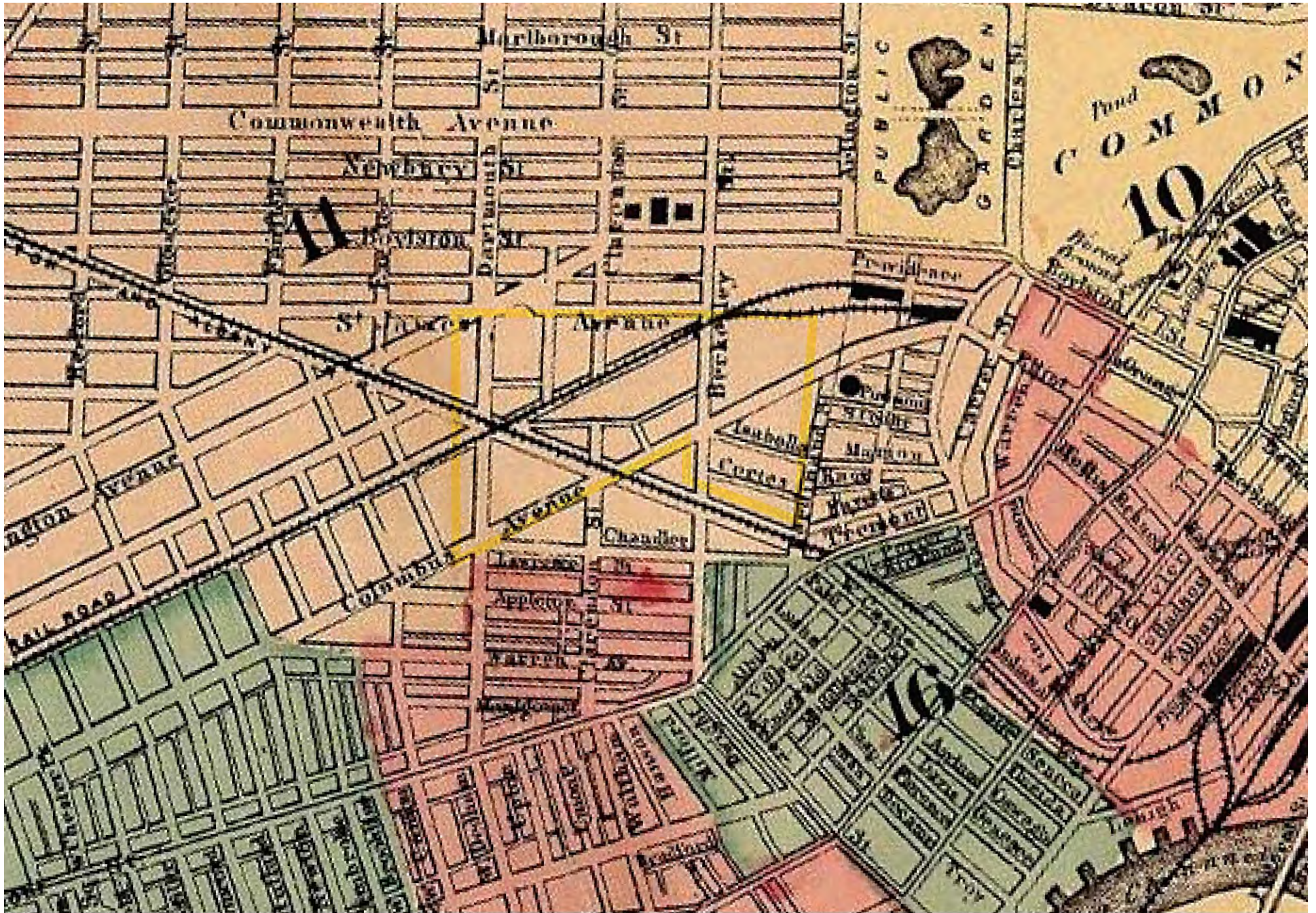




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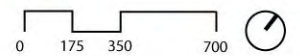
Source: The Boston Atlas; Boston Public Library

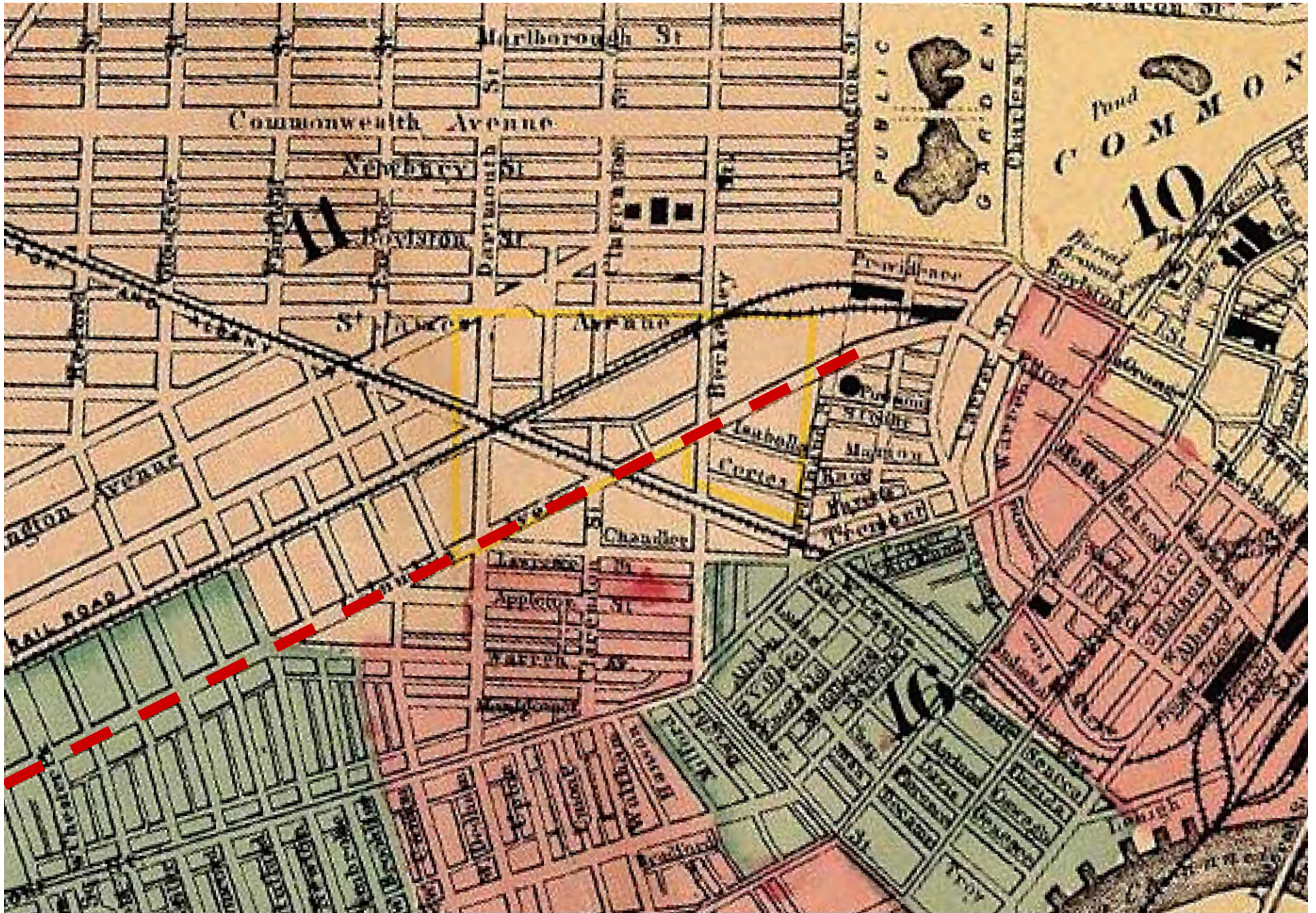




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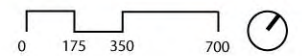
Source: The Boston Atlas





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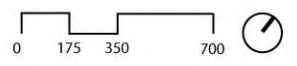
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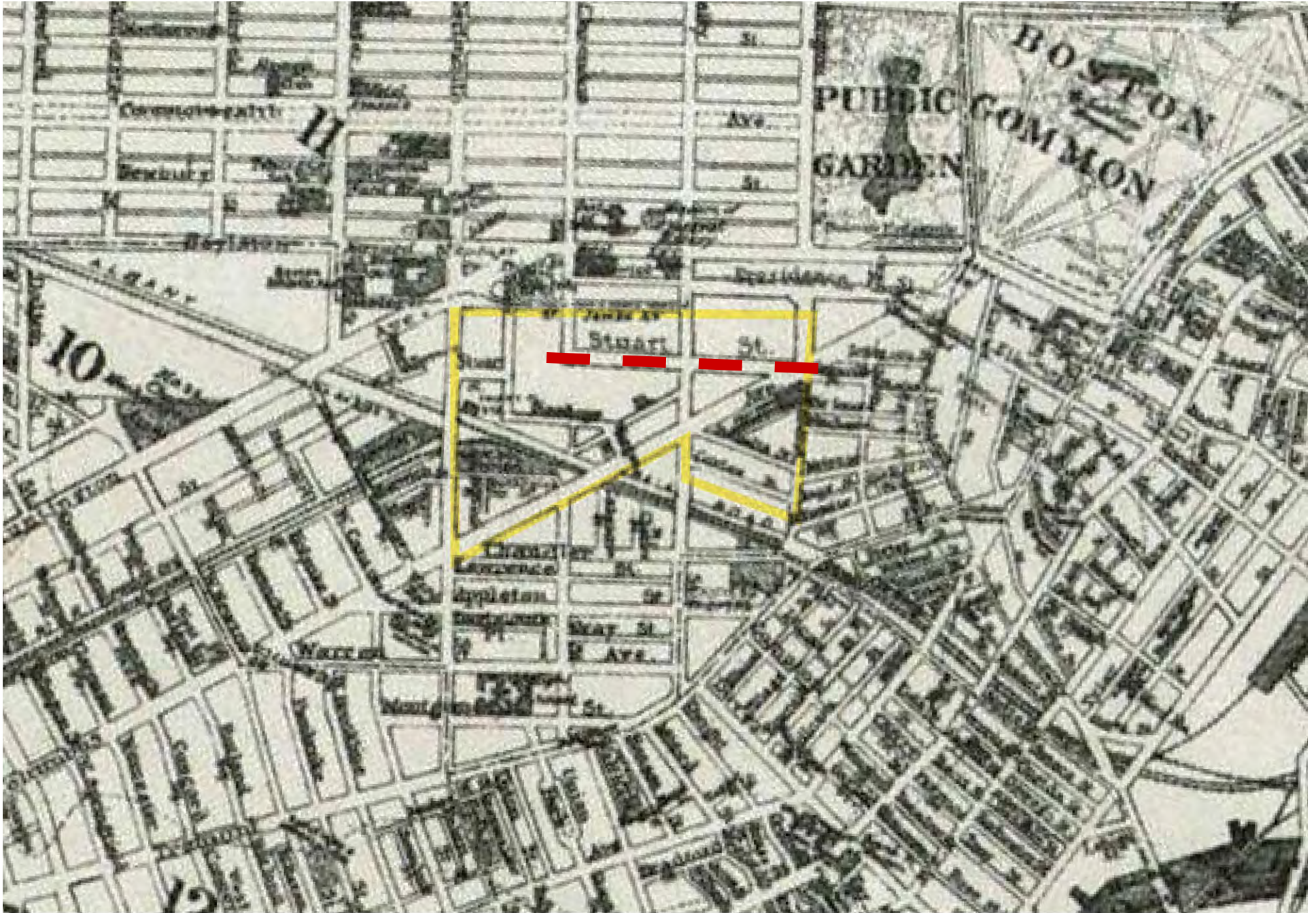




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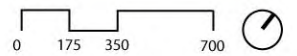
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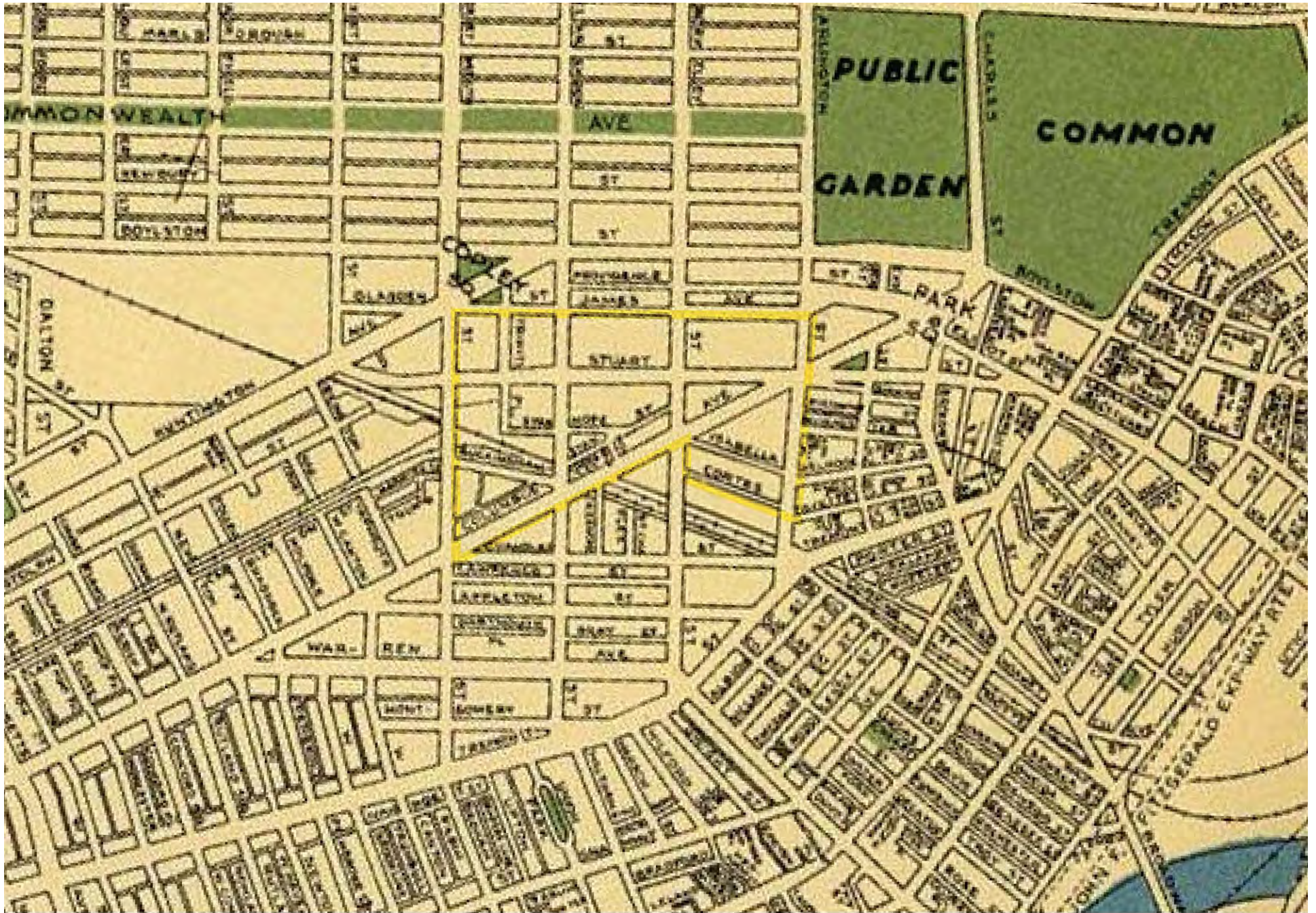




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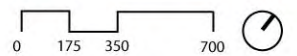
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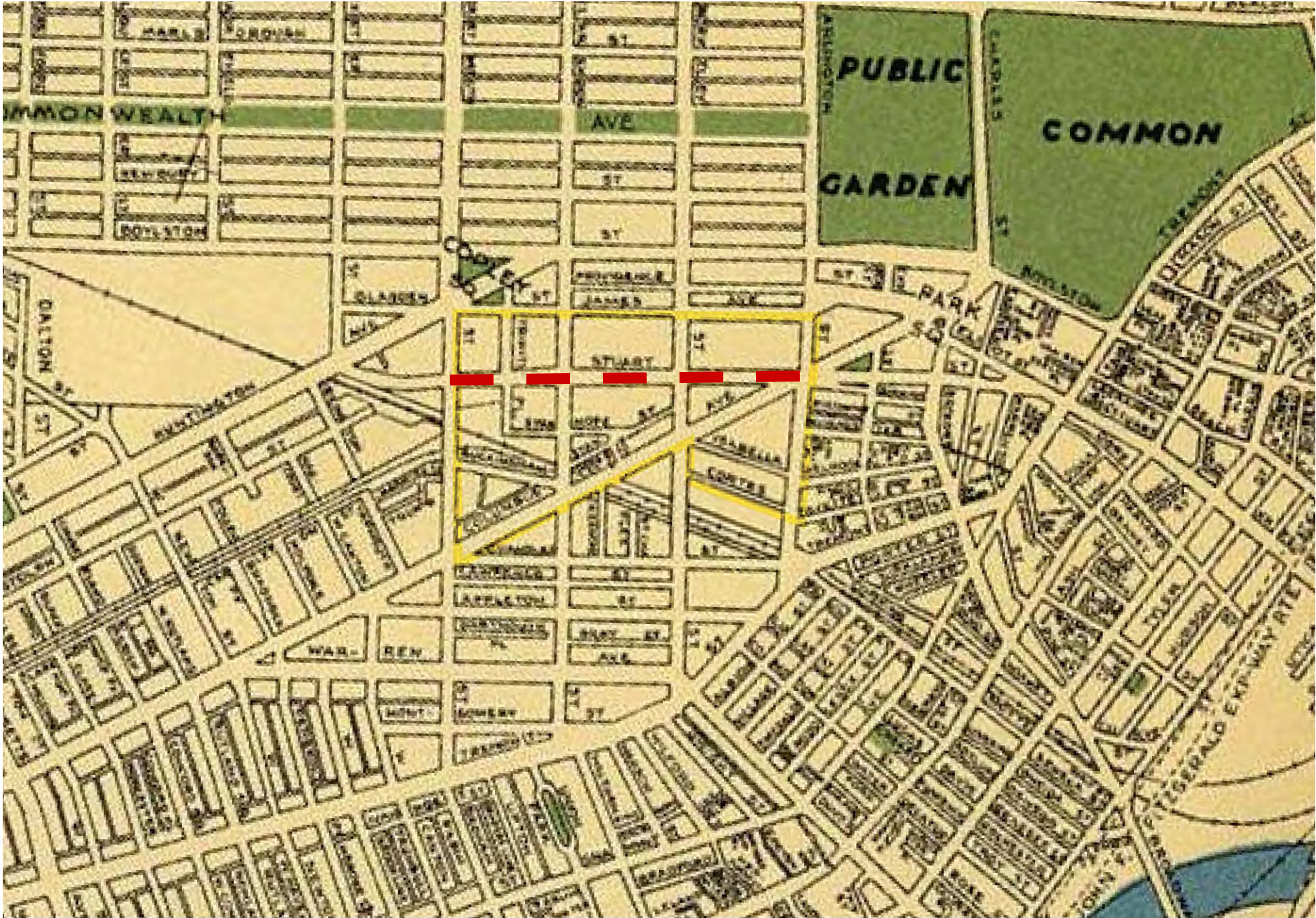




1954

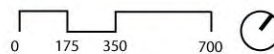
Source: The Boston Atlas





1954

Source: The Boston Atlas



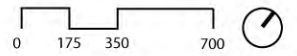


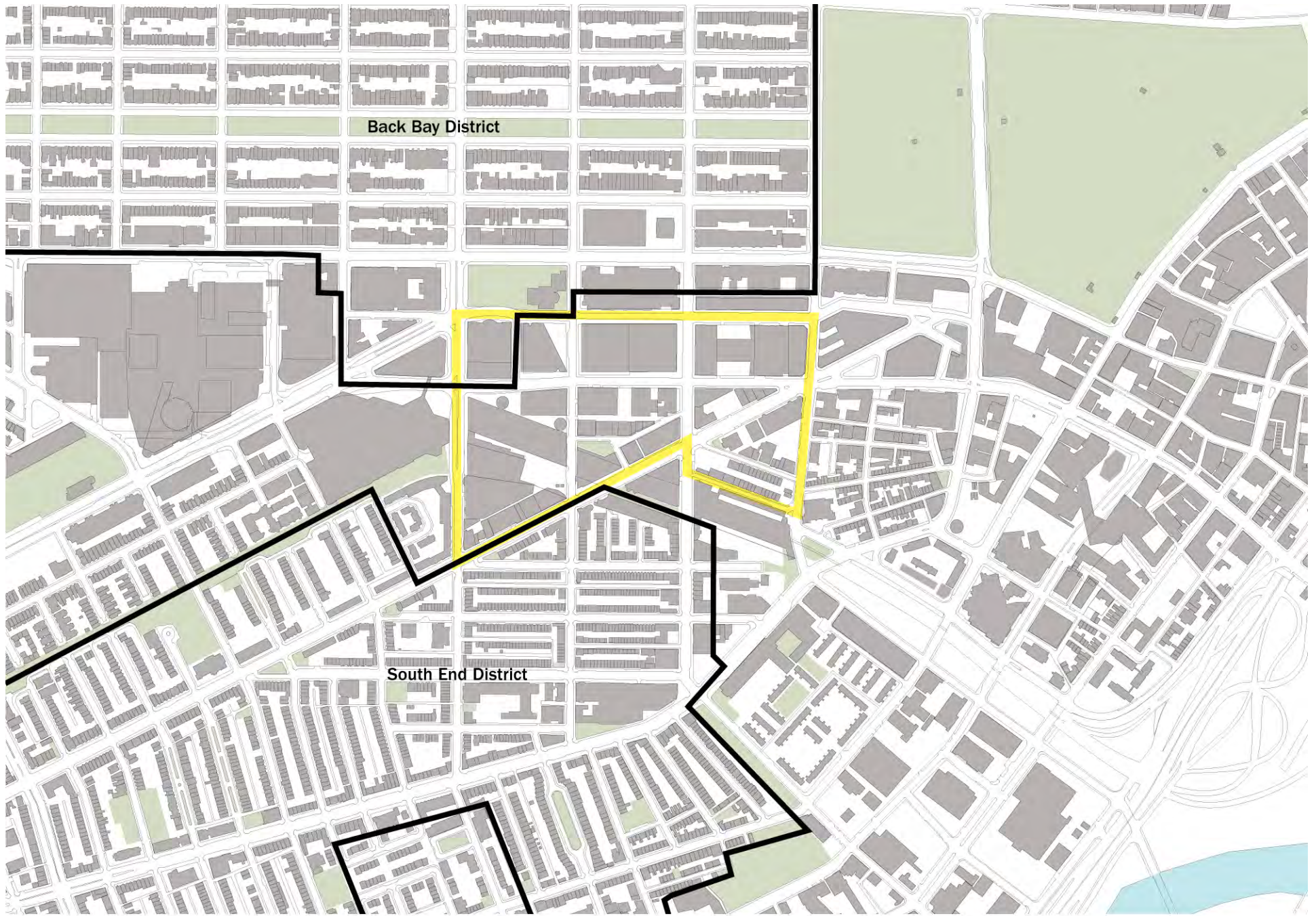
Today





Today



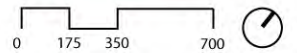


Back Bay District

South End District

National/State Historic Districts in Study Area Vicinity

Source: City of Boston Environment Department – Boston Landmarks Commission





Local Historic Districts in Study Area Vicinity

Source: City of Boston Environment Department – Boston Landmarks Commission

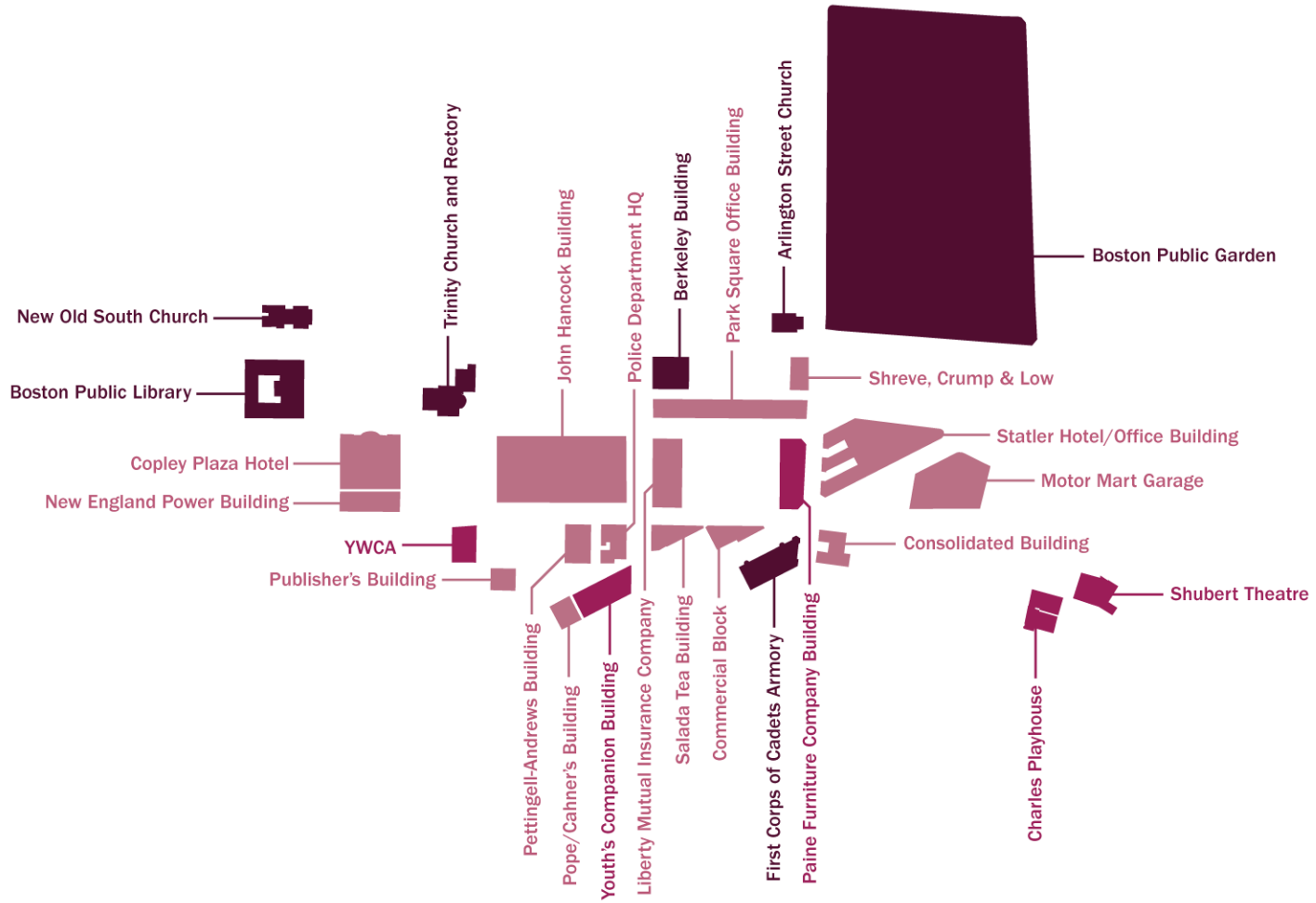




Registered and Inventoried Properties in Study Area Vicinity

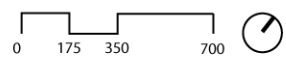
Source: Clarendon Article 80, MACRIS (Massachusetts Cultural Resource Information System)



