HAZELWOOD GREEN

Preliminary Land Development Plan

SPECIAL PLANNED DISTRICT 10 (SP-10)

PITTSBURGH, PA
AUGUST 30, 2018

Cover Image: 2018 PLDP Vision for Hazelwood Green :: Image Credit: © Depiction, LLC 2018

ACKNOWLEDGEMENTS

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WWW.HAZELWOODGREEN.COM

VISION: The Hazelwood Green development site is envisioned as a place where people thrive, new ideas are forged, and the ecological condition is regenerated. It is a living laboratory – a platform for experimentation that advances Pittsburgh's evolving innovation economy for a full spectrum of workers. It serves as a transformative model for sustainable community development that is adaptable and resilient to fast-changing markets and natural conditions that are reshaping our society.

PRINCIPLES FOR DEVELOPMENT: Incremental and continual progress toward achievement of the Vision will be measured with sustainability standards and metrics that align with the Principles.

PRINCIPLE 1

Advance Human Well-being

Human well-being is often measured by happiness, which is influenced by individual physical and emotional health. The built environment plays a huge role in our daily lives and is responsible for many factors impacting an individual's health, quality of life, and thus, community well-being. Hazelwood Green intends to:

- Create healthy, safe physical environments.
- Provide job opportunities for workers at a range of levels.
- Foster a welcoming environment for diverse human interaction and enjoyment.

PRINCIPLE 2

Inspire Innovation

Innovation is conducted in places where people and ideas come together, and where buildings and spaces inspire and enable a range of uses, open dialogue, and unplanned interactions. Innovation requires the continual evolution of best practices and flexibility in policies. Innovation drives transformation of markets and economic growth. Hazelwood Green intends to:

- Attract new investment to the region, city, and neighborhood.
- Advance transformative models.
- Create a built form that reflects excellence in design.

PRINCIPLE 3

Regenerate the Ecology

Healthy ecosystems are a sign of healthy economic and human systems. The site's ecology must be healed from past damage and avoid creating new impacts that future generations must absorb. In doing so, Hazelwood Green will be a model for living within its ecological footprint. Hazelwood Green intends to:

- Manage rainwater on-site as a resource.
- Attain net positive building energy performance site-wide.
- Restore a healthy ecosystem on-site.

PRINCIPLE 4

Create Resilient Places

Places that bounce forward more rapidly from sudden shocks have multiple mobility options, on-site and renewable energy systems, diverse economies, and strong social networks. Communities with reduced ongoing, chronic stresses also recover more easily from shocks created by humans or nature. Hazelwood Green intends to:

- Provide multi-modal transportation options that are part of a well-connected system.
- Create on-site renewable energy and other low-impact utility infrastructure.
- Generate diverse economic and social value.

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01

INTRODUCTION

Above: Illustration of Lytle Street in the Mill District :: Image Credit: © Depiction, LLC 2018

01

2 — Vision
3 — Principles for Development
4 — Sustainability Standards
6 — Plan Purpose & History
8 — Organization of the Document
9 — Plan Interpretation

01

INTRODUCTION

Hazelwood Green is a 178-acre site located along the Monongahela River and within the Greater Hazelwood neighborhood of Pittsburgh, Pennsylvania. Development of this unique site and opportunity must be framed and guided by a plan that advances excellence in urban design, is inviting to existing and new members of the community, and instills a commitment to sustainable development principles that consider the needs of future generations.

This introduction is an overview of Hazelwood Green's Vision, Principles, Sustainability Standards, and the Purpose and Intent of this Preliminary Land Development Plan (PLDP), along with a summary of its contents. The Vision for Hazelwood Green will be advanced through multiple methods and tools. Only those elements that are applicable and enforceable through a regulatory zoning document are included in this PLDP and the SP-10 Zoning Text.

The Hazelwood Green development site may frequently be referred to as "THE SITE." This area refers to the entire 178 acres – with boundaries identified in FIGURE 2–5 – that was purchased by Almono LP in 2002.

1.1 Vision

The Hazelwood Green development site is envisioned as a place where people thrive, new ideas are forged, and the ecological condition is regenerated.

It is a living laboratory – a platform for experimentation that advances Pittsburgh's evolving innovation economy for a full spectrum of workers.

It serves as a transformative model for sustainable community development that is adaptable and resilient to fast-changing markets and natural conditions that are reshaping our society.

1.2 Principles for Development

EXCELLENCE IN DESIGN is site specific in its response to the existing physical, ecological, and social context that make it unique, providing a sense of place. People care for and love places that reflect beauty, interest, and local elements that are recognizable and welcoming. Durability and high performing design elements ensure that investments are highly leveraged and natural resources are valued. While design excellence may vary in the "eye of the observer," the inclusion of these components is considered fundamental to achieving design excellence. Refer to the p4 Design Measure for more information.

The Vision for Hazelwood Green is advanced through a set of four Principles that create a design and development framework to achieve multiple benefits from every implementation decision and strategy. Incremental and continual progress toward achievement of the Vision will be measured with standards and metrics that align with the Principles as summarized in *Section 1.3*. Fundamental to the vision and all Principles is the commitment to excellence in design throughout all aspects of the site.

PRINCIPLE 1 – ADVANCE HUMAN WELL-BEING

Human well-being is often measured by happiness, which is influenced by individual physical and emotional health. The built environment plays a huge role in our daily lives and is responsible for many factors impacting an individual's health, quality of life, and thus, community well-being. Hazelwood Green intends to:

- Create healthy, safe physical environments.
- Provide job opportunities for workers at a range of levels.
- Foster a welcoming environment for diverse human interaction and enjoyment.

A NEIGHBORHOOD is a City-defined geographical area. For the purposes of this document, the Greater Hazelwood neighborhood – "the neighborhood" – includes both Hazelwood and Glen Hazel. Hazelwood Green is within this Greater Hazelwood neighborhood.

PRINCIPLE 2 – INSPIRE INNOVATION

Innovation is conducted in places where people and ideas come together, where buildings and spaces inspire and enable a range of uses, open dialogue, and encourage interactions. Innovation requires the continual evolution of best practices and flexibility in policies. Innovation drives transformation of markets and economic growth. Hazelwood Green intends to:

- Attract new investment to the region, city, and neighborhood.
- Advance transformative models.
- Create a built form that reflects excellence in design.

PRINCIPLE 3 – REGENERATE THE ECOLOGY

Healthy ecosystems are a sign of healthy economic and human systems. The site's ecology must be healed from past damage and avoid creating new impacts that future generations must absorb. In doing so, Hazelwood Green will be a model for living within its ecological footprint. Hazelwood Green intends to:

- Manage all rainwater on-site as a resource.
- Attain net-positive building energy performance site-wide.
- Restore a healthy ecosystem on-site.

The term COMMUNITY is used within this document to refer to a social group of any size whose members reside and/or conduct business in a specific geographic area. For the most part, throughout this document "community" refers to the future Hazelwood Green residents, employees, partners, and visitors – the Hazelwood Green social network.

PRINCIPLE 4 – CREATE RESILIENT PLACES

Places that bounce forward more rapidly from sudden shocks have multiple mobility options, on-site and renewable energy systems, diverse economies, and strong social networks. Communities with reduced ongoing, chronic stresses also recover more easily from shocks created by humans or nature. Hazelwood Green intends to:

- Provide multi-modal transportation options that are a part of a well-connected system.
- Create on-site renewable energy and other low-impact utility infrastructure.
- Generate diverse economic and social value.

1.3 Sustainability Standards

Sustainability is a fundamental value that frames the site's design, development, and future utilization. Progress toward achievement of the Principles will be primarily measured using metrics contained within three sustainability standards created for this type and scale of development. Each standard summarized in the following paragraphs brings varying levels of rigor, market understanding, and contextual application to the site's vision as a whole. Specific metrics from all these systems are utilized throughout the document to measure performance and enhance sustainability outcomes for the site, and its contributions to city and regional goals.

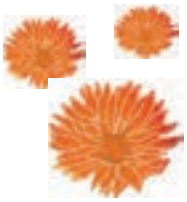
CERTIFY

LEED for Neighborhood Development. The United States Green Building Council (USGBC) created the LEED for Neighborhood Development (LEED-ND) rating system for use at the site-wide, community scale to complement its family of building-oriented LEED rating systems. LEED-ND was originally created in partnership with the Congress for New Urbanism (CNU) and the Natural Resources Defense Council (NDRC) to address the significant impacts of suburban sprawl. LEED-ND Plan certification is achieved after a third-party review by the Green Business Certification Institute (GBCI). LEED-ND Project certification can be accomplished in whole or in independent phases. Hazelwood Green is pursuing LEED-ND Plan certification, which will be based on components of this PLDP and required GBCI documentation for credits pursued.

MEASURE

Pittsburgh p4 Performance Measures. The p4 Performance Measures (Measures) were created through a collaborative process conducted to "*create a quantifiable system of metrics that would inform and improve decision-making on public investments in development projects.*" Mayor Peduto. The Measures include twelve (12) areas of priority for the city, and each area contains a set of metrics. The Measures include: Community, Opportunity, Economy, Housing, Land, Public, Connect, Rainwater, Air, Energy, Innovation, and Design. As part of the larger, p4 Initiative, the Measures are being used as a self-evaluation tool to set targets and assess progress.

ASPIRE



Living Community Challenge. The Living Community Challenge (LCC) was created by the International Living Future Institute (ILFI) as a framework for master planning, design, and construction. It is a tool to create a symbiotic relationship between people and all aspects of the built environment. Hazelwood Green is working collaboratively with ILFI to share data that will serve to inform this emerging LCC system. The use of LCC will also challenge development on the site to continually evolve and strive for higher levels of sustainability performance over the course of the project's implementation timeframe.

Summarized in FIGURE 1–1, each Principle and its intents correlate with metrics from the three standards. The achievement of LEED-ND Plan certification by Almono LLC (along with LEED-ND Project certifications for each site sub-area as development progresses) will be the primary market-based measure of success over time that is required of all development. The utilization of LEED, p4 Measures, LCC, and other standards will are encouraged for all development on the site, as further detailed in *Section 4*.

The following table documents the areas where the various sustainability systems discussed above are addressed in the PLDP. The table is not an exhaustive summary, as many aspects of sustainability are integrated with multiple benefits and connections. It is intended to serve as a quick reference guide that illustrates where and how each Principle is measured within the document through the use of sustainability metrics.

		CERTIFY	MEASURE	ASPIRE
PRINCIPLES & INTENTS	PLDP SECTION	LEED-ND CREDIT AREAS	P4 MEASURES	LCC IMPERATIVES
#1 ADVANCE HUMAN WELL-BEING				
Create healthy, safe physical environments.	4.5 Site & Building Performance; 5.1.1 Pedestrian Network; 5.2 Street Types	GBI c.1 NPD c.1	Air, Connect, Community	01: Limits to Growth, 04: Human-Powered Living, 08: Healthy Neighborhood, 09: Biophilic Environment
Provide job opportunities for workers at a range of levels.	3.1 Development Districts; 4.3.4 Building Types; 6.9 Education & Training Systems	NPD c.3	Opportunity, Economy, Connect, Housing	02: Urban Agriculture
Foster a welcoming environment for diverse human interaction and enjoyment.	3.2 Urban Open Space; 4.3 Building Design; 5.1 Mobility Networks	NPD p.3	Connect, Opportunity, Innovation, Design, Economy, Public	02: Urban Agriculture; 04: Human-Powered Living; 07: Civilized Environments; 14: Human Scale & Humane Places; 16: Universal Access to Community Services; 19: Beauty + Spirit
#2 INSPIRE INNOVATION				
Attract investment to the region, city, and neighborhood.	2.1.1 Steel City to Innovation City; 3.1 Development Districts	NA	Design, Community, Innovation, Public	07: Civilized Environments; 17: Equitable Investment
Advance transformative models.	6.1.4 Market-Driven Development Targets; 6.2 Site-wide Systems; 6.3.2 Performance Measurement & Documentation		Innovation, Energy	11: Living Materials Plan; 20: Inspiration + Education; 19: Beauty + Spirit
Create a built form that reflects excellence in design.	6.3.1 Project Review	NPD c.9	Public, Innovation, Economy	13: Net Positive Waste; 18: Just Organization
#3 REGENERATE THE ECOLOGY				
Manage rainwater on-site as a resource.	4.5 Site & Building Performance	GIB c.8	Rainwater, Innovation	05: Net Positive Water
Attain net positive energy performance for an aggregate of all buildings site-wide.	4.5 Site & Building Performance; 6.2.1 District Energy Systems	GIB p.1-3 GIB c. 1, 2, 9, 10, 11, 12, 13	Energy, Innovation	06: Net Positive Energy; 12: Embodied Carbon Footprint
Restore a healthy ecosystem on-site.	3.2 Urban Open Spaces; 6.1.6 Urban Open Space	SLL p.15 SLL c.1, 2, 3, 7, 8	Land, Public	03: Habitat Exchange; 15: Universal Access to Nature + Places
#4 CREATE RESILIENT PLACES				
Provide multi-modal transportation options that are well-connected on and off the site.	5.1 Mobility Networks; 5.2 Street Types; 5.3 Transportation Strategy	SLL / LT: Access to Quality Transit SLL / LT: Bicycle Facilities	Connect, Design, Public	04: Human-Powered Living
Create on-site renewable energy and other low-impact utility infrastructure.	6.2.1 District Energy Systems; 6.2.2 District Water Systems	GIB: Energy Performance GIB: Outdoor Water	Energy	06: Net Positive Energy
Generate economic and social value that will benefit the site users, its neighborhood, and beyond.	3.1 Development Districts; 6.1 Development Program		Economy, Public, Design, Energy	04: Human-Powered Living; 08: Healthy Neighborhood Design; 10: Resilient Community Design; 19: Beauty + Spirit

FIGURE 1–1 A Matrix of Hazelwood Green Principles & Sustainability Standards

1.4 Plan Purpose & History

For those unfamiliar with planning processes and the planning history of the site, the following provides an understanding of the purpose and evolution of this document.

1.4.1 ROLE OF THE PLDP

The Hazelwood Green PLDP provides a vision, framework, and standards to create a visually inviting place that supports a socially vibrant and diverse community of workers, residents, and visitors. In the City of Pittsburgh, a PLDP is submitted in support of a proposal to create a Specially Planned (SP) District according to §909.01 of the City of Pittsburgh Zoning Code. The PLDP accompanies the SP Zoning Text for the district, which defines the specific zoning requirements for the site.

In 2013, the City adopted a PLDP and SP-10 Zoning Text that designated the Hazelwood Green site (formerly known as Almono) as Specially Planned District 10 (SP-10). As the SP-10 District for the site is already established, this 2018 document is a replacement of that 2013 PLDP, and accompanies an amendment of the SP-10 Zoning Text. Each future development on the site is required to seek approval for a Final Land Development Plan (FLDP) for the proposed project. The FLDP will be evaluated by the City of Pittsburgh based on what is set forth in this PLDP and the SP-10 Zoning Text. The PLDP shall be used as the primary document for government officials, developers, design teams, site users, and adjacent community members to understand the vision, intent, and plan for Hazelwood Green.

1.4.2 PLANNING HISTORY

Since the acquisition of the site in 2002, multiple external forces have influenced planning and investment decisions. Early on, the site was targeted as a location for the Mon-Fayette Expressway into the city, stalling the ability to solidify any future plans for development and causing planning approaches to consider various scenarios. In 2003, the site's first redevelopment plan was developed for Almono LLC by Urban Design Associates (UDA) and included a heavy residential component. The 2008 recession deepened an already soft housing market for Pittsburgh, which had been impacted by decades of population loss. As the market began to rebound, Almono LLC initiated a planning process led by Rothschild Doyno Collaborative in 2010, with extensive community engagement that resulted in the City-approved 2013 PLDP and SP-10 Zoning Text.

In 2015, due to market shifts toward urban lifestyles and a growing commitment to sustainability, a team led by Perkins + Will (P+W) and also including Archineers, Blair McCarry Consulting, and Langan were engaged by Almono LLC to develop an "Implementation Plan" and an overall site-wide strategy for sustainability. The work undertaken by P+W in 2015 and 2016 was not originally intended to replace the 2013 PLDP, but to apply the essence of its vision and goals while meeting a charge to realize the full potential of the site – recognizing it might be achieved in phases. The resulting 2015 P+W draft Implementation Plan included: a shift towards a more urban approach with an emphasis on place-making, an improved jobs/residential balance, and a more comprehensive sustainability strategy. This new direction reflected in the P+W draft created a more fine-grained pattern of development and public space. As such, this triggered the need to modify the 2013 PLDP of the record, which was in the long-term, no longer aligned with the site intent and program.

Top: Implementation Plan :: Credit: Perkins + Will, 2015

Middle: Eco-Tech Park District, PLDP :: Credit: Rothschild Doyno Collaborative, 2013

Bottom: Master Plan Alternative w/Mon Fayette Expressway :: Credit: Urban Design Associates, 2003

An August 2017 workshop with Almono LP members, City staff, project team members, community leaders, and consultants resulted in the joint decision to develop a new PLDP and SP-10 Zoning Text that would align with the draft Implementation Plan's intentions and the new market conditions. This document, the new 2018 PLDP, builds on the core urban and sustainability framework of the P+W plan that has been shared with the Greater Hazelwood community continuously over the past three years. This foundational framework was further developed by ReMake Group, in collaboration with P+W, along with mobility related support from Nelson\Nygaard, and numerous other technical consultants and City staff to shape this policy document.

Additionally, this new PLDP benefits from the Greater Hazelwood Neighborhood Plan development process that began in 2017 and has provided added opportunities for alignment with the neighborhood's first plan, which is due to be completed later in 2018. Throughout the new PLDP development process, members of the project team have been in active communications with the leadership of the Greater Hazelwood Community Collaborative (GHCC) and the Hazelwood Initiative, along with open invitations to public events to create an ongoing dialog and exchange about the project and how it fits into the community's vision for their neighborhood.

Thus, this new PLDP accomplishes several functional objectives that respond to the neighborhood's interests, shape excellence in urban design, and reflect market considerations to create a policy document that can be administered and

Below: 2018 PLDP Vision for Hazelwood Green
:: Image Credit: ©Depiction, LLC 2018

implemented by the City. As such, the new PLDP is a culmination of many new factors that along with the previous work are intended to:

- Meet the PLDP document and zoning regulatory requirements;
- Reflect and imbed new Vision and Principles into the PLDP standards;
- Create an adaptable approach to development uses and standards that is more responsive to fast-changing market conditions;
- Provide measures for sustainability that encompass multiple, triple-bottom-line aspects;
- Reflect the Greater Hazelwood Neighborhood Plan's draft Guiding Principles and Values; and,
- Leverage best practices and policies for shared parking, multi-modal connectivity, and urban design.

1.5 Organization of the Document

A WORD OR PHRASE that is highlighted in teal within the narrative of the PLDP is further defined or explained in this sidebar box, with links or references as needed.

A roadmap for using this PLDP in the planning and design of new development on the Hazelwood Green site is provided in this section. Throughout the document sidebars are also used to provide definitions and information on specific topics, to provide added clarity for readers. The document is organized into six Sections, as follows.

Section 01 – Introduction. This Section highlights the Vision and Principles for the redevelopment of Hazelwood Green. It also identifies the specific sustainability goals and measures that were used in the development of this PLDP and lays the groundwork for future development on the site. Finally, this Section provides an overview of the purpose and intent of the PLDP.

Section 02 – Context & Site Conditions. There is a significant amount of history on the site, neighborhood, and city that informs the PLDP and the Vision for the site's development. This Section includes: the neighborhood context, the site's history and heritage, and existing site conditions and improvements completed to date.

Section 03 – Districts & Land Uses. This Section describes the site's three districts (the Flats, Mill, and River Districts), their associated land uses, and Urban Open Space that serve as a fundamental framework for development of the site.

Section 04 – Block & Building Design. Development Blocks and buildings are the foundation for the built environment and urban form. This Section details the site and building requirements, including build-to lines, building design, parking and service areas, and building and site performance.

Section 05 – Mobility. A critical component to the successful development of the site is ease of access to, from, and around the site. This Section details the site's mobility networks, street types, and strategy to manage transportation demand and traffic impacts through active mobility, transit connectivity, and shared parking strategies.

Section 06 – Implementation. Complete build-out of Hazelwood Green is expected to occur over multiple years and in phases. This Section outlines the site's goals for site-wide systems, i.e., district energy and water, ecological restoration, signage and wayfinding, etc. Furthermore, this Section expands on how this PLDP is implemented, facilitates future development, permits adaptation to changing markets and standards, and the intended long-term management of the site.

1.6 Plan Interpretation

This document (including figures and call-outs) constitute the PLDP for Hazelwood Green. Graphics and descriptive language is provided for informational purposes only and are not considered regulatory, unless otherwise stated. Amendments to the PLDP are subject to the City Planning amendment process.

