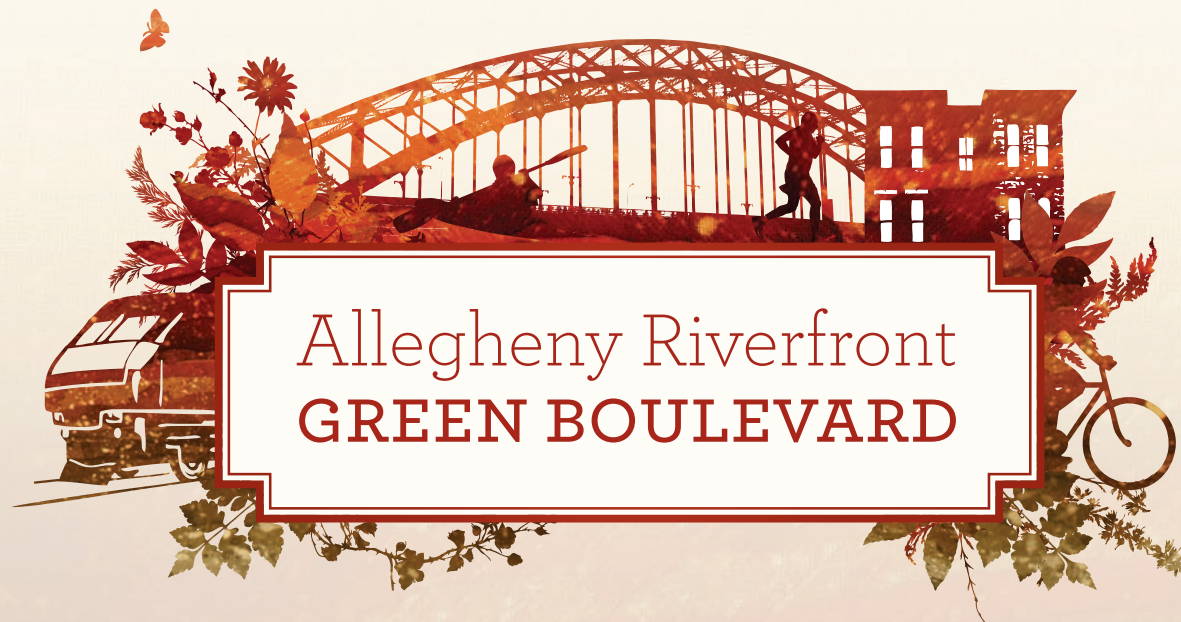
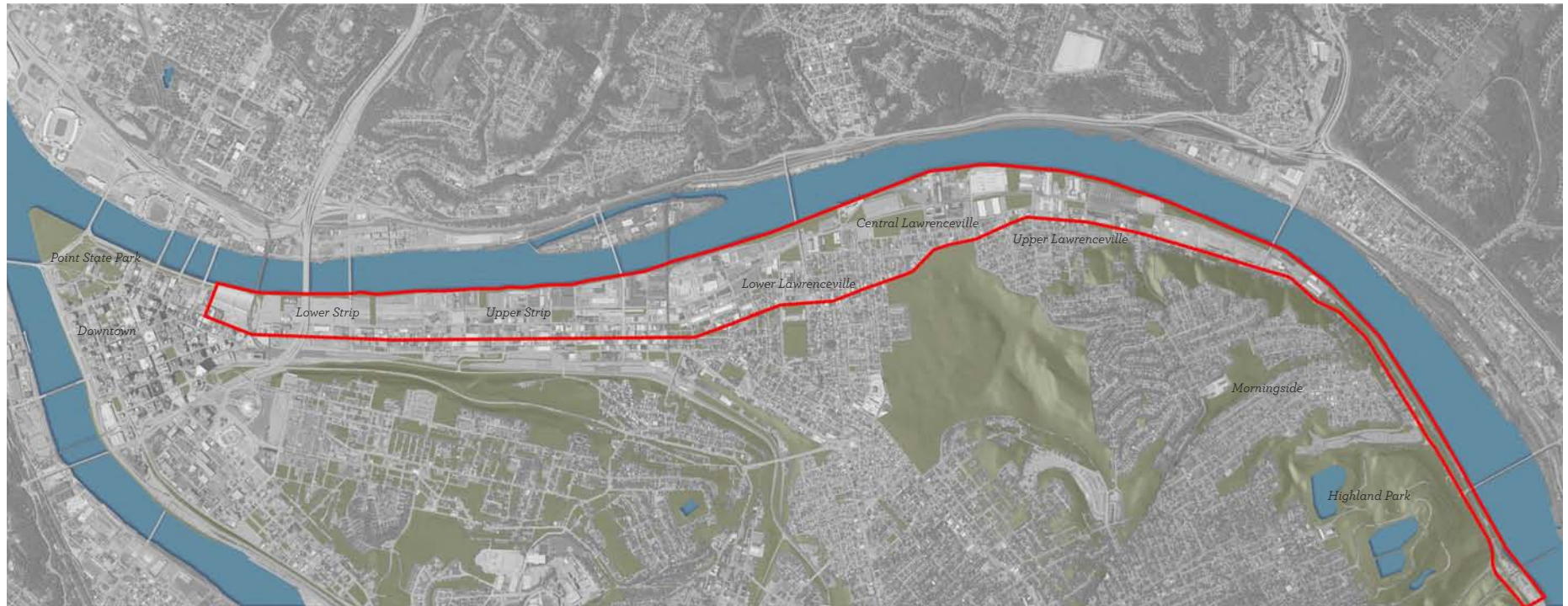

Green Boulevard Strategic Plan



March 2013



The Green Boulevard study area (outlined in red) stretches over six miles long, reaching neighborhoods from Downtown to Highland Park

Allegheny Riverfront Green Boulevard

Dear Friends,

Pittsburgh is currently experiencing its Third Renaissance – a revitalization marked by job creation, neighborhood development and population growth. As we work to progress this Renaissance to all of our neighborhoods, we work with community partners to incorporate our city’s most valuable natural resources. The momentum of our growing urban economy paralleled with the continued revitalization of our neighborhoods creates increased potential for exciting, dynamic, 21st-century communities in Pittsburgh.

The Allegheny Riverfront Green Boulevard seeks to establish a walkable rail-with-trail green boulevard that accommodates existing Allegheny Valley Railroad freight with regional passenger rail use, as well as additional transportation infrastructure, stormwater management and riverfront habitat restoration. Spearheaded by the City of Pittsburgh, the Urban Redevelopment Authority and Riverlife – and based off of residents’ feedback at dozens of public community meetings – the plan offers strategic recommendations to improve riverfront culture, neighborhood connection, and pedestrian and transit opportunities.

Some of these innovative strategies are represented in the pages that follow. This plan lays the blueprint to approach old problems as new opportunities for modernization and rebirth – from reactivating railways with new forms of transportation, to reconnecting neighborhoods with our riverfronts, to repurposing vacant parcels as new homes and businesses. By revitalizing the Pittsburgh of yesterday and encouraging the vibrant economy of today, the collaborative plan helps prepare for our bright future.

The Allegheny Riverfront Green Boulevard plan is possible thanks to a \$1.5 million grant funded by the U.S. Department of Housing and Urban Development and the U.S. Department of Transportation. Pittsburgh is the only city in Pennsylvania to receive planning funding under the program and is one of only 13 projects nationwide to receive this Sustainable Communities funding. I am incredibly thankful for the continued support from the Obama Administration, and I extend my personal thanks to HUD Secretary Shaun Donovan and DOT Secretary Ray LaHood, who have both been generous to Pittsburgh with their time, attention and gracious support.

The Allegheny River Green Boulevard will create world-class transportation and public infrastructure for nearly a dozen Pittsburgh riverfront neighborhoods – linking Downtown, the Strip District, Lawrenceville and Highland Park in an unprecedented way that will enrich life and create vibrant new opportunities for our city, helping Pittsburgh to become an even more livable city.

Sincerely,

Luke Ravenstahl
Mayor, City of Pittsburgh

“The Green Boulevard connects from Downtown through a redeveloped Strip District with a significant new riverfront park and streets that are best-practice demonstrations for stormwater management. It continues into bustling Lawrenceville where the neighborhood is integrated with its waterfront through infill housing, streetscapes, and new housing along the river’s edge. It links further to Highland Park, where restored landscapes at Heth’s Run and Negley Run provide access to the river.

The future Green Boulevard makes all of this possible.”

The Future of the Green Boulevard

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The Future of the Green Boulevard



In the 1800s, the Allegheny River became the birthplace of industry for Pittsburgh. The busy riverfronts housed steel mills, and accommodated transport—both via water and rail—of coal and steel. In the wake of industrial shifts and changing economies, Pittsburgh today seeks to transform its riverfronts, and the identity of the city. Pittsburgh's Allegheny Riverfront is transforming into a mixed-use area of the city that provides unique business and development opportunities, riverfront living, recreation opportunities and connected trails, access to transportation choices, and a renewed riverfront environment and ecosystem.

The future Green Boulevard connects neighborhoods to the riverfront, unlocks the economic potential of the community, and reimagines Pittsburgh as a river city. Imagine taking a ride on the Green Boulevard's new commuter rail or commuter bike path. The Green Boulevard connects from Downtown through a redeveloped

Strip District with a significant new riverfront park and streets that are best-practice demonstrations for stormwater management. It continues into bustling Lawrenceville where the neighborhood is integrated with its waterfront through infill housing, streetscapes, and new housing along the river's edge. It links further to Highland Park, where restored landscapes at Heth's Run and Negley Run provide access to the river. The future Green Boulevard makes all of this possible.

Pittsburgh Mayor Luke Ravenstahl, the Department of City Planning, the Urban Redevelopment Authority, RiverLife, and the Allegheny Valley Railroad joined together to advance the Green Boulevard's bold vision. The project is funded with a Community Challenge grant from the Partnership for Sustainable Communities, with individual grants from the HUD Office of Sustainable Housing Communities, and a DOT TIGER II Planning grant.