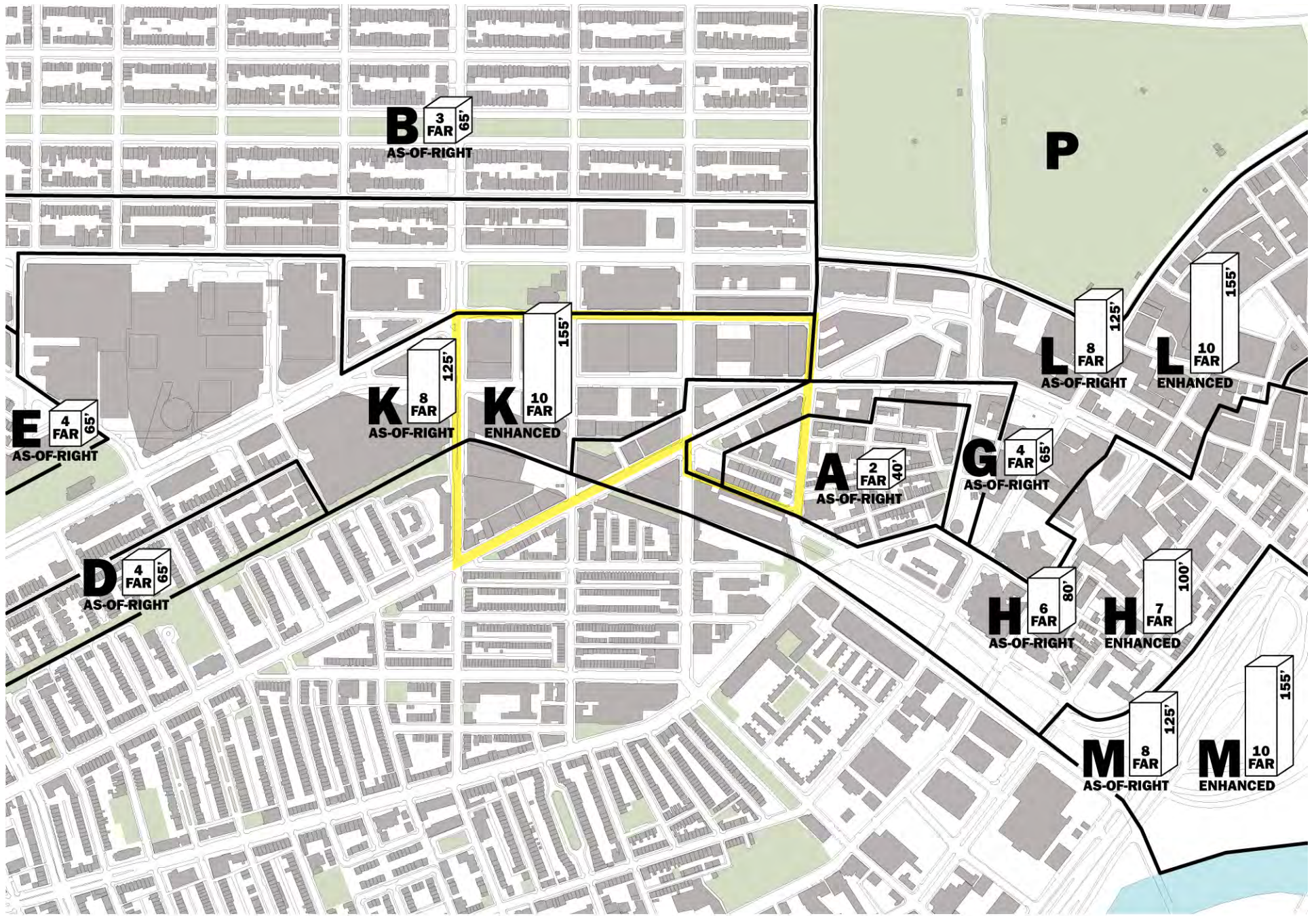


Registered and Inventoried Properties in Study Area Vicinity

Source: Clarendon Article 80, MACRIS (Massachusetts Cultural Resource Information System)



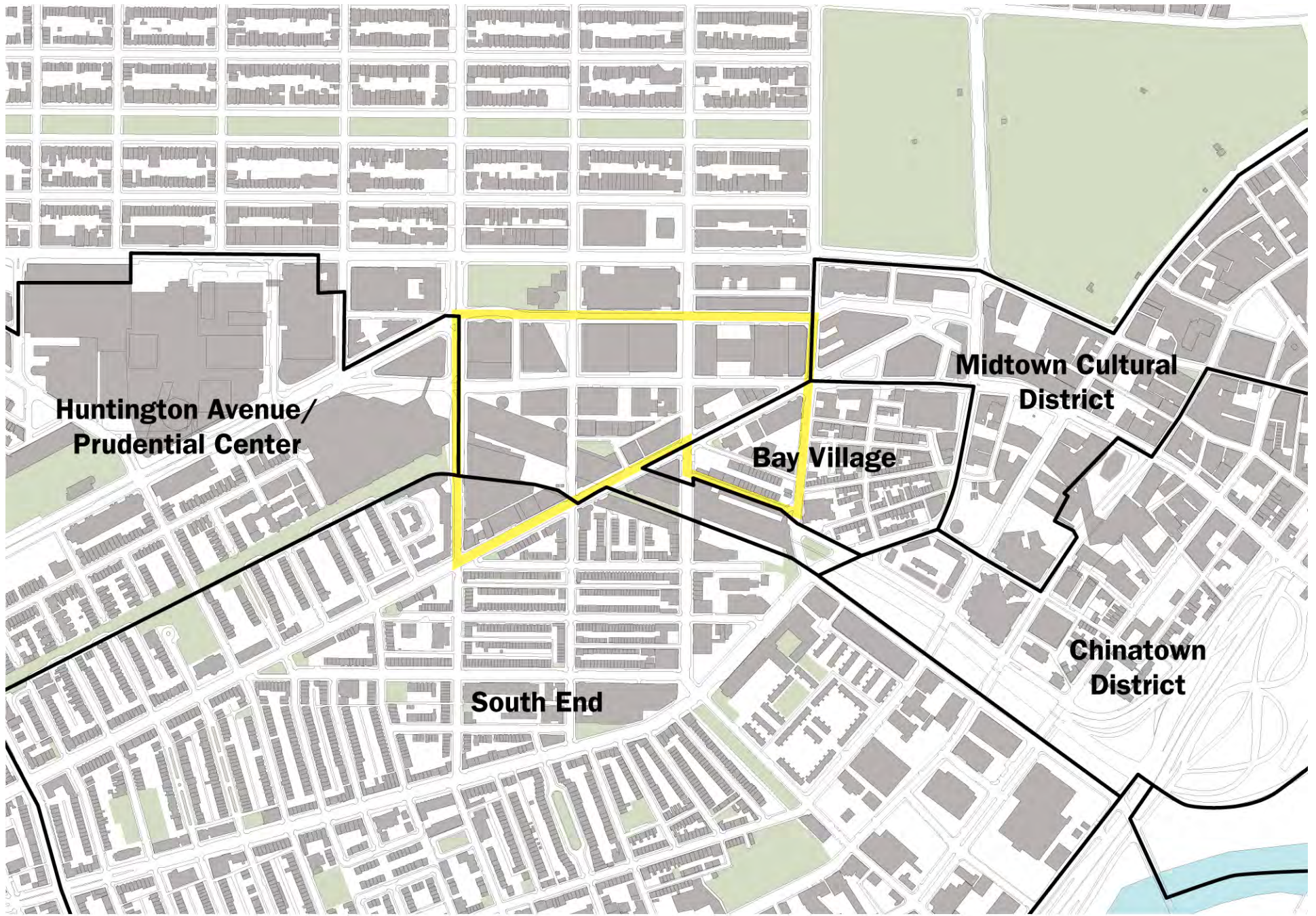
Zoning



1987: Downtown IPOD Subdistricts Established

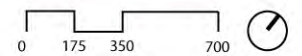
Source: Boston Zoning Code Article 27 and Article 27D

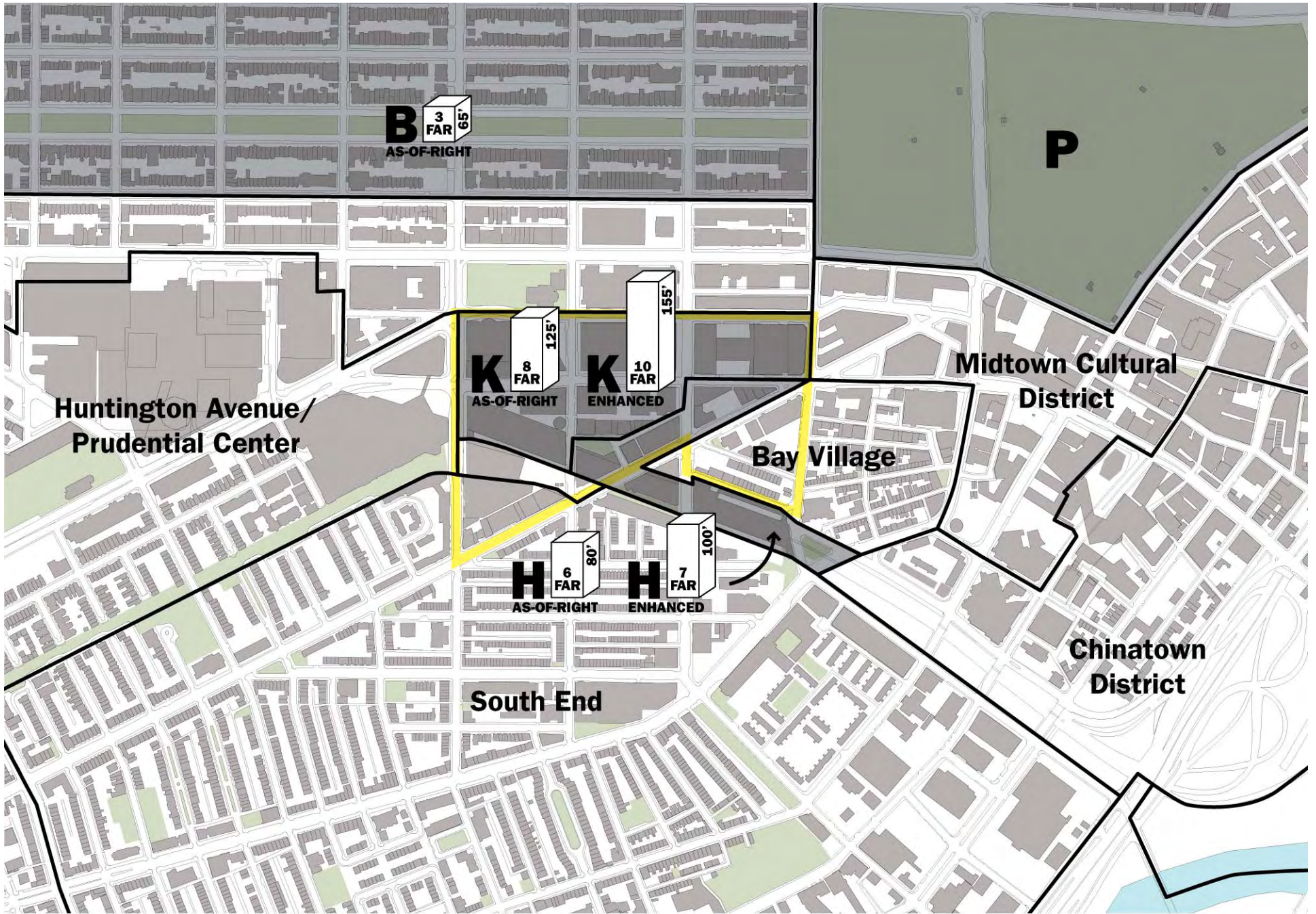




1990's and 2000's: Zoning Districts Replace IPOD Subdistricts

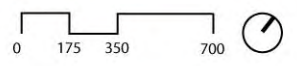
Source: Boston Zoning Code

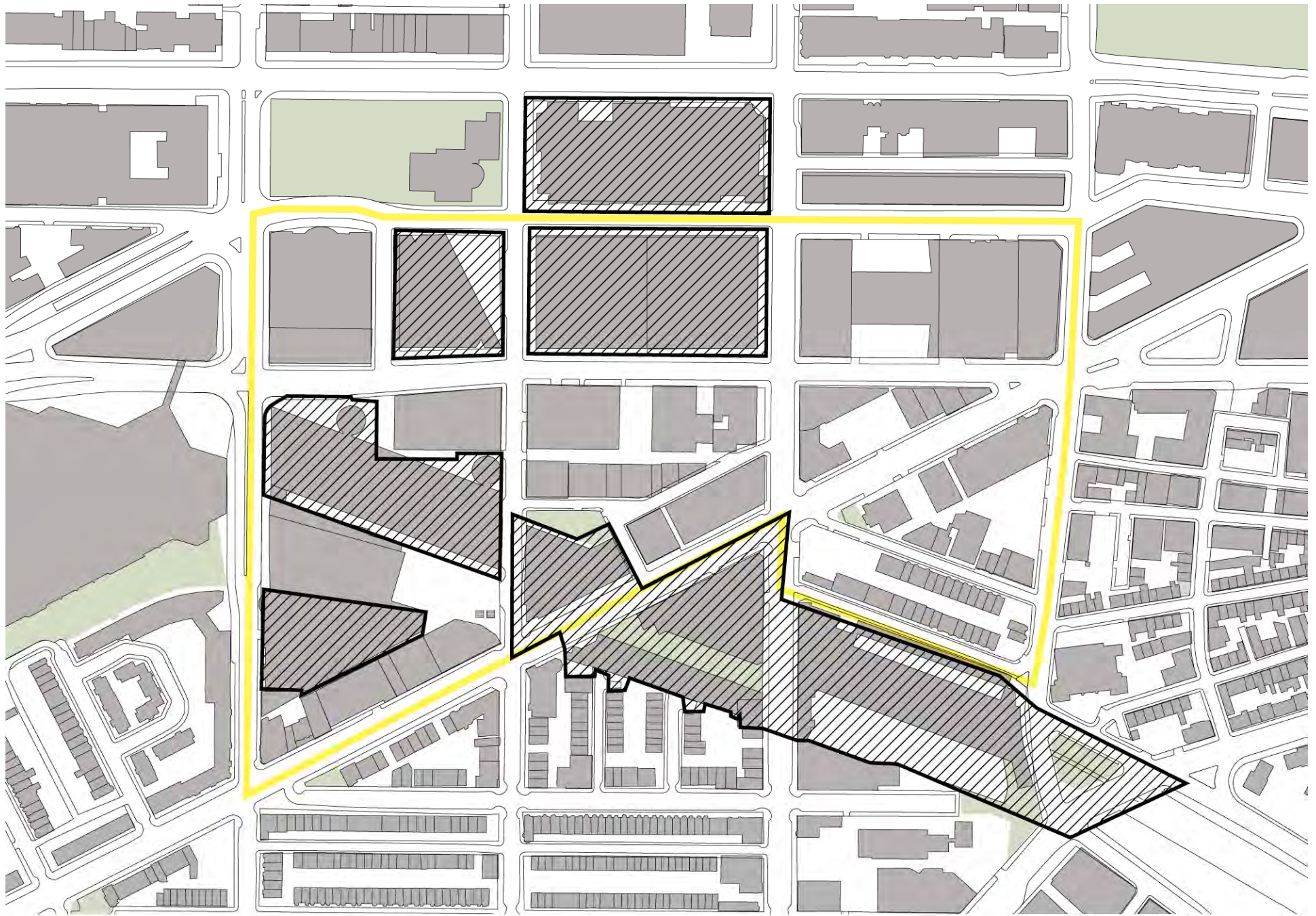




Today: Pockets of I-POD Subdistricts Remain

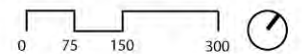
Source: Boston Zoning Code

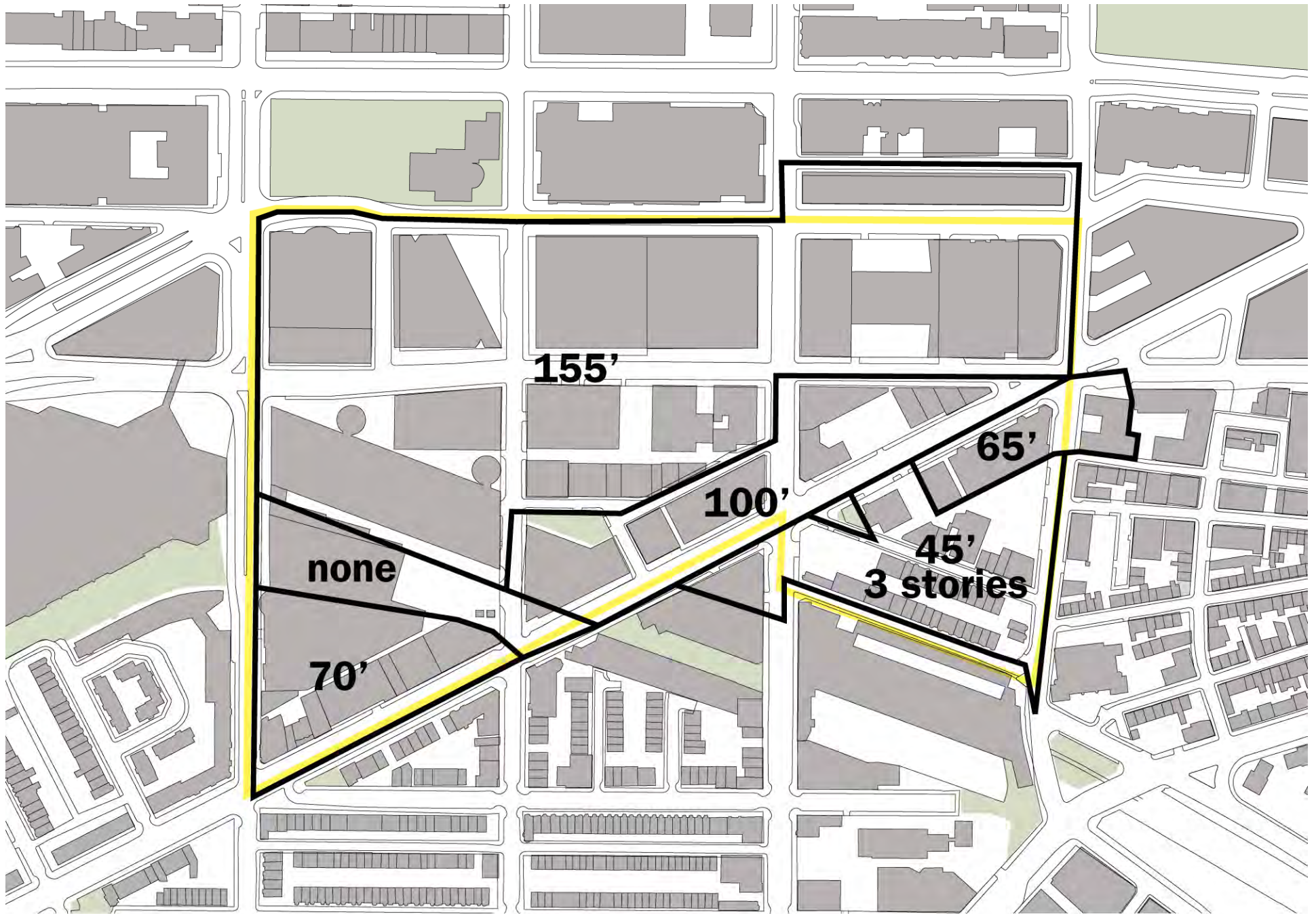




Planned Development Areas

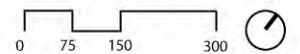
Source: Boston Zoning Code

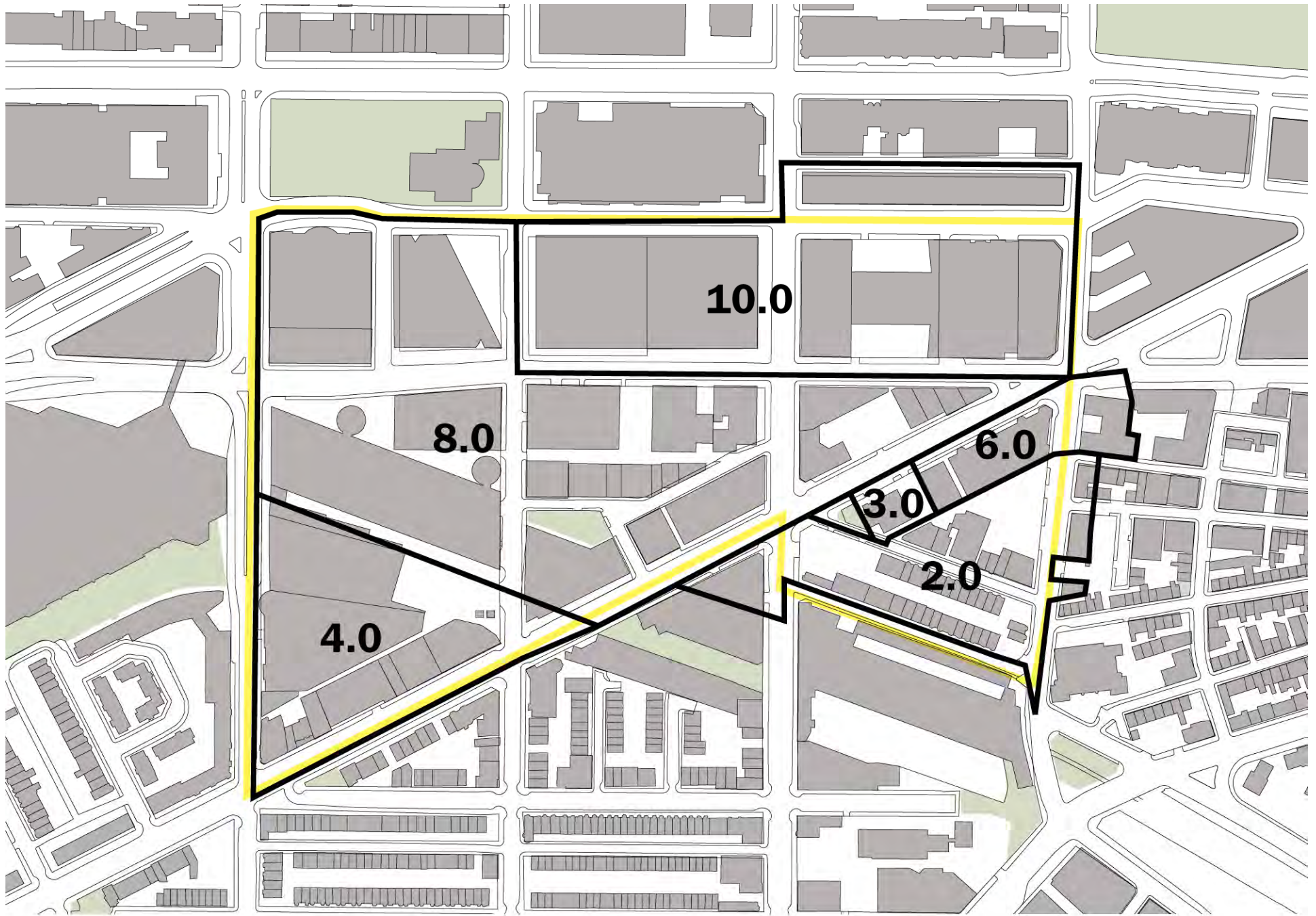




Maximum Allowable Heights

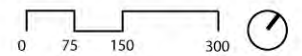
Source: Boston Zoning Code; Based on base zoning and IPOD where applicable

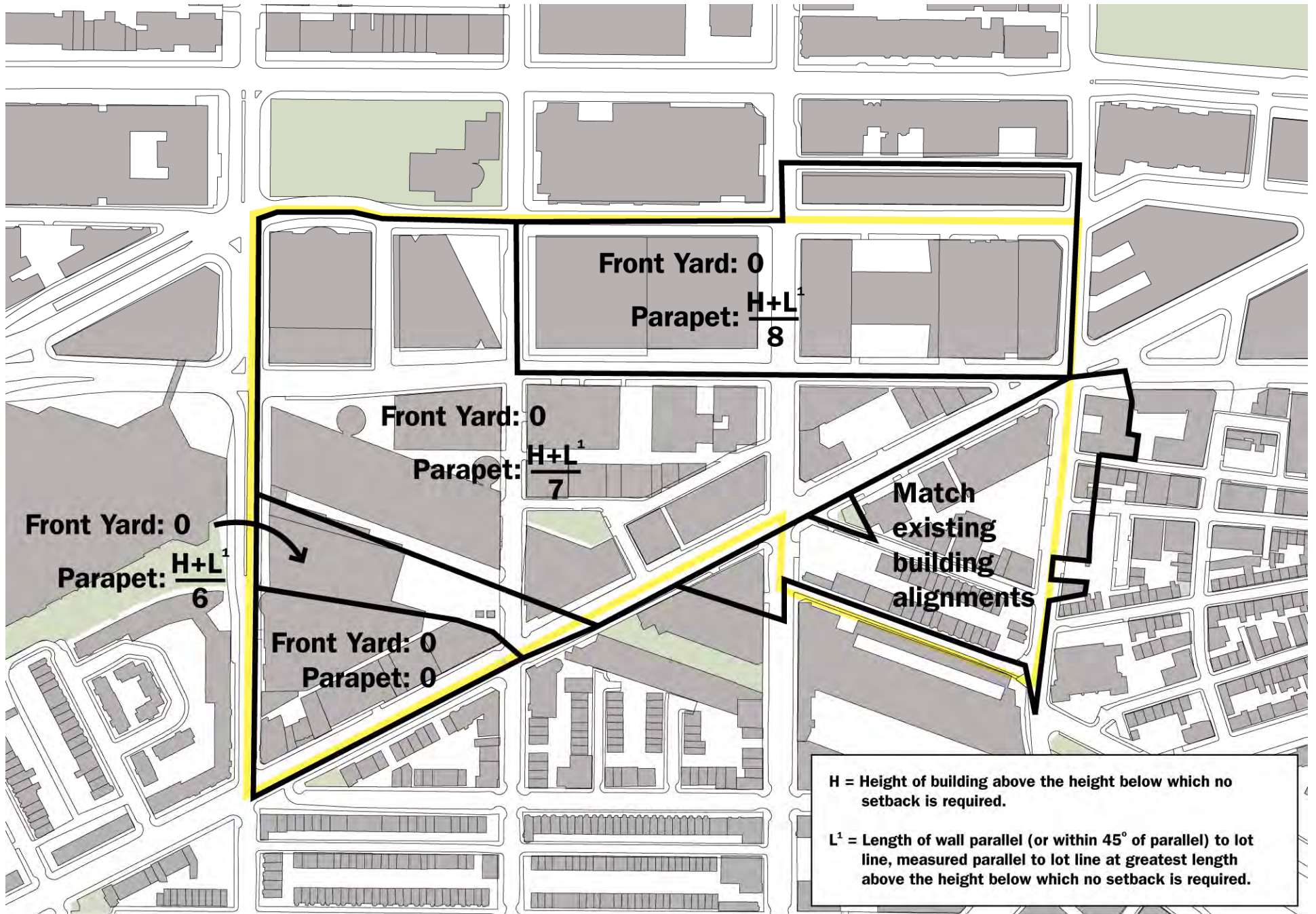




Maximum Allowable FAR

Source: Boston Zoning Code; Based on base zoning and IPOD where applicable



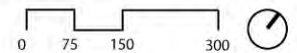


H = Height of building above the height below which no setback is required.