This PLDP uses "shall" or "must" statements to define standards that are required and will be regulated. Statements that use "should" are intents to articulate a Vision and aspiration for the site's development. Standards that use the term "should" are meant to be taken into consideration but are not required.

The PLDP as a whole includes both what is required through zoning and what is intended by Almono LP to support the achievement of the Vision for the site's development. The PLDP includes a range of acceptable standards in areas where shifts in markets may require more or less intensity in various uses. Overly prescriptive approaches often cannot adapt to market realities that change faster than plans can be reconstructed. This PLDP works to address this by striking a balance between critical frameworks and standards to realize the vision, while allowing flexibility for some elements that will likely shift and evolve with unpredictable markets.

The site's primary owner, Almono LP also intends to develop a set of Guidelines to address specialty areas that require added guidance and that may evolve over time. These Guidelines are supplemental for use by the owner, as part of an independent review process included in owner-controlled Development Agreements. While they are not part of the PLDP, they will be made available to the City, to further illustrate the design and planning intent. Through a combination of these public and private methods, the site's primary owner, Almono LP, aims to create a new global model for sustainable urban redevelopment.

Below: Reporting in action prior to a Molly's Trolleys site tour, Big Tent Event, Fall 2017 :: Image Credit: Annie O'Neill

02

CONTEXT & SITE CONDITIONS

Above: Looking East up Hazelwood Ave – a vision for the Mill and Flats Districts :: Image Credit: © Depiction, LLC 2018

02

12 — Regional & Local Context
17 — Site History & Heritage
19 — Existing Site Conditions

02

CONTEXT & SITE CONDITIONS

Hazelwood Green is a site with a long, rich history that has left a mark on its landscape and shaped its potential for future redevelopment. The following sections provide an overview of (1) how the site fits within the regional and local context, (2) the site history and heritage that informs the PLDP, and (3) the existing site conditions that create boundaries.

2.1 Regional & Local Context

This site represents a unique opportunity for the Greater Hazelwood neighborhood, for the city of Pittsburgh, and for the Greater Pittsburgh region as a driver for sustainable, community-based, economic development. In doing so, the development of Hazelwood Green:

- Provides a platform for the Pittsburgh region's growing innovation economy and momentum that is largely driven by the nearby universities and institutions in Oakland.
- Aligns with the City's development goals and targets, acting as a proving ground and pilot for sustainable design and planning in practice and development.
- Integrates with the Greater Hazelwood neighborhood to physically and economically revitalize the neighborhood.

INNOVATION ECONOMY is an economic concept originating from Joseph Schumpeter's 1942 book, *Capitalism, Socialism, and Democracy*. The Innovation Economy – or "Innovation Economics" – articulates that economic growth is driven collectively by evolving institutions, entrepreneurs, and technological changes. They are not independent forces unaffected by policy; rather, they are opportunities for smart public-private partnerships and/or economic policy that can spur higher productivity and greater innovation.

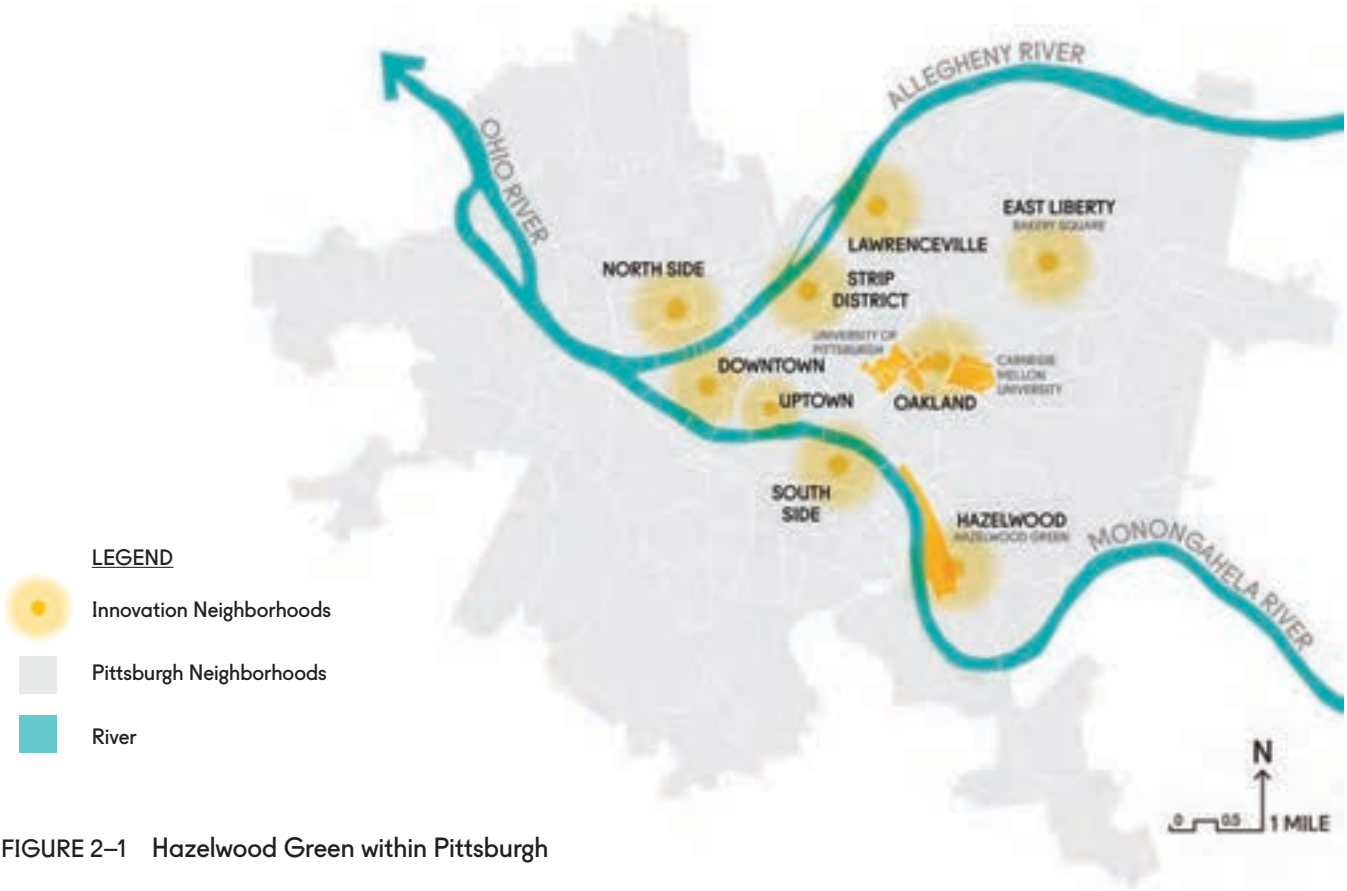
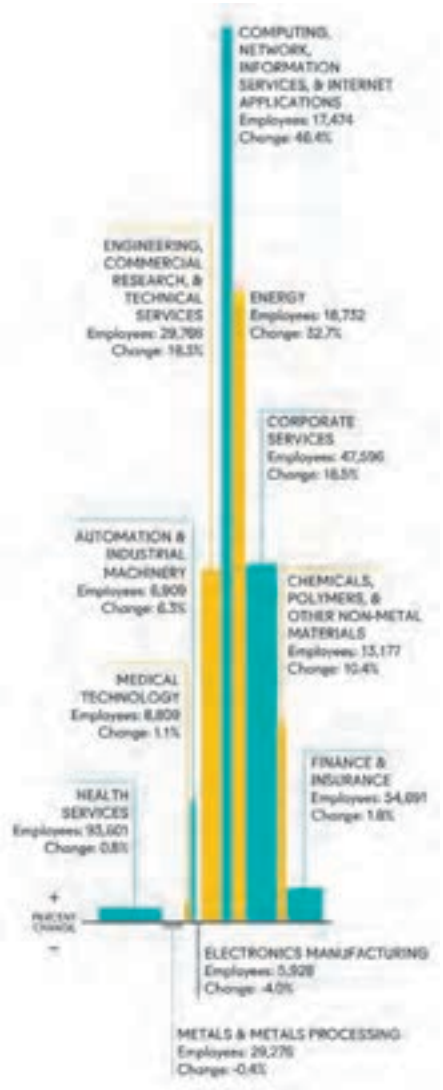


FIGURE 2–1 Hazelwood Green within Pittsburgh

FIGURE 2–2 Pittsburgh MSA Employment in Advanced Industries from 2009 to 2015[1]



A BROWNFIELD is considered by the U.S. Environmental Protection Agency (EPA), as a property that may be complicated by the presence of potential hazardous substance, pollutant, or contaminant during an expansion, redevelopment, or reuse of the property.[3]

2.1.1 STEEL CITY TO INNOVATION CITY

Hazelwood Green is the quintessential Pittsburgh story of reclamation and reinvention to prepare for another chapter in its long history of global leadership in innovation. In September 2017, the report, Capturing the Next Economy: Pittsburgh's Rise as a Global Innovation City was released by the Brookings Institution and Project for Public Spaces, in which Pittsburgh's resilience and ability to rebound from an 18% unemployment rate in the 1980s was highlighted. However, the report also notes that the city's success or failure is dependent on the speed and scale of action by public, private, and civic leaders to develop a robust platform for jobs at all skill levels through the investment in transportation, workforce development, infrastructure, and neighborhood revitalization.[2]

Hazelwood Green is located at a nexus of opportunity given its proximity to the economic engine of universities located within the greater Oakland neighborhoods and its adjacency to the existing Greater Hazelwood neighborhood, which contains a strong urban fabric primed for reinvestment (refer to FIGURE 2–1). The site serves as a place where research and industry will co-locate, start-ups will have room for growth, and the resulting investments will create employment opportunities for all skill levels. Economic growth will be further supported through the provision of nearby housing options, business district amenities, and immediate connections to natural amenities that exist on the site and within the neighborhood. A synergistic relationship between the site and its neighborhood is imperative to the success of both.

In the last decade, national accolades have placed Pittsburgh in the top rankings for: *most livable city*, *most affordable housing market*, *best city for jobs*, *most resilient city, best restaurants*, and many more. Population loss of the past few decades has stabilized and Pittsburgh is making moves to leverage recent growth for greater benefit. Growth in the innovation economy will rely on the ability to attract and retain talent seeking urban places that are progressive in policies, ample in amenities, and well connected through multiple mobility options. In addition to the many statistics, rankings, and studies that set a progressive path forward, the city has also taken action to demonstrate its commitment to creating a place that attracts talent through the adoption of policies and action plans that frame and build on the requirements of a livable city and sustainable future. These include:

- Riverfront Zoning District (2018)
- The p4 Performance Measures (2018)
- The Pittsburgh Climate Action Plan 3.0 (2017)
- The ONEPGH: Pittsburgh Resilience Strategy (2016)
- The City-Wide Green First Plan (2016)
- The Pittsburgh 2030 District (2012 to present)

The Hazelwood Green PLDP aligns with these city-wide initiatives, takes the lessons learned from past brownfield redevelopment sites, and reflects best practices to build a planning framework for the site that will generate benefit at multiple levels. It should be noted that while Hazelwood Green's SP-10 District (as a large, early-stage SP-District) is separate from the City's proposed new Riverfront Zoning District, the intent and vision for riverfront development are aligned. The Hazelwood Green PLDP and Zoning Text reflect many of the same standards and strategies for ensuring public riverfront access and use, ecological restoration, and quality and equitable urban development as the Riverfront Zoning District.

1 Brookings and TEConomy Partners analysis of Bureau of Labor Statistics, QCEW in *Capturing the Next Economy: Pittsburgh's Rise as a Global Innovation City.*

2 Scott Andes, Mitch Horowitz, Ryan Helwig, and Bruce Katz. Capturing the Next Economy: Pittsburgh's Rise as a Global Innovation City. September 2017. The Anne T. and Robert M. Bass Initiative on Innovation and Placemaking. https://www.brookings.edu/wp-content/uploads/2017/09/pittsburgh_es.pdf

3 Quoted from United States Environmental Protection Agency. https://www.epa.gov/brownfields/overview-brownfields-program

2.1.2 CITY OF NEIGHBORHOODS: GREATER HAZELWOOD

The City of Pittsburgh is home to 90 neighborhoods, including Hazelwood and Glen Hazel, which together create the Greater Hazelwood neighborhood (refer to FIGURE 2–3). Hazelwood Green's 178-acres account for 14% of the Greater Hazelwood 1,305-acre neighborhood.

One of the city's more diversely balanced communities (refer to FIGURE 2–4), Greater Hazelwood is a reflection of Pittsburgh's demographics, socioeconomic forces, and revitalization. Efforts over the past decade have focused on reviving the once bustling main street, restoring historically significant buildings, increasing home ownership, and attracting local services (e.g. Carnegie Library, a local market, a charter school, a bakery, and others).

In fall 2017, the Hazelwood community began a process to develop its first-ever Neighborhood Plan - *Greater Hazelwood: Our Hands. Our Plan*. The planning process is being managed by the Department of City Planning and steered by a neighborhood-based steering committee that includes representatives from local mission-based organizations: Greater Hazelwood Community Collaborative (GHCC), Hazelwood Initiative (HI), Center of Life (COL), Propel Schools, Carnegie Library of Hazelwood, and Glen Hazel Community Resident Association. These and several other mission-based organizations are committed to community and economic development, education, youth programs, and other work that advances an equitable and inclusive vision for the neighborhood's future.

Historically, the community identifies five main sub-areas of the neighborhood; these are loosely defined as:

1. "Scotch Bottom" aka "Below the Tracks" aka "Across the Tracks" aka "Riverside" – the small community to the west of the CSX railroad tracks and directly south of Hazelwood Green.
2. Glen Hazel – a relatively small community that includes housing stock originally constructed in 1942 to serve wartime defense workers. A community that is tightly knit with Hazelwood, it largely comprises green hillside as it runs along Johnston Avenue.
3. Glenwood – the southern portion of the neighborhood closest to the Glenwood Bridge.
4. The Runs or Monongahela Marsden – the northern portion of Hazelwood (loosely everything north of Hazelwood Avenue).
5. Hazelwood – the commercial heart of the neighborhood, centered around the intersection of Second Avenue and Tecumseh Street, and including the area along Hazelwood Avenue and up the hill.

As a former steel mill site, Hazelwood Green was once the literal and metaphorical powerhouse of the Greater Hazelwood neighborhood. The decline and eventual closing of the mill was a significant economic blow to the neighborhood. However, given the mill's decades of pollution and impact on public health, its closure also meant the chance to recover the ecological and environmental health of the neighborhood and region. The development plans for Hazelwood Green will build on the momentum of the city and region by restoring an economic driver to the neighborhood in a thoughtful, inclusive, and sustainable way.

Greater Hazelwood Community Plan: Our Hands. Our Plan.

VISION*

Greater Hazelwood is a diverse and welcoming community for people of all incomes and backgrounds. Our future is driven by the leadership of community residents, resulting in a community with affordable, high-quality residential options; family-sustaining career opportunities; thriving businesses and business owners; and a fully-integrated Hazelwood Green. Our community fosters opportunities to build generational wealth and community health to ensure current and future generations benefit from the neighborhood's growth and prosperity. We build strong partnerships with stakeholders throughout the region, while protecting and celebrating the unique landscape, history, culture, and spirit of Greater Hazelwood.

GUIDING PRINCIPLES*

1. Improve Quality of Life for Current Residents
2. Develop a Strategy for Physical Improvements Beyond New Development
3. Retain & Attract Strategy
4. Create a Resilient Hazelwood
5. Craft an Economic Development Strategy for Hazelwood
6. Craft a Strategy That Builds Upon Current Assets
7. Utilize Vacant Land as an Asset
8. An Executable Plan (Near, Mid and Long Term Strategy)

**At this time the Greater Hazelwood Community Plan is still in progress, and these have not yet been officially accepted.*

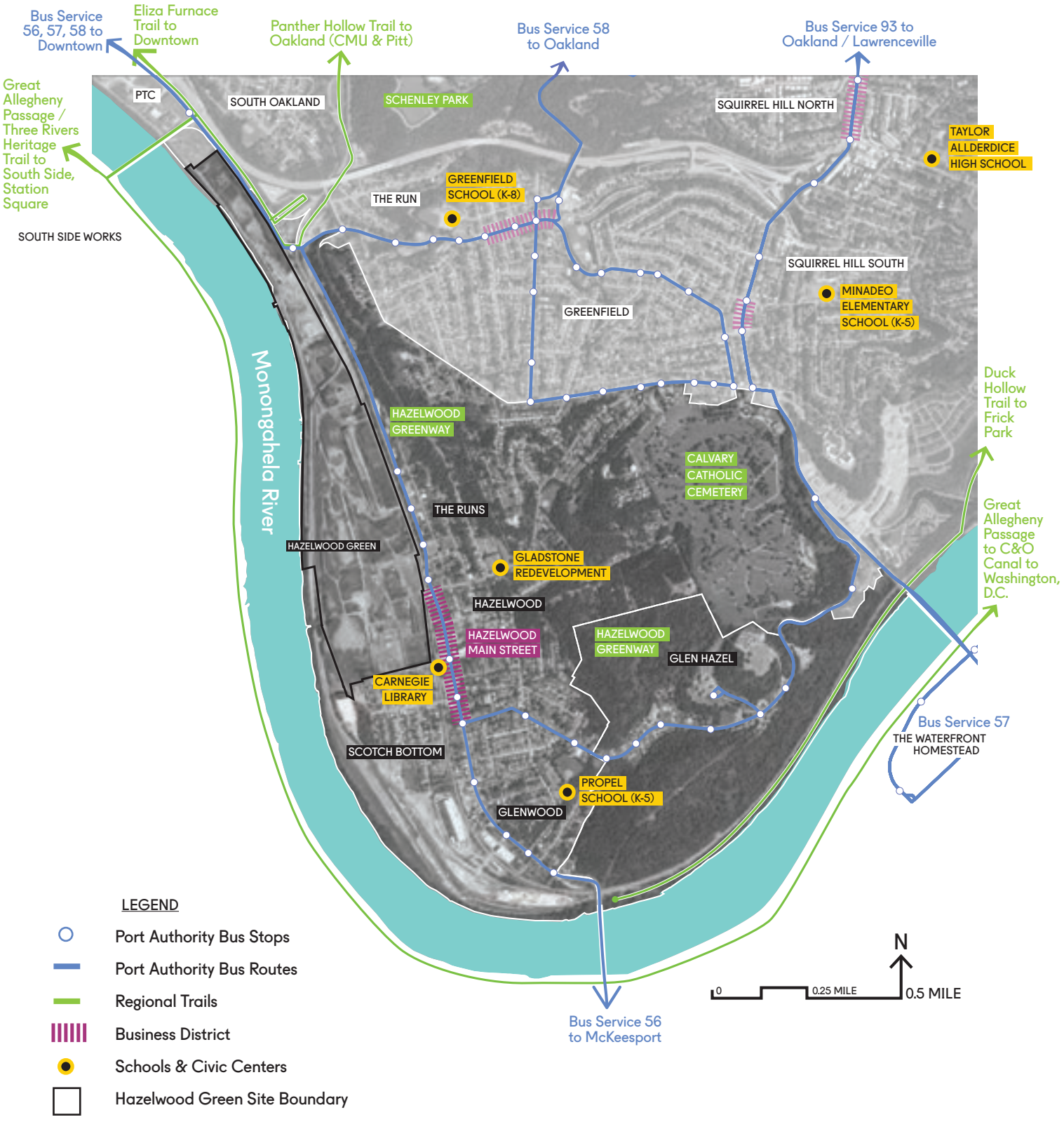


FIGURE 2–3 Greater Hazelwood Neighborhood (2018)

:: A Brief History of the Neighborhood

Following the 1768 Stanwix Treaty with local Delaware, Seneca-Cayuga, Iroquois, and Shawnee Tribes, the area was first settled by mainly those of Scottish decent,[4] with Hungarians, Italians, Slovaks, Polish, and Irish later settling in the area. In addition to the Hazelnut tree, Hazelwood was named after the Woods family, who were the first to settle on the land. John George Woods (a farmer, gold speculator, and Union soldier) built the first house in Hazelwood in 1792. The Woods' family home still stands today at 4604 Monongahela Street, is listed on the national register of historical places, and is considered one of the oldest houses in Pittsburgh.

Up until the mid-1800s, Hazelwood was a slowly growing Pittsburgh suburb with wooded, rural estate homes. In 1859, industrialization caught up to the neighborhood with the development of two blast furnaces (the Eliza furnaces) and several beehive coke ovens on the Hazelwood riverfront by James Laughlin (before joining forces with B.F. Jones to form Jones & Laughlin). Over the next half century, the neighborhood became increasingly industrial. Wealthier residents left for other (less polluted) neighborhoods in the East End, while residences and gardens made way for ovens, stacks, railyards, furnaces, quenching stations, mills, and more. Several key investments mark this transition from a rural to working landscape.[5] In 1877, Jones & Laughlin (J&L) constructed a railroad bridge to carry hot metal from the Eliza furnaces across the river to the rolling mills on the south side of the river; today this bridge is called the Hot Metal Bridge and ferries cars, pedestrians, and bicyclists across the Monongahela River. Coke-making facilities grew, such that by 1906, Hazelwood was home to world's largest concentration of beehive coke ovens – 1,500 in total. These ovens were equipped with 15 tall stacks, each 90 feet high, to burn off some of the waste (fumes). In response to demand for coke during World War I, the beehive ovens were replaced with a modern byproduct coke plant in 1918.

The steel-making industry continued to grow until its peak in 1960, after which the Hazelwood operations (as with much of Pittsburgh, the Monongahela Valley, and other Rust-Belt cities) entered a slow decline until a complete collapse of the steel industry in the 1980s. Operating under LTV Steel (J&L sold the mill to LTV in 1974), the site was the city's last operating steel mill until its closure in 1998.[6] At its heyday, approximately 40% of J&L's 12,000 workers were assigned to the Hazelwood operations; most lived in the neighborhood and walked to work. Today, many Hazelwood residents must travel outside of the neighborhood for employment, and many others are underemployed.

In June 1952, workers at J&L in Hazelwood participated in a nationalized United Steelworkers of America strike demanding better wages and price controls. The strike lasted 53 days before better wages were awarded to the workers.[7] Also during this time, demographics in the neighborhood began to shift. Displaced from the Lower Hill District due to urban renewal plans, many African-Americans (8,000 residents and over 400 businesses were displaced for construction of the Civic Arena[8]) began relocating to the neighborhood, which formerly had been largely Eastern European.

4 "1768 Border Line Treaty of Fort Stanwix". National Parks Services. https://www.nps.gov/fost/learn/historyculture/1768-boundary-line-treaty.htm

5 Tarr, Joel A. "Op-Ed column –The plume is gone. But we can't forget Hazelwood." May 27, 1998. Pittsburgh Post-Gazette. http://old.post-gazette.com/forum/19980527btarr4.asp

6 Wall, Tim. "Pittsburgh's Last Steel Mill". 1988, CNN. http://www.cnn.com/US/9801/18/steel.mill/

7 Skarda, Erin. "Truman vs. Steel Industry, 1952". 2011, Time. http://content.time.com/time/specials/packages/article/0,28804,2085383_2085381_2085430,00.html

8 Fontaine, Tom. "Hill District Group: Civic Arena plan unfair to black residents". 2016, Trib Total Media. http://triblive.com/news/allegheny/9737974-74/housing-affordable-black

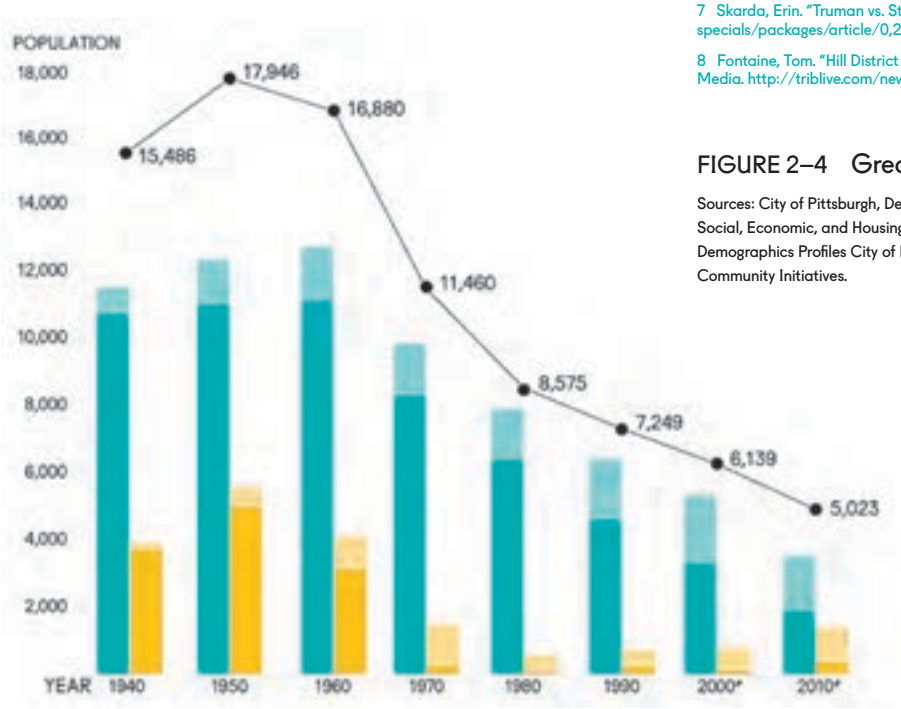


FIGURE 2–4 Greater Hazelwood Demographics

Sources: City of Pittsburgh, Department of City Planning. "Report No. 3 Whole City Population, Social, Economic, and Housing Data by Neighborhood 1940-1990" and "Census 2000 Demographics Profiles City of Pittsburgh Neighborhoods" by the UPMC Department of Community Initiatives.

LEGEND

- Greater Hazelwood Population
- Hazelwood - Caucasian Population
- Hazelwood - Minority* Population
- Glen Hazel - Caucasian Population
- Glen Hazel - Minority* Population

**Minority referred to exclusively African American populations prior to 2000, after which the term also included Asian & Pacific Islander, Native American, and Other / Multiple Race, though in much smaller percentages.*

Hazelwood Green has the opportunity to learn from Pittsburgh's riverfront brownfield redevelopments over the past decades, which have each been reflective of the era and time of their planning and completion.

1. WASHINGTON'S LANDING (formerly Herrs Island), a 42-acre brownfield redevelopment, was completed in 2004, with $70.7 million of public and private investment over 15 years. Acquired in 1989 by the Urban Redevelopment Authority (URA), it was the first, large-scale riverfront development in the city. This early mixed-use development includes: a marina, office space, a waterfront restaurant, public spaces, 88 owner-occupied townhome units, and a total of 800 jobs.[9]

2. PITTSBURGH TECHNOLOGY CENTER (PTC), a 48-acre, riverfront office park, is a former brownfield site that was acquired by the URA in 1983 following the closing of the J&L operations that once operated in conjunction with operations in Hazelwood (and South Side Works). A total of $194 million of public and private funds has been invested to date, creating over 900 jobs.[10]

3. SOUTH SIDE WORKS, a 123-acre site (also formerly owned and operated by J&L) was acquired by the URA in 1993. A total of $450 million has been invested to date, creating an estimated 5,400 jobs and 352 residential units.[11] This mixed-use development was the first of its kind in the city to follow the Live-Work-Play model that was popular during its planning era. It also successfully integrated the new development into the existing South Side neighborhood. The extensive riverfront park investment serves as a continuation of South Side riverfront park and as a connection to the Great Allegheny Passage.

4. THE WATERFRONT a 256-acre site just across the city border in Homestead, was once home to U.S. Steel Corporation's largest steel mill. The redevelopment broke ground in 1999 and was largely completed in 2002. Designed as a super-regional outdoor shopping mall, it accommodates large box retailers and smaller town center retail, along with office and residential uses. The Waterfront development was based on a suburban model incorporating many franchised tenants and parking lots.[12]

2.2 Site History & Heritage

The Jones & Laughlin Steel Company (J&L) built their first industrial plants along the Monongahela River in 1883. With plants on both sides of the river (South Side and Hazelwood), the area became an industrial hub for almost a century. In 1974, J&L sold the Hazelwood Works site to Ling-Temco-Vought Incorporation (LTV). At the time of this sale, only 3,600 workers remained; this was the beginning of the decline of Pittsburgh's steel town heyday. Just over two decades later, LTV closed the plant and ceased all operations on site, bringing an end to the steel industry on the site.

In 2001, a Riverlife Task Force developed A Vision Plan for Pittsburgh's Riverfronts. This vision inspired four Pittsburgh foundations (Claude Worthington Benedum Foundation, The Heinz Endowments, Richard King Mellon Foundation, and McCune Foundation) to ensure the success and revitalization of a significant portion of the city's riverfront through the purchase of the large, vacant brownfield site in Hazelwood. In 2002, Almono LP was formed by the four foundations to purchase the site from a bankrupt LTV for $10 million (McCune has since been bought out). This incredible foresight ensured that the site could be land banked for a thoughtful redevelopment vision that would benefit the neighborhood, city, and region.

A number of circumstances have impeded the site's development over the years, as well as shifted the vision for the site; the most challenging of these was the plan to build the Mon-Fayette Expressway. For over a decade, a 10-mile extension of a turnpike project was proposed through the site to connect the city of Pittsburgh to Mon Valley towns. The project would have cut through the site and removed 35 to 40 acres of developable property.[13] A second major influence on the advancement of the project was the Great Recession in 2008. The Great Recession not only slowed Pittsburgh's market and the economy, it also shifted the vision for the site from predominately residential to that of an economic, employment hub.

From 2002 to 2016, the Regional Industrial Development Corporation of Southwest Pennsylvania (RIDC) served as the sole member of Almono LLC, the general partner (GP) of Almono LP. During this time, RIDC oversaw the demolition of remaining mill structures, site preparation, and construction of the first access road (Blair Street) and infrastructure. Environmental remediation leading to PA DEP Act 2 clearance was also achieved during this timeframe. In November 2016, RIDC transitioned from the GP role to focus on the vertical development of 12 acres of the site, including the Mill 19 building now owned by RIDC. As of November 2016, Almono LLC members include the remaining three Pittsburgh foundations that purchased the site in 2002.

A new era for the site was launched on October 13, 2017 by renaming the site "Hazelwood Green" to reflect its neighborhood, its heritage, and its future. This was shortly followed with the first vertical development on the site, as RIDC broke ground on Phase A of Mill 19 in November 2017.

9 Urban Redevelopment Authority. http://www.ura.org/working_with_us/brownfieldProjects/WashingtonsLanding_BrownfieldBrief.pdf

10 Urban Redevelopment Authority. http://www.ura.org/working_with_us/brownfieldProjects/PTC_BrownfieldBrief.pdf

11 Urban Redevelopment Authority. http://www.ura.org/working_with_us/brownfieldProjects/SouthSideWorks_BrownfieldBrief.pdf

12 Sinah, Neeharika. "The Waterfront (Homestead Steel Works)," 2007. Western Pennsylvania Brownfield Center. https://www.cmu.edu/steinbrenner/brownfields/Case%20Studies/pdf/waterfront1.pdf

13 Fraser, Jeff. "Act II: After the Mill," 2012. h Magazine, Issue2. http://www.heinz.org/userfiles/library/2012_issue2_complete.pdf


1882
1900
1920
1939
1993
2004

2.3 Existing Site Conditions

With over a century of industrial activity on the site, there are a number of past and present conditions that inform the plan for Hazelwood Green. The following provides an overview of the site and its conditions.

2.3.1 THE SITE

Like most brownfields in the region, this site has many relics of its industrial past, including: railroads, river infrastructure, environmental contamination, major utility lines and easements, and buildings and structures from its manufacturing days. Together, these existing site elements have necessitated a significant amount of predevelopment site work and established parameters that inform the planning process. Located within the Hazelwood neighborhood, the site is bounded by:

- WEST: the Monongahela River
- EAST: CSX railroad tracks, Second Avenue, Gloster Street, and steep slopes to Oakland, Greenfield, and Hazelwood.
- SOUTH: Tecumseh Street
- NORTH: a privately-owned surface parking lot adjacent to the Hot Metal Bridge and the Pittsburgh Technology Center.

As illustrated in FIGURE 2–5, the bulk of the site – 174 acres – is contiguous; there are three separate land areas that comprise the remaining four acres (referred to as A, B, and C in FIGURE 2–5). These three areas are owned by Almono LP and considered part of Hazelwood Green, but are not included in the SP-10 District.

2.3.2 THE RAILROADS

In addition to the Allegheny Valley Railroad (AVR) railyard south of the site, there are three main railroad lines that impact the site and its redevelopment (refer to FIGURE 2–5):

- The CSX MAINLINE, a Class I railroad that runs multiple times a day along Second Avenue and through Panther Hollow.
- The CSX SPUR that is leased by AVR, a regional rail line that runs approximately two times a day along the Monongahela river, crossing through the site via a S-curve and an elevated rail bridge to then align with the CSX Mainline and continue through Panther Hollow.
- The MONONGAHELA-CONNECTING RAILROAD (MON-CON) SPUR owned by Almono LP and leased by MetalTech. Approximately once a month, a train runs the length of the site, and continues along the Monongahela River to service MetalTech operations. Use of the track is limited to the hours between dusk and dawn.

PANTHER HOLLOW is a small neighborhood located in Central Oakland, at the end of Joncaire Street within a valley.

Prior Page (18): Historic maps of the site over the years, 1882, 1900-1903, 1920-1923, 1939, 1993, 2004 :: Image Credit: Historic Pittsburgh, data from the National Registry of Historic Places and the Pittsburgh History & Landmarks Foundation. http://peoplemaps.esri.com/pittsburgh/

2.3.3 THE RIVERFRONT

The river edge of the site previously served a key role in the exchange of goods between barge and rail service, and the manufacturing processes. The site's riverfront is 1.2 miles long and adjacent to railways, river infrastructure, and sloping banks with varying conditions along the stretch of riverfront shown in FIGURE 2–5. The site's development area ranges from 20 to 40 feet above the river.

1% ANNUAL CHANCE FLOOD HAZARD is more commonly referred to as the 100-year Floodplain. However, it is more accurately defined as "the floodplain associated with a flood that has a 1% annual chance of being equaled or exceeded in any given year," i.e. an area with a flood event that has a 1% chance of occurring every year.[14]

0.2% ANNUAL CHANCE FLOOD HAZARD is more commonly referred to as the 500-year Floodplain. However, it is more accurately defined as "the floodplain associated with a flood that has a 0.2% annual chance of being equaled or exceed in any given year," i.e. an area with a flood event that has a 0.2% chance of occurring every year.

FOUR MILE RUN WATERSHED encompasses the neighborhoods of Greenfield, Squirrel Hill, Oakland, and Hazelwood. Land once used for agriculture became neighborhoods and economic centers, while streams that fed Schenley Park were diverted underground. Over time, these changes caused more stormwater to enter our city's overburdened sewer system. The long-term restoration project led by the Pittsburgh Parks Conservancy, in partnership with Allegheny County Sanitary Authority (ALCOSAN), PWSA, and the City of Pittsburgh, aims to not only alleviate this combined sewer overflow issue for residents, but to also improve the health and aesthetics of Schenley Park. [15] It is expected that plans for the stormwater flow from the Four Mile Run Watershed will need to interact and coordinate with plans at Hazelwood Green in the area of Block 7.

There are a series of platforms and walkways along the river's edge, as well as barge docks, icebreakers, and large moorings that jut out into the river, all in various condition. Almono LLC retains riparian rights along the riverfront property and submerged land licenses (from the Pennsylvania Department of Environmental Protection) for the presence of barging infrastructure. These barge docks and tie-off infrastructure are currently leased to a private company for barge staging. These docks will be retained wherever possible, in celebration of the site's heritage and for river access. However, the exact reuse and repurposing of this infrastructure will need to be determined based on structural engineering studies, feasibility, and cost assessments.

As part of the site's public open space strategy, public access to and along the river will be enhanced, along with restoration of the riparian corridor. This unique section of riverfront is viewed not just as a site or neighborhood resource, but as part of a larger network and amenity for the region.

2.3.4 THE FLOODPLAIN

Currently, a small portion of the site – at the river's edge – is within the 1% Annual Chance Flood Hazard classification, while a slightly larger area (at an elevation of 737.8-738.3 feet) of the northern River District is within the 0.2% Annual Chance Flood Hazard classification (refer to FIGURE 2–5). However, the site's grading plans will raise all Development Blocks at or above the Regulatory Flood Elevation. This risk will continue to be monitored as FEMA maps are updated and revised.

2.3.5 THE UTILITIES & ASSOCIATED EASEMENTS

The site is currently served by electricity (Duquesne Light Company – DLC), natural gas (People's Gas), water and sewer (Pittsburgh Water & Sewer Authority – PWSA), and telecommunications (Fibertech, Comcast, Verizon, DQE, etc.) lines and pathways that run from existing adjacent streets and through newly built streets on-site. Planned streets at Hazelwood Green will also incorporate all necessary utility lines and easements, with an added goal of creating district utility systems, managing rainwater on site, and reclaiming and reusing water in the long-term (more information can be found in *Section 5*). At the present, the site can accommodate a variety of electrical loads (discussed further in *Section 6*) with relation to the Integrated Energy Service Provider and district energy for the site.

A number of public and private utility easements run across the site, impacting where future development is most suited. Accordingly, the site's development plan works to align future roads and public open space with these easements. The most notable of these easements is ALCOSAN's M-29 sewage outfall, which is tied to the Four-Mile Run Watershed (one of Pittsburgh's most overburdened watersheds). The M-29 outfall and Four Mile Run Watershed is channeled and flows into the Monongahela River as a combined sewer outfall (CSO) on the north end of Hazelwood Green, near Greenfield Avenue. Collaborative steps are being taken by Allegheny County Sanitary Authority (ALCOSAN), PWSA, and the City, with added investment support from local foundations, to create a green infrastructure solution that provides public open space benefits and reduces the impacts of the CSO from this watershed.

14 "Flood Hazard Mapping: Frequently Asked Questions." U.S. Department of Homeland Security, Federal Emergency and Management Administration (FEMA), 2018. https://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping

15 Four Mile Run & Panther Hollow Watershed. Pittsburgh Parks Conservancy. https://www.pittsburghparks.org/projects/four-mile-run

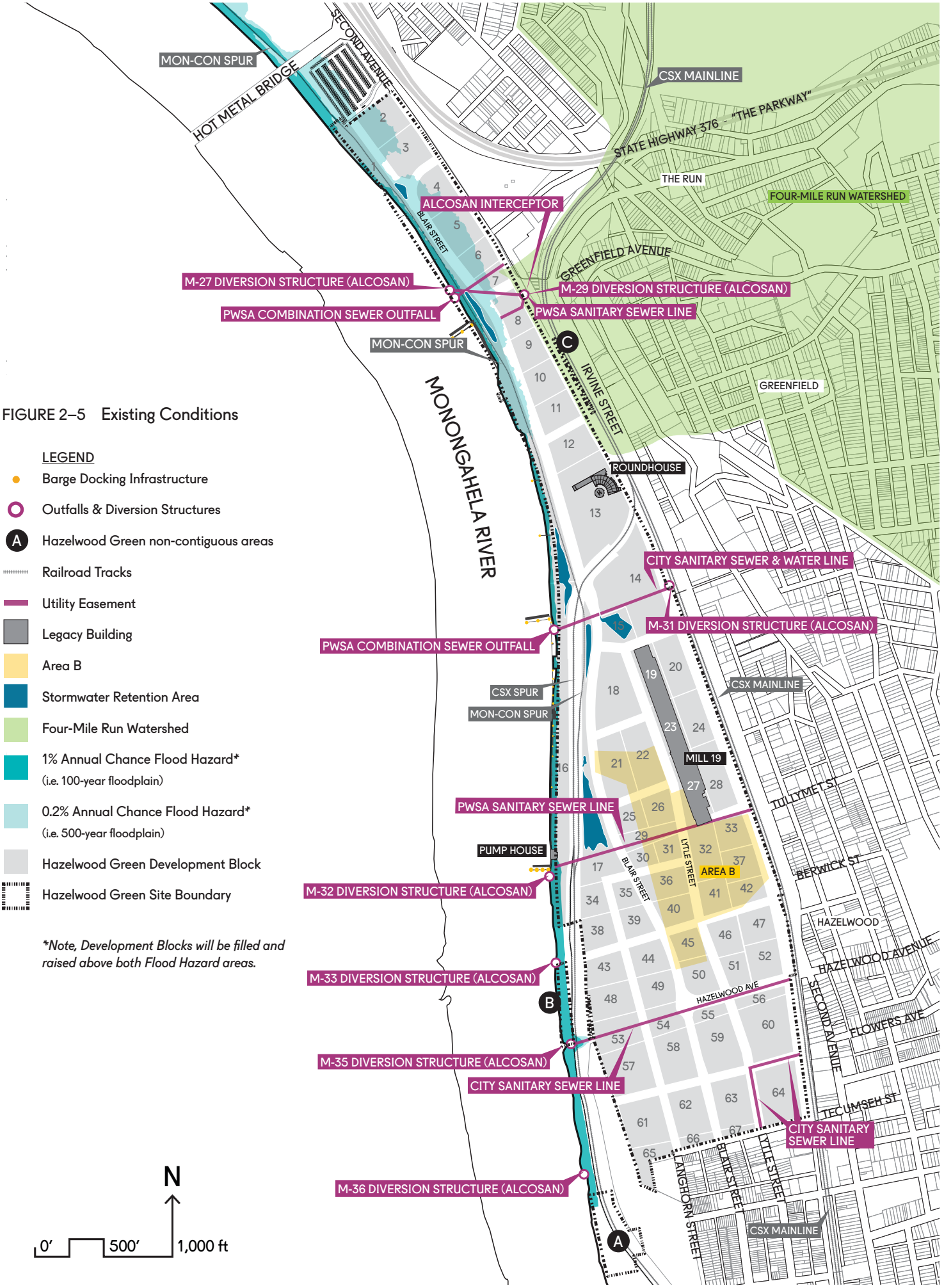


FIGURE 2–5 Existing Conditions

LEGEND

- Barge Docking Infrastructure
- Outfalls & Diversion Structures
- Hazelwood Green non-contiguous areas
- Railroad Tracks
- Utility Easement
- Legacy Building
- Area B
- Stormwater Retention Area
- Four-Mile Run Watershed
- 1% Annual Chance Flood Hazard* (i.e. 100-year floodplain)
- 0.2% Annual Chance Flood Hazard* (i.e. 500-year floodplain)
- Hazelwood Green Development Block
- Hazelwood Green Site Boundary

**Note, Development Blocks will be filled and raised above both Flood Hazard areas.*

EASTERN DECIDUOUS FOREST BIOME refers to deciduous forests that have adapted for four changing seasons – trees lose their leaves each year.

USDA HARDINESS ZONES are the standard by which gardeners and growers can determine which plants are most likely to thrive at a location. The zones are based on the average annual minimum winter temperature, divided into 10-degree F zones. A hardiness zone of 6b has an average annual minimum winter temperature of -5 to 0 degrees Fahrenheit.[19]

NATIVE TREE SPECIES that commonly occur include: Red maple (*Acer rubra*), Silver maple (*Acer saccharinum*), Sugar maple (*Acer saccharum*), Box-elder (*Acer negundo*), American sycamore (*Platanus occidentalis*), Eastern cottonwood (*Populus deltoids*), Black cherry (*Prunus serotina*), White oak (*Quercus alba*), Red Oak (*Quercus rubra*), Pin oak (*Quercus palustris*), Northern hackberry (*Celtis occidentalis*), Sassafras (*Sassafras albidum*), Staghorn sumac (*Rhus typhina*), Shagbark hickory (*Carya ovata*), Pignut hickory (*Carya galbra*), Green ash (*Fraxinus pennsylvanica*), White ash (*Fraxinus americana*), Black locust (*Robinia pseudoacacia*), Black walnut (*Jugluns nigra*), and Black willow (*Salix nigra*).

NATIVE SHRUB SPECIES that commonly occur include: Flowering dogwood, (*Cornus florida*), Silky dogwood (*Cornus amomum*), Hawthorn sp. (*Crataegus sp.*), Spice bush (*Lindera benzoin*), American witch-hazel (*Hamamelis virginiana*), Northern arrow-wood (*Viburnum regognitum*), and Elderberry (*Sambucus canadensis*).

INVASIVE SPECIES grow aggressively, spread, and displace other species. They are difficult and expensive to control and can dominate whole areas threatening the native habitat.

2.3.6 THE ECOLOGY, CLIMATE, AND HABITAT

Hazelwood Green is situated along the Monongahela River within the Lower Monongahela River Watershed. The Monongahela River is a 127-mile tributary to the Ohio River (which drains to the Mississippi River) that flows northwest from its origin in West Virginia. About 300 million years ago, Western Pennsylvania was the coast of a western inland sea, forming a delta with deposits of mud, sand, and vegetation, all of which later became shale, sandstone, and coal, respectively. The retreat of the glaciers provided river systems with additional water and energy to transport the silt, sand, and gravel (that would lead to the abundance of industry along Pittsburgh's rivers). Today, like many other American cities, many of Pittsburgh's historic streams have disappeared, having been culverted, channelized, blocked, and redirected, during industrialization and largely ignored for the 20th century, even as both point and non-point source pollution continued to enter the ground and the waterways.[16]

Despite being largely urbanized, the site is considered a part of the Eastern Deciduous Forest Biome and USDA Hardiness Zone 6b. Once largely a riparian area with commonly occurring native tree and shrub species, the site today is a plateau of fill left behind by a century of industry with the natural ecology slowly making a comeback. However, like many other locations, the area is also threatened by the spread of invasive species that pose a serious threat to the biodiversity of the native species, of which Japanese knotweed (*Polygonum cuspidatum*), tree of heaven (*Ailanthus altissima*), and purple loosestrife (*Lythrum salicaria*) are the most common invasive species. Hazelwood Green's public spaces and street trees will increase the neighborhood's existing tree canopy coverage of 23 to 35%, moving toward the city-wide goal of 60% tree canopy.[17] Working to improve the neighborhood's tree canopy would provide multiple benefits that include: reductions in stormwater runoff, reduction in heat islands, improvement in air quality, and overall improvements to quality of life. Finally, a variety of wildlife species have been spotted on site. Further study to understand the existing and historical ecology on-site will be completed as part of the riverfront park planning.

Hazelwood Green is relatively flat, with the exception of the river edge (a slope and elevation change of roughly 20 to 40 feet). Due to the slope of the riverbank, erosion, and its years of industrial degradation, bank stabilization and restoration of the ecological, riparian condition will be necessary. Additionally, a steep slope (part of the 183-acre "Hazelwood Greenway") runs north-south as part of Greater Hazelwood, providing a generally lush, wooded backdrop for Hazelwood Green. This slope is roughly 300 feet higher than the site and is largely uninhabited, such that it has the potential to be a future connected open space and corridor for wildlife. The 660-acre, wooded Hays Woods site across the river from Hazelwood Green also provides opportunities for connected wildlife corridors and habitats. Hazelwood Green prioritizes air quality through increased tree canopy, promoting active mobility and transit, and requiring efficiency and renewable sources. These measures, among others in this PLDP, are intended to address global issues of climate change and improve local air quality conditions, which remain high comparative to other cities.[18]

2.3.7 SITE WORK (2002 TO 2017)

The reclamation and preparation of this unique riverfront property has required significant activity and investment to create the Development Blocks that exist today. The high cost and time required to demolish, remediate, fill, grade, and build site infrastructure is difficult, if not impossible, to accomplish without the support of government and nonprofit entities. The role of government agencies and RIDC (as a nonprofit developer), along with the foundation ownership and investment model, was critical for the early stage of site development activity summarized in the following sections.

16 Three Rivers Conservation Plan, January 2004. Pennsylvania Environmental Council. https://www.conservationsolutioncenter.org/images/watersheds/Plans/Three-Rivers-Conservation-Plan--Web-version.pdf

17 Pittsburgh Urban Forest Master Plan. Tree Pittsburgh. 2012. https://www.treepittsburgh.org/resource/pittsburgh-urban-forest-master-plan/

18 Clean Air for Pittsburgh, Penn Environment 2018. https://pennenvironment.org/programs/pae/clean-air-pittsburgh.

19 USDA Plant Hardiness Zone Map, U.S. Department of Agriculture. 2018. http://planthardiness.ars.usda.gov/PHZMWeb/

The LAND RECYCLING AND ENVIRONMENTAL REMEDIATION STANDARDS ACT was established in 1995 to provide "for the recycling of existing industrial and commercial sites; further defining the cleanup liability of new industries and tenants; establishing a framework for setting environmental remediation standards; establishing the Voluntary Cleanup Loan Fund, the Industrial Land Recycling Fund and the Industrial Sites Cleanup Fund to aid industrial site cleanups; assigning powers and duties to the Environmental Quality Board and the Department of Environmental Resources; and making repeals."[20] This Act along with two others passed in 1995 serve as the basis for what is known as the Land Recycling Program – Act 2.

20 "Land recycling and Environmental Remediation Standards Act." May 19, 1995, P.L. 4, No. 2 Cl.27. http://www.legis.state.pa.us/WU01/LI/LI/US/HTM/1995/0/0002..HTM

2.3.7.A. SITE PREPARATION

The Hazelwood Green site is a brownfield project undergoing redevelopment and remediation in accordance with Pennsylvania's Land Recycling and Environmental Remediation Standards Act, more commonly known as "Act 2." Investigations of the site began in 2004 with monitoring wells, soil tests, and the development of clean-up plans. For the clean-up plans, the site was broken into two sections: north of the CSX Spur (Eliza Furnace) and south of the tracks (Coke Plant). As development proceeds, the site will be capped in accordance with Act 2 standards, and additional provisions may be required for construction located within Area B (refer to *Figure 2-5*). "Areas A and B" were delineated in the final clean-up plan. Area B is an area on the site where the majority of the coke ovens once operated. Due to this legacy issue, this area has elevated levels of hydrocarbons and other contaminants in addition to the heavy metals found through the entire site. Additional environmental restrictions are in place within Area B, along with those in place for Area A.

LTV demolished the majority of structures on the site prior to the sale. Through 2012, most of the remaining buildings on site were razed and salvaged scrap was sold and repurposed, but tons of buried concrete and steel that once served as the foundations of the furnaces, coke ovens, and bar, billet and cold-finishing mills were left behind. To address these leftover construction debris and raise the site's elevation (approximately two to 10 feet), the site was covered with 800,000 cubic yards of excess fill from nearby development projects, including the South Side Works development

View of the site looking northeast towards Oakland, March 2018 :: Image Credit: Environmental Planning and Design, LLC

A FURNACE is used for obtaining high-temperature heating during the steel-making process; this includes heating and smeltering of metals.

A COKE OVEN converts coal into coke by heating the coal within the oven to 1,000 – 2,000 degrees Celsius. The coke by-product can then be used for fuel in a blast furnace or for the smeltering of iron ore.[21]

A BILLET is a semi-finished steel product that is up to 155mm x 155mm. Billet is either rolled or continuously cast and is then transformed by rolling to obtain finished products such as wire rod, merchant bars, and other sections.[22]

A BAR is a type of finished steel product, commonly in flat, square, round, or hexagonal shapes. Bars are rolled from billet.[23]

COLD-FINISHING MILLS processed sheets or strips that had already been hot rolled to create a thinner, smoother, and stronger product than hot rolling alone.[24]

SLAG is a byproduct of steel making and is made when the molten liquid melts, i.e. "hot poured." Many different grades of steel can be produced, resulting in various types of slag depending on the grade of steel being produced. [25]

COMPLETE STREET integrates people and place in the planning, design, construction, operation, and maintenance of an area's transportation network to ensure that streets are safe for all ages and abilities, balance the needs of different modes, and support local land uses, economies, cultures, and natural environments. Two resources for design and thinking about complete streets include: the National Association of City Transportation Officials (NACTO) and the National Complete Streets Coalition.

and the transit tunnel for the North Shore Connector.[20] The resulting layers on site include approximately: fill, construction debris, and 30 to 40 feet of "hot poured" slag. Groundwater is roughly 15 to 25 feet below surface near Second Avenue, with bedrock at approximately 80 feet below surface. As an Act 2 site, all material must either stay on site, go to another Act 2 facility, or be disposed of at a regulated waste landfill. This may have implications for building underground (i.e. basements or underground parking) and the foundations or pilings required in the case of poor sub-surface conditions.

Today, three structures remain on the site with an intent for restoration and redevelopment, if feasible: the Roundhouse (built in 1887 – 22,620 square feet), the Mill 19 building (built in 1943 – 180,000 square feet), and the Pump House (built circa 1870 – 3,400 square feet). As of November 2017, construction on Phase A of the Mill 19 building is underway.

2.3.7.B. HORIZONTAL DEVELOPMENT

From 2013 to 2017, RIDC led the "Signature Boulevard" project, which consisted of Pittsburgh's first complete street – Blair Street – and Hazelwood Avenue extension, along with significant investment in the site's stormwater management system. This project included a series of stormwater best management practices (BMPs), including: bio-infiltration areas, planted bumpouts, tree pits, and a porous cycle track. This approach to stormwater management means that all rainwater from the 95th percentile storm that falls on site can be captured on site, alleviating burdens from the City's combined sewer overflow (CSO) system. Also, in 2016 Uber Advanced Technologies Center (Uber ATC) moved to the site as a temporary use of 42 acres for a test track that will be removed and developed according to the plan in the future.

To physically reconnect the Hazelwood neighborhood to the site, the neighborhood's existing street names are being extended into the new street network wherever possible. Thus, the north-south section of Signature Boulevard will be renamed Blair Street, and the east-west section at the southern end will be renamed Hazelwood Avenue upon public dedication. Further information on these streets, their purpose, and their composition is detailed in *Section 5*.

Finally, as part of the 2013 PLDP, a Traffic Impact Study (TIS) was developed to understand how the site's full build-out would affect traffic patterns for the neighborhood, the city, and the region. As a result of the 2013 TIS, the Pennsylvania Department of Transportation (PennDOT) approved improvements to accommodate increased trip generation in the area. These improvements are expected to be completed during 2019 and 2020. The new 2018 TIS and recommendations are further detailed in *Section 5*.

Hazelwood Green is a large project that has been ongoing since 2002, and as such there have been numerous studies, plans, and large and small projects conducted on and for the site. This section is intended to provide a unified background on the activity and conditions that have informed the Vision, Principles, and plan developed since the 2013 PLDP was approved. This summary should not be considered to replace independent due diligence that would be required prior to undertaking vertical development on the site. While a majority of the Blocks are ready for development, site work will continue in the form of a final fill cap and grading of Blocks, and development and completion of additional street infrastructure and public spaces described in other sections of this PLDP.

20 Fraser, Jeff. "Act II: After the Mill," 2012. h Magazine, Issue 2.http://www.heinz.org/userfiles/library/2012_issue2_complete.pdf

21 "What is a Coke Oven?". Innovation and Information for Sustainable Living. http://www.innovateus.net/science/what-coke-oven

22 "A Guide to the Language of Steel". Arcelor Mittal. http://corporate.arcelormittal.com/news-and-media/factfile/steel-terminology

23 "A Guide to the Language of Steel". Arcelor Mittal. http://corporate.arcelormittal.com/news-and-media/factfile/steel-terminology

24 "A Guide to the Language of Steel". Arcelor Mittal. http://corporate.arcelormittal.com/news-and-media/factfile/steel-terminology

25 "Steel Slag". U.S. Department of Transportation. https://www.fhwa.dot.gov/publications/research/infrastructure/structures/97148/ssa1.cfm


TRAIL CONNECTION
STORMWATER RETENTION
STORMWATER RETENTION
MULTI-USE TRAIL
ROUNDHOUSE
STORMWATER RETENTION
STORMWATER RETENTION
MILL 19
STORMWATER RETENTION
PUMP HOUSE
BLAIR STREET
HAZELWOOD AVENUE
UBER ATC

03

DISTRICTS & LAND USE

Above: The River District, looking North on Blair Street towards Oakland :: Image Credit: © Depiction, LLC 2018

03

28 — Development Districts
32 — Urban Open Space
38 — Land Uses

03 DISTRICTS & LAND USE

The Hazelwood Green development site is envisioned as a place where people thrive, new ideas are forged, and the ecological condition is regenerated. This will be accomplished in part through the development of a mix of uses within a planning framework that encourages social interaction and generates diversity of economic benefits. Large-scale urban development projects once mimicked sprawling, car-oriented, suburban development models governed by parking minimums and single family detached housing separated from employment and retail centers. Hazelwood Green is responding to a new era of urban development practices, where density improves economic models, increases options for multi-modal access, and encourages a mix of uses with amenities required to attract a new generation of workers and residents. This Section contains regulations and land uses for the site's development Districts to:

- Ensure a balanced ratio of uses are created to achieve site vitality;
- Establish minimum intensity and density targets to create critical mass;
- Integrate built and natural environments to improve performance; and
- Provide flexibility in implementation that is adaptive to future market changes.

3.1 Development Districts

The plan comprises three distinct districts: the Mill District, the Flats District, and the River District (refer to FIGURE 3–1). Each District is a unique urban place framed by the differences in adjacent uses, and existing site conditions and boundary lines. The built form established through this PLDP for each District is intended to further shape variety and visual interest across the site. The public realm elements of each District are intended to work together with the existing site conditions and the built form to support a walkable community with site-wide opportunities for social interaction and economic vitality.

Consideration of the site as Districts will guide development phasing and implementation, and facilitate the tracking of project performance over the course of the full build-out (refer to FIGURE 3–2). The District build-out targets and the holistic development vision are not the responsibility of the City to track, administer, and enforce, but rather a consideration and underlying objective for the current and future property owner(s) and developer(s). The three Districts and their unique characteristics are detailed in the following sections.

PUBLIC REALM is typically considered the space around, between, and within buildings that is publicly accessible and available without charge for anyone to use. The public realm belongs to everyone; it includes: streets, parks, courtyards, plazas, building entries, other open space, etc. A high-quality public realm is essential to creating a harmonious, socially inclusive community and active streets.

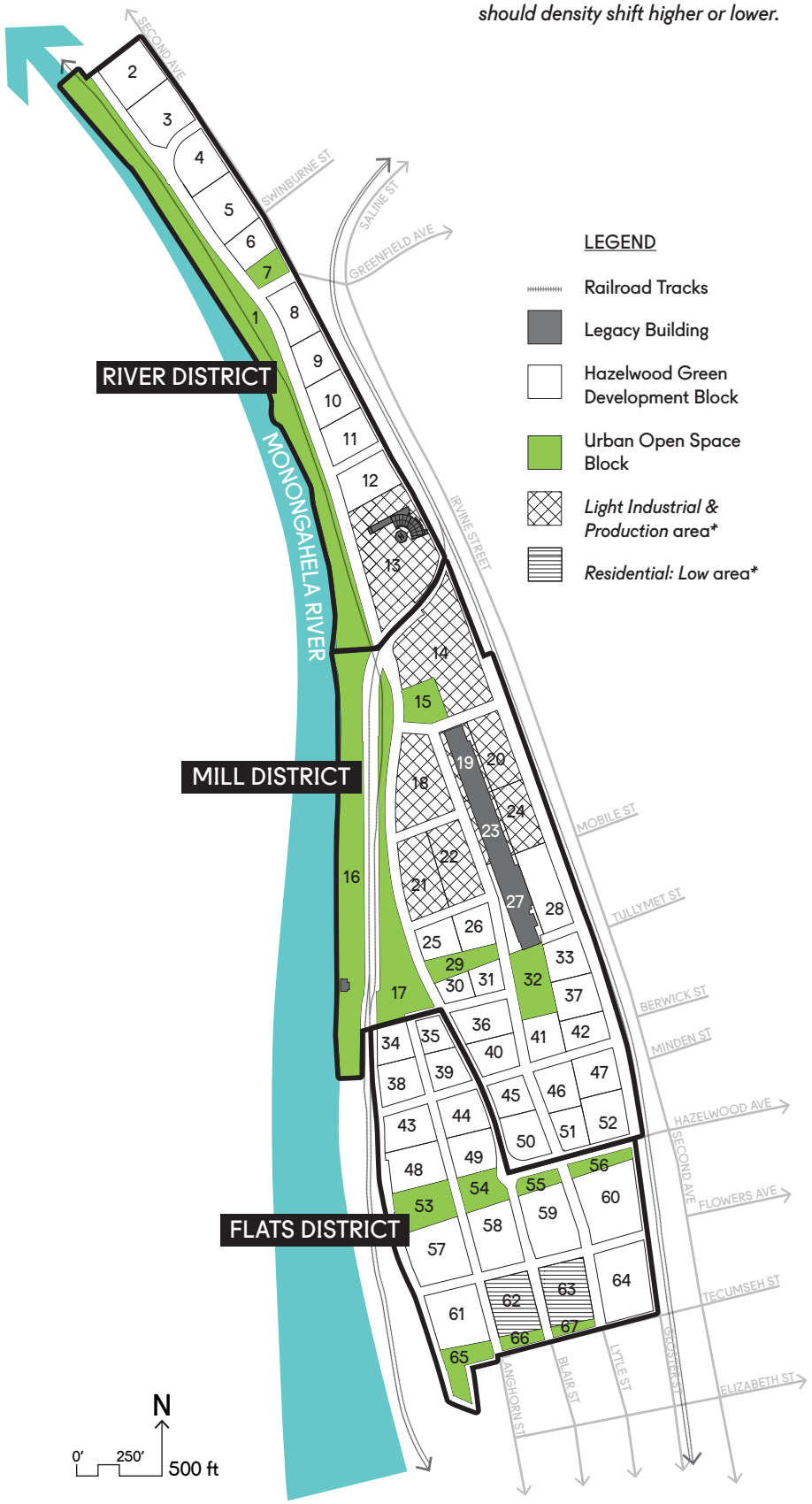
Below: View of the Roundhouse towards Downtown, 2017 :: Image Credit: ReMake Group

FIGURE 3–1 Hazelwood Green Districts & Land Uses

** Note, the Light Industrial & Production and the Residential: Low areas comprise the only locations where that Land Use may be the sole land use on the Block (refer to Section 3.3).*

FIGURE 3–2 Hazelwood Green Development by District

The following program reflects median development targets, with the intent to maintain a healthy balance of residents and jobs on site should density shift higher or lower.



HAZELWOOD GREEN	
Gross Land Area	178 acres
Urban Open Space	30.6 acres
Development Land	98.2 acres
Total Building Area	7,996,000 sf
Non-Residential	4,359,000 sf
Residential	3,637,000 sf
Dwelling Units	3,500 du
Residential Density	27,330 ppl/mi²
Job Density	46,740 ppl/mi²
Jobs/Housing Ratio	3.3
Total Parking	3,090,800 sf
Shared Parking	8,830 spaces

RIVER DISTRICT	
Gross Land Area	42.3 acres
Urban Open Space	10.6 acres
Development Land	22.8 acres
Total Building Area	2,728,000 sf
Non-Residential	1,590,000 sf
Residential	1,138,000 sf
Dwelling Units	1,130 du
Residential Density	36,300 ppl/mi²
Job Density	73,400 ppl/mi²
Jobs/Housing Ratio	4.4
Total Parking Area	915,800 sf
Shared Parking	2,620 spaces

MILL DISTRICT	
Gross Land Area	76.6 acres
Urban Open Space	13.8 acres
Development Land	44.3 acres
Total Building Area	2,749,800 sf
Non-Residential	1,749,800 sf
Residential	1,000,000 sf
Dwelling Units	1,050 du
Residential Density	18,370 ppl/mi²
Job Density	36,330 ppl/mi²
Jobs/Housing Ratio	4.6
Total Parking	1,067,200 sf
Shared Parking	3,050 spaces

FLATS DISTRICT	
Gross Land Area	47.6 acres
Urban Open Space	6.2 acres
Development Land	31.1 acres
Total Building Area	2,518,000 sf
Non-Residential	1,019,000 sf
Residential	1,499,000 sf
Dwelling Units	1,360 du
Residential Density	40,400 ppl/mi²
Job Density	36,400 ppl/mi²
Jobs/Housing Ratio	2.7
Total Parking	842,400 sf
Shared Parking	2,400 spaces

3.1.1 THE MILL DISTRICT

The Mill District in the central portion of the site is Hazelwood Green's first phase of development. The development in and around the Mill 19 building will reflect the rich heritage of the steel production that once took place on the site, while celebrating a new role in the innovation economy through the tenants that occupy the space. The adjacent Urban Open Space (the Plaza), to the south of Mill 19, will act as the central, civic heart of the District and the site (refer to *Section 3.2.2*). Active uses are required in the blocks surrounding the Plaza, such that building activity can spill out during different seasons and hours to create a vibrant street life. The northern end of the District lends itself to production-oriented, light industrial uses. Particularly, due to its location and size, Block 14 has been identified as a preferred Block for future district energy, wastewater treatment, or other district utility infrastructure (refer to FIGURE 3–1). However, the placement of elements of this infrastructure can also be distributed throughout the site.

URBAN OPEN SPACE is a portion of land developed in accordance with §909.01.D3(c) of the City of Pittsburgh Zoning Code.

3.1.2 THE FLATS DISTRICT

The Flats District, located at the southern end of the site, is intended to be a natural extension of the existing Hazelwood neighborhood. A bridge between the old and the new, north-south streets (Langhorn Street, Blair Street, Lytle Street, and Gloster Street) continue from the existing Hazelwood neighborhood and extend through the site to re-stitch the neighborhood fabric. To facilitate this shift from the existing single-family community in Scotch Bottom to higher density in the new development, this District is the only location where Residential: Low (refer to *Section 3.3*) is permitted (refer to *Section 4.1*), but not required. This District has two linear parks that incorporate community-oriented uses such as play and exercise, as well as green infrastructure. Additionally, the linear park along Hazelwood Avenue may be a future gateway and access point to the planned riverfront trail. As of 2018, the majority of this District (42 acres) is under a temporary land license with Uber Advanced Technologies Center (Uber ATC) for use as a test track for autonomous vehicles. As a temporary use, this test track area will be developed in alignment with the PLDP's vision for the Flats District.

3.1.3 THE RIVER DISTRICT

This District intended as a future phase of development. This District is closest to existing, higher-density employment centers in Oakland and the South Side; farthest from existing low-density residential in Hazelwood; backed by a steep slope; and currently best served by transit (as of 2018). As a result, this District is also intended as Hazelwood Green's highest intensity area, with the most opportunity to build greater density. The siting of buildings on the site is regulated by massing guidelines that ensure optimal sunlight on public open spaces (refer to *Section 4.3*). At the south end of this District is the existing Roundhouse building, which should be retained and preserved along with the building's railcar turntable as part of the site's industrial legacy. Also, in this District, a pedestrian promenade is intended to begin at the Roundhouse and run north along Blair Street to create space for street amenities, public art, and first floor activation of buildings facing the river for a high-quality pedestrian experience.

MASSING is an architectural and urban design term that refers to the general shape, form, and size of a building.

:: Districts in Comparison

Hazelwood Green aims to create a vibrant workplace community. Vibrancy can be examined through residential population density, job density, amount of retail, open space, and transit availability within a 5 to 10-minute walk from a central core. Comparing the site and its three Districts to well-known neighborhoods in Pittsburgh helps to illustrate the intended visual dynamic and user experience of these places. Note, the data below is approximated and for illustrative purposes only.

HAZELWOOD GREEN

27,330 :: Residents per mile^2

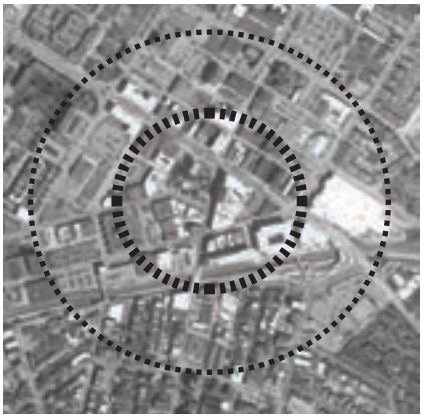
3.3 :: Jobs per dwelling unit

RIVER DISTRICT, HAZELWOOD GREEN

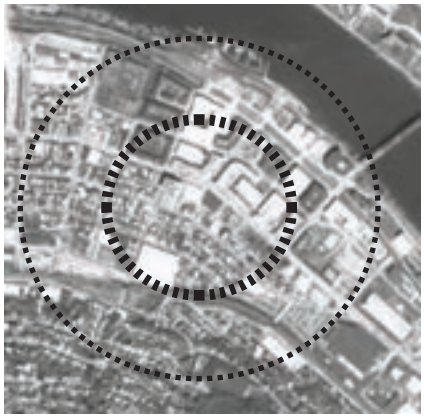
MILL DISTRICT, HAZELWOOD GREEN

FLATS DISTRICT, HAZELWOOD GREEN

NORTH OAKLAND, PITTSBURGH



EAST LIBERTY, PITTSBURGH



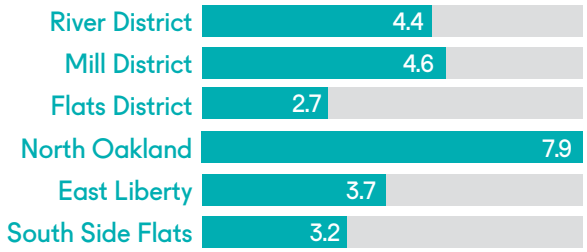
SOUTH SIDE FLATS, PITTSBURGH

LEGEND

▪▪▪▪▪ 5-MINUTE WALK *(approximate)*

▪▪▪▪▪ 10-MINUTE WALK *(approximate)*

JOBS PER DWELLING UNIT



3.2 Urban Open Space

FIGURE 3–3 Hazelwood Green's Urban Open Space by District

URBAN OPEN SPACE	LAND AREA	% of AREA
HAZELWOOD GREEN	30.6 acres	17% (of site)
River District	10.6 acres	25% (of district)
Mill District	13.8 acres	18% (of district)
Flats District	6.2 acres	13% (of district)

A robust public realm in the form of public streets and Urban Open Spaces encourages a high degree of social interaction, provides a visually rich urban landscape, and supports multiple forms of mobility. A right-sized grid of new public streets that integrates and connects to quality urban open spaces will together create a built form that supports a livable community. The vibrancy of Hazelwood Green's public realm is also sustained by the intensity of the private development that surrounds it; the quality and vitality of the public realm, in turn, adds value to the private property. Urban Open Space requirements ensure that workers, residents, and the public enjoy the benefits of urban living by having convenient access to a wide array of outdoor spaces and activities. A quality public realm comprises three main elements: (1) Urban Open Space, (2) buildings, and (3) rights-of-way. The following section details regulations and guidelines for how Urban Open Space shall contribute to Hazelwood Green's public realm; buildings and rights-of-way are discussed in *Sections 4* and *Section 5*, respectively. Detail on the development and implementation plan of Urban Open Spaces can be found in *Section 6*.

3.2.1 GENERAL REQUIREMENTS

Hazelwood Green is designed to leverage existing conditions and make a meaningful impact on the city's overall open space system. §909.01.D3 of the City of Pittsburgh Zoning Code ("Zoning Code") requires that 10% of the gross land area be dedicated to Urban Open Space. The land designated for open space in fulfillment of the City's requirement is 30.6 acres, 17% of the gross area of Hazelwood Green. This open space is evenly distributed across the three Districts, such that Urban Open Space represents 13% to 25% of each District, refer to FIGURE 3–3. The Urban Open Spaces have been located to provide ready access to natural spaces within a five-minute walk, to connect residents and workers to regional amenities, and to provide ecological services, such as rainwater management. The eight Urban Open Spaces shall be located as shown in Hazelwood Green's Urban Open Space Regulating Plan, FIGURE 3–4.

Below: Deer spotted on Hazelwood Greeen, Summer 2017 :: Image Credit: ReMake Group

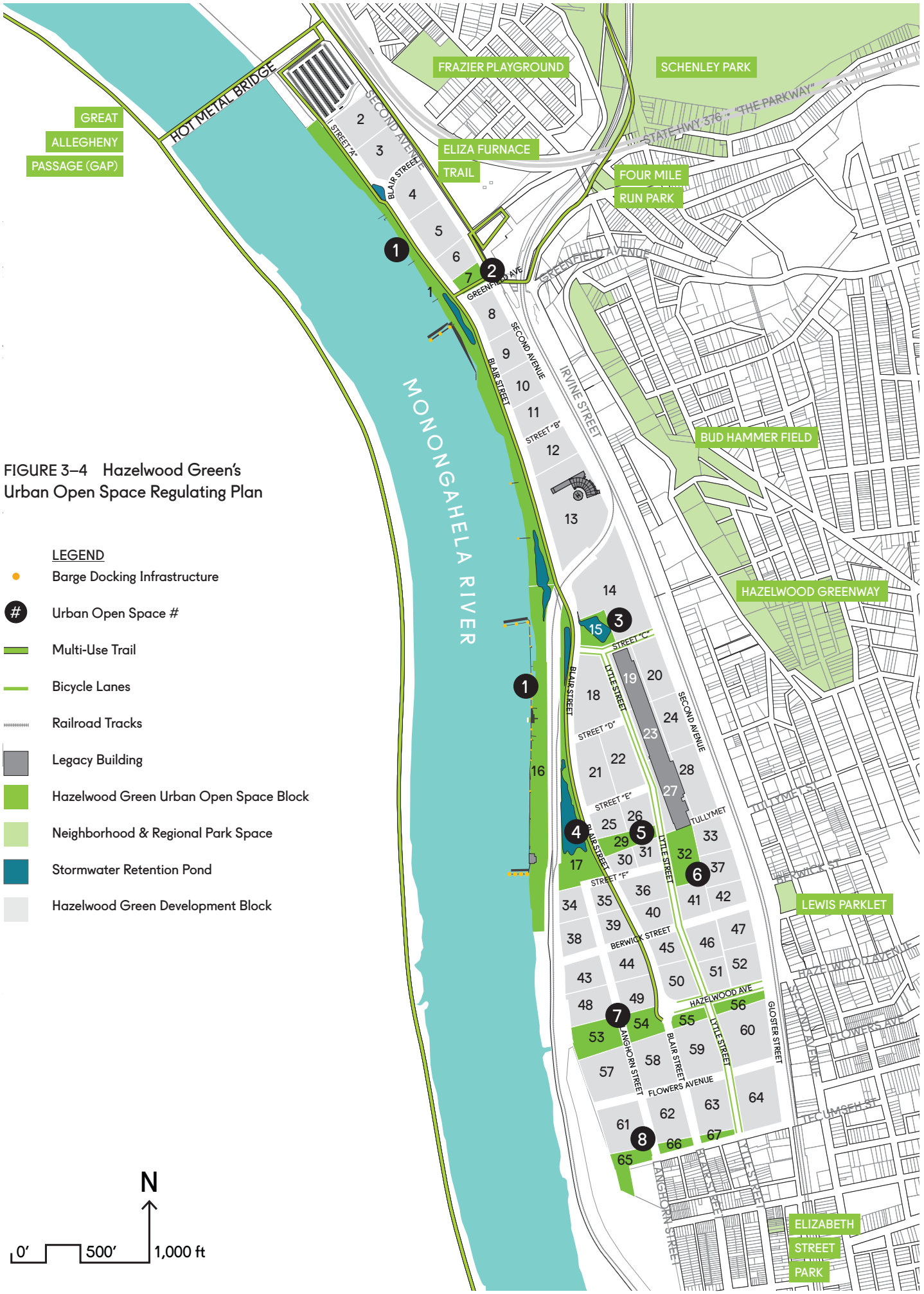


FIGURE 3–4 Hazelwood Green's Urban Open Space Regulating Plan

SUB-SURFACE PARKING refers to parking that is completely below grade – i.e. below ground.

Urban Open Spaces shall be publicly accessible and meet applicable Urban Open Space requirements of the Zoning Code. Urban Open Spaces may be constructed in phases, and in conjunction with the requirements set forth in §909.01.D3 of the Zoning Code. No structured or surface parking shall be built anywhere within the Urban Open Spaces, with the exception of parking that is completely sub-surface and meets all environmental restrictions.

The Urban Open Space system is extended and complemented by publicly accessible private spaces: Public-Private Open Space. These Public-Private Open Spaces are provided on Development Blocks (e.g. courtyards, terraces, pocket parks) and will not be required to satisfy the zoning requirements, but should be designed to be used by residents and visitors to Hazelwood Green. In alignment with Hazelwood Green's overall Vision, Urban Open Spaces and Public-Private Open Spaces should incorporate the following strategies for sustainable landscape design.

a.) Design with: (1) solar access to buildings and open spaces, (2) prevailing winds, (3) relationship to the neighborhood and city, and (4) view corridors and lines of sight in mind.

b.) Complement the regional landscape by specifying in design regionally appropriate vegetation (i.e. native species). Restrict any use of plant species on the Pennsylvania Department of Conservation and Natural Resources (DCNR) Invasive Species List, and employ Tree Pittsburgh's Pittsburgh Urban Forest Master Plan as a resource.

c.) Incorporate green infrastructure such as rain gardens and bioswales to provide increased resiliency in major storm events. This may include sub-surface infiltration and/or rainwater reclamation and harvesting that can then be reused for irrigation, ornamental water features, other non-potable water uses, or as part of a district system.

XERISCAPING is landscaping and gardening that reduces or eliminates the need for supplemental water from irrigation.

d.) Use a xeriscaping approach and/or other water and waste reduction maintenance strategies to ensure long-term operations and maintenance of the space.

e.) Pursue open space certification programs, such as SITES or other related standards.

f.) Facilitate active transportation with connected trails and pathways.

It should be noted that in conjunction with the site-wide strategy to manage rainwater, several retention areas have already been constructed within the Urban Open Spaces, refer to *Section 2.3.7*. These retention areas are filled with water-tolerant planting that provides water filtration, wildlife habitat, and visual interest. However, techniques to make these retention areas more multifunctional (i.e., educational, civic spaces, recreation, seating, etc.) and responsive to programming needs on-site while maintaining their rainwater function should be considered in the future development of the Urban Open Spaces.

PASSIVE RECREATION includes 'low intensity' activities that allow for the preservation of natural habitat and require minimal to no facilities, such as: natural observation (i.e. birding), walking, picnic areas, kayaking, canoeing, cross-country skiing, cycling, etc.

ACTIVE RECREATION includes 'high intensity' activities that often require facilities of some sort. Most sports – soccer, football, basketball, baseball, tennis, track, etc. – fall into this category.

3.2.2 DISTINCT SPACES

Each of the eight Urban Open Spaces delineated on the site has its own unique set of characteristics, functions, and scale that require different approaches to their development and programming. They each should create distinct spaces; provide a mix of passive and active recreation opportunities for site users; and provide opportunities for establishing ecosystems, habitats, and landscapes. The Urban Open Spaces shall be designed, completed, and operated in accordance with the following development programs.

THE PITTSBURGH POOL is the portion of the three rivers (Allegheny, Monongahela, and Ohio) defined by dams at Emsworth on the Ohio, Braddock on the Monongahela, and Sharpsburg on the Allegheny River.

WATER-DEPENDENT FACILITY OR USE. A facility or use that by its nature is required to be on or adjacent to a river; without such adjacency, the use could not exist (i.e., a boathouse, ferry terminal, kayak/canoe launch or operations, etc.). This includes facilities or uses that were originally designed to utilize the rivers, but do not currently use river transport and generally maintain legacy infrastructure related to river use (i.e. the Pump House).

WATER ENHANCED FACILITY OR USE. Recreation, entertainment, or restaurant facilities or similar uses that achieve greater value or beauty as a result of a location on or near a river (i.e., bicycle rentals, trail, riverfront restaurant, nature center, water-oriented academic facilities, etc.).

A DOG RUN is an off-leash area within an Urban Open Space that is fenced and solely for the purposes of allowing dogs to run, explore, and play off-leash with other dogs. Dog runs are specifically designed to withstand prolonged, intensive use by dogs, and often include "big" dog and "small" dog areas. A local, low-investment example is Bernard Dog Run in Lawrenceville, while a higher-investment example is the Schuykill River Dog Run in Philadelphia. §633.22 of the *City of Pittsburgh Code of Ordinances* provides more information on Pittsburgh's Off-Leash Exercise Areas regulations.

3.2.2.A. URBAN OPEN SPACE 1: THE RIVERFRONT [BLOCKS 1 & 16]

Hazelwood Green is fortunate to include almost 1.2 miles of continuous riverfront ownership; the Urban Open Space on Blocks 1 and 16 is considered the site's "riverfront park." Through a continuous river trail, this space will connect to existing and future proposed regional trail networks, serving as a key asset in extending the city and regional trail systems. In a collaborative effort with local and regional organizations, the planning and design of this space should reflect the vision for the entire Pittsburgh Pool. This space shall be designed to connect with Pittsburgh's regional riverfront parks and trails and take future extensions or access points into consideration during the planning and design process.

It is important that the riverfront park design conserve, restore, and enhance native riverbank, aquatic plant life, and the river ecosystem and ecological health. In parallel, design should also facilitate public access for water activities (such as boating – paddling, sailing, rowing, or motorized), as well as waterfront commercial uses. As such, the riverfront will accommodate a wide range of active and passive uses, including (but not limited to): naturalized landscapes, recreation, play spaces, fitness equipment, water-dependent facility or use, a water-enhanced facility or use, other recreation-oriented uses (i.e. bicycle rentals), gathering spaces (i.e. overlooks, viewpoints, seating, plazas), green infrastructure, docks, piers, and boardwalks. Should uses be incorporated within the Riverfront that do not meet the City's definition of Urban Open Space, then that portion of area will not count to the site's total Urban Open Space area.

3.2.2.B. URBAN OPEN SPACE 2 [BLOCK 7]

This space is uniquely situated over a number of utility easements (including the ALCOSAN Interceptor M-29) and is "downstream" of the joint effort underway to bring a day-lit stream (stormwater runoff from the Four Mile Watershed) through this space (refer to *Section 2.3.5* for more detail). Therefore, development of this space shall take into account and integrate this vision for a green infrastructure solution to the Four Mile Run Watershed. Furthermore, its location at a critical intersection means that this space is intended to serve as a main entrance into Hazelwood Green, facilitating heavy pedestrian and cyclist access, as well as supporting a future transit stop or route. This space is envisioned to include such diverse amenities as: play space, seating area(s), a day-lit stream, bio-retention or wetland area(s), boardwalk(s), educational and public awareness opportunities, and recreation-oriented service facilities (i.e., bicycle rental, fix-it stations, restrooms, bicycle lockers / parking, etc.).

3.2.2.C. URBAN OPEN SPACE 3 [BLOCK 15]

Half of this space (43%) shall be retained as a retention area, providing water management and filtration functions, habitat, and visual interest. As such and given its proximity to the preferred location for future district utility infrastructure, this space should be oriented towards that utility use, allowing for opportunities to integrate with future utility infrastructure – such as a future water reclamation process – or providing the opportunity to showcase green infrastructure for educational and public awareness of green and grey infrastructure.

3.2.2.D. URBAN OPEN SPACE 4 [BLOCK 17]

A retention area occupies approximately 30% of this block. The space also parallels the site's main cycling and pedestrian path and is closely connected to the riverfront park (Blocks 1 & 16). Therefore, the space should accommodate a range of uses including: civic spaces, outdoor fitness equipment, play spaces, restroom facilities, educational programming, etc. While it may be developed separately, this space should be considered in conjunction with Blocks 1 & 16 as a part of the larger "riverfront park." Finally, this space (in addition to Block 65) could be a suitable location for a dog run, should that be a desired function in the future.

(Top) Great Allegheny Passage :: Image Credit: Horizontal Tread Blogpost (Upper Middle) Schenley Plaza - Pittsburgh, PA :: Image Credit: Pittsburgh Parks Conservancy (Lower Middle) Musical Swings - Downtown San Jose, CA :: Image Credit: Karl Mondon - Bay Area News Group (Bottom) Tanner Springs Park - Portland, OR :: Image Credit: GreenWorks

(Top) August Wilson Court - Pittsburgh, PA :: Image Credit: WESA (Upper Middle) Schenley Plaza - Pittsburgh, PA :: Image Credit: Conflict Kitchen (Lower Middle) Schenley Plaza - Pittsburgh, PA :: Image Credit: Pittsburgh Parks Conservancy (Bottom) Schuykill River Dog Run - Philadelphia, PA :: Image Credit: Forever Lawn

(Top) Frick Park - Pittsburgh, PA :: Image Credit: Pittsburgh Parks Conservancy (Upper Middle) Agnes Katz Plaza - Pittsburgh, PA :: Image Credit: Pittsburgh Cultural Trust (Lower Middle) Shiloh Farm - Pittsburgh, PA :: Image Credit: Grow Pittsburgh (Bottom) Schenley Park - Pittsburgh, PA :: Image Credit: Pittsburgh Parks Conservancy

3.2.2.E. URBAN OPEN SPACE 5 [BLOCK 29]

This space acts as a linear park, providing a vital east-west connection from the intended Plaza on Block 32 to the riverfront trail on Block 17. While mobility – pedestrian and bicycle access – through the space should be a priority, this space has the opportunity to be balanced with passive recreation and vegetation while accommodating low-intensity activities such tables, benches or other gathering spaces, or lawn games, such as bocce ball. This space is located over a utility easement and within "Area B," so all necessary measures under Act 2 must be adhered to in its planning, design, and construction (refer to *Section 2*).

3.2.2.F. URBAN OPEN SPACE 6: THE PLAZA [BLOCK 32]

"The Plaza" is intended as the civic heart of Hazelwood Green – a gathering space for public events, a meeting location for daily users, and an outdoor living room for Hazelwood Green residents, workers, and visitors. Its flexible design is intended to accommodate a range of activities. For example, hardscape areas might host a market in the summer, an ice skating rink in the winter, and food trucks year-round. An open-air pavilion might be converted to a café as the Hazelwood Green population grows. In addition to hardscape, it may also include gardens, play areas, restrooms, limited commercial facilities, and other public amenities. The long-term programming and sustainability of this space will be an important part of Hazelwood Green's development. This space is located within "Area B," so all necessary measures under Act 2 must be adhered to in its planning, design, and construction.

3.2.2.G. URBAN OPEN SPACE 7 [BLOCKS 53, 54, 55, AND 56]

Intended as a tree-lined promenade along Hazelwood Avenue, this space leads visitors from Greater Hazelwood toward the Monongahela River. It is envisioned to provide a future connection to the riverfront (and riverfront trail) underneath the railroad tracks currently controlled by CSX and used by AVR. Planted areas offer space for informal recreation and gardens, while hardscapes should facilitate play spaces, outdoor fitness opportunities, and seating areas. As this space transitions from a narrower, linear park to a wider space near the river, it can accommodate more diverse uses, including (but not limited to): recreation, green infrastructure, and urban agriculture.

3.2.2.H. URBAN OPEN SPACE 8 [BLOCKS 65, 66, AND 67]

These three blocks comprise a linear park along the southern edge of Hazelwood Green. This space is especially important as it should facilitate the integration of the existing community with the new community, working to welcome and provide amenities to users from both Hazelwood Green and Scotch Bottom. It should feature active and engaging uses, such as play spaces, tree-lined paths and seating areas, bio-retention areas, lawn games, and other unique and creative uses. Within this space, Block 65 is well situated to serve as a dog run (because of its length and edge location) should this be a desired function in the future.

Right: View of the Monongahela from Hazelwood Green, 2012 :: Image Credit: Martha Rial, Courtesy of The Heinz Endowments

3.3 Land Uses

MAXIMUM PARKING shall not be exceeded and is used as a Land Use Standard (instead of a minimum parking standard) to implement the vision of a pedestrian-focused, transit-oriented development. In no cases is there a minimum parking requirement.

To ensure a healthy and vibrant community, a rich mix of land uses is desired at Hazelwood Green. Ten broad Land Use categories are proposed at Hazelwood Green to encourage development diversity while ensuring harmony among uses that are located in close proximity. The Land Uses represent the various mix of activity that is desired at Hazelwood Green, while their associated Maximum Parking standards (refer to FIGURE 3–5), Bicycle Parking Minimums (refer to FIGURE 3–6), and residential density have been established to meet the site-wide employment, housing, and sustainability goals. In lieu of a maximum Floor Area Ratio (FAR) for each Land Use, development is governed by the Block and Building Design regulations in *Section 4* that include: minimum and maximum building heights, build-to requirements, stepbacks, and other massing requirements.

A maximum parking standard is used as part of the site's overall shared parking and transportation strategies. This reduces the economic burden of providing excessive parking and encourages the use of shared parking areas to reduce of the total amount of land area dedicated to parking rather than development. It is understood that early development on-site prior to the implementation of transit solutions may make use of interim parking strategies (such as temporary parking and street parking) to meet the demands of early residents and tenants. For more detail, refer to *Section 5.3.3 Shared Parking Strategy* and requirements during a development's FLDP stage, and refer to *Section 6.2.3 District Transportation System* for site-wide strategy and implementation.

To encourage creative mixed-use proposals for development, any combination of permitted Land Uses is allowed on an individual Development Block. Projects with a mix of residential and non-residential land uses on any single lot shall meet the Standards of each Land Use. Aside from the exceptions noted, all 10 Land Uses are permitted anywhere on the site. The specific uses permitted within each Land Use will be governed by the SP-10 Zoning Text.

FIGURE 3–5 Maximum Vehicular Parking Standards by Land Use

Land Use	Maximum Vehicular Parking
Light Industrial & Production; Research & Development; Office Commercial; Community	2 spaces per 1,000 sf
Hospitality	0.85 space per guest room
Residential: Low	1 space per unit
Residential: Medium; Residential: High	0.85 space per unit

3.3.1 LIGHT INDUSTRIAL & PRODUCTION

This Land Use refers to facilities included in the process of making products or materials. It is intended to create an appropriate setting for production or other light industrial uses such as, but not limited to: technology, life science, advanced manufacturing, energy generation, waste and waste water treatment, and urban agriculture. The *Light Industrial & Production* Land Use is permitted anywhere on the site if integrated with other Land Uses within the Development Lot (refer to *Section 4.1*). However, *Light Industrial & Production* may be the sole Land Use only on Blocks 13, 14, 18, 19, 20, 21, 22, 23, and 24 – the "Light Industrial & Production Area" (refer to FIGURE 3–1).

3.3.2 RESEARCH & DEVELOPMENT

This Land Use is intended to serve enterprises engaged in the advancement of scientific and technological knowledge, and the creation of new products, processes, and services. Buildings may include facilities for research, routine product testing, experimental production, the training of personnel, maker space, and a variety of flexible start-up and incubator spaces.

3.3.3 OFFICE

This Land Use is intended to support business uses that have a higher intensity of employment than other job-producing uses. *Office* may include: professional, administrative, or business-related services; conference centers; and other collaborative venues.

FIGURE 3–6 Minimum Bicycle Parking by Land Use*

Land Use	Minimum Bicycle Parking	
	SHORT-TERM	LONG-TERM**
Residential: Medium Residential: High	Storage for at least 2.5% of peak visitors, but no fewer than four spaces per building.	Storage for at least 30% of all regular building occupants, but no fewer than one space per residential unit.
Light Industrial & Production; Research & Development; Office; Community		Storage for at least 5% of all regular building occupants, but no fewer than four (two for Commercial) spaces per building.
Commercial	At least 2 storage spaces for every 5,000 sf, but no fewer than 2 spaces per building.	At least one shower with changing facility for the first 100 regular building occupants and one additional for every 150 thereafter.

*This requirement ties to the LEED-ND SLL Bicycle Facilities Credit. For additional guidance, refer to the LEED-ND Reference Guide.

**Long-term bicycle storage is typically covered, indoors, and provides added security (than short-term, i.e. on-street bicycle racks) that enables a bicycle to be left all day and/or overnight(s).

DWELLING UNITS PER ACRE is calculated based on the number of residential units within the Development Lot, excluding the area comprised of any Shared Ways within the Lot.

TRANSIT-RELATED USES might include elements such as: electric vehicle charging stations; long-term bicycle parking; bus, shuttle, or other transit-related stops; and/or route facilities and infrastructure.

3.3.4 COMMERCIAL

The *Commercial* Land Use may include: retail, recreational, entertainment, and businesses open to the public where goods, services, or entertainment are offered/sold to the public for use or consumption. This Land Use is intended to provide for shopping, restaurants, and other services and amenities for workers, residents, and visitors.

3.3.5 RESIDENTIAL: LOW

This Land Use is intended for lower-intensity residential and related uses, with a density requirement of 25 to 38 dwelling units per acre. It may include: for-sale and/or rental residential units for individual or multi-family households attached to similar units. *Residential: Low* is prohibited from the Mill and River Districts. Within the Flats District, *Residential: Low* may be the sole Land Use only on Blocks 62 and 63 (refer to FIGURE 3–1). *Residential: Low* is permitted elsewhere within the Flats District when mixed with other uses, such that it is not the sole use of a Lot and does not represent more than 30% of the Block area, or 0.5 acres, whichever is lesser. In these cases, all regular Land Use Standards and Site & Building Design requirements (refer to *Section 4*) with regards to mixed use must be met.

3.3.6 RESIDENTIAL: MEDIUM

With a density requirement of 39 to 63 dwelling units per acre, the *Residential: Medium* Land Use is intended for an urban density with a mix of residential and related uses. This Land Use facilitates multi-unit residential buildings that provide for-sale, rental units, and/or other creative housing models. If not part of a mixed-use building, active ground floor uses that act as community amenities are encouraged, but not required. Appropriate ground floor uses include: local-serving retail, childcare services, fitness facilities, restaurants and cafes, etc. Additionally, this Land Use should accommodate live-work units and auxiliary small business support spaces.

3.3.7 RESIDENTIAL: HIGH

With a minimum density requirement of 63 dwelling units per acre, the *Residential: High* Land Use is intended to promote a mix of high-intensity residential and related uses. This Land Use facilitates multi-unit residential buildings that provide for-sale, rental, and/or other creative housing models. If not part of a mixed-use building, active ground floor uses that act as community amenities are encouraged, but not required. These uses may include: local-serving retail, childcare services, fitness facilities, restaurants and cafes, etc. Additionally, this Land Use should accommodate live-work units and auxiliary small business support spaces.

3.3.8 HOSPITALITY

The *Hospitality* Land Use may include: temporary rented rooms for paying guests, with supporting meeting spaces, amenities, and food services. This Land Use is intended to provide hospitality spaces and services for workers, residents, and visitors.

3.3.9 COMMUNITY

The *Community* Land Use may include cultural, educational, and social facilities, including: schools, community centers, arts centers, and related uses.

3.3.10 PARKING & TRANSIT

Facilities for parking and transit-related uses may be built as part of mixed-use buildings or as free-standing buildings, provided that they comply with requirements in "Parking, Loading, and Servicing" in *Section 4* and *Section 5*. This Land Use is intended to include structured parking and other transportation-related uses. *Parking & Transit* may never be the sole use of a Block, and as such shall adhere to the Land Use Standards of its shared Uses.

04

BLOCK & BUILDING DESIGN

Above: The Flats District, looking South on Lytle Street towards Scotch Bottom with Hays in the distance :: Image Credit: © Depiction, LLC 2018

04

42 — Development Blocks
45 — Build-To Zone
48 — Building Design
59 — Parking & Service Areas
63 — Site & Building Performance

04 BLOCK & BUILDING DESIGN

Complementing Urban Open Spaces and rights-of-way, buildings are critical to establishing a fine grain, human-scaled neighborhood. The Development Blocks and buildings at Hazelwood Green are intended to contribute to the urban fabric by supporting the public realm through well-proportioned, visually engaging, and high performing architecture. Buildings are meant to create well-defined street edges that frame the public realm and convey a sense of activity and liveliness, reinforcing pedestrian-focused environments. The regulations detailed in the following section ensure that all buildings and Development Blocks meet Hazelwood Green's Principles for Development and exhibit excellence in urban design.

4.1 Development Blocks

The layout of Development Blocks ("Blocks"), streets, and Shared Ways at Hazelwood Green is intended to form a tight network of connected public rights-of-way and public easements. This pattern of human-scale streets and blocks provides people with a variety of engaging routes to choose from and encourages pedestrian accessibility and movement.

As illustrated in FIGURE 4–1, Hazelwood Green has 67 Blocks, of which 14 Blocks are designated Urban Open Spaces. There are 53 Blocks designated for building development: 47 Blocks that are owned by Almono LP and six Blocks that are owned by RIDC (Blocks: 19, 20, 23, 24, 27, and 28). The Development Blocks range in size from 0.68 acres (29,500 sf) to 6.25 acres (272,300 sf), but average 1.86 acres (81,200 sf). The acreage of individual Blocks is identified in *Figure 4-2*; each Block is identified by a number for reference within this document. These Blocks were established in sizes that allow for flexibility, minimize easement-related constraints, and support a wide range of uses.

DEVELOPMENT LOT (a "Lot") is a term used to describe a development area within a Development Block without a formal subdivision of a parcel, though at times a Lot may be equivalent to its parcel. The Lot should be identified during the FLDP stage.

For the purposes of phasing development projects, and with the exception of Blocks designated for Urban Open Space, Blocks may be divided or combined, provided that they can still meet PLDP requirements and intent. As detailed in the SP-10 Zoning Text, the division and/or combination of Blocks occurs (and must be approved) during the FLDP process, concurrent with an updated subdivision plan. Should a Block be divided it is to be identified alphanumerically, based on the original Block number. For example, should Block 60 be divided into three Development Lots ("Lots"), these three Lots shall be identified as: "Lot 60-a," "Lot 60-b," and "Lot 60-c." Should Blocks be combined the new Block identification shall refer to both original Block numbers. For example, should Blocks 30 and 31 be combined into one Block, it shall be identified as "Block 30-31." Blocks shall not be merged such that any Primary or Secondary Street (as identified in FIGURE 5–2) is eliminated without a Shared Way provided as a substitute for public access and connectivity.

4.1.1 SHARED WAYS

Shared Ways (refer to *Section 5*) are public easements that occur within and between Blocks as illustrated in FIGURE 4–1. Shared Ways are intended to reduce curb cuts by acting as a driveway, service lanes (for parking garages, loading, utilities, and waste storage), and/or a pedestrian and bicycle throughway between two adjacent Blocks. Privately owned and maintained, Shared Ways shall be public easements

FIGURE 4–1 Hazelwood Green's Development Blocks & Shared Ways

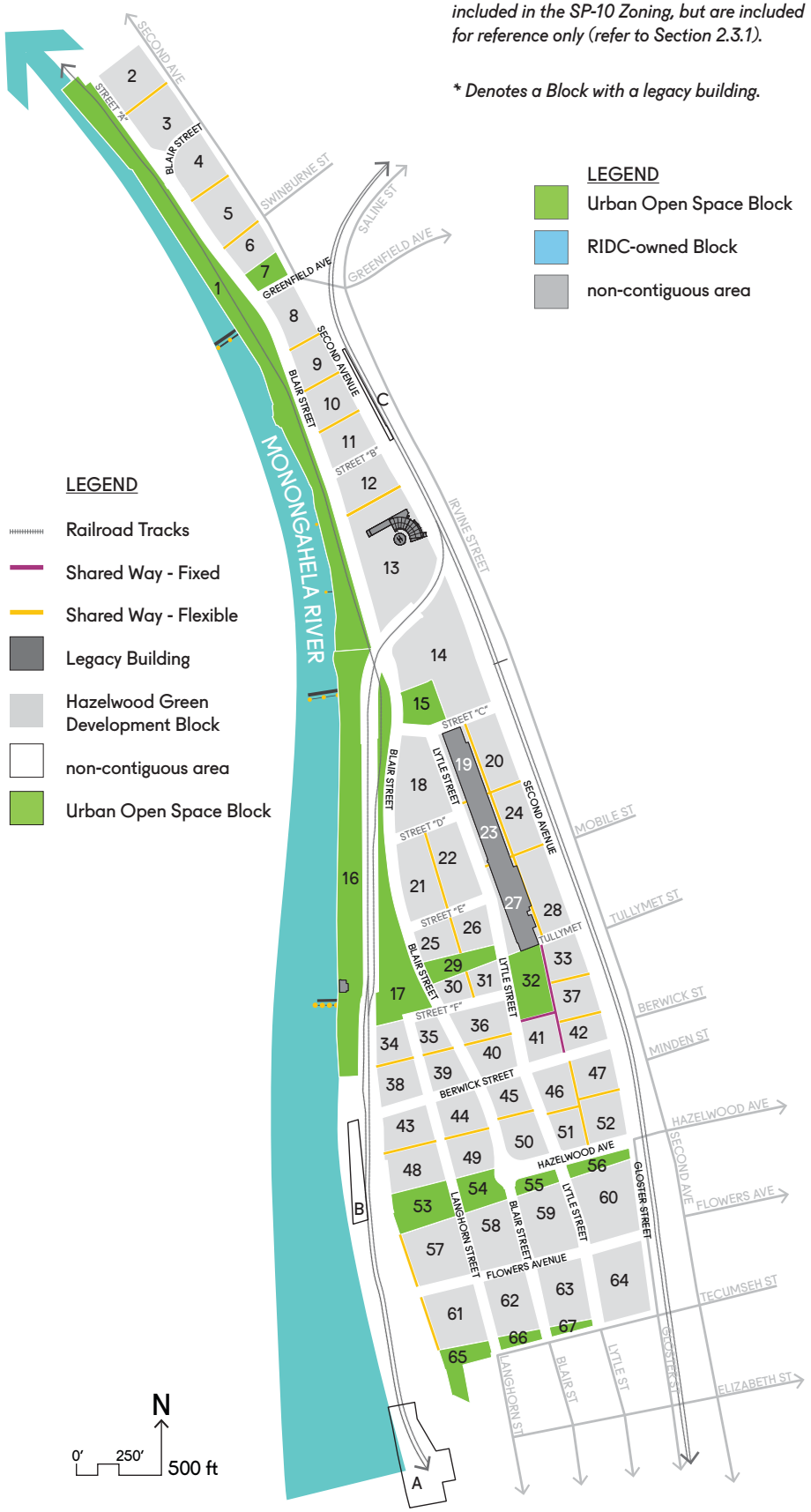


FIGURE 4–2 Development Block Areas & District

Note, the acres and square feet refer to the Block land area, not building area. Additionally, areas A, B, and C are not considered Development Blocks and are not included in the SP-10 Zoning, but are included for reference only (refer to Section 2.3.1).

** Denotes a Block with a legacy building.*

LEGEND
- Urban Open Space Block
- RIDC-owned Block
- non-contiguous area

BLOCK	ACRES	SQ FEET	DISTRICT
1	9.86	429,600	RIVER
2	2.01	87,605	RIVER
3	2.06	89,568	RIVER
4	1.77	77,193	RIVER
5	2.05	89,498	RIVER
6	1.17	51,070	RIVER
7	0.72	31,431	RIVER
8	1.42	61,782	RIVER
9	1.29	56,355	RIVER
10	1.50	65,497	RIVER
11	1.52	66,141	RIVER
12	1.76	76,798	RIVER
13*	6.25	272,308	RIVER
14	5.88	256,135	MILL
15	1.21	52,635	MILL
16*	4.45	193,662	MILL
17	5.04	219,536	MILL
18	3.22	140,444	MILL
19*	1.92	83,494	MILL
20	2.08	90,758	MILL
21	2.38	103,523	MILL
22	2.31	100,583	MILL
23*	1.49	65,075	MILL
24	1.61	69,935	MILL
25	1.11	48,456	MILL
26	1.17	51,169	MILL
27*	2.44	106,231	MILL
28	2.22	96,582	MILL
29	1.13	49,403	MILL
30	0.68	29,476	MILL
31	0.75	32,560	MILL
32	1.95	85,063	MILL
33	1.31	57,197	MILL
34	1.08	46,996	FLATS
35	0.78	34,165	FLATS
36	1.51	65,724	MILL
37	1.41	61,293	MILL
38	1.36	59,311	FLATS
39	1.09	47,457	FLATS
40	1.23	53,770	MILL
41	1.25	54,341	MILL
42	1.09	47,614	MILL
43	1.48	64,302	FLATS
44	1.43	62,180	FLATS
45	1.07	46,772	MILL
46	1.40	60,842	MILL
47	1.39	60,361	MILL
48	1.81	78,847	FLATS
49	1.46	63,797	FLATS
50	1.45	63,135	MILL
51	1.03	44,948	MILL
52	1.52	66,426	MILL
53	1.89	82,381	FLATS
54	1.19	51,953	FLATS
55	0.54	23,696	FLATS
56	0.67	28,997	FLATS
57	2.94	127,892	FLATS
58	2.40	104,420	FLATS
59	2.65	115,288	FLATS
60	3.26	141,965	FLATS
61	2.22	96,648	FLATS
62	1.98	86,088	FLATS
63	2.24	97,789	FLATS
64	2.89	125,715	FLATS
65	1.21	52,662	FLATS
66	0.43	18,816	FLATS
67	0.31	13,319	FLATS
A	2.94	128,152	NA
B	1.05	45,920	NA
C	0.27	11,632	NA

that accommodate building access and use needs, while also providing points of connection. With few exceptions, placement is not fixed, but access through the block shall be provided in that general vicinity. The few exceptions relate to Urban Open Space and overall site connectivity and access. These mandatory Shared Ways are identified in FIGURE 4–1.

Shared Ways shall be built as a curbless, shared space at the grade of the sidewalk. In some cases, Shared Ways must prioritize public access to meet overall site connectivity goals. A Shared Way is designated as "priority-pedestrian" if there is not another way or connection planned or built through the Block within 400 feet or if it serves as a primary connection to an Urban Open Space. If this is the case, the FLDP shall incorporate a design that creates a comfortable, safe, and inviting pedestrian experience through the Shared Way with appropriate lighting, landscaping, screening of loading and trash, textured or patterned pavement, and balancing the needs of pedestrians and vehicles. Shared Ways are further detailed and illustrated in *Section 5*.

The DARK SKY MOVEMENT is an effort to protect the night skies for present and future generations by reducing light pollution. Light pollution may include glare, skyglow, light trespass, and clutter, all of which are detrimental for human health, wildlife, and the climate. Excessive outdoor lighting disturbs nocturnal wildlife and their habitat. High Kelvin lighting – greater than 3000K – can create a harsh glare, making it difficult to see clearly at night, suppressing melatonin production and leading to disrupted sleep and other health risks.

4.1.2 LIGHTING

Lighting on the site will be subject to the City's §1201 Lighting Code. In addition to performance, lighting in Hazelwood Green will take into consideration measures that advance the dark sky movement and minimize light pollution, which include:

- Light only the area needed, and lights should be fully shielded (i.e., pointed or reflected downward).
- Lighting should be LED with a color temperature of 3,000 Kelvins or less, to minimize blue light emissions.

Lighting plays a major role in setting the tone for creating an enjoyable atmosphere within the development, while also ensuring public safety. Until such time that specific Guidelines are developed, the LEED-ND GIB Light Pollution Reduction credit shall be followed. While no specific fixture guidelines have been established at this time, efforts should be made to consider context and artistic elements in the fixture design. Additionally, fixtures should be designed control-ready, with the ability to be individually monitored and controlled by wired or wireless central networks in the future. Finally, prior to installation, the developer shall obtain a photometric study to ascertain the appropriate spacing, based on the fixture, site conditions, and needs.

4.1.3 SITE FURNISHING

Site furnishings are intended to enhance the public realm and streetscapes by providing amenities. City standards should be followed for furnishings within public rights-of-way that are maintained by the City. Site furnishings that will not be City maintained have additional flexibility and specifications will be included in Guidelines. In the interim, the following should be considered:

- Furnishing should not block pedestrian flow.
- Life-cycle of the furnishing, such that quality, durability, and low maintenance are priorities.
- Waste receptacles must include containers for both trash and recycling.
- Transit shelters may be a custom design to match the architectural style of the space, and/or to integrate fun, creative, and interesting elements that make waiting a more pleasant experience for all transit riders or provide information as to the transit times.
- Bollards may be used for traffic control, security, and pedestrian and cyclist safety. Bollards may be lit, and in some cases may need to be removable for emergency access or service access (i.e. access to Block 32 – the Plaza – via a Shared Way).

BOLLARDS are a sturdy, short, vertical posts installed to control road traffic and to prevent ram raiding and car ramming attacks.

4.2 Build-to Zone

BUILD-TO ZONE is the area between the Lot line and a specified depth (in this case 6 feet), measured perpendicular from the Lot line, where the frontage or facade of a structure must be located. If a percentage is specified, it indicates the percentage of the building frontage or facade that must be located with(in) the Build-to Zone.

A Build-To Zone (or frontage zone) has been established to provide an appropriate and comfortable transition between the street and the ground floor of buildings, as well as to encourage workers, residents, and others to engage and inhabit the public realm. A well-landscaped streetscape and continual building frontage positively contribute to the aesthetics of the district. The character and success of streetscapes and other public realm spaces are influenced by the continuity of a streetwall created by adjacent buildings. The following regulations ensure that buildings create clearly defined edges to the public realm and create visual clues to differentiate between varied uses and activities.

4.2.1 BUILD-TO ZONE DIMENSIONS & REQUIREMENTS

STREETWALL is a term used to describe the edge (wall) of the street space formed by the primary facades of buildings or other elements along the street. A 100% streetwall means that there are continuous buildings along the edge of the right-of-ways.

All Blocks have a Build-to Zone of six feet from all Block lines that front a street, Shared Way – Fixed, and/or Urban Open Space. There is no Build-to Zone on an edge that abuts a Shared Way – Flexible or between buildings. The Build-To Zone of six feet is the width (or space) in which all buildings (or structures) are required to locate a regulated percentage of their building frontage (refer to FIGURE 4–3). Based on Lot location, between 30% to 90% of a building frontage is required to be within the Build-To Zone (refer to FIGURE 4–4).

BUILDING FRONTAGE is a building or structure's façade (i.e. exterior wall) along a street or Urban Open Space.

To determine compliance with the Build-To Zone requirements, the total width of the building or building portion(s) located in the build-to-zone is divided by the width of the Lot frontage on which the building is located. This requirement (and associated calculation) applies to each building (as opposed to being aggregated over the length of a Block); Shared Ways are not included in the calculations.

4.2.2 BUILD-TO ZONE DESIGN

To create a high-quality streetscape, pleasant public realm and interesting urban design, some flexibility is permitted for non-building uses within the Build-To Zone, as shown in FIGURE 4–5. The following standards provides additional detail as to how the Build-To Zone can best be used.

FIGURE 4–3 Diagram of the Build-to Zone & Frontage

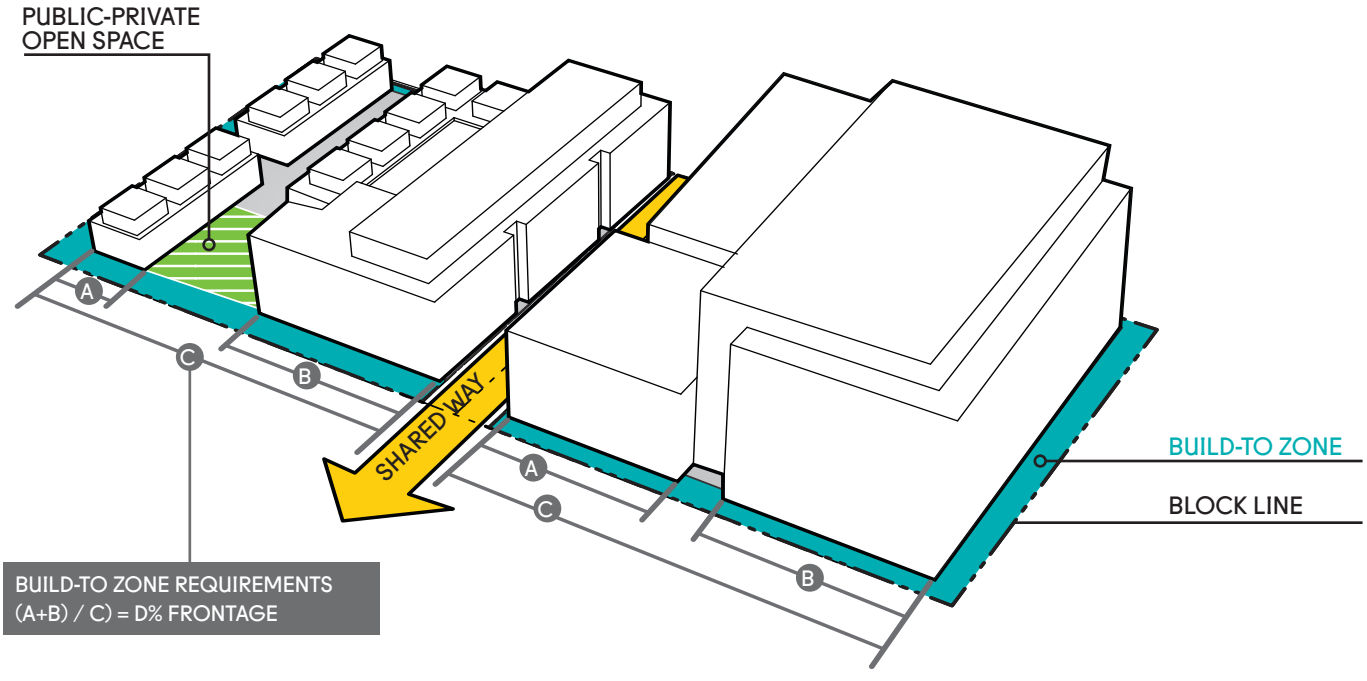


FIGURE 4–4 Hazelwood Green Building Frontage Map

LEGEND

- Railroad Tracks
- Shared Way - Fixed
- Shared Way - Flexible
- 90% Building Frontage Required
- 70% Building Frontage Required
- 30% Building Frontage Required
- Legacy Building
- Hazelwood Green Development Block
- Urban Open Space Block

a.) All non-residential Land Uses are encouraged to incorporate terraces, retail stands, outdoor seating, and dining areas to create outdoor living spaces within the Build-To Zone.

b.) Residential Build-To Zones are intended to allow porches, stairs, stoops, ramps, walks, gardens, and similar residential elements that foster greater social interaction between neighbors.

c.) Regardless of the Land Use, the Build-To Zone is also an ideal area to locate public amenities, including (but not limited to): benches, tables and chairs, transit info display, covered (or uncovered) bicycle parking, and/or bicycle fix-it station.

PROJECT OR 'PROJECTION' refers to elements of the building that extend above or below the ground plane of the Build-To Zone.

d.) Awnings, canopies, balconies, marquees, signs, shading devices, cornices, and lighting may project into the Build-To Zone.

e.) Interior building area may project into the Build-To Zone by up to 50% of the Build-To Zone. Interior building projections must be at a minimum 12 feet from (above) grade and in total for no more than 50% of the length of the building frontage.

f.) Basement levels of buildings are permitted to project into the Build-To Zone up to 50% of the zone; however, the top surface of projections must be a minimum of three feet below grade to allow for adequate planting depth.

g.) Boundary structures such as: walls, fences, and other similar elements, are permitted within the Build-To Zone. These structures shall not be taller than 48 inches. Fencing in the front of the building should be open and chain link fencing is prohibited throughout.

h.) Building elements such as: walkways, ramps, lighting, and steps, including guardrails and handrails, are permitted within the Build-To Zone.

i.) Planting such as: trees and other vegetation (including elevated outdoor space and planting beds) are permitted within the Build-To Zone. Planting beds may not be taller than 36 inches above ground, though vegetation may grow taller. Plantings in raised beds that grow to be greater than 42" in height shall be clustered or spaced so that the building frontage can be seen from the street.

j.) Utilities, transformers, and telecommunications equipment shall not be located in the Build-to Zone. This infrastructure shall be integrated within the building and/or Shared Way and screened in regulation with §918 of the Zoning Code.

FIGURE 4–5 Designing Elements In The Build-To Zone

4.3 Building Design

Building design should hold true to the urban design intentions of the Hazelwood Green Principles: concentrating densities, ensuring an innovative working and living environment, encouraging social interaction, and crafting a vibrant and inclusive public realm. The following section is intended to guide future developers and designers in achieving high quality architectural character, while responding to the needs of workers, residents, and visitors.

4.3.1 GENERAL REGULATIONS

The intent of this PLDP is to create a coherent and legible urban fabric that adds value to every building and its development site. Development requirements will ensure that value is sustained by giving each developer or building occupant confidence that the built context will protect their investment. Every building constitutes a small investment in the public realm; in return, the quality of public space and context contribute to its market appeal, livability, productivity, and asset value. The regulatory framework of the PLDP affords flexibility for economic and technological changes over time. It also supports a high degree of variety, differentiation, and stylistic expression. The following regulations apply to the development of Blocks and buildings in Hazelwood Green.

a.) Buildings and Development Blocks shall include long-term flexibility and adaptability of building design.

b.) All buildings shall be designed to advance the goal of making Hazelwood Green a LEED-ND development and shall, at a minimum, meet the performance targets further detailed in *Section 4.5*.

c.) Any FLDP application in the 1% chance annual floodplain or floodway shall comply with all applicable regulations (refer to FIGURE 2–5).

d.) The three existing structures on-site – Mill 19, the Roundhouse, and the Pump House – are exempt from Build-To Zone and building height requirements, unless the proposal includes a major addition or renovation that changes the shape and character of the structure. Furthermore, these buildings and their legacy on the site should be considered in the development of their Blocks as well as their directly adjacent Blocks. Considerations might include: retaining a line of sight to the building from the street; a use that allows public access to the building at least on occasion, if not regularly; and/or embedding the history of the building within the design or function of the space, i.e. material selection, educational signage, building restoration, etc.

e.) All main entrances of a building shall be located on a public street and publicly accessible sidewalk. Functional entries should occur at an average of 75 feet or less along for all non-residential uses. Buildings are encouraged to also have public entrances on Shared Ways.

f.) Buildings directly adjacent to an Urban Open Space shall locate a public entrance on the side of the Urban Open Space that is accessible directly from a publicly accessible sidewalk.

g.) Garage entries, loading and service entries, transformer rooms, and service entries shall face the Shared Way, and are generally prohibited from all Primary and Secondary streets, with few exceptions where curb cuts are permitted (refer to *Section 4.4* and FIGURE 4–9).

h.) All floors must have a floor-to-floor height of at least 10 feet or higher as noted. *Section 4.3.3* and *Section 4.3.4* details requirements for ground floors and active ground floor uses.

i.) No building length shall be greater than 500 linear feet, measured in a straight from end to end of a facade.

In architecture a BAY is any division of a building between vertical lines or planes; a regularly repeated space between architectural elements, or a recess. Commonly the entire space between two adjacent supports (columns, pilasters, piers, etc.) is used to create a bay from centerline to centerline.

FENESTRATION refers to the design, construction, or presence of openings in a building. Fenestration may include: windows, doors, louvres, vents, wall panels, skylights, storefronts, and curtain walls. Fenestration affects both the visibility into and out of the building, as well as the quality of interior lighting, and the ventilation capacity of the building.

BUILDING AMENITY may include (but are not limited to) food services, recreational facilities, Public-Private Open Space, entertainment facilities, business support services, and daycare. Community-oriented amenities benefit the larger community by providing local services and/or communal space.

Unlike floor height, TRANSPARENCY is measured by the surface area between the floor to ceiling height (ground floor transparency is measured from the average grade to the ceiling height) and building edge. Transparency is calculated as the percentage of the surface area that is transparent (windows, transparent doors, etc.).

TREE CANOPY is the layer of leaves, branches, and stems of trees that cover the ground when viewed from above. A healthy tree canopy plays an important role in managing stormwater (intercepting rainfall), reducing urban heat island effect, reducing air pollution, providing wildlife habitat, increasing property values, and providing an aesthetic and community benefits that contribute to an overall improved quality of life. Within cities, the term "urban tree canopy" may be used instead.

j.) All buildings shall articulate the ground floor, such that ground floors of building facades are detailed with small bays to establish a fine-grained streetscape with a high degree of visual variety along the ground floor. Ground floor articulation is achieved by employing: a change in fenestration pattern; change in building material; and/or a minimum bay that is at least one foot deep and wide. Bays must be articulated at a maximum average distance based on Land Use:
   - 30 linear feet for *Office*, *Research & Development*, *Commercial*, *Hospitality*, *Light Industrial & Production*, *Community*, and *Parking & Transit*; or
   - 25 linear feet for any *Residential* Land Use

k.) All buildings shall include vertical articulation to provide a human-scaled streetwall. Articulation may be achieved by: stepping back units, varying the height, balconies, bay windows, configuration, materials, color, fenestration pattern, and/or other architectural elements.

l.) Lobbies shall be limited to no greater than 30 feet of the street frontage. Lobbies may only exceed this maximum if they are open and publicly accessible during normal business hours, provide public places to sit and gather, and/or include a community-oriented building amenity. A clear relationship between the streetscape and the lobby must be included in the design of the building and the sidewalk. When possible, lobbies should be coordinated with prominent locations and/or on-street drop off and loading zones.

m.) When providing building amenities, public access and/or shared use by Hazelwood Green site tenants or residents should be considered.

n.) For all buildings, the following ground floor transparency requirements apply when adjacent to a public right-of-way and Urban Open Space, refer to *Section 4.3.3* if the first floor is an Active Ground Floor Use.
   - 60% transparency for ground floor of all land uses, except: *Light Industrial & Production*, *Research & Development*, and *Residential: Low*.
   - 30% transparency for ground floor *Light Industrial & Production* and *Research & Development*.
   - 15% transparency for ground floor *Residential: Low*.

o.) The upper floors of all buildings, regardless of use, must have a minimum transparency of 30% for the facades, in aggregate.

p.) The use of mirrored or heavily tinted glass is not permitted. Operable windows are encouraged at all building levels.

q.) All new buildings shall use high-reflectance materials and/or install a vegetated roof for at least 75% of its rooftop area. Materials must meet at least an initial SRI (solar reflective index) of 82 for low-sloped roofs (≤ 2:12) and 39 for steep (> 2:12), or a 3-year aged SRI 64 for low-sloped roofs and 32 for steep roofs.

r.) Public passages through buildings are encouraged, with a minimum clear height of at least one-half the length of the passage and a maximum of two stories, or 30 feet, whichever is lower.

s.) In alignment with a city-wide goal to reach a 60% tree canopy, Development Blocks should contribute to the site's overall goals of mitigating urban heat island effect and providing natural air and water filters through the planting of trees and other vegetation along streetscapes and/or Public-Private Open Spaces.

t.) In selecting materials, priority shall be given to materials that have the following attributes: (1) composted, recycled, or reclaimed content, (2) locally manufactured, (3) and high performing materials (either in efficiency, durability, and/or maintenance). The Red List shall be considered when choosing materials throughout the site (i.e., building, infrastructure, landscaping, furnishing, etc.) to avoid introducing toxins to the site.

The Red List was created (and is maintained) by the International Living Future Institute (ILFI) to begin eliminating harmful chemicals from the built environment, while bringing transparency and awareness to the building industry. It contains the worst-in-class materials prevalent in the building industry and commonly used chemicals that are polluting the environment, bio-accumulating up the food chain until they reach toxic concentrations, and harmful to human health. At this time the Red List includes:

Alkylphenols
Asbestos
Bisphenol A (BPA)
Cadmium
Chlorinated Polyethylene and Chlorosulfonated Polyethlene (CSPE)
Chlorobenzenes
Chlorofluorocarbons (CFCs) and Hyrdrochlorofluorocarbons (HCFCs)
Chloroprene (Neoprene)
Chromium VI
Formaldehyde
Halogenated Flame Retardants (HFRs)
Lead
Mercury
Polychlorinated Biphenyls (PCBS)
Perfluorinated Compounds (PFCS)
Phthalates
Polyvinyl Chloride (PVC), Chlorinated Polyvinyl (CPVC), Polyvinylidene Chloride (PVDC)
Short Chain Chlorinated Paraffins (SCCPS)
Volatile Organic Compounds (VOCS) in wet applications
Wood treatments containing creosote, arsenic, and pentachlorophenol

BUILDING HEIGHT is defined in Sec.925.07 of the Zoning Code, as follows: When measured in feet, building height refers to the vertical distance between the average finished grade along the wall facing the front street yard at the base of the building and: the highest point of the coping of a flat roof; the deck line of a mansard roof; or the average height level between the eaves and ridge line of a gable, hip or gambrel roof. In the case of fences or walls, other than retaining walls, height shall be measured on the side with the least vertical exposure above finished grade to the top of the fence or wall.

STEPBACKS refer to a technique whereby the floorplate of the building is reduced at certain heights of a building, typically at points above four-stories, to improve the pedestrian experience, enable sunlight penetration to the ground plane (streets and public spaces), and creating interesting and functional rooftops at various building levels.

u.) Buildings shall maximize opportunities (e.g., photovoltaic installation, wind generation, geothermal, etc.) for producing on-site renewable energy as a contributor to Hazelwood Green's energy district referenced in *Section 5*. It is not expected of developers to install the renewable energy infrastructure, but rather to prepare and design buildings such that it could be readily installed and/or plugged into the district system. Should renewable energy infrastructure be built by the developer or tenant, it should be designed to plug into the district systems in the future. This infrastructure and related equipment should be integrated within the architecture and design of the building and site, may be visible on rooftops, and is exempt from the requirements detailed within *Section 4.3.4*.

v.) Artists, creators, and innovators should be involved early in the Block and building design process to inform and shape opportunities for integration of artwork, installations, and interactions that bring joy, inspiration, and creativity to the built environment. Art and innovation can be incorporated into projects through the design of virtually any element, artwork, and interactions or installations that enable viewers to touch, feel, read, or move through a concept (refer to the p4 Measure for Design for further considerations).

4.3.2 BUILDING HEIGHT

Maximum Building Heights establish a consistent, urban character; protect access to sunlight and views; and appropriately frame the public realm. Height zones describe the maximum height envelopes without defining specific locations, numbers, or shapes of buildings. In order to provide flexibility and the opportunity for a degree of variety in the built environment, the exact shape and orientation of building footprints within the building envelope is not defined. With the substantial slope to the east of the site (approximately a 300-foot elevation gain), the site can accommodate greater building heights without impeding existing view corridors (refer to FIGURE 4–7). All buildings shall follow the Building Height regulations as described below.

a.) BUILDING HEIGHT is as defined by §925.07A of the Zoning Code, with height exemptions as defined by §925.07C.

b.) BASE BUILDING. All buildings within Hazelwood Green must have a minimum building height of 32 feet.

c.) MAXIMUM BUILDING HEIGHT. The height of structures shall not exceed the applicable maximum height as illustrated in FIGURE 4–6. The number of stories achievable within the maximum heights allowed will vary according to use.

d.) STEPBACKS. Two types of stepbacks are required on Blocks as indicated in *Figure 4-6*, with the exception of buildings set back from the Lot line an equal distance as the required stepback width (i.e. 10, 15, or 20 feet from the Lot line). Stepback requirements help ensure a sunny, comfortable public realm, protecting sunlight access at key areas of Urban Open Space, such that during the Spring and Fall Equinoxes these areas will receive at least four hours of sunlight. Additionally, stepbacks create opportunities for habitable roofs.

- Type I is two stepbacks of 10-feet, one at no higher than 45 feet, and a second no higher than 85 feet.
- Type II is a single 15-foot stepback no higher than 65 feet.

e.) SOLAR ACCESS. In order to optimize the rooftop photovoltaic capacity of buildings, consideration should be given to the solar envelope and the shading of adjacent development(s). A solar access study is strongly encouraged to ensure buildings are designed such that the opposite side of the street has solar access between 10am and 2pm on the Spring and Fall equinoxes. This 'good neighbor' approach helps mitigate shade impacts of building massing.

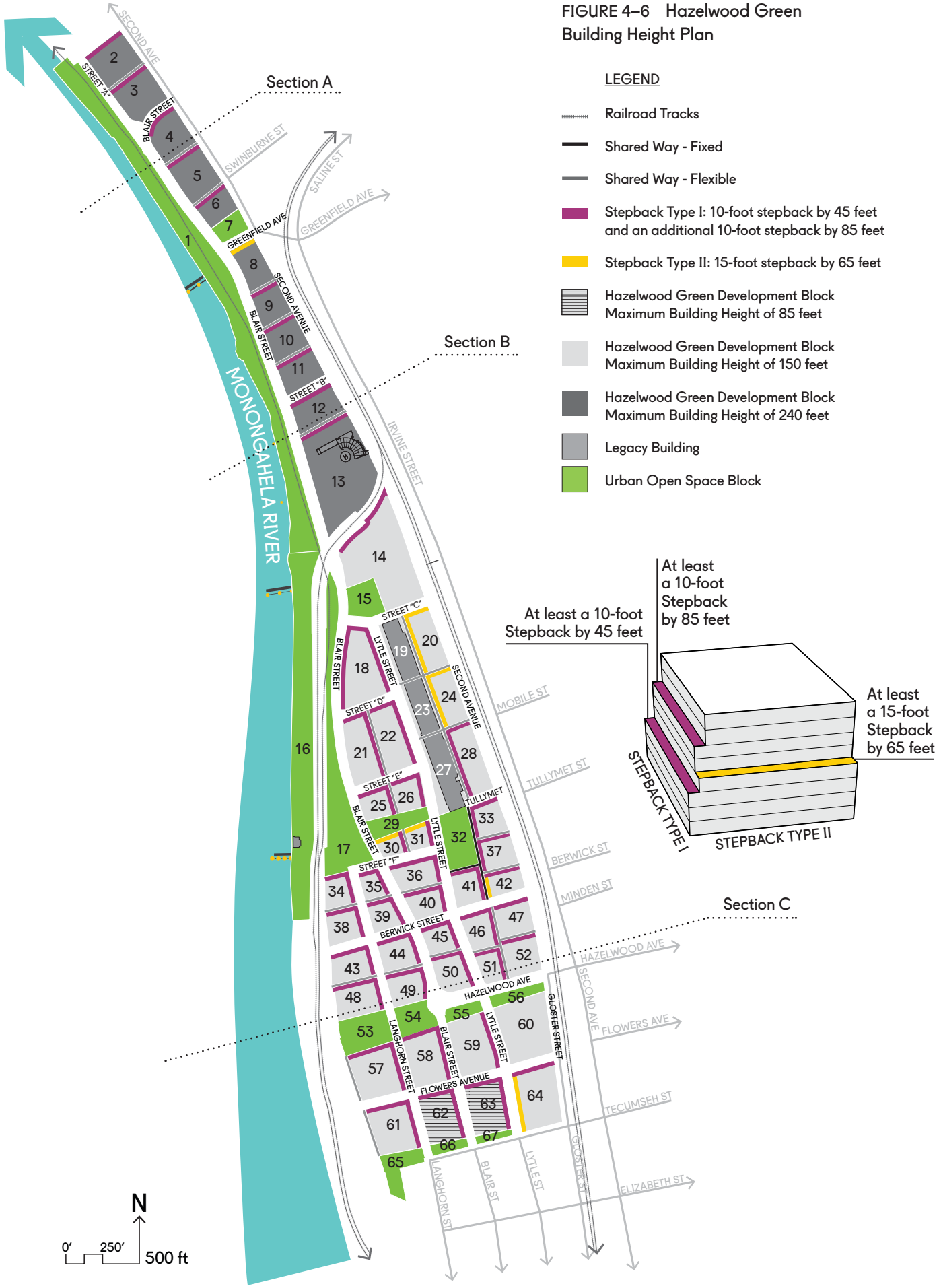
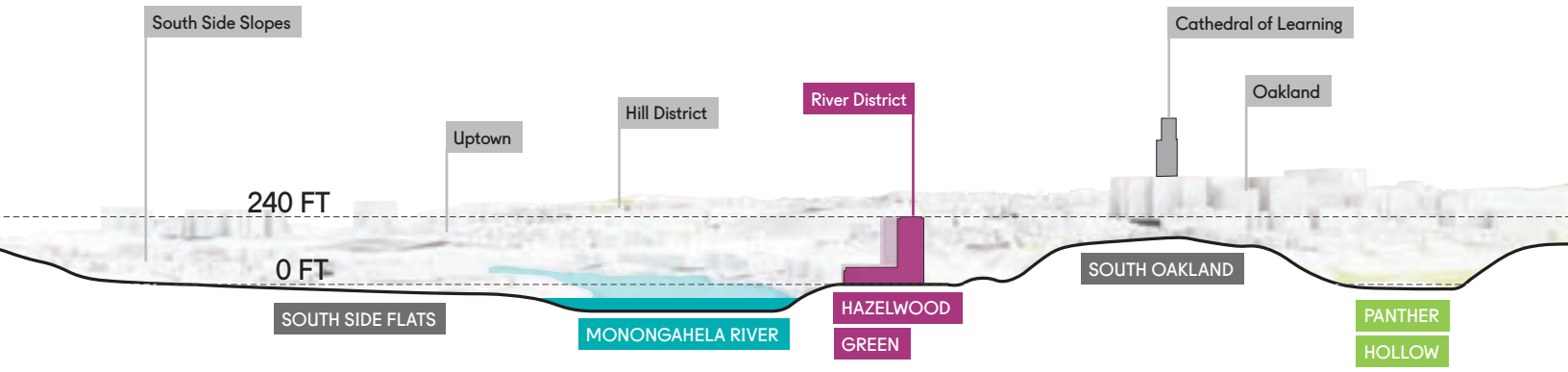
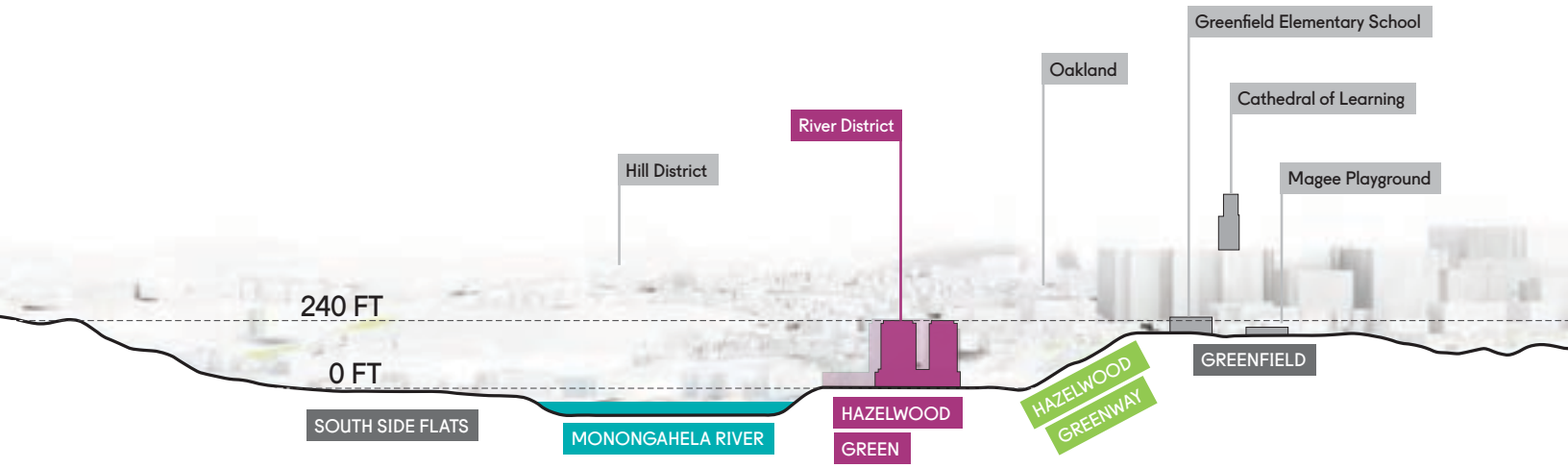


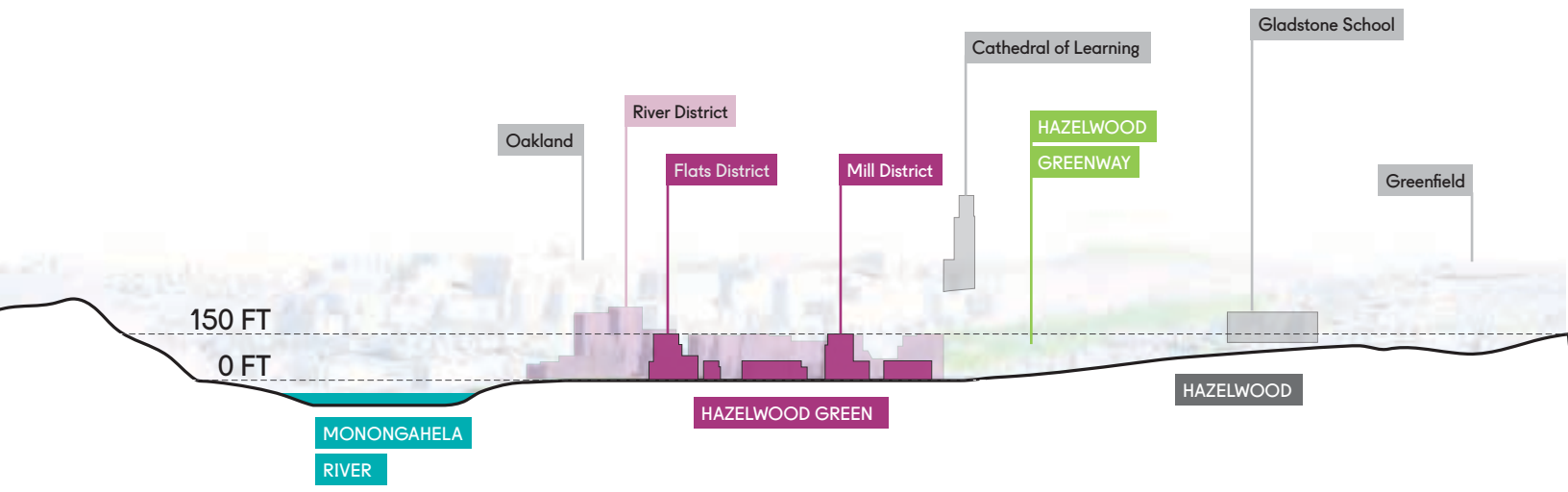
FIGURE 4–6 Hazelwood Green Building Height Plan
LEGEND
Railroad Tracks
Shared Way - Fixed
Shared Way - Flexible
Stepback Type I: 10-foot stepback by 45 feet and an additional 10-foot stepback by 85 feet
Stepback Type II: 15-foot stepback by 65 feet
Hazelwood Green Development Block Maximum Building Height of 85 feet
Hazelwood Green Development Block Maximum Building Height of 150 feet
Hazelwood Green Development Block Maximum Building Height of 240 feet
Legacy Building
Urban Open Space Block
Section A
Section B
Section C
MONONGAHELA RIVER
SECOND AVE
STREET "A"
BLAIR STREET
SWINBURNE ST
SALINE ST
GREENFIELD AVE
SECOND AVENUE
STREET "B"
IRVINE STREET
STREET "C"
LYTLE STREET
STREET "D"
STREET "E"
TULLYMET
STREET "F"
BERWICK STREET
HAZELWOOD AVE
LANGHORN STREET
FLOWERS AVENUE
GLOSTER STREET
MOBILE ST
TULLYMET ST
BERWICK ST
MINDEN ST
HAZELWOOD AVE
SECOND AVE
FLOWERS AVE
TECUMSEH ST
ELIZABETH ST
LANGHORN ST
BLAIR ST
LYTLE ST
GLOSTER ST
At least a 10-foot Stepback by 45 feet
At least a 10-foot Stepback by 85 feet
At least a 15-foot Stepback by 65 feet
STEPBACK TYPE I
STEPBACK TYPE II
N
0′ 250′ 500 ft



SECTION A



SECTION B



SECTION C

FIGURE 4–7 Hazelwood Green Section Lines

4.3.3 ACTIVE GROUND FLOOR USE FRONTAGE

The ground floor is where the activity of a building meets the public realm, and therefore plays the greatest role in shaping the pedestrian experience. Each building frontage has a role to play in the definition and activation of streets and open spaces. Residential buildings should activate the building base with entries, stoops, stairs, and outdoor space that creates private spaces for residents to inhabit. Nonresidential buildings should enliven the public realm by locating active use frontages at the ground floor including locally-serving retail and services; community rooms and kitchens; building amenities; small professional offices; arts facilities; and other uses that create social interaction.

Blocks are considered the basic unit of a city's urban fabric. They are the space for buildings within the street pattern of a city. Typically, a block has sides (frequently four) that are referred to as "BLOCKFACES."

To focus energy and create critical population density in key areas along streetscapes and Urban Open Spaces in Hazelwood Green, a number of blockfaces have been identified for required Active Ground Floor Use (refer to FIGURE 4–8). The following regulations are intended to bring building life to the pedestrian level and into the public realm by requiring individual building entries and a high degree of transparency at the ground floor to create a relationship between the street and the interior of buildings.

a.) ACTIVE USES. Regardless of building type or use, ground floor activation shall be required where indicated in FIGURE 4–8. Active uses are defined in the SP-10 Zoning Code to include activities that attract pedestrian and sidewalk activity, such as: local-serving retail and services, community rooms and kitchen, dining areas, daycares, small professional offices, programmed space, and recreation and arts facilities.

b.) ACTIVE USE RHYTHM. All Active Ground Floor Use frontages shall have an individual entry door for each tenant/occupant directly from an adjacent public right-of-way, public space, and/or public easement. Entries shall occur at an average of 30 feet or less along the building frontage.

c.) VARIETY. To allow for a wider variety of small-scale tenant spaces, no single tenant shall occupy more than 100 linear feet along any single street frontage. Larger users that would occupy more than 100 linear feet of frontage (such as grocery stores and movie theaters) shall allocate a minimum 18 feet of depth between the predominant building facade and the fully occupied area to distinct active uses with independent entries.

For this document, FLOOR HEIGHT is measured as floor to floor, i.e. the top of the floor to the top of the floor above. This means that rather than just the ceiling height, the 'thickness' of the floor is included in the calculation, which often encompasses mechanical systems and/or insulating materials.

d.) FLOOR HEIGHT. Active ground floor uses shall have a minimum floor height of at least 18 feet and should accommodate the construction of a mezzanine level, when appropriate.

e.) PEDESTRIAN SCALE. The first level (or building base) shall be expressed with facade treatments that are scaled to human activity on the street. In general, lower levels of the building shall be distinguished from upper levels by changes in materials or fenestration.

f.) EXPOSURE. Active uses shall be physically and visually oriented towards a public street and Urban Open Space.

g.) OPENNESS. At least 70% transparency. An active use ground floor shall be devoted to transparent windows and doors, or visually open to allow maximum visual interaction between sidewalk areas and the interior of active use spaces. Any security gates must be located on the interior side of the building's perimeter and reflect the building's architecture.

h.) STOREFRONT ENTRIES. Commercial and storefront entrances shall be easily identifiable and distinguishable from residential entrances.

i.) ACCESSIBILITY. All primary entrances shall meet the sidewalk at grade.

FIGURE 4–8 Hazelwood Green
Active Ground Floor Use Plan

LEGEND

- Railroad Tracks
- Shared Way - Fixed
- Shared Way - Flexible
- Active Ground Floor Use Required
- Legacy Building
- Hazelwood Green Development Block
- Urban Open Space Block

4.3.4 BUILDING TYPES

There are four Building Types that guide the exterior design of buildings in Hazelwood Green while accommodating a variety and mix of uses. Scale and use were used to define the four Building Types that are permitted throughout the site. Each Building Type will fall into one of the four Building Type categories defined below and must comply with all other applicable regulations. The Building Types are as follows:

- TYPE A. These buildings take the form of attached houses or stacked townhouses from three to four stories in height. These buildings are only permitted for the Residential: Low Land Use.
- TYPE B. These buildings range from three to eight stories, can accommodate all Land Uses, and are encouraