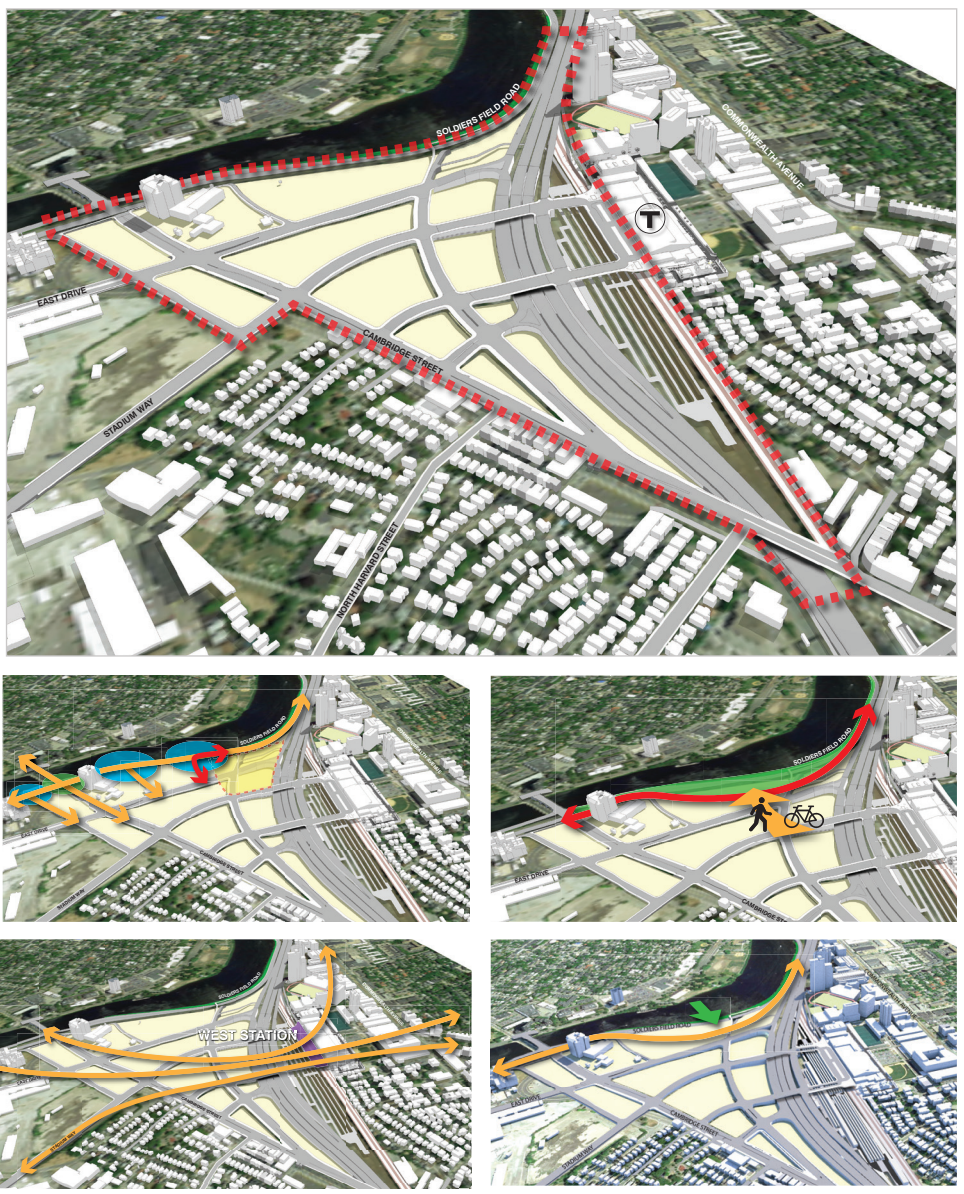


Placemaking Report

I-90 Allston Interchange Improvement Project

October 2016



Prepared for the City of Boston
Boston Planning & Development Agency

Prepared by The Cecil Group/Harriman
with Nelson Nygaard Consulting and Stantec

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Placemaking Study Area and Context

This Study encompasses about 135 acres of land that have been predominately occupied by I-90 and its Allston interchange, along with rail lines and extensive railyards. This area will be reconfigured with a new transportation infrastructure that will help unlock future development and open space opportunities.

Introduction and Summary

Overview

This *Placemaking Report* provides guidance and recommendations for the redesign of the transportation infrastructure in and around the I-90 Allston Interchange, so that outstanding urban places and spaces can emerge as specific master plans and redevelopment proposals are brought forward in the future.

Major infrastructure changes that are currently being planned will unlock the potential for a large, new mixed use district in North Allston. The sprawling railyards and existing I-90 Massachusetts Turnpike (Mass Pike) interchange in this area of Boston will be replaced by a more compact interchange and multi-modal network of streets, paths, rail and transit facilities. This infrastructure will define large areas for open space and development including urban blocks, buildings and new uses in the district. The new infrastructure must provide important regional connections that serve Boston and surrounding communities. The resulting infrastructure must also enhance and serve adjacent neighborhoods, institutions, and businesses while mitigating the negative impacts that can accompany transportation infrastructure and its operation.

The Massachusetts Department of Transportation (MassDOT) is responsible for the design and overall planning coordination of the majority of the transportation infrastructure. Harvard University owns the majority of the land that will become available for redevelopment after the infrastructure is reconfigured, including air rights above the rail facilities and the roadways. The entire area lies within the City of Boston and will become a significant addition to the urban places that distinguish Boston as a livable, economically successful, and sustainable community.

Aerial Photo of Existing Conditions

Infrastructure has consumed the study area, including the I-90 Interchange, railyards, rail lines and industrial uses. The area is bounded by Boston neighborhoods, parts of Boston University and campus, and portions of the Harvard University property slated for development.

The Boston Planning & Development Agency and the Boston Transportation Department conducted this study with the collaboration of MassDOT. The study was intended to inform the design and phasing of infrastructure improvements. The study was undertaken in concert with the evolution of specific infrastructure concepts prepared by MassDOT, and took into account separate ideas and concepts that have been advanced by participants and advocates in the extensive public participation process that MassDOT is conducting.

This *Report* establishes Placemaking Standards that are specifically intended to provide input and guidance on key aspects of the infrastructure improvements currently being planned by MassDOT. It also provides recommendations and guidance for the future master planning that will be required before specific development proposals can be brought forward.

The *Report* has been prepared for the Boston Planning & Development Agency with the assistance of a multi-disciplinary team led by The Cecil Group/Harriman in association with Nelson Nygaard Consulting Associates and Stantec. The team encompassed urban designers, transportation planners, land use planners, landscape architects, and real estate economists.



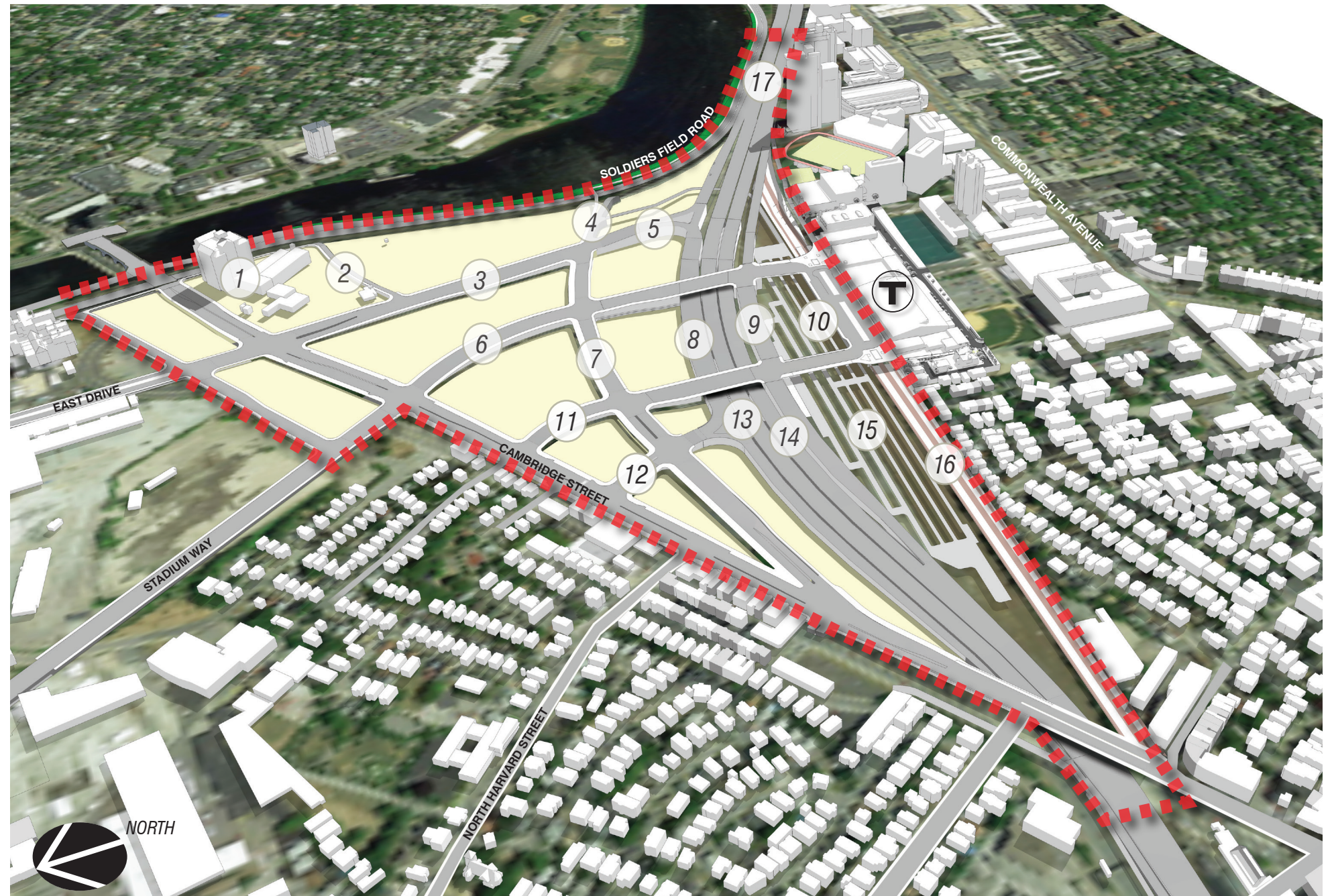
Study Area and Scope

This *Placemaking Report* encompasses land that will be altered as a result of the reconstruction of the rail and highway infrastructure and that will become available for reuse and redevelopment. The planning area is generally bounded by Cambridge Street on the north, Soldiers Field Road on the east, and the limits of the rail and interstate alignment on the south.

The study area is situated at a pivotal location surrounded by neighborhoods and institutions. The North Allston neighborhood abuts the study area along Cambridge Street, and portions of Allston and Brighton are south of the interchange area. Harvard University lies to the north, and Boston University lines portions of the study area to the south. The area is also a Boston gateway from Cambridge, Brookline, and points west.

The *Report* primarily focused on reviewing and informing the transportation alternatives being advanced by MassDOT. This includes the draft preferred alternative that was prepared and provided for public discussion in late 2015 and refined in early 2016. This alternative has been named “3K-4.” It includes concept layouts for the revised rail alignments and MBTA operational needs; a future transit station (West Station); new ramps to and from I-90 and a network of connecting streets; and sidewalks and bicycle facilities to connect the interstate and West Station to the local street and roadway network. The *Report* also considered concepts prepared by participating advocates, including two alternatives being studied by MassDOT for the potential configuration of a narrow corridor of land along the Charles River Esplanade at the eastern end of the interchange area, which has been dubbed “the throat” by participants in the design process.

Although it anticipates the future development of open spaces and buildings, this study is not a master plan. Rather, this *Report* provides guidance for the infrastructure location and configuration so that the area can be easily and flexibly adapted to excellent urban design solutions for the long-term success of the district. As a result, the urban design standards in this *Report* serve three purposes: informing MassDOT prior to finalizing its alternatives and preparing a Draft Environmental Impact Report (DEIR); as the criteria for the City’s review of the DEIR and future transportation design proposals; and as a resource to shape future master planning for open space and redevelopment of the area.



Placemaking Study Area and the 3K-4 Alternative

This is an aerial view of the study area looking east. The North Allston neighborhood is at the bottom of the view. The Charles River is near the top of the view, with portions of Cambridge in the upper left hand corner. Parts of Boston University, Boston, and Brookline are visible in the upper right hand portions of this view. The study area includes a 3-dimensional diagram of the MassDOT 3K-4 Alternative, which has been the primary focus of the analysis.

- | | |
|--|---|
| 1. Doubletree Hotel and Houghton Chemical | 9. Eastbound access ramps |
| 2. Connector ramp from Soldiers Field Road | 10. West Station Commuter Rail/Transit Center |
| 3. East Drive Connector | 11. Seattle Street Connector |
| 4. Connector ramp to Soldiers Field Road | 12. West Connector |
| 5. Connection to MBTA Facility | 13. I-90 Westbound |
| 6. Stadium Way Connector | 14. I-90 Eastbound |
| 7. Cambridge Street South | 15. MBTA Commuter Rail Maintenance and Layover Facilities |
| 8. Westbound access ramps | 16. Rail Lines |
| | 17. “Throat” |

Placemaking Categories

“Placemaking” in the context of this study refers to the creation of conditions that will allow great urban places to grow within this district. Such places can emerge where there are diverse amenities for those who work, live, visit, and pass through an area: walkable streets that are inviting for retail, great open space, diverse transportation options, and so on. The goal of this study is to ensure that those amenities can emerge even with the significant roadway infrastructure being planned. This *Report* established a framework for placemaking within five major categories, which were used to organize the analysis of the planning area and the MassDOT alternative 3K-4. The placemaking categories labeled below were also used to organize a specific set of principles for the urban design of the infrastructure and the subsequent open space and redevelopment that will occur there.

Topics for Analysis

The study process included an extensive review and analysis of the placemaking potential associated with proposed alternatives for the I-90 Allston Interchange. Subsequently, the placemaking categories were used to organize a series of evaluations, which were presented to the I-90 Allston Interchange Project Task Force. The topics included in the analyses are listed below. An overview of the analyses is provided in *Appendix B* of this *Report*.

Placemaking Principles

Using these same categories, the study articulated specific placemaking principles for the area. These are key goals that the future transportation infrastructure should provide, support, or allow. The Placemaking Standards contained in this report are aligned with these principles. In the subsequent sections of this *Report*, each Placemaking Standard is correlated to the underlying principles that it will help implement. These are indicated using the icons associated with each placemaking category.



Public Realm and Open Space

This category includes the public realm created by the streetscape and areas accessible to pedestrians. This topic also addressed the potential for future open space on land or air rights defined by the new infrastructure.

Public Realm and Open Space

The analysis considered whether the land and air rights defined by the infrastructure would be readily adaptable to multiple types and sizes of open spaces. It mapped potential walking distances and distribution of open spaces. Studies evaluated the potential to create excellent, pedestrian-friendly streetscapes.

Public Realm and Open Space

- Enhance access to useable open space
- Reinforce connections to existing resources along the Charles River
- Provide active and generous street edges



Mobility/Connectivity

This category encompasses the ability of all transportation modes to facilitate movement and enhance connections to diverse destinations, once the new infrastructure is completed.

Mobility/Connectivity

The evaluations considered the placemaking characteristics of proposed street types, pedestrian and bicycle networks. The evaluation addressed the distribution of traffic and potential congestion implications and other placemaking impacts of the street network and highway connections. The study included consideration of transit connectivity, transit routing and adaptability relative to potential future transit service.

Mobility/Connectivity

- Reinforce walkable and pedestrian-friendly scale
- Enhance multi-modal connections and convenience
- Strengthen connections between adjacent neighborhoods and districts



Development Potential/Flexibility

This category gauges the prospective ease or difficulty facing prospective new development initiatives in the district after the infrastructure is completed. The category includes the ability of the land areas and air rights to be flexibly adapted to different types of development.

Development Potential/Flexibility

Studies evaluated the adaptability of the future blocks and air rights for a range of block and building sizes and geometries. Analyses considered the potential relationship between vehicle, transit and pedestrian access and development. Maps indicate areas that would be difficult to develop and where prime locations would be created.

Development Potential/Flexibility

- Maintain flexible accommodation of a wide variety of building types
- Integrate old and new with context-sensitive, compatible transitions
- Strengthen ability to deck over the highway and rail yards



Distinctive Place/Context Sensitivity

This category considers whether future buildings, blocks and open spaces defined by the new infrastructure can be adapted to create a distinctive new district that enhances bordering neighborhoods, campuses and open space.

Distinctive Place/Context Sensitivity

The analysis evaluated infrastructure plans relative to their capacity to support diverse scales and patterns of urban spaces, blocks, buildings and features. The analysis considered whether the proposed infrastructure would enhance or detract from bordering areas.

Distinctive Place/Context Sensitivity

- Provide for future destination places with range of uses and densities
- Maximize opportunities to extend Boston’s urban fabric
- Define a network of recognizable places and centers of activity



Energy Efficiency/Sustainability

This category includes the ability of the infrastructure project to directly provide - or indirectly support - energy efficiency and an environmentally sustainable community.

Energy Efficiency/Sustainability

The evaluation considered whether the infrastructure concepts were compatible with district-wide utility needs. The topics included sustainable, effective approaches to climate change and flood prevention. The study addressed the ability of the project to support sustainable placemaking

Energy Efficiency/Sustainability

- Enhance the ability for energy efficient and sustainable district design
- Anticipate climate change, sea-level rise and infrastructure needs

Background

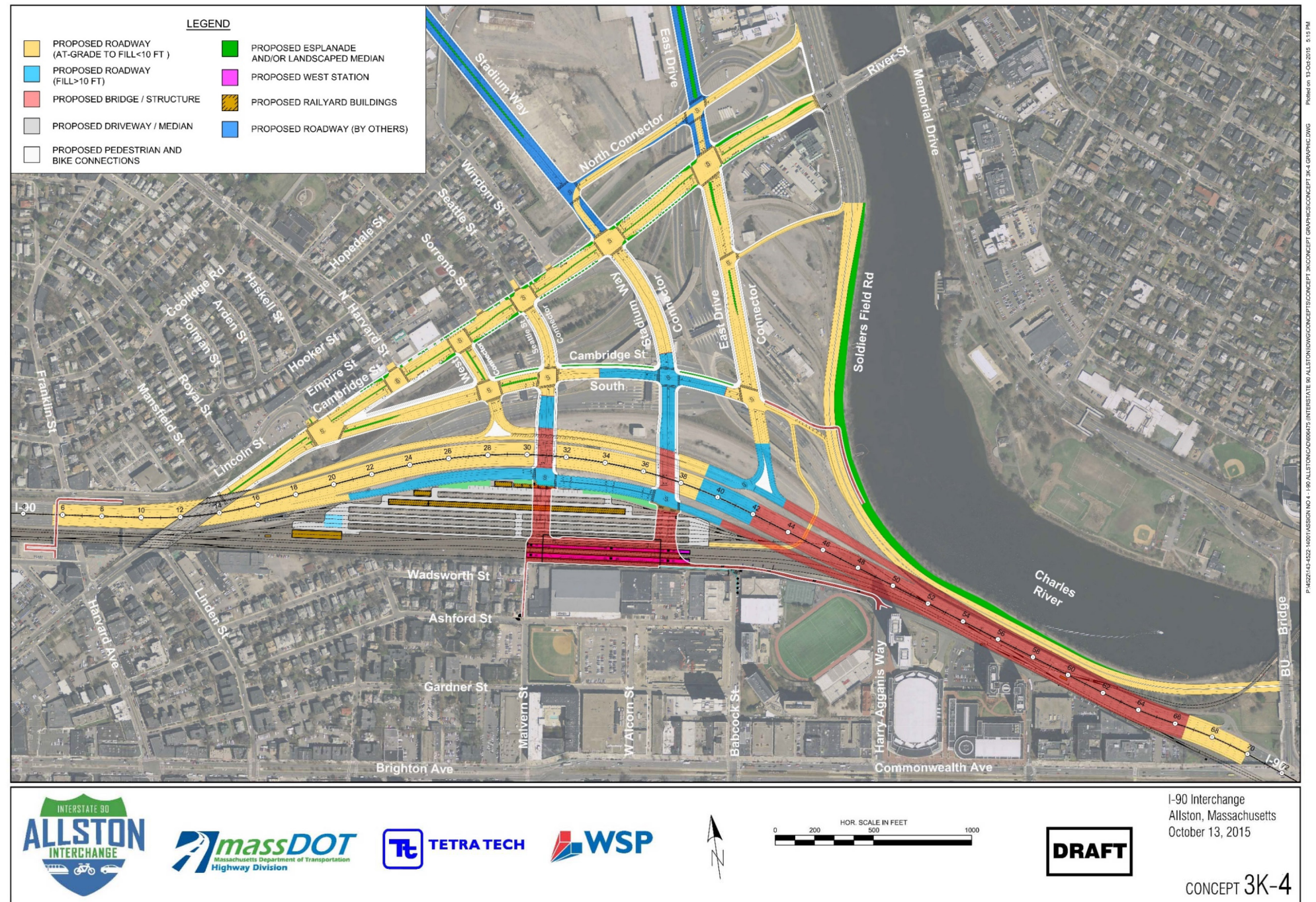
Project Description and Status

Transportation and redevelopment goals underlie the decision to reconfigure the former Beacon Park Rail Yard and the I-90 Interchange in Allston. The current interchange is outdated and includes the structurally deficient, obsolete Allston Viaduct, which carries the highway above portions of the rail lines. Harvard has been planning for the long-term expansion of its campus with accompanying redevelopment in areas north of Cambridge Street. Recognizing the potential for better utilization of this large triangle of land, Harvard University obtained both land from the former owner of the rail yards and air rights above the rail and highway alignments to redevelop the area.

The project to reconfigure the transportation infrastructure has been led by the MassDOT. Beginning in 2014, MassDOT has advanced a sequence of alternative concepts for the transportation infrastructure. This has included a series of meetings and working sessions with the Allston I-90 Interchange Improvement Project Task Force composed of representative residents, advocates, businesses, institutions and public officials.

By October, 2015, the range of options was narrowed towards a preferred alternative, named "Alternative 3K-4." This step was taken in anticipation of finalizing the concepts and preparing a Draft Environmental Impact Report (DEIR), which is required before the project can proceed. The DEIR is also expected to precede the funding for the project, which is not yet in place. The DEIR is expected to analyze the impacts and mitigation of a preferred alternative, as well as other options. The alternative options are expected to include other concepts that have been brought forward, including two concepts for the "throat" - the narrow band of parkland, highway, and rail alignments at the east end of the project, along the Charles River.

MassDOT is expected to finalize the alternatives and schedule for the DEIR subsequent to the completion of this *Report* and in concert with the community and agency participation process it is conducting. Ultimately, the placemaking study is not intended to substitute for comprehensive planning for this new district. It is anticipated that the property owner will eventually undertake a full master planning process for the district. Accordingly, the *Placemaking Report* has memorialized some considerations for master planning.



MassDOT I-90 Allston Interchange 3K-4 Alternative

This plan summarizes the design concepts that have been a principle focus of this Placemaking Study. The 3K-4 approach was developed during the MassDOT planning process, in anticipation of finalizing a preferred concept for a Draft EIR.

This plan features paired streets leading to frontage roads that serve as the on- and off-ramps for I-90. Two new streets would cross above the highway and rail facilities to reach a new MBTA station (West Station). The plan includes initial concepts for intersections, traffic lanes, bicycle and pedestrian routes, and sidewalks. This configuration has been used as a basis for ongoing traffic studies and other evaluations.

Planning Process

This *Placemaking Report* is the result of a process established by MassDOT, the Boston Planning & Development Agency (BPDA), the City of Boston, and the Boston Transportation Department in September, 2015. Alternative 3K-4 was used to test whether the infrastructure design would be conducive to high-quality urban design of the open space and development that would eventually occupy the land and air rights. The process has taken into consideration the perspectives of the stakeholders in the future of the area, including the **Allston I-90 Interchange Improvement Project Task Force** that has been integral to the MassDOT planning process.

Key steps included:

- Review of the existing conditions and trends for transportation and development in the planning area
- Presentations and discussions with the I-90 Allston Interchange Project Task Force concerning issues and principles for placemaking
- Review and evaluation of Alternative 3K-4
- Review of information and consideration of two concepts presented by advocates for the “throat” area
- Presentation and discussion of the analyses of Alternative 3K-4
- Preparation and presentation of draft Placemaking Standards
- Review of input from participants and advocates
- Preparation of this final *Report*

Key Community Issues

During the course of the community process, all of the issues that were raised were noted and tracked by the team. The following list indicates several of the prominent, recurring comments and are representative of the community considerations that have been taken into account.

- A.** Integrated open space network with expanded riverfront park
- B.** Shared use path connection to Charles River, Cambridge, Memorial Drive
- C.** Quality of West Station as a landmark and transit-oriented district center with safe and inviting access from all directions
- D.** Alternatives for highway/rail alignments at the “throat”
- E.** Walkability and pedestrian environment relative to roadway width
- F.** Allston’s improved links between north and south neighborhoods by connecting Cambridge Street and Commonwealth Avenue
- G.** Decking over the highway and railyards to reduce noise and air pollution and create a place for buildings, parks and connections
- H.** Transformation of Cambridge Street into a vibrant neighborhood street with protected bike lanes
- I.** Interim conditions and phasing of infrastructure and development
- J.** Protection of adjacent neighborhoods from traffic impacts



City Goals

Based upon extensive community input and broader planning principles for the future of Boston, the City has set forth the following major goals for the I-90 Interchange design:

1. Creation of a dynamic, mixed-use TOD district
 - Walkable and human scaled
 - Connections to Charles River
 - Links to surrounding neighborhoods
 - Supportive of mixed use development
2. Significant expansion of regional transit service
 - Creation of West Station as a regional transportation hub
 - Multiple transit choices: BRT, DMUs, buses, shuttles and commuter rail
3. Enhancement of Interstate reliability
 - Replace obsolete viaduct
 - Improve alignments
 - ITS technology and information enhancements

Benefits and Contributions of the MassDOT Alternatives

MassDOT has accomplished an extensive series of studies and analyses for restructuring the I-90 Interchange in Allston and creating a new network of multi-modal streets and connections. This complex project has incorporated the design of a new transit station and anticipates the future needs of regional traffic that must find its way into and through the urban streets and roads. The design must balance the requirements associated with federally regulated highways with local complete streets that will serve both the existing neighborhoods and a new district that will emerge. At the same time, the design has considered the concerns and aspirations of the neighboring districts and stakeholders in the future of an area that is a gateway to Boston and Cambridge and lies between the campuses of both Harvard and Boston Universities.

A sequence of alternative concepts for restructuring the transportation infrastructure has been prepared and has been the subject of presentations and discussions with the Task Force and the stakeholders in the future of the area. Early alternatives included suburb-type interchanges which were not pursued, based on the input from the Task Force and others.

Alternative 3K-4 incorporates many important contributions to placemaking that this *Report* acknowledges. Many of the underlying concepts should be retained within any revisions that may be advanced. These include:

- **Compact and effective organization of the I-90 off-ramps** – Traffic exiting the highway must be incorporated into the urban street network without incurring delays and congestion that would back onto I-90, clogging a transportation lifeline for the City and region. This has been accomplished with a slip ramp that transitions to a frontage road close to the highway that feed multiple streets that distribute and disperse arriving traffic.

- **Compact design and integration of the I-90 on-ramps** – The on-ramps use the same concept of slip ramps, using the same frontage road as the off-ramps and connecting them to multiple local streets to distribute traffic seeking highway access.
- **Enhanced interstate reliability** – The use of all electronic tolling (AET), the improved ramp alignments, and the simplified highway alignment will relieve congestion and provide for better traffic operations that are critical to the region's economic prosperity.
- **Provisions for a new Transit Station** – The concept provides for a new transit station (West Station) that can serve current commuter train traffic and be adapted to future transit technologies with multi-modal links for buses, bikes and pedestrians. The streets serving this station span the highway and rail facilities and will become links to the future air rights development around this transportation hub.
- **Rail transit adaptability** – The transit station can serve significant increases in commuter rail or transit service that may occur over the long term.
- **Preservation of the Grand Junction Railway connection** - The preservation of this connection ensures the ability to adaptively use this rail corridor in the future.
- **Provision for multi-modal streets** – The 3K-4 Alternative provides for the circulation of pedestrians with sidewalks, bicyclists with lanes and cycle tracks, and motorists along all of the proposed urban streets that will be created or improved. For example, the current design incorporates MassDOT's Separated Bicycle Land Planning and Design Guide Standards on all streets.
- **Reconstruction of the Franklin Street Pedestrian Bridge** – This important pedestrian and bicycle link over I-90 will be improved as part of 3K-4.
- **Provision of additional parkland along the Dudley White Path** – Alternative 3K-4 anticipates widening the open space along the Dudley White Bicycle Path that lines the Charles River.

Placemaking Standards and Master Planning Considerations

The Placemaking Standards consist of the planning and design criteria that the City of Boston will use in its role advocating for City and community placemaking goals. In the view of the City, a number of the proposed Placemaking Standards will require additional analysis before deciding on the final design of the interchange and related infrastructure. Most likely, this analysis will occur as part of the environmental impact analyses associated with the project.

The Master Planning Considerations look beyond the scope of the transportation infrastructure changes, and will be used by the City to inform future master planning of the district.

The Placemaking Standards and Master Planning Considerations are organized within a matrix which is provided at the end of this section of the Report. Each standard is numbered to provide for reference. To facilitate their use, the standards have been grouped according to their application:

- Charles River Edges and Connections (1-7)
- Areas Along and Above the Highway and Rail Alignment (8-17)
- Cambridge Street and Connections to the North (18-25)
- Areas within the New District (26-37)
- Area-Wide Standards (38-47)
- Considerations for Future Master Planning (48-60)

Transformative Standards

The next section highlights eight Placemaking Standards that would transform aspects of the MassDOT design approach. These cannot be fully accomplished without modifications in the concepts contained in MassDOT's Alternative 3K-4. They are emphasized on the following pages because of their importance relative to the evolution of the project scope and design.

- **Add I-90 and Soldiers Field Road Connections**
- **Realign Portions of Soldiers Field Road Along the River**
- **Create Park Space on the Charles**
- **Provide an At-grade Crossing for Pedestrians and Bicyclists on the Standard-use Path to the Charles River**
- **Provide for an Additional East/west Street Connection between Cambridge Street and West Station Area**
- **Provide a North/south Link for Shuttles and Buses**
- **Provide a Third North/south Arterial Street**
- **Consider a Direct North Harvard Street Intersection Alignment**

The remaining standards contained within the matrix are also considered to be important, but can be accomplished as refinements in the preferred alternative that emerges from the ongoing planning and design process.



Add I-90 and Soldiers Field Road Connections (Standard #1)

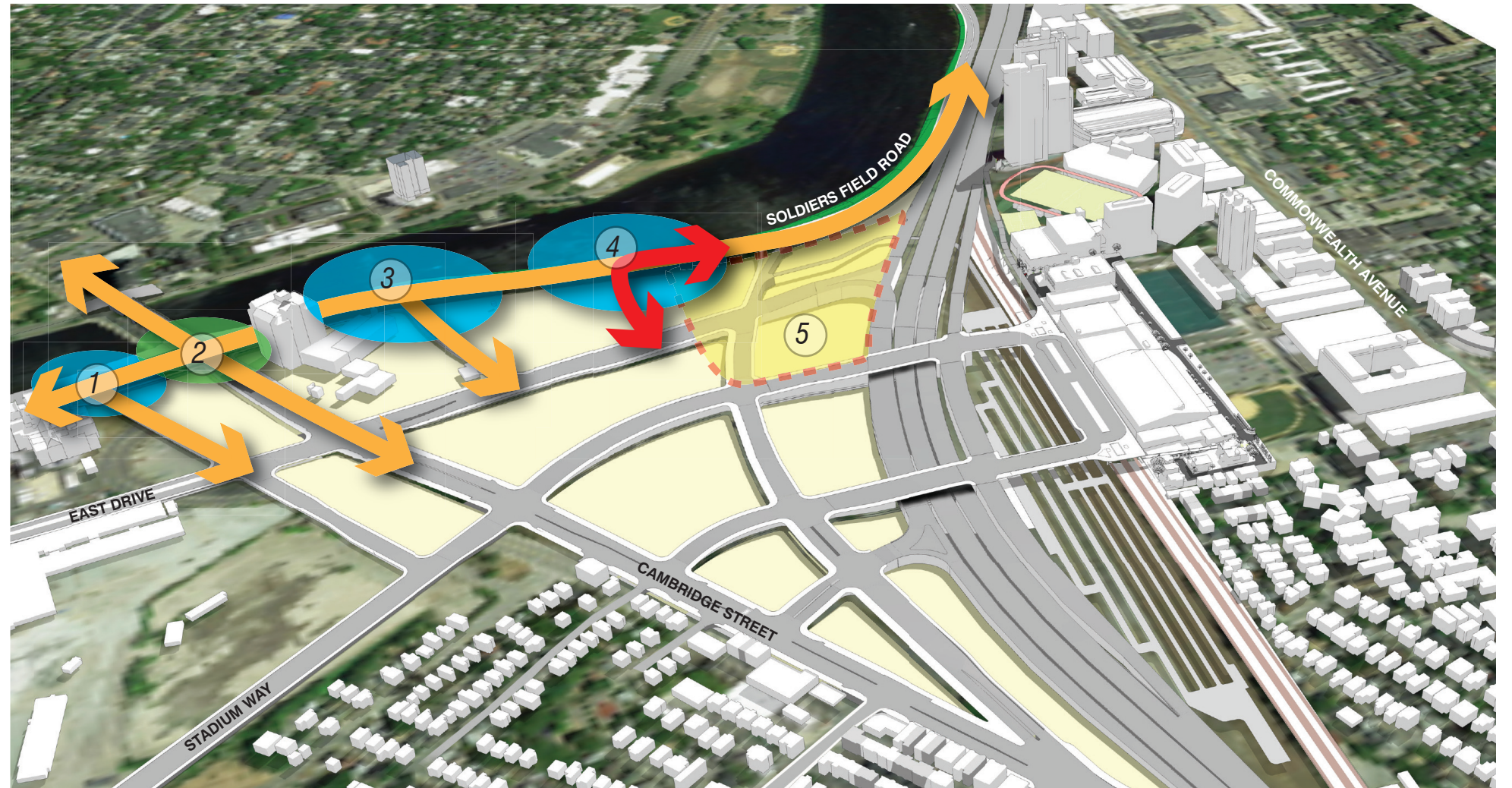
Provide additional access between Soldiers Field Road and the new streets leading to the I-90 ramps in order to reduce traffic on Cambridge Street and support new development.

Component Concepts:

- Limit the amount of regional traffic using Cambridge Street so that it can be designed and used more effectively as a locally-serving street.
- Reorganize and relocate the connecting ramps to help create a less congested intersection at Cambridge Street.
- Provide more connections into the district to improve connectivity overall, including creating pedestrian and bicycle links and open space to/from and along the River.

Explanation:

There are many benefits associated with creating multiple points of access between the major regional roadway networks, including diminishing conflicts at intersections along Cambridge Street. The major shift from the Alternative 3K-4 would be the realignment of a portion of Soldiers Field Road in a depressed “boat section” so that new ramps and the street system can provide additional access points to and from I-90. This approach also provides better sites and access for future open space and redevelopment. The existing northbound off-ramp from Soldiers Field Road to the River Street Bridge would be removed and traffic re-routed through newly created streets. This would expand the area available for bicyclists and pedestrians along this segment of the Charles River, and further simplify the traffic operations at the congested intersection where Cambridge Street and River Street meet.



1. A new connection from Soldiers Field Road is anticipated in the 3K-4 Alternative.
2. Ramp changes would provide a simpler intersection and provide a wider path for the pedestrian and bicycle link between the bridge and the Esplanade (Paul Dudley White Path).
3. This new connection from Soldiers Field Road that would avoid Cambridge Street is anticipated in the 3K-4 plan.
4. A direct on and off ramp can be created in the general location indicated.
5. Relocating a connecting ramp from the 3K-4 concept will create more flexible opportunities for new development at this constrained corner of the study area.

Under current conditions, traffic moving to and from the highway and Soldiers Field Road is concentrated at a congested intersection with Cambridge Street and the River Street Bridge.





Realign Portions of Soldiers Field Road Along the River (Standard #2)

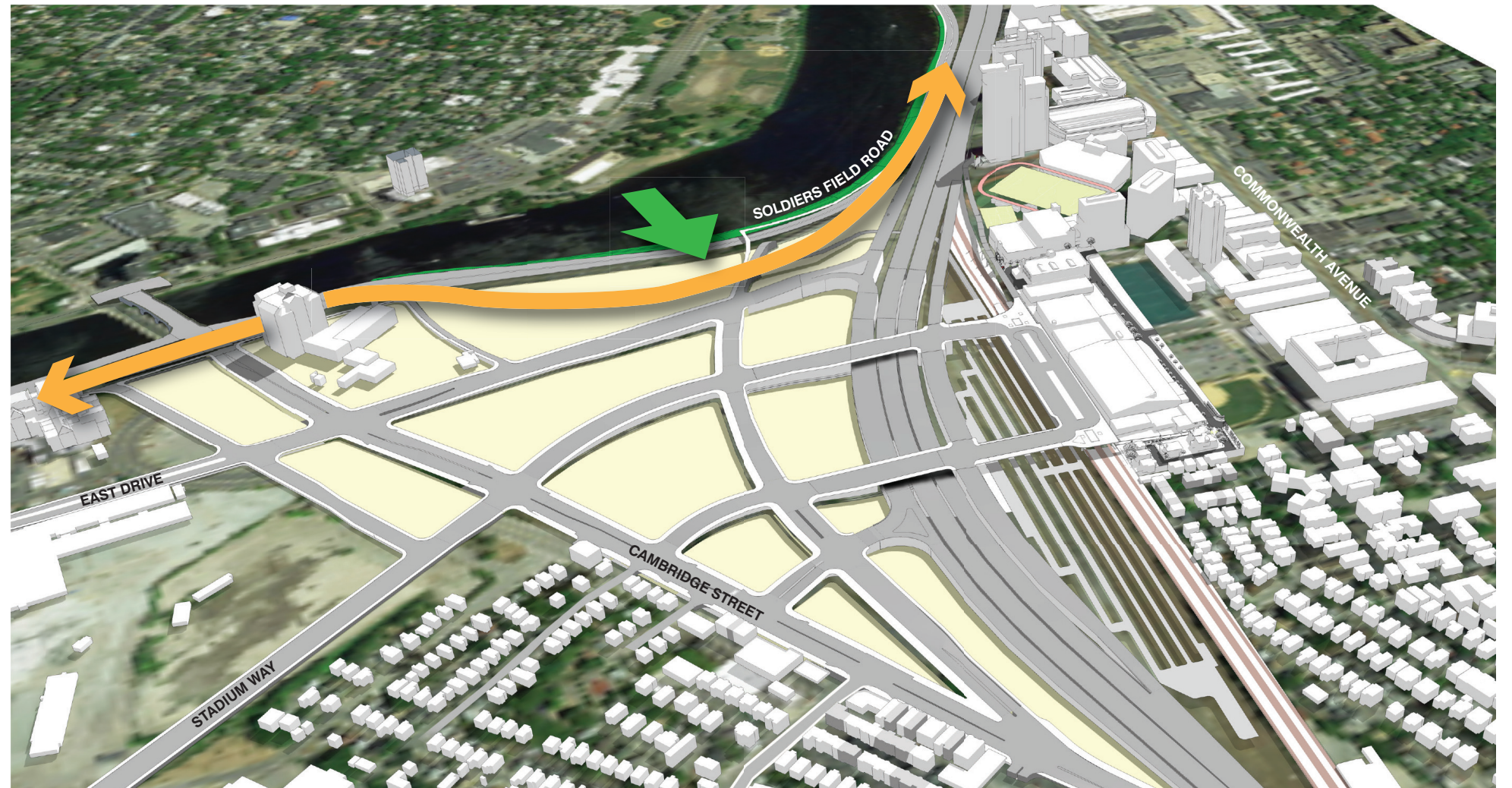
Soldiers Field Road can be pulled further away from the Charles River, creating more useable open space, public access and pedestrian/bicycle connectivity.

Component Concepts:

- Realignment of Soldiers Field Road should be part of an integrated approach to provide better connectivity to the district, reconfiguring ramps to and from Cambridge Street, and creating more pedestrian and bicycle links between the district and the river in the 3K-4 design.
- The realignment will require designing that section of roadway for lower design or operational speeds.

Explanation:

The realignment of portions of Soldiers Field Road will provide the ability to reorganize the access ramps and unlock open space and public access to the riverfront. The realignment will require the acquisition of property and the active support and coordination with Harvard University and with the Massachusetts Department of Conservation and Recreation (DCR), which is the owner of the Charles River Reservation and the roadway within it. Harvard University and Houghton Chemical have reached an agreement to remove the rail access to Houghton Chemical in two years.



The current alignment of Soldiers Field Road and portions of the MassPike are contained within a narrow corridor along the Charles River.



Create Park Space on the Charles (Standard #3)

Provide the space for a new park along the Charles River with revisions to the Soldiers Field Road alignments.

Component Concepts:

- Provide space for a park that will be a node along the riverfront and become an easily accessed open space resource for the district and nearby neighborhoods.
- Provide an open space resource for informal recreation, gatherings, events, celebrations and enjoyment of the views of the city, activities on the Charles, and the riverside landscape.
- Provide space for a park that can become a destination with features like other comparable segments of the Charles River Reservation.
- Do not create vehicle overpasses that shade the park.
- Use new parkland along the river and within the district to mitigate potential flood conditions and contribute to resiliency. The design response can raise grades and use other methods to help protect flood-prone infrastructure and adjacent areas

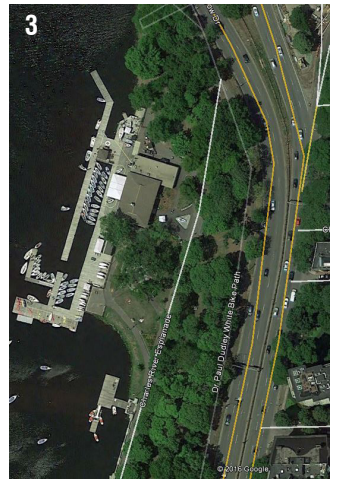
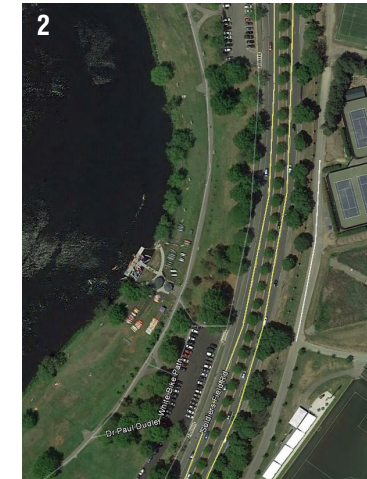
Explanation:

This standard recognizes the opportunity and importance of providing a broadened park space along the edge of the Charles. This should become a convenient, accessible amenity for nearby neighborhoods and adjacent to the new development areas. The scale and design of the park should be consistent with corresponding activity and open space nodes along the Esplanade and the Charles River Reservation. These typically and traditionally occur in the spaces between nearby roads and river's edge. In addition to providing a destination, this broadened green space will become a more attractive link in the pedestrian and bicycling network connecting Allston to other places in Boston, Cambridge and points beyond. The design must be coordinated with the new access ramp and street configurations, as well as with the utility corridors that are located nearby.



The Esplanade and Charles River Reservation include a sequence of park nodes connected by narrower corridors along the River's edge. Re-aligning Soldiers Field Road will add similar amenity to Allston's riverfront. Comparable open space nodes range from 100 to 200 feet in width, and include the following examples:

1. Nashua Street Park, Esplanade, Boston
2. Charles River Reservation, West of Harvard Athletic Field and South of Eliot Bridge
3. Park space at Community Boating, Esplanade, Boston





Provide an At-Grade Crossing over Soldiers Field Road for a Shared-Use Path to the Charles River (Standard #4)

The project should include an off-street landscaped multi-use path connecting the district and the surrounding neighborhoods to the Charles River, with an at-grade crossing over Soldiers Field Road.

Component Concepts:

- Depressing a section of Soldiers Field Road will create the opportunity for an at-grade pedestrian and bicycle link leading directly into the new river edge parkland, instead of the flyover that is part of 3K-4.
- This will form part of a corridor, sometimes referred to as the “People’s Pike,” which is a primary goal of the community.

Explanation:

An at-grade bicycle and pedestrian connection should be created that links the new district to the Charles River park space and Paul Dudley White path. This link can be created as an at-grade connection if the main lanes of Soldiers Field Road are depressed below grade. The connection will become an important link and provide an amenity for development that will emerge in the adjacent district. The depression of the Soldiers Field Road to enable this link will require special engineering and operational considerations regarding its capacity to be resilient under flood conditions. This connection should also be a direct extension of an east/west shared pathway network that would connect the riverfront, the North Allston neighborhood and the emerging redevelopment district.



The pedestrian and bicycle connection that reaches across Soldiers Field Road to the Charles River open space should be a continuation of the an east/west network of shared bicycle paths and a greenway, which advocates have sought as the “People’s Pike.” Other related Placemaking Standards address the character of this connection. These include an area-wide standard (#38) that calls for the creation of a landscaped shared path bicycle and pedestrian route that crosses through the redevelopment area. This connection should be associated with a greenway, as described in the Considerations for Future Master Planning (#50).





Provide for an Additional East/West Street Connection between Cambridge Street and West Station Area (Standard #9)

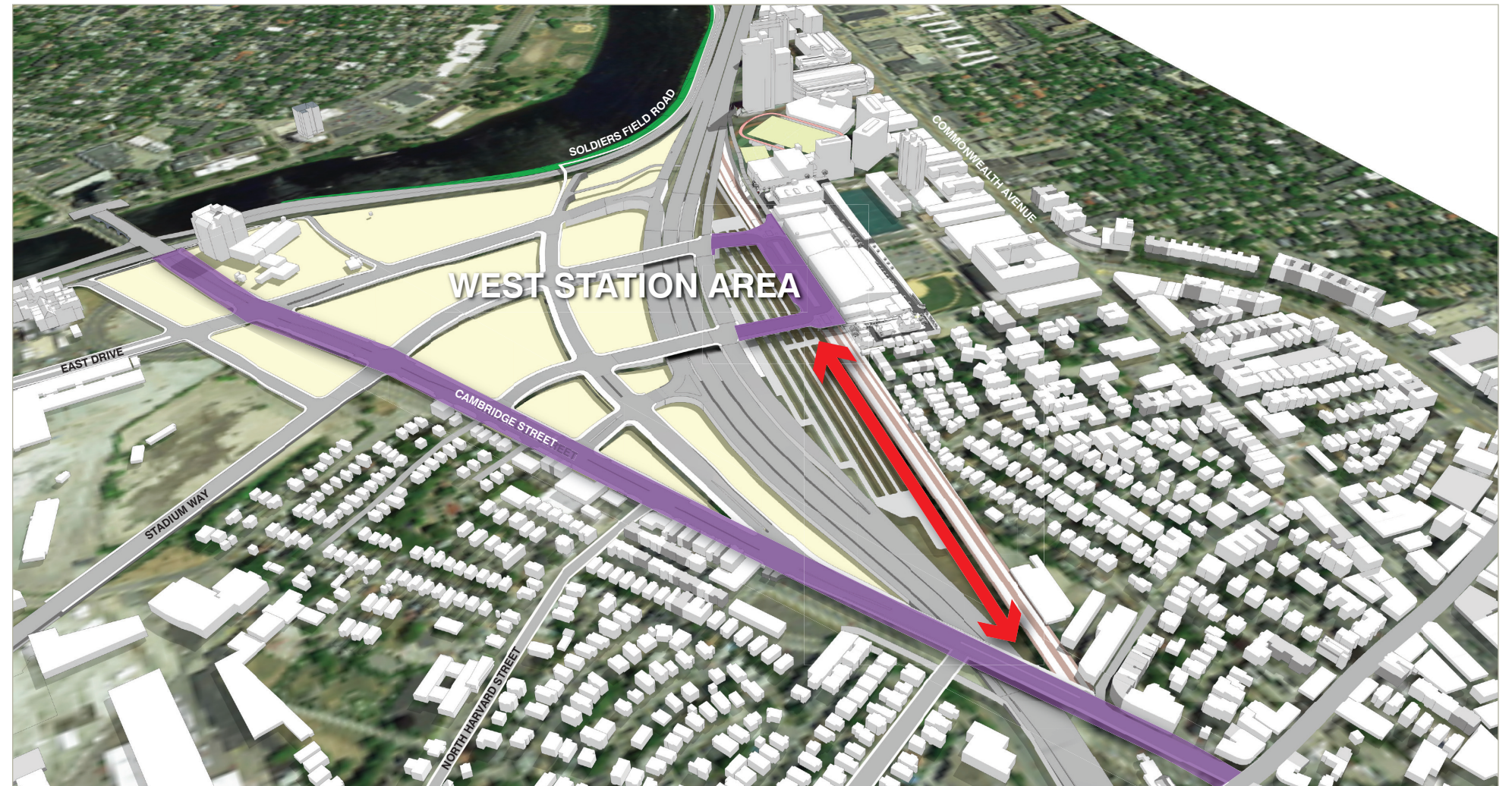
Provide for a direct street connection with bicycle and pedestrian accommodations at or near the Cambridge Street Bridge over I-90 and the West Station area, using air rights.

Component Concepts:

- This street can provide a more direct connection between the West Station area and areas to the south of the I-90 alignment, reducing the use of Cambridge Street along the edge of the North Allston neighborhood by regional traffic.
- This street should serve pedestrians, bicyclists, and transit.
- This street can become an important connection and frontage road for future air rights development above the rail and highway alignments.
- The new connection should incorporate sound barriers between the neighborhood and the rail/highway infrastructure so that it also forms a buffer.
- Provision of this link should be evaluated further to determine whether it should be included in the initial construction of the Project.

Explanation:

An east/west connector street could link Cambridge Street near its bridge over I-90 with the future West Station as shown in red in the graphic to the right. Bicyclists, pedestrians, and buses could move more directly to and from the station area from the western portions of Cambridge Street without navigating several new roads and intersections. As a street connection, vehicles could move directly between the northern portions of Cambridge Street, West Station and the new I-90 access ramps that will be located near the station. This would reduce the traffic using some of the intersections along Cambridge Street and within the new development area. As an access street, the link could serve new air rights development above the highway, rail traffic, and the MBTA maintenance and layover tracks. However, it is possible that adding this link could create undesirable impacts that would need to be mitigated.





Provide a North/South Link for Shuttles and Buses (Standard #15)

Provide a north/south transit link for buses and shuttles between the North Allston/Harvard Area, West Station, and areas to the east and south, including Kendall Square and the Longwood Medical Area.

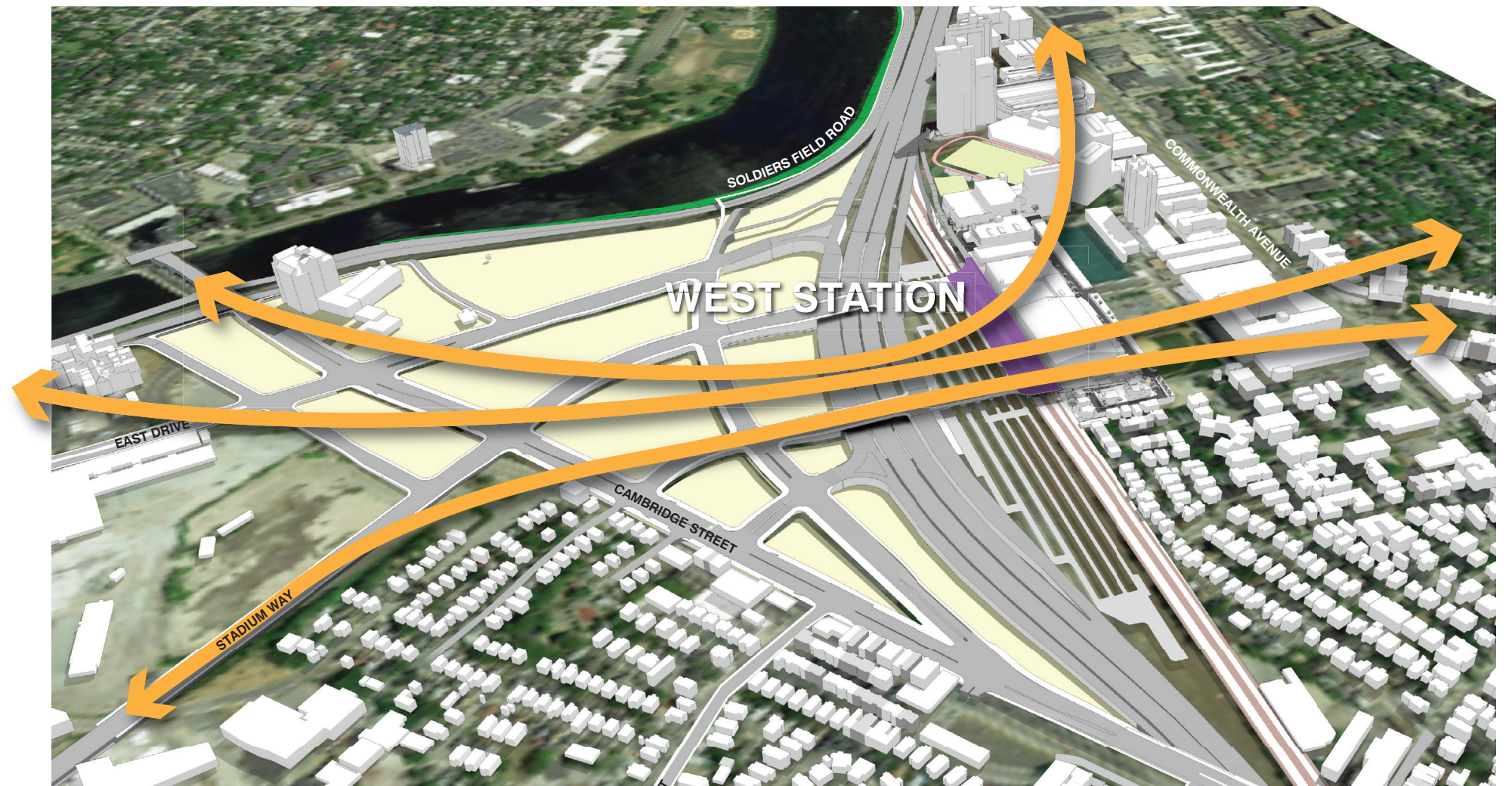
Component Concepts:

- The project should enable bus and shuttle links between the new street network, West Station and areas to the north and south. This is a critical link between major employment centers and the transportation infrastructure. An improved connection will also serve as a critical regional transit link that could help reduce regional vehicular traffic congestion, CO₂ emissions, and potentially the demand for auto trips at this interchange.
- The type and location of these connections will help determine the design characteristics of the West Station area and the spaces and buildings that will be clustered here.
- Routing options could include direct connections to Commonwealth and Brighton Avenues, routing to West Station along Soldiers Field Road and other options.

Explanation:

Under the 3K-4 concept, no new bus or shuttle connections would be created across I-90. Buses and shuttles could reach West Station from the north or south, but could not continue across I-90. Riders could get off, walk across a bridge, and transfer between routes. This would inhibit the ability to create continuous north/south services that could better link major transit destinations, including the universities, health care complexes and employment centers. In order to enable the establishment of more extensive and convenient links, the interchange improvement project should include a direct connection for buses and shuttles to and from the existing and new street systems to the north and south of West Station.

Various options for the location for such a link have been studied and considered. This urban design standard recognizes that the choice of a route and the design concepts for associated improvements will need to be further studied and documented in the DEIR, but an effective route should be chosen and integrated into the overall project and included in the associated transportation benefits assessments. Any new shuttle and bus connections should be compatible with and enhance ongoing efforts to improve existing transit service, notably the Green Line on Commonwealth Avenue.



This diagram expresses the overall intention to allow for continuous transit routes that can connect multiple transit destinations across the highway and rail corridor, which has blocked north/south links in the past. Routes should be directed past the new West Station. However, there are a limited number of feasible alignments for a transit link, and the most appropriate option will need to be determined as part of the ongoing design and environmental impact report process.

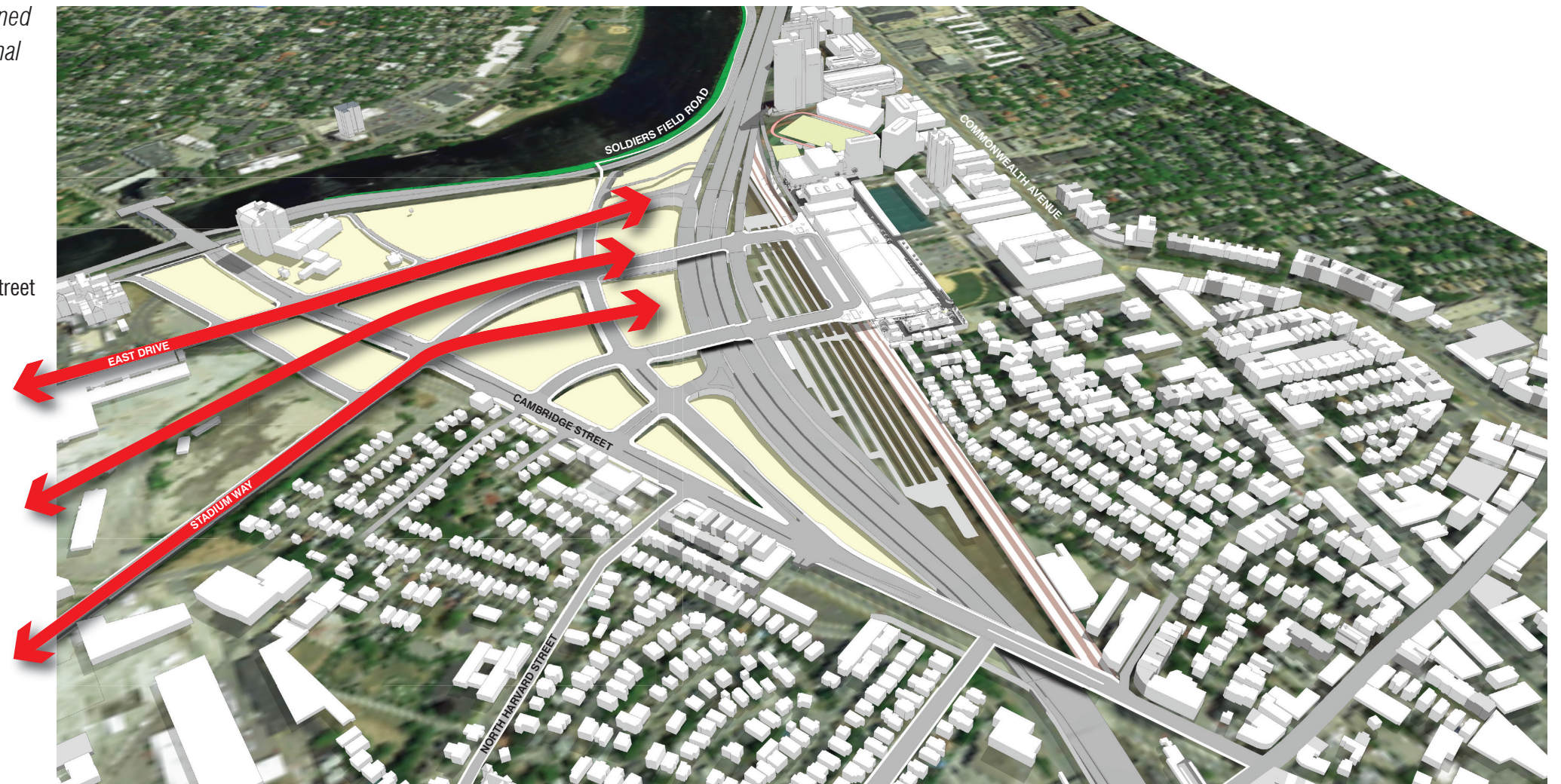


Provide a Third North/South Arterial Street (Standard #18)

Provide three north-south arterial streets across Beacon Park Rail Yard aligned with three north-south streets now being planned for the Harvard Institutional Master Plan (IMP) area.

Component Concepts:

- Analyze and plan for future alignment and operations of these streets to meet multiple goals.
- Reduce need for traffic to use Cambridge Street, thereby enabling a narrower street and smaller intersections.
- Create a more dispersed traffic pattern that reduces concentration and congestion by providing more choices and more intersections.
- Provide enhanced capacity for dedicated or prioritized transit lanes.
- Create well-proportioned and smaller blocks that will promote well-scaled development patterns and additional frontage opportunities.
- Provide at least one through connection to North Harvard Street
- Minimize turning movements (especially left-hand turns) on Cambridge Street
- Set the stage for new development fronting Cambridge Street by creating well-proportioned blocks.
- Provide at least one corridor for transit priority
- Respond to a parcelization plan for both Beacon Park Rail Yard and IMP
- Minimize impacts to surrounding residential neighborhood
- Implement the street extension segments as later phases if studies conclude that they are primarily serve future development rather than serving local and regional traffic circulation needs



Explanation:

An additional north/south street - augmenting the two streets envisioned in Alternative 3K-4 - will allow for a broader distribution of traffic and more choices for drivers and transit routes in the future. The three streets can align directly with new streets being planned by Harvard north of the study area, reducing the need for motorists to make turns onto Cambridge Street. The smaller dimensions and proportions of the blocks that will be created by adding a third street are conducive to a pedestrian environment and a diversity of potential building types and uses.



Consider a Direct North Harvard Street Intersection Alignment (Standard #20)

A more direct intersection between Cambridge Street South and North Harvard Street at Cambridge Street would limit neighborhood impacts and reduce unnecessary turning movements, congestion, and street and intersection widths along Cambridge Street.

Component Concepts:

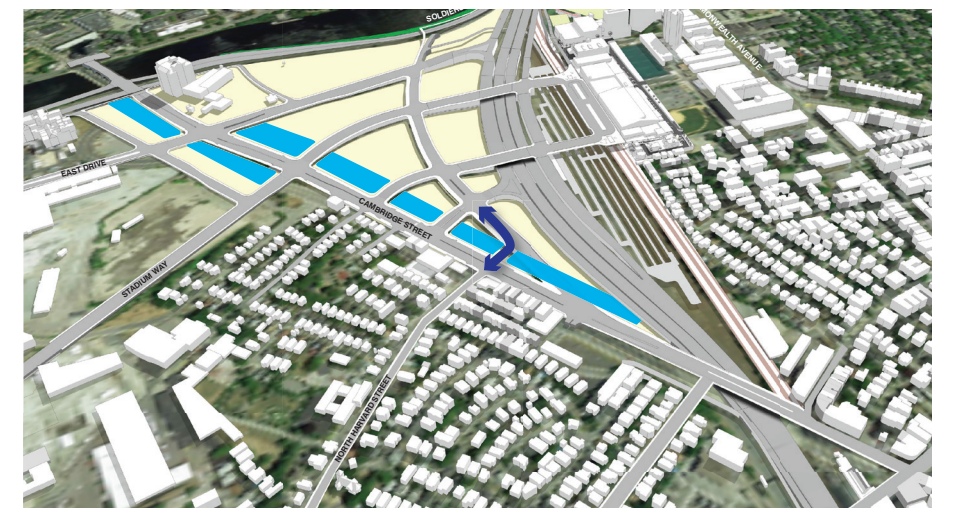
- The current intersection concepts may result in congestion leading back into the neighborhood that simplified intersections might relieve.
- Other standards in this report may help limit traffic from using the North Harvard Street connection by adding more and better access to the highway ramp areas, which may reduce the demand along North Harvard Street.
- The traffic implications of the flows and intersection alignment at North Harvard should be evaluated as part of the ongoing modeling and studies in order to determine if a direct connection would result in significantly increased traffic impacts on North Harvard Street.

Explanation:

Participating members of the neighboring community and the City have been concerned that traffic along North Harvard Street as it approaches Cambridge Street may be increased as a result of changes in the street and highway infrastructure. This narrow street is ill-equipped to handle more traffic. It is flanked by homes and businesses that would be negatively impacted by increased congestion. A reasonable concern has been raised that a straight continuation of North Harvard Street across Cambridge Street would attract more traffic.

However, the offset and sharply angled intersections in the current 3K-4 alternative may have the unintended and reverse effect of creating delays in traffic and increasing congestion along North Harvard Street. Rather than direct movements, motorists would have to negotiate a sequence of turns. The current alignment also results in odd-shaped blocks that may be slow and difficult to develop, rather than being adaptable to new uses that would be placed between the existing neighborhood and the highway.

Because the recommendations in this Study include changes to the overall street network - adding new routes to and from the I-90 interchanges - it is important to evaluate the potential to create a new street aligned with North Harvard Street to determine whether it might prove to be more beneficial from a community perspective, prior to finalizing the preferred concept.




























Simpler intersections would provide a better opportunity for desirable development on both sides of Cambridge Street.

Matrix of Placemaking Standards and Master Planning Considerations























Other Placemaking Standards and Considerations

















The matrices on the following pages list the urban design standards and other considerations that have been generated during the course of this study. Each item is numbered sequentially for reference purposes. The numbering does not indicate prioritization. The symbols at the right hand side of the matrix indicate how each standard or consideration is aligned with the categories of placemaking and the underlying principles guiding this effort. Additional Information for some of the standards and considerations, additional explanations and diagrams have been provided. These are referenced and included in Appendix A at the end of this Report.

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
Charles River Edges and Connections						
<p>1. <u>Add I-90 and Soldiers Field Road-connections</u> – Provide additional access between Soldiers Field Road and new streets leading to the I-90 ramps, in order to reduce vehicular traffic on Cambridge Street and within the new district, and support new development.</p> <p><i>see Transformative Standard on page 8</i></p>	<ul style="list-style-type: none"> Limit the amount of regional traffic using Cambridge Street so that it can be designed and used more effectively as a locally serving street. Re-organize and relocate the connecting ramps to help create a less congested intersection at River Street and Cambridge Street and allowing a more generous area for the Dudley White Path. More connections into the district should be part of an integrated approach to providing better connectivity overall, including creating pedestrian and bicycle links and open space to/from and along the River. These connections will promote redevelopment of the former interchange area and the parcels along the riverfront. Additional roadway connections should not be provided in the form of a flyover road, but should explore at-grade or boat-section grade separated solutions. Provide a design that is resilient relative to projected flood conditions. The configuration of these connections must consider the rail access to Houghton Chemical and vehicle access to the MBTA rail maintenance facilities. 					
<p>2. <u>Realign portions of Soldiers Field Road along the River</u> – Soldiers Field Road can be pulled further away from the Charles River, creating more useable open space, public access and pedestrian/bicycle connectivity.</p> <p><i>see Transformative Standard on page 9</i></p>	<ul style="list-style-type: none"> The realignment will require designing that section of roadway for lower design or operational speeds. Realignment of Soldiers Field Road should be part of an integrated approach to provide better connectivity to the district, reconfiguring ramps to and from Cambridge Street, and creating more pedestrian and bicycle links between the district and the river in the 3K-4 design. 					
<p>3. <u>Create Park Space on the Charles</u> - Provide the space for a new park along the Charles River with revisions to the Soldiers Field Road alignments.</p> <p><i>see Transformative Standard on page 10</i></p>	<ul style="list-style-type: none"> Provide space for a park that will be a node along the esplanade and become an easily-accessed open space resource for the district and nearby neighborhoods. Provide an open space resource for informal recreation, gatherings, events, celebrations and enjoyment of the views of the city, activities on the Charles, and the riverside landscape. Provide space for a park that can become a destination with features like other comparable segments of the Charles River Reservation, such as the park segments on the Esplanade at Nashua Street, near the Community Boathouse and along Soldiers Field Road south of the Eliot Bridge that range from about 100 to 200 feet in depth from the River’s edge. Use new parkland along the river and within the district to improve neighborhood flooding conditions with designs that are resilient to climate change. 					














Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
<p>4. <u>Provide an At-Grade Crossing over Soldiers Field Road for a Shared-Use Path to the Charles River</u> – The project should include an off-street landscaped multi-use path connecting the district and the surrounding neighborhoods to the Charles River, with an at-grade crossing over Soldiers Field Road.</p> <p><i>see Transformative Standard on page 11</i></p>	<ul style="list-style-type: none"> Depressing a section of Soldiers Field Road will create the opportunity for an at-grade pedestrian and bicycle link leading directly into the new river edge parkland, instead of the flyover that is part of 3K-4. This will form part of a corridor, sometimes referred to as the “People’s Pike,” which is a primary goal of the community. 					
<p>5. <u>Consolidate supporting infrastructure to reduce barriers for new streets, open space and development</u> – As part of the transportation and infrastructure components of the district, provide connections to Houghton Chemical and the MBTA rail maintenance facilities that minimize the impact on the district connectivity, development potential and open space.</p>	<ul style="list-style-type: none"> Minimize impact of secondary infrastructure elements, such as vehicular and service access to rail yard or the Houghton rail spur. Provide a systematic approach to facilitate future piling and column supports for air right development over the service road and rail spur. Minimize impact of service areas to buildings and blocks through location and orientation away from active public realm frontages. 					
<p>6. <u>Improve non-motorized paths along the Charles River Basin-</u> Provide wider and safer paths for walking, bicycling and running.</p>	<ul style="list-style-type: none"> Expand and enhance the riverfront edge to accommodate active walking, running and bicycling on the river. The Paul Dudley White path is an important piece of regional infrastructure for non-motorized transportation and recreation, and the project should strengthen the path itself as well as connections to it. Realigning Soldiers Field Road and its ramps will allow the widening of the Dudley White Path that is currently constrained as it approaches River Street. 					
<p>7. <u>Maximize the quality of constrained open space in ‘throat’ area</u> - Promote access, open space and mitigation of highway and rail impacts along the Charles River along the transition from Soldiers Field Road to Storrow Drive.</p>	<ul style="list-style-type: none"> If viaducts are constructed, screening should be created along the river-facing edges to mitigate noise and improve the views towards the highway and rail infrastructure from the Charles River pedestrian and bicycle paths. Expand the width of the green and publicly accessible space along the edge of the Charles River to improve the visual quality and experience of its users. Enhanced pedestrian paths and bicycle links should be created in this segment. <p><i>Note supplemental information can be found in Appendix A</i></p>					











Matrix of Placemaking Standards and Master Planning Considerations (continued)

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
Areas Along and Above the Highway and Rail Alignment						
<p>8. <u>Retain the fundamental urban interchange approach developed in Alternative 3K4</u> – The basic approach to the highway ramp and street connection pattern is compatible with a successful urban district.</p>	<ul style="list-style-type: none"> This alternative provides a compact solution with multiple connection points to and from I-90 that allow both excellent transitions to the district street grid and integrate connections for vehicles to and from West Station. Overall, this alternative provides excellent solutions for grade changes that are required to provide connections over the highway and rail alignment. The specific alignment of some ramps may need to be adjusted to accommodate evolving aspects of the connecting street network. The design should evolve to promote connectivity, effective traffic operations and queuing, parcelization for development, and placemaking. 					
<p>9. <u>Provide for an additional east/west street connection between Cambridge Street and the West Station Area</u> – Provide for a direct street connection with bicycle and pedestrian accommodations at or near the Cambridge Street Bridge over I-90 and the West Station area, using air rights.</p> <p><i>see Transformative Standard on page 12</i></p>	<ul style="list-style-type: none"> This street can provide a more direct connection between the West Station area and areas to the south of the I-90 alignment, reducing the use of Cambridge Street along the edge of the North Allston neighborhood by regional traffic. This street should serve pedestrians, bicyclists, and transit. This street can become an important connection and frontage road for future air rights development above the rail and highway alignments. The new connection should incorporate sound barriers between the neighborhood and the rail/highway infrastructure so that it also forms a buffer. Provision of this link should be evaluated further to determine whether it should be included in the initial construction of the Project. 					
<p>10. <u>Connect West Station to the River</u> – Do not preclude the ability of air rights development to accommodate pedestrian and bicycle connections from West Station to the expanded Charles River open space.</p>	<ul style="list-style-type: none"> Coordinated air rights development can provide opportunities for a convenient route for pedestrians and bicyclists to connect the riverfront and West Station. 					
<p>11. <u>Reinforce air rights potential</u> – Enhance the likelihood of future air rights development by providing for future vehicle and pedestrian access and anticipating future parcel locations.</p>	<ul style="list-style-type: none"> Plan the streets and frontages around West Station to become sites for future development so that it becomes an activated transit-oriented node with buildings and public spaces. This refined alternative for the West Station area should provide adequate street widths to absorb the traffic generated by future air rights development, in addition to the traffic, shuttle and bus stops that will be associated with the West Station’s transit functions. Design the rail and road alignments to facilitate future construction including piling spacing and clearances that can provide adequate structural depth for air rights buildings and open spaces. Anticipate the future use of the connecting street between West Station and the Cambridge Street bridge area as the frontage road leading to and from future air rights development over the rail and highway alignments 					
<p>12. <u>Provide visual and sound barriers to limit impacts on adjacent, developed parcels</u> – Create a buffer along the rail and highway alignment between West Station and the Cambridge Street bridge.</p>	<ul style="list-style-type: none"> Protect existing development patterns from rail and roadway impacts (noise, air quality, and visual impacts). Provide an integrated design in concert with the connecting street between West Station and the Cambridge Street bridge area. Design this with “green” elements to introduce landscaping as part of the transition and neighborhood edge. 					



















Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
<p>13. <u>Ensure that West Station design includes usable public open space</u> – Integrate an open space amenity (such as landscaping, plaza space, seating areas, and special lighting) into the design of West Station to both anchor the transit hub and provide first phase open space improvements.</p>	<ul style="list-style-type: none"> • Provide open space that is linked to transit waiting areas and defines a welcoming station/district gateway. • The space should be connected to the widened bridges that will provide access to West Station above the rail and highway alignment as described in Standard #16. <p><i>Note supplemental information can be found in Appendix A</i></p>					
<p>14. <u>Do not preclude the potential for a future street connection to the south of West Station</u> – Retain the potential to extend a street connection south of West Station and ultimately connect to Commonwealth Avenue.</p>	<ul style="list-style-type: none"> • The street network must be able to adapt to evolving transportation connections for pedestrians, bicyclists, transit and vehicles over time. • However, extension of automobile traffic connections must be evaluated and determined to be appropriate before improvements are initiated. • Expanded north-south vehicular connections (other than transit) must be consistent with Boston University’s intent to create a pedestrian-oriented urban campus. • Options for vehicular connections on Malvern Street and surrounding neighborhood should be explored before other options are considered 					
<p>15. <u>Provide a north/south link for shuttles and buses</u> – Provide a north/south transit link for buses and shuttles between the North Allston/Harvard Area, West Station, and areas to the east and south, including Kendall Square and the Longwood Medical Area.</p> <p><i>see Transformative Standard on page 13</i></p>	<ul style="list-style-type: none"> • The project should enable bus and shuttle links between the new street network, West Station and areas to the north and south. This is a critical link between major employment centers and transportation infrastructure. • The type and location of these connections will help determine the design characteristics of the West Station area and the spaces and buildings that will be clustered here. • Routing options could include direct connections to Commonwealth and Brighton Avenues, routing to West Station along Soldiers Field Road and other options. • This standard is critical for placemaking, sustainability, regional growth and economic development. 					
<p>16. <u>Provide added width to the connecting bridges to West Station</u> – Provide added dimension (such as landscaped aprons) to the bridges that span above the highway and rail alignment to provide visual and landscape amenities to support a pleasant pedestrian and bicycle environment.</p>	<ul style="list-style-type: none"> • Increase the dimension of bridges (for example, by adding bridge aprons) to provide visual relief, landscaping and amenities to make the long crossing over the rail and highway an attractive route until air rights development fills in this area. • Maximize dimensions for walking and bicycling modes. <p><i>Note supplemental information can be found in Appendix A</i></p>					
<p>17. <u>Allow a systematic method for locating and constructing air rights development</u> – The basic layout of future columns and utilities should be planned.</p>	<ul style="list-style-type: none"> • A grid of potential future columns should be planned as part of the spacing of rails and other infrastructure. • Utility corridors and vertical connections between air rights and at-grade improvements should be anticipated. 					
























Matrix of Placemaking Standards and Master Planning Considerations (continued)

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
Cambridge Street and Connections to the North						
<p>18. <u>Provide a third north/south arterial street</u> - Provide three north-south streets across Beacon Yards aligned with three north-south streets now being planned for the Harvard Institutional Master Plan (IMP) area.</p> <p><i>see Transformative Standard on page 14</i></p>	<ul style="list-style-type: none"> Analyze and plan for future alignment and operations of these streets to meet multiple goals. Reduce need for traffic to use Cambridge Street, thereby enabling a narrower street and smaller intersections. Create a more dispersed traffic pattern that reduces concentration and congestion by providing more choices and more intersections. Provide enhanced capacity for dedicated or prioritized transit lanes. Create well-proportioned and smaller blocks that will promote well-scaled development patterns and additional frontage opportunities. Provide at least one through connection to North Harvard Street Minimize turning movements (especially left-hand turns) on Cambridge Street Allow for robust development fronting Cambridge Street Provide at least one corridor for transit priority Respond to a parcelization plan for both Beacon Yards and Harvard’s Institutional Master Plan Minimize impacts to surrounding residential neighborhood Implement the street extension segments as later phases if studies conclude that they are primarily serve future development rather than serving local and regional traffic circulation needs. 					
<p>19. <u>Design and build Cambridge Street and its intersections with the minimum necessary general purpose travel lanes, at the minimum necessary lane widths</u> – Limit the width of curb-to-curb distances across the right-of-way.</p>	<ul style="list-style-type: none"> Boston Complete Streets Guidelines should be used in setting lane widths that are appropriate to the expected land use and create safe streets for all modes Use a design speed no greater than 30 miles per hour for Cambridge Street and do not include design elements intended for higher speeds While general travel lanes should be minimized in number and width, the space allocated for safe, comfortable movement via walking, bicycling, and/or transit should not be designed or built to minimums. Plan the street widths and intersections in tandem with other modifications included in these Standards. 					
<p>20. <u>Consider a direct North Harvard Street intersection alignment</u> – A more direct intersection between Cambridge Street South and North Harvard Street at Cambridge Street would limit neighborhood impacts and reduce unnecessary turning movements, congestion, and street and intersection widths along Cambridge Street.</p> <p><i>see Transformative Standard on page 15</i></p>	<ul style="list-style-type: none"> The current intersection concepts may result in congestion leading back into the neighborhood that simplified intersections might relieve. Other standards in this report may help limit traffic from using the North Harvard Street connection by adding more and better access to the highway ramp areas, which may to reduce the demand along North Harvard Street. The traffic implications of the flows and intersection alignment at North Harvard should be evaluated as part of the ongoing modeling and studies in order to determine if a direct connection would result in significantly increased traffic impacts on North Harvard Street. 					
<p>21. <u>Strengthen Cambridge Street for early redevelopment along its southern edges</u> – Provide the opportunity for an improved Cambridge Street as an early phase redevelopment target.</p>	<ul style="list-style-type: none"> Organize intersections and block configurations along Cambridge Street to support efficient building footprints. This can be accomplished, in part, by re-aligning the intersection of South Cambridge Street where it meets Cambridge Street and introducing rectilinear blocks associated with three arterial streets linking Harvard’s IMP planning area and the new district. Provide for future block access so that pick-up, drop-off, parking and loading can occur off of Cambridge Street. Stage phasing and infrastructure construction so that the Cambridge Street frontage has the possibility of early phase redevelopment. To the greatest extent possible, organize the block configuration and intersection layout to facilitate the ability to align the ground floors of buildings on the south side of Cambridge Street for active retail and service uses that have a minimum building depth of 70 feet perpendicular to the property line 					





























Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
22. <u>Minimize impact of highway access on active street frontage and pedestrian connectivity</u> – Locate the transition from highway ramps to City streets (the “limited access line”) as close to I-90 as possible.	<ul style="list-style-type: none"> The limited access line should extend no further than the signalized intersections at the first cross street (currently shown as Cambridge Street South) to accomplish the transition between highway and City streets. This transition should not negatively impact pedestrian and bicycle connections to West Station. This transition should not negatively impact access to air rights parcels or impede potential for air rights development. 					
23. <u>Avoid creating medians where possible</u> – A simpler, narrower street is preferable to a landscaped boulevard with a central divider.	<ul style="list-style-type: none"> The urban design vision for Cambridge Street is a street that is easy to cross, lined by buildings and ground level uses that is easy to cross; medians are not desirable. If medians are employed in select locations, they should be configured to provide pedestrian refuges at mid-points along crosswalks. 					
24. <u>Keep the pedestrian crossings short along Cambridge Street</u> – Crossing should be safe and convenient.	<ul style="list-style-type: none"> Provide for protected intersections that limit conflicts between vehicles, pedestrians and bicyclists. Limit lane widths and vehicle turning radii where practical. 					
25. <u>Protect bicyclists as they approach and cross intersection</u> – Separated bike facilities should extend to intersections.	<ul style="list-style-type: none"> Where separated bike lanes cross Cambridge St, the intersections should be designed to minimize conflicts and reduce the speed of turning vehicles. “Protected intersections” should be built in accordance with the MassDOT Separated Bike Lane Planning and Design Guide. Include bike-specific signals where warranted. 					








Matrix of Placemaking Standards and Master Planning Considerations (continued)

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
Areas within the New District						
26. <u>Create a street hierarchy</u> – The streets should be designed to emphasize the most appropriate modes for their purpose and alignment, rather than meeting uniform standards and characteristics.	<ul style="list-style-type: none"> By emphasizing different needs, there can be variations in the size and proportions of the space devoted to vehicles, transit, bikes and pedestrians. This should enable the provision of narrower streets and intersections in some locations than would otherwise occur. One north/south street and one east/west street should function as priority transit corridors <p><i>Note supplemental information can be found in Appendix A</i></p>					
27. <u>Use a maximum design speed of 25 mph for parkways and neighborhood collectors</u> - Plan for a network that operates well, but at low speeds.	<ul style="list-style-type: none"> As an urban street network, most streets should be designed or operate at speeds associated with similar districts and consistent with City of Boston Complete Streets Design Guidelines. Minimize the speed of turning movements in accordance with this operating speed Lower design speeds will allow elimination of clear zones (extra space near the curb), narrower lanes (for example, typical lanes may be 10’ wide), tighter turning radiuses that are more favorable for pedestrian crossings, and other similar benefits. All streets designed to 30 mph should provide space for walking and bicycling that is physically separated from motorized travel 					
28. <u>Assume a network of internal secondary streets</u> – Provide additional internal circulation streets to the extent they reduce demand on key intersections or street segments. Include these streets in traffic modeling to extent that they reduce the need for lanes on other roads.	<ul style="list-style-type: none"> In the Draft EIR alternatives, evaluate the potential to provide several internal connector streets in the new district as part of the modeling and analysis of alternatives to test whether there may be clear benefits in reducing the necessary size of other streets and intersections than would otherwise be required by a simplified network. If additional secondary streets would be effective in limiting the size of streets and intersections, then they should be implemented prior to development occurring. If secondary streets do not benefit the network, then they can be deferred until development occurs. Secondary streets should be designed to a maximum operating speed of 25 miles per hour, per Boston’s Complete Streets Design Guidelines. <p><i>Note supplemental information can be found in Appendix A</i></p>					
29. <u>Phase street and intersection improvements</u> – Do not provide wider streets or intersections unless or until they are necessary.	<ul style="list-style-type: none"> The amount of traffic and its distribution cannot be fully predicted in advance; it is best not to build it for a “worst case” scenario that might not occur. By monitoring traffic and the development that occurs, there may be opportunities to keep streets narrower and intersections smaller. 					
30. <u>Use multiple methods for efficient traffic distribution</u> – Provide for limitations in allowable traffic movements if it results in narrower streets and smaller intersections.	<ul style="list-style-type: none"> Test and apply a range of methods such as one-way streets, prohibited through access, limits on turns at peak hours, or right-in/right-out restrictions if the result is narrower streets and intersections. However, do not employ methods that would significantly impact the ability to shape both development and open spaces that will be part of the district. 					
31. <u>Limit slopes of new streets and associated sidewalks and bike facilities</u> – Limit the maximum slopes for the new roadway network to less than 5%.	<ul style="list-style-type: none"> Create an accessible and pedestrian-friendly environment. Promote bicycling. Create a walkable district that accommodates convenient access to new uses and open space. <p><i>Note supplemental information can be found in Appendix A</i></p>					




















Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
<p>32. <u>Organize streets to create blocks that can be flexibly and efficiently developed</u> – Provide a street grid that defines blocks that are scaled consistently and provide continuity of block width and length.</p>	<ul style="list-style-type: none"> Design street alignments so that blocks have the proportions and overall size to support a wide range of building types and allow multiple building footprints on each block. Typical minimum block dimensions should be no less than 120 feet by 400 feet. Provide rectilinear block boundaries and limit the amount of significant curvature or acutely angled corners to the extent practical. Interior angles of blocks should not be less than 60 degrees typically. Realigning South Cambridge Street to create larger redevelopment parcels near its intersection with Cambridge Street can provide important flexibility for multi-use development. The introduction of the three connector arterials between the West Station area and future development areas to the north will result in an improved development pattern in terms of block size and configuration relative to the two arterials anticipated in the 3K-4 Alternative. Achieving this goal will be facilitated by the other street and roadway alignment Standards in this document. 					
<p>33. <u>Enable active block frontages</u> – Optimize the ability to provide active ground floor uses and block frontages.</p>	<ul style="list-style-type: none"> Development should have the ability to provide active ground floor users such as retail and service uses that will serve both the district and local needs. Minimize the length of street segments that are considered limited access areas due to highway access regulations for vehicular, pedestrian and bicycle use. Provide viable block frontages as immediately as possible adjacent to limitations on active frontage created by bridges, ramps and other infrastructure. The inability to provide active frontage should not extend continuously for more than 100 feet without providing the ability for an active block frontage. 					
<p>34. <u>Provide streetscape and landscaping at the perimeter of any vacant future development parcels</u>– Vacant areas should not detract from the visual character of the area.</p>	<ul style="list-style-type: none"> Design the interim conditions so that they contribute to stormwater management, and are coordinated with stormwater catchment areas. Design interim landscaping to buffer or conceal highway and rail infrastructure from views until redevelopment occurs. Provide street trees along all new streets to shade pedestrians, create attractive, distinct corridors, and conceal undeveloped land. Final project design should include clarity on standards for interim conditions of vacant future development parcels. <p><i>Note supplemental information can be found in Appendix A</i></p>					
<p>35. <u>Provide permanent streetscape and landscape amenities where future redevelopment is not anticipated</u> – Permanent improvements should not be deferred.</p>	<ul style="list-style-type: none"> In locations where space and infrastructure are unlikely to be modified, the design should provide trees, lighting, landscaping or other features that will be a long-term benefit to the area. 					
<p>36. <u>Plan for integration of roadway and district stormwater solutions</u> – Design a scalable stormwater management system that is sensitive to district context and hydrological patterns.</p>	<ul style="list-style-type: none"> Street infrastructure should not impede district stormwater solutions or result in costly infrastructure investments. Allow for solutions that may include a combination of surface and subsurface methods for collection, treatment and infiltration of stormwater. Planning should carefully consider the potential for surface stormwater infrastructure to be integrated with open space and serve as an amenity, while also considering the value of an adequately sized subsurface system to preserve flexibility for the multiple functions—open space, mobility, green infrastructure—to be fulfilled on the surface. <p><i>Note supplemental information can be found in Appendix A</i></p>					
<p>37. <u>Create a framework for adaptable and well sized blocks</u> - The street layout should allow block sizes and dimensions that can be adapted to a broad range of building and use types.</p>	<ul style="list-style-type: none"> Categorize reasonable dimensions or proportions based on the road network Limit or eliminate sharp angle corners. Ensure that blocks between the highway and “South Cambridge Street” are of reasonable depth for a range of building types and uses. Balance the idea of short highway ramp segments with reasonable block dimensions. <p><i>Note supplemental information can be found in Appendix A</i></p>					































Matrix of Placemaking Standards and Master Planning Considerations (continued)

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
Area-Wide Standards						
<p>38. <u>Create a dedicated, generously landscaped multi-use path through the redevelopment area</u> – This “People’s Pike” route will connect North Allston and Cambridge Street with the Charles River open space network.</p>	<ul style="list-style-type: none"> This link should be implemented as part of the initial design and construction, but could be designed as an interim facility until more comprehensive master planning is complete and development patterns are more mature. At that time, the path could be relocated to a permanent alignment in concert with master planned improvements within the area - for example, as part of a mid-block linear open space network. Even in an interim condition, the path should be of high quality, separated from adjacent streets, and flanked by generous landscaping on both sides, similar to the Southwest Corridor along Columbus Avenue. The project should implement state-of-the art design for intersections, following Boston’s Complete Streets Guidelines and MassDOT’s Separated Bike Lane Planning & Design Guide. <p><i>Note supplemental information can be found in Appendix A</i></p>					
<p>39. <u>Constrain design and operational speeds</u> - Plan for a network that operates well, but at low speeds.</p>	<ul style="list-style-type: none"> As an urban street network, most streets should be designed or operate at speeds associated with similar districts and consistent with City of Boston standards for developed urban areas. Lower design speeds will allow elimination of clear zones (extra space near the curb), narrower lanes (for example, typical lanes may be 11’ wide), tighter turning radiuses that are more favorable for pedestrian crossings, and other similar benefits. 					
<p>40. <u>Follow MassDOT and City of Boston Complete Streets Guidelines</u> – The future streets should implement the State and City policies for Complete Streets.</p>	<ul style="list-style-type: none"> The design should be informed and consistent with relevant guidelines and policy directions from both the State and the City to create balanced, safe and sustainable streets and circulation for all modes. 					
<p>41. <u>Provide quality transit accommodations on transit routes</u> – Plan and design streets for transit vehicles and users.</p>	<ul style="list-style-type: none"> Create comfortable, well-lit transit stop locations with shelters 					
<p>42. <u>Employ smart curbside principles</u> – Integrate existing and emerging technology into the design of streets from the outset.</p>	<ul style="list-style-type: none"> Integrate best-practice technology to understand use by multiple modes, such as through cameras and permanent counters Provide for visible, accessible access to carshare Employ wayfinding signs and maps in accordance with City of Boston wayfinding standards Provide opportunities for mobile phone integration and devices, such as solar-powered charging stations and Sofa benches 					
<p>43. <u>Incorporate Intelligent Transportation Systems into the design</u> - ITS technology can serve to enhance traffic circulation without relying on excessively-sized streets and intersections.</p>	<ul style="list-style-type: none"> Components that should be considered as part of intelligent technologies include links to a control center, cameras and sensors and other tools to optimize coordination and keep streets and intersections smaller than would be required without ITS benefits. 					
<p>44. <u>Allow for designated truck routes and truck-restricted streets</u>– To the extent possible, the street network should direct trucks to specific routes.</p>	<ul style="list-style-type: none"> By establishing preferred truck routes, other streets and connections may be designed to be consistent with the requirement of smaller vehicles. the Truck routes can also be established that minimize impact on residents stemming from trucks on North Harvard Street and other streets with a more residential character. 					
<p>45. <u>Provide stormwater solutions that will not impact surrounding areas</u> – Ensure that all stormwater management is contained within the areas where infrastructure changes are made.</p>	<ul style="list-style-type: none"> Improve neighborhood flooding conditions including resilient designs taking into account the impacts of climate change. Minimize shade and shadow impact through thoughtful building massing and context-sensitive district edges. Consider the potential for surface stormwater infrastructure to be integrated with the open space system as an amenity, while also considering the value of an adequately sized subsurface system to preserve flexibility for the multiple functions—open space, mobility, green infrastructure—to be fulfilled on the surface. 					

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
46. <u>Identify options for robust local and regional transit service in the future</u> – This will reduce traffic pressure on roadways from regional traffic and accommodate future development.	<ul style="list-style-type: none"> Anticipating future transit and Transportation Management Programs will be needed to allow a network of streets and intersections that are scaled for a multi model future, rather than automobile-oriented developments. 					
47. <u>Plan adequate capacity for future utility corridors</u> – Provide for utility corridors that will serve future development.	<ul style="list-style-type: none"> Include provisions for utility corridors either below grade or integrated with bridge and air rights infrastructure so that they can flexibly serve future parcel and air rights development. Plan the street and highway infrastructure so that utilities can be installed without undue costs or disruption of circulation. 					
48. <u>Anticipate District Energy Systems</u> – Provide an infrastructure that can easily be adapted to district-based energy production and distribution.	<ul style="list-style-type: none"> Include provisions so that the area is easily adaptable to district-based distribution of thermal energy, including duct banks or connection points. Consider future use of areas below raised roadways or overpasses for siting energy facilities or sewer heat recovery facilities. 					

Matrix of Placemaking Standards and Master Planning Considerations (continued)

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
Considerations for Future Master Planning						
<p>49. <u>Create a coordinated balance of open space and buildings that reflect the character of an urban district</u> - Plan for a proportion of open space within the developable area that will create destination and amenities for the district and nearby areas.</p>	<ul style="list-style-type: none"> The proportion of ground-level open space available for public access within the district’s blocks should be approximately 20% of the total developable land and air rights parcels that will be created in the district. The new park area along the Charles River will be in addition to the open space provided within the developable areas. 					
<p>50. <u>Support an east/west green corridor</u> - Provide a green connecting corridor through the district that serves as a route for pedestrians and bicyclists as well as an amenity for development.</p>	<ul style="list-style-type: none"> Project design should anticipate a multi-use corridor integrated with a linear sequence of at-grade parks, walkways and bicycle routes that link the Charles River open space and paths with the existing residential neighborhoods of Allston and its pedestrian corridors such as North Harvard Street and Franklin Street. This corridor may not be implemented in permanent condition until the area is more fully planned and developed, but the path described in Standard #38 can serve many of the same functions until that time. This route need not be grade separated from streets that cross its path. However, the state-of-the-art design should be applied to intersections to ensure the comfort, convenience, and safety of pedestrians and bicyclists crossing roadways. Corridor should be linked to the edges of the district so that neighbors can easily access a sequence and variety of open spaces, as well as the east-west link to the river. Explore options for integrating green infrastructure into the open space system as an amenity and a key component of the stormwater infrastructure for the area. Plan for green space and tree canopy to play a role in mitigating urban heat islands, particularly given projected increases in temperatures due to climate change.. <p><i>Note supplemental information can be found in Appendix A</i></p>					
<p>51. <u>Create a linked network of open spaces</u> – Principal open spaces created in the district should be linked, to create a sequence of green places.</p>	<ul style="list-style-type: none"> Complementing the above vision, the broader network of open spaces in the district should be linked visually and with landscaped corridors and sidewalks to create a network for pedestrians, rather than being isolated places. The linkages should reach to the edges of the district so that neighbors can easily access a sequence and variety of open spaces. <p><i>Note supplemental information can be found in Appendix A</i></p>					
<p>52. <u>Plan for future Hubway stations</u> – Transit nodes of the future should not be limited to West Station.</p>	<ul style="list-style-type: none"> The development and infrastructure planning should provide for ability to add Hubway- type stations to serve the expanding development and population in the district. 					
<p>53. <u>Conceal parking supplies</u> – Future district parking must provide an adequate and unobtrusive inventory.</p>	<ul style="list-style-type: none"> Parking should be provided out of sight, with no visual impact on primary streets, open spaces, view corridors, or other prominent views. Parking solutions should use the change in grade as an advantage to place parking supply below the grade of the proposed roadway, but above the existing ground plane. Parking access should be integrated with the roadway network and avoid locations that would compromise the anticipated traffic flow and circulation. Parking access should be integrated with the pedestrian environment and bicycle circulation to minimize disruption and reduce conflict with vehicles. 					

Standard	Component Concepts	Public/Realm Open Space	Mobility/ Connectivity	Development Potential/ Flexibility	Distinctive Place/Context Sensitive	Energy Efficiency /Sustainability
54. <u>Optimize orientation of buildings to define district and retain views</u> – Future district buildings must be oriented to define district public realm and frame district views.	<ul style="list-style-type: none"> Deploy future building and site designs to reinforce district vitality by defining active street edges and open spaces, framing views, and concealing utilitarian functions. Buildings should be oriented at an angle or perpendicular to the Charles River to avoid creating a visual barrier from other portions of the district. 					
55. <u>Use the primary streets as visual corridors</u> – Reinforce views along primary streets through placement of buildings and open spaces.	<ul style="list-style-type: none"> Reinforce potential visual corridors to the Charles River on Cambridge Street and Cambridge Street South. Reinforce potential visual corridors north on Stadium Way and East Drive. Reinforce potential visual connections between open spaces in the district. 					
56. <u>Reinforce context-sensitive development on Cambridge Street</u> – Provide moderate scale development along Cambridge Street near existing development.	<ul style="list-style-type: none"> Create a context-sensitive transition from the existing neighborhood edge of Cambridge Street into a district with the potential to have buildings of a larger and taller scale. Moderate scale development adjacent to existing development would limit shadow impacts adjacent to the district. 					
57. <u>Reinforce air rights development potential</u> – Enhance the likelihood of future air rights development with connections and parcel sizes to support this specialized type of development.	<ul style="list-style-type: none"> Air rights development has special requirements that need to be taken into account, including access, structural systems, feasible scales, and other characteristics that must be anticipated in the planning for future streets, parking, access, adjacencies and many other factors. Air rights decking should be used to create plazas, walkways and open space as well as building footprints, particularly in areas that are adjacent to West Station. 					
58. <u>Integrate buildings, energy facilities and open space networks with potential flood and stormwater management needs</u> – Provide and designs that protect against flood and overflow conditions to reduce risk to surrounding investments.	<ul style="list-style-type: none"> All built and critical facilities should be elevated above projected flood conditions and storm-induced events, including protection from flood vulnerabilities near the Cambridge Street/River Street bridge. Buildings and sites should integrate water collection and retention systems that can communicate with district water management systems to provide for sustainability. These systems can be designed to serve as an amenity for the surrounding open space system and the multi-use corridor connecting to the river. 					
59. <u>Address sea level rise as part of a broader area solution</u> - Resiliency for this area should be planned in concert with systemic solutions for the Charles River Basin.	<ul style="list-style-type: none"> The Charles River Dam protects this area from coastal and ocean conditions, but may not be adequate relative to future projected sea level rise and storm-related events. 					
60. <u>Provide District Energy systems and solutions</u> - As a new, planned area, the efficient and sustainable production and distribution of energy can be achieved.	<ul style="list-style-type: none"> Because so much of the land is under single ownership, integrated solutions for multiple buildings and sites can be planned and implemented. Survey and take advantage of siting opportunities for geothermal and aquifer-based thermal storage and exchange systems as part of the district-wide development and open space planning. 					
61. <u>Follow best-practice Transportation Demand Management strategies for all new development</u> – Minimize vehicular demand on new streets by actively encouraging alternative strategies.						
62. <u>Provide comfortable, attractive connections for pedestrians and bikes above I-90</u> – Extend pedestrian and bicycle connections above the Pike wherever there are new streets or air rights development.	<ul style="list-style-type: none"> Include dedicated pedestrian and bike links between the Cambridge Street bridge area to the West Station area in conjunction with a vehicle connection in the same location. As future air rights development extends coverage of the I-90, provide safe, convenient routes for people walking and bicycling as part of a non-motorized circulation network. 					

Appendix A - Supplemental Information for Placemaking Standards

The following additional commentary and diagrams augment several urban design standards and master planning considerations that are the primary product of this study. This additional information has been drawn from a variety of presentations and discussions with the members and attendees of the I-90 Allston Interchange Project Task Force and associated working group meetings.

The numbering for each item corresponds to its identification number in the matrices contained in this *Report*.



Sandwiched between the transportation infrastructure and the Charles River, any design solution in the “throat” section of the project area should expand the narrow band of landscape and the shared path pedestrian and bike corridor that connects the Esplanade to Allston.

7. Maximize the quality of constrained open space in “throat” area - *Promote access, open space and mitigation of highway and rail impacts along the Charles River along the transition from Soldiers Field Road to Storrow Drive.*

Additional Explanation:

The narrow corridor of land between the Charles River and Boston University at the east end of the I-90 Allston Interchange Improvement Project has been termed the “throat” by those involved in the planning process. This corridor must absorb the I-90 alignment, Storrow Drive as it extends towards Soldiers Field Road, the MBTA commuter rail and freight lines, and the freight line branch that crosses the Charles River on the Grand Junction Bridge. Currently, the rail and Storrow Drive/Soldiers Field alignments are at grade, and I-90 is on a viaduct set back from the River edge. A narrow strip of land serves a pedestrian and bike path along the River, but it is heavily impacted by the traffic passing just a few feet away.

Multiple alternatives for the configuration of the land and infrastructure have been brought forward and are expected to be evaluated in the DEIR for the project. The MassDOT 3K-4 Alternative would retain the same basic configuration, but would move the surface roadways slightly to the south, increasing the band of open space and shared path corridor along the River. Another concept has been brought forward by A Better City. It would locate all of the infrastructure at grade, and proposes a built structure that would extend partially into the Charles River to accommodate the Paul Dudley White Path at this location. Concepts brought forward by community advocates also envision the creation of new park space being constructed above or within the edge of the Charles River, with viaducts carrying pedestrian connections, future air rights development, and possibly transit service.

The urban design standard in this *Report* stresses the importance of enhancing the width, quantity, and quality of the green space and pedestrian/bike corridor along the Charles River as a primary consideration in advancing any preferred alternative because of the fundamental role it plays in the open space and connectivity within Boston and the region.

13. Ensure that West Station design includes usable public open space – *Integrate an open space amenity (such as landscaping, plaza space, seating areas, and special lighting) into the design of West Station to both anchor the transit hub and provide first phase open space improvements.*

Additional Explanation:

As portrayed in the Alternative 3K-4, West Station would consist of at-grade platforms along the MBTA tracks, accessed from new streets and with a station plaza bridging over I-90 and rail lines. In order to make the station area attractive for everyone using the new transit services, it is important to create open space and landscaping along the approach bridges and adjacent to the station structure. Eventually, air rights development may serve to further enhance the pedestrian environment, covering the transportation infrastructure below. In the interim however, widened pedestrian areas can create a well-designed transit plaza with a combination of hardscape, green landscaping, and pedestrian amenities providing the qualities sought by this Placemaking Standard.



West Station will be perched above the rail lines and MBTA rail yards; it will need to incorporate an open space amenity to make it a pleasant place for transit users, as it becomes a bus and rail hub.

Appendix A - Additional Information (continued)

16. Provide added width to the connecting bridges to West Station – Provide added dimension (such as landscaped aprons) to the bridges that span above the highway and rail alignment to provide visual and landscape amenities to support a pleasant pedestrian and bicycle environment.

Additional Explanation:

West Station will become a transit hub and landmark for pedestrians, bicyclists and transit riders who take advantage of the new north-south connections that will provide new north-south links across the highway and rail corridor. The street and sidewalk infrastructure leading to West Station from the north is envisioned as bridges with flanking sidewalks in Alternative 3K-4. These bridges will span hundreds of feet of active highway and rail facilities. Although air rights development may eventually line the new streets and cover the transportation infrastructure, it is important to have an attractive environment for everyone using these important new links as part of the initial construction.

Other communities have accomplished similar design solutions to major highway and rail crossings. For example, the Long Street Bridge in Columbus, Ohio is an award-winning solution that widens a highway bridge to create a pedestrian-friendly, landscaped crossing.

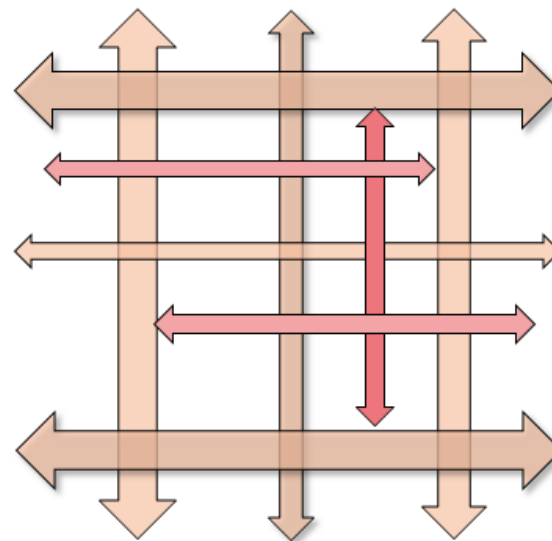


Example of the benefits of broad, landscape bridges crossing a highway (photo: MKSK Landscape Architects).

26. Create a street hierarchy – The streets should be designed to emphasize the most appropriate modes for their purpose and alignment, rather than meeting uniform standards and characteristics.

Additional Explanation:

The concept plans for new streets in alternative 3K-4 mostly portray uniform dimensions and relationships among lane widths, bicycle lanes and tracks, sidewalks, turning radii, landscaping bands and other components of the street and streetscape. As design concepts are advanced, MassDOT and the City should collaborate and establish a hierarchy of street types and characteristics that provide useful variations, recognizing that the role of each street segment will not be the same. For example, if narrower street dimensions can be obtained where a separate and parallel shared path is provided for bicyclists, then the pedestrian and urban design qualities of the street may be improved by allowing shorter crosswalk dimensions. This approach will also support the transition from highway-oriented traffic facilities to city streets appropriate for a new mixed use district.

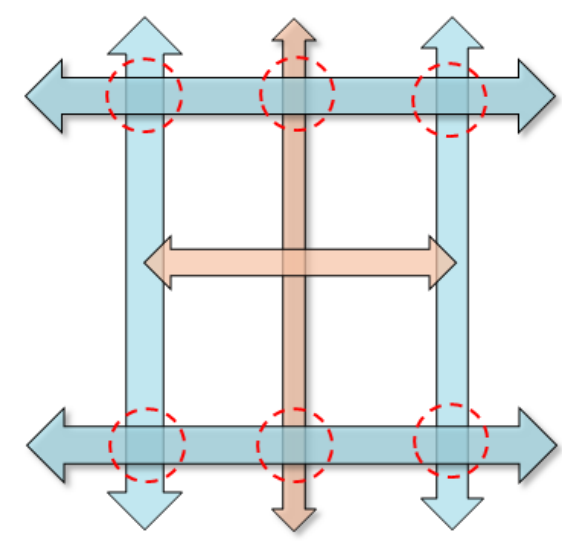


28. Assume a network of internal secondary streets – Provide additional internal circulation streets to the extent they reduce demand on key intersections or street segments. Include these streets in traffic modeling to extent that they reduce the need for lanes on other roads.

Additional Explanation:

The new street segments in Alternative 3K-4 are intended to accomplish the transitions between I-90 and the local street network. The future development is expected to require additional secondary streets. This will create a finer grained urban fabric and smaller blocks in the new district. These secondary streets should generally be located and designed in conjunction with the master plans for future development in the area; providing flexibility for the location of secondary streets is generally desirable.

However, some of these streets could provide shorter term benefits by creating more choices for motorists moving to and from the highway and reduce potential congestion at major intersections. This potential mitigating benefit should be considered during the DEIR phase of MassDOT’s planning to determine whether early construction of some secondary streets should be included in the scope of the I-90 Interchange Project.



31. Limit slopes of new streets and associated sidewalks and bike facilities –

Limit the maximum slopes for the new roadway network to less than 5%.

Additional Explanation:

The new street network will require several bridges above I-90 and the rail infrastructure to access the new West Station from the north. The bridges will also provide connections to eastbound on- and off- ramps. These bridges must provide adequate clearance above the rail cars and trucks passing below these bridges and meet other technical requirements. As a result, street segments extending to West Station from surrounding areas will be sloped to reach the top elevation of the bridges. Many participants have raised concerns about steep slopes that could be an impediment for pedestrians, bicyclists, and individuals with handicaps.

Slopes of less than 5% are considered conducive to comfortable walking and bicycling and are adequately gentle to accommodate those in wheelchairs without requiring ramping, railings or other measures. Maximum street and sidewalk slopes conforming with this standard will help accomplish the placemaking goal of creating a walkable, accessible district.



34. Provide streetscape and landscaping at the perimeter of any vacant future

development parcels – *Vacant areas should not detract from the visual character of the area.*

Additional Explanation:

Development of the open land areas between the new streets may take many years to emerge. In the interim, the empty land should not detract from the visual quality and value of adjacent areas. All of the new streets should have complete streetscape improvements as they are incrementally completed so that they are conducive to pedestrian and bicycle use.

By creating interim perimeter landscaping, stark views of empty parcels will be mitigated. Green edges will contribute to sustainability and can be incorporated into interim stormwater management. Perimeter landscaping should also help buffer and screen views of the highway and rail infrastructure from the streets and pedestrian vantage points from many perspectives. The interim landscape improvements will then be removed for subsequent planned development after it is approved.

36. Plan for integration of roadway and district stormwater solutions –

Design a scalable stormwater management system that is sensitive to district context and hydrological patterns.

Additional Explanation:

The transportation infrastructure will incorporate stormwater collection and management solutions. The design of these solutions should not be undertaken independently from strategic planning and the stormwater infrastructure development for the district as a whole. The stormwater management for the streets, rail, and highway components should anticipate and incorporate sustainable and resilient approaches for interim conditions of the land before new development occurs. But the stormwater system should also be compatible with sustainable, resilient management methods that may be associated with developed land and open space assets over the long term, including air rights development. The initial design must also either provide or be compatible with improvements to the drainage network that crosses through the project area and serves a larger basin.

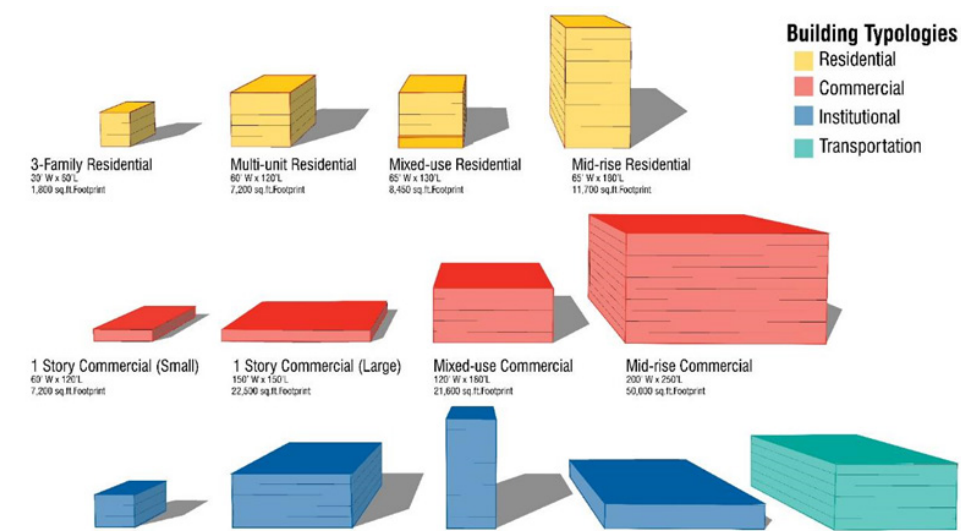
Appendix A - Additional Information (continued)

37. Create a framework for adaptable and well sized blocks - *The street layout should allow block sizes and dimensions that can be adapted to a broad range of building and use types.*

Additional Explanation:

This standard is best achieved in concert with the transformative road and street alignment recommendations described in the initial section of this Report.

The 3K-4 concept provides a framework for multi-modal transportation. The space that will be left over - including air rights above the rail and highway - will become development sites. The evaluations of the resulting development potential associated with 3K-4 raised concerns that some of the blocks and parcels would poorly suited to many types of development. There are significant long term benefits associated with simply shaped and well-proportioned development parcels that do not impose limits on the types of uses that can emerge. Oddly shaped lots, narrow parcel proportions, and locations with limited access will make placemaking slower and more difficult.



Typical building dimensions and proportions used to test the adaptability of the area to various uses and development scales

38. Create a landscaped shared path bicycle and pedestrian route that crosses through the redevelopment area – *This “People’s Pike” route will connect North Allston and Cambridge Street with the Charles River open space network.*

Additional Explanation:

A consistent theme of community discussions has been the value of a landscaped corridor crossing through the land freed from the current I-90 Interchange. MassDOT has committed to, at a minimum, a cycle track along Cambridge St. South. However, the “People’s Pike” has been envisioned as separate and different from the street-bordering bike lanes and sidewalks that have been illustrated in the concept plans prepared for Alternative 3K-4. Although the specific route would need to be integrated into the improvement project, the ability to move easily between areas along Cambridge Street near the MassPike overpass and the Charles River would provide significant benefit for the residential neighborhoods.

This placemaking standard should be accomplished in concert with the early phases of interchange and street improvements. However, the final routing would best be accomplished in concert with the master planning and design development of the area as a whole. As a result, the long term characteristics of this corridor are also addressed in the Master Planning Considerations items #50 and #51.

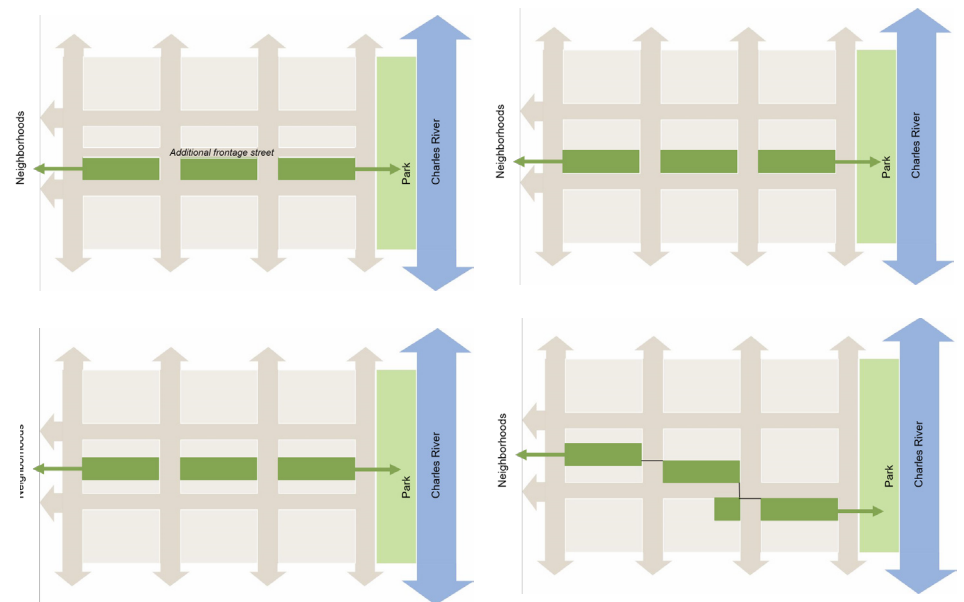


50. Support an east/west green corridor - *Provide a green connecting corridor for pedestrians, bicyclists and amenity for development threading through the district.*

51. Create a linked network of open spaces – *Principal open spaces created in the district should be linked, to create a sequence of green places.*

Additional Explanation:

This study recognizes many placemaking benefits can be achieved by having a linked sequence of green open spaces that are distinct from the streetscape and individual open spaces that may be created within blocks of land and development. But such a corridor cannot be created without an overall master plan for the area that integrates multiple blocks, multiple parcels, initial transportation infrastructure and the secondary streets and pathways of the emerging district. The following diagrams have been used to suggest a range of successful design strategies that may be contemplated when the master planning begins. A straight corridor could extend through the center of new blocks. It could line a continuous edge of an east/west street. A corridor could be created between closely spaced streets by adding secondary ways, reminiscent of the Commonwealth Avenue Mall in the Back Bay. Or it could be created as linked segments, winding its way across streets and blocks. Any of these design strategies – and others – would be compatible with the initial transportation infrastructure that accomplishes the Placemaking Standards in this Report.



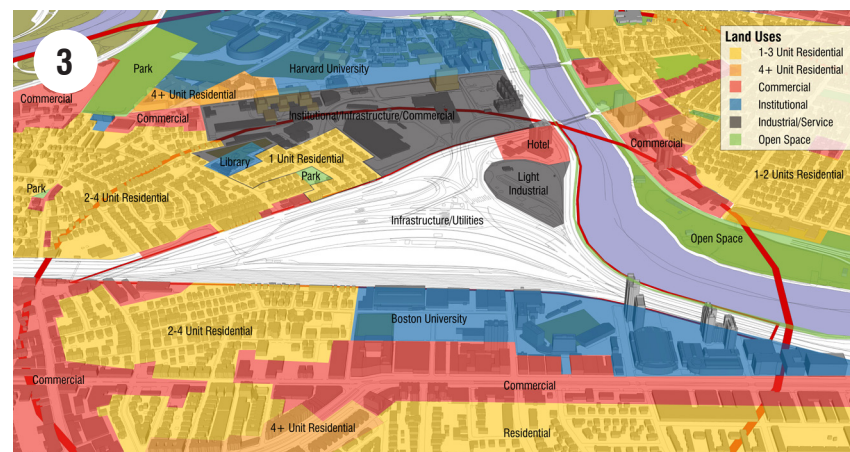
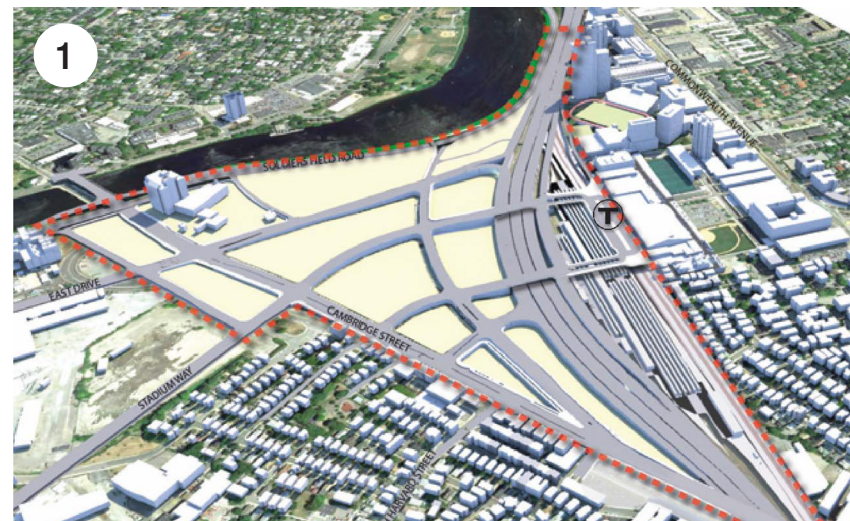
Appendix B - Process and Methodology

This Placemaking Study is grounded in analytical tools and methods that have been used to evaluate the I-90 Allston interchange area. Various approaches were used to judge the capacity of the area to support excellent placemaking urban design in light of the MassDOT concept 3K-4. The multi-disciplinary team then evaluated potential changes or refinements that would enhance the placemaking opportunities.

The Cecil Group/Harriman team prepared a sequence of studies that were assembled and summarized at a series of meetings with the I-90 Interchange Improvement Project Task Force. These included several special working sessions with members of the Task Force specifically devoted to placemaking topics. Based on the comments received from participants and stakeholders in the area, the findings and recommendations were then advanced and have been incorporated in final form in this report.

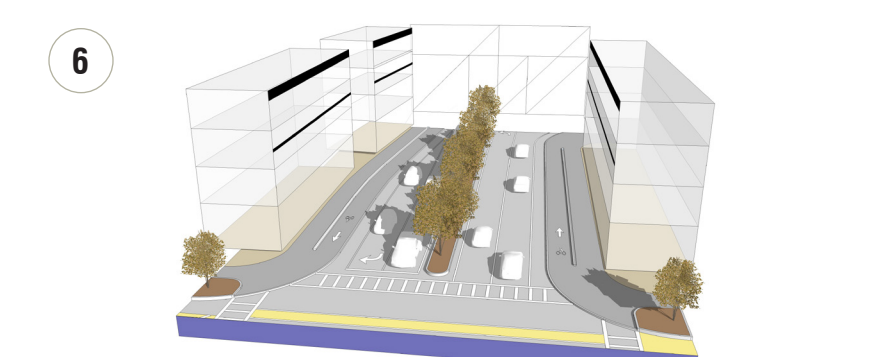
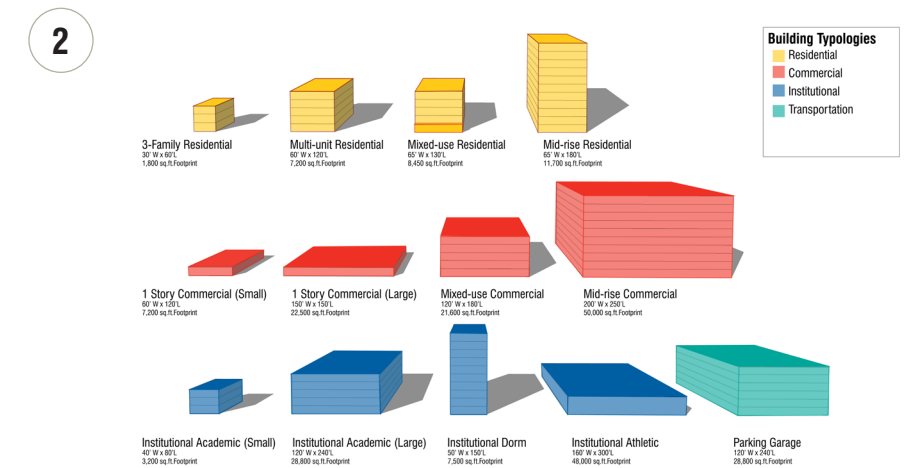
The principle methods used for the placemaking implications of the transportation concepts and formulation of urban design standards included:

- Three-dimensional modelling of the area, its surroundings and the 3K-4 option based on the drawings and diagrams provided by MassDOT
- Evaluation of land use and urban design characteristics of the surrounding urban and neighborhood contexts
- Review of other concepts prepared by advocates and stakeholders for both transportation infrastructure and land development concepts
- Review of the traffic and transit modelling methods, assumptions and results
- Consideration of the build-out projections and the characteristics of the area relative to future real estate development, including a range of building typologies and air rights development requirements
- Three-dimensional modelling of potential street, streetscape and building relationships for representative streets in the 3K-4 concept
- Evaluation of relevant and comparable urban districts with similar transportation infrastructure characteristics



Examples of Analytical Studies and Illustrations:

1. Three-dimensional computer model of the 3K-4 option in context
2. Typical building dimensions and proportions used to test the adaptability of the area to various uses and development scales
3. Diagram of the predominant land uses in nearby areas



4. Classification of block sizes based on the 3K-4 layout prior to development of any secondary streets
5. Scale comparison of the I-90 Allston Interchange study area (green silhouette) and the Back Bay
6. Street scale and urban design proportions of the streetscape with illustrative development based on the 3K-4 concept for a new street (the West Connector)

Appendix B - Additional Information (continued)

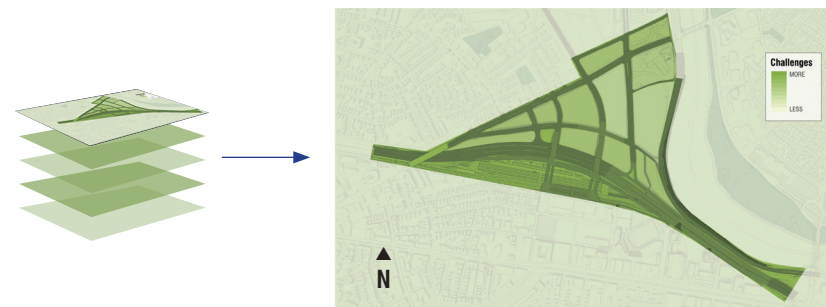
A central part of this study was the evaluation of the 3K-4 alternative in relation to the placemaking categories and topics established at the outset of the process (see page 7 of this Report). The Cecil Group/Harriman team prepared a sequence of maps evaluating placemaking characteristics of the 3K-4 plan for each topic. These maps were then compiled to express the overall placemaking challenges or opportunities associated for each category.

For example, under the category of Public Realm and Open Space, four different topics were evaluated and mapped as separate layers:

- Adaptability of 3K-4 to new open spaces of sizes that occur in similar urban areas
- Frequency and distribution of open spaces that could be created
- Average distance to existing open spaces from within the area
- Characteristics of the public realm along streets in the 3K-4 concept including their width

Individual topic layers were assembled to produce a composite “heat map” indicating areas where the public realm and open space principles could be readily accomplished, and those areas where these would be difficult to achieve.

The following maps and discussion convey key considerations associated with each of the five placemaking categories.



Public Realm/Open Space



In this map, darker tones indicate greater challenges and lighter tones indicate fewer challenges in creating new open spaces and an active, vital public realm.

The composite map indicates that large, open areas of land within the new street grid would afford readily achievable opportunities for new open space and a successful public realm. The street, rail and highway infrastructure generally constrain the ability to easily provide open space. Soldiers Field Road becomes a major challenge to creating additional open space because of its location and design which separates the area from the Charles River edge. The wide streets in 3K-4 create challenges for placemaking opportunities along the street edges. It is possible - but relatively expensive - to create platforms above the highway and rail facilities providing new open space and a well-designed public realm because of high costs.



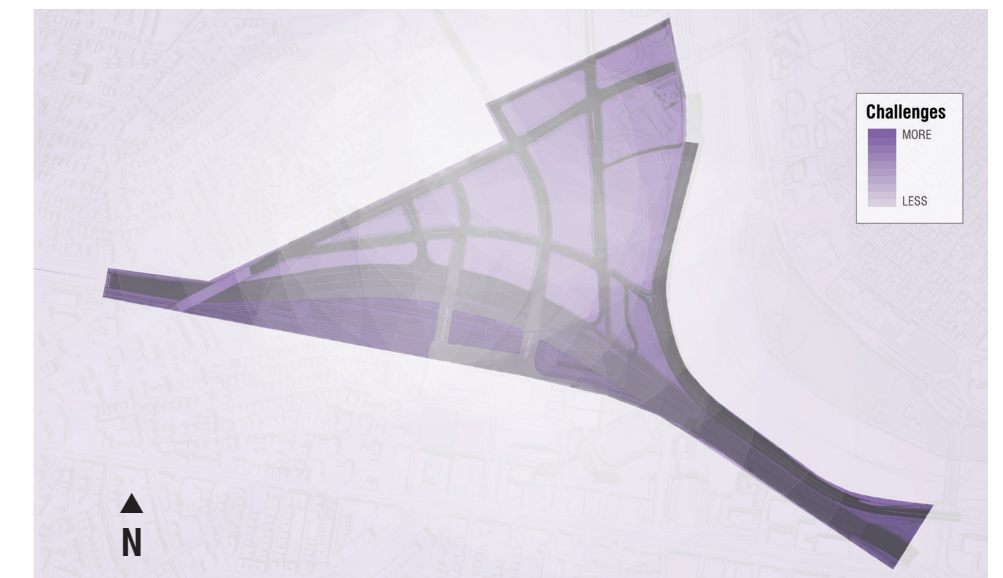
Mobility/Connectivity



This analysis focuses on how the land and the air rights can be further improved to enhance transportation, if Alternative 3K-4 were implemented. In this map, darker tones indicate greater challenges and lighter tones indicate fewer challenges in providing improvements that enhance mobility for all modes of transportation, and which can be readily connected to local and regional connections.

This map clearly indicates the high cost and construction challenges associated with further improving the air rights above the freeway, rail and Soldiers Field Road alignments. The central portions of the area are most adaptable to increased mobility and connectivity because of the north/south vehicle, bicycle and street connections that would be created to link West Station with Cambridge Street and points further north.

The graphic representation indicates the difficulties associated with creating additional transportation links for any mode in the corners of the study area near where Cambridge Street crosses over the Mass Pike, where Soldiers Field Road diverges from the Mass Pike, and near the congested land and intersection of Cambridge Street, the Soldiers Field Road ramps, and the River Street bridge.

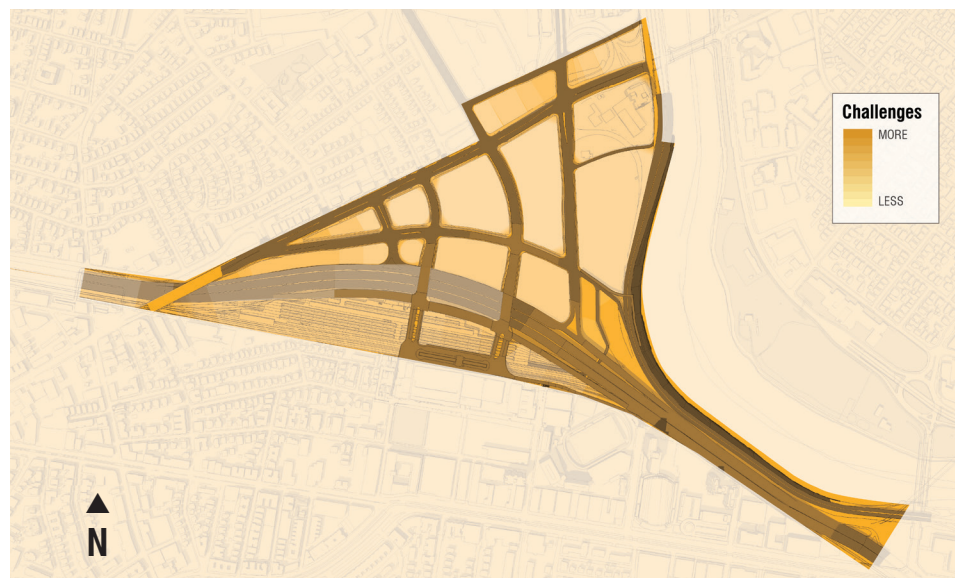


Development Potential/Flexibility



This analysis considered how challenging it would be to create new development within the study area if 3K-4 were completed according to the concept plan. The dark tones indicate challenges to development; lighter tones indicate areas that will more readily accept a range of development scales, uses and building types.

The resulting graphic recognizes that the large, central land areas between the new grid of streets would be very adaptable to many development choices. In general, the air rights areas above much of the rail and highway alignments would be challenging because of the higher cost of development due to structural solutions, utility, and transportation access that would be needed. Areas where the roadway and rail infrastructures converge would be significantly challenging for development and less flexible for future placemaking solutions. This graphic also indicates the multiple challenges associated with the areas along and near the “throat.”

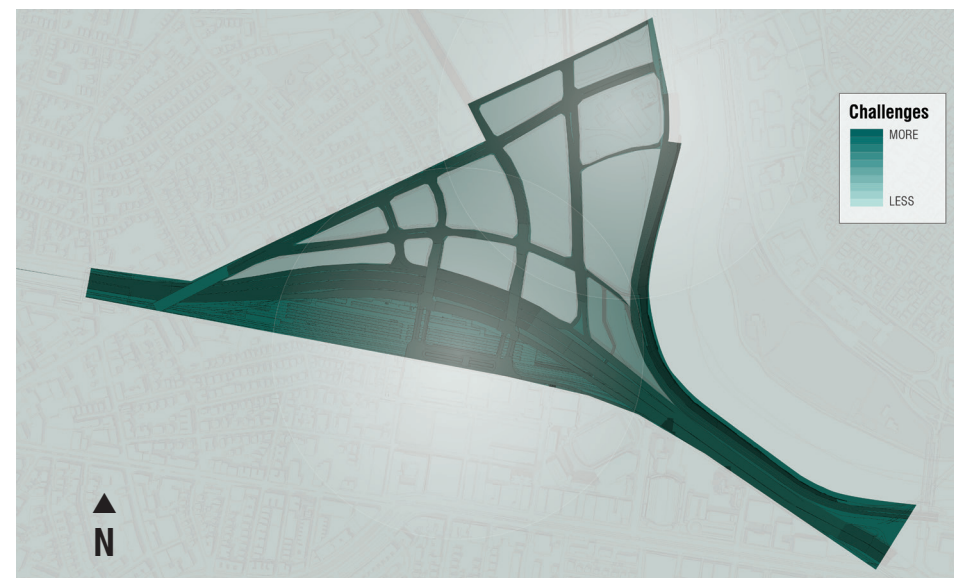


Distinctive Place/Context Sensitive

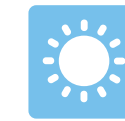


This analysis evaluated the capacity of the land and air rights to become distinct places that respond to the nearby context. In this map, darker tones indicate greater challenges and lighter tones indicate fewer challenges.

The resulting composite map emphasizes substantial challenges associated with air rights development at any location within the study area. The context to the south of the I-90 and rail alignment consists of a relatively low scale fabric including adjacent neighborhoods and portions of the Boston University campus. However, the high cost of air rights development typically leads to large scale buildings and spaces that – while distinctive – require innovative approaches and relationships that can be challenging to accomplish, particularly from a financial perspective. In contrast, the broader open areas to the north of the turnpike viaduct will have few constraints and provide a large range of urban design choices to create special places and enhance the existing context.

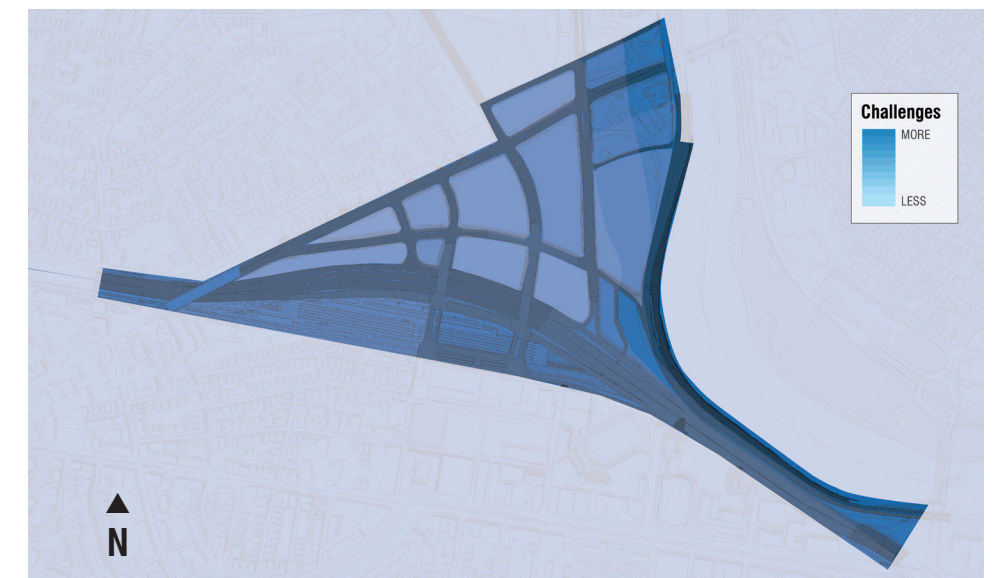


Energy Efficiency/Sustainability



This categorical analysis focused on the capacity to incorporate energy efficiency and sustainable design elements into future open space and land development in relation to the 3K-4 concept. Darker tones indicate where significant challenges would confront placemaking improvements; lighter areas indicate a greater capacity to use energy efficiency or sustainable practices as placemaking tools.

The composite map of opportunities and constraints portrays the physical and cost-related challenges associated with construction of special sustainable and energy efficient elements above air rights. Challenges to be overcome would include the transportation structures and related utility alignments. Large, relatively open land areas provide significant flexibility in accomplishing sustainable and energy measures at lower costs and less interference with the roadway or rail network. The map also recognizes that the strip of land along the Charles River brings special challenges that would need to be overcome. The land near the Charles River is a relatively low-lying area potentially subject to future flooding, and is constrained by the alignment of Solders Field Road and adjacent rail spur.



Placemaking Study

