



PHILADELPHIA
30TH STREET STATION
DISTRICT PLAN

DRAFT PHYSICAL FRAMEWORK REPORT

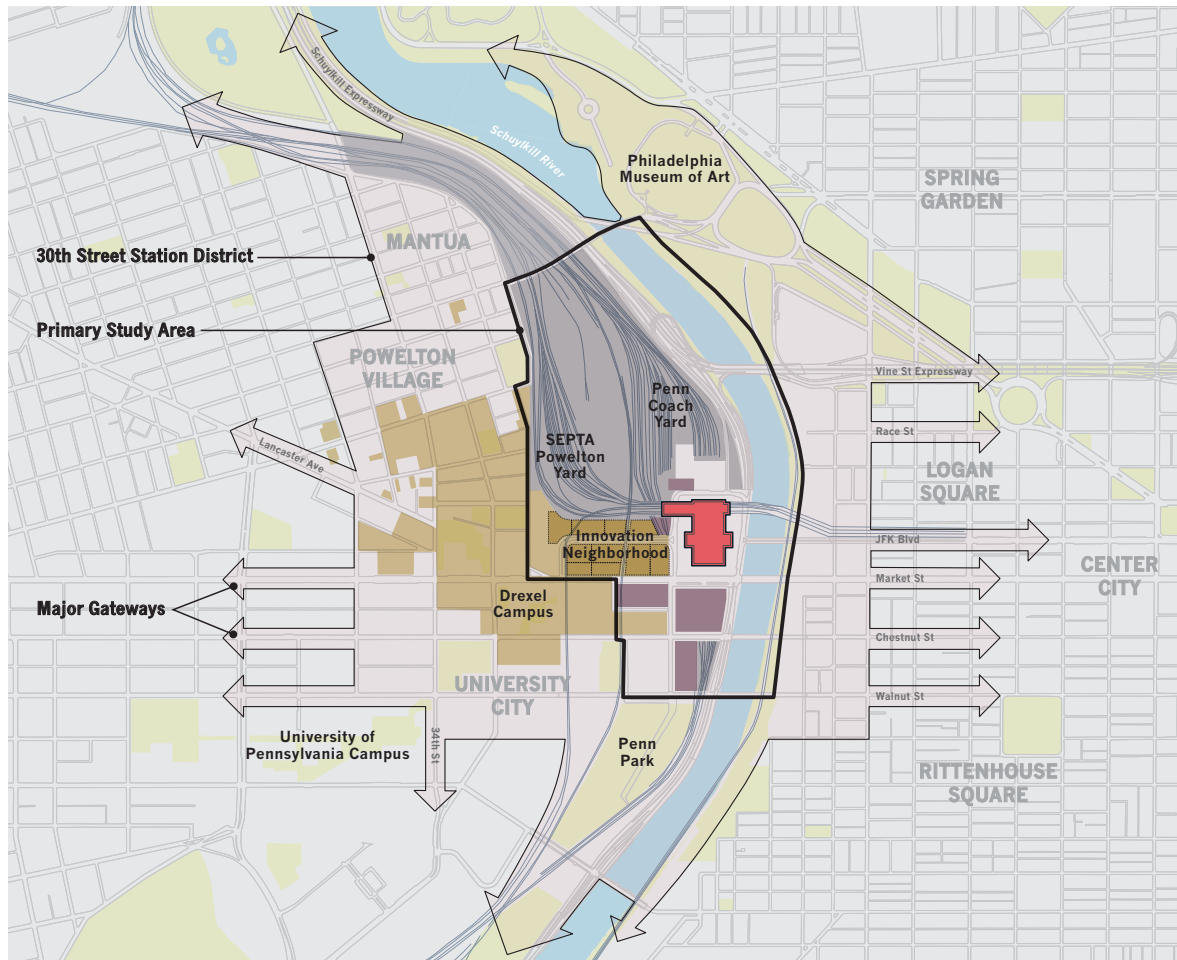
December 9, 2015

SOM | SKIDMORE, OWINGS & MERRILL LLP
in association with
Parsons Brinckerhoff, OLIN, and HR&A Advisors

About the 30th Street Station District Plan

Launched in the summer of 2014, the Philadelphia 30th Street Station District Plan is a long-range, joint master planning effort led by Amtrak, Brandywine Realty Trust, Drexel University, the Pennsylvania Department of Transportation, and the Southeastern Pennsylvania Transportation Authority (“Principals”) to develop a comprehensive vision for the future of the 30th Street Station District in the year 2040. The Principals are joined by a coalition of adjacent property owners, governmental entities and departments, and non-profit entities serving on project committees to provide guidance and direction for the District Plan.

District Plan Study Area



CONTENTS

1.0	Executive Summary	2
1.1	Context	
1.2	Goals of the 30 th Street Station District Plan	
1.3	How the Draft Framework Is Organized	
1.4	Relationship to NEC FUTURE	
2.0	Conceptual Alternatives + Stakeholder Feedback	6
2.1	Three Concepts	
2.2	Summary of Stakeholder Comments on the Three Concepts	
2.3	Towards a Unified Vision	
3.0	Draft Physical Framework	10
3.1	Approach	
3.2	Physical Framework Areas of Study	
4.0	District-Wide Networks	12
4.1	District Connections	
4.2	District Bike Network	
4.3	Public Space Network	
4.4	Development Parcels	
5.0	The Station	18
5.1	Station Overview	
5.2	Platform Level Plan	
5.3	Ground Level Plan	
5.4	Mezzanine Level Plan	
5.5	Second Level Plan	
5.6	SEPTA Market-Frankford Line Connection	
5.7	The Station and Immediate Urban Edges	
6.0	Station Plaza	28
6.1	Station Plaza Overview	
6.2	Curbside Programming	
6.3	Circulation Improvements	
6.4	Public Space Programming	
6.5	Waterfront Access and Open Space	
7.0	Multimodal Transportation Center	36
7.1	Overview	
7.2	Platform Level Plan	
7.3	Ground Level Plan	
8.0	At-Grade Development	40
8.1	Overview	
8.2	Planning Drivers	
9.0	Rail Yards Development	42
9.1	Opportunities and Constraints	
9.2	Overbuild Conditions Analysis	
9.3	West Rail Yard Overbuild	
9.4	East Rail Yard Overbuild	
9.5	Overcoming Infrastructure Barriers to Connect the Yards	
10.0	Next Steps	52
10.1	Planning Process	
10.2	Evaluating the Draft Physical Framework	
	Appendices	
A	Stakeholder Review Process Summary Report	
B	2020 Interim Traffic Study Assessment	
C	2040 Modal Growth Forecast	
D	Taxi Access and Utilization Survey	

1.0 EXECUTIVE SUMMARY

1.1 Context

This report, a **Draft Physical Framework for the 30th Street Station District Plan**, represents a significant milestone in a two-year process of discovery, consultation, and planning. [The physical planning ideas and goals illustrated in the following pages are a significant step towards a long-term vision to realize the aspirations and objectives of the extraordinary diversity of organizations, institutions, design professionals, and citizens who comprise this District – resolute to be both daring in its vision and achievable in its details.](#) The ultimate vision will reflect a shared conviction that the fortunes of Philadelphia and the opportunities of the Northeast Corridor have aligned to warrant transformational growth in this urban area. The opportunity presented by the District allows for a plan that is simultaneously visionary and authentically Philadelphia, building on the city's rich tradition of neighborhoods characterized by pedestrian-scaled streets, parks, and memorable cultural and natural amenities.

The physical planning ideas presented in this report must be understood in the context of where we are in the broader planning process, as diagrammed on the following page. The ideas are borne of extensive, inclusive engagement and dialogue over the last year. This discourse has yielded an understanding of the goals and objectives that stakeholders share in common. It has also allowed joint exploration of three “what if” future alternatives, each offering a menu of planning moves to achieve those objectives. The proposed physical framework endeavors to harmonize the ideas and needs expressed by a diverse group of stakeholders into a cohesive future concept for the District.

[The planning ideas expressed in the document are still largely aspirational, but they have been tested at a conceptual level for feasibility against the unique physical constraints present in the District.](#) The following pages set forth a proposal for achieving a future that is physically attainable, yet extremely bold in aspiration. The draft physical framework is offered to elicit further stakeholder and public feedback on whether it succeeds as a foundation for the final vision and District Plan. Through the next phases in the planning process, the framework will be further refined and subjected to the realities of cost, funding, implementation, and governance. Ultimately the physical framework will give shape to a complete District Plan to include:

- 2040 Transportation Operations Plan
- 2040 Station and Facilities Plan
- 2040 Development Program
- Economic Impact Analysis
- Phasing, Funding and Financing, and Implementation Plan

The resultant District Plan will be a roadmap to realize the vision for a thriving, mixed-use urban neighborhood anchored by a great civic realm and future-ready, multi-modal transportation complex at 30th Street Station.

1.2 Goals of the 30th Street Station District Plan

Goals

The District Plan focuses on three primary goals:

- **Community:** Building a vibrant community full of opportunities to live, learn, work, and play.
- **Connectivity:** Celebrating 30th Street Station as a premier multi-modal transportation hub where people can seamlessly connect to resources and attractions in the local community, the city, and the region.
- **Identity:** Creating a high-quality network of active, attractive, and safe places to welcome residents and visitors into a place of memorable identity and character.

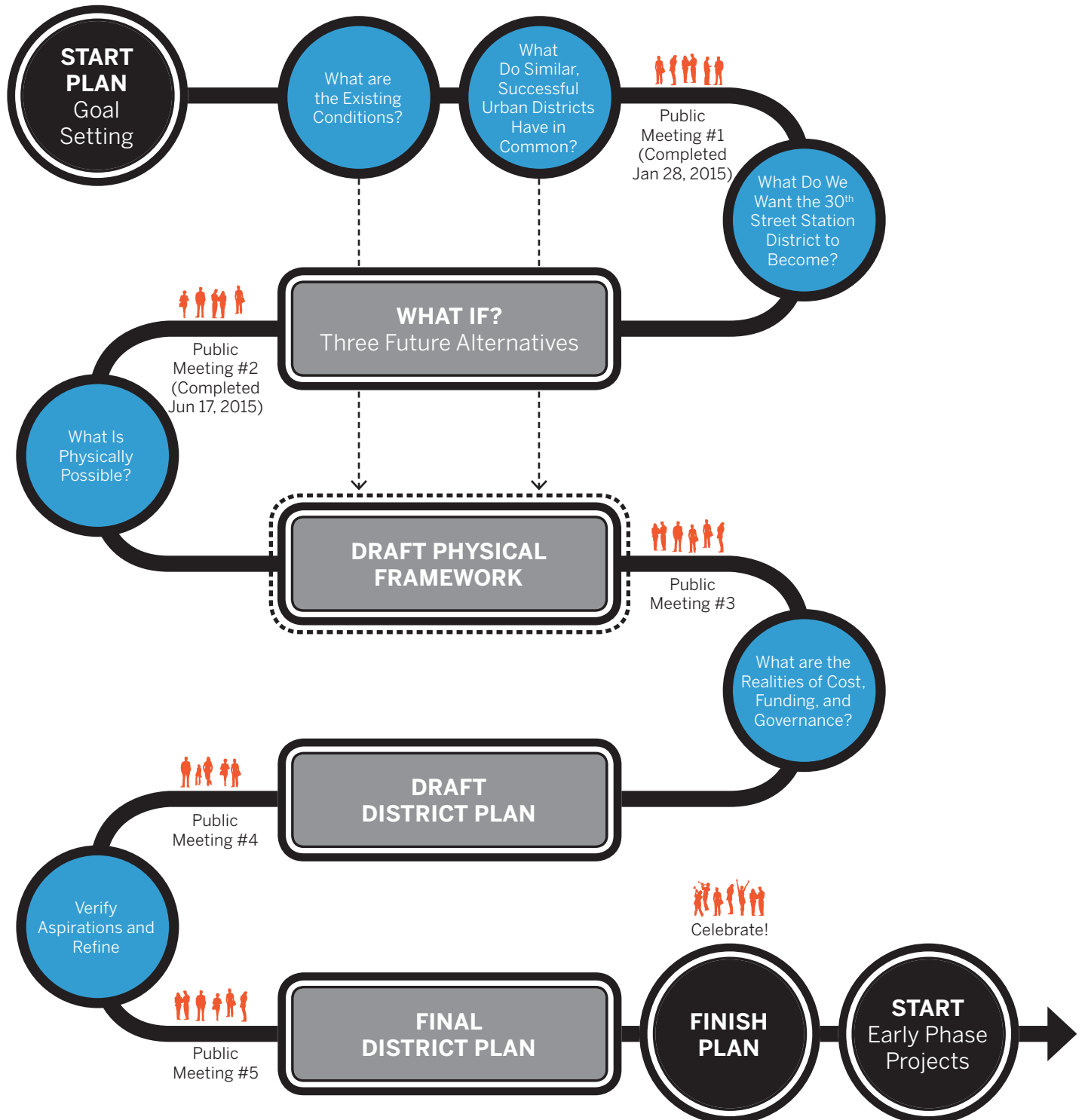
Design Objectives

Key design objectives have been developed to shape a framework for improvement and investment:

1. **Placemaking:** Lead with the public realm. Attractive, iconic and authentic infrastructure and public space can shape District identity, enhance real estate value, and attract development.
2. **The Station as a 21st Century Hub:** Improve the station to be future-ready for a growing number of passengers and create a neighborhood destination while preserving the special characteristics of this grand historic station.
3. **Multi-Modalism:** Enhance the multi-modal connections that serve as the transportation backbone of the District.
4. **New, Connected Neighborhoods:** Support development that builds on District strengths, shapes and reinforces neighborhood character through the scale and design of buildings, carefully considers neighborhood transitions within the District and at its edges, and connects existing neighborhoods.
5. **Connections to the Schuylkill River:** Bring District residents, workers, and visitors to the riverside trails and vibrant public spaces.
6. **A Bridge between Center City and University City:** Knit together the neighborhoods of Center City and University City through enhanced and new connections.

Readers are encouraged to keep these planning goals and design objectives in mind as a critical lens for assessing the effectiveness of the framework presented in this report.

The Planning Process: Road Towards a District Plan



1.3 How the Draft Physical Framework Is Organized

In this document, the draft physical framework for the 30th Street Station District Plan is organized into six primary areas of study, as illustrated on the following page, starting at the station and moving outward to encompass Station Plaza, terra firma development areas immediately adjacent to Station Plaza (including Drexel University's future Innovation Neighborhood mixed-use development), and ultimately the rail yards, which are described as two separate, but interconnected, geographical areas.

For each area of intervention, the broad planning ambitions and a few near-term projects to achieve them are identified. Readers are encouraged to focus on the way these projects interact and interconnect as stepping stones to guide the District towards its long-term vision.

1.4 Relationship to NEC FUTURE

The Federal Railroad Administration (FRA) is working with Northeast Corridor stakeholders to develop a long-range, integrated investment plan for the Northeast Corridor (NEC) between Washington, D.C., and Boston. This planning effort, called NEC FUTURE, was initiated in early 2012 and is expected to be concluded in late 2016. The purpose of NEC FUTURE is to define a program to upgrade aging infrastructure and to improve the reliability, capacity, connectivity, performance, and resiliency of passenger rail service on the NEC for both intercity and regional trips, within a multi-modal network, while promoting environmental sustainability and economic growth.

NEC FUTURE includes the identification and analysis of a broad program of rail service and infrastructure improvements that will be documented in a Tier 1 Environmental Impact Statement (Tier 1 EIS) and a Service Development Plan (SDP). For the NEC FUTURE program, FRA is currently considering three Action Alternatives that are representative of a range of possible visions for passenger rail in the Northeast. All of the Action Alternatives include a significant increase in intercity and regional rail service and investment at Philadelphia 30th Street Station. In addition, one alternative explores supplemental service to a new Philadelphia Airport Station, while another alternative includes a second downtown station in Philadelphia serving trains operating on a proposed second NEC spine. The FRA will select a Preferred Alternative upon completion of the Tier 1 Final EIS in 2016. For more information, visit www.NECFUTURE.com.

The 30th Street Station District Plan will be able to accommodate any of the alignment alternatives being considered by NEC FUTURE for Philadelphia.



2.0 CONCEPTUAL ALTERNATIVES + STAKEHOLDER FEEDBACK

2.1 Three Concepts

In June of 2015, three different conceptual alternatives were developed to establish different stories about what the future 30th Street Station District could be. These three “What If” alternatives were meant to inspire dialog and elicit feedback from the many unique points of view regarding need, desire, benefit, and ambition.

The three conceptual alternatives were evaluated by a wide cross-section of stakeholders in several ways:

- Project Committee Review
- Peer Review Panel
- Public Open House
- Online Survey

The CBD2 and Schuylkill Crossing concepts emerged as the most promising elements for further study, while the Innovation City concept was found to be the least promising. The draft physical framework illustrated in this report attempts to synthesize the strongest ideas of the first two alternative conceptual plans.

A full description of the three conceptual alternatives and summary of stakeholder feedback is included in the Stakeholder Review Process Summary Report, attached hereto as **Appendix A**.



Central Business District (CBD) 2

This alternative proposed a dynamic new central business district as an expansion of University City and Center City, two of the most successful and attractive economic centers on the Northeast Corridor. It provided a flexible framework of blocks and lots suitable for a variety of uses that can respond to demands for commercial office, residential, hotel, or other uses which will change over time.



Schuylkill Crossing

This alternative proposed the creation of a new urban neighborhood. It provided an excellent setting for residential mixed-use development with great open space, walkability to University City, and regional transit access. To do so, it relied on two great linear parks covering major portions of the rail yards.



Innovation City

This alternative anticipated the continued growth of the future Drexel Innovation Neighborhood mixed-use development beyond its current boundaries. It provided clusters of blocks that could be suitable for large-footprint, flexible spaces that are often needed in innovation districts, including research facilities, incubator space, or new headquarters for high-tech firms.

2.2 Summary of Stakeholder Comments on the Three Concepts

	Committee Workshop	Peer Review	Open House + Online Survey
Development	<p>There should be a civic component to the Innovation Neighborhood</p> <p>Need more balanced mix of uses</p>	<p>Retail strategy should focus on the station, with defined connections to JFK, Market, and future Innovation Neighborhood destinations</p> <p>Amtrak Maintenance-of-Way yards should be focus of structural overbuild (least complicated area)</p> <p>Focus on getting first three floors right to cultivate urban experience</p>	<p>Focus on mixed-use development which includes residential, retail, and office</p> <p>Incorporate amenities which will keep the District lively at night</p>
Station Expansion	<p>Access to the station is vital</p>	<p>Consider a winter garden outside the station for additional retail</p> <p>Station plaza should serve circulation purposes, but do not prioritize cars over people</p>	<p>Protect the historic façade of the station and Main Hall in any future changes</p>
Circulation + Connections	<p>Realigning 30th St makes sense as connection into future development</p> <p>Study whether taxi space can be reduced at the station</p>	<p>Reduce space for taxis</p> <p>Consider what the role will be of intercity buses</p> <p>Plan for more transit use than automobile use, with minimal car parking</p> <p>Improve expressway ramps at Spring Garden and 30th Street</p> <p>Include more bike infrastructure</p> <p>JFK extension to 32nd Street could be pedestrianized</p> <p>Consider underground connection between subway and station</p> <p>Find ways to overcome the “hole” over the SEPTA tracks</p>	<p>Prioritize bikes, pedestrians, and transit over vehicles</p> <p>Include an intercity bus facility</p> <p>Create direct, weather-protected connection between the station and SEPTA’s Market-Frankford Line and trolleys</p> <p>Include new pedestrian bridges across the Schuylkill River</p> <p>Add a direct SEPTA transit route between Fairmount and the station</p> <p>Make sure new development is served by transit</p>
Open Space	<p>Need a right-sized, connected network of green spaces</p>	<p>There should be a central square announcing entry to Drexel’s campus</p> <p>Prioritize public space connections to the station to catalyze development</p> <p>Green the retaining wall of the Schuylkill Expressway</p>	<p>Enhance the area by maximizing green space, especially along the Schuylkill River</p> <p>Create more waterfront access</p>

2.3 Towards a Unified Vision

The stakeholder and public review processes provided valuable feedback on the elements to be carried into a preferred direction for the 30th Street Station District Plan. Strong support was given for the following specific ideas, which are all represented in the physical framework described in this report:

- An **expanded station** as District anchor
- A great, pedestrian-friendly **public space around the station**
- Improved connection to the **Market-Frankford Line**
- To the extent possible, a regularized **street grid** extending from the neighborhood
- Improved **vehicular connectivity** with Center City
- One or more new **pedestrian bridges** to Center City
- Improved **Schuylkill Expressway ramps** serving, and integrated with, the District road network
- A new **riverfront park** capping over the expressway
- New direct **waterfront access** on an elevated promenade and/or riverfront boardwalk
- A new **linear park** along/above the Powelton Yard
- An **expanded Drexel Park** to serve as a neighborhood amenity
- New dense, **mixed-use development** in the most feasible at-grade parcels within and in the air rights above the rail yards
- **Limited gaps** in the overbuild deck above the rail yards to promote continuity of development and public realm.

Public Open House – June 17, 2015
Source: Amtrak



3.0 DRAFT PHYSICAL FRAMEWORK

3.1 Approach

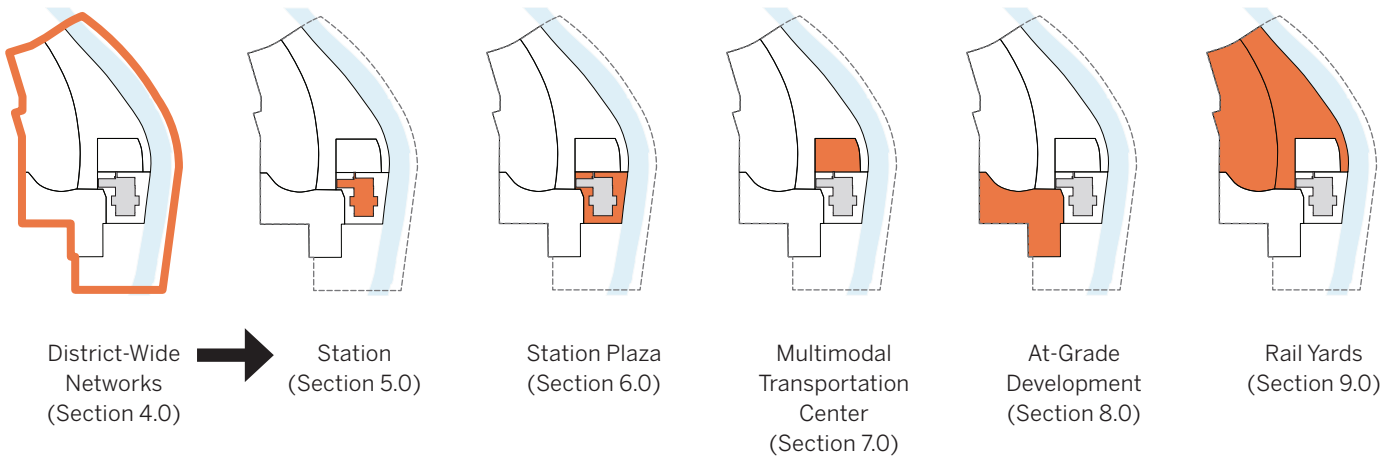
The most promising elements of the three conceptual “What If” alternatives, as identified by stakeholders, were drawn together and subjected to a technical review to understand the parameters of physical feasibility. The review included studies of rail yard development issues and constraints, overbuild geometry and structural approaches, near-term traffic analysis and sensitivity testing, transportation operations planning, station programming, and a process of “right-sizing” the various desired park spaces. The resulting Draft Physical Framework, as illustrated on the following page, is a series of potential physical improvements, transportation and infrastructure changes, and new development that collectively drive toward one vision for the future of the 30th Street Station District and, in doing so, set up real, actionable projects that can make that vision a reality. **However, the emerging projects are not yet recommendations. Instead, readers should assess their effectiveness in achieving the goals and objectives for the District and evaluate which projects should remain in consideration for inclusion in the District Plan.**

3.2 Physical Framework Areas of Study

The draft physical framework illustrates the various components in the District as they could be built out progressively over the next 30 years. The framework establishes the series of infrastructure investments that will propel the vision towards reality. It relies on three key District-wide networks to tie together multiple neighborhoods around 30th Street Station and integrate them with the broader city:

- Roadway and Transit Connections
- Public Realm Systems
- Private Development

The following pages discuss each of these networks separately. The report then zooms into the various areas suggested by the overall District framework, starting with the station and moving out to Station Plaza, its adjacent neighborhoods, and then the rail yards.





4.0 DISTRICT-WIDE NETWORKS

4.1 District Connections

A new street network provides the backbone for connectivity in the District and for future development in the rail yards.

City Grid Connections

There is broad stakeholder agreement that a standard street grid within and around the rail yards – related in scale and orientation to the existing Philadelphia grid – is critical to the overall plan. In fact, the grid framework in the CBD2 concept received the most praise of any single design element across all alternatives. The grid fosters strong connections to nearby neighborhoods such as Mantua and Powelton Village, while creating a flexible development framework for future development.

Around the station, a set of careful adjustments to streets increases connectivity and balances modes, providing improvements for all users of the roadway network. These adjustments include:

- Changing the one-way circulation loop around the station to a two-way urban street network
- Aligning the I-76 ramps and Schuylkill Ave
- Extending 31st Street north to JFK and south to Chestnut Street
- Reducing the size of JFK to improve the pedestrian experience
- Adding dedicated bicycle lanes to select streets

The 2020 Traffic Interim Summary Report (attached as **Appendix B**) shows net positive impacts from proposed roadway changes, based on existing conditions plus moderate new trip growth. The impact of future changes on 2040 traffic projections will be studied as the plan is refined in the coming months.

Connections into the Rail Yards

Extension of existing streets directly from the neighborhoods and over Powelton Yard faces severe geometric constraints. Based on an analysis of constraints presented in Section 9.0 of this report, the design team does not recommend extending all adjacent streets into the rail yards. Instead, a few critical – and, more importantly, geometrically feasible – roadway connections will provide access:

- An extension of Arch Street west and then north to Spring Garden, to serve as a main development spine in the West Yards
- An extension of 30th Street north to serve as a main spine of development in the East Yards
- Extension of Powelton Avenue and Baring Street – the north and south borders of Drexel Park – over Powelton Yard to serve rail yard development

Within the rail yards, interconnecting streets will follow the grid to the west, creating new segments of Cherry, Race, Summer, Winter, and Hamilton Streets. The geometry of these streets must adjust slightly in response to the CSX High Line, which limits east-west connections with columns and other structural elements. Amtrak’s potential Heavy Rail Maintenance Facility, which could be situated within the Penn Coach Yard, further complicates the grid as it moves east.

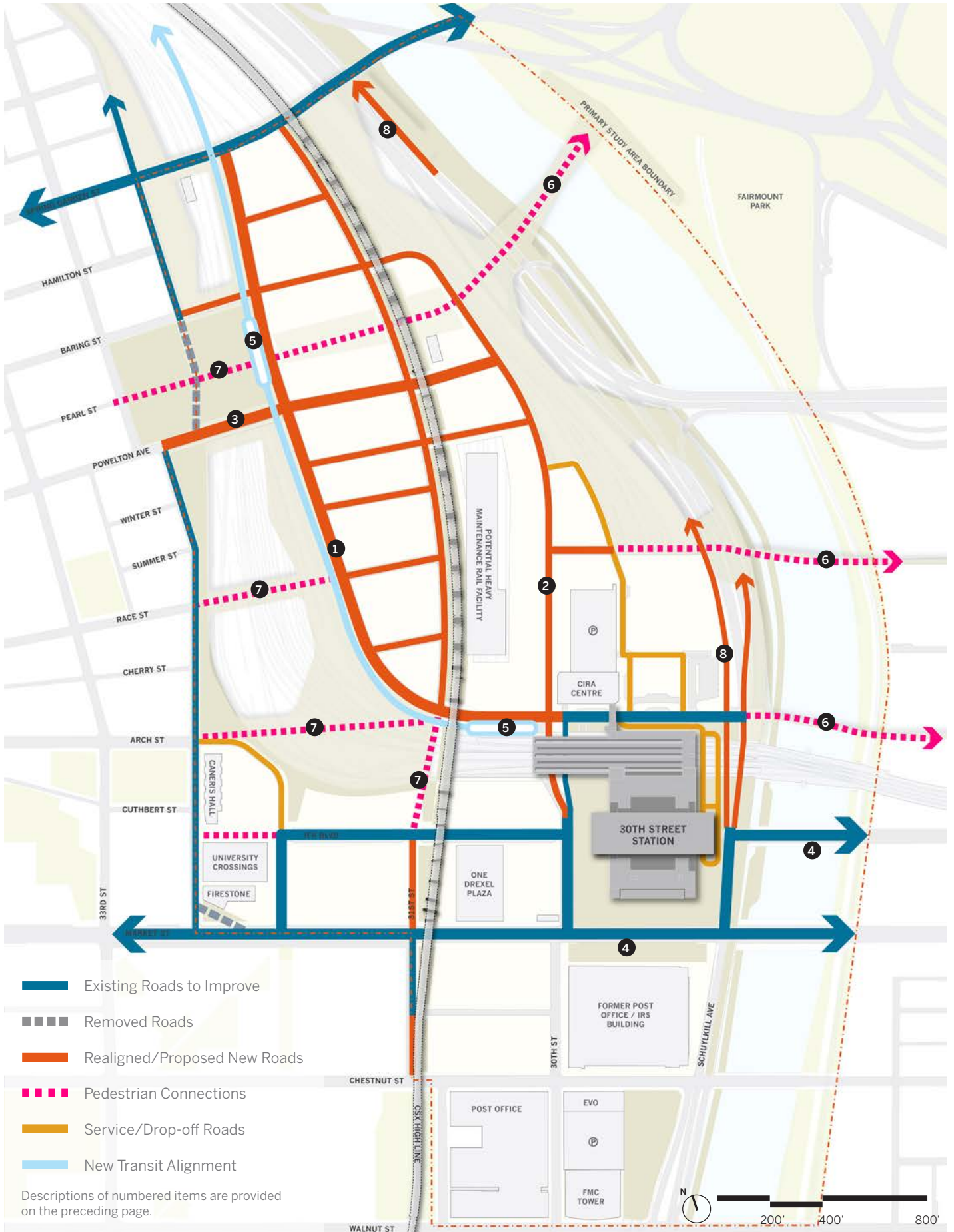
Connections to Center City

Connections to Center City are a crucial part of making new development within the yards viable. Expressway ramps at Arch Street should be improved through realignment to make vehicular movements more logical and pedestrian friendly. At this time, no new roadway bridges across the Schuylkill River are proposed as part of the framework plan ; no clear route exists that connects both to West Philadelphia and to Center City, successfully navigates the many different geometric constraints, and accommodates planned infrastructure upgrades within the rail yards. However, the plan does suggest significantly improved connectivity for pedestrians and bicycles, with new Schuylkill River bridges proposed at Arch Street, Race Street, and Pearl Street, connecting to the Museum of Art.

Transit Connections

Connectivity is not only defined by vehicles on streets. Transportation in the District should emphasize transit over driving, limit parking, and support multi-modalism. The plan proposes a multi-modal transportation center north of Arch Street, including an intercity bus facility. It also suggests a potential route – with dedicated ROW – along an extended Arch Street for transit that has the potential to serve existing neighborhoods, new development at the rail yards, and wider regional destinations.

- 1 Arch Street extended as western spine
- 2 30th Street extended as eastern spine
- 3 Powelton Avenue connection to neighborhood
- 4 Dedicated bike lanes added at existing streets
- 5 Proposed transit stops
- 6 Pedestrian bridges to Center City
- 7 Pedestrian bridges over Powelton Yard
- 8 Reconfigured expressway ramps



4.2 District Bike Network

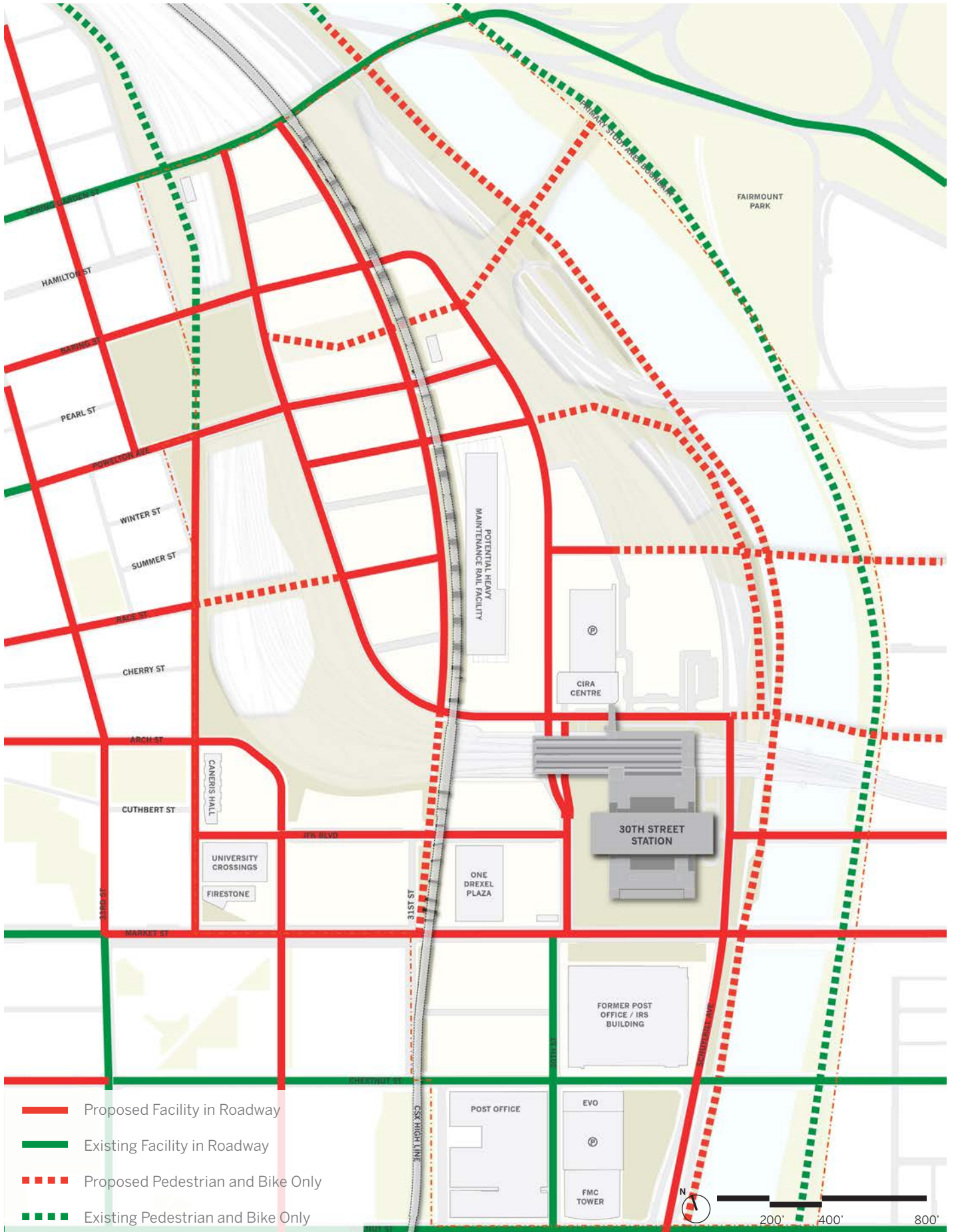
Bike Facilities

A robust multi-modal system includes comprehensive and best-in-practice bike facilities. This includes extensive coverage of bike facilities that are protected or separated on the street network; installing adequate bike parking infrastructure; and deploying bike share throughout new development. To complement existing bike lanes and lanes proposed by the City, existing key streets should be retrofitted to include dedicated bike facilities and nearly all new streets should be designed with separated bike infrastructure. The rail yards overbuild can be a leader in demonstrating new development that purposefully designs and builds a premier cycling network.

The geometric constraints identified during the development of the roadway network also apply to some extent to the bicycle network. However, bicycle and pedestrian bridges have more flexibility in terms of their design parameters and placement, hence their consideration in places where vehicular bridges would not be feasible.

Several east-west streets can provide additional bicycle and pedestrian connections from neighborhoods across Powelton Yard, including Baring Street and Powelton Avenue, with an additional connection via a joint bicycle-pedestrian bridge extending over Powelton Yard at Race Street. The three new bicycle-pedestrian bridges identified at Arch, Race, and Pearl Streets provide improved east-west connectivity across the river. Important north-south bicycle connections through the rail yards are achieved on extended Arch, 31th and 30th Streets, along with a joint pedestrian and bicycle path along the west side of the Schuylkill River.

The specific type of bike infrastructure to be used on each street will be identified as the street geometry is developed during the plan refinement process.



4.3 District Public Space Network

New public space is critical to the success of future development, creating an amenity to existing communities and an attraction for new residents, employees, and visitors. In total, the public space network accounts for approximately 30 percent of the District's land area – comparable to benchmark developments like Battery Park City (30%) and Kings Cross (39%).

Station Plaza

The starting point for all new public space is a great new plaza and active urban perimeter around the historic train station. Like the similarly sized Dilworth Plaza wrapping around City Hall, Station Plaza will become a central civic space for the District, serving station customers, neighbors, nearby institutions, and visitors. It can fulfill a decades-old vision for a significant new public space in West Philadelphia, extending William Penn's historic plan across the Schuylkill River and serving as an anchor for significant new development.

Access to the River

The District should provide new waterfront access, complementing the nearly complete stretch of parks and trails on the east side of the river. A riverfront promenade at the river's edge – at some points a green ribbon and others a series of boardwalks and floating barges in the river – will complete the vision for a West Bank Trail and offer a unique District amenity. Its counterpart will be an upper level river overlook: a new 13-acre park built on a deck over the Schuylkill Expressway.

Greenway Connections

The District is a missing link in the many strands of greenways running through the City, through Fairmount Park, and along the river. It should continue broader linkages such as the Mantua Greenway, West Bank Schuylkill River Trail – which currently runs down 32nd Street – and the green "walks" of University City, former diagonal streets that have been pedestrianized in pieces over time. An emerging greenway below the CSX High Line can also create a greenway connection between 30th Street Station, Drexel, and Penn Park and new development within the rail yards. Combined, these greenways form a series of north-south connections and loops that stitch the District together.

Neighborhood Amenities

On the western edge of the District, a linear park should bridge the divide between the existing neighborhoods and future development. An expanded Drexel Park, which could be a powerful first phase, will add to the high-quality public realm in the District, further enhanced by an iconic view to the Museum of Art and Center City. A great civic space located within the Innovation Neighborhood could be the front door to Drexel's expanded campus and act as the gateway between District and station. In total, new landscapes built over Powelton Yards would add 16 acres of park amenities for Mantua, Powelton Village, and new development.



4.4 Development Parcels

Planned development must balance community desires, market needs, and unique construction constraints.

At-Grade Development

Near-term development will likely be focused on sites west of 30th Street, redevelopment sites south of Market Street, and edge parcels between 32nd Street and Powelton Yard. These terra firma parcels – that is, not over rail yards – have the potential to achieve approximately 10 million square feet of new development over many years and subject to rezoning entitlements. Drexel is currently working to appoint a Master Developer for its Innovation Neighborhood, 10 acres of land immediately adjacent to the station. Over the next months, the District Plan team and the University's Master Development consultants will collaborate to envision the needs and desires for this critically important land.

Rail Yards Overbuild

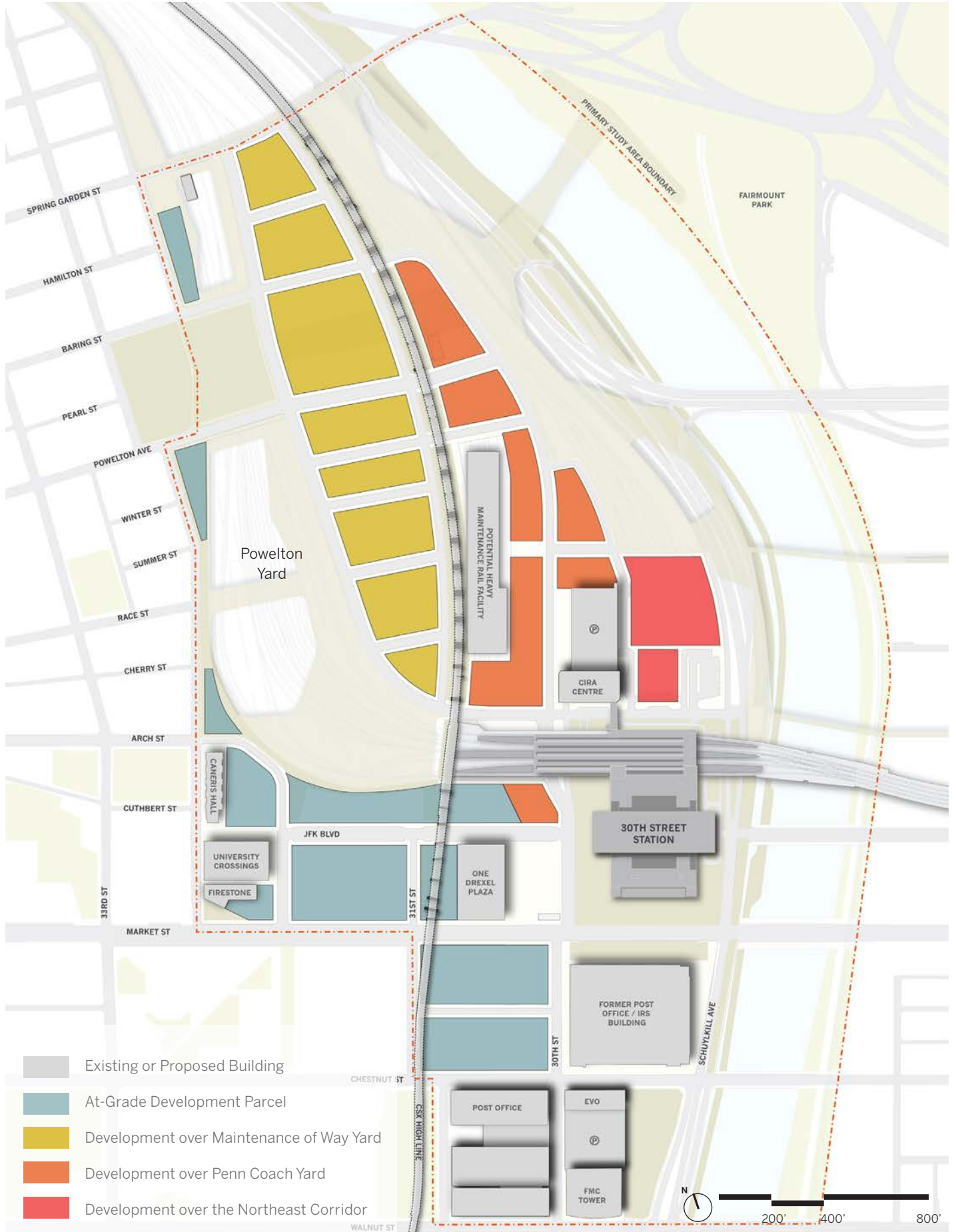
Major infrastructure investments within the rail yards will create new city fabric – streets and open spaces – and help unlock their value as development sites. All overbuild is not the same, however, so the plan calls for a development strategy related directly to continuity of railroad operations and site complexity, decking requirements, and connection to existing city fabric.

- The most ambitious development, potentially including high-rise buildings, should take place on the parcels where staging and construction would be the simplest: over the **Amtrak Maintenance of Way Yard**. Here, although an accessible lower-level maintenance area must be maintained for Amtrak, buildings can be built more or less conventionally.

- The **Penn Coach Yard** is more complex due to the maintenance tracks and equipment, maintenance and servicing functions, but still includes ample opportunity to coordinate building columns and cores with track locations below. While the majority of overbuild opportunities at Penn Coach Yard are located north of Arch Street, there is another development opportunity immediately adjacent to the station at the northwest corner of 30th Street and JFK Boulevard.
- The remaining areas within the yards – **SEPTA's Powelton Yard** and the **Northeast Corridor** – are highly complex, extremely costly, and operationally challenging development areas. Construction must be carefully staged to minimize disruptions to regional and intercity mainline service, yet each yard has constrained areas for staging and access. These areas also require long-span structural approaches to bridge over tracks, increasing the cost of construction. Except for limited areas where these constraints are not present, development within these areas should be limited to lightweight decking for landscape or bridges rather than buildings.

Programming and Land Use

Future development should be high density and mixed use to unlock the potential of this land and to promote the type of urban vibrancy called for by stakeholders. New residential units can relieve expected housing pressure on Mantua and Powelton Village and will help create demand for 24/7 “live-work-play-learn” activities. New retail should offer amenities to existing and future residents and employees in the District.



5.0 THE STATION

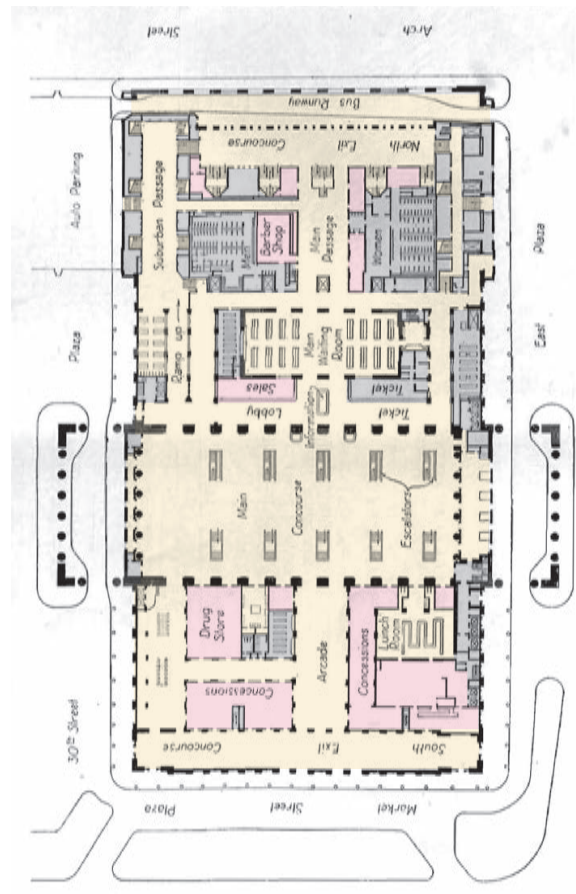
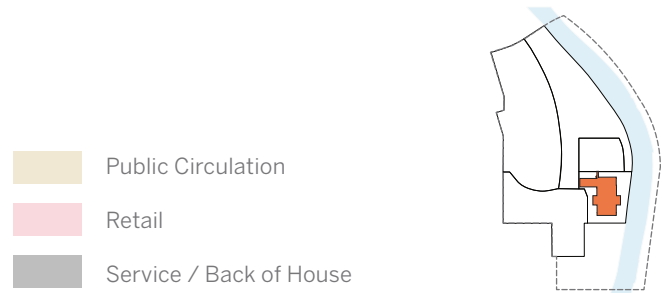
5.1 Station Overview

30th Street Station is one of the great American train stations and a highly integrated intermodal transportation center on the Northeast Corridor.

However, the historic landmark station must evolve to better meet the needs of existing and future users. Pedestrian crowding within the station is already congesting main circulation areas and straining infrastructure. Retail offerings are limited. Connections between modes are more difficult than they need to be. Ridership on all modes serving 30th Street Station is projected to increase significantly by 2040, with the number of passengers moving through the station more than doubling from today's baseline. Ridership projections for each mode are included in the 2040 Modal Growth Forecast, attached hereto as **Appendix C**.

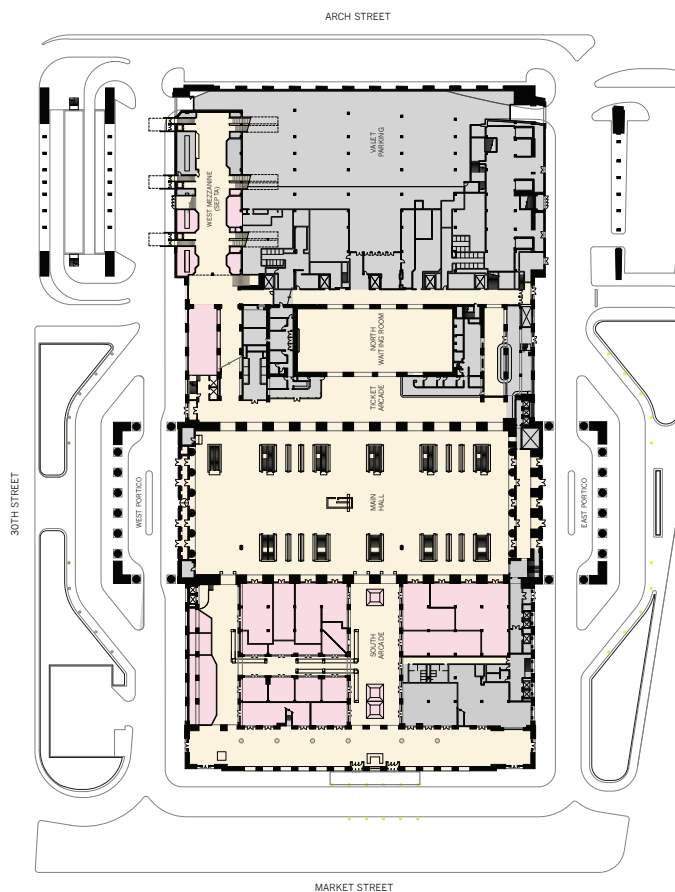
Planning Aspirations

- Connect the station and District
- Expand facilities to meet projected 2040 growth across all transportation modes
- Improve customer experience
- Generate increased revenue
- Improve multi-modal connections
- Ease pedestrian congestion in key areas
- Improve the civic realm
- Upgrade aging station infrastructure
- Respect the historic value of the station
- Establish an anchor to catalyze District commercial and mixed-use development



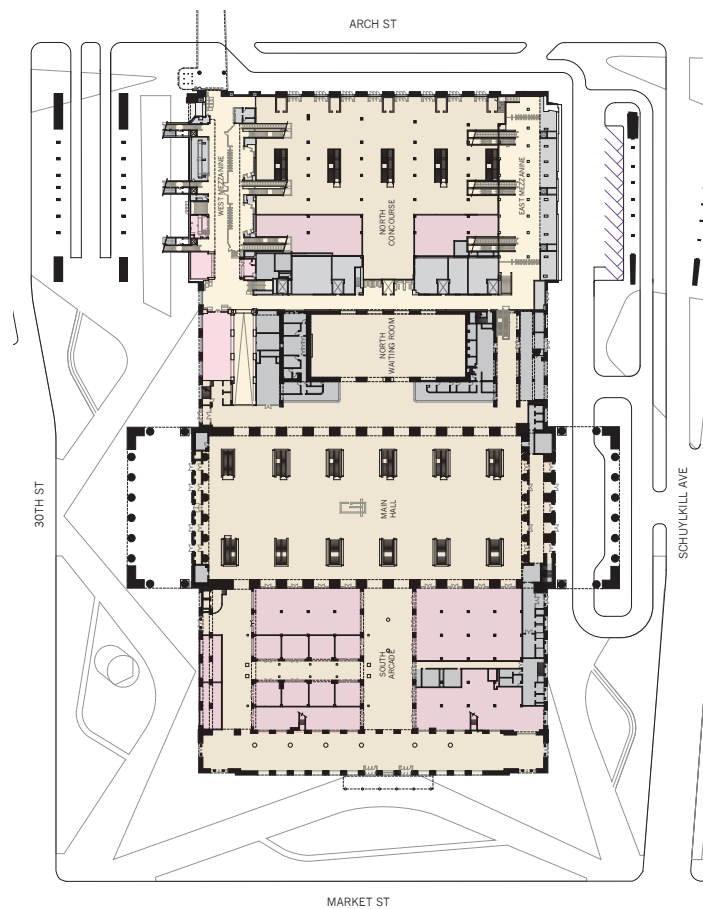
1934 Station Plan

The station was originally designed by the Pennsylvania Railroad to handle twice as many passengers as it does today, though long-distance travelers had very different functional needs than commuters and intercity travelers have today. The station building's plan was more symmetrical in terms of use, with both a south and a north concourse. The latter, which is no longer in use as a passenger facility, included access to the rail platforms below and brought buses directly into the station to facilitate easy transfers; the Main Waiting Room (today referred to as the North Waiting Room) served this concourse and was not just a pass-through space. Regional rail was accessed via both an east and a west mezzanine. When the eastern half was destroyed by fire, it was never restored. Although not part of the original plan, early changes to the station anticipated the two additional stairs in the Main Hall which would eventually connect down to parking and to the SEPTA Market-Frankford Line. The latter connection is also no longer in use.



The Station Today

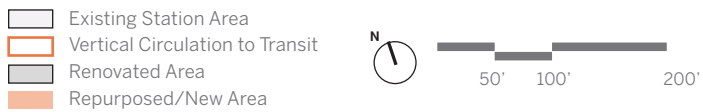
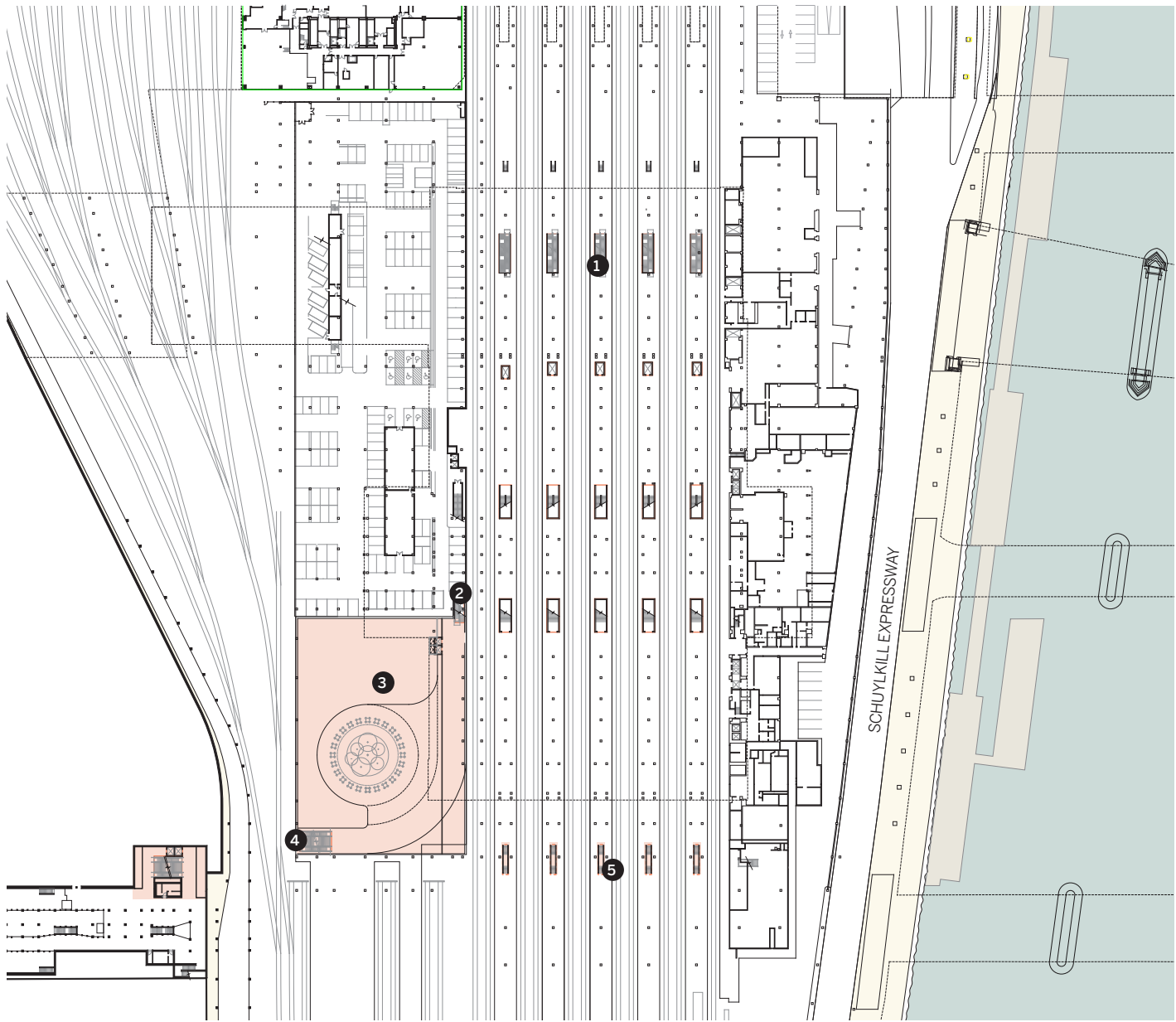
The station is highly functional but does not represent the full intent of the 1934 plan. Circulation is focused on the Main Hall and the corridors leading to the southwest corner of the building, where the majority of pedestrians enter and exit the station en route to SEPTA subway or trolleys or to destinations in University City. The connecting ramp to SEPTA's mezzanine level is congested and will become even more congested when new fare control gates are installed. The entire north end of the station is no longer publicly accessible, with closed-off Arch Street entries, used today for a valet parking garage. Vehicular traffic is focused on the eastern portico, which handles both taxi and private car drop-off and pick-up; the western portico is used far less frequently. Overall, the station serves the needs of many different users, but that service and the larger experience could be vastly improved.



An Expanded, Revitalized Station

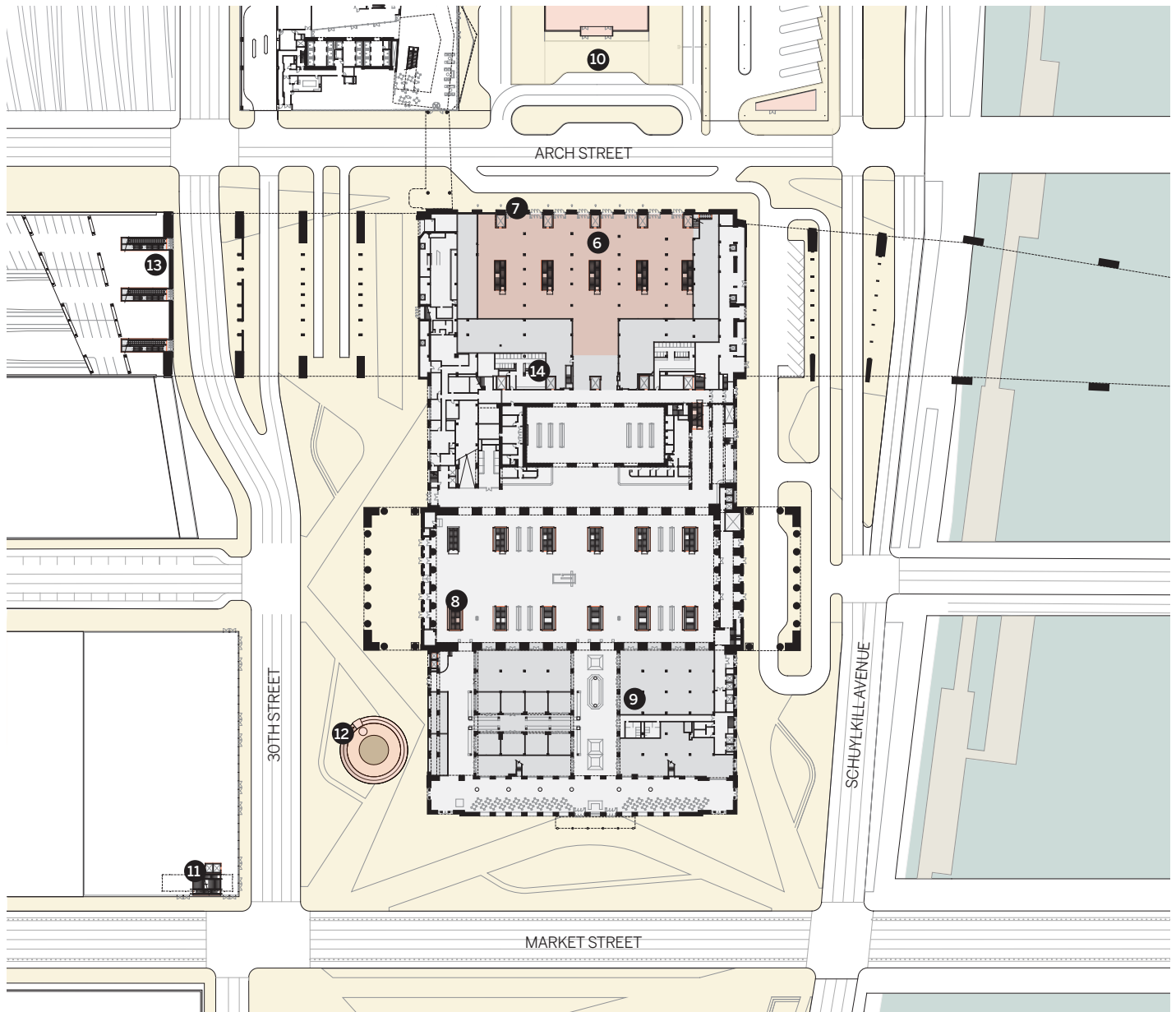
As detailed on the following pages, the draft physical framework plan calls for reusing existing infrastructure to expand passenger service and retail areas. The North Concourse will be reopened as a passenger facility, increasing Amtrak and NJ TRANSIT platform access by 50%. The eastern half of the SEPTA Mezzanine will be reopened to double access to regional rail platforms. A stairway will be reopened at the western end of the Main Hall to provide direct access to the Market-Frankford Line, via a rebuilt tunnel and a retail concourse within the existing rental car garage. The station could also expand to a new "far north" concourse north of Arch Street. This concourse could connect with an intercity bus facility and provide direct access between lower-level railway platforms and a cluster of new commercial development, while reopened access stairs will connect the Innovation Neighborhood directly to regional rail platforms. Together, these improvements will help meet the planning aspirations of stakeholders and demands of transit passengers, while respecting and enhancing the station.

5.2 Platform Level Plan

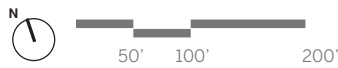


- 1** Restore platform connection to the new North Concourse above.
- 2** Add new stair and escalator up to the Main Concourse, connecting down to existing tunnel to Market-Frankford Line (MFL) Subway.
- 3** Convert portion of rental car facility into an underground retail concourse connecting to the subway tunnel.
- 4** Re-establish connection to the Market-Frankford Line via an underground concourse from the Main Hall.
- 5** Restore platform connection to tunnel to provide additional egress capacity at south end.

5.3 Ground Level Plan

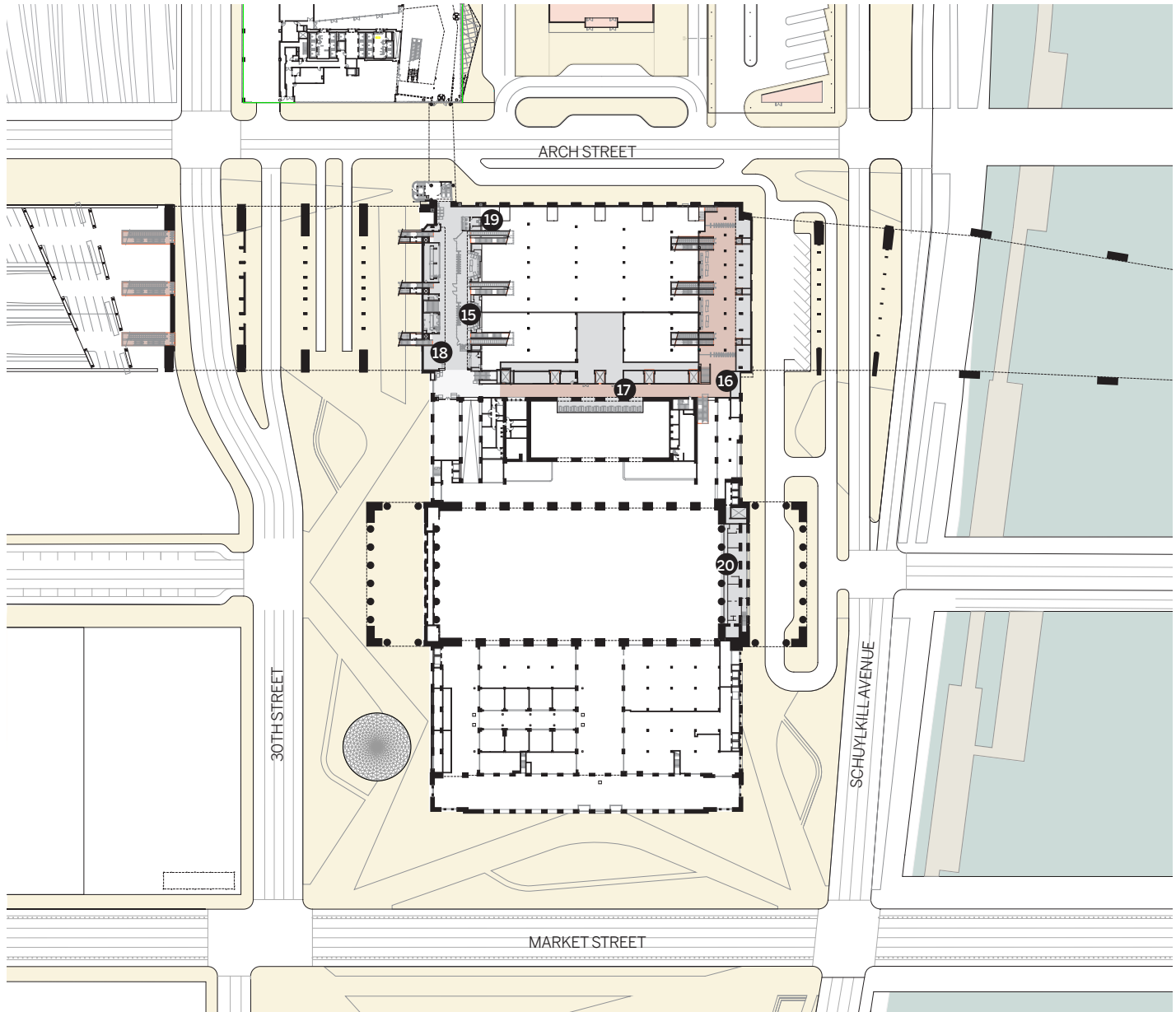






- Existing Station Area
- Vertical Circulation to Transit
- Renovated Area
- Repurposed/New Area



- 6** Repurpose the existing valet parking area as a North Concourse linking Amtrak, SEPTA, and NJ TRANSIT services.
- 7** Restore Arch Street facade with doors to allow public access.
- 8** Reopen the stair and escalator in the Main Hall to connect down to underground retail and the Market-Frankford Line.
- 9** Restructure the south concourse and retail fronting the Main Hall, creating additional leasable area.
- 10** Create a multi-modal transportation center north of Arch Street, with an intercity bus terminal and Amtrak access.
- 11** Incorporate Market-Frankford head house into new development within the Innovation Neighborhood.
- 12** Connect to below-grade retail concourse and MFL tunnel via an east entrance within the Station Plaza.
- 13** Reopen west stairwells for public use and direct access down to 30th Street and into the Innovation Neighborhood.
- 14** Improve bathrooms, other back-of-house facilities, and passenger amenity areas.

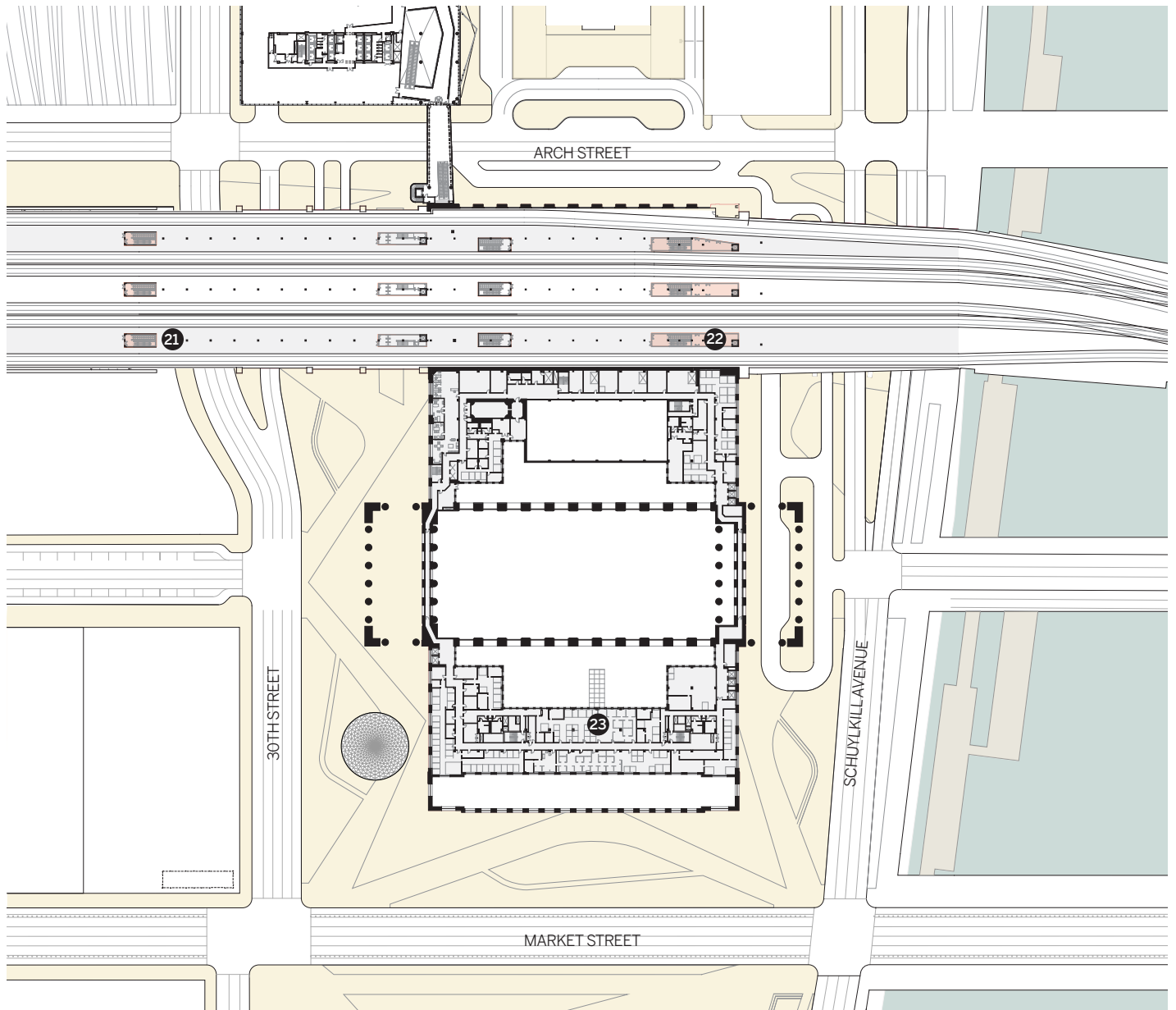
5.4 Mezzanine Level Plan



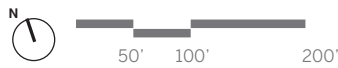
-  Existing Station Area
-  Vertical Circulation to Transit
-  Renovated Area
-  Repurposed/New Area

- 15** Incorporate new SEPTA fare control system in West Mezzanine.
- 16** Reopen the East Mezzanine to create a second SEPTA public concourse with stair and elevator access to platforms. Install fare control arrays at top of stairs.
- 17** Relocate ClubAcela Lounge to reconnect the West and East mezzanine areas. A new ClubAcela north of this corridor would retain direct elevator access and overlook the new North Concourse.
- 18** Convert retail space into SEPTA waiting area.
- 19** Reopen stairs from West and East Mezzanine down into North Concourse.
- 20** Convert eastern end of Main Concourse into a bar/lounge space overlooking the Main Hall.

5.5 Second Level Plan



- Existing Station Area
- Vertical Circulation to Transit
- Renovated Area
- Repurposed/New Area



- 21** Reopen west stairwells for public use and direct access down into the Innovation Neighborhood.
- 22** Reopen public access to the East Mezzanine as a second SEPTA public concourse with stair and elevator access
- 23** At this time, do not plan for changes to Amtrak office space on Levels 2-8 within the station. Potential for adaptive reuse of the upper floors in the future, depending on Amtrak space needs.

5.6 SEPTA Market-Frankford Line Connection

Passengers transferring between SEPTA's Market-Frankford Subway or trolley services and 30th Street Station must travel outside and across a busy stretch of 30th Street. Although they were once connected by an underground passageway, that connection was closed due to security concerns. The draft physical framework suggests reopening the underground connection via a new concourse with retail and restaurant space rather than a narrow tunnel.

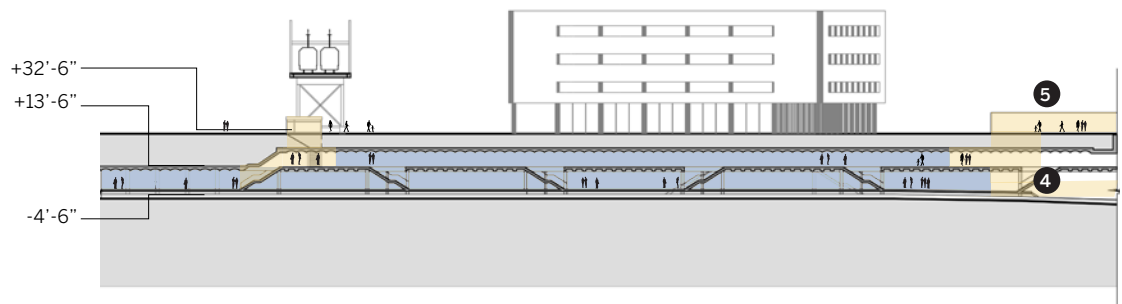
Due to geometric constraints – as illustrated in the section below – the below-grade connection requires going down to a level below the Market-Frankford ticketing zone before coming back up. Connection between the stations will be enhanced by two additional strategies. Improvement to the existing at-grade crossing to ensure safety, enhance pedestrian experience, and improve wayfinding for those preferring to cross at street level. Proposals for Station Plaza and for changes to the road network around the station will work together to further this ambition.

Proposed Improvements

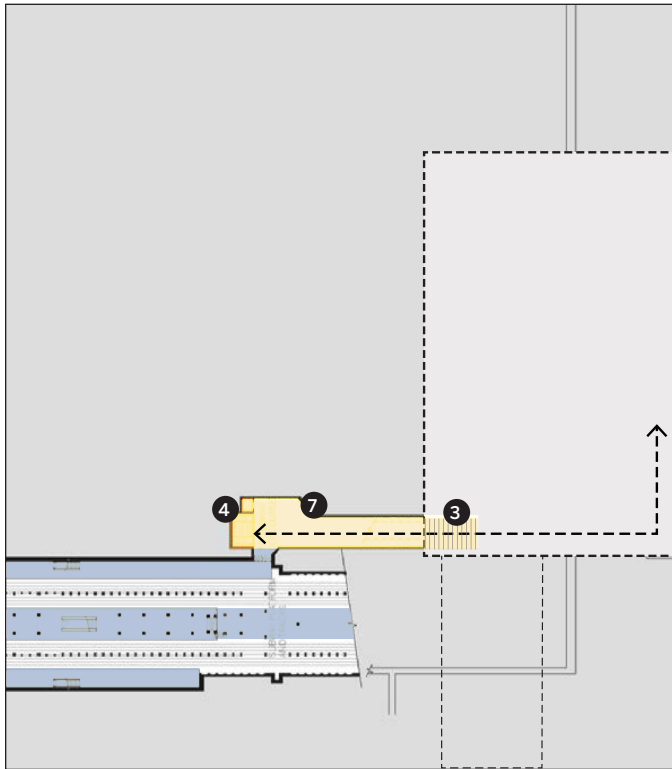
- Provide an indoor, protected pathway between SEPTA Market-Frankford Line and 30th Street Station.
- Reopen stair and escalator access in the Main Hall, in the “missing tooth” across from parking garage access.
- Build out a new underground retail concourse occupying the southern end of the rental car garage, large enough for an anchor tenant plus smaller tenants. This concourse will allow circulation to weave through retail rather than being restricted to perpendicular movements in a tunnel.
- Provide access to the retail concourse from Station Plaza with a new glass pavilion. This also becomes a de facto eastern head house.
- Integrate the existing head house into new development within the Innovation Neighborhood.
- Repurpose a portion of the existing tunnel infrastructure if possible, but reduce tunnel length as much as possible by pushing stairs to the west.
- Include vertical circulation (stairs and escalators) up from Market-Frankford Line that is visible from the passageway – running in the east-west direction – rather than around a corner.
- Restore Amtrak platform connection to tunnel to provide additional egress capacity at south end. These stairs will not be regularly accessible, but will provide emergency egress in compliance with NFPA-130.
- Do not preclude future use of this concourse to serve a potential Second Spine High-Speed Rail Station, under evaluation by the NEC Future project, should the 30th Street alignment emerge as a preferred alternative.

- ① New Retail Space
- ② Up to Station Concourse
- ③ Down to Pedestrian Tunnel
- ④ Up to Mezzanine Level
- ⑤ SEPTA Headhouse
- ⑥ Future Retail Expansion
- ⑦ Pedestrian Tunnel

- Public
- Paid Zone
- Retail

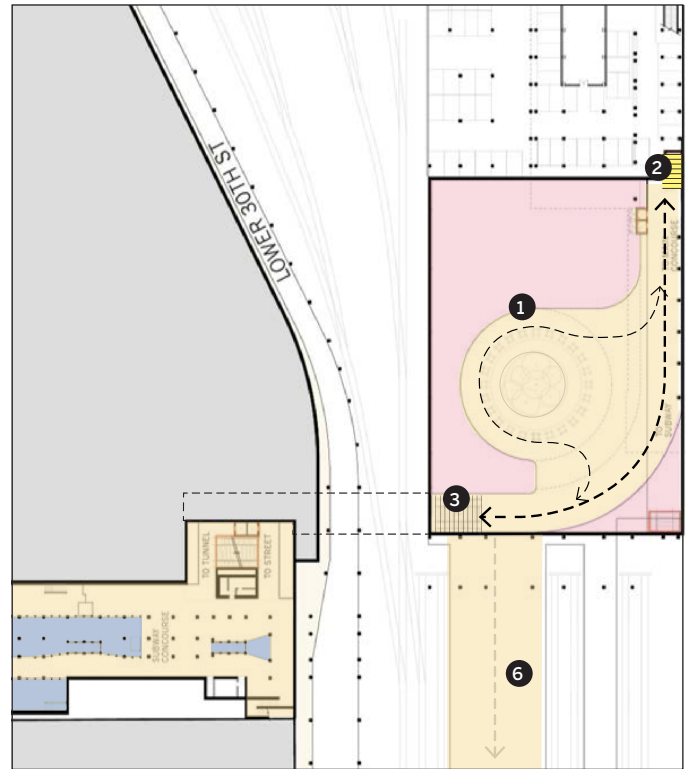


SEPTA 30th Street Station

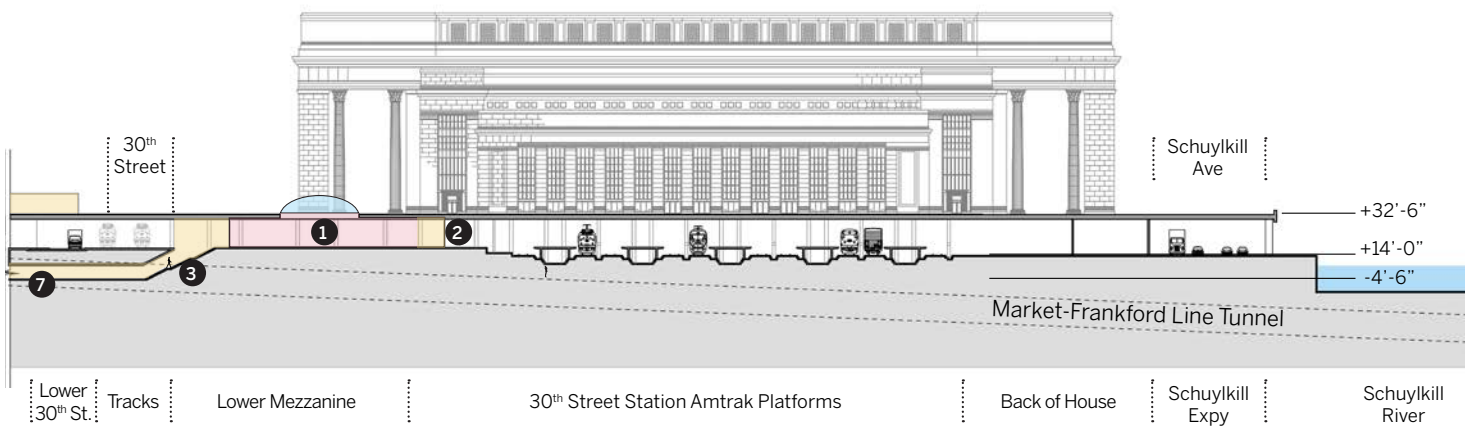


Tunnel Level Plan

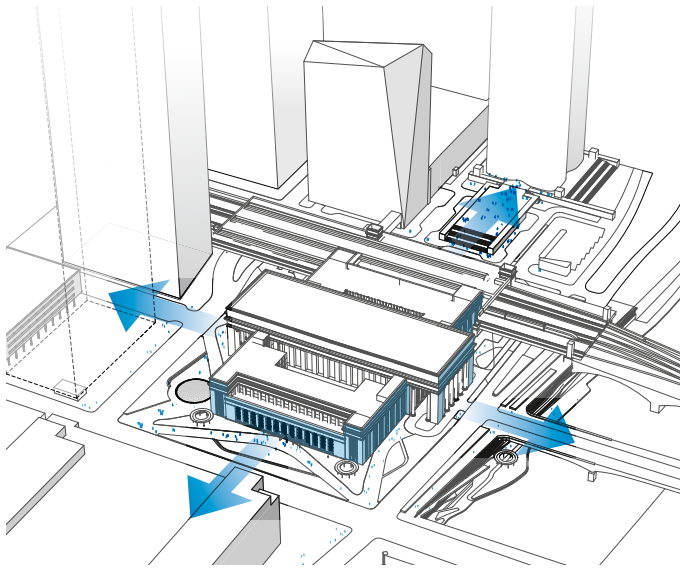
Descriptions of numbered items are provided on the preceding page.



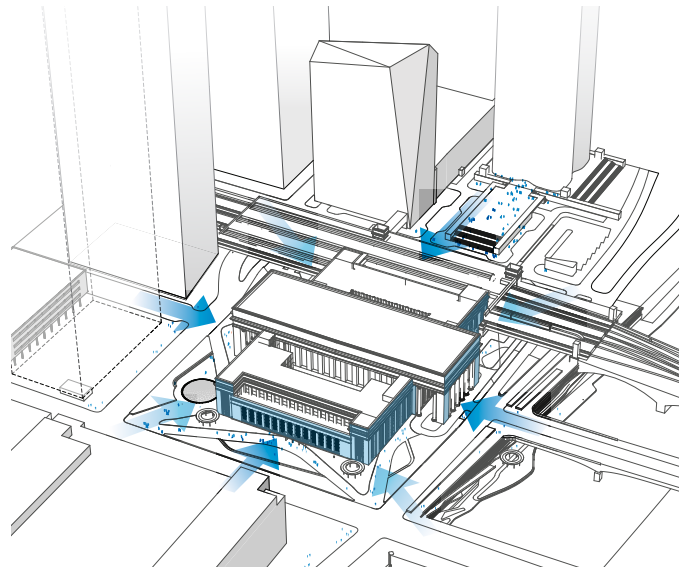
Amtrak Platform / SEPTA Mezzanine Level Plan



5.7 The Station and Immediate Urban Edges



Extending the Station Out into the City...



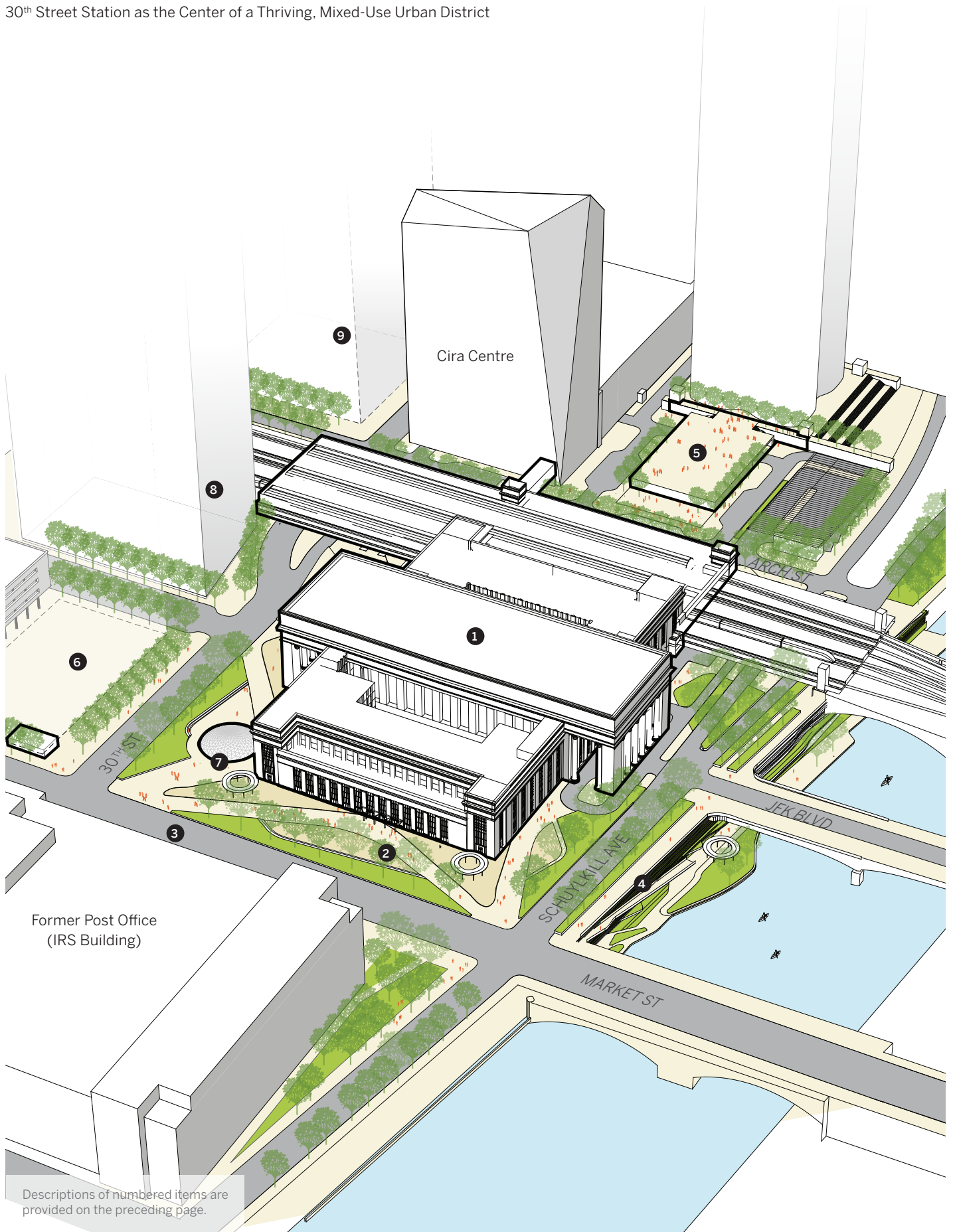
...and Bringing the City to the Station

The long-term success of the District will depend, to a large degree, on the success of 30th Street Station and its immediate urban edges – the blocks in all directions adjacent to the station. These edges must balance transit functions with some of the highest-density development in the District. The draft framework proposes **physical extensions of the station** out into the city: to the north, with a new concourse and transit-oriented development, in addition to the existing connection to Cira Centre; to the west, connecting to the Market-Frankford Line and to development across 30th Street, integrated with both underground and regional SEPTA services; to the south, with a future retail concourse connecting underground to the former Post Office; and to the east, extending the Station Plaza public space out to the riverfront. More importantly, these physical moves help to extend the **life and urban vibrancy of the station** to animate and add value to the District. The station will become the center of gravity of a thriving, mixed-use precinct.

Likewise, the draft framework is about bringing the myriad interests around the station more seamlessly to its front door, through physical connectivity, programming, and public realm design. As the hinge point between institutional, commercial, civic, and ecological identities, the station will serve as both a beginning and end point of each experience. It will become a destination unto itself where all of these layers come together.

- 1 Upgraded 30th Street Station: a district anchor
- 2 Station Plaza: a great new public space
- 3 The grid: better streets and circulation for all modes
- 4 New access to the riverfront
- 5 Multimodal transportation center and commercial development at Arch Street
- 6 Drexel's Innovation Neighborhood
- 7 SEPTA subway connection and retail concourse
- 8 Amtrak overbuild site
- 9 Future development in the rail yards

30th Street Station as the Center of a Thriving, Mixed-Use Urban District



6.0 STATION PLAZA

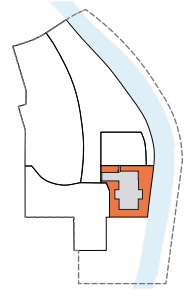
6.1 Station Plaza Overview

The block surrounding 30th Street Station has, since the station's construction, been a utilitarian space focused on accommodating flows of passengers into and out of the station. An inner loop road provides access to covered drop-off and pick-up areas under both porticos and on the south at "Little Market Street," the interior circulation road parallel to Market Street. Arch Street is used for parking access and a large taxi queuing space. Small surface parking lots allow temporary parking.

Today there is an important tension between these functional uses and the idea of a true public space around the station. The tremendous success of the Porch as an urban space, starting in 2011 and continuing through multiple upgrades, has focused attention on the latent potential of this area. With thousands of travelers, office workers, students, and residents moving through the space every day, it could become one of the city's truly exceptional public spaces while still serving the diverse circulation and multi-modal needs of station users.

Planning Aspirations

- Seize the design opportunity to realize an expanded, memorable public space worthy of broad civic pride
- Upgrade pedestrian circulation and safety
- Redirect vehicular circulation and traffic flow
- Realize seamless, intuitive, weather-protected, and universally accessible drop-off/pick-up and paths of travel for all multi-modal customers and station users
- Vastly improve curbside functionality



Tying the Station to the District

Station Plaza is first and foremost about solving the "last mile" problem by facilitating better connections between the station and its surrounding District. Early transportation analysis revealed that most people walk, bike, or take transit within the District, but the station today is surrounded by heavily congested roadways serving I-76 and Center City. Providing shared space for these non-vehicular modes to better connect across 30th, Market, and Arch Streets to destinations in University City – and across Schuylkill Avenue and the river to Center City – is the most pressing issue facing the District. A pedestrian-friendly public space helps to overcome these barriers and better integrate station and District.

Catalyzing Development

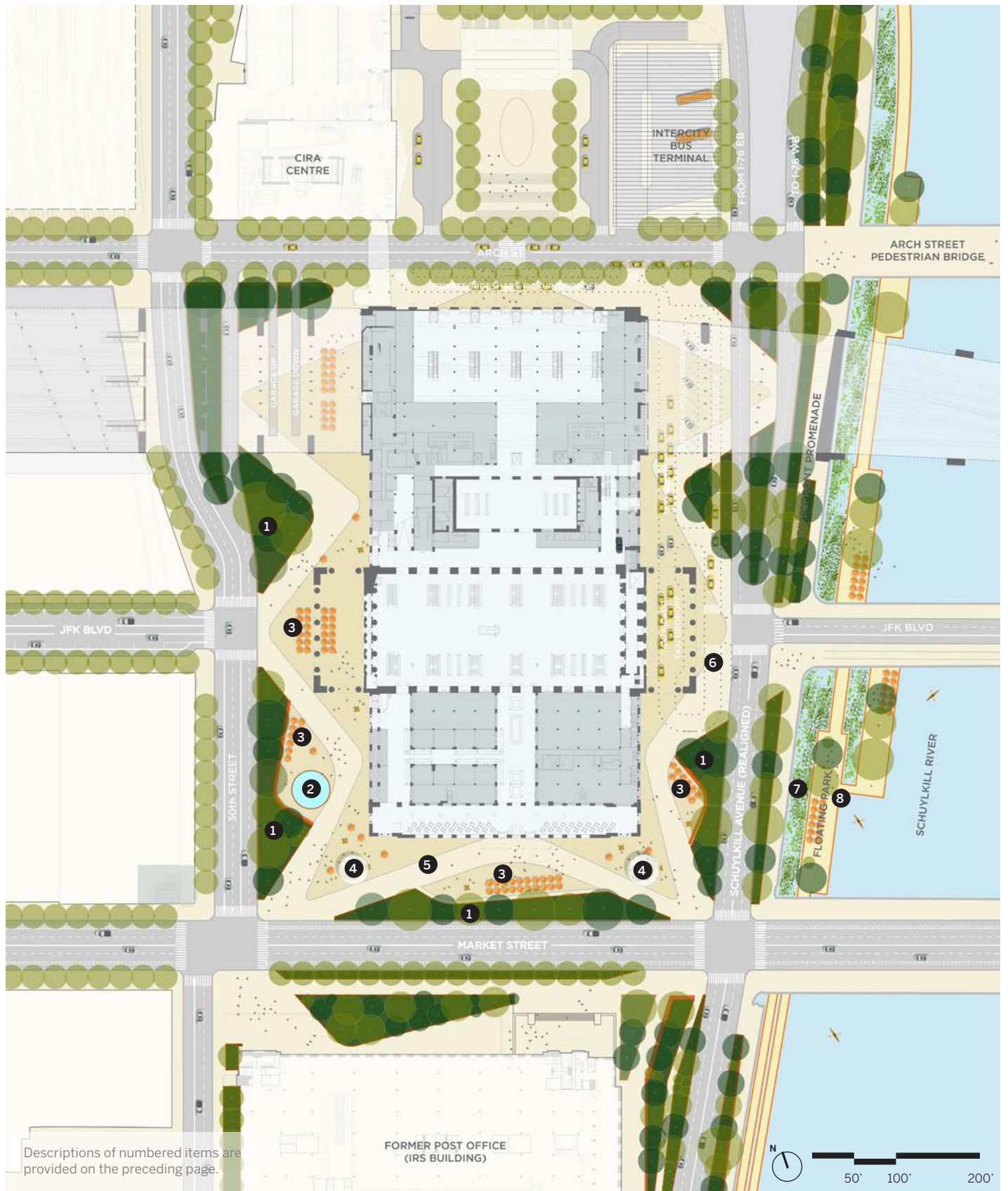
Great urban district transformations across the nation and world lead with the public realm to catalyze private development. This was the case with Philadelphia's original squares, and continues to be the case today with projects like the Delaware River Waterfront, Denver's Union Station neighborhood, and London's Kings Cross redevelopment. Activating Station Plaza as a dynamic public space will provide an anchor for the District and true gateway for University City. It will help catalyze development of the Innovation Neighborhood, parcels tied directly to the station, and future rail yard overbuild within easy walking distance.

Creating a Destination

Station Plaza will be a place to gather as well as a place to pass through. Spaces that invite lingering and enjoyment will serve rail passengers, residents, and area workers alike, providing an essential amenity as development brings life to the District's neighborhoods. More footfalls and longer stays will also benefit station retail. The following pages describe a general approach to programming a multi-functional Station Plaza. The final master plan will address programming and retail integration in greater detail.

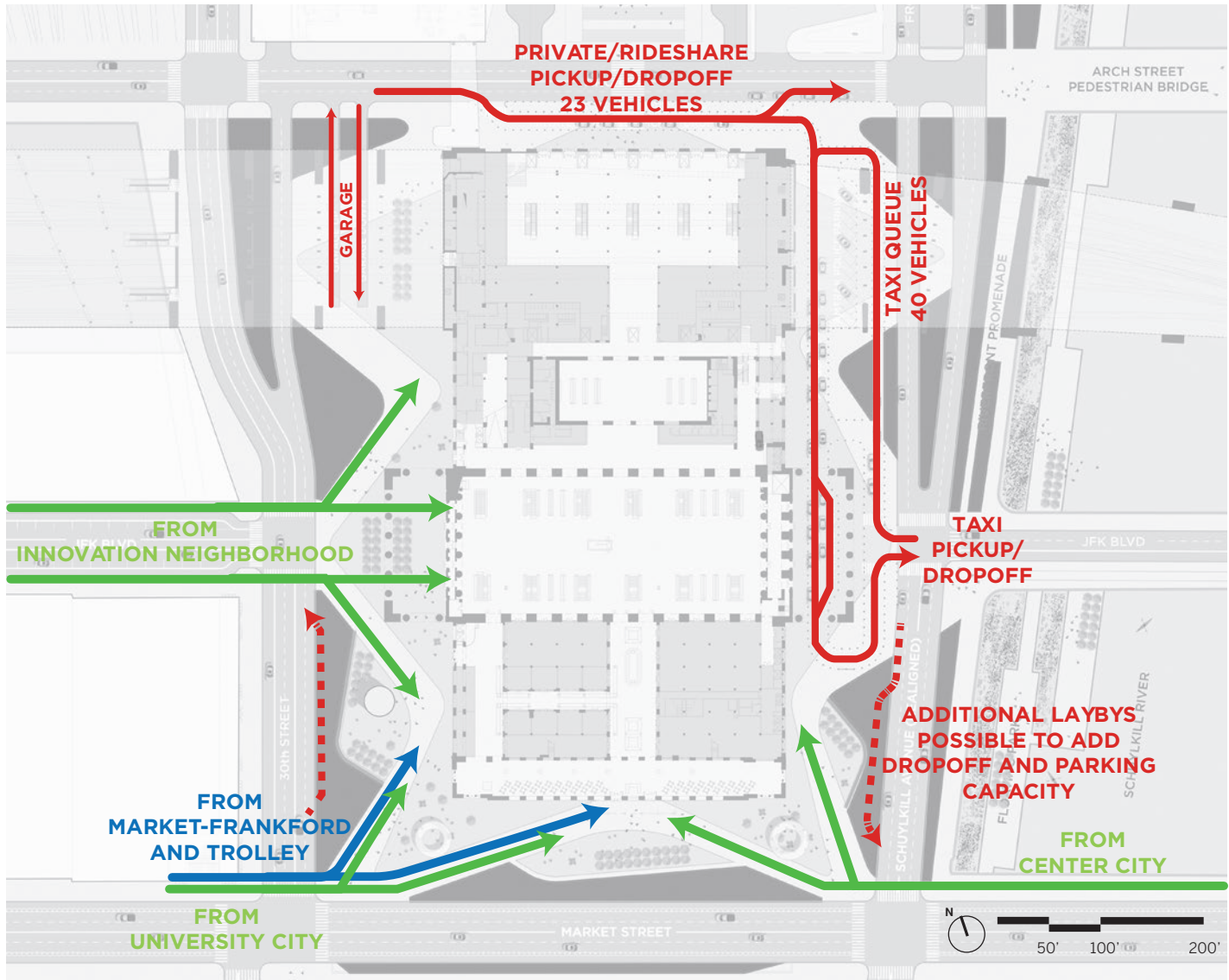
- | | | | |
|---|-------------------------|---|---------------------------|
| 1 | Forest Garden Plantings | 5 | The Porch |
| 2 | Retail Skylight | 6 | Drop-off and Pick-up Zone |
| 3 | Social Deck and Seating | 7 | Wetland Plantings |
| 4 | Bike Pavilions | 8 | Floating Social Decks |

Station Plaza Illustrative Plan



Descriptions of numbered items are provided on the preceding page.

6.2 Curbside Programming



- █ Primary Vehicular Access
- █ Primary Pedestrian Access
- █ Intermodal Transfer

Balancing Public Space and Curbside Functionality

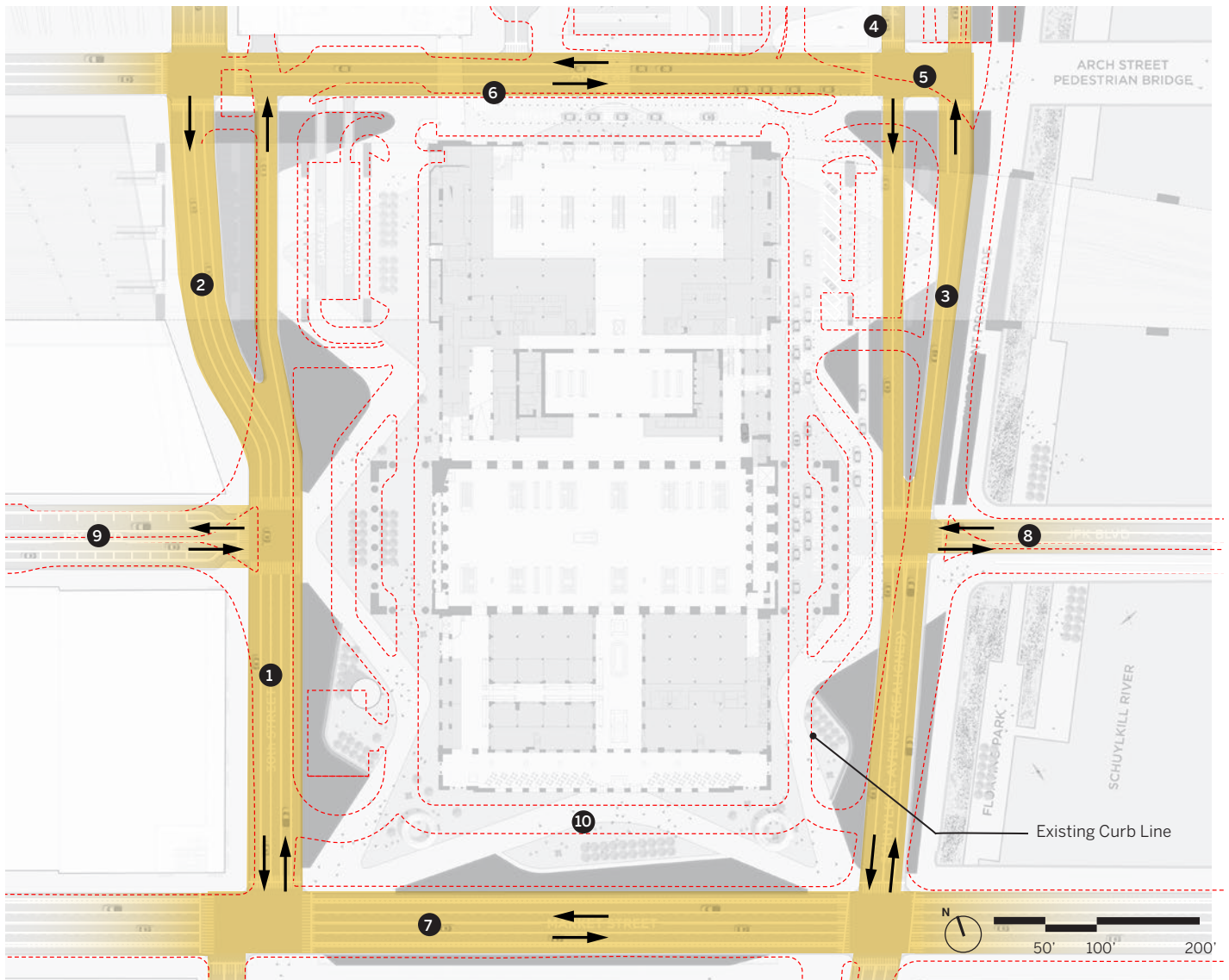
The plan for Station Plaza accommodates the need for functional curbside uses serving station passengers, including drop-off and pick-up, short-term parking, taxi queuing, and local and regional bus services. To balance these needs, the proposed plan recognizes that, while the station building is symmetrical, it has asymmetrical usage. Taxi drop-offs and pick-ups are concentrated on the east side, where passengers connect to and from Center City. On the other hand, most people leaving the station on foot or bicycles do so to the west, connecting to the subway, trolley, LUCY, or walking destinations in University City. The plan, therefore, focuses curbside functions to the north and east and prioritizes public realm to the south and west, removing vehicular traffic from the west portico and from Little Market Street.

Proposed Improvements

- Consolidated taxi drop-off and ability to re-join the queue after drop-off
- Signalized intersection for taxis entering and leaving the station
- Protected pedestrian environments
- Non-vehicular use of the west portico
- Improved at- and below-grade connections from SEPTA Market-Frankford and Trolley Lines

Proposed changes are based on analysis and recommendations of the Taxi Access and Utilization Survey, attached hereto as **Appendix D**.

6.3 Circulation Improvements



Adjustments and upgrades to adjacent city streets will help improve circulation around the station while providing additional land for an enhanced public realm at and near Station Plaza. These improvements are intended to address the following issues:

- Accommodating all modes serving the station
- Increasing roadway capacity while slowing vehicles
- Simplifying access to Center City
- Eliminating unnecessary circling of vehicles coming from I-76
- Improving quality of the pedestrian environment
- Allowing for addition of safe bicycle lanes
- Setting up future connections into the rail yards

- 1 Two-way circulation around station
- 2 Re-alignment of 30th Street north of JFK
- 3 Re-alignment of Schuylkill Avenue
- 4 I-76 on- and off-ramp reconfiguration
- 5 New signalized intersection at Arch St and Schuylkill Ave
- 6 Arch Street: improved sidewalks and pedestrian environment
- 7 Market Street: new dedicated bike lanes
- 8 JFK (east): narrowed roadway to incorporate two-way protected bike lane
- 9 JFK (west): pedestrian-friendly and green urban street
- 10 Remove Little Market Street (retain clear fire access lane around full station perimeter)

6.4 Public Space Programming

A New Social Hub

30th Street Station is in many ways the heart of University City. Its proximity to retail, residential, recreational, and cultural assets creates a unique opportunity. The current successes of The Porch with dynamic and experiential programming can be leveraged and heightened with an improved public space.

The proposed Station Plaza expands both paved and planted areas surrounding the station, creating a space that provides a sanctuary from the traffic and sounds of Market Street. The paving and planting design takes advantage of the station block perimeter, creating clear view corridors to main station entrances. The voids between planters clearly define pedestrian walkways and paved spaces, while preventing the possibility of unsafe mid-block crossings. The planters become a sculptural, seating, programming, safety, and wayfinding device within the plaza. The resulting hardscape is a flexible-use space for performances, casual interaction, and passive recreation. In total, plaza space within the square nearly quadruples in this plan, allowing for expanded programming and social interactions.

Proposed Improvements

Plantings + Furnishings

- Large trees planted in raised planting beds to improve shade and reduce the heat island effect.
- 'Social Decks' situated deep within the planting beds to create shade and reduce wind. These spaces hold unique paving and seating elements.
- Large flexible paved areas to allow for a variety of seasonal events or additional drop-off and parking capacity.
- Abundant seating, including loose seating, shaded tables with umbrellas, and fixed seating along the planter walls.

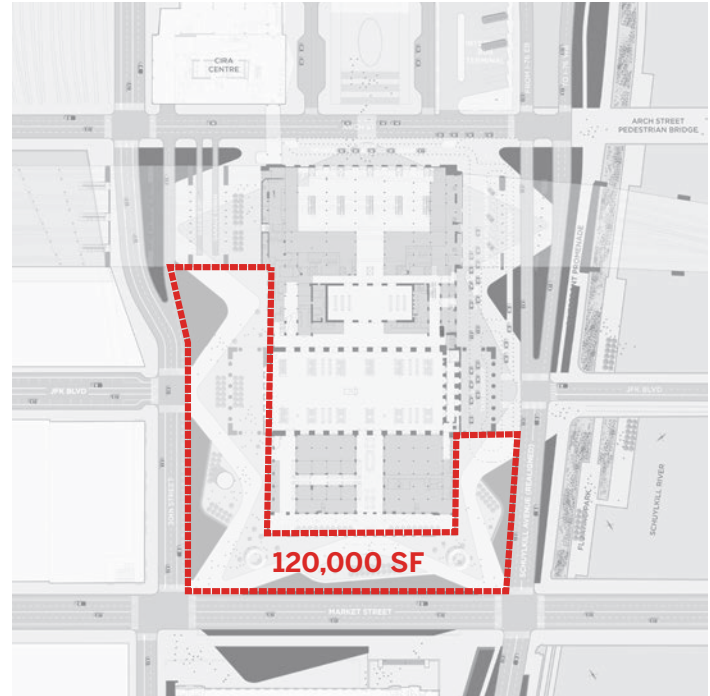
Programming

- Currently The Porch is operated by University City District. UCD successfully hosts a wide range of events from yoga and seasonal farmers markets to impromptu piano performances and concerts.
- Improved spatial and shade opportunities will allow for an even greater range of programming opportunities year round.

Existing Public Space



Proposed Public Space: 4X Larger





Potential Concept:
Station Plaza Eye Level View

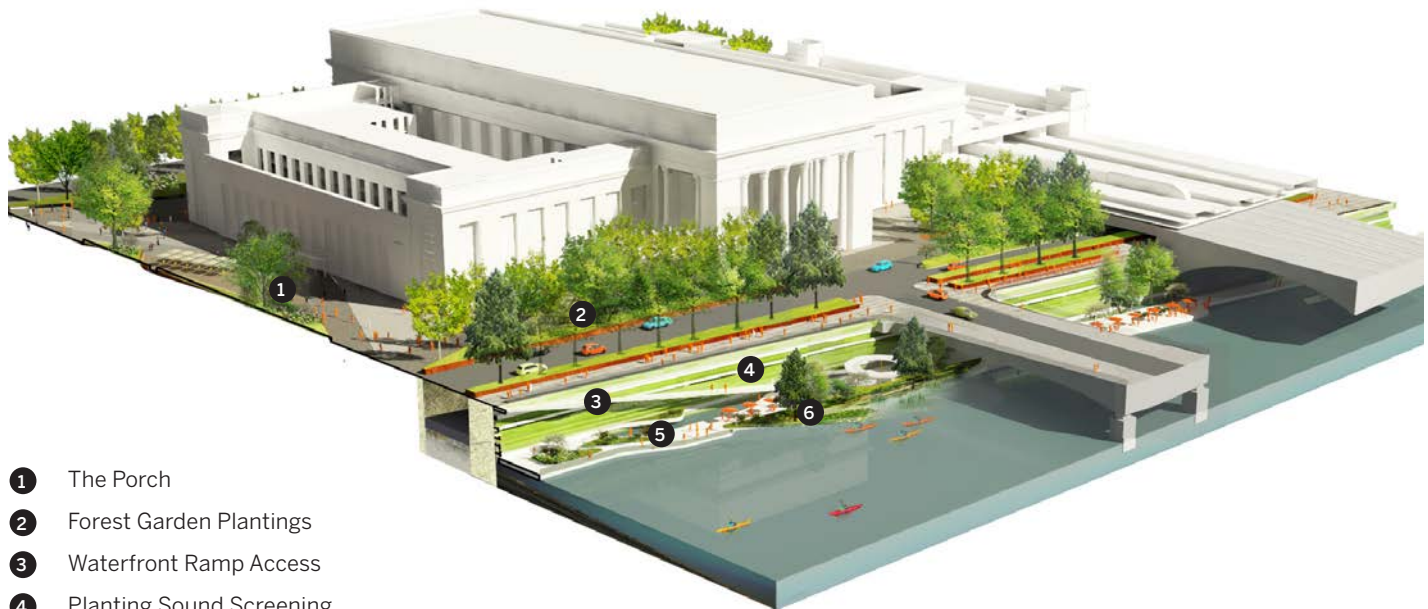
6.5 Waterfront Access and Open Space

Realizing a Truly Public Riverfront

The idea of Station Plaza crosses the physical boundaries of its adjacent streets, jumping south to related public space in front of the former Post Office along Market Street, north to anchor development at Arch Street, and east to a riverfront promenade. By realigning Schuylkill Avenue in front of the Station, the plan realizes 25'-30' of new riverfront area at deck level. It also suggests connections down from this promenade to a lower-level system of boardwalks and barges that would advance the West Bank Trail connection through the District. Noise abatement measures should be undertaken to minimize highway sound impact to the promenade. A vegetated sound barrier would not only reduce traffic noise, but also provide a backdrop to enjoy the river and wetland gardens.

The river edge connection provides waterfront connectivity where there is currently none. This area of the riverfront is one of several inaccessible edges on the western edge of the Schuylkill River. A new planted and social landscape will be a step towards completing the pedestrian connection from Fairmount Park to the confluence of the Schuylkill and Delaware Rivers.

Potential Concept:
Multi-Level East Riverfront Promenade



- 1 The Porch
- 2 Forest Garden Plantings
- 3 Waterfront Ramp Access
- 4 Planting Sound Screening
- 5 Riverfront Promenade + Social Deck
- 6 Floating Wetland Plantings

Proposed Improvements

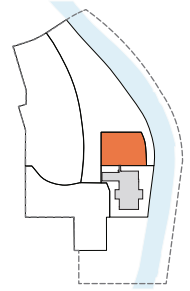
- 'Social Decks' situated on floating docks to provide views out to the river.
- Large trees planted within the floating deck to provide shade and reduce the heat island effect.
- Abundant seating to provide moments for rest, relaxation, and dining along the riverfront.
- Vegetated, structural sound wall installed adjacent to the highway to mitigate sound and pollution from vehicular traffic.



Potential Concept:
Riverfront Public Space Eye Level View

7.0 MULTIMODAL TRANSPORTATION CENTER

7.1 Overview



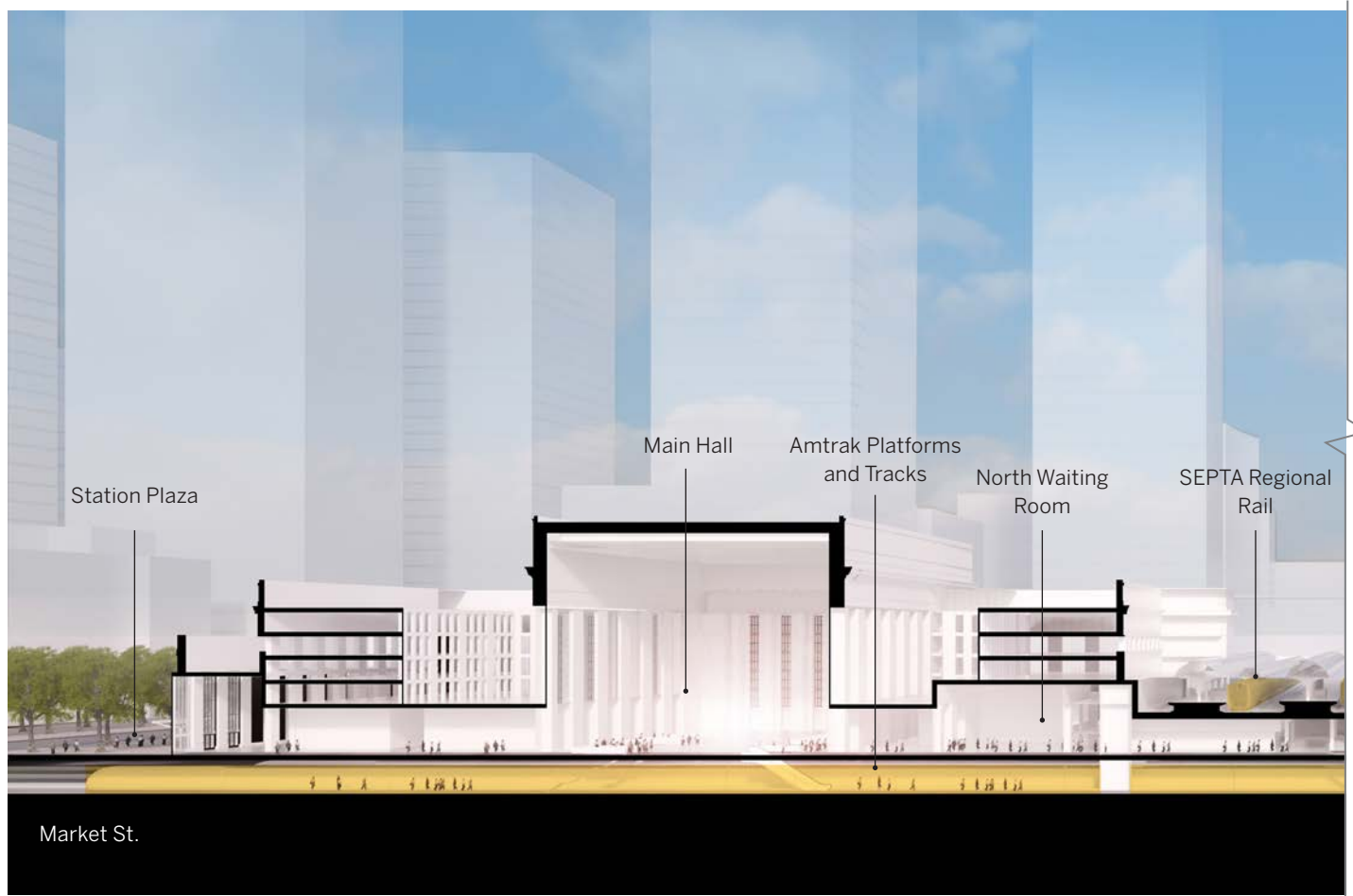
The area north of Arch Street has already been the focus of transit-oriented development, starting with the construction of Cira Centre in 2005. This first building proved that the area is a natural place for significant transit-oriented commercial development due to its proximity to both 30th Street Station and the Schuylkill Expressway. It is also a major opportunity for Amtrak to monetize its air rights over the Northeast Corridor, potentially in an early phase before significant rail yard overbuild occurs to the west.

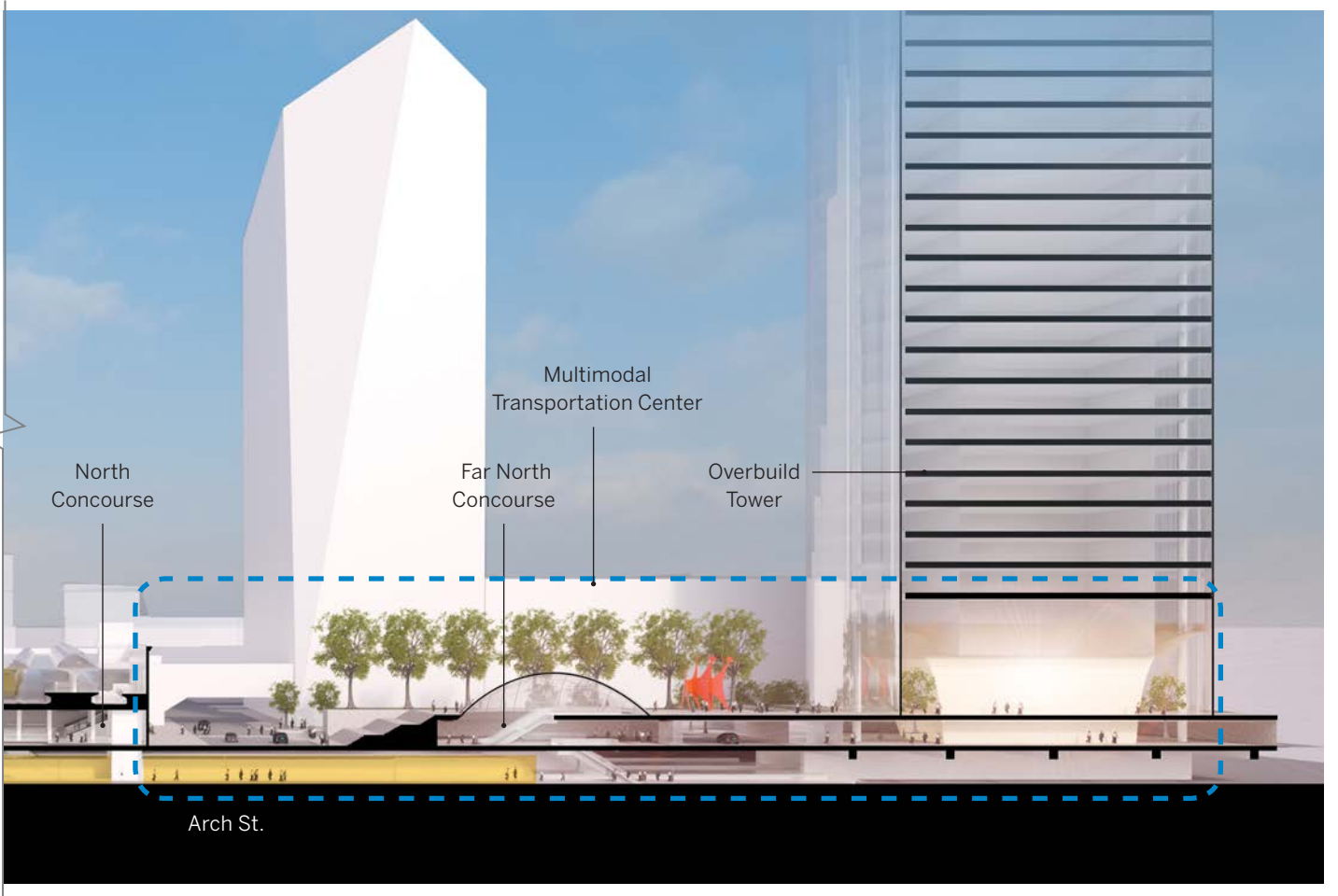
The plan calls for replacement of the surface parking deck north of Arch Street with a multimodal transportation complex that brings together “far north” concourse access to the lower-level Amtrak platforms with a new intercity bus terminal, all designed around a major new public space and significant commercial development.

Planning Aspirations

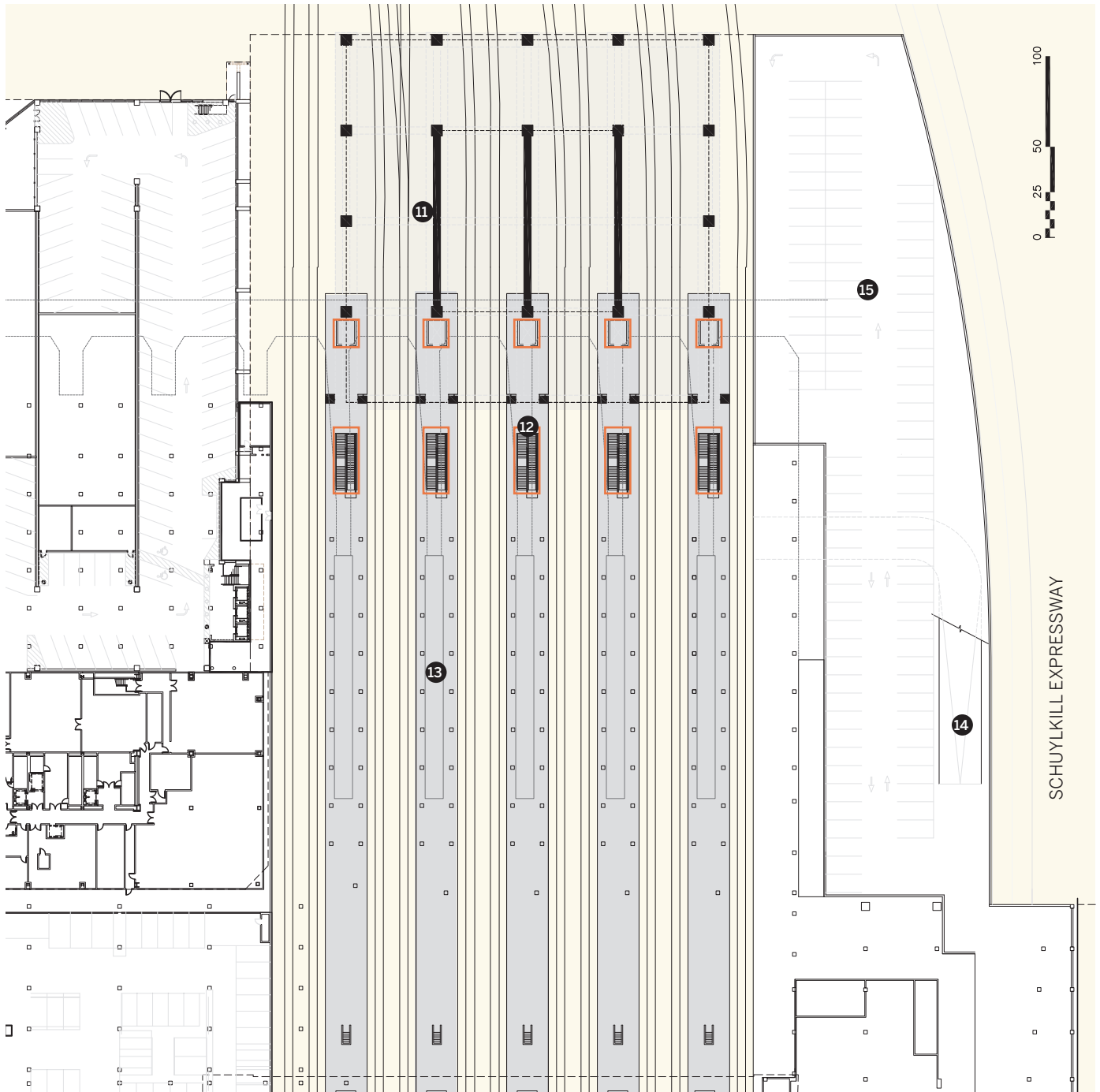
- Create new connections to 30th Street Station from the north
- Improve street-level experience on Arch Street
- Accommodate a new intercity bus facility
- Include a major public space as an anchor for development
- Set up future park space overbuild above the Northeast Corridor
- Preserve Amtrak service vehicle access to lower level parking area
- Respect existing view corridors from Cira Centre
- Realize significant commercial development above or adjacent to the Northeast Corridor

Illustrative Section through 30th Street Station and Multimodal Transportation Center



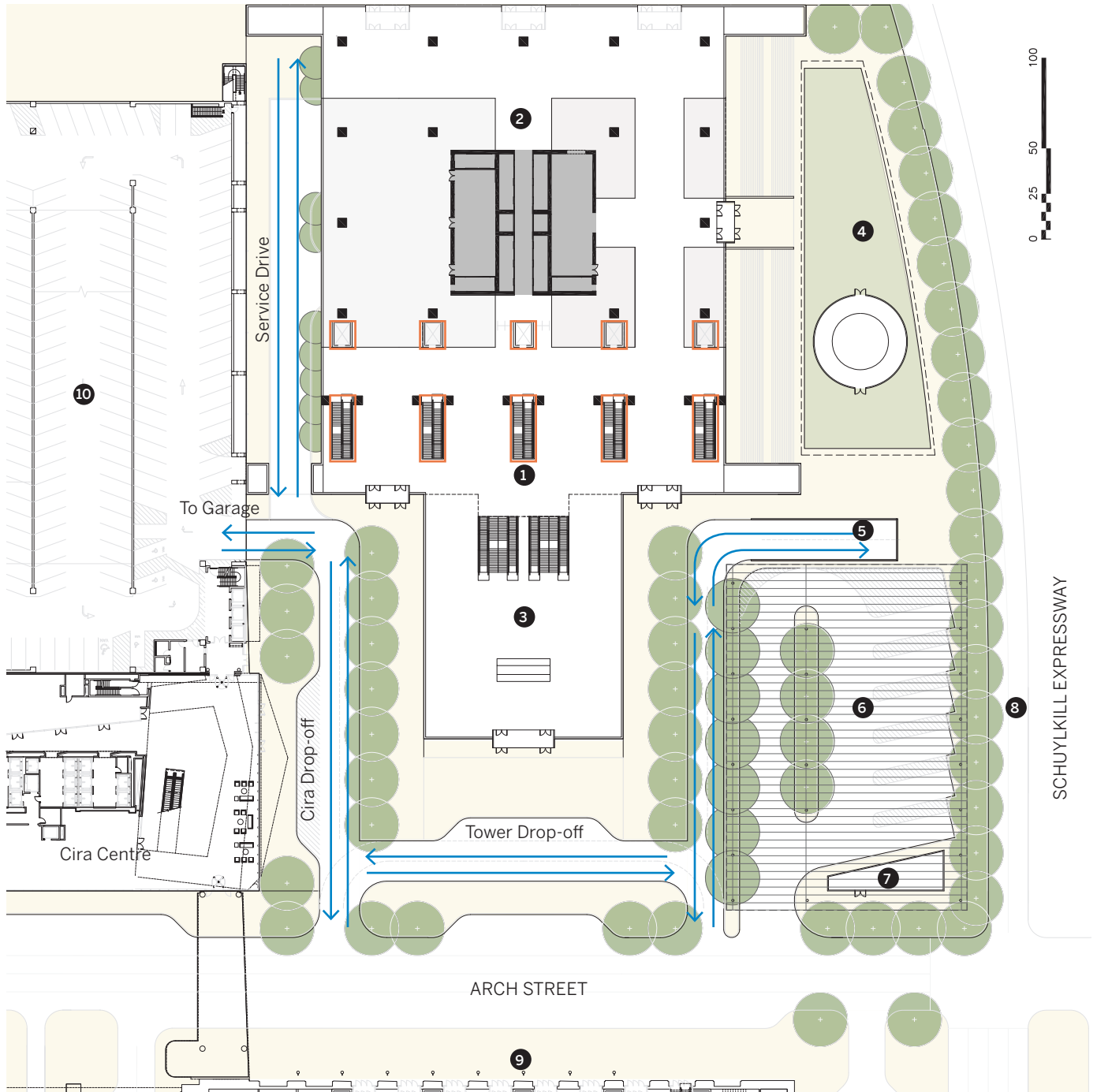


7.2 Platform Level Plan



- 11 Tower Super-structure within Platform Areas
- 12 Access Up to Concourse
- 13 Existing Baggage Ramps to Remain
- 14 Ramp Up to Street Level
- 15 Amtrak Service Area + Parking

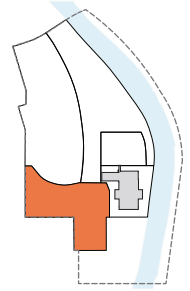
7.3 Ground Level Plan



- | | | | |
|---|---|----|--|
| 1 | Far North Concourse and Platform Access | 6 | Intercity Bus Covered Queuing Area |
| 2 | Overbuild Tower | 7 | Bus Ticketing / Waiting |
| 3 | Tower Lower Lobby | 8 | Realigned I-76 Off-Ramp |
| 4 | Overlook Plaza | 9 | Renovated Station Concourse South of Arch Street |
| 5 | Ramp to Amtrak Service Area + Parking Below | 10 | Existing Amtrak Garage with Additional Levels |

8.0 AT-GRADE DEVELOPMENT

8.1 Overview



Innovation Neighborhood

The 10-acre site immediately west of 30th Street Station will become an integral part of the Drexel University campus known as the Innovation Neighborhood. With the potential for 5 million square feet of new development on the land between Market Street and the Powelton Yard edge, this area is expected to absorb much of the near-term demand for office, residential, retail, and other institutional space in the District – and ultimately define the aspirational urban character of the area around 30th Street Station.

Drexel plans for Innovation Neighborhood to become an attractive and exciting front door to University City and to one of the country's most important train stations. To do so, the neighborhood must be more city than campus, planning for an active and inviting ground-floor presence along improved sidewalks and public spaces. This mixed-use neighborhood will bring robust education and research institutions together with the commercial sector. It endeavors to work with citizens, businesses, entrepreneurs, and government leaders to become a centerpiece of innovation, technology, and economic development in the Philadelphia region.

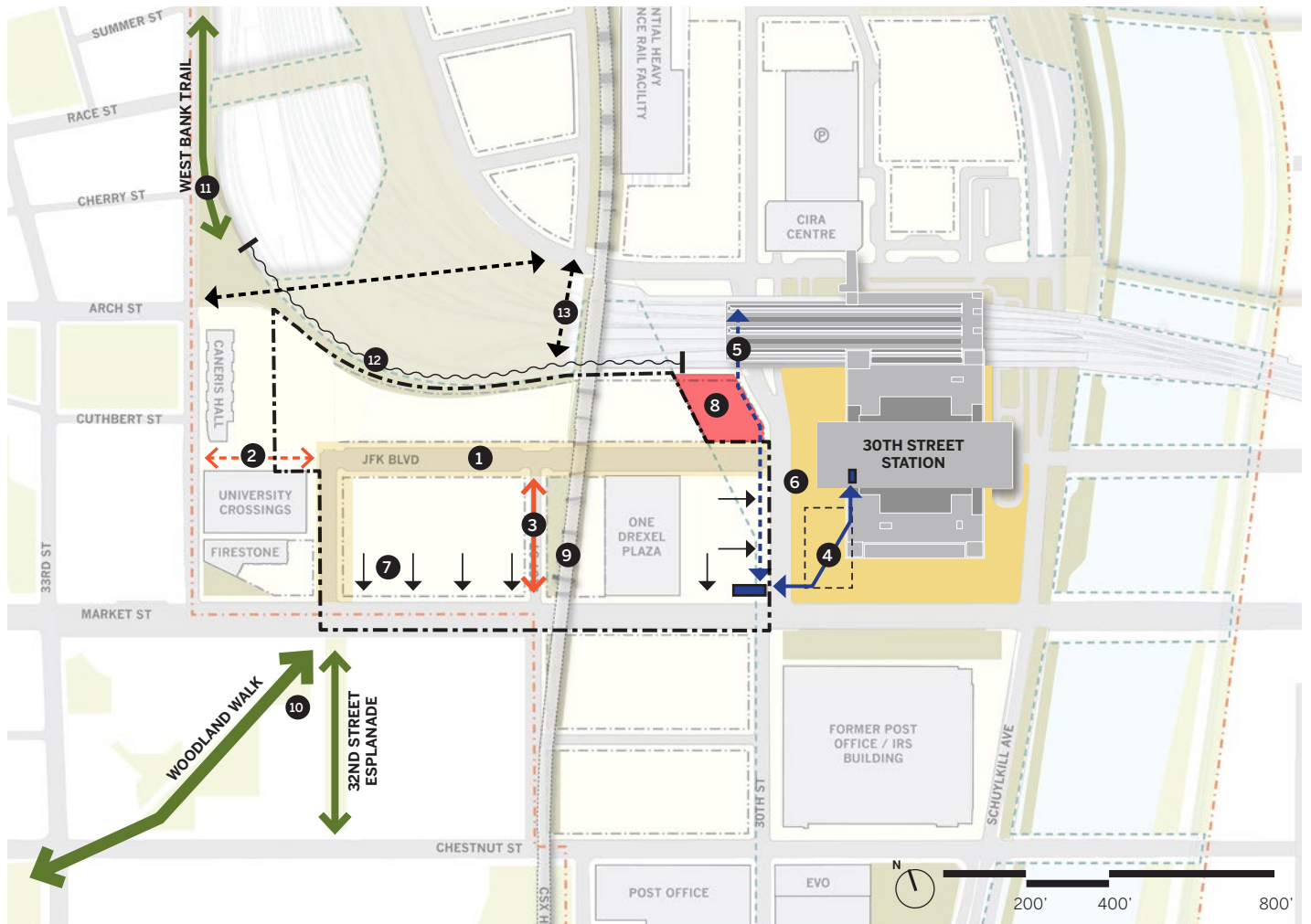
Drexel University is engaging a Master Developer and master planners to envision the character, land use, scale and development goals for vertical development and public realm improvements within this neighborhood. The District Plan is advancing in coordination with this design effort. The planning principles to guide both efforts are shown diagrammatically on the following page. Each of these components should be expressed or responded to within the plan, but the nature and extent of that expression will be defined by Drexel's Master Development consultants.

South of Market Street

The only remaining terra firma parcels in the District, along 30th Street between Market and Chestnut Streets, will also account for significant new development. They should be planned as high-density, mixed-use projects, highlighting their direct connection to the station and contributing to the character of this emerging urban neighborhood.



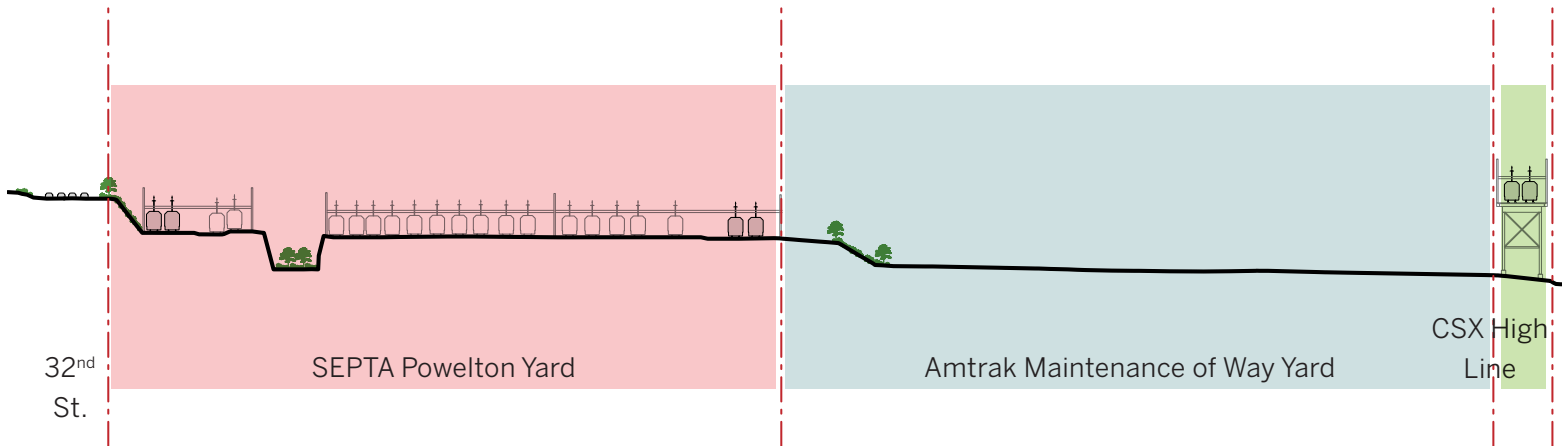
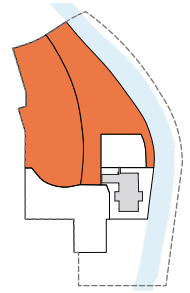
8.2 Innovation Neighborhood Planning Drivers



- 1 Transform JFK into a green, pedestrian-focused boulevard
- 2 Improve the pedestrian connection from JFK to 32nd Street
- 3 Integrate the neighborhood with the city grid by connecting 31st Street from Chestnut north to JFK
- 4 Integrate a reopened SEPTA Market-Frankford underground passage and retail concourse
- 5 Improve at-grade pedestrian connection between SEPTA regional rail and Market-Frankford Line along 30th Street
- 6 Reinforce Station Plaza as a high-quality public space
- 7 Establish a strong urban presence along Market Street
- 8 Create a relationship with Amtrak's property at 30th and JFK Blvd as an important gateway to the neighborhood
- 9 Engage the CSX High Line in creative ways to activate spaces below and adjacent to the viaduct
- 10 Respond in some way to the diagonal movement of Woodland Walk, which terminates at Market Street
- 11 Incorporate connections to the West Bank Trail running along 32nd Street
- 12 Creatively address the physical challenges presented by Powelton Yard along the north edge of the neighborhood
- 13 Connect into the rail yards at strategic locations, to be coordinated with future overbuild

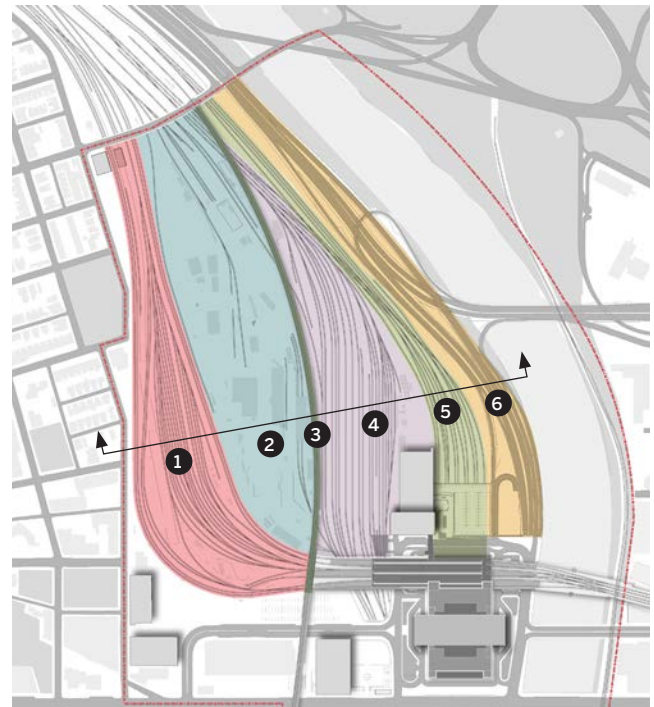
9.0 RAIL YARDS DEVELOPMENT

9.1 Opportunities and Constraints

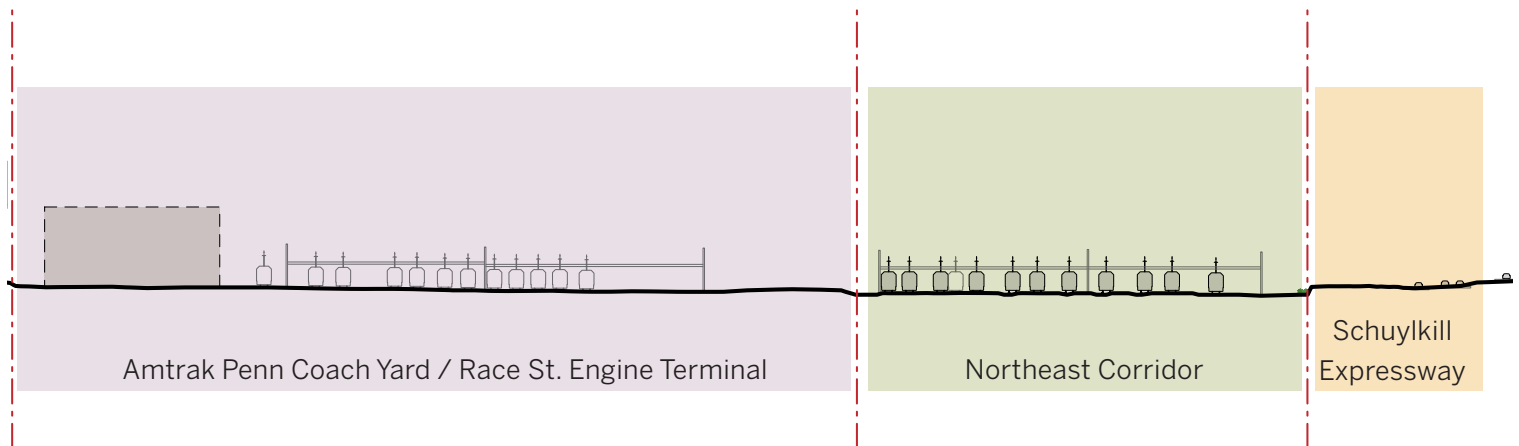


Rail Yard Segments

The yards are a complicated set of different geographic and functional segments hosting a multitude of active railroad operations, highway infrastructure, personnel activities, and parking. Principally, the yards are defined by six different north-south segments, as shown in both plan and section. Each segment has its own geometric and operational constraints. They are under ownership of four different organizations (SEPTA, Amtrak, CSX, and PennDOT). One of the most significant challenges – and opportunities – of the draft physical framework is to offer a coordinated, cohesive vision for high-density, highly connected development spanning the various institutional uses of the yards and stitching together the existing neighborhoods and the river.



Descriptions of numbered items are provided on the following page.



1 SEPTA Powelton Yard

- New overhead catenary system creates typical 40' clearance from top of rail to bottom of structure
- Potential for clearance as low as 22' at roadway or pedestrian bridges
- No change to track centers or reduction in service
- Closely spaced maintenance tracks require extremely long-span structure
- Small areas for potential column touchdowns or building footprints near the center of the yard

Strategy: full overbuild is difficult; mid- and long-span structures need to bridge majority of yard, suggesting that open space or bridge connections would be most appropriate.

2 Amtrak Maintenance of Way Yard

- Safeguard vertical clearance for maintenance structures, to be integrated with development
- No restrictions on column or core placement
- Road slope (on deck) <4%

Strategy: conventional structures; high density buildings and towers are possible.

3 CSX High Line

- Structural supports limit east-west connections below
- 44'-6" vertical clearance from ground level to bottom of structure
- 16'-6" vertical clearance for connecting roads on deck

Strategy: extend streets on deck below High Line where structure allows. Elsewhere, consider greenway or pedestrian connections or service access.

4 Amtrak Penn Coach Yard /Race St. Engine Terminal

- 26'-9" clearance between top of track and bottom of structure, assuming catenary hung from structure
- Rearrangement of existing service tracks possible
- Safeguard vertical clearance for maintenance structures, to be integrated with development
- No overbuild at HSR Maintenance Facility
- Road slope (on deck) <4%

Strategy: mid-span structures with strategically placed columns and cores; midrise buildings and towers possible.

5 Northeast Corridor

- 26'-9" clearance between top of track and bottom of structure, assuming catenary hung from structure
- Minimize impact on alignment or service
- Closely spaced curving tracks do not allow column touchdowns, require long-span structure

Strategy: extremely long span structural truss is needed for overbuild structure. This area is recommended for strategic areas of open space, with buildings recommended only where tracks are straight adjacent to the station.

Schuylkill Expressway

- 6**
- 16'-6" vertical clearance to bottom of structure
 - Placement of columns is limited by wide expanse of travel lanes and ramps, requiring long-span structure
 - Anticipate eventual in-kind replacement

Strategy: extremely long span structural truss is needed for overbuild structure. This area is recommended for strategic areas of open space and bridge connections.

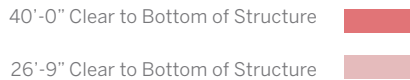
9.2 Overbuild Conditions Analysis

Vertical Clearance Requirements

Vertical clearance requirements govern the height of any potential overbuild deck above top of existing rail.

Minimum overhead clearance at SEPTA's Powelton Yard will depend on the planned replacement of the yard's overhead catenary system. For planning purposes, this clearance has been set at 40'-0" from top of rail to bottom of overbuild structure for all decked areas, which will span both the catenary wires and their support trusses. When coordinated with individual projects, reduced overhead clearance could be entertained on a case by case basis as low as 22' at roads or 30' for limited spans of overbuild deck.

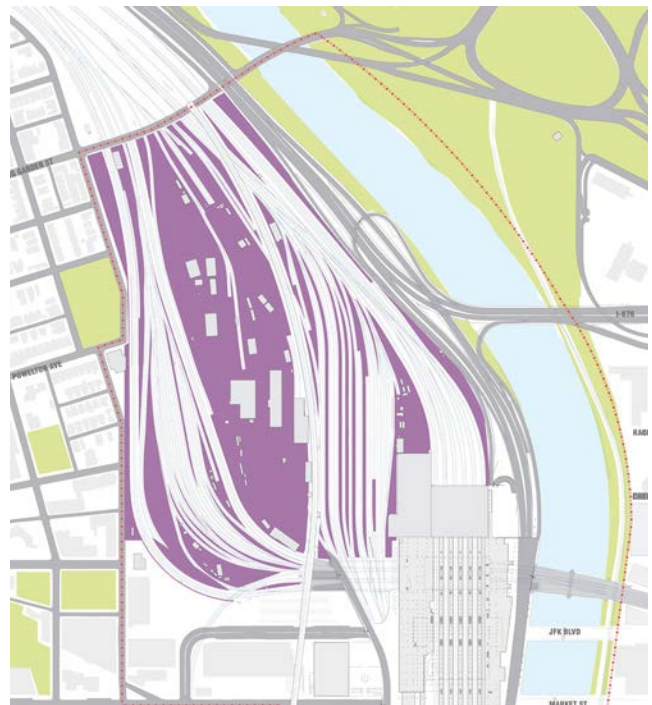
Minimum overhead clearance at Amtrak yards has been set at 26'-9" from top of rail to bottom of overbuild structure for all decked areas where catenary can be hung from the underside of structure. Additional clearance may be necessary over yard maintenance structures.



Lateral Clearance Requirements

Main track lateral clearance requirements are governed by Amtrak's Standard Track Plan Minimum Roadway Clearances diagram, Drawing No. AM70050G revised April 20, 2000. Based on these requirements, overbuild structure lateral clearance at active tracks is 18' from centerline of track. Overbuild structure lateral clearance at maintenance tracks is 9' from centerline of track.

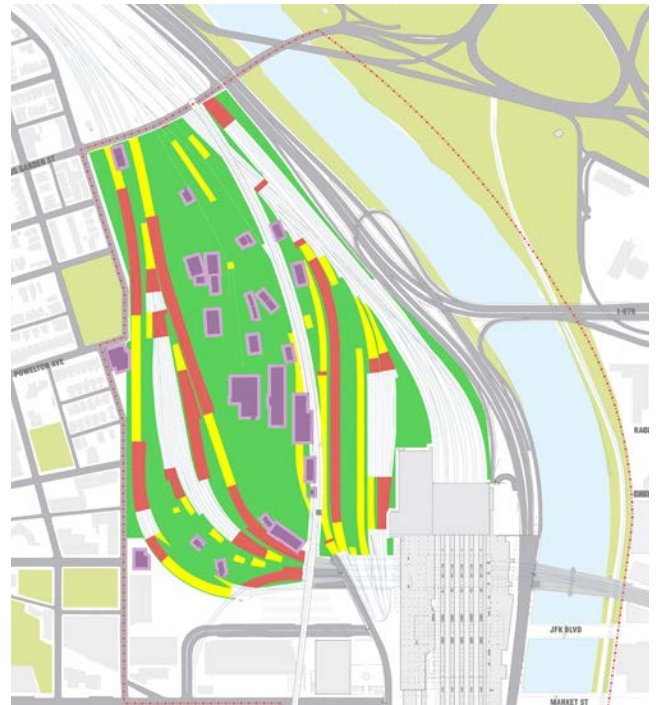
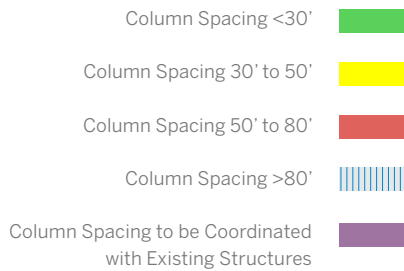
Offsetting these lateral clearances from each track center produces a plan of where structural touchdowns can and cannot be located within the yards.



Structural Span Analysis

Lateral clearance requirements produce a correlated diagram of required structural spans over various components of the rail yards. Resulting structural spans range from under 30' (green areas in the diagram at right), which enables conventional construction and an efficient column grid, to over 80' (white areas in the diagram at right), spans which are more like bridge conditions and make overbuild challenging.

As spans increase in length, the resulting depth of structure required to bridge those spans increases as well. The exact length-to-depth ratio depends on the type of structure employed.

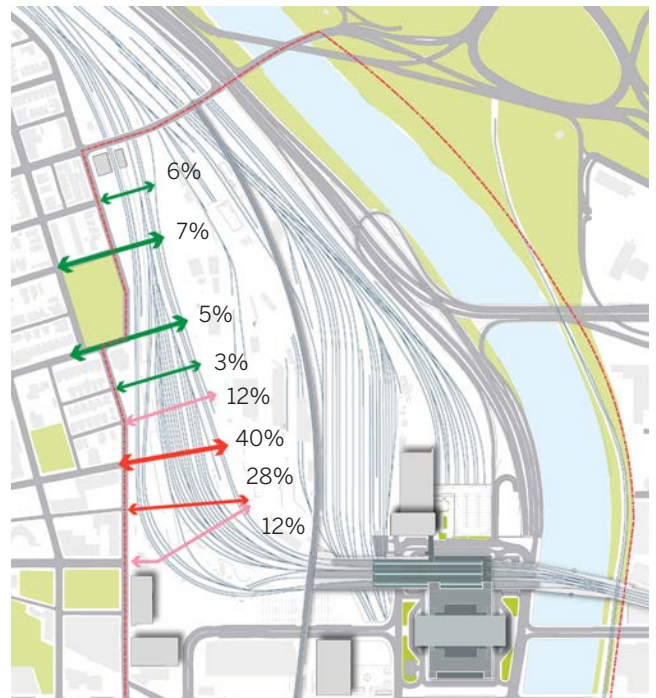
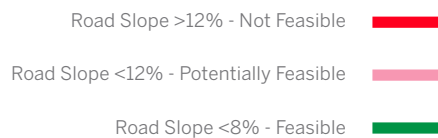


Road Connection Analysis

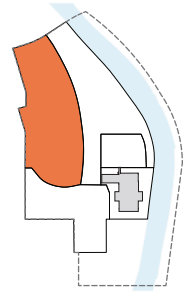
Typical city streets should ideally have slopes less than 8%, with a maximum for short distances on residential streets of 12%. Bridges, including roads on deck structure within the yards, should have slope less than 4%.

The extension of streets from Powelton Village and Mantua involves climbing from the existing elevation of 32nd Street up to a height including vertical clearance and structural depth, reduced by existing topographic changes. Only Powelton Avenue can extend into the yards given this full set of requirements and the assumption of a large overbuild deck.

If, however, only roads or pedestrian bridges extend over the yards – not a wider deck – then vertical clearance can be lowered to 22' above the top of rail. In this case the resulting slopes are much lower, and roads north of Race Street could connect across.



9.3 West Rail Yard Overbuild



The western half of the rail yards includes the area between 32nd Street and the CSX High Line, with the Innovation Neighborhood to the south and Spring Garden Street to the north. Its two primary zones – SEPTA’s Powelton Yard and Amtrak’s Maintenance of Way (MOW) Yard – differ in use and in overbuild potential, the former facing considerable geometric constraints. The divide created by Powelton Yard must be addressed if development within the yards is to become viable.

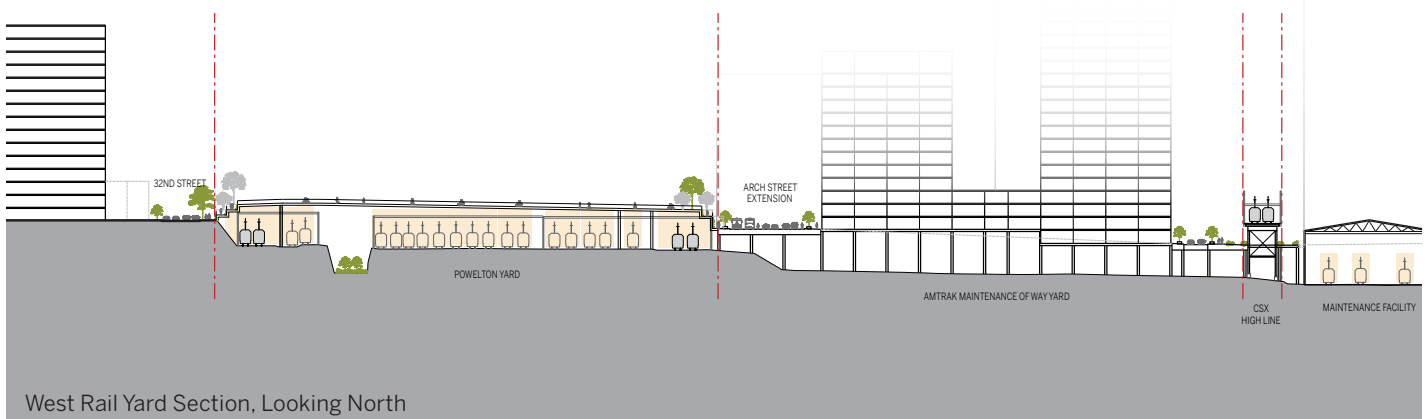
Planning Aspirations

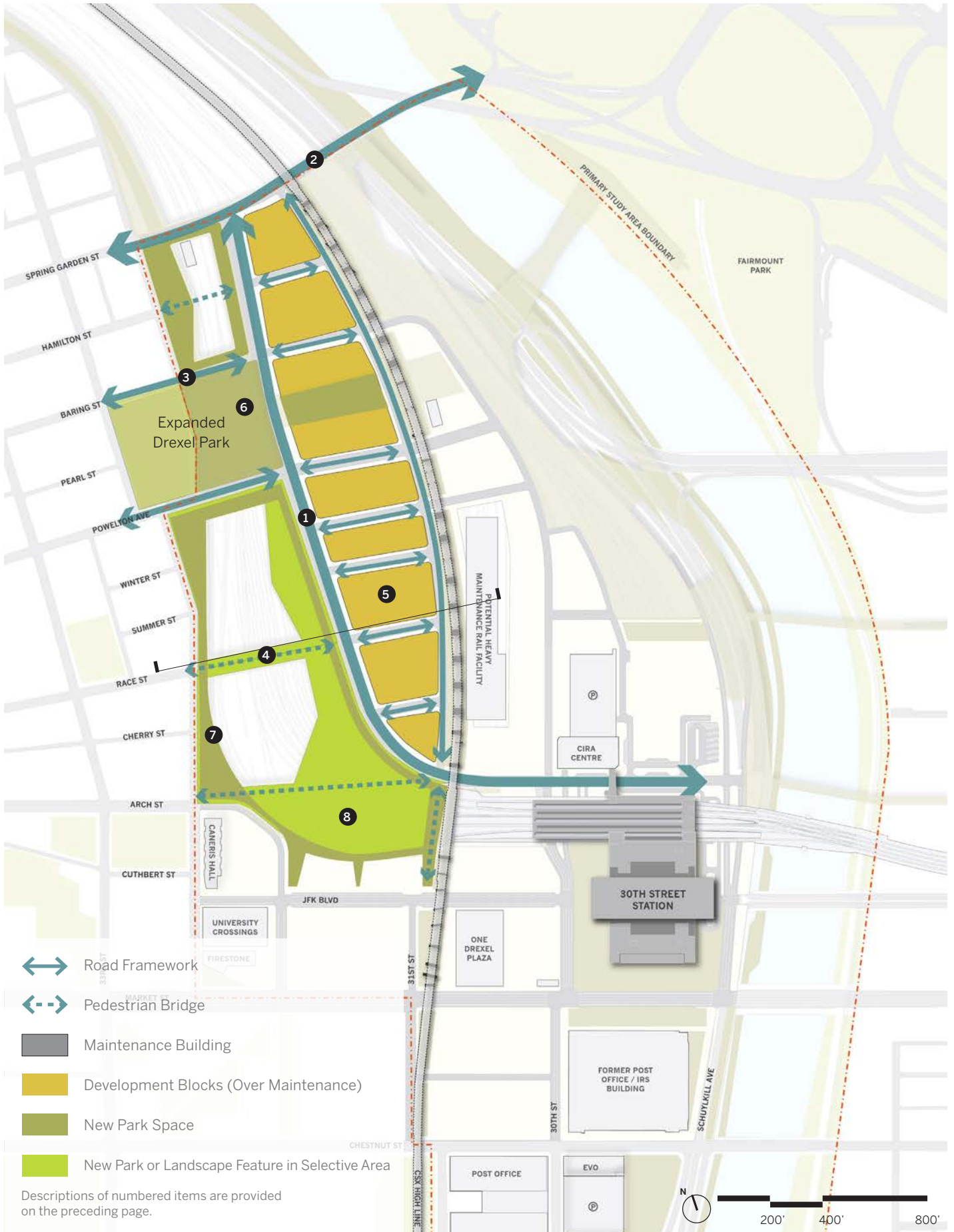
- Respect the core functionality of the yards: SEPTA’s active, storage, and maintenance tracks and Amtrak’s lay-down and maintenance areas. Do not remove or adjust track centers.
- Exercise opportunity to develop MOW Yard, the only terra firma area within the rail yards.
- Overcome technical challenges to bridging the gap at Powelton Yard in order to make development of MOW Yard physically viable.
- Extend the regular urban grid into the yards as a flexible framework for development.
- Create compatible edges and a smooth transition in density from neighborhood to yards.
- Improve connections to Center City for both new development and existing communities.
- Use infrastructure investment to unlock development potential within the rail yards.

Framework

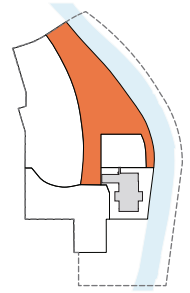
Framework for the West Yards relies on a few key infrastructure moves that will help catalyze early investment:

- 1 An extension of **Arch Street** west from 30th Street and bending northward up to Spring Garden Street. This alignment would be entirely within the Amtrak MOW property, hugging the eastern boundary of Powelton Yard. It should also safeguard ROW for a fixed-guideway transit line connecting to 30th Street Station and various regional destinations north of the District.
- 2 A transformed Spring Garden Street as a **northern gateway** to the development connecting to the Art Museum and Center City.
- 3 An extension of the **city grid**, where possible, with bridges over the yards.
- 4 **Pedestrian bridges** where vehicular bridges are not possible, to reduce to impact of the void and ensure full connectivity back to the neighborhoods. All new bridges would be accessible per ADA standards.
- 5 A simple grid system as framework for **flexible urban blocks** that could host a wide range of different, as yet undefined uses. Assumes demolition of a decommissioned traction power supply switching station (Sub 1A) located at the southernmost edge of the Powelton Yard / Maintenance of Way Yard border.
- 6 Doubling the size of **Drexel Park** by extending it on deck over the rail yards and connecting to the new Arch Street.
- 7 A **green crescent** of linear park along the eastern edge of Powelton Village, fully connecting the West Bank Schuylkill River Trail with the Innovation Neighborhood and eventually back to the riverfront.
- 8 Selective decking over **Powelton Yard** as a critical component underlying the success of any future overbuild.





9.4 East Rail Yard Overbuild



The eastern half of the rail yards includes the area between the CSX High Line and the Schuylkill Expressway, bounded by the Station to the south and Spring Garden Street to the north. It has two primary zones: the Penn Coach Yard and Race Street Engine Terminal, which serves Amtrak maintenance functions, and the Northeast Corridor itself, the primary active railway and core railroad alignment between Boston and Washington, D.C. For simplicity, the Schuylkill Expressway and riverfront to the east are also included in this East Rail Yard zone.

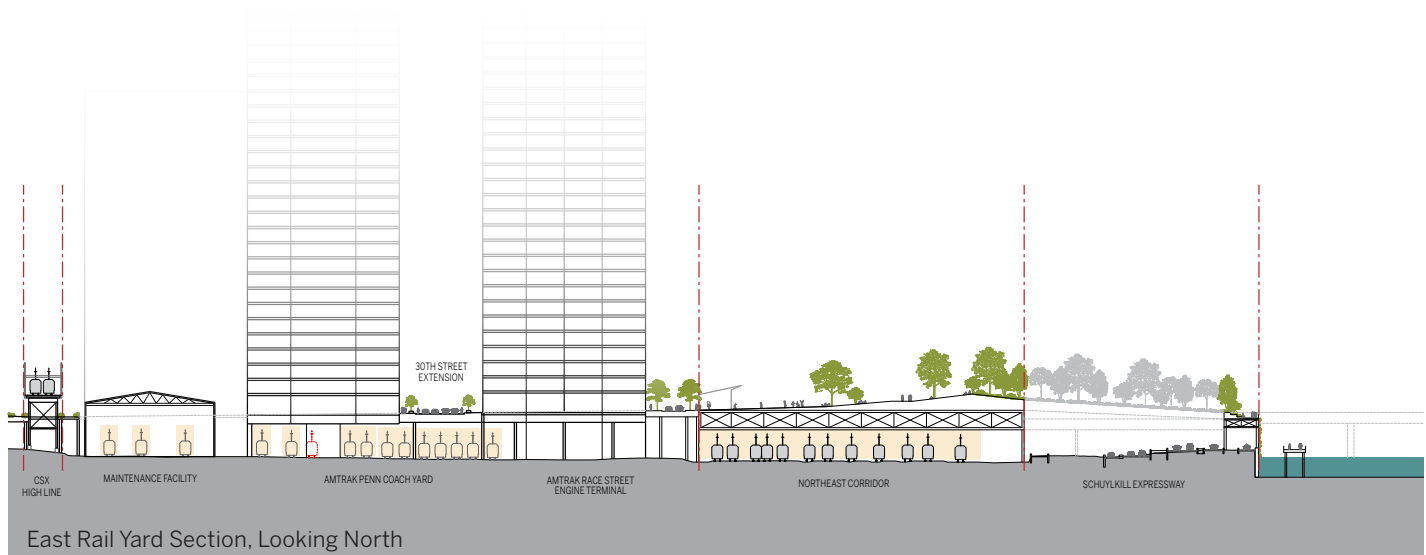
Planning Aspirations

- Accommodate Amtrak maintenance requirements.
- Respect the alignment and continuous functionality of the Northeast Corridor.
- Connect down to the river.
- Mitigate major infrastructure barriers: I-76, the NEC, and the CSX High Line.
- Weave new connections to Center City.
- Overcome physical obstacles to make development viable
- Focus high-density, transit-oriented development near the station.
- Do not preclude future accommodation of potential Second Spine High-Speed Rail operations, under evaluation by the FRA NEC FUTURE project, should the 30th Street Station alignment emerge as a preferred alternative.

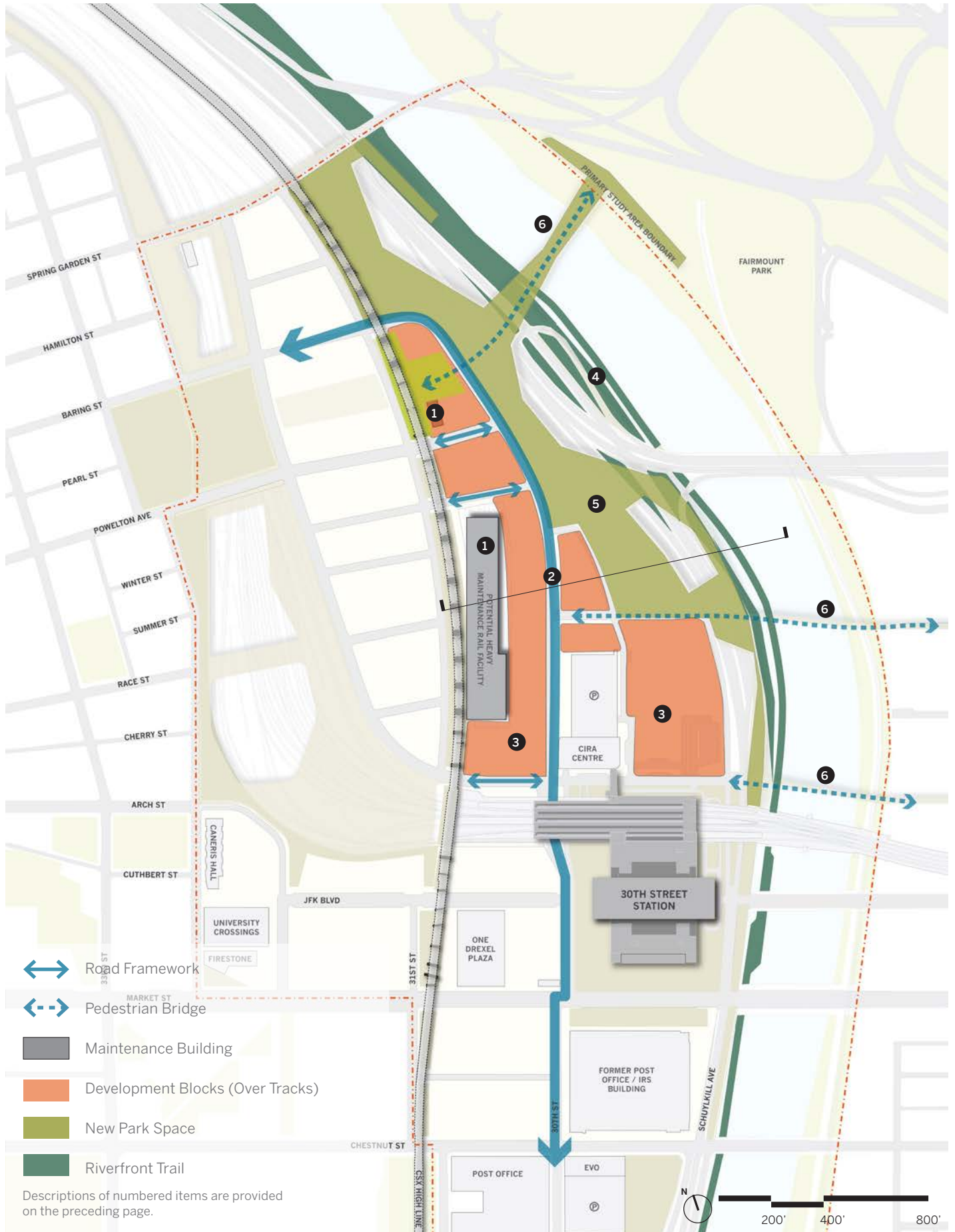
Framework

Framework for the East Yards relies on early investment tethered to 30th Street Station, eventually extending north to cover larger portions of the yards and the Schuylkill Expressway. Key infrastructure investments required for development of the East Yards include the following:

- 1 Incorporation of **new Amtrak needs** including a potential state-of-the-art Heavy Maintenance Rail Facility and Cat Car Shed within the Penn Coach Yards. Amtrak has asked the design team not to preclude the possibility of this capital investment at 30th Street Station. The facility is seen as critical new infrastructure required to support future Amtrak Northeast Corridor service, and Philadelphia is one of several candidate sites being evaluated at this time.
- 2 Extension of 30th Street north as a **spine for development** within the yards.
- 3 Focus on viable development sites that are directly **tethered to the Station** or to the extended 30th Street.
- 4 A linear park and series of boardwalks along the **Schuylkill River** to complete the west bank trail.
- 5 A deck level **“river overlook”** as an edge to development and buffer from the highway. This should connect down to the riverfront at key moments.
- 6 New **pedestrian bridges** at Arch Street and Race Street to increase connectivity to Center City, as well as at Pearl Street to connect to the Art Museum.



East Rail Yard Section, Looking North



9.5 Overcoming Infrastructure Barriers to Connect the Yards

The rail yards present significant infrastructure barriers that must be at least partially overcome in order for their development potential to be realized. The primary development areas are divided by the CSX High Line and severed from the city by Powelton Yard and from the river by the Northeast Corridor and Schuylkill Expressway. Without a plan for radical new connectivity, these rail yard redevelopment areas are and will remain islands. Moving through, over, and around these seams will be vital to realizing a new urban neighborhood in the District.

Powelton Yard

Given major geometric constraints, overbuild development likely does not make sense here. But some type of cap – both for connectivity and to mitigate the negative impacts of an active rail yard – is absolutely essential to make development of the MOW Yard viable. It can provide connectivity to the Innovation Neighborhood and adjacent communities, mask the rail below, provide usable open space, and begin to connect this area more completely with Center City. The type and extent of decking is shown in the plan notionally based on the best understanding of what may be achievable. However, there is flexibility in how this deck is realized, and various options are included in the draft physical framework, as illustrated on the following page:

- Vehicular or pedestrian bridges without significant additional decking
- A full cap with new park space, as recommended at Drexel Park
- A partial cap of lightweight structure with some landscape, public art, or even energy-generation component

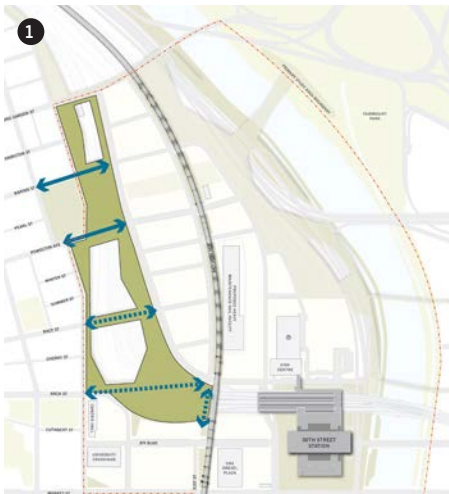
CSX High Line

The High Line structure bisects the rail yards and limits physical and visual connectivity. Columns and other structural elements dictate where streets and pedestrian connections can occur. The plan recommends roadway connections between these structural elements at Arch, Winter, and Baring/30th Streets as well as Powelton Avenue. On either side of the High Line, a greenway will provide north-south connectivity within the yards and connect to an emerging greenway below the rail viaduct in University City; it will also buffer adjacent future uses from the active freight rail line. Public art can activate and beautify the column supports and stanchions so they are artfully and playfully woven into the fabric of future development.

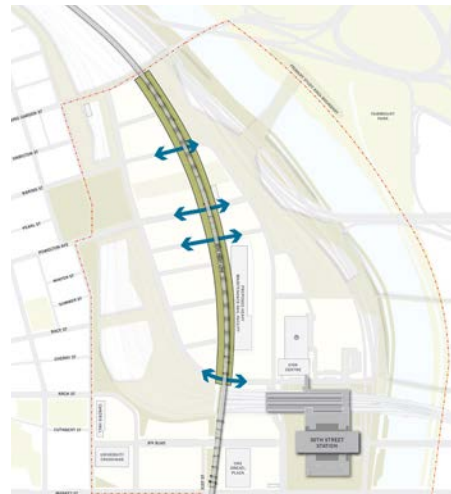
Northeast Corridor + Schuylkill Expressway

Mitigating the dual barriers of Northeast Corridor and I-76 involves a three-pronged approach to help mask these barriers, enhance connections to Center City, and provide public amenities, as illustrated on the following page.

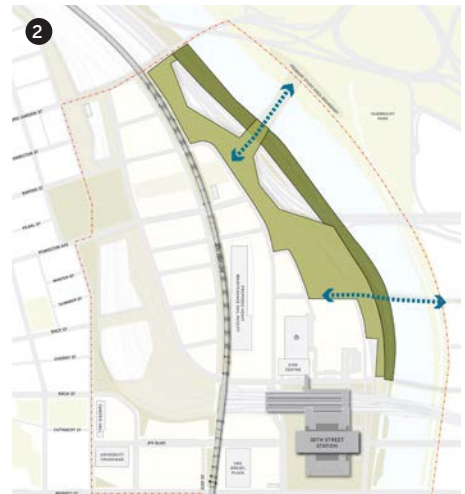
- A new park on a deck above the NEC, with key moments extending out over the expressway. This will start with new riverfront promenade space at Station Plaza and extend north as development occurs over the yards.
- A lower level riverfront park, which connects remnant landscape spaces with boardwalks and other interventions to achieve a fully connected West Bank Trail. This trail, like its counterpart on the east, will connect to upper level bridges at key moments.
- New pedestrian and bicycle bridges that tie into the riverfront park system and connect at key streets back to Center City.



Connecting Over Powelton Yard

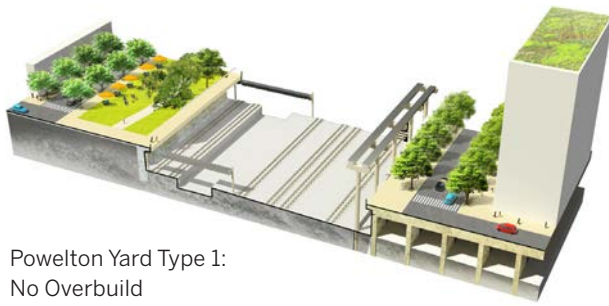


Connecting Under the High Line

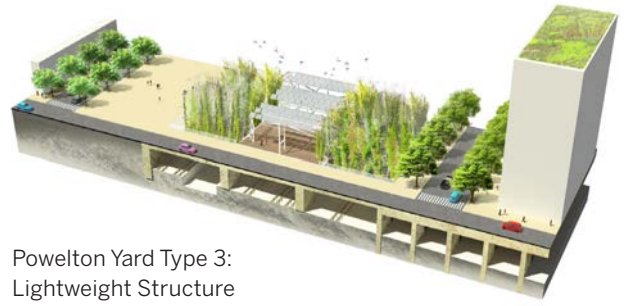


Connecting to the River

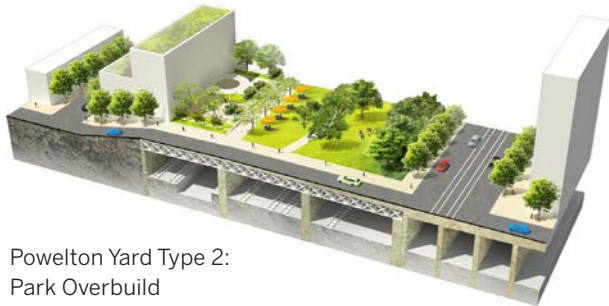
1 Strategies for Overbuild at Powelton Yard



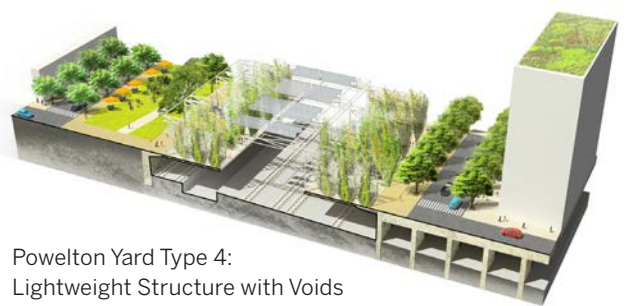
Powelton Yard Type 1:
No Overbuild



Powelton Yard Type 3:
Lightweight Structure



Powelton Yard Type 2:
Park Overbuild



Powelton Yard Type 4:
Lightweight Structure with Voids

2 Strategies for Two-Tiered Riverfront Park



Riverfront Park Type 1:
Adjacent to Development



Riverfront Park Type 2:
Linear Park

10.0 NEXT STEPS

10.1 Planning Process

The draft physical framework incorporates the best ideas from the conceptual alternatives, responds to public and stakeholder feedback, addresses major technical constraints, and weaves together many disparate parts into a single, compelling vision for 30th Street Station and its wider District. This draft physical framework is the beginning of a long-term effort to create an entirely new neighborhood anchored by a revitalized transportation hub. It is ambitious. The draft framework, however important, is still just a first step. Achieving the vision will require definition of realistic, implementable projects. The final year of the two-year planning process will help build consensus towards a singular vision – on the basis of this physical framework plan – while continuing to explore and refine ideas. Through this process, the following subjects will be explored in more detail:

2040 Transportation Operations Plan:

- Projected travel demands
- Multi-modal transportation operations
- Parking plan

2040 Station and Facilities Plan:

- Station improvement planning

2040 Development Program:

- Full development program
- Land use mix
- Projected population

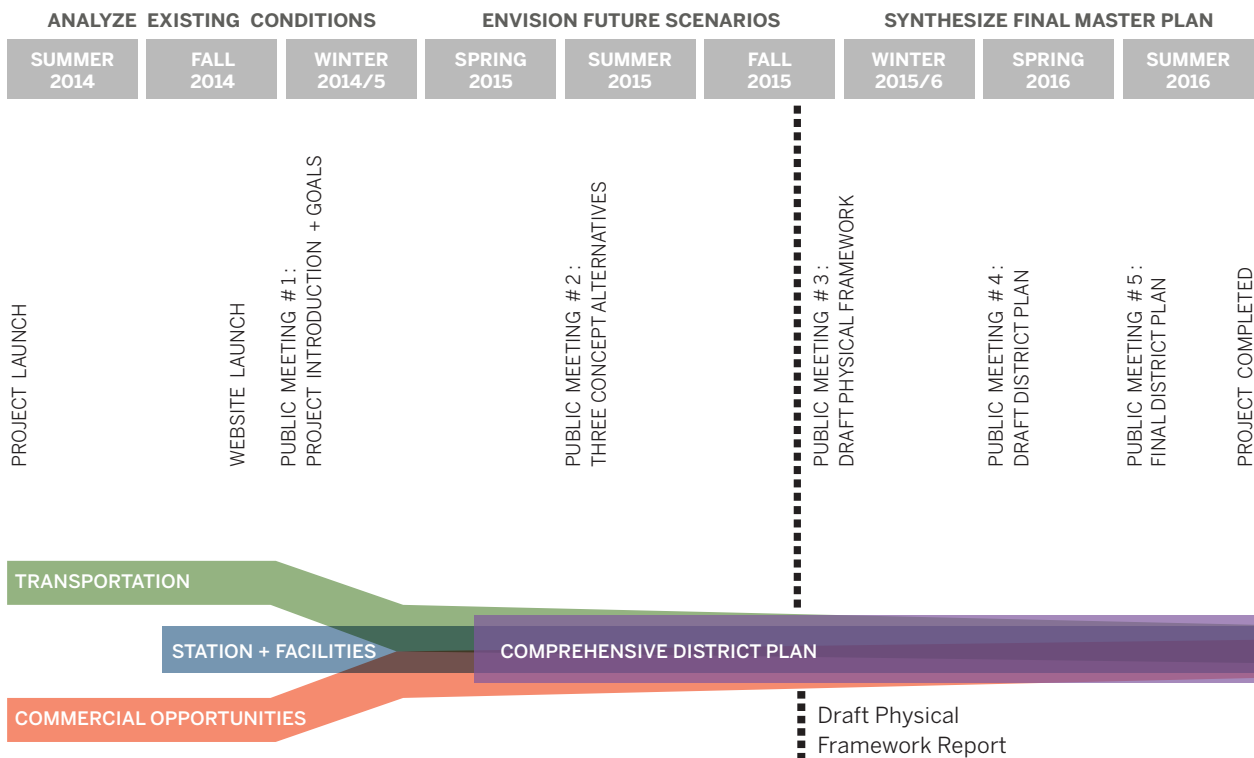
Economic Impact Analysis:

- Regional economic development outcomes
- Local economic development outcomes

Phasing, Funding and Financing, and Implementation Plan:

- Strategic project phasing
- Funding and financing
- Public-private partnerships
- Shared ownership/governance arrangements
- Strategies for continued community participation

Project Schedule



10.2 Evaluating the Draft Physical Framework

To evaluate the efficacy of this draft physical framework as a milestone in the larger planning process, reviewers are asked to consider the original goals set out at the beginning of this planning study.

Community

- Does new development – at the Innovation Neighborhood and within the East and West Yards – provide adequate amenities and mix of uses to create neighborhoods?
- Does the plan adequately address the neighborhood edges?
- Can Station Plaza become a center for the District? A true community-focused public space?

Connectivity

- Does the draft physical framework achieve better connectivity between Center City and West Philadelphia?
- Is the District connected to the Schuylkill River?
- Do existing neighborhoods achieve better connectivity to the river?
- Do enough connections exist to make development within the rail yards viable?
- Does the plan achieve its goal of enhancing multimodal connections?
- Are major networks – streets and public spaces – legible and intuitive?

Identity

- Is the plan appropriate for Philadelphia?
- Have strong institutional identities around the District been expressed in the plan?
- Does the plan bring the city – physically, programmatically, and in terms of identity – to 30th Street Station?
- What will the future District be like to live in? Work in? Go to school in?