View toward Downtown from 47th Street

As the Green Boulevard moves toward implementation, sustained support from the project partners and the community will be critical to its ultimate success.

Achieving the HUD Livability Principles

The US Department of Housing and Urban Development's (HUD) Livability Principles were key drivers in the Allegheny Riverfront Green Boulevard planning process; they link transportation, land use, open space, ecology, and sustainable development planning.

- Value communities and neighborhoods, and support existing communities
 - Provide more transportation choices
 - Promote equitable, affordable housing
 - Enhance economic competitiveness
 - Coordinate and leverage federal policies and investment
-

Elements of the Green Boulevard

The Green Boulevard builds on the roadmap set out by the community in the 2011 Allegheny Riverfront Vision Plan, and furthers the technical details required to implement the project. As the Green Boulevard moves further toward implementation over the coming years, sustained support from the project partners and the community will be critical to its ultimate success.

The Allegheny Green Boulevard Plan focuses on a six mile stretch of corridor from downtown Pittsburgh to the eastern edge of the city. Four key tasks are addressed:

1. Public outreach to engage the Pittsburgh community in the realization of the Green Boulevard
2. Transportation improvements, including a plan to transform an existing railroad ROW into a multi-modal green boulevard including integration of a commuter rail into the Allegheny Valley Railroad freight corridor, station area planning around the proposed station areas, station design, and a shared multi-use path for pedestrians and cyclists
3. Creation of a new riverfront open space system with access points to the river, habitat and ecological enhancements, new community open space amenities, riverbank stabilization, and stormwater technologies
4. A housing plan for mixed-use and transit-oriented development opportunities that create a live/work riverfront neighborhood for Lawrenceville – the 43rd Street District.

1. Outreach

The Green Boulevard planning process took place from July 2011 through February 2013. Through the course of the plan, outreach included ten steering committee meetings, four public meetings, additional advisory committee meetings, a dedicated project website, interactive mapping surveys, and a series of summertime events. The events were intended to bring the community to the riverfront and get them involved in outdoor activities in open spaces, and to engage local businesses along the Green Boulevard. The series began with a trivia night at 720 Music, Clothing, and Café in Lawrenceville, and was followed by a bike tour from the Strip District to Lawrenceville as part of Pittsburgh Bike Week in August. It concluded with a parking space site installation at 43rd Street and the railroad corridor in conjunction with international PARK(ing) Day in September.

2. Transportation

Rethinking use of the existing AVR infrastructure opens up opportunities to provide critical value in terms of open space, multi-modal transit and mobility, and development opportunities. Transportation improvements along the Green Boulevard holistically address the truly multi-modal transportation choices in the district. While ensuring that freight rail operations continue uninterrupted, the plan explores the technical feasibility of integrating commuter rail into the existing freight rail line. Reuse of the AVR corridor also affords the opportunity to create a connected commuter bike path running the length of the corridor. While expanding transportation choice will help to reduce demand and congestion on existing streets and bus lines, the plan also includes additional recommendations to improve streets and intersections.

Along the Green Boulevard, commuter rail is incorporated into an active freight rail that will still operate at night. The rail will utilize Diesel Multiple Unit (DMU) technology. The plan strives to improve connections from the commuter rail to all modes of transit. Additional mobility improvements, such as links to bus and rail throughout the city, and other pedestrian, bike, and truck improvements within the study area, complement the investments in commuter rail and the multi-modal path. An environmental impact statement (EIS)/alternatives analysis is necessary to determine the ultimate alignment of the rail as well as the possibility of coordination of commuter rail service with a new bus rapid transit (BRT) station.



Participants explore Lawrenceville during Bike Week



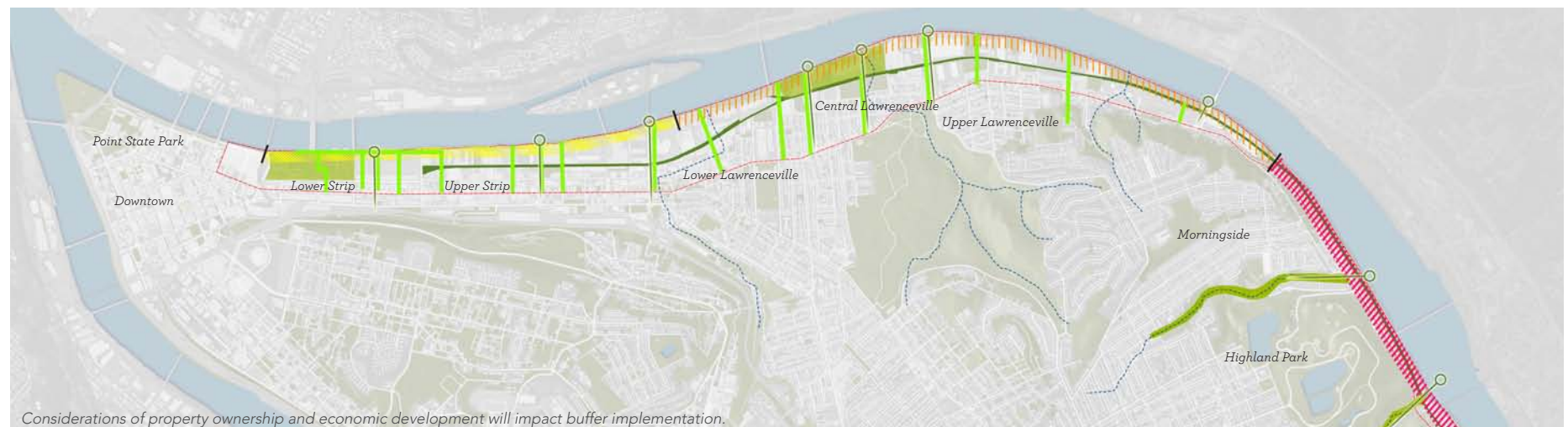
The Allegheny Valley Railroad corridor today, near Lawrenceville

Up to six commuter rail station areas have been considered for inclusion in the new system. A primary goal is incorporation of a Lawrenceville station at 43rd Street—the site of the former Heppenstall steel mill and current home to the Carnegie Mellon University National Robotics Engineering Center. A number of small tech start-ups in incubator spaces in the site area are starting to increase housing demand in the neighborhood. The combination of burgeoning research and residential development supports the need for a new commuter rail station, open spaces for recreation along the river, and a Transportation Oriented Development (TOD) plan to guide future development.

3. Open Space and Riverfront Access

While the landscape along the Allegheny River is predominantly urban, opportunities still abound to create a vibrant open space system and a renewed riverfront. What was once a decidedly industrial corridor is envisioned as a new urban ecological riverfront, with the potential for restored human connectivity, community, and productivity integrated with ecological function. The Allegheny Riverfront Green Boulevard and the associated redevelopment opportunities along the river will exemplify the coordination of environmental sustainability with economic development and community benefits.

A primary focus of the Green Boulevard is the creation of new open spaces and recreation opportunities and connections to the river for the dozens of neighborhoods that will benefit from the plan. Key components of the open space plan are stabilization of the riverbank along the six-mile corridor where necessary



- | | | |
|--|--|------------------------------------|
| --- Green Boulevard Study Area | /// Ecological Conservation and Open Space Buffer Zone (min. 250') | ■ New or Improved Open Space Areas |
| ■ Dense Urban Development Buffer Zone (min. 95') | --- Historical Streams (circa 1872) | — Green Boulevard |
| /// Mixed Industrial and Residential Buffer Zone (min. 125') | ○ Green Infrastructure Extensions and Access | — Priority Transportation Streets |

The Green Boulevard reimagines and repurposes the underutilized Allegheny Riverfront and rail corridors to improve mobility and transportation, create new open space, and spur economic revitalization.



Proposed commuter rail station and multi-use path at 43rd Street

and feasible, creation of riparian habitat, and stormwater treatment. As part of this last effort, three buried streams will be reimagined as regenerative stormwater conveyances. Stormwater management will serve to manage run-off and improve water quality, and be designed as part of the landscape and streetscapes in the district.

The planning study has identified three critical locations for access and open space based on ecological and community concerns and as a priorities for development:

1. The Strip District, 11th Street to 21st Street
2. Lawrenceville, 43rd Street District
3. Heth's Run/Washington Boulevard

New riverfront parks are planned for both the Strip District and the Lawrenceville neighborhood. These parks will provide active and passive recreation choices—

.....



Existing Lawrenceville neighborhoods.

along with unprecedented access to the Allegheny River—to both of these growing neighborhoods. Improvements to existing infrastructure in Highland Park will simultaneously restore access to the river and improve the zoo entrance.

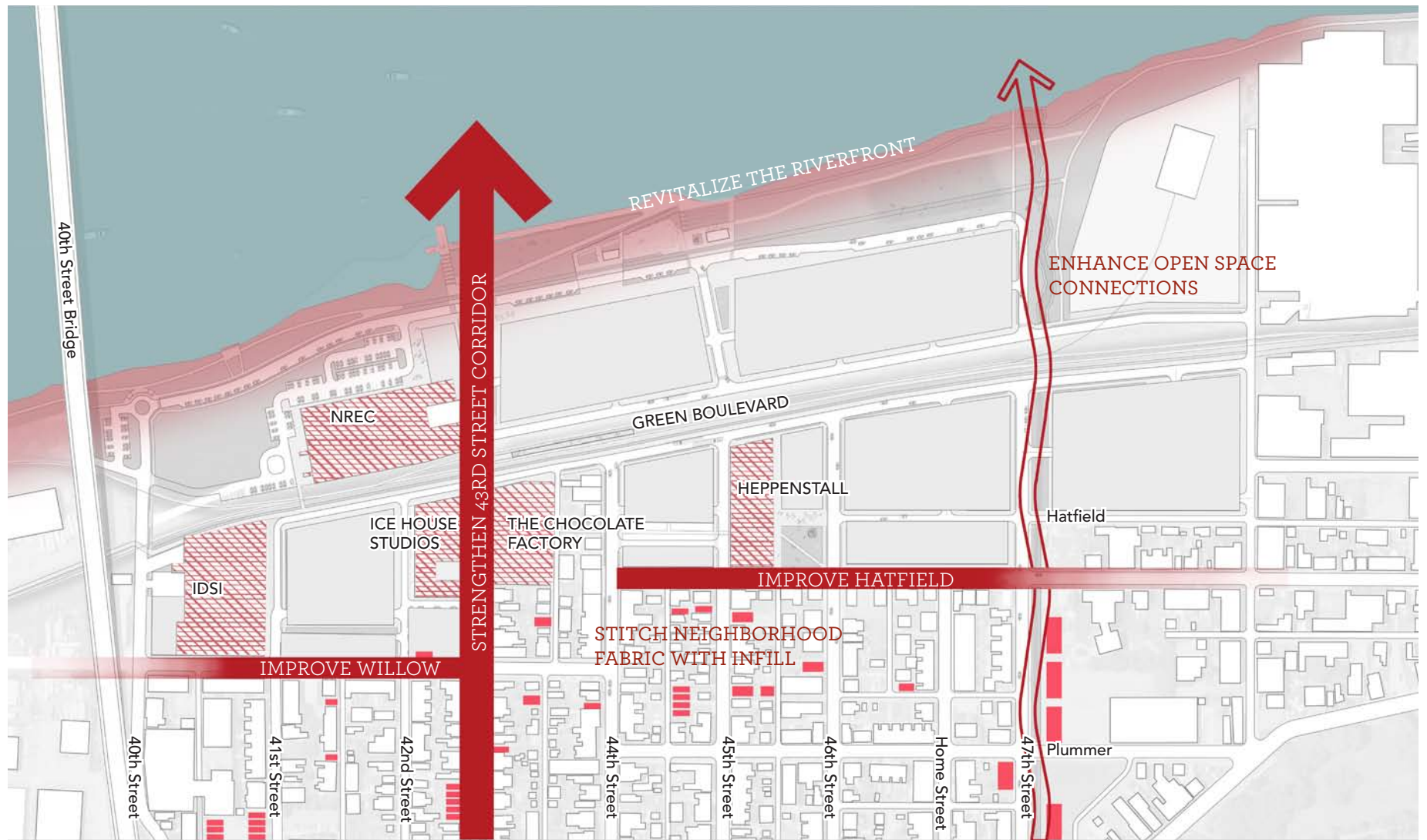
4. Development Plan for 43rd Street District

The Green Boulevard is an opportunity to repurpose the underutilized riverfront land and rail corridor for improved mobility, riverfront parks and paths, and economic revitalization. While it is expected that investments in the Green Boulevard will spur economic development along the full corridor, a focus of this study has been creation of a new riverfront neighborhood for the district between 40th and 48th Streets in Lawrenceville.

With adjacency to the bustling retail along Butler Street, growing employment bases at the National Robotics and Engineering Center (NREC), Ice House Studios, and residential streets, the 43rd Street District is well positioned to anchor the river as a vibrant mixed-use district. The plan envisions just that: a neighborhood with 1.4 million square feet of new and renovated space in the blocks along the river. This development can include nearly half a million square feet of urban flex space with a technology focus, 84,000 square feet of light industrial growth, and 6,300 square feet of retail. All together, 600 new housing units and 1,600 new jobs are projected in the district.

Redevelopment in the 43rd Street District is guided by the following principles:

- Incorporate ecological restoration and open space programming along the riverfront.
- Celebrate Lawrenceville's iconic industrial character.
- Enhance open space connections, such as through restoration of the 47th Street drainage systems.
- Restore the residential neighborhood fabric along Hatfield Street.
- Promote a mix of transportation uses along the Green Boulevard.
- Strengthen 43rd Street to better link Lawrenceville and the Allegheny Riverfront.



Future development of the 43rd Street District is based on a series of framing principles

- Future infill development
- Neighborhood anchors

Future of the Green Boulevard

OUTREACH



Outreach

Public outreach was critical during the fourteen-month design process that shaped the development of the Allegheny Riverfront Green Boulevard Plan. Many community members had contributed previously to the Allegheny Riverfront Vision Plan in 2010 and 2011, so the Green Boulevard plan's outreach strategy attempted to build and further this effort. The plan had a focus on both educating the community about the environmental and technical details of moving the vision toward implementation, as well as building a partnership base for the plan's future implementation. The Green Boulevard is a critical project for downtown Pittsburgh as well as the adjacent neighborhoods, and the outreach strategy was designed to engage a broad range of constituents. To this end, public engagement tactics included a diverse mix of both traditional and non-traditional outreach efforts, and online and in-person initiatives.

Central to the public outreach efforts were ten steering committee meetings, four quarterly public meetings, and additional advisory committee meetings.

The advisory committees provided specific feedback around topical areas and included local experts. To maximize exposure and encourage people to explore their own city, neighborhood venues changed with each public meeting. The community open houses were held at the Society for Contemporary Craft on November 17, 2011, the Grey Box Theatre on March 15, 2012, the Pittsburgh Opera on July 19, 2012, and the Teamster's Temple on November 15, 2012. Over 300 community members attended the four public meetings. Steering Committee meetings were held monthly in order to maintain productive communications between community stakeholders. Members of the Steering Committee represent a range of stakeholders from community groups, city departments and representatives, advocacy groups, and Allegheny County; each person will be critical to the final implementation of the project.

Outreach efforts focused on community education about the technical details of moving the vision toward implementation, as well as building a partnership base for the plan's future implementation.



The Green Boulevard at Pittsburgh
PARK(ing) Day 2012

Interactive Online Outreach

Online outreach efforts began at project launch with the first public meeting in November 2011. This initial event included the launch of an interactive online survey, MyGreenBoulevard, which was developed to gather input from the community to determine current and future public transportation, recreation, and Lawrenceville neighborhood use patterns. Two hundred sixty-nine people completed the interactive game, and their feedback on open space, development, and transportation choices helped determine the initial direction of the plan. From these surveys Pittsburgh residents revealed strong interest in public access to the riverfront amenities and passive open space along the river in Lawrenceville.

Online public outreach also included a project website, www.greenboulevardpgh.com, a Facebook page (with 213 subscribers) and regular email blasts featuring outreach event information and e-bulletins announcing project updates. As of July 2012, there were 322 Green Boulevard members on the email list. A project blog authored by the steering committee and others provided multiple personal voices to the online outreach components.

Experiential Events

Experiential events-based outreach played a major role in fostering long-term dialog with the public. Over the summer of 2012, a monthly activity series was launched, with seasonal events that brought people together to learn about, explore, or reimagine the Green Boulevard. The summer series employed non-traditional events to grab the attention of the general public, including a bike tour along the future multi-use path, a trivia night at local 720 Café, and participation in PARK(ing) Day on 43rd Street. PARK(ing) Day helped reach new users of the area, featured an installation of a segment of the Green Boulevard, and was supported by local community businesses including a visit from a food truck courtesy of Dozen, a local bakery.



Participants contribute ideas with an interactive mapping tool at the November 2011 kick-off open house


PUBLIC MEETING # 2

3.15.2012

6 pm–8 pm

Grey Box Theater
3595 Butler Street
Lower Lawrenceville

For more information, visit us online at
www.greenboulevardpgh.com
or find us on facebook at
[facebook.com/greenboulevardpgh](https://www.facebook.com/greenboulevardpgh)



**Allegheny Riverfront
GREEN BOULEVARD**

Shape the direction of the Allegheny Riverfront Green Boulevard! Come and share your thoughts with the planning team as they present design alternatives for riverfront open space and transit options throughout the Green Boulevard as well as urban design scenarios for the 43rd Street District of Lawrenceville. We're looking to you to give us feedback on these different ideas, and help direct us toward a single, preferred direction.

Community meetings and events were announced through the website, e-blasts, and postcards

Keys to Implementation

Public participation and community feedback helped shape the Allegheny Riverfront Green Boulevard Plan and will direct future investment along the Allegheny River. As the plan moves toward implementation, community engagement will remain an integral part of the planning, design, and development processes. Outreach efforts were designed to establish a long-term partnership base to serve the Allegheny Riverfront Green Boulevard's future implementation. Building on the momentum and public and business support developed through this planning process, it is important to continue regular events during the

implementation process. These can include temporary community-based art installations, organized running events, and volunteer-based efforts such as an Allegheny Riverfront spring clean-up. These events will be critical to implementing the plan and solidifying the public's attachment to the plan's future and the community's sense of place.

Visit the technical appendices at www.ura.org for record documents of the Community meeting presentations, summaries of the interactive map results, blog entries, and feedback from community meetings.



Green Boulevard Trivia Night in June at 720 Café



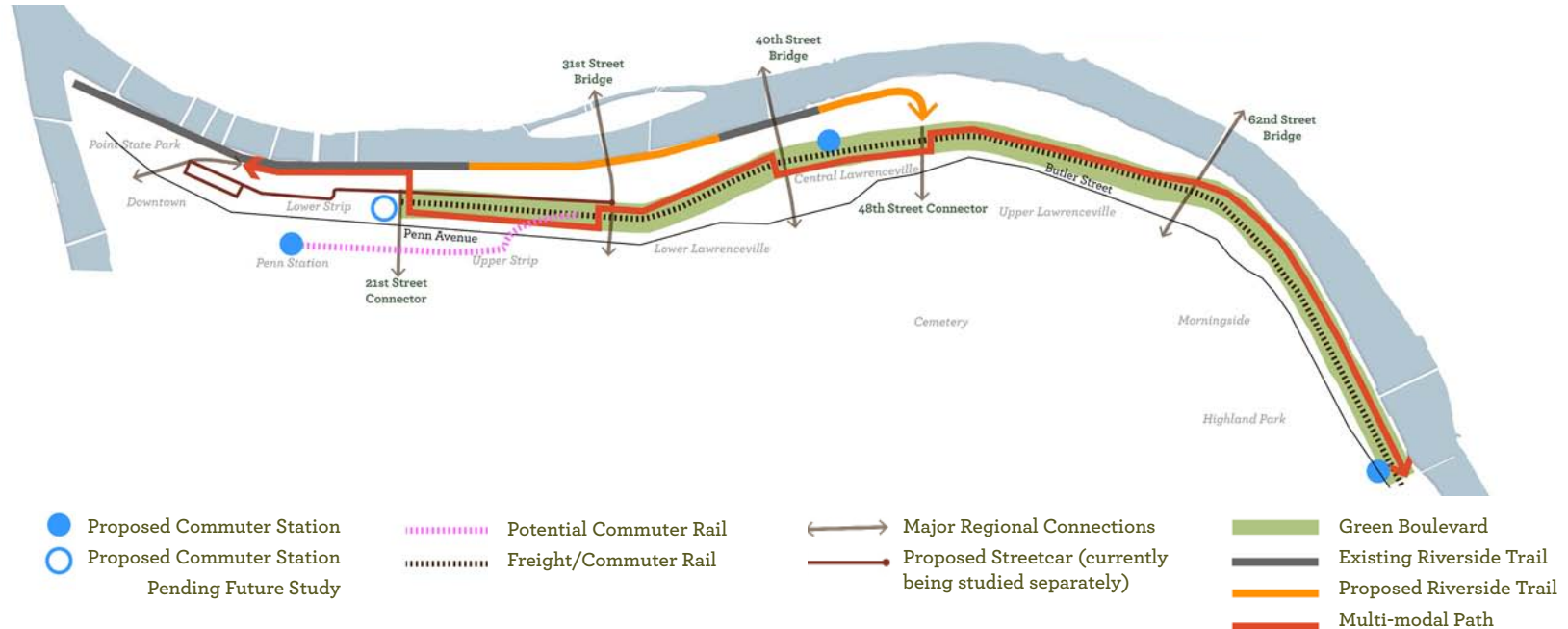
Participants at the August bike tour ride along the Green Boulevard

Future of the Green Boulevard

TRANSPORTATION



Transportation



The Green Boulevard transportation network forms the backbone of the Allegheny Riverfront Green Boulevard Plan. By reusing the existing Allegheny Valley Railroad infrastructure and transforming it into a mixed mobility corridor, the Green Boulevard helps Pittsburgh take a leap toward providing better access to transportation and broader transportation choices to the community. At completion, the Green Boulevard will integrate a commuter rail with active freight service and a multi-use bike and pedestrian path. Between 40th and 48th Streets in Lawrenceville and along Railroad Street, the Green Boulevard will also accommodate vehicles, creating smart streets.

The Green Boulevard improves access to transportation choices for thousands of

Pittsburgh residents; it is located within one mile of 57,414 people, and within two miles of 158,687 people. With such immediate accessibility, the multi-use path is projected to achieve up to 2,195 riders per day and up to 795,500 riders per year by 2032. By attracting daily commuters to the path, the Green Boulevard will help defray nearly 510,000 vehicle miles per year, and over 178,000 kilograms of carbon dioxide equivalents per year, broadening the sustainability impacts of the project. With plans for a commuter rail stop in Lawrenceville and a six-mile multi-modal path, the project is working to better connect the riverfront neighborhoods, downtown, and existing transportation infrastructure to create a more efficient, multi-faceted system that serves the diverse needs of the Pittsburgh community.

Riverfront Trails

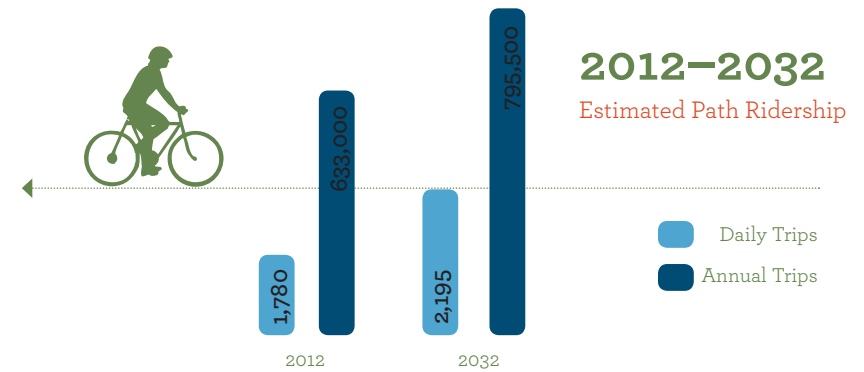
While some riverfront trails exist today, the Green Boulevard provides the framework to create a fully connected riverfront system of trails for both recreation and commuter use. The trail will directly link to regional connections, including the 24-mile long Three Rivers Trail Heritage System, the Convention Center, and Point State Park. It will create new trail connections to Downtown, the Strip District, Lawrenceville, Morningside, the Pittsburgh Zoo, and East End neighborhoods via Highland Park and Washington Boulevard. These connections will link the Green Boulevard to over 520 acres of existing open space in Pittsburgh including Highland Park, Point State Park, and the St. Mary's and Allegheny Cemeteries, along with other smaller community and neighborhood parks and playgrounds.

Multi-purpose Path

The Green Boulevard multi-use path will accommodate pedestrians, bicyclists, individuals operating wheelchairs, and other users. Over its six-mile course, the width of the multi-use path varies slightly according to existing conditions and constraints. However, it is typically 12 feet wide and located at the edge of the Allegheny Valley Railroad right-of-way. Railroad track crossings are minimized, and the path only crosses the tracks four times over the six-mile corridor: at 21st Street, 31st Street Bridge, 40th Street Bridge, and 48th Street. The existing through track, railroad sidings, and AVR corridor boundaries are maintained along the full corridor. The four at-grade crossings will be carefully designed with public safety in mind, meeting the Federal Railroad Administration crossing standards and featuring consistent lighting, fencing, signage, and site furnishings including benches, trash cans, and bicycle racks.

Transportation Improvements

The new commuter rail and multi-use path are supported by transportation improvements to complete the mobility network of the neighborhoods adjacent to the Allegheny Riverfront Green Boulevard. The Green Boulevard plan aims to create priority connections that link neighborhoods to the river through multiple modes. Realization of a successful Green Boulevard also includes improvements to congested streets, difficult intersections, bicycle and pedestrian safety, and commercial truck traffic routing throughout the Strip District, Lawrenceville,



Multi-purpose path ridership is expected to increase nearly 23% over twenty years after the Green Boulevard opens.



and Morningside neighborhoods. In an effort to preserve existing freight-dependent business operations while creating new opportunities for riverfront redevelopment, current freight train switching operations are proposed to be shifted from Lawrenceville to the area around 62nd Street as part of a new multi-modal freight operation.

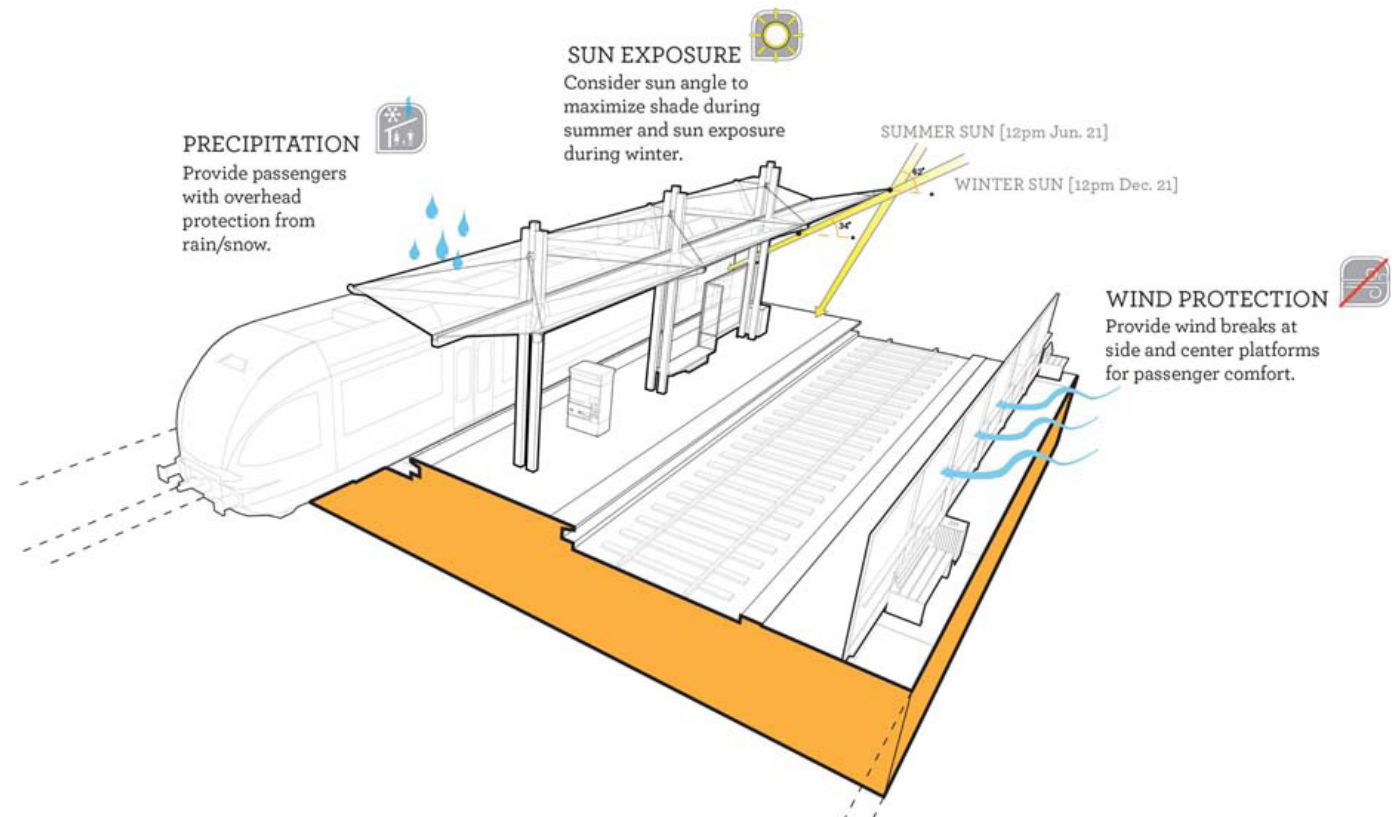
Commuter Rail Stations

The plan explored prototypical station area designs that create a consistent architectural identity for each commuter rail station along the Green Boulevard. The stations' design and recommended materials draw from the industrial heritage

of the riverfront, including the iconic steel bridges spanning the Allegheny River and the cranes that support area industries. Stations should be designed with amenities to create a comfortable environment, integrating site furniture and lighting, project signage, and bike facilities. The glass and steel canopy provides shelter from rain and sun, while low walls function as wind breaks to protect passengers as they wait. Sustainability should be incorporated into design where possible through material choices and systems that capture rain water and solar energy.

POTENTIAL SUSTAINABLE ELMENTS:

-  WIND powered LED lighting
-  SOLAR powered LED lighting
-  GREEN ROOF at select stations
-  RAIN WATER collection for irrigation



The Allegheny Riverfront Green Boulevard Plan reuses the existing AVR infrastructure as a mixed mobility path and in the process provides broader transportation choices and better access.



Multi-modal connections at Washington Boulevard include the commuter rail, bike/pedestrian path, links to the bus system, and a potential park and ride facility

Keys to Implementation

As the overall Green Boulevard plan moves toward implementation, critical aspects of the transportation recommendations can lead the way. While the commuter rail will be a longer-term project, the multi-use path can be implemented as a first phase. Securing the necessary easements along the existing Allegheny Valley Railroad corridor is the first step toward implementation of the path and should be a priority. To continue to move the commuter rail forward, an environmental impact statement (EIS)/alternatives analysis for the commuter rail should be commissioned and funding should be secured.

Visit the technical appendices at www.ura.org for details of the multi-modal path alignment, typical street sections, bike/path ridership calculations, details of traffic/congestion, and commuter rail feasibility study including user requirements, cost analysis of railroad crossings, cost effectiveness/economic benefits analysis of the commuter rail, ridership model, and funding strategy.



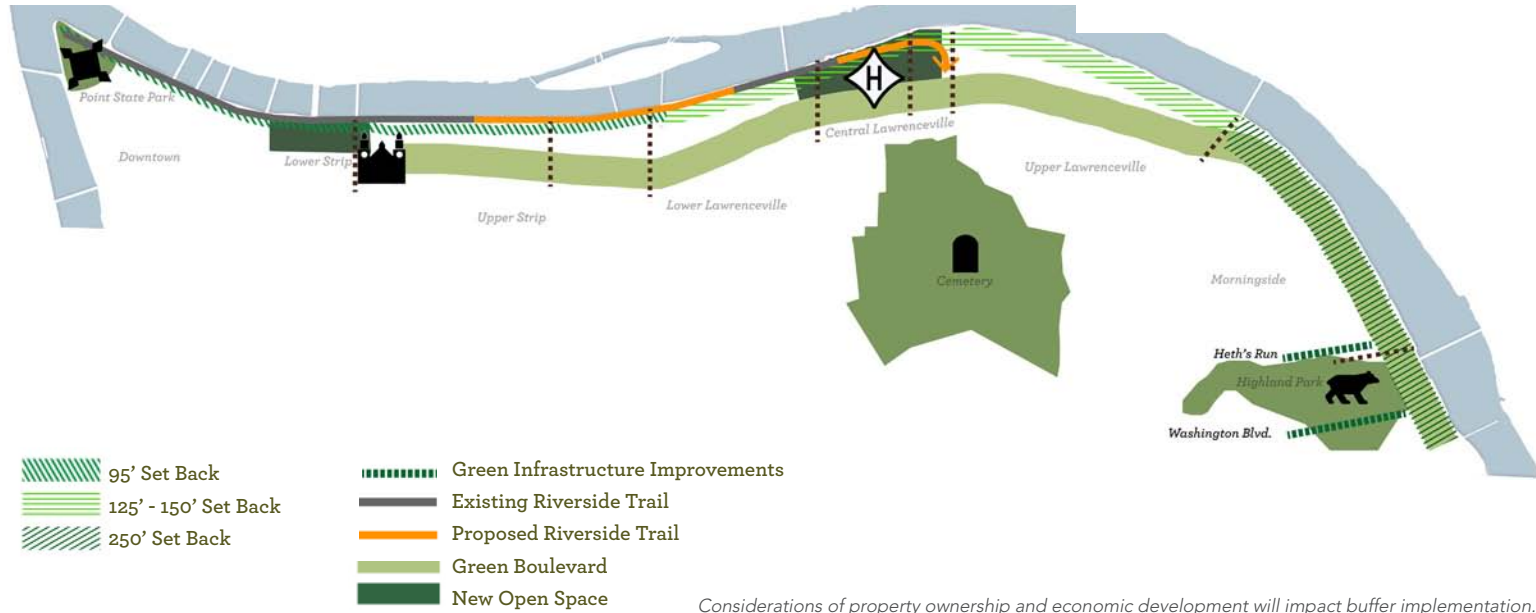
The future Green Boulevard, with commuter rail, multi-purpose path, and riverfront access.

Future of the Green Boulevard

OPEN SPACE AND RIVERFRONT ACCESS



Open Space and Riverfront Access



In 2011, the Allegheny Riverfront Vision Plan provided a striking image for the future of the city: to restore a riverfront landscape transformed by industry into a matrix of plant and wildlife communities capable of generating resources to meet the needs of its population over time. This new image of the riverfront recognizes that developing a truly sustainable community requires taking steps to enable processes that can restore and renew an ecosystem's own sources of energy and matter to promote long-term resiliency. Today, the Allegheny is a highly

engineered river, exhibiting flows and currents controlled by an extensive lock and dam system. However, it is still an ecosystem that has the potential for functional habitat, providing food, shelter, and territory for both aquatic and terrestrial life.

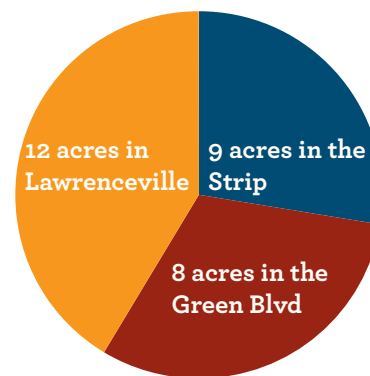
The conversion of the AVR right of way into the Green Boulevard affords opportunities beyond multi-modal transportation and economic development. It is also a critical chance to reconnect the urban fabric along the Allegheny

Riverfront, strengthen ecological connections, and regenerate community and urban ecosystems through the seamless integration of the environment with the new infrastructure and development. Unlike traditional grey infrastructure solutions (such as pipes/utilities and structures), the design of the Green Boulevard regenerative multimodal corridor includes creation of a new “living infrastructure” framework that is the foundation for redevelopment and community sustainability. This “living infrastructure” network is realized through a series of sites along the Green Boulevard that serve as critical moments for ecological enhancement, stormwater management, restoration, integrated treatment of water and soils, and opportunities for education and recreation. The open space approach for the Green Boulevard holistically addresses environmental improvements for long term health of the river and riverfront, and creates three sites for new recreation programming and riverfront access for the community.

Riverfront Accessibility

Currently, access to the Allegheny River varies widely. In Lawrenceville and the Strip District, the river’s edge is proximate to development. However, in Highland Park, a steep, wide riparian forest meets the river’s edge and only the Allegheny Valley Railroad can reach it. A primary goal of the Green Boulevard is to increase the community’s access to the riverfront—an aspiration that was echoed loudly by the community in project surveys and public meetings. In addition to the commuter path that will provide efficient mobility for bikers along the Green Boulevard, a continuous river’s edge trail will be created that links Three Rivers Park to Highland Park. This trail builds on existing but discontinuous trails along the river and creates new links to complete the circuit. This riverfront trail will complement the commuter path with a complete recreation amenity that brings people closer to the river and provides access to a more natural environment. In total, the Green Boulevard plan creates seven miles of multi-use paths and trail connections.

29 acres of new parks and open space are created and distributed among the communities along the Green Boulevard



New Open Space



The existing riverfront trail provides great, but limited access along the Allegheny River

Recreational and Regenerative Landscapes

Implementation of the Allegheny Riverfront Green Boulevard Plan will create twenty-nine acres of new open space. This includes nine acres in a riverfront park in the Strip District, twelve acres in Lawrenceville, and eight acres within the Green Boulevard corridor. In addition, nine acres of open space will be improved at Highland Park.

In the Strip District, the landscape design for the riverfront between 11th Street and 20th Street includes a new marina, fishing pier, kayak launch, ferry launch site, and riverfront overlook to draw visitors down to the water and provide new water-borne activities. A community park at 12th Street offers activities for the neighborhood, with a flexible gathering space, small stage, and children's splash pad. Nearby, a skate park takes advantage of under-utilized space under the Veteran's Bridge. While comfortable streetscaping is planned for all streets in the Strip District, broad rights of way at 15th Street and 17th Street provide critical opportunities to integrate regenerative stormwater conveyance strategies into the design of streets that are beautiful, functional, and express the sustainability goals

of the project. Designed to accommodate plans for a mixed-use development, it is anticipated that improvement of the riverfront will increase foot traffic, attract investment, and raise property values. (Note: A Preliminary Land Development Plan was approved for the Strip District in December 2012.)

A new vision for the riverfront in Lawrenceville addresses the community's wishes for a neighborhood park that balances active and passive uses. The riverfront park creates value for new housing along the river, with a lively riverfront promenade extending from approximately 41st Street to 47th Street, where it crosses the new stormwater landscape. At 43rd Street, a pedestrian overlook extends into the river, creating immediate access to and along the water's edge and connects to the riverfront trail system. A boardwalk at 44th Street connects to a generous stair that provides ample space for seating and gathering as visitors approach the river. A large open field is located at the eastern edge of the riverfront park, providing space for informal recreation and outdoor sports.



A new vision for the riverfront in Lawrenceville addresses the community's wishes for a neighborhood park that balances active and passive uses.



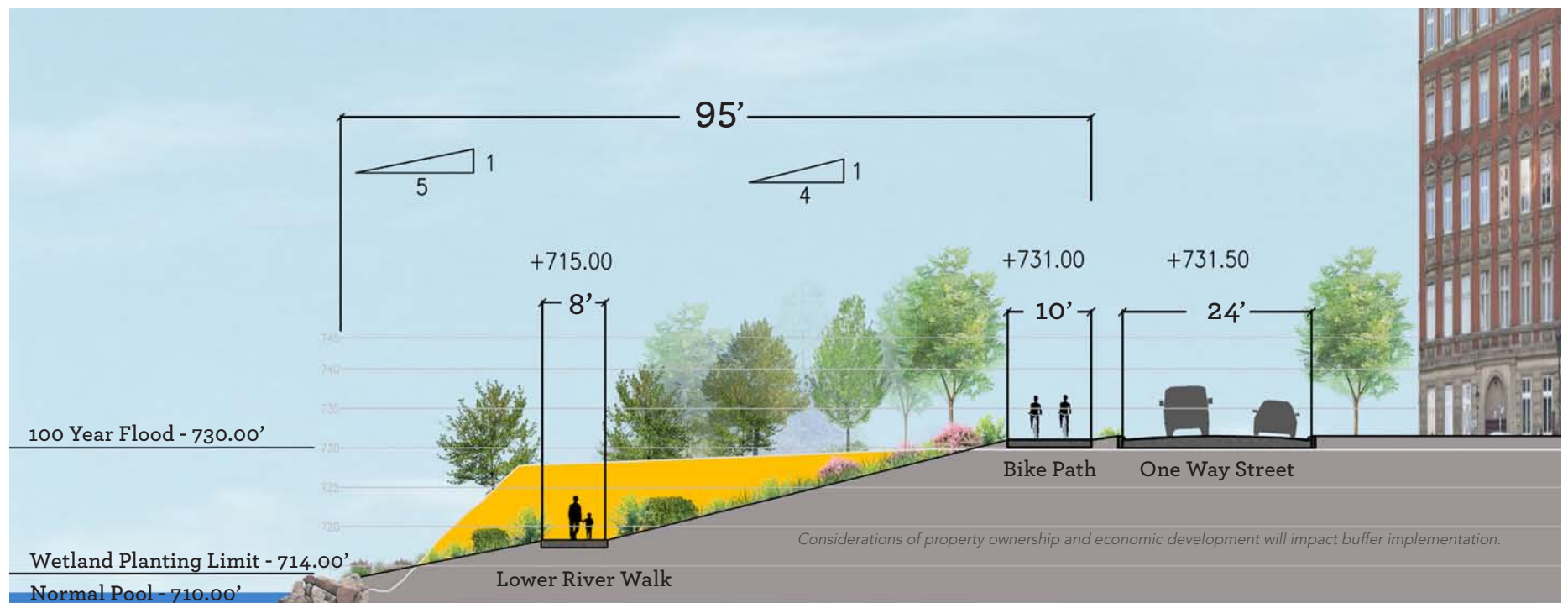


Riverbank Stabilization

While significant amounts of the river's edge have been modified, a critical goal of both the 2011 Vision Plan and the 2012 Green Boulevard plan is to encourage restoration and stabilization of the riverbanks. Riparian buffers along the river's edge help stabilize and, in some locations, restore the riverbank, while improving ecosystem functions such as habitat, flood mitigation, sediment and nitrogen removal, water temperature moderation, and aquatic food web. To adequately stabilize the riverbanks, historic and current analyses prefer a slope ratio of between 4:1 (run: rise) and 5:1. While the full extent of the Green Boulevard travels along an urbanized area of the river, the riverfront characteristics vary over the six-mile course. Considerations of property ownership and economic development will impact buffer recommendations and implementation.

The 2011 Vision Plan recommended a general 200-foot-wide buffer zone along the

river that includes setbacks and development with green infrastructure. The Green Boulevard plan builds on this recommendation and encourages three different buffer zones that are tailored to the existing river's edge and development conditions. These three zones are dense urban development buffer zone (11th Street to 31st Street), mixed industrial and residential buffer zone (31st Street to 62nd Street), and ecological conservation and open space buffer zone (62nd Street to the city limit). Overall along the riverfront, a 95-foot setback or buffer zone is recommended, subject to private property rights and local, state, and federal regulations. Within this zone, development will stabilize the river's edge and promote health of the habitat. Wider buffers are recommended in the ecological conservation and open space buffer zone. Protecting buffer areas often involves public/private efforts formed through partnerships with landowners and shared knowledge of the benefits.



Early implementation projects target stormwater improvements in Highland Park, a new park at 43rd Street, and stormwater management at 47th Street.

Ecological Enhancements

The Green Boulevard plan takes a holistic approach to improving the environmental condition along the Allegheny River, with strategies that aim to protect and improve native plant species, enhance habitat, and increase tree canopy. The plan creates and enhances habitat corridors and patches, which provide two important elements of functional and regenerative ecosystems. Habitat patches function as stepping stones that are critical to species survival. Vegetative corridors also help improve and protect the biodiversity of species within the area. Riparian corridors provide broad and valuable benefits to the environment, including sediment control, clean water, and habitat for fish and other migratory populations.

The new streetscape investments, riverfront buffers, and open spaces in the Green Boulevard help achieve the 2011 Vision Plan's recommendations for 40% tree canopy within the Green Boulevard area. Enhanced tree canopy along the corridor provides windbreaks and microclimate controls, as well as recreation and respite areas for wildlife.

Recommendations for ecological enhancements along the Green Boulevard area include the following:

- Create strategies to control non-native invasive plant species and enhance native plant biodiversity and vegetative habitat.
- Enhance the existing urban tree canopy to address heat island effects, reconnect fragmented green corridors, and achieve the 40% canopy goal.
- Promote a 95-foot minimum buffer along the riverfront to enhance and restore riparian buffers.
- Address community health, access and connections, degraded conditions abatement and ecological improvements at combined sewer overflow outfall locations. Explore soil health and needs for nutrient cycling, water retention, bank stability, and supporting native plant communities.
- Promote stormwater infrastructure as part of all future development within the corridor.

Keys to Implementation

Implementation of the open space component of the Green Boulevard plan is large in both scope and impact. Site control will play a significant role in implementation of the open space recommendations. Still, the following components of the overall plan are recommended for priority implementation:

- The stormwater conveyance intervention along 47th Street can serve as a model demonstration project that highlights the larger ecological benefits of the overall open space plan and strengthens neighborhood connections to the river.
- The open space at 43rd Street and the river's edge is a strategic site that communicates investment in riverfront open space, provides the neighborhood with safe access to the river, and strengthens connections to Butler Street.
- Implementation of open space improvements along Heth's Run/Highland Park/Pittsburgh Zoo and Washington Boulevard/Negley Run, including the much-needed stormwater management design and improvements in stream hydrology, is highly recommended.
- Small-scale projects to improve stormwater management and ecological function can be implemented at any time. In the 43rd Street District, porous paving is being tested in surface parking lots. Green streets, green roofs, and other strategies should be incorporated in future improvements. Given the importance of treating stormwater at the source, small-scale stormwater management projects should also be implemented in neighborhoods such as Larimer, East, Liberty, Morningside, and Highland Park.
- A public outreach and educational campaign around protection of riverfront species can galvanize interest in the riverfront and ensure continuing public engagement.

Visit the technical appendices at www.ura.org for more details in the ARGB Study: Ecological Conditions and Observations, the Strip District Conceptual Open Space Plan and Cost Estimate, Lawrenceville Conceptual Open Space Plan and Cost Estimate, Highland Park Conceptual Open Space Plan and Cost Estimate, analysis of riverfront buffers and typical guidelines/ sections, and stormwater strategy.



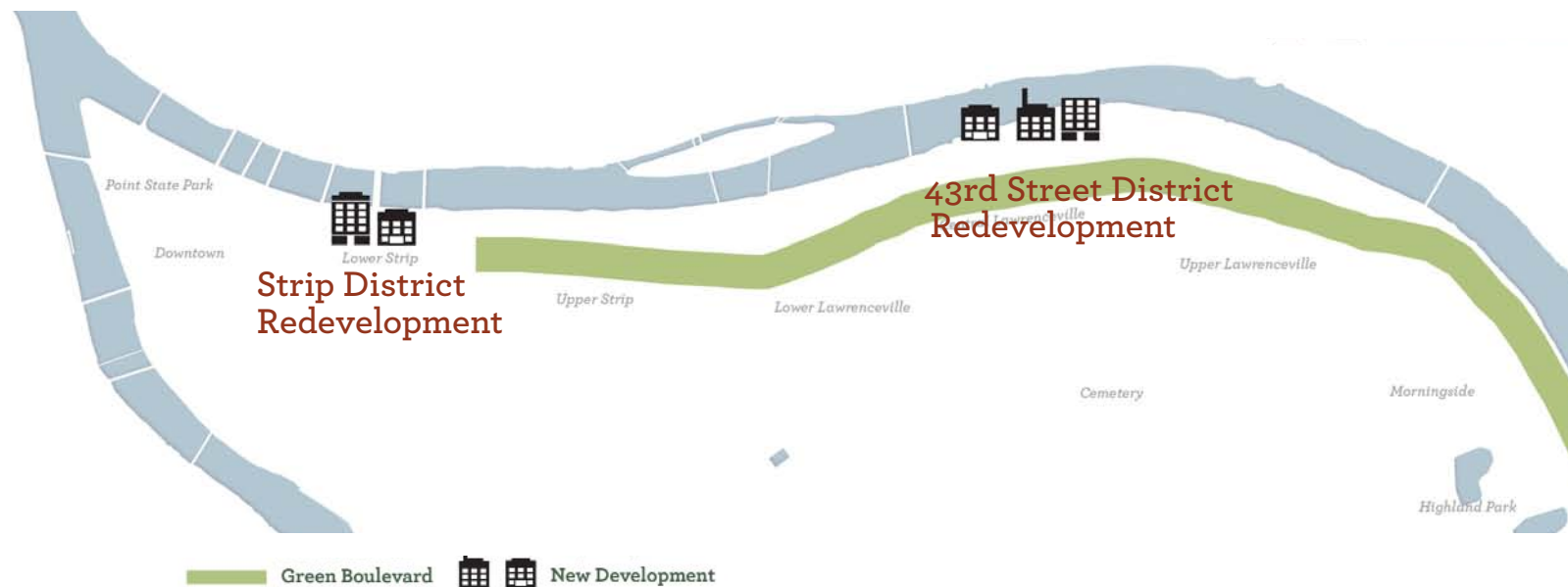
Improvements to Heth's Run in Highland Park

Future of the Green Boulevard

43rd STREET DISTRICT



43rd Street District



Although Lawrenceville and the Strip District are lively residential and commercial neighborhoods just blocks from the river, the Allegheny River today is largely out of view and not fully engaged as part of the neighborhoods. The Green Boulevard plan will dramatically change that, reorienting these communities toward the Allegheny River, creating new access points to reach the river, and unlocking the economic development potential that is inherent in waterfront properties. The Green Boulevard improvements, including a future commuter rail stop at 43rd Street, new and improved open spaces, and a multi-purpose path, will help catalyze development in these neighborhoods. The 43rd Street commuter rail station will provide transportation access to the district at a critical point along 43rd Street, in close proximity to the Lawrenceville residential neighborhood, the

existing concentration of research/office uses, and the proposed development and public space along the river.

In each case, it is critical that future changes and new development respect and enhance the existing character that is revered by the communities today. As the Green Boulevard infrastructure improvements, new waterfront housing, and job growth draw more people to the Strip District and to Lawrenceville, the character of the existing rowhouse neighborhoods and iconic industrial warehouses or structures, such as the Heppenstall building, will be enhanced and reinterpreted as part of a mixed-use contemporary community. Although the Strip District plays an important role in the overall plan, the Green Boulevard study focused its efforts on imagining a new riverfront development around 43rd Street in Lawrenceville.

43rd Street District Redevelopment

In Lawrenceville, a forward-thinking development plan is taking shape that will create a vibrant, mixed-use riverfront community in redeveloped riverfront properties between 40th and 48th Streets. The plan seeks to capitalize on the Green Boulevard's public space and mobility investments, and integrate new, multi-story development to strengthen existing Lawrenceville neighborhoods and culture. In addition to housing growth, the mixed-use district will support growth of existing businesses—such as at Carnegie Mellon's National Robotics Engineering Center (NREC) and the Ice House Studios—along with research and development goals to spur new job opportunities for the community. The target zone between 40th and 48th streets along the Allegheny River provides an established location for research operations associated with National Robotics

43rd Street District	Growth
Ongoing employment	1,200–1,700 jobs
Construction employment	800–1,000 jobs
Waterfront housing units	600 units
Technology-focused urban flex growth	426,000 SF
Light industrial growth	84,000 SF
Retail/restaurant	6,300 SF
Total new development space	1,400,000 SF



The 43rd Street District plan integrates new development and open space

Ultimate realization of the vision for the 43rd Street District requires a partnership between public and private investments, and sensitivity to phasing.

Engineering Center (NREC), government and private businesses, as well as for additional research and development and light industrial space.

The recommended program for development in the 43rd Street District was tested carefully for financial feasibility, considering varying development programs, parking scenarios, mixes of uses, and funding alternatives. Ultimate realization of the vision for the 43rd Street District requires a partnership between public and private investments, and is sensitive to phasing. The mixed-use program will create a vibrant district with residential, commercial, and light industrial uses. Loading and service access should be screened appropriately for an urban environment.

Parking costs are a considerable constraint on new development. Right-sizing the district's parking can be an important tool in reducing development costs and required subsidy, but in the near-term lower parking ratios must be measured carefully against market demand. While future access to transit will help dampen parking demand in the future, near-term development requires the security of ample, proximate parking. Shared parking has been explored, but district density will merit costly structured parking which generates a need for public subsidy. Parking solutions such as an up-and-under deck that is integrated with housing and built into the topography have been incorporated to provide on-site parking for housing. A small amount (6,300 square feet) of ground-level retail is envisioned to support new residential development, draw riders from the commuter rail and path, and serve area businesses. However, retail generates parking demand that may be solved by shared parking with nearby commercial uses in the evenings and on weekends.

The 43rd Street district offers the chance to create new waterfront housing



Infrastructure investments will help set the stage for development on and around 43rd Street

typologies that are unavailable elsewhere in Pittsburgh. Successful projects in the Strip District, such as the Cork Factory and Otto Milk Condos, demonstrate the success of adaptive reuse along the Green Boulevard. Both rental and for-sale townhouses prove financially feasible. They also offer strong opportunities for infill development along Hatfield Street and Willow Street that reinforce the existing Lawrenceville residential fabric. Townhomes that are scaled to three or four stories will help mediate between the lower scale existing residential neighborhoods and higher buildings envisioned along the waterfront. New waterfront residential and live/work buildings offer an exciting new housing type in Lawrenceville. Five

building sites along the riverfront have been identified, and will be approximately five to six stories high. The buildings are designed to capitalize on waterfront views and to allow river access between them along 43rd and 45th Streets. A small corner retail site is planned at 43rd Street to capture future commuters and residents. Live/work spaces are integrated into the waterfront buildings along the southern Green Boulevard side of the development. Alternate development plans for the district can be found in the 43rd Street District Technical Appendix.



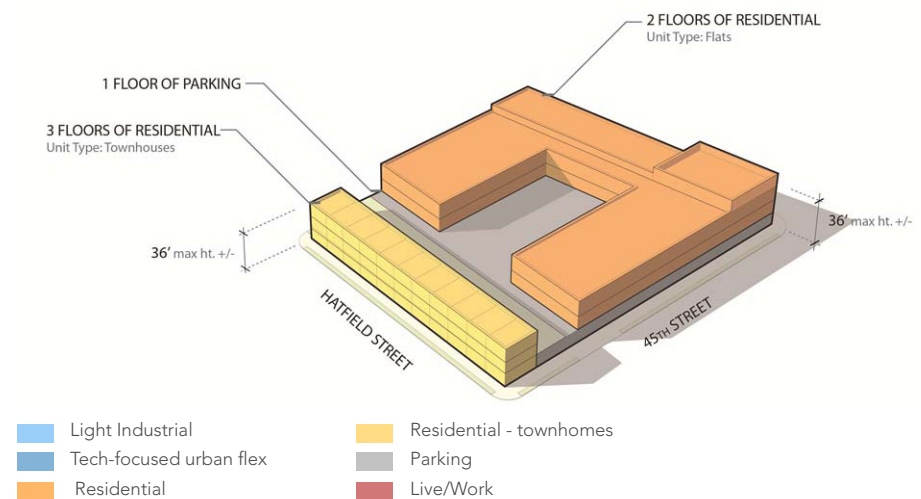
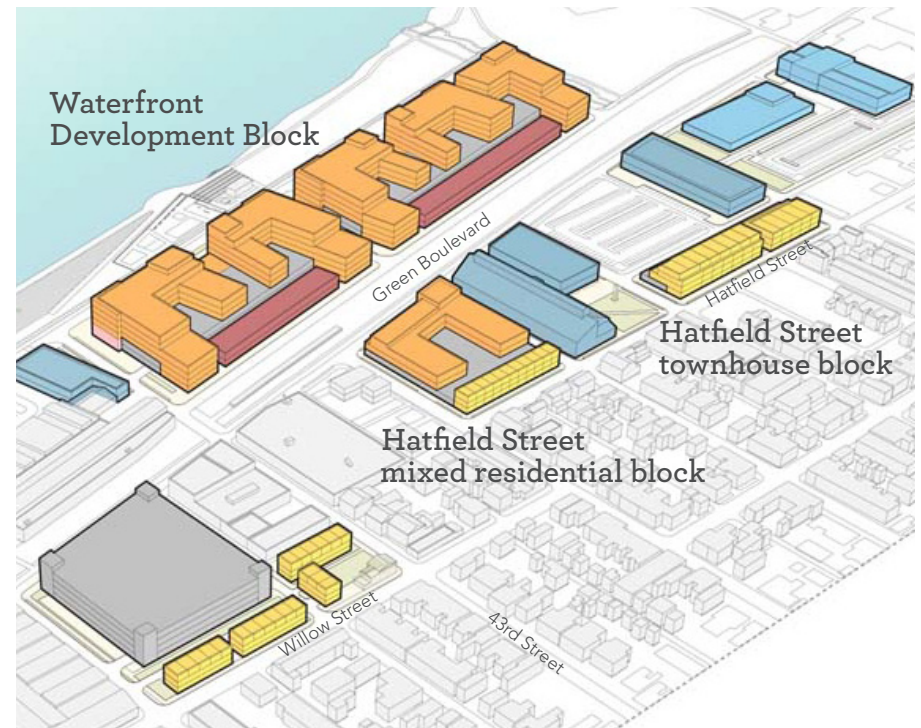
The new riverfront park in Lawrenceville

Keys to Implementation

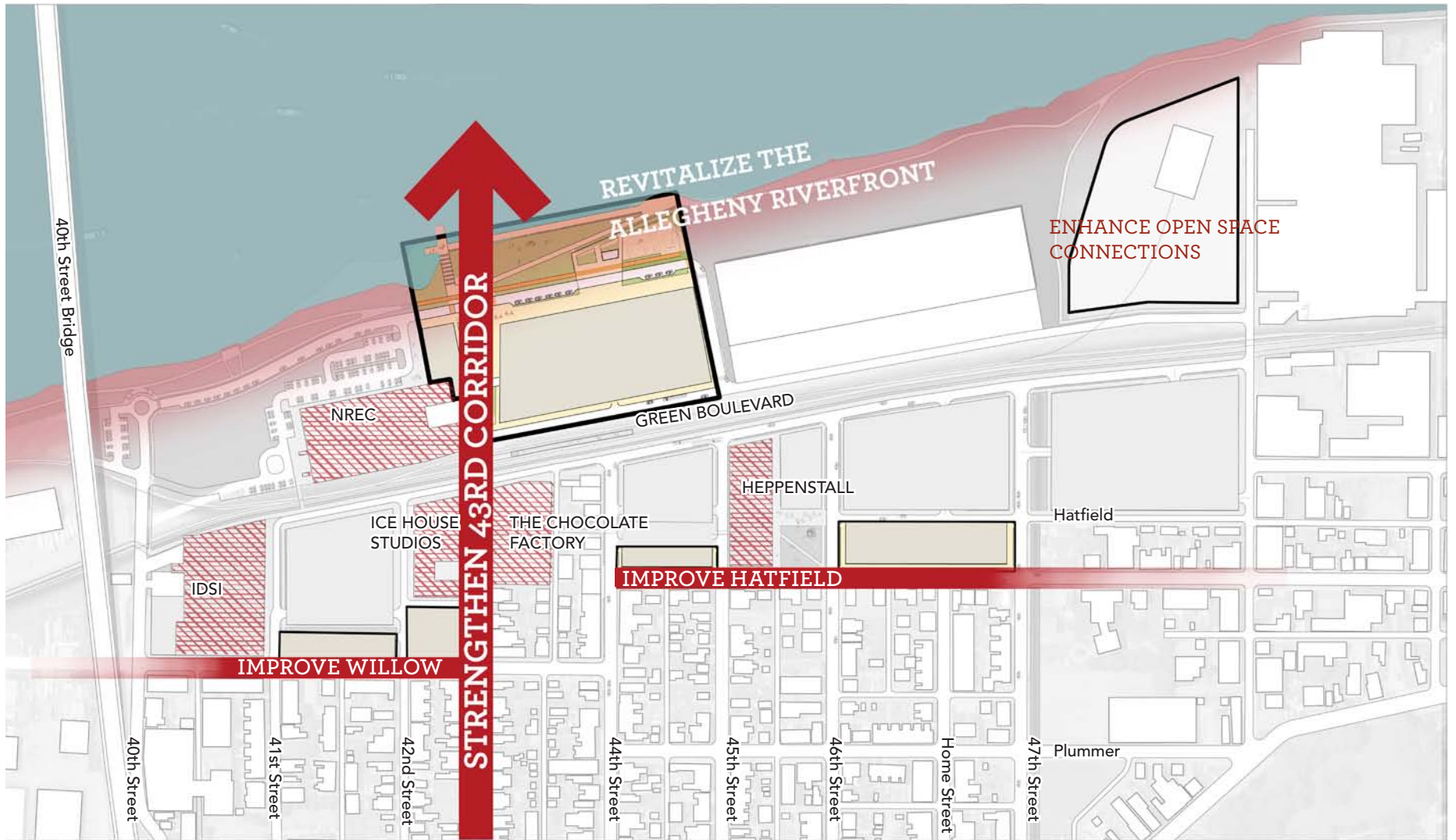
It is expected that the waterfront residential building at the northeast corner of 43rd Street will be the first building developed. Together with the NREC addition, it will anchor 43rd Street as an important access point to the new riverfront park. Townhomes are also supported by today's market and may be developed on infill sites along Hatfield and Willow Streets. Additional waterfront buildings and the live/work components are expected to take place at later stages of development once the market has been proven and infrastructure is in place. For technology-focused urban flex space, renovation and repositioning of existing buildings is the greatest potential for commercial redevelopment. While strengthening 43rd Street is a major priority of the 43rd Street District plan, in the long term 48th Street could become a similarly important connective spine.

Public investments in infrastructure improvements, public open space, and coordination of land ownership along the waterfront will be critical to success. Initial infrastructure investments in the 43rd Street District must reinforce connections to the Allegheny River, such as creation of the Green Boulevard multi-purpose path and 43rd Street Landing waterfront park. Funding priorities must include support for development of parking alternatives, such as the purchase of existing parking facilities and creation of new affordable parking alternatives.

The availability of existing commercial properties along the riverfront will also play a major role to catalyze development. For example, an early infrastructure move that is required to create appropriate parcels for waterfront housing is to relocate the railroad siding that accesses the McConway & Torley industrial site. Site acquisition should target 43rd Street core properties along Allegheny River waterfront. Two priority acquisitions are the 43rd Concrete Company site and the Buncher site. If the current Buncher site cannot be purchased in full, the land should be subdivided in order to acquire part of the parcel and allow the railroad spur to be reconfigured.



Massing guidelines for the 43rd Street District help shape new development to ensure that it is compatible with existing Lawrenceville neighborhoods and creates a lively, urban district



Early implementation projects, such as the riverfront park or improvements to 43rd Street, will reinforce the framework goals for the neighborhood

 Neighborhood anchors



Future Green Boulevard

Next Steps

The Allegheny Riverfront Green Boulevard is an incredible opportunity for the City of Pittsburgh and will be realized through sustained, collaborative efforts by the community and partners. This planning process has advanced implementation through study of technical feasibility of the commuter rail and multi-modal path, market feasibility of development in Lawrenceville, and community visioning about open space and development needs. The result will be a more livable city that pays homage to its riverfronts and serves as a leader in sustainable community development. As implementation progresses, community outreach

should continue in order to sustain support and excitement for the plan. An implementation committee should be formed to ensure a collaborative process, and pursuit of funding must be a priority.

This summary report serves to support the city during implementation. A series of technical documents are contained in a Technical Appendix to further aid in fundraising or ongoing development of plan details.

Technical Appendix Elements

Available at www.ura.org

Community Outreach

Community meeting presentations 1, 2, 3, and 4

Steering Committee minutes

Interactive mapping survey results

Marketing and promotional material for all outreach events

Open Space and Riverfront Access

Ecological Conditions and Observations

Focal Species Memorandum

Ecological Buffer Typologies

Riverfront Conceptual Open Space Plans

Green Infrastructure Toolkit

Zoning Recommendations for Implementation

Stormwater Recommendations

Performance Measures

43rd Street District Development

Market Analysis

Development Plan and Phasing Plan

Development Massing Guidelines

43rd Street District Street Improvements

Commuter Rail Station and Conceptual Design

Phasing and Funding Strategy

Performance Measures

Transportation

Multi-modal Corridor Conceptual Plan

Alternative Multi-modal Plans and Analysis

Corridor Mobility Improvements

Commuter Rail Station and Conceptual Design

43rd Street District Street Improvements

Multi-use Path Alignment

Transportation Analysis

Transportation Implementation Plan and Cost Estimates

Performance Measures

Acknowledgments

Steering Committee

Lena Andrews, URA (Former)
Lauren Byrne, Lawrenceville United
Patrick Dowd, Councilman
Craig Dunham, Rubinoff Company
Jim Ferlo, State Senator
Matthew Galluzzo, Lawrenceville Corporation
Patrick Hassett, Public Works
Lynn Heckman, Allegheny County (Former)
Kryn Hoyer-Winfield, URA
Regina Koettters, Urban Innovations (Former)
Mike Kutzer, Buncher Company
Daniel Lavelle, Councilman
Shelly Majcen, Department of City Planning
Sunaree Marshall, HUD
Emily Mitchell, URA
Jan Oliver, ALCOSAN
Edward Patton, Riverlife
Russell Peterson, AVR
Nancy Piotrowski, Army Corp of Engineers
Patrick Roberts, Department of City Planning
Becky Rodgers, Neighbors in the Strip
Robert Rubinstein, URA
Lisa Schroeder, Riverlife
Dan Sentz, Department of City Planning

Don Smith, RIDC
Matt Smoker, DOT
John Stephan, Three Rivers Waterkeeper
Rob Stephany, URA (Former)
Wendy Stern, Port Authority
David Wohwill, Port Authority

Advisors

David Argent, ACOE
Tom Baxter, Friends of the Riverfront
Eric Boerer, Bike Pittsburgh
Stephan Bontrager, RiverLife
Patrick Bowman, Lawrenceville Corporation
Scott Bricker, Bike Pittsburgh
Frank Cartieri, Pittsburgh Zoo
Cindy Cassell, Neighbors in the Strip
James Eash, Lawrenceville Corporation
Matt Erb, Tree Pittsburgh
Grant Ervin, Morningside Area Community Council
Phil Gruszka, Pittsburgh Parks Conservancy
David Hance, Highland Park Community Council
Shad Henderson, Office of Senator Ferlo
Jim Martin, NREC
Kento Ohmori, Lawrenceville Corporation

John Pannucci, Pressure Chemical Company
Susan Rademacher, Pittsburgh Parks Conservancy
Colleen Rozanc, Urban Innovations
Chris Sandvig, PCRG
Alex Simakas, IDSI
Sarah Stroney, RIDC
Becky Thatcher, Lawrenceville United
Jen Thoma, Office of Councilman Dowd
Tim White, RIDC
Eric Chapman, WPA Conservancy
Rick Lorson, PA Fish & Boat
Thomas Maier, ACOE
Joe Snyder, PA DEP
Dennis Tubbs, PA Fish & Boat

Consultant Team

Sasaki Associates, Inc.
Biohabitats, Inc.
Baker (Michael Baker Corporation)
Community Technical Assistance Center (CTAC)
Cosmos Technologies, Inc.
Milestone New Media Group
Partners for Economic Solutions