L¹ = Length of wall parallel (or within 45° of parallel) to lot line, measured parallel to lot line at greatest length above the height below which no setback is required.

Minimum Setback

Source: Boston Zoning Code; Based on base zoning and IPOD where applicable

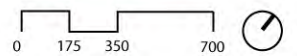


Open Space



Open Space

Source: Boston Zoning Code

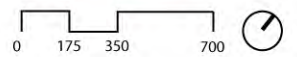


Transportation Infrastructure



Subway Routes and Stations

Source: MBTA





Bus Routes

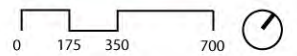
Source: MBTA

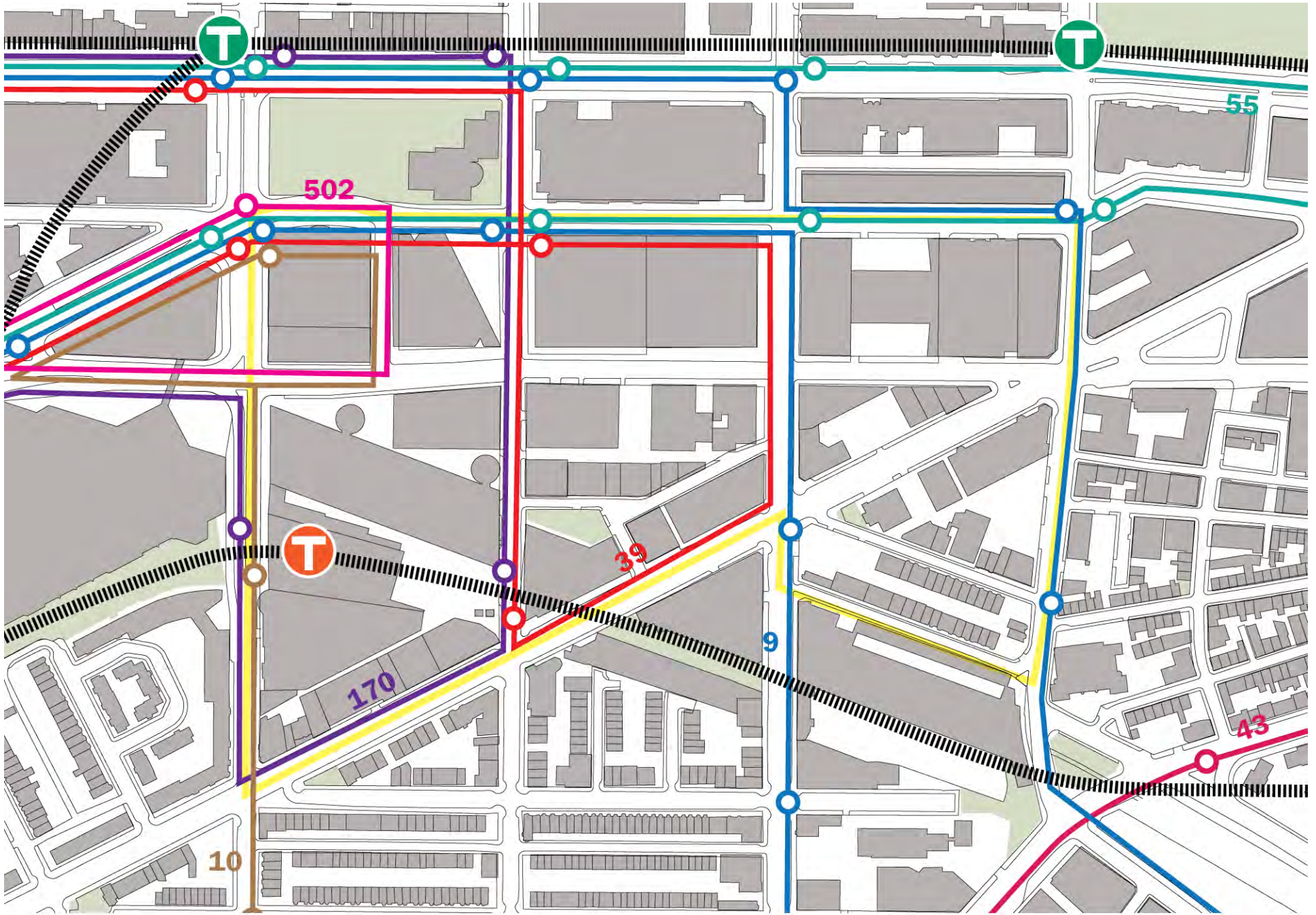




Subway Routes and Stations

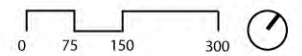
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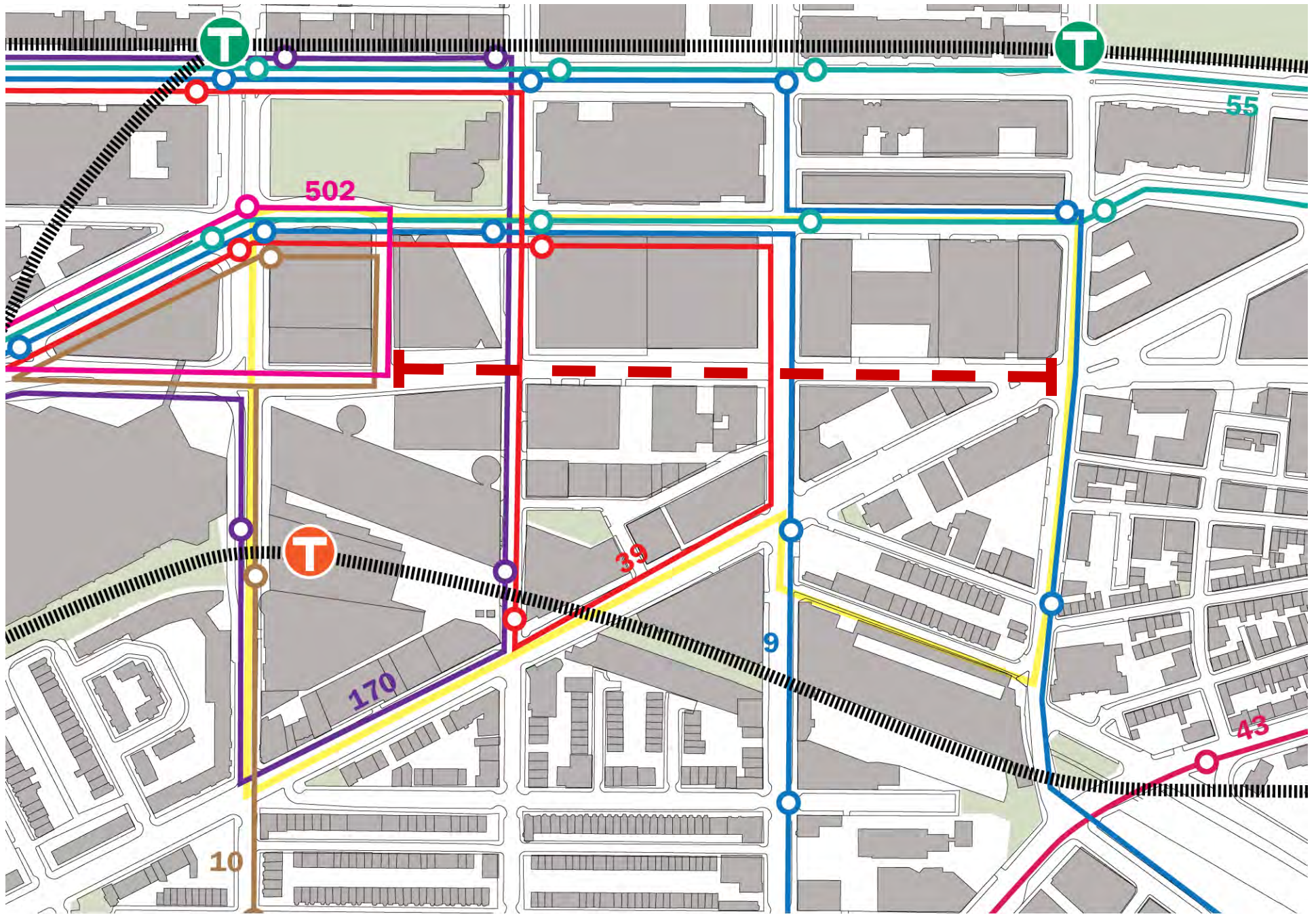




Subway Routes and Stations, Bus Routes and Stops

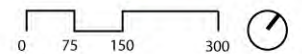
Source: MBTA



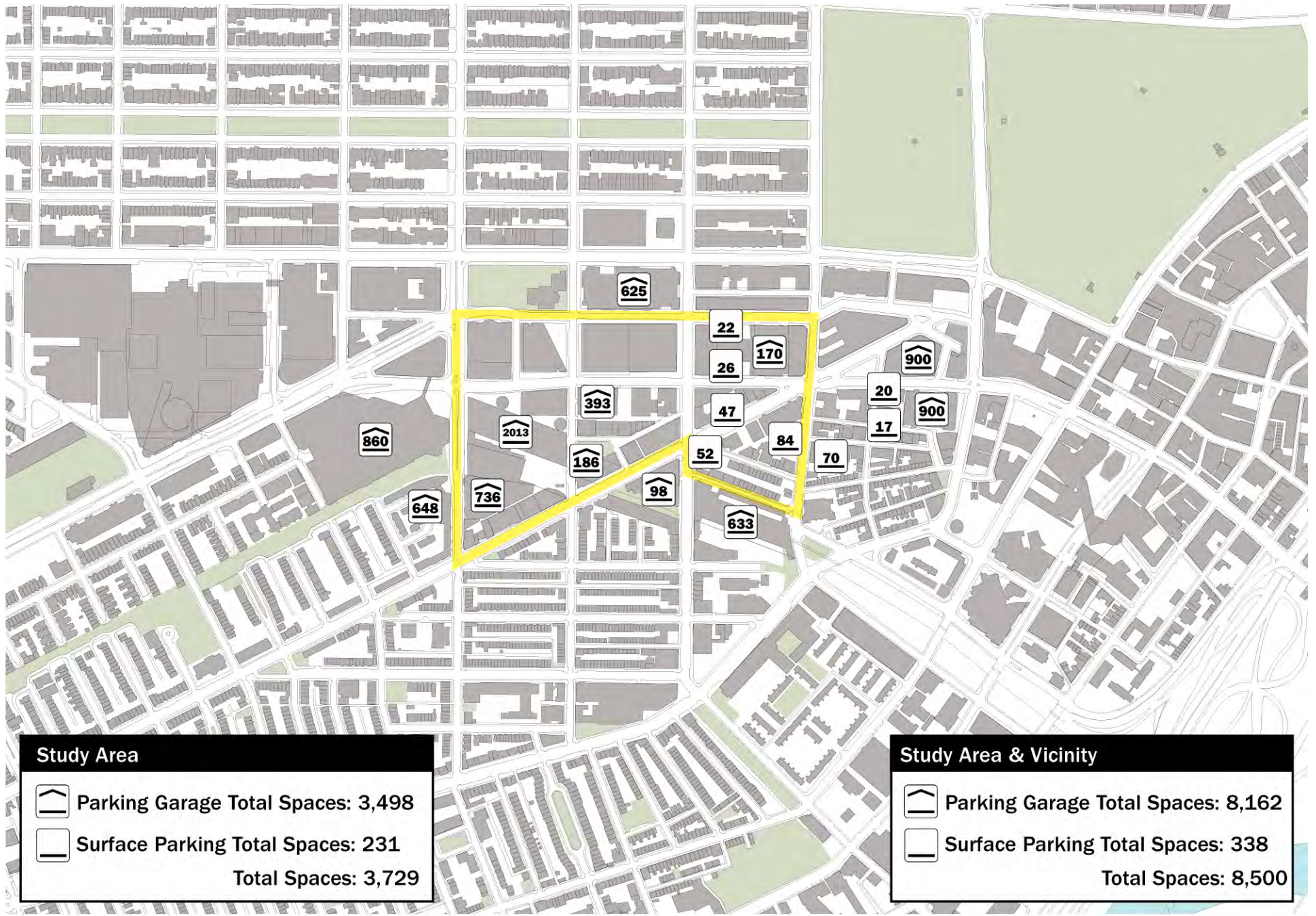


Subway Routes and Stations, Bus Routes and Stops

Source: MBTA



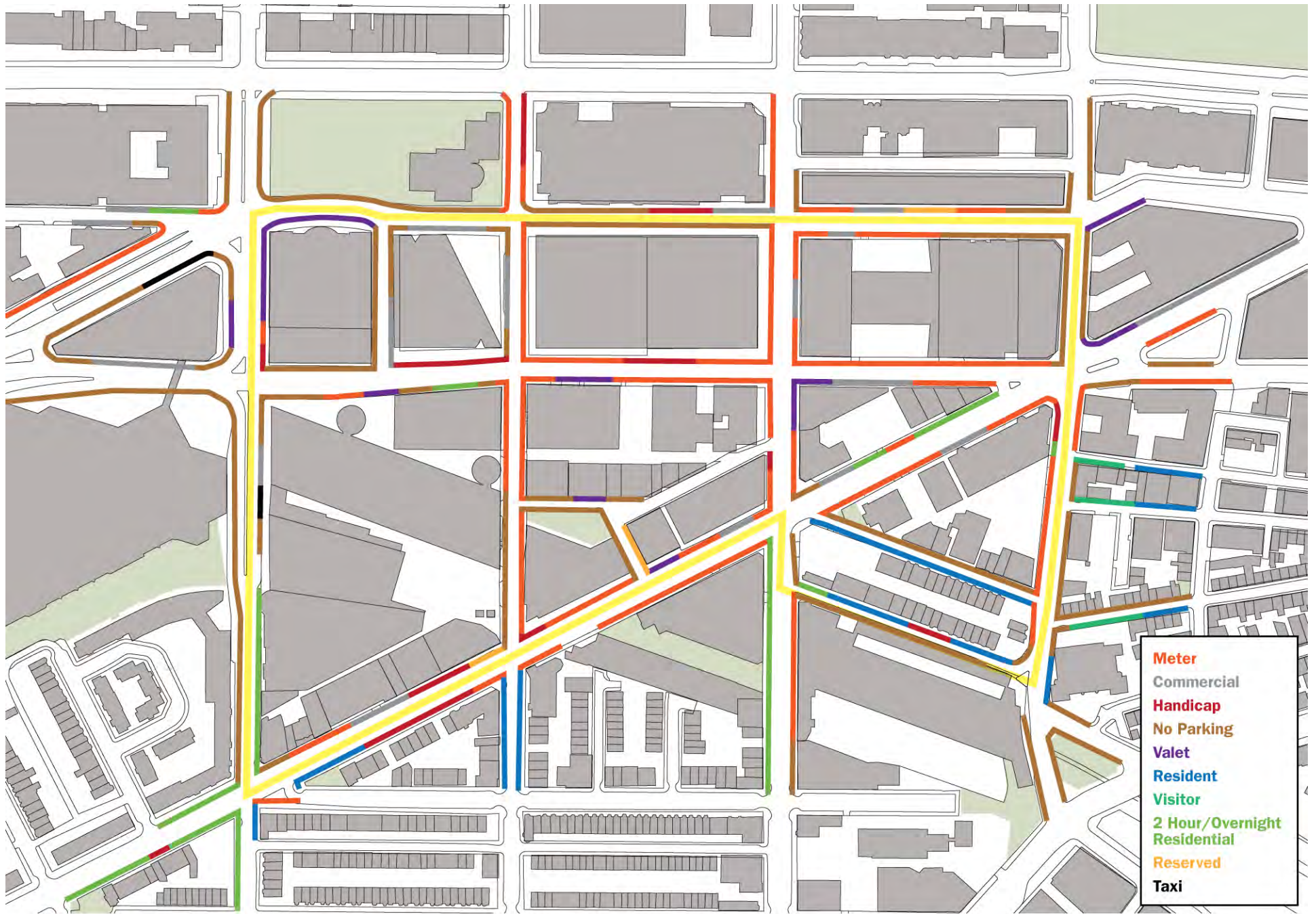
Parking



Off Street Parking

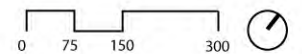
Source: Columbus Center Article 80, Clarendon Article 80, aerial photographs, web research





On Street Parking

Source: Columbus Center Article 80

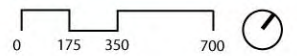


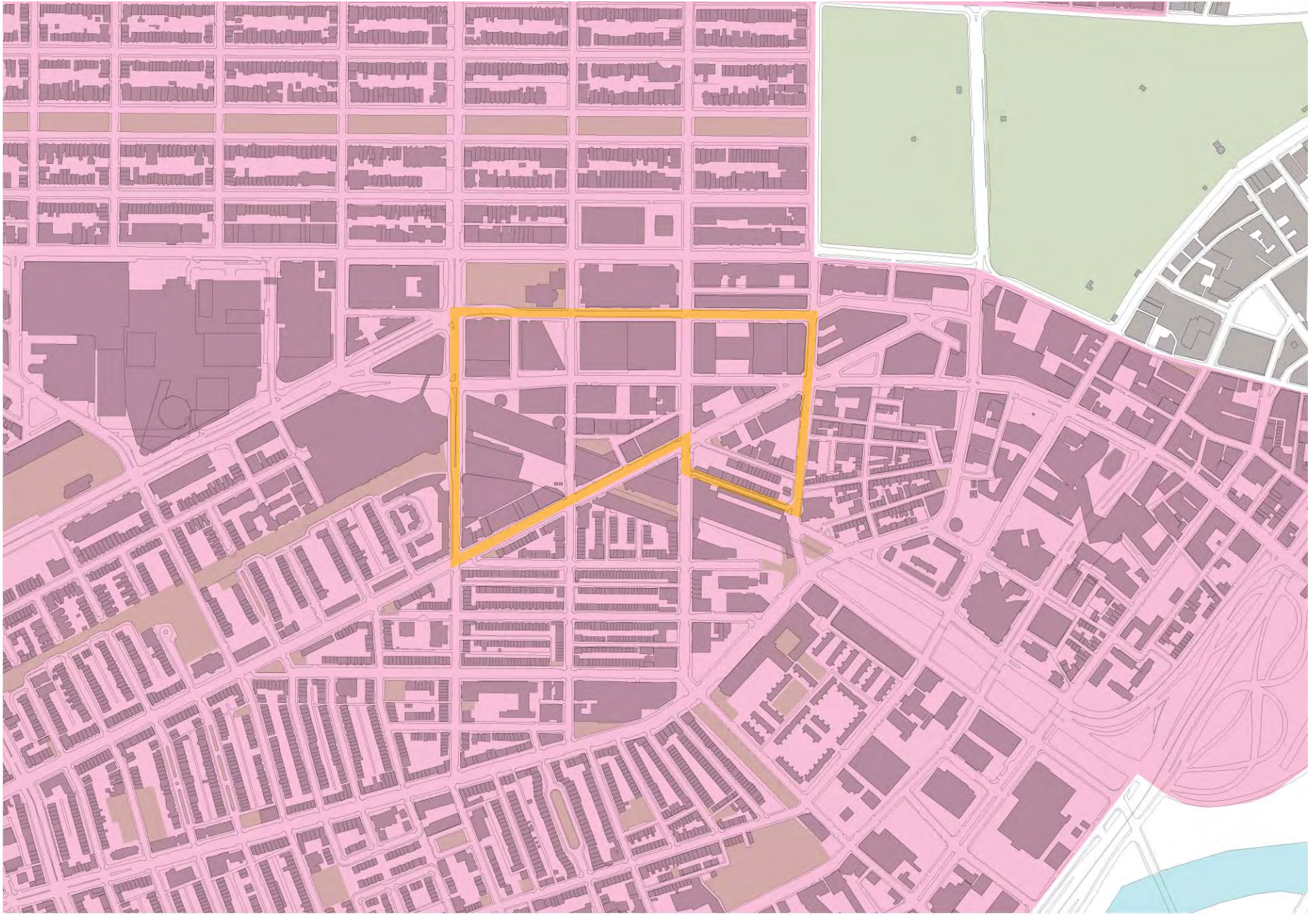
Groundwater Resources



1775 Shoreline

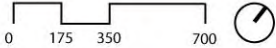
Source: The Boston Atlas; Reference: LC Maps of North America, 1750-1789, 911

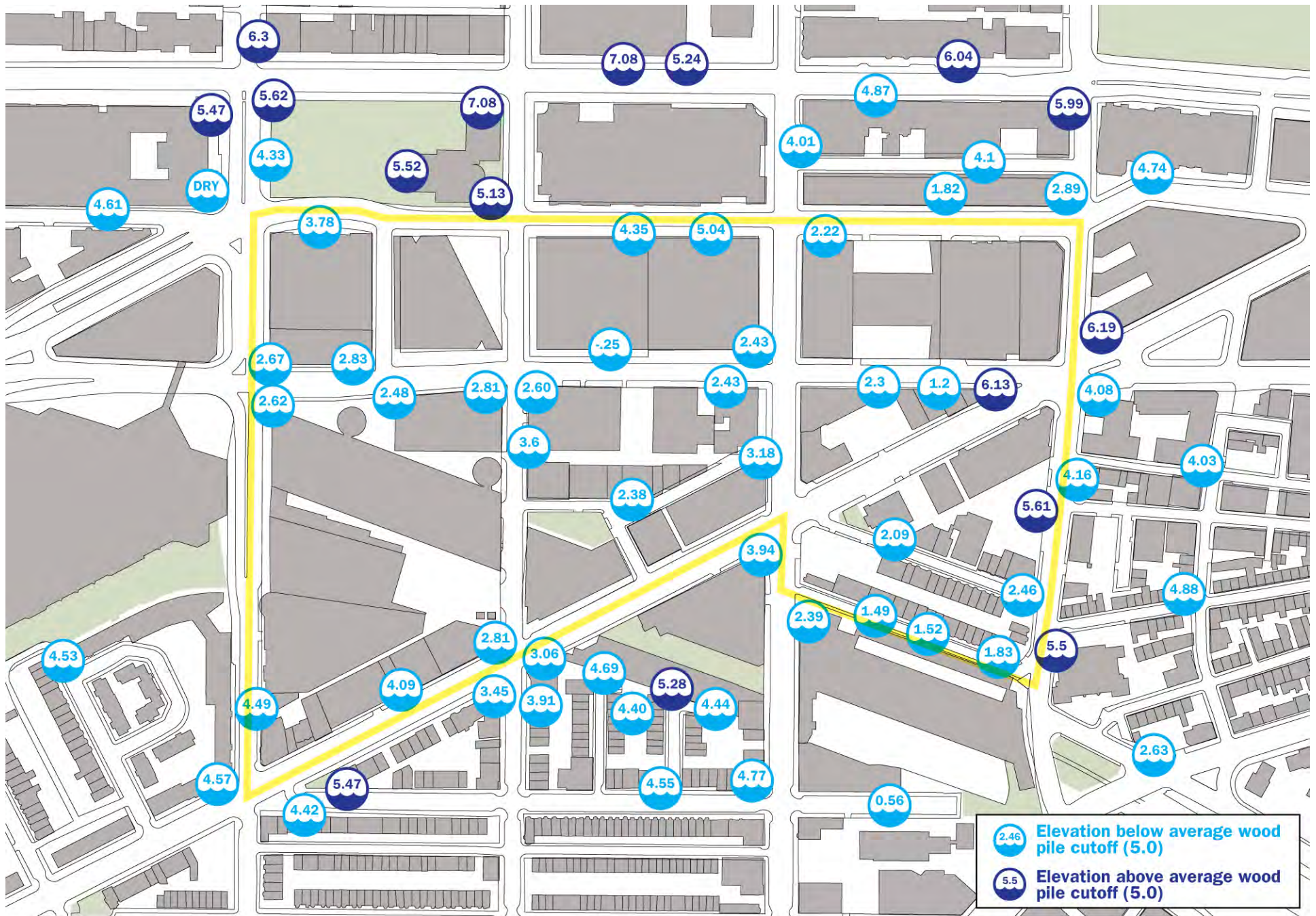




Groundwater Conservation Overlay District

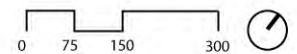
Source: Boston Zoning Code



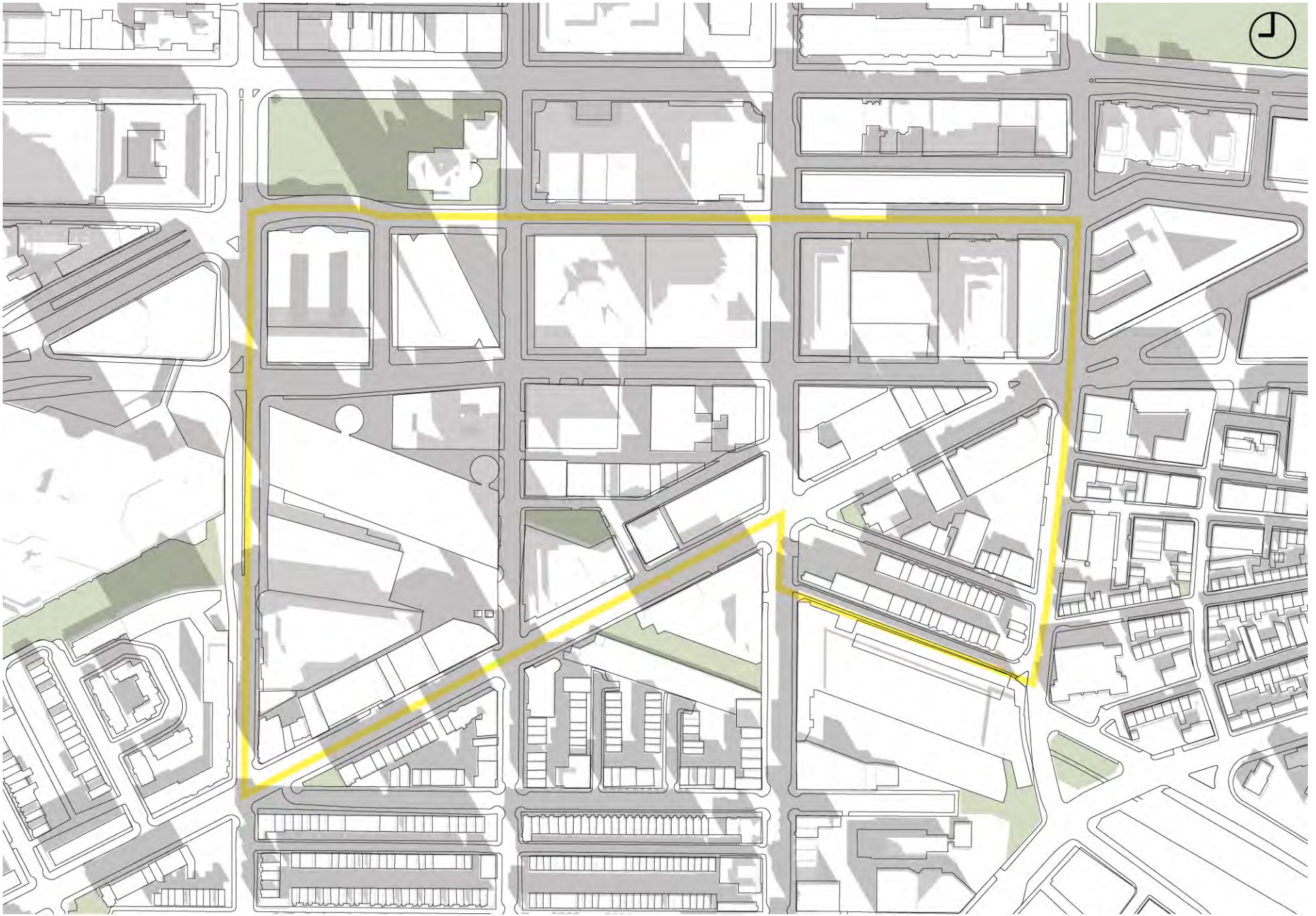


December 2007 Groundwater Elevations (referenced to Boston City Base datum - feet)

Source: Boston Groundwater Trust

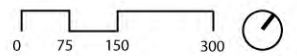


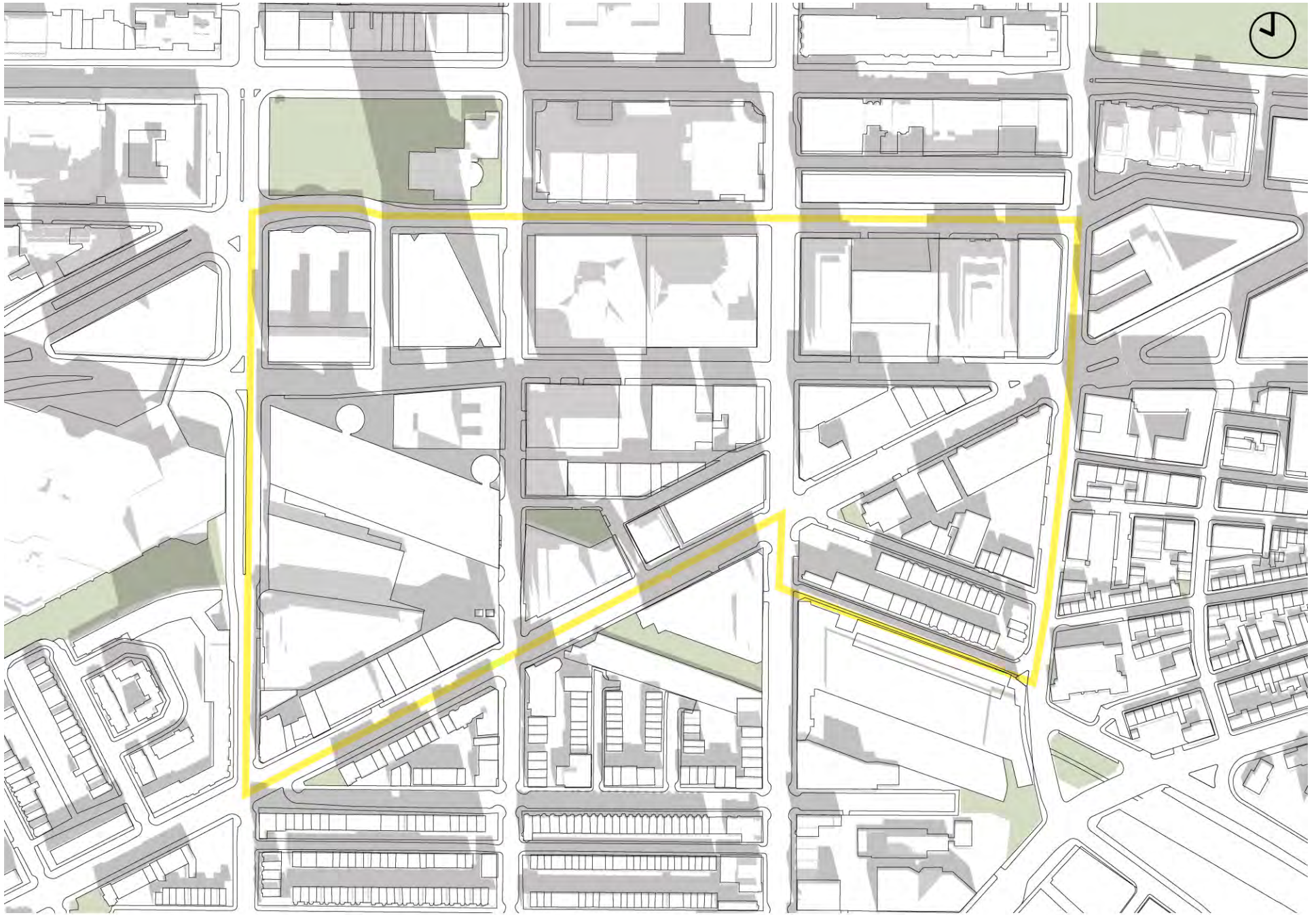
Shadows and Wind Patterns



Equinox Shadows

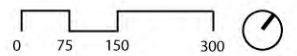
Source: Utile, Inc.

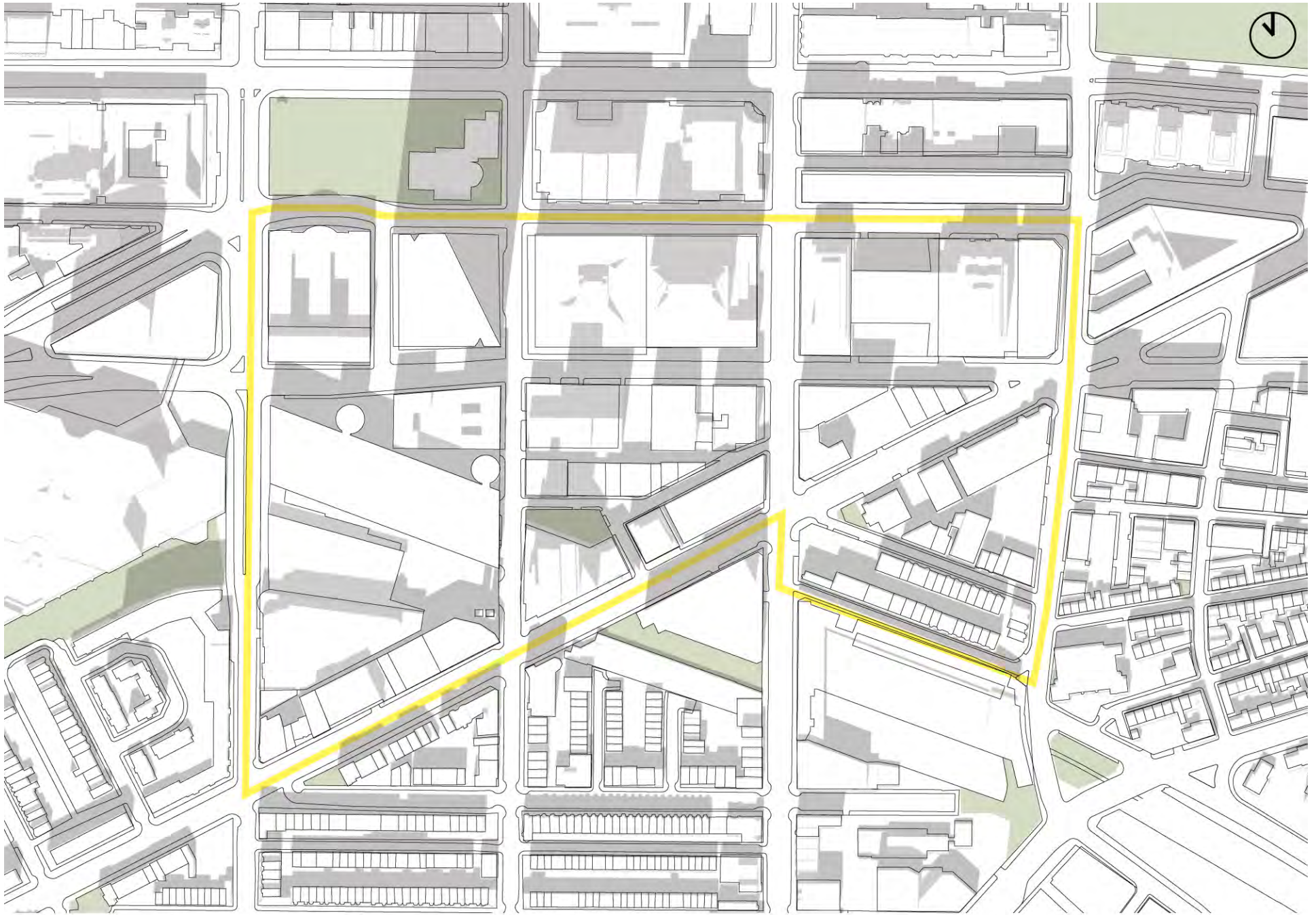




Equinox Shadows

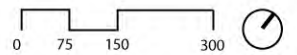
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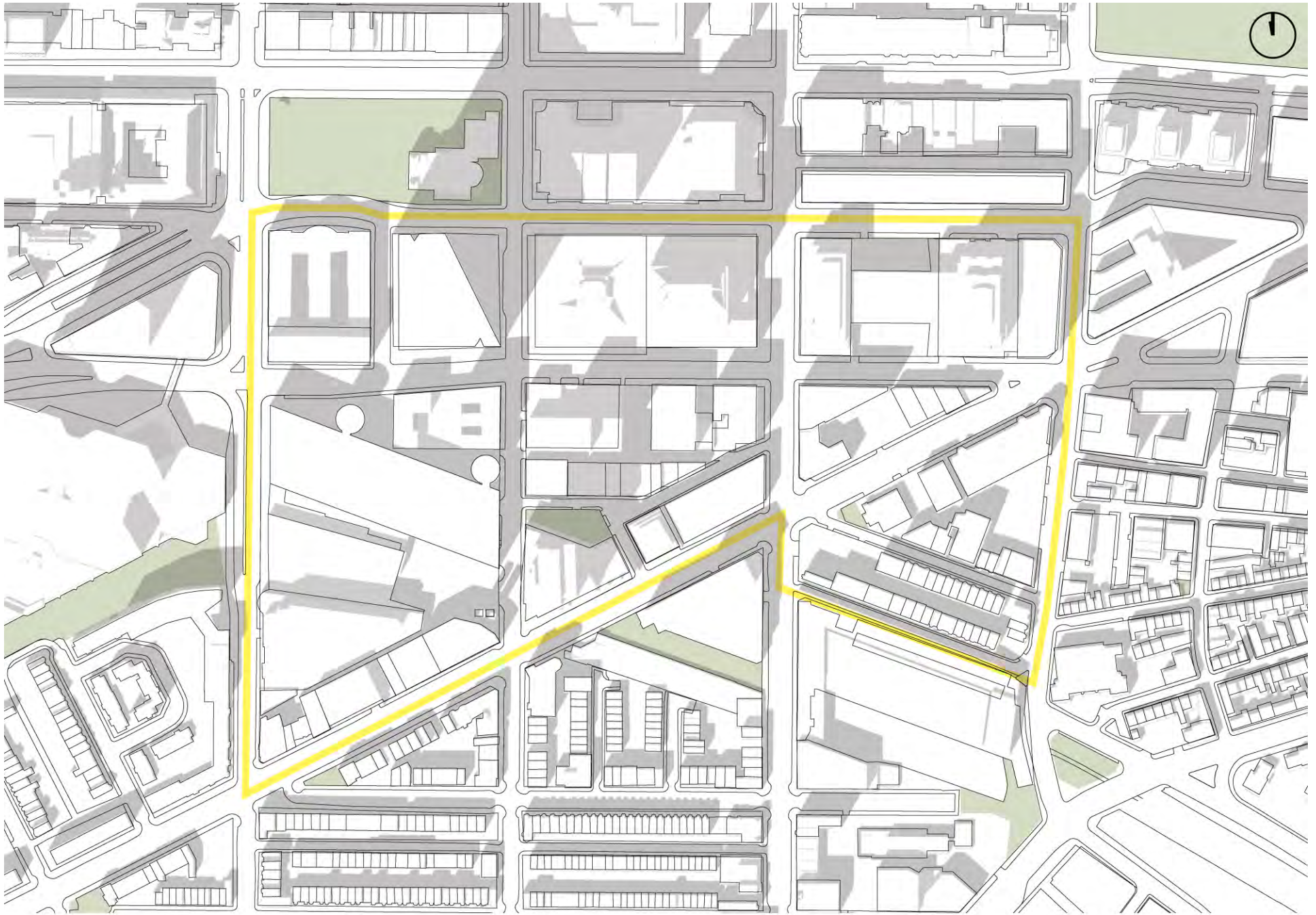




Equinox Shadows

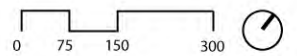
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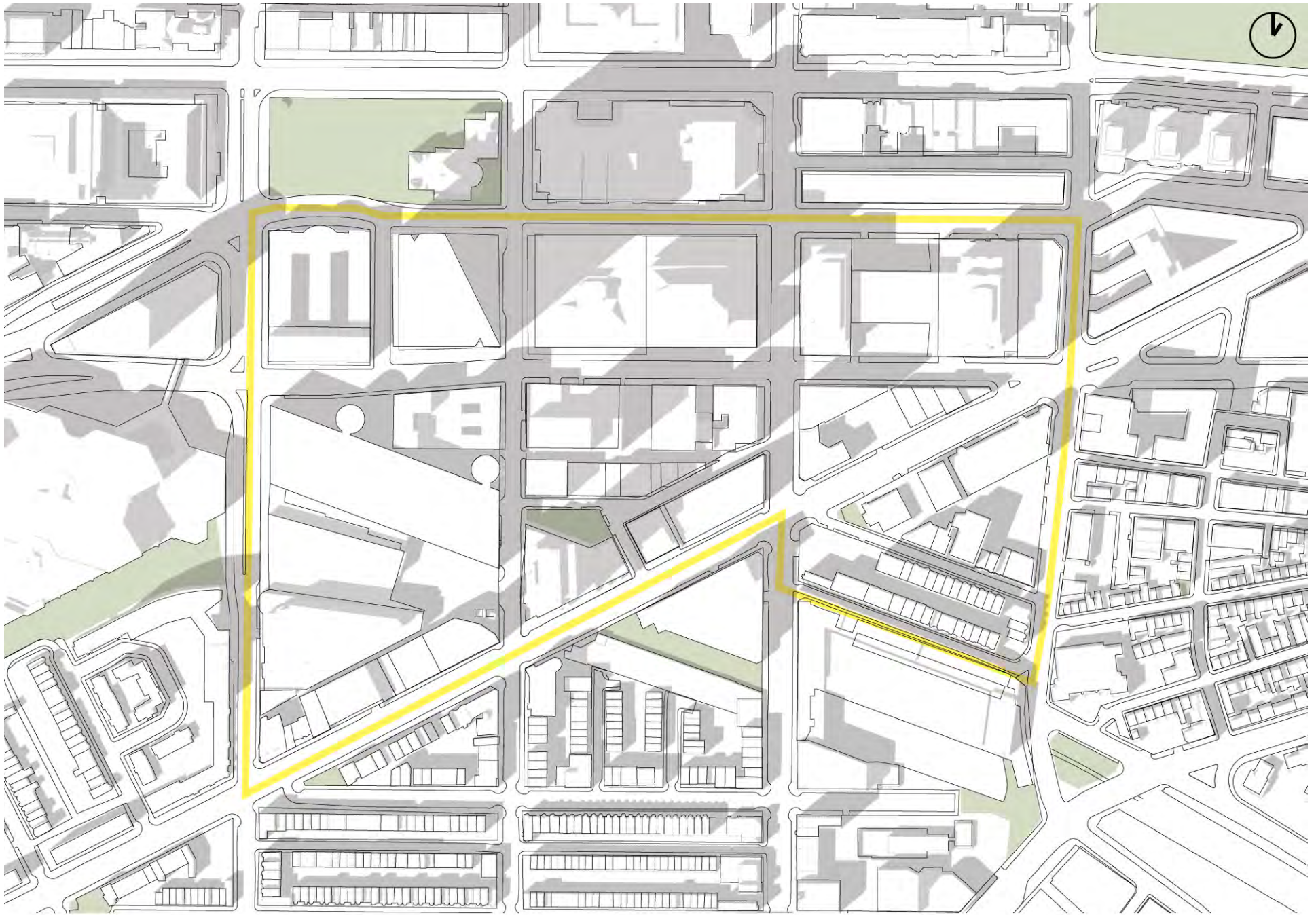




Equinox Shadows

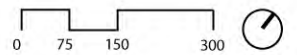
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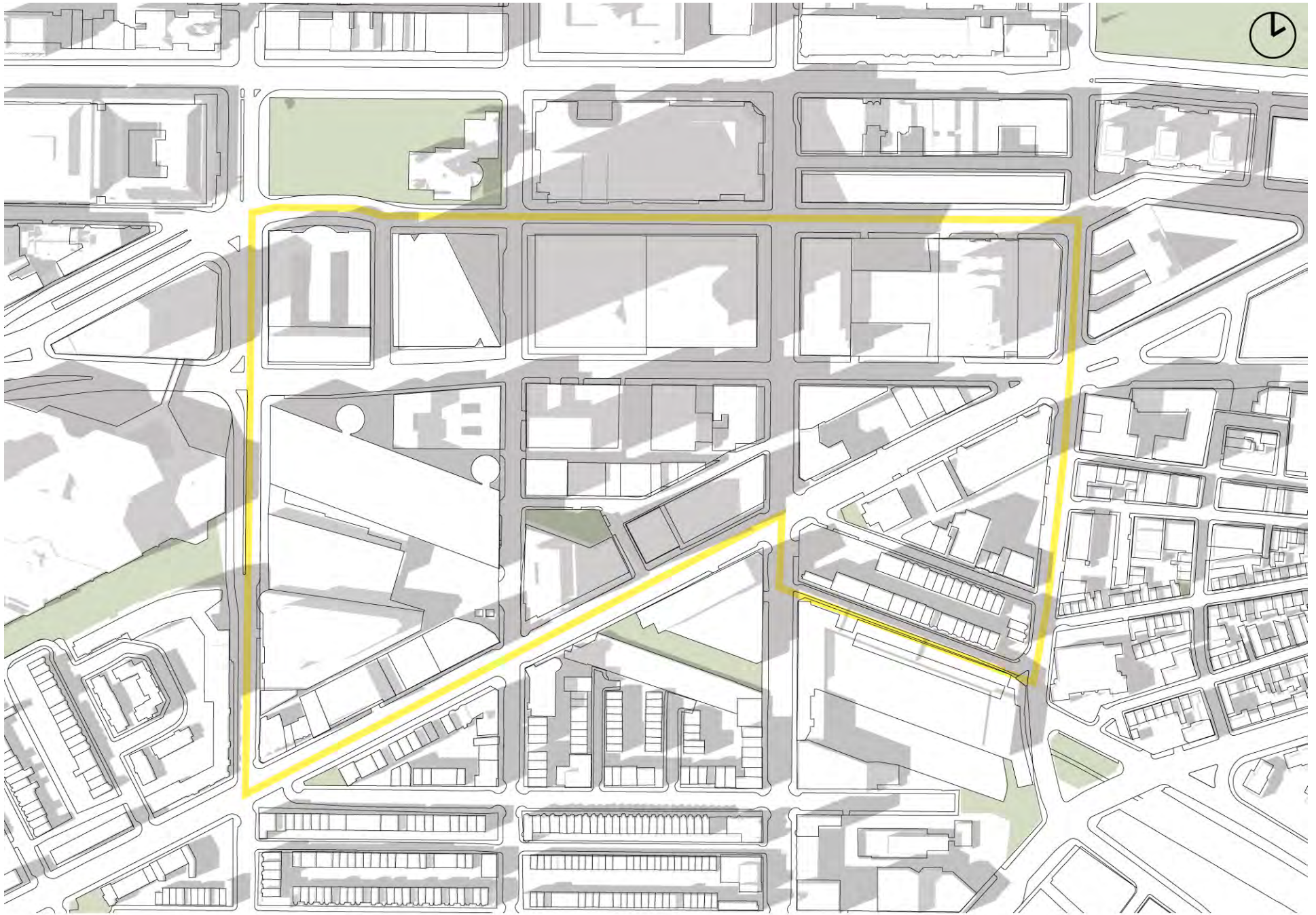




Equinox Shadows

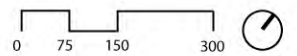
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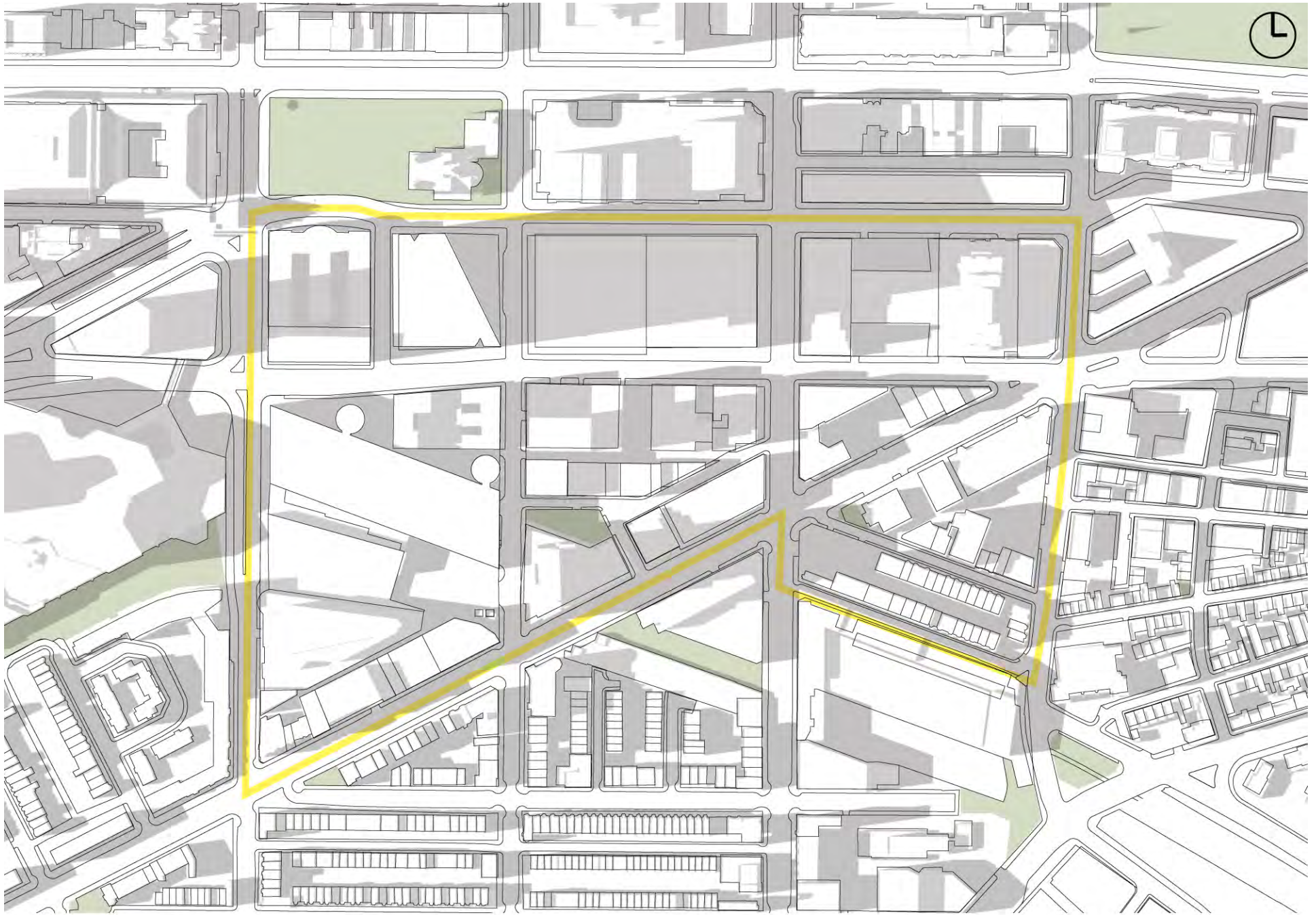




Equinox Shadows

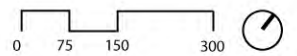
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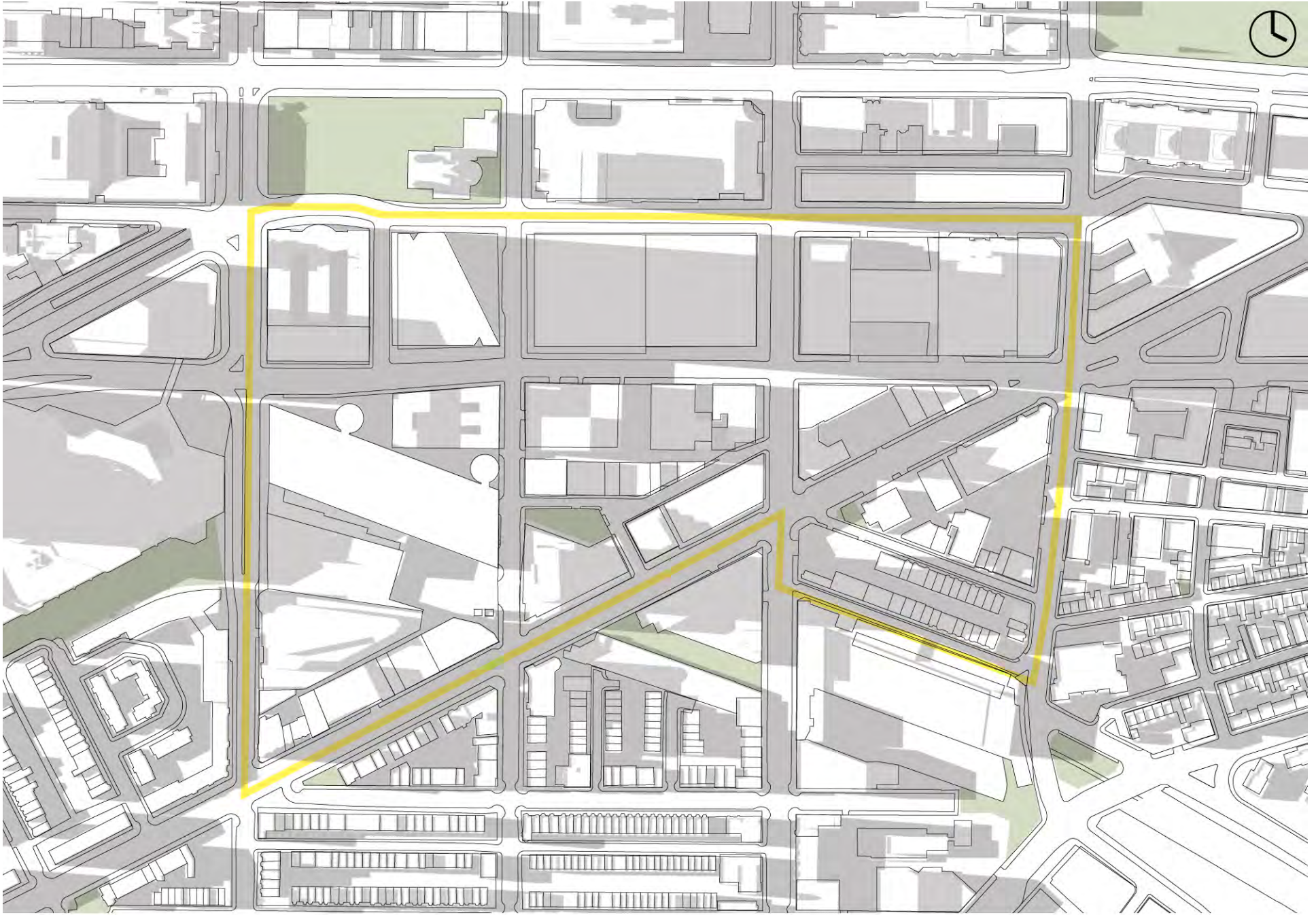




Equinox Shadows

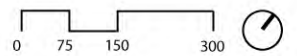
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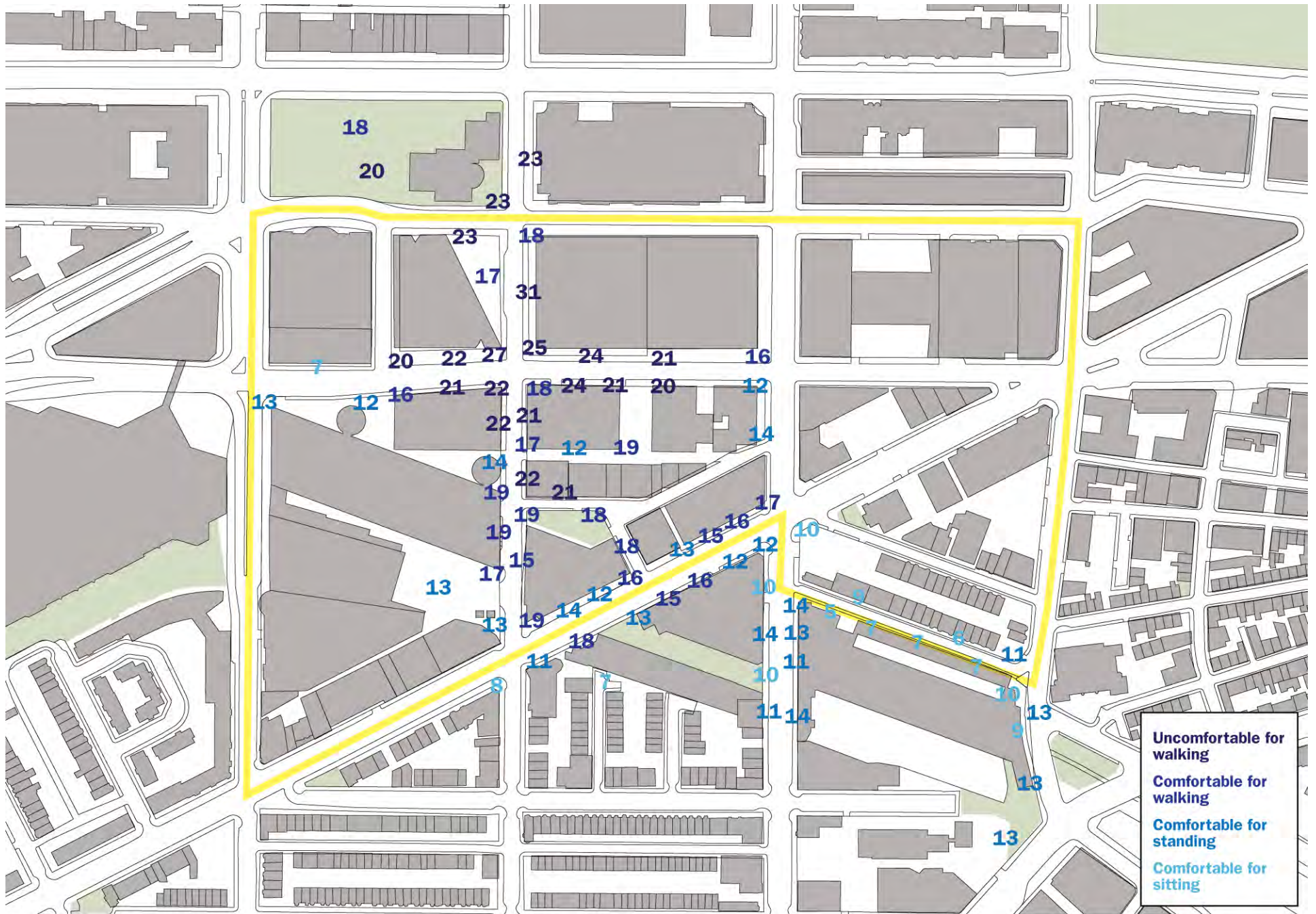




Equinox Shadows

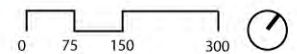
Source: Utile, Inc.





Summer Mean Wind Speeds (MPH)

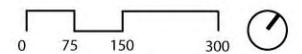
Source: Clarendon Article 80 – Cermak Peterka Petersen Inc., Columbus Center Article 80 - CBT





Summer Shadows (9am-4pm) and Mean Wind Speeds (MPH)

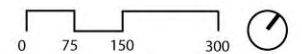
Source: Clarendon Article 80 – Cermak Peterka Petersen Inc., Columbus Center Article 80 – CBT, Utile Inc.

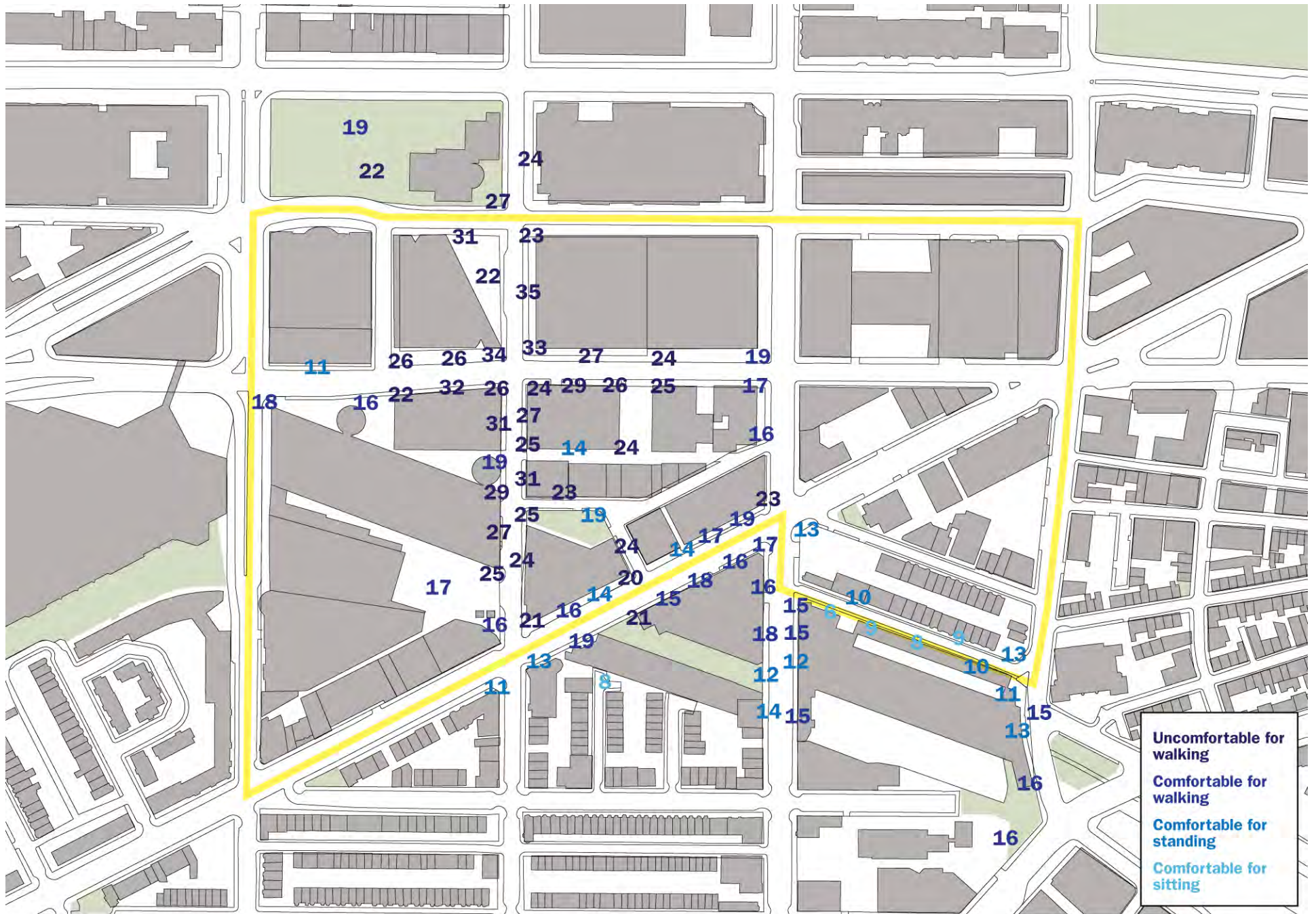




Summer Shadows (9am-4pm) and Mean Wind Speeds (MPH)

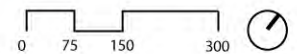
Source: Clarendon Article 80 – Cermak Peterka Petersen Inc., Columbus Center Article 80 – CBT, Utile Inc.

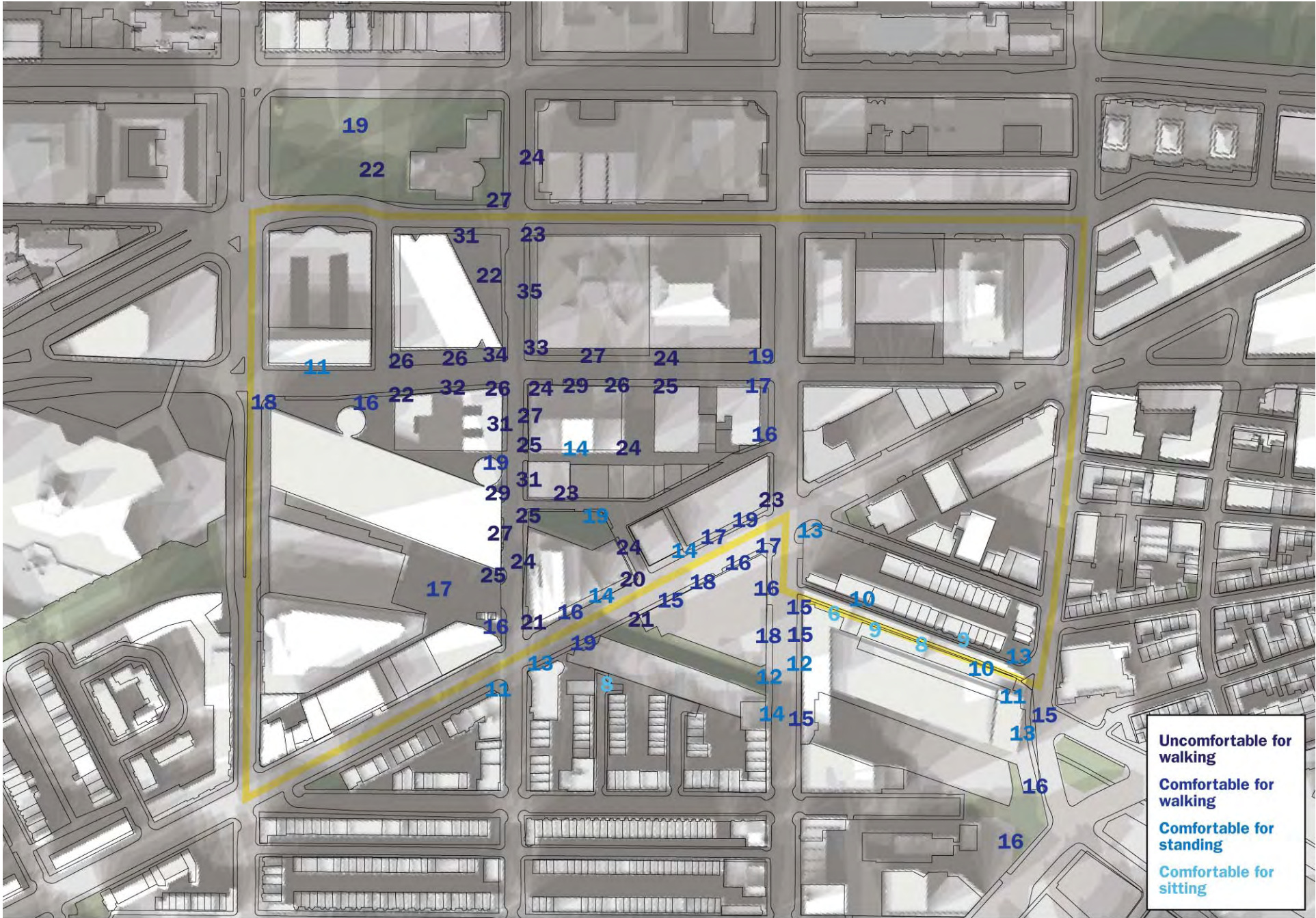




Winter Mean Wind Speeds (MPH)

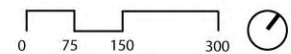
Source: Clarendon Article 80 – Cermak Peterka Petersen Inc., Columbus Center Article 80 - CBT

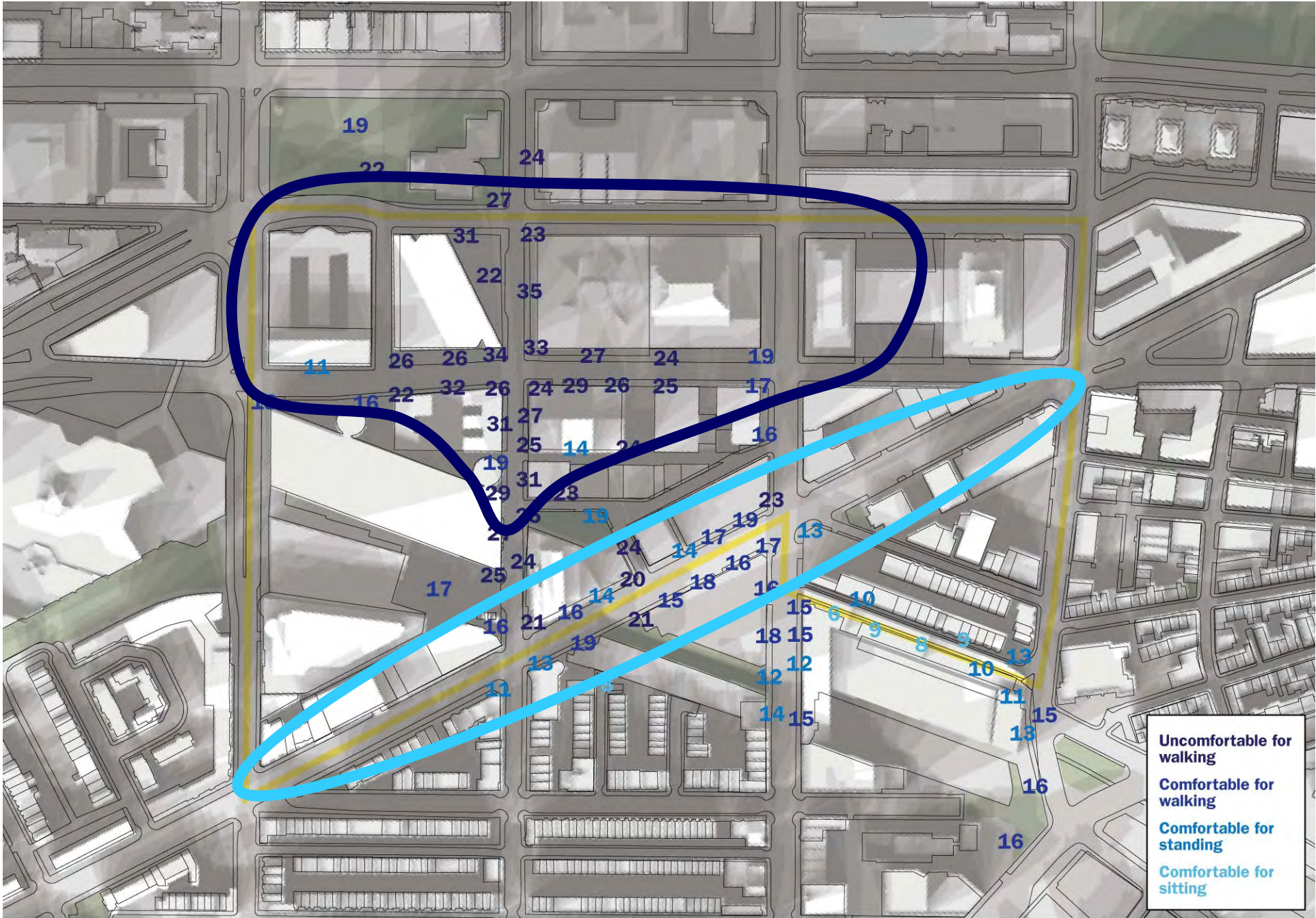




Winter Shadows (9am-4pm) and Mean Wind Speeds (MPH)

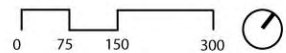
Source: Clarendon Article 80 – Cermak Peterka Petersen Inc., Columbus Center Article 80 – CBT, Utile Inc.





Winter Shadows (9am-4pm) and Mean Wind Speeds (MPH)

Source: Clarendon Article 80 – Cermak Peterka Petersen Inc., Columbus Center Article 80 – CBT, Utile Inc.



Urban Design

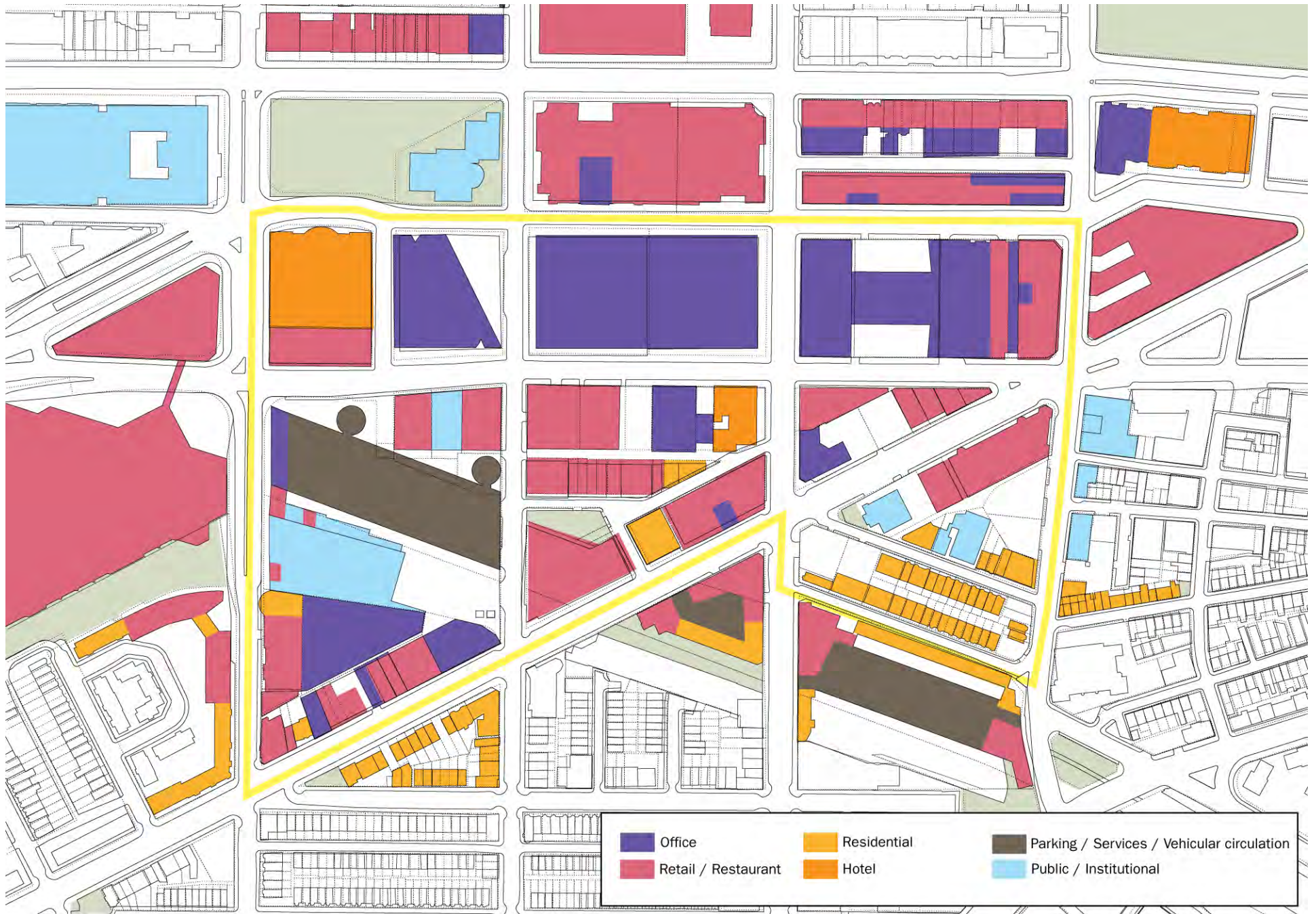
Ground Level Uses

Pedestrian Connectivity

View Corridors

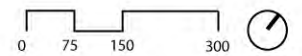
Skyline

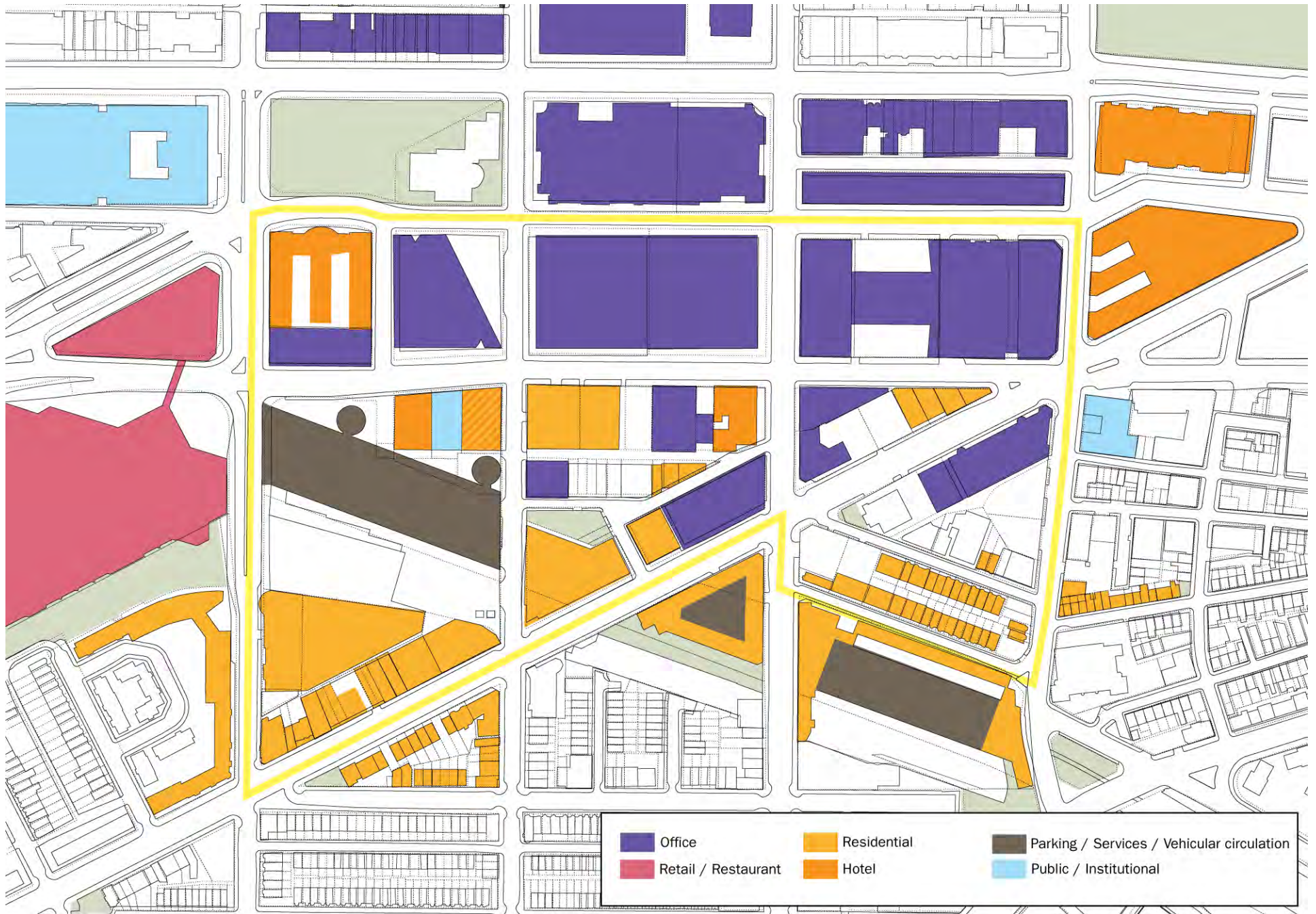
High Spine



Ground Level Uses

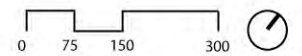
Source: Utile Inc. site survey

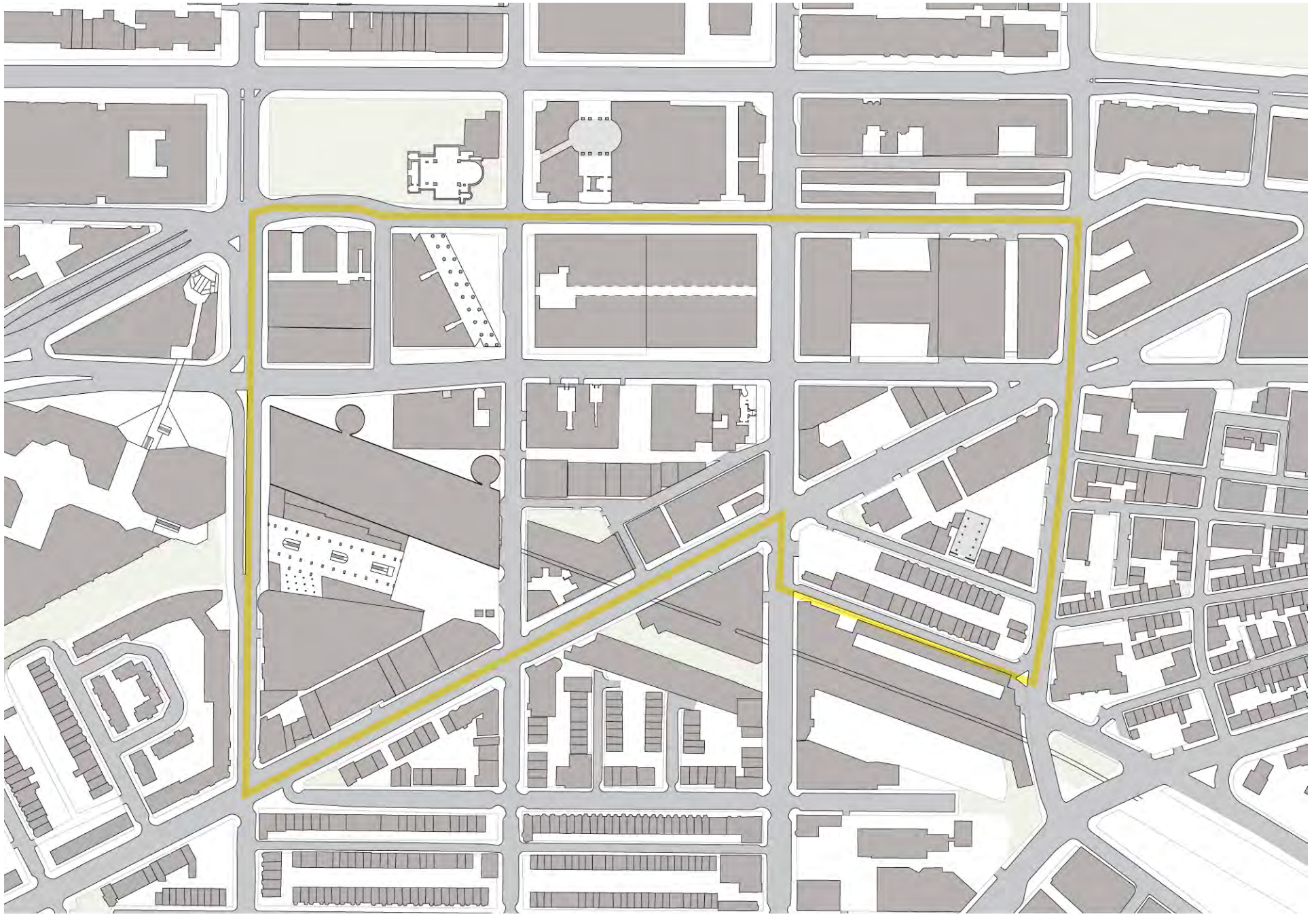




Upper Level Uses

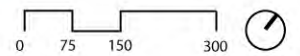
Source: Utile Inc. site survey

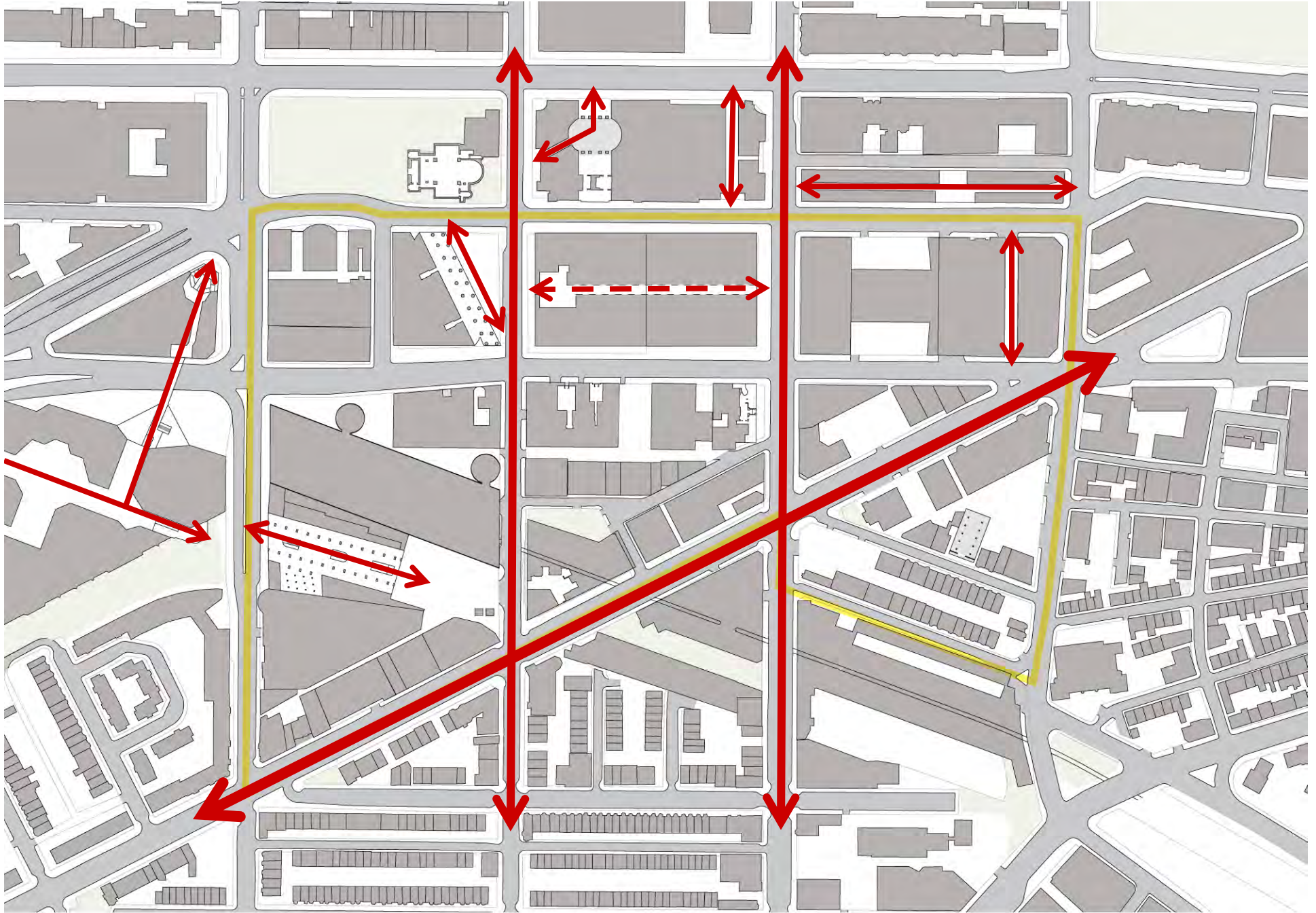




Pedestrian Connectivity

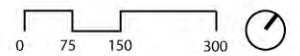
Source: Utile Inc. site survey

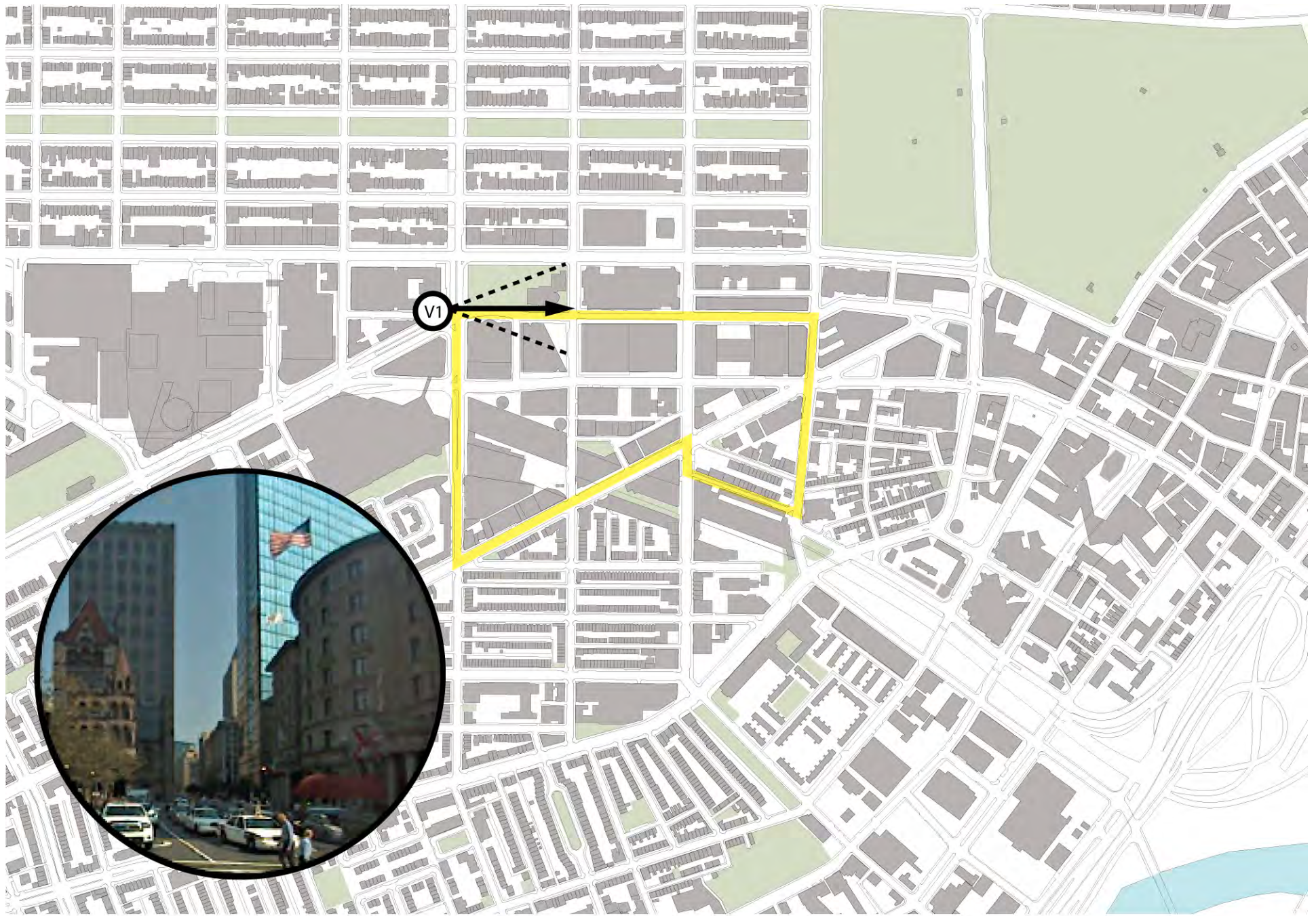




Pedestrian Connectivity

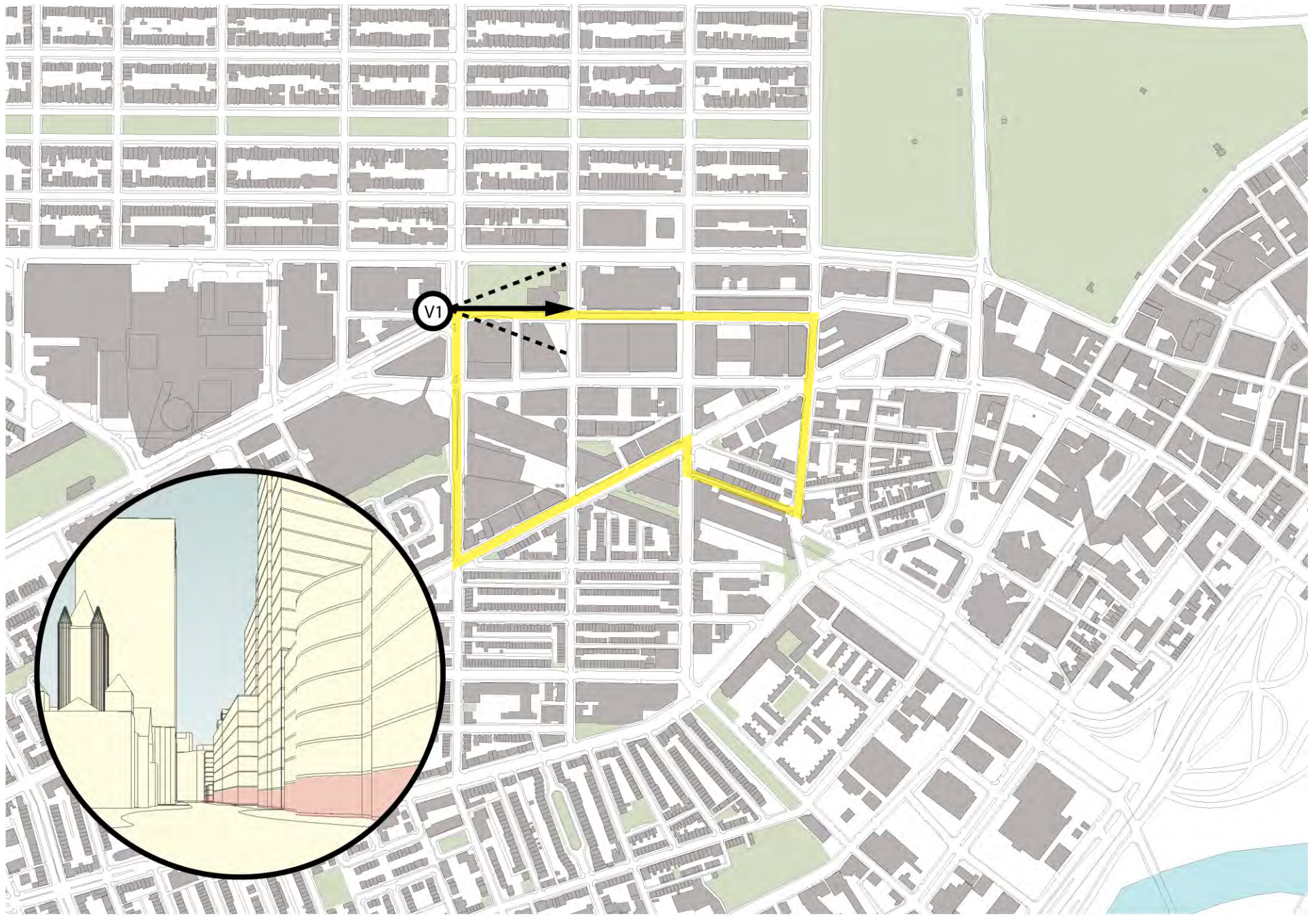
Source: Utile Inc. site survey



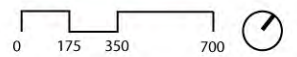


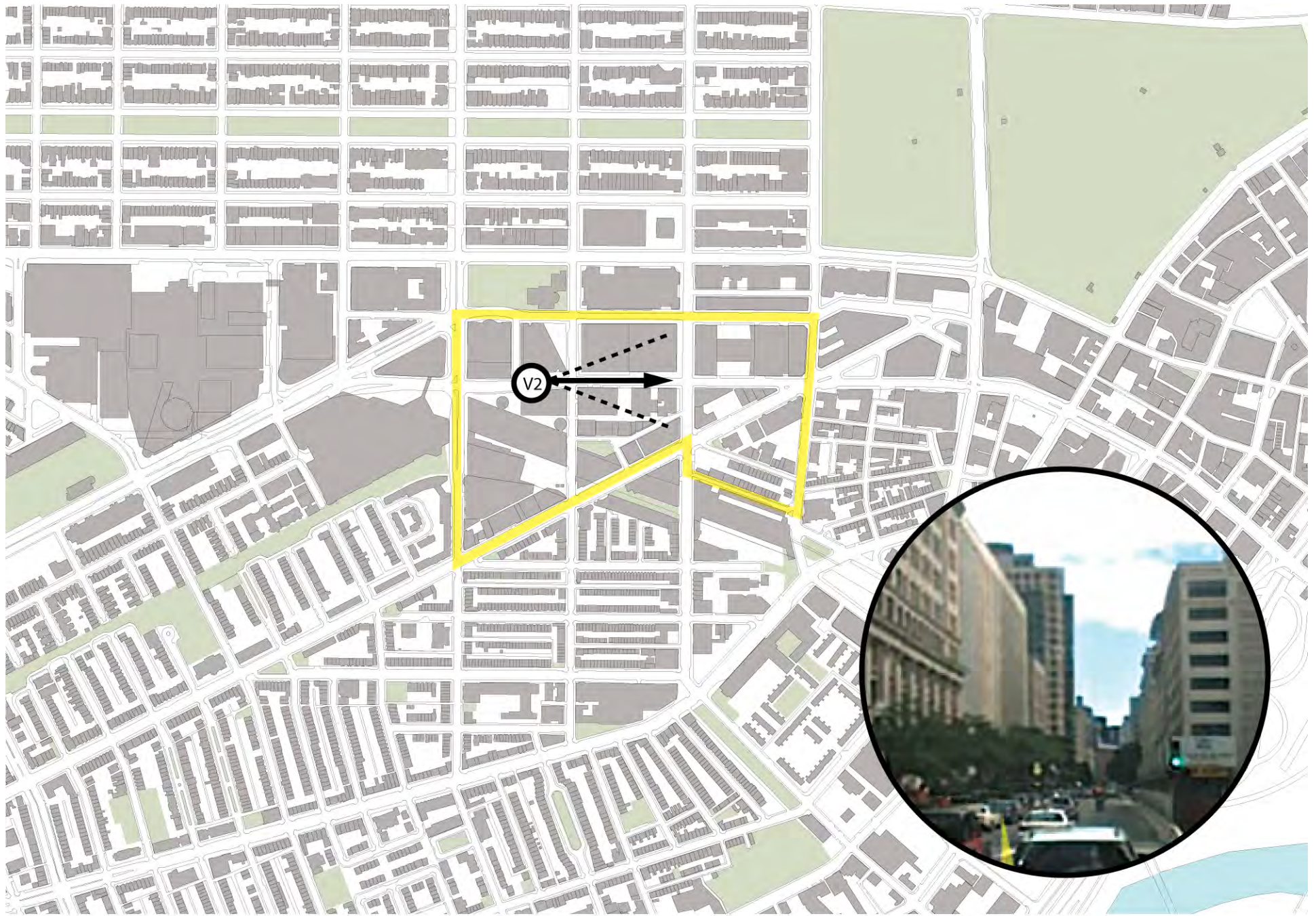
View Corridor



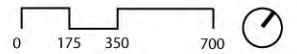


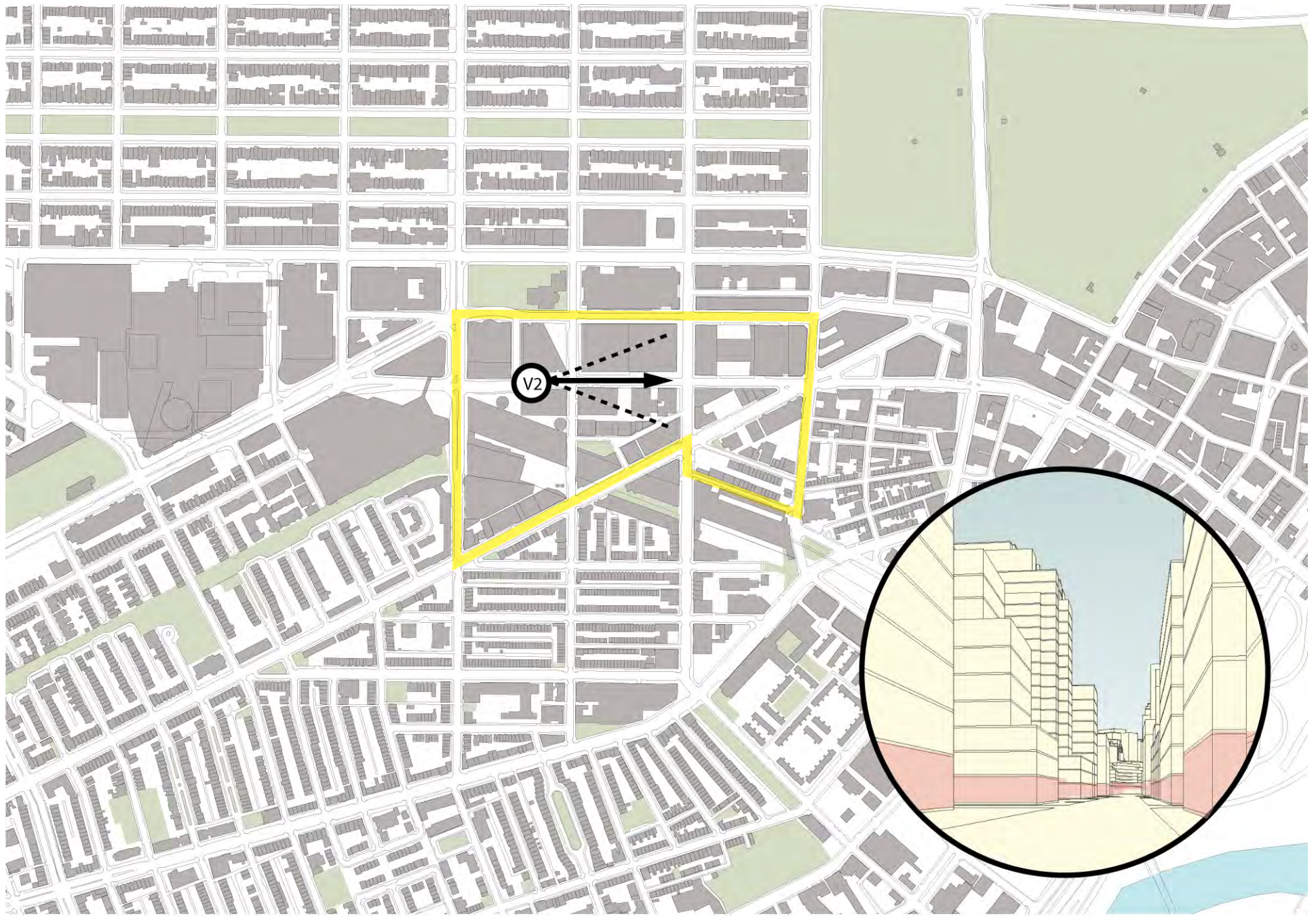
View Corridor



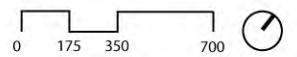


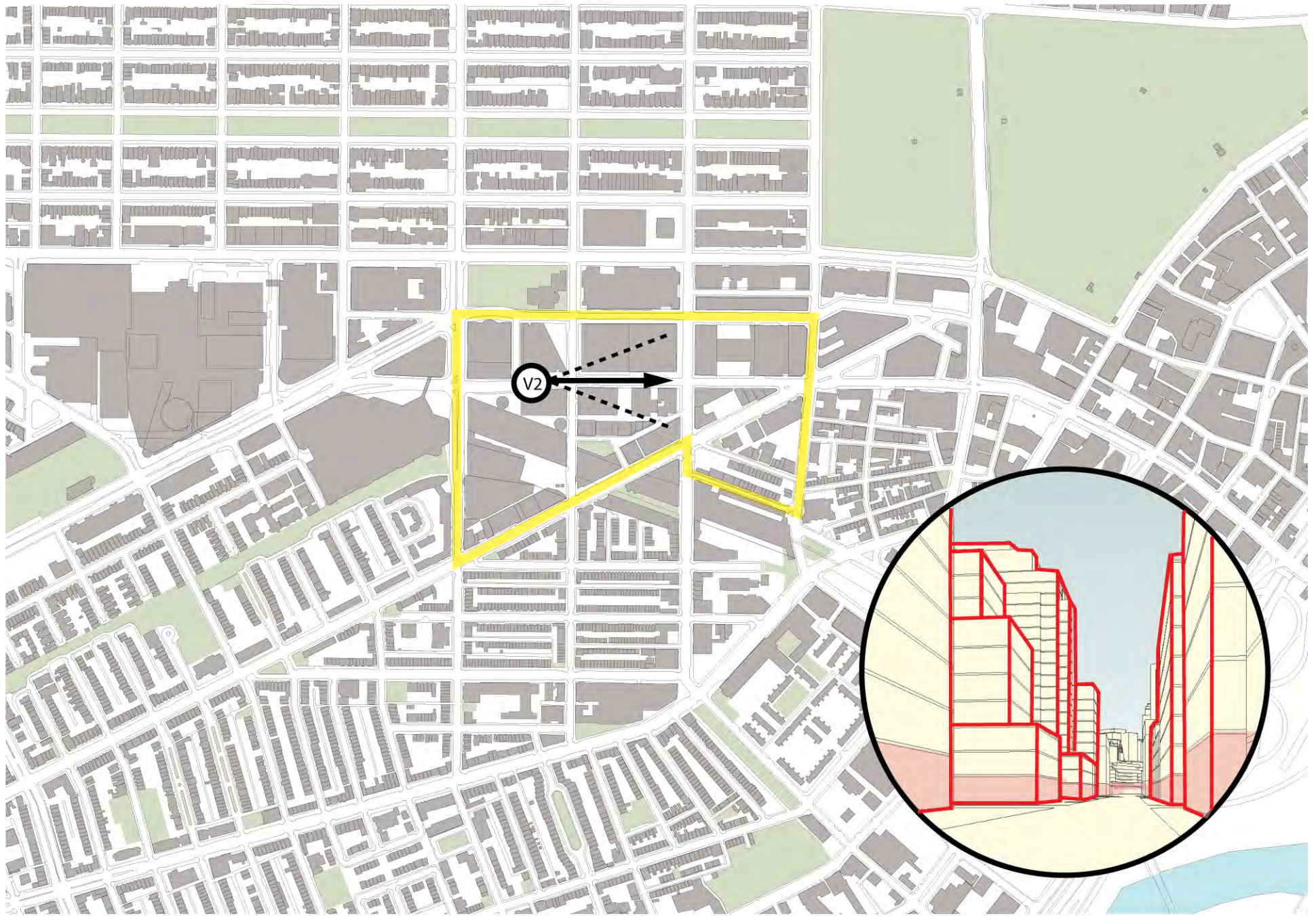
View Corridor



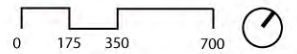


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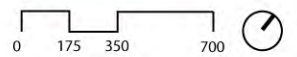


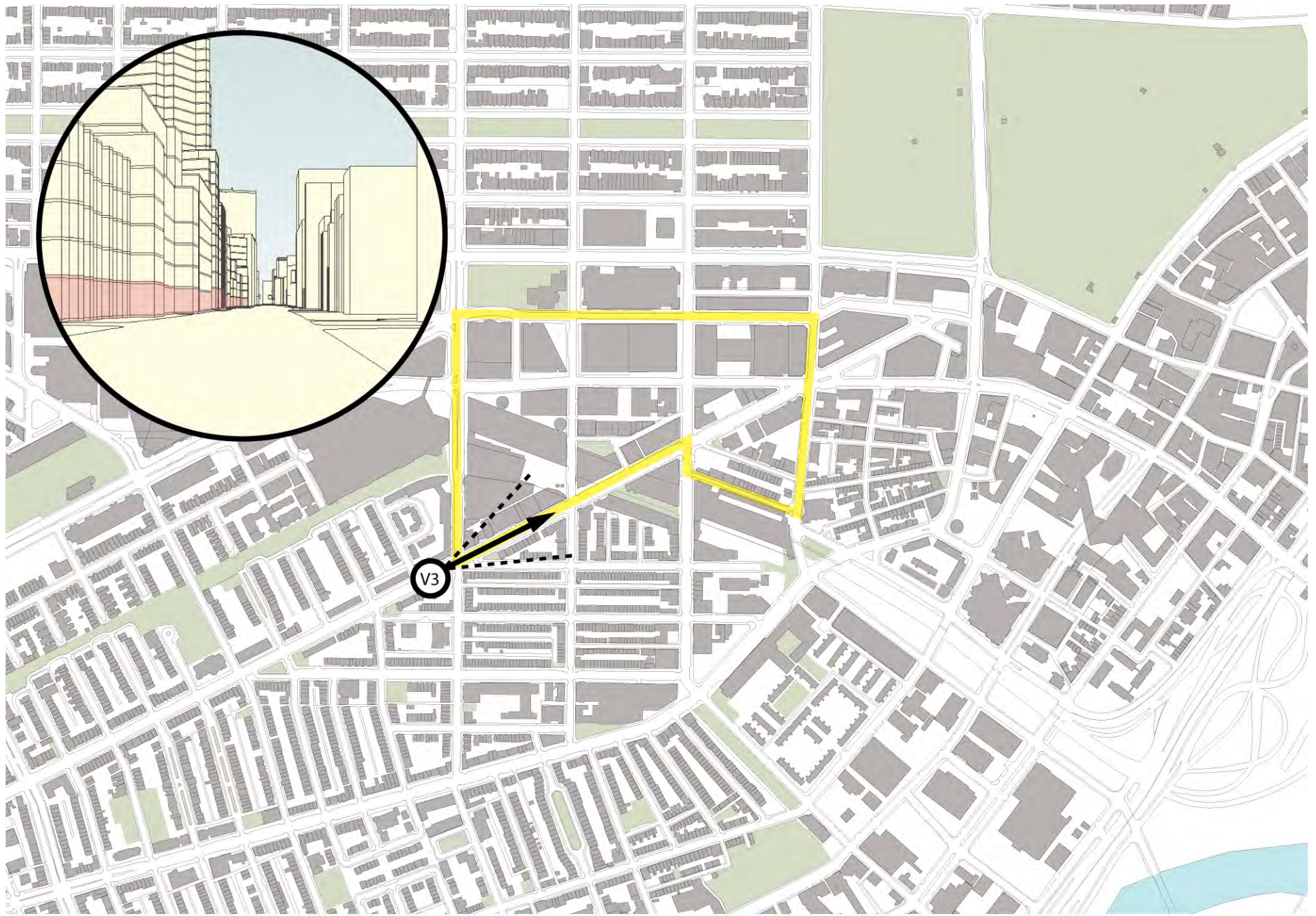
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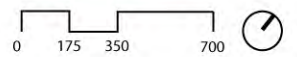


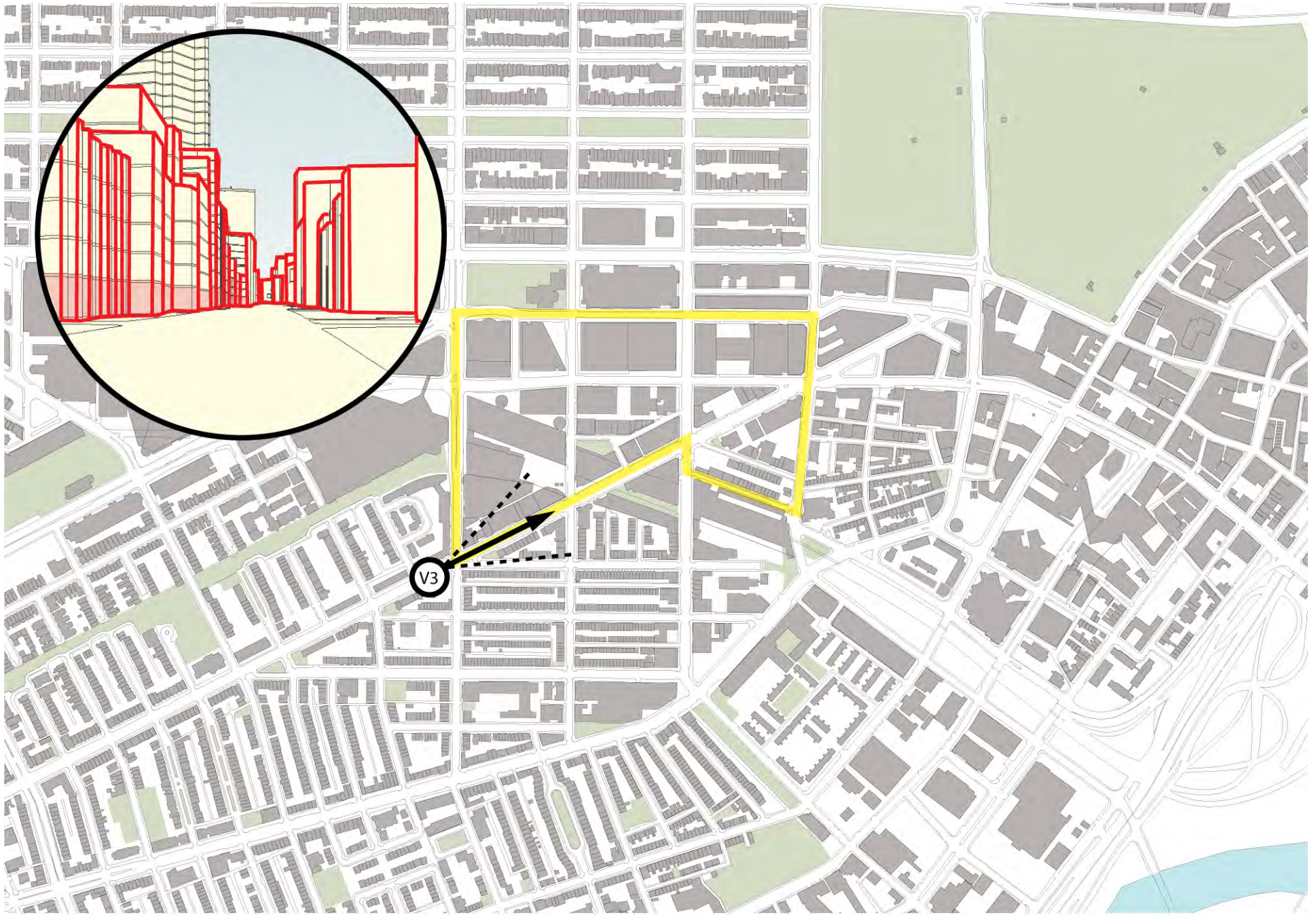
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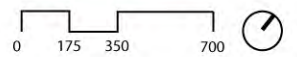


View Corridor



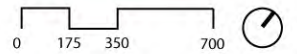


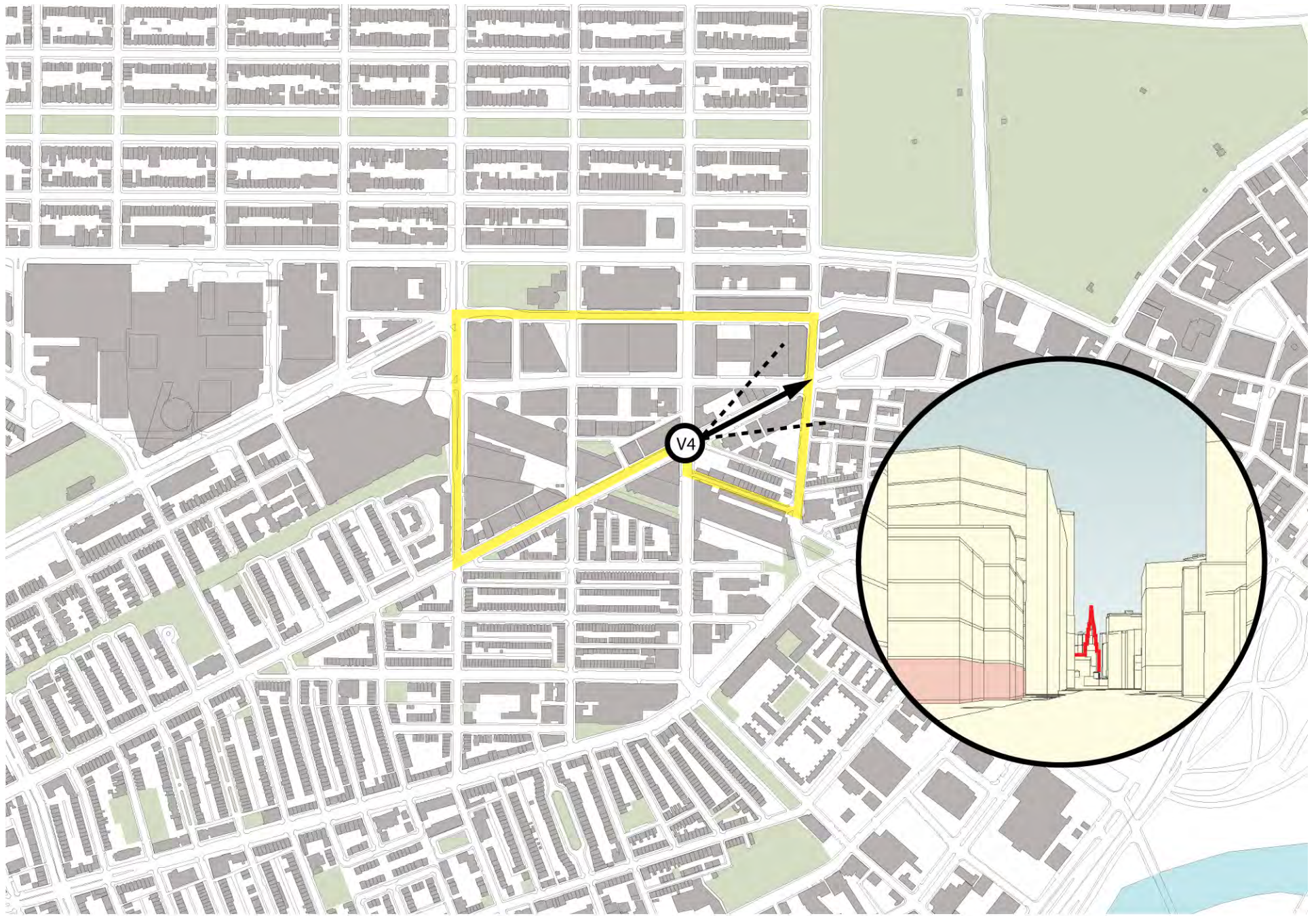
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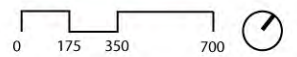


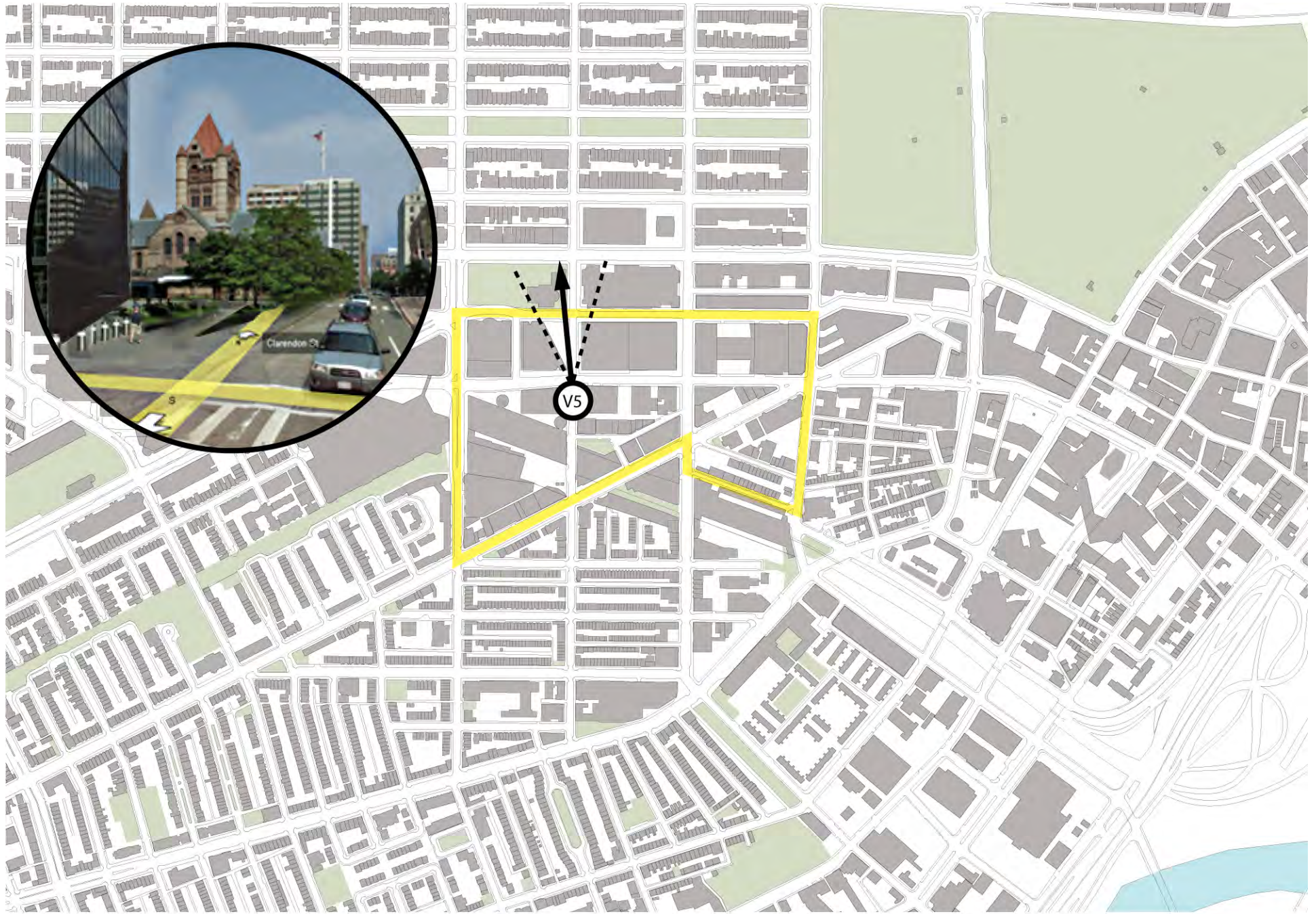
View Corridor



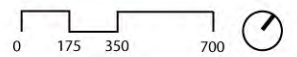


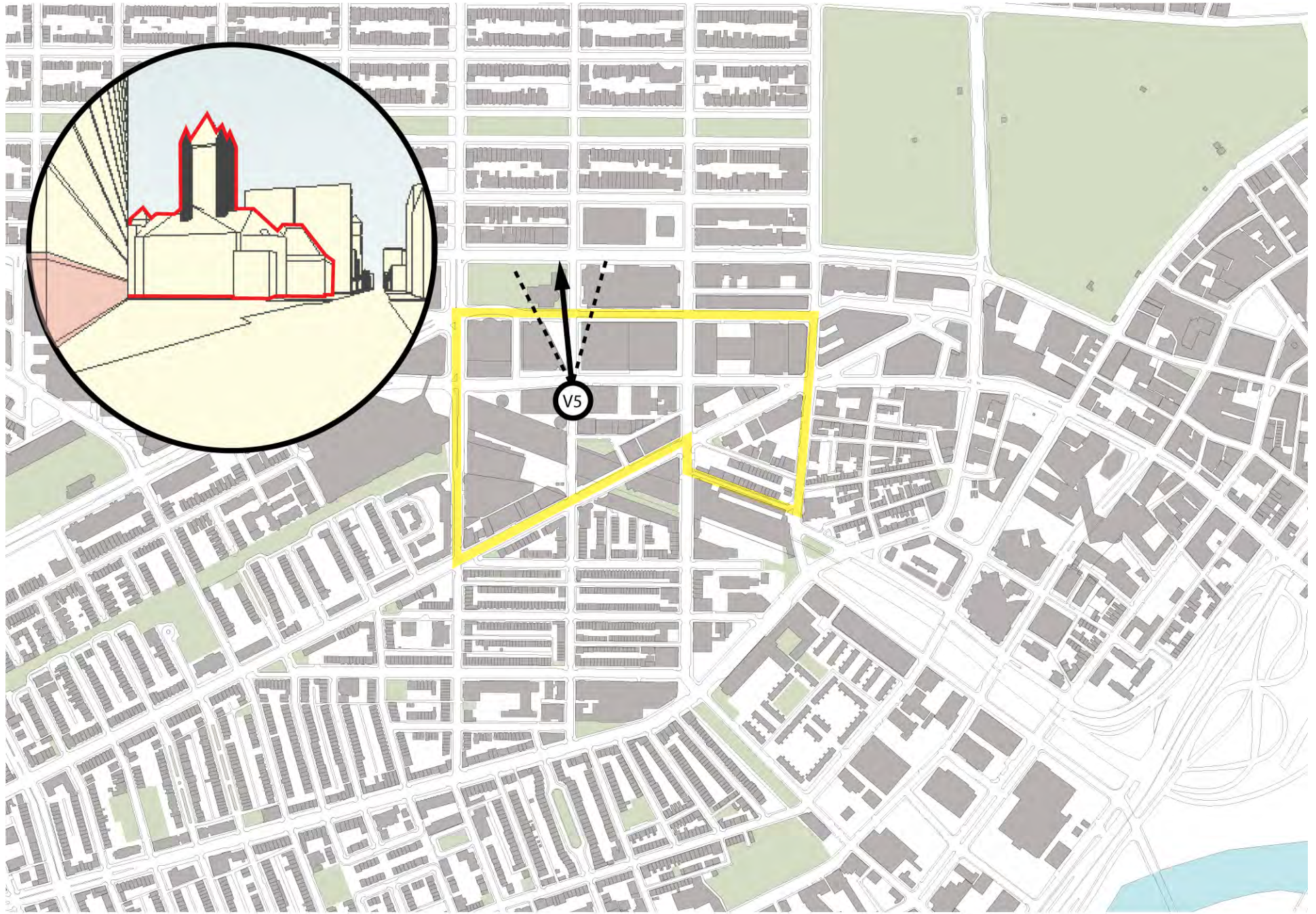
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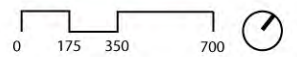


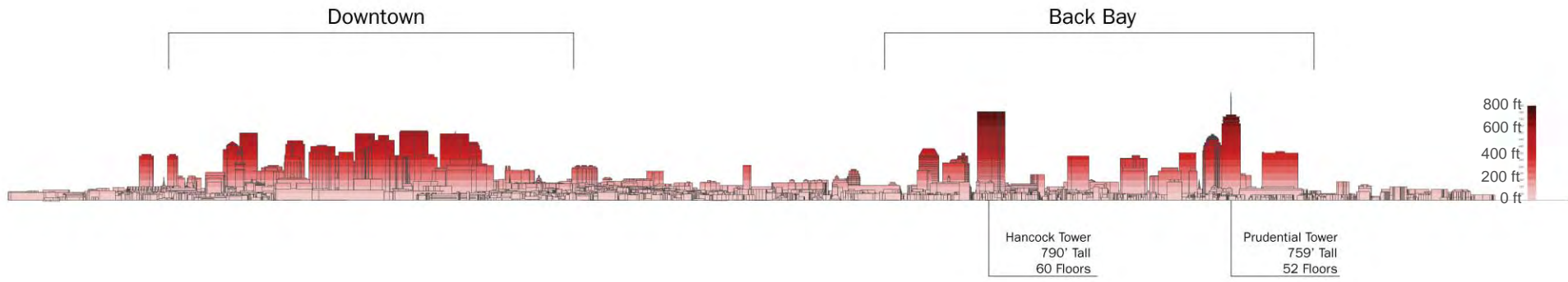
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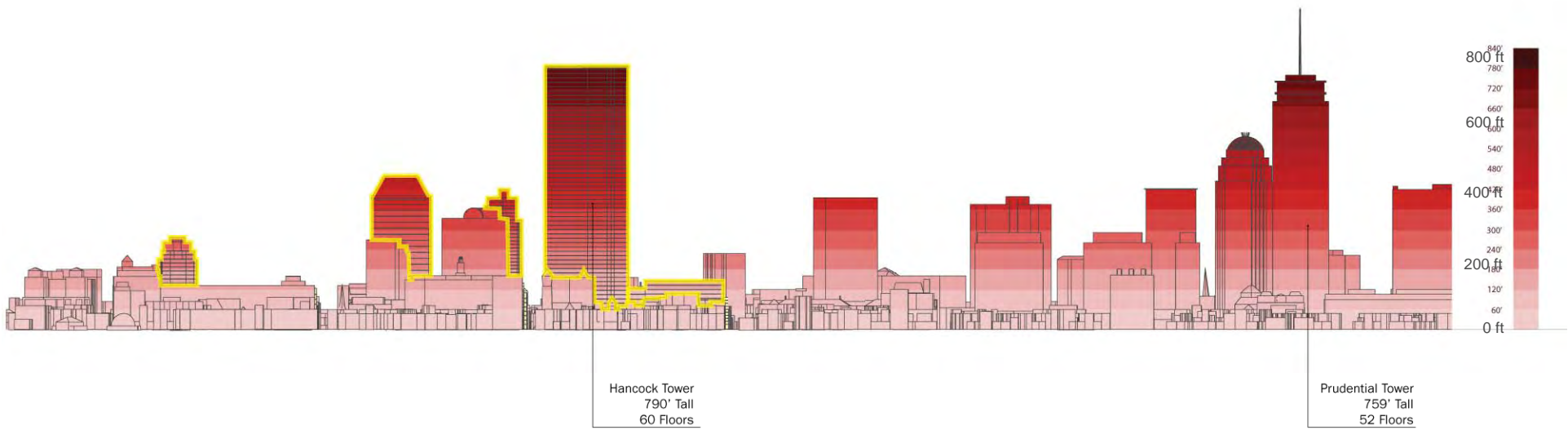


View Corridor

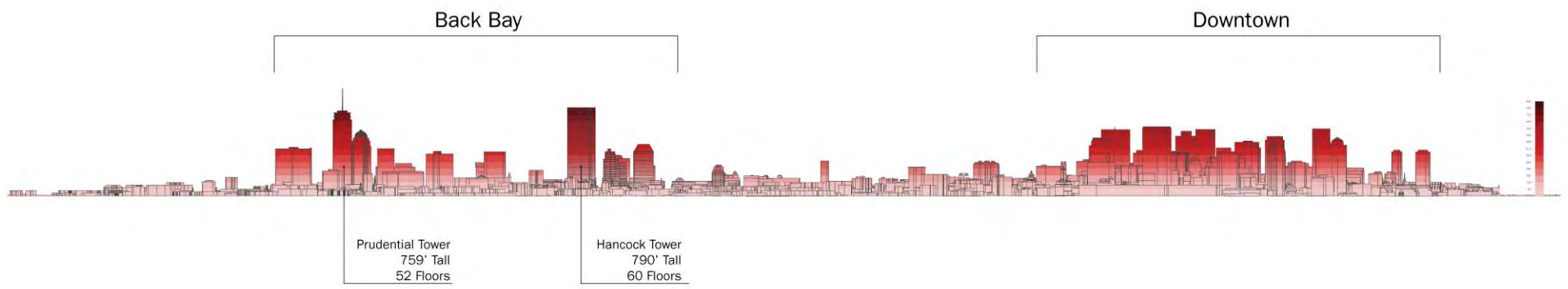




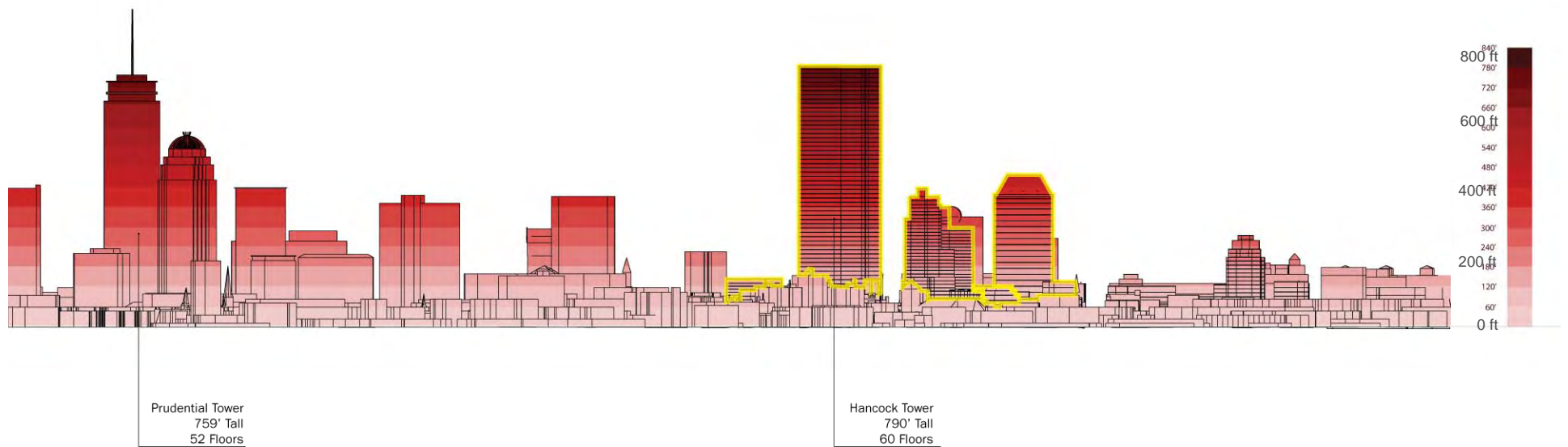
Existing Skyline: View South



Existing Skyline: View South



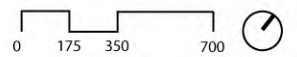
Existing Skyline: View North

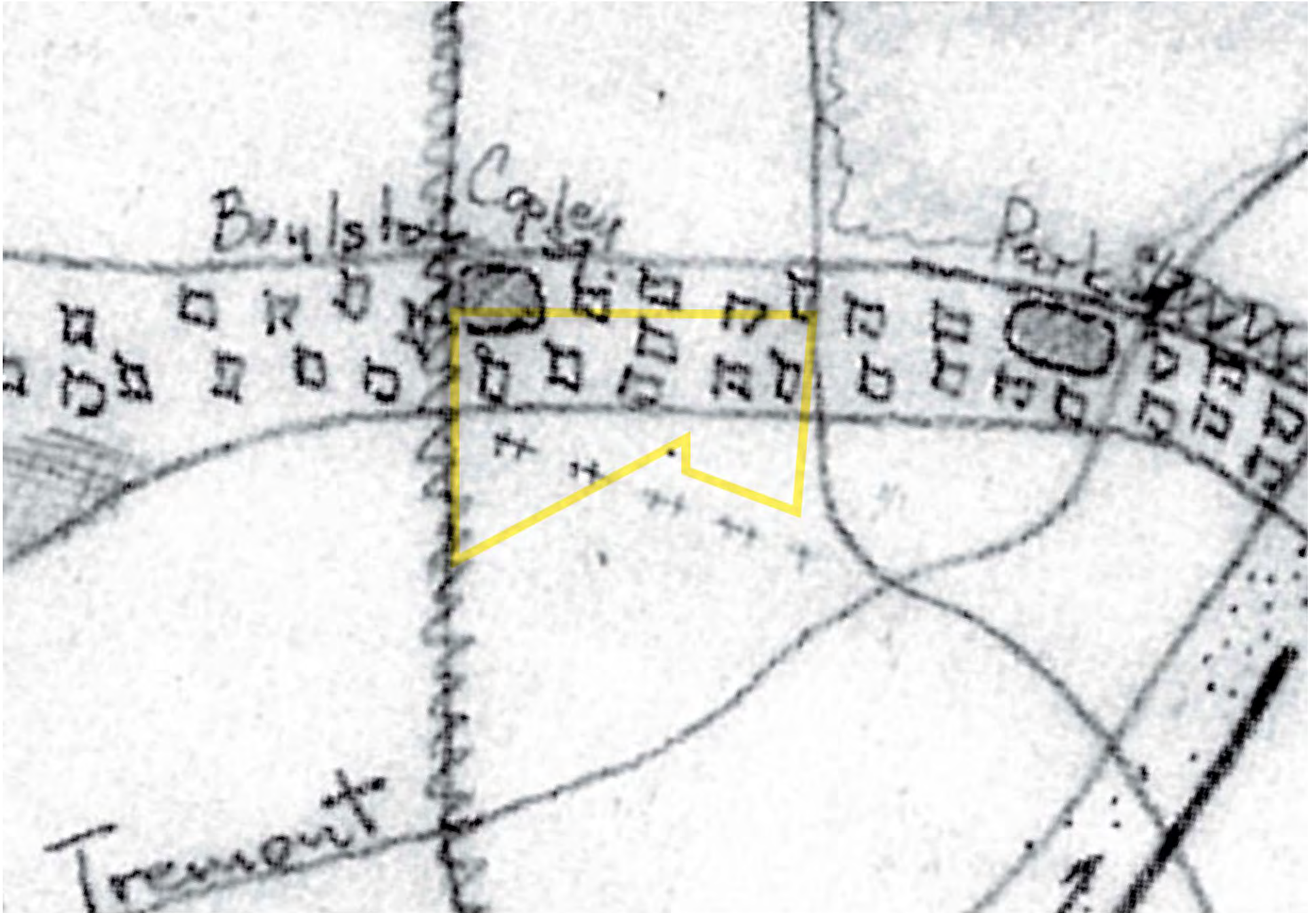


Existing Skyline: View North



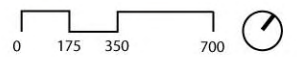
Building Heights





High Spine Concept Sketch

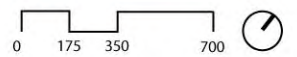
Source: Kevin Lynch





High Spine Concept Sketch

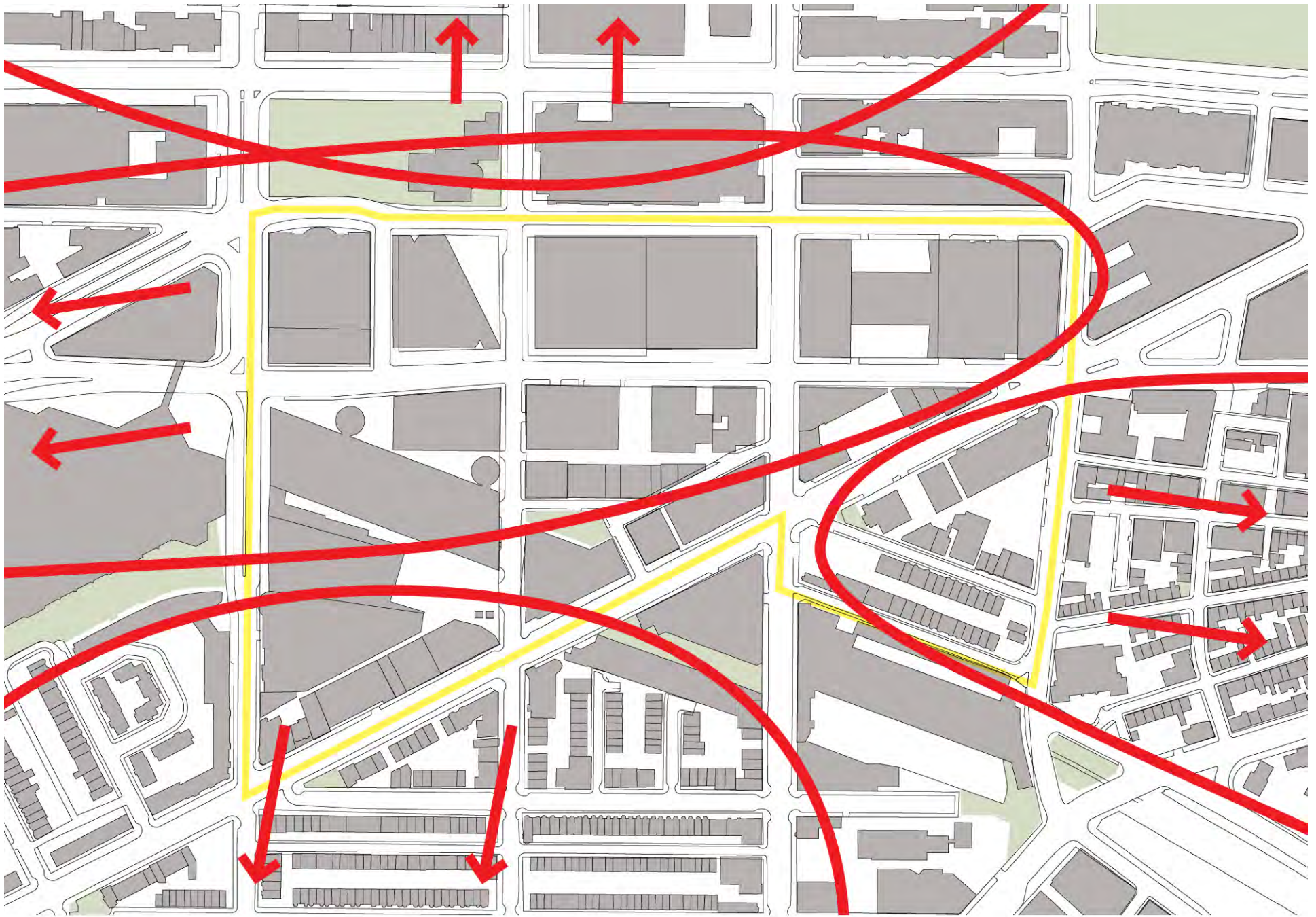
Source: Kevin Lynch



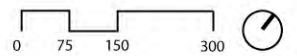
Findings

One Size Does Not Fit All

1) Overlap with other neighborhoods



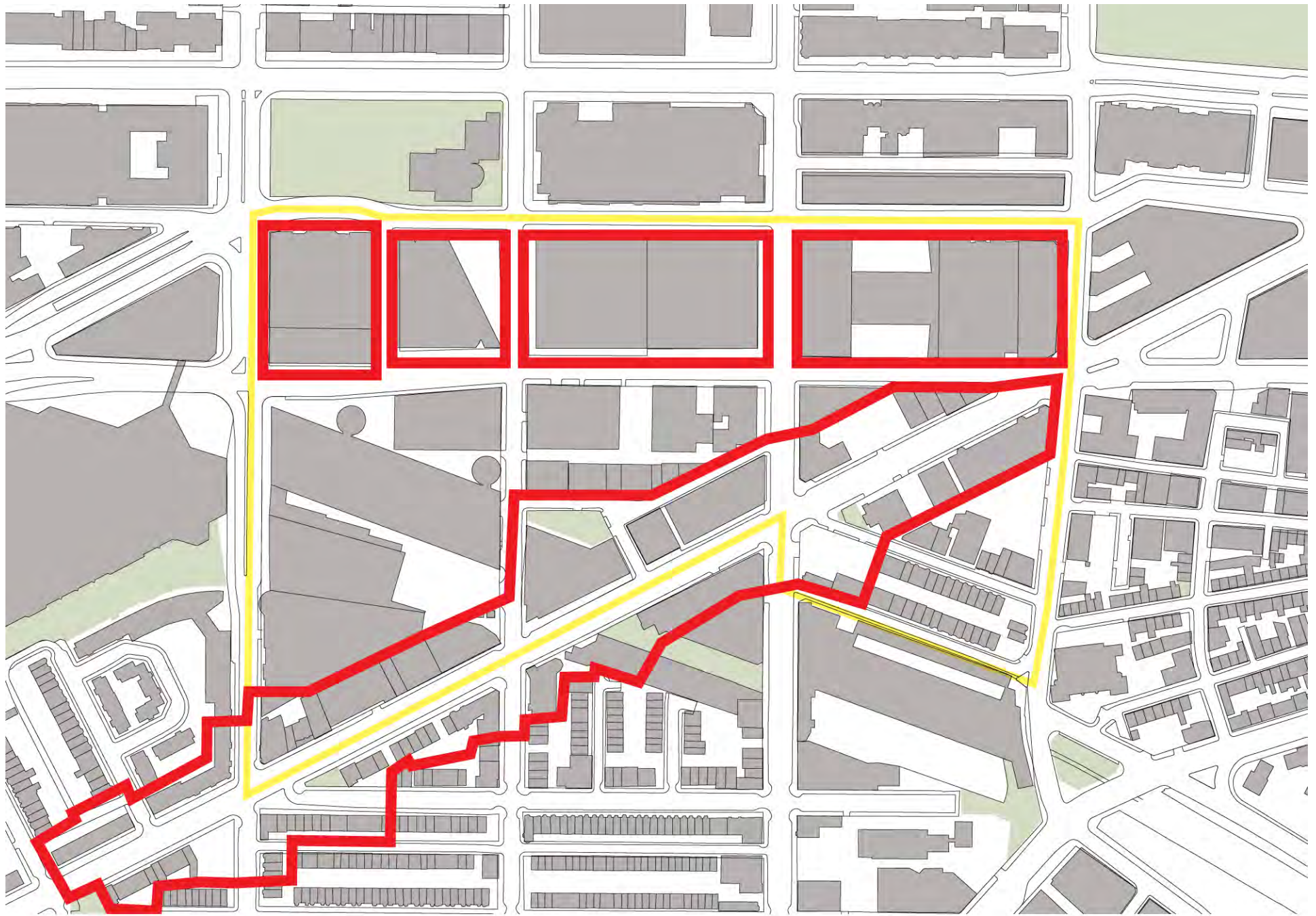
Connections to Established Neighborhoods



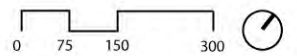
Findings

One Size Does Not Fit All

2) Blocks vs. Streets Approach



Blocks vs. Streets



Challenges

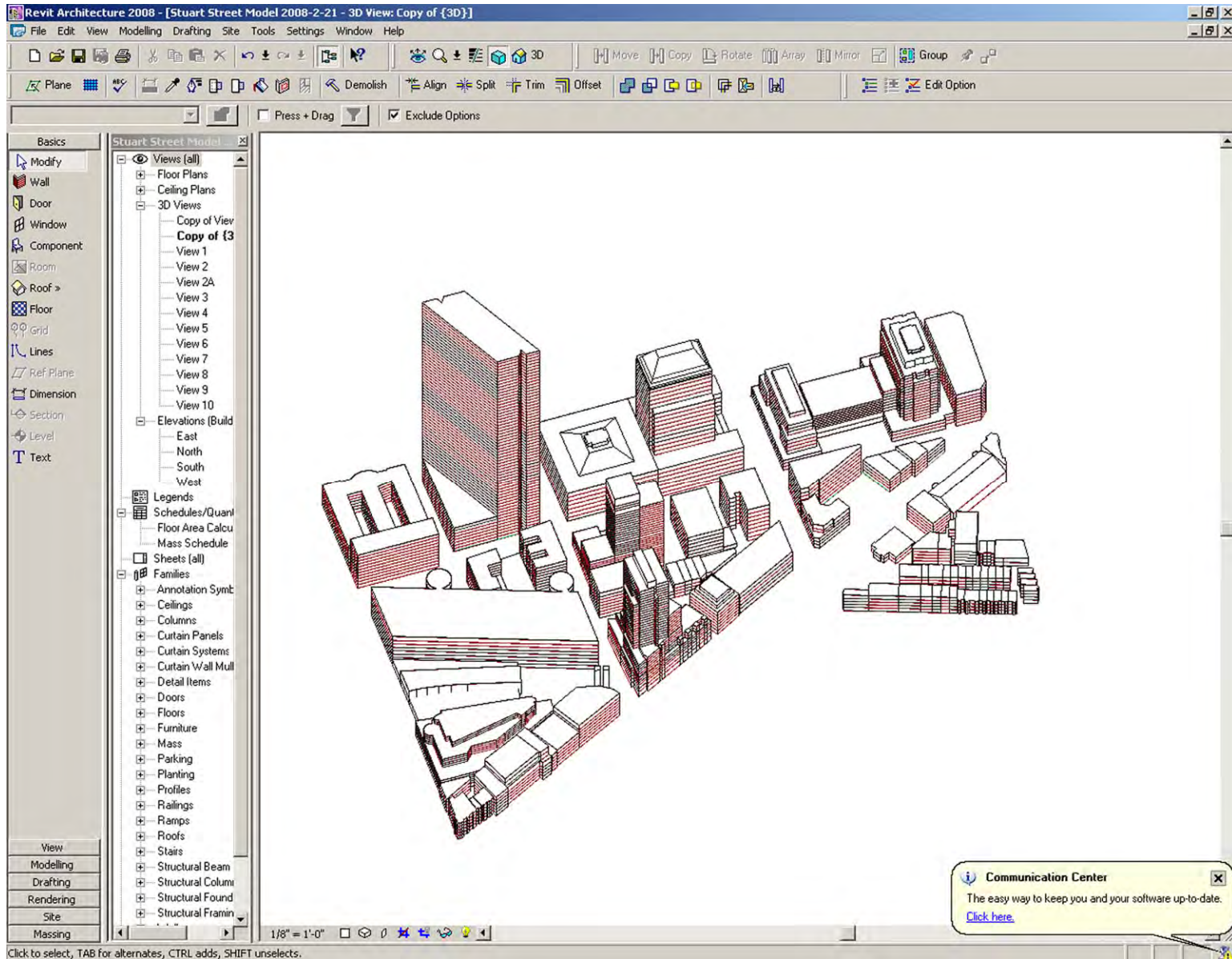
“Donut-Hole” - blocks central to the zone and north/south street are anomalous to the patterns and will require more detailed study.

Building use patterns – The Clarendon and Columbus Center as exceptions to the rule, or the first steps in a more mixed-use district?

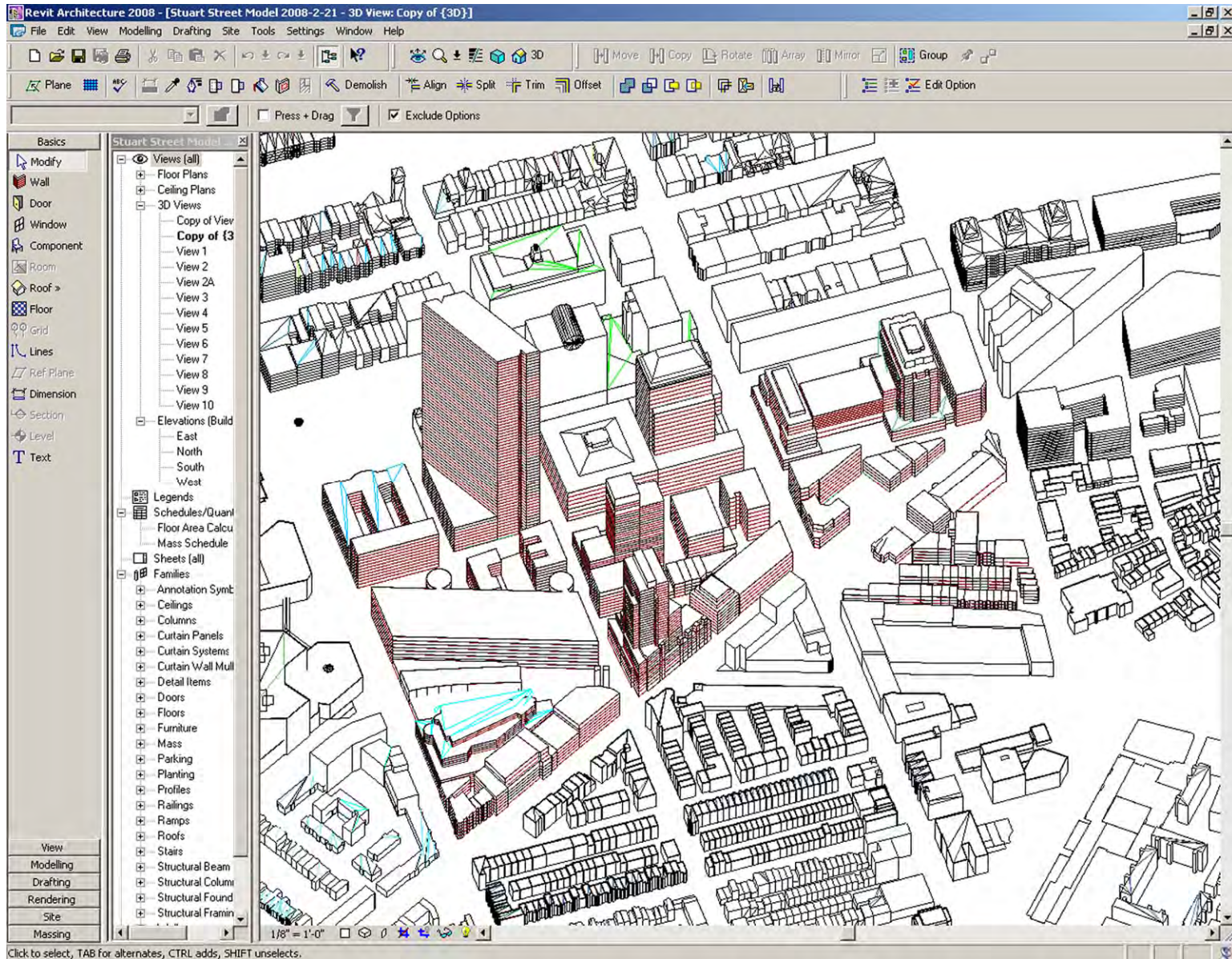
3-D Digital Model

Building massing update

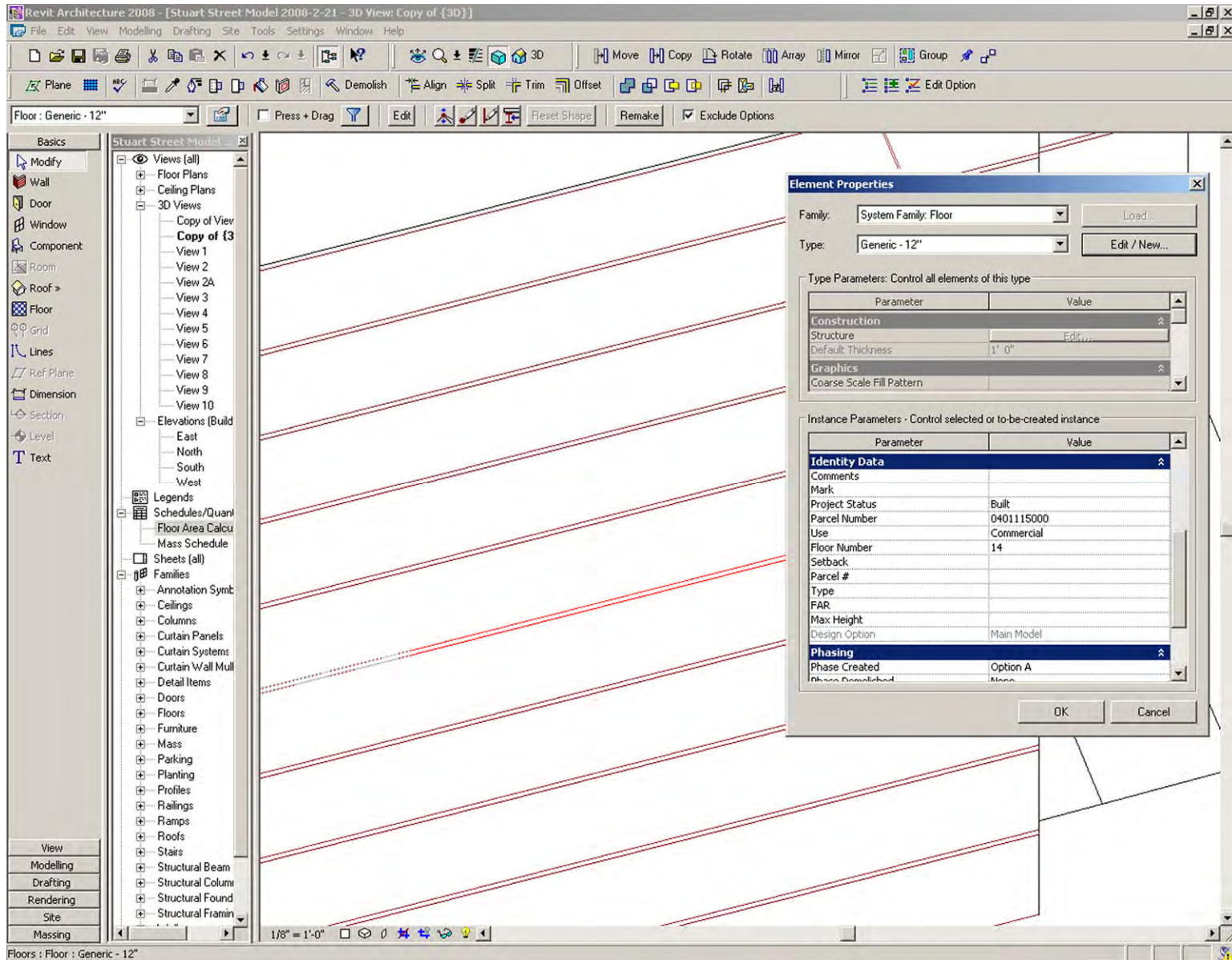
Study area buildings tagged with data



Study Area Modeled with BIM



Study Area Modeled with BIM



Floors Tagged with Data

Parameters	Values
Project Status	Built/Under Construction/Permitted/Development Scenario
Parcel Number	-
Use	Residential/Commercial Office/Commercial Retail
Floor Number	-
Height Limit	-
Max FAR	-
Building Face Setback	-
Parapet Setback	-

Parameters

Revit Architecture 2008

File Edit View Modelling Drafting Site Tools Settings Window Help

Plane, Press + Drag, Exclude Options

Stuart Street Model

Views [all]
 Floor Plans
 Ceiling Plans
 3D Views
 Copy of View
 Copy of {3
 View 1
 View 2
 View 2A
 View 3
 View 4
 View 5
 View 6
 View 7
 View 8
 View 9
 View 10
 Elevations (Build
 East
 North
 South
 West
 Legends
 Schedules/Quant
 Floor Area Calcu
 Mass Schedule
 Sheets (all)
 Families
 Annotation Symb
 Ceilings
 Columns
 Curtain Panels
 Curtain Systems
 Curtain Wall Mull
 Detail Items
 Doors
 Floors
 Furniture
 Mass
 Parking
 Planting
 Profiles
 Railings
 Ramps
 Roofs
 Stairs
 Structural Beam
 Structural Colum
 Structural Found
 Structural Framin

Stuart Street Model 2008-2-21 - 3D View: Copy of {3D}

Stuart Street Model 2008-2-21 - Schedule: Floor Area Calculations

Floor Area Calculations				
Parcel Number	Floor Number	Area	Use	Project Status
0400548000	1	13088 SF	Commercial	Built
0400548000	2	13088 SF	Commercial	Built
0400548000	3	13088 SF	Commercial	Built
0400548000	4	13088 SF	Commercial	Built
0400548000	5	13088 SF	Commercial	Built
0400548000	6	13088 SF	Commercial	Built
0400548000	7	13088 SF	Commercial	Built
0400548000		91614 SF		
0400549000	1	8295 SF	Commercial	Built
0400549000	2	8295 SF	Commercial	Built
0400549000	3	8295 SF	Commercial	Built
0400549000	4	8295 SF	Commercial	Built
0400549000	5	8295 SF	Commercial	Built
0400549000		41476 SF		
0400550000	1	2684 SF	Commercial	Built
0400550000	2	2684 SF	Commercial	Built
0400550000	3	2684 SF	Commercial	Built
0400550000	4	2684 SF	Commercial	Built
0400550000	5	2684 SF	Commercial	Built
0400550000		13422 SF		
0400554000	1	14714 SF	Retail	Under Constru
0400554000	2	14714 SF	Retail	Under Constru
0400554000	3	14714 SF	Residential/	Under Constru
0400554000	4	14714 SF	Residential/	Under Constru
0400554000	5	14714 SF	Residential/	Under Constru
0400554000	6	13871 SF	Residential/	Under Constru
0400554000	7	13871 SF	Residential/	Under Constru
0400554000		101313 SF		
0400557000	1	4211 SF	Commercial	Built
0400557000	2	4211 SF	Commercial	Built
0400557000	3	4211 SF	Commercial	Built
0400557000	4	4211 SF	Commercial	Built
0400557000	5	4211 SF	Commercial	Built
0400557000	6	4211 SF	Commercial	Built
0400557000		25268 SF		
0400558000	1	1873 SF	Residential/	Built
0400558000	2	3745 SF	Residential/	Built
0400558000	4	1873 SF	Residential/	Built
0400558000	5	1873 SF	Residential/	Built
0400558000		9364 SF		
0400560000	1	689 SF	Retail	Built
0400560000	2	689 SF	Residential/	Built

1/8" = 1'-0"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

Data Sorted with Spreadsheet

Next Steps

Task 2.1: Site Selection

Site Selection Criteria

- > Dimensional criteria
- > Availability of land and under-utilized sites
- > Historical / Landmark status
- > Ownership patterns
- > MBTA property
- > Financial viability
- > Turnpike Air-Rights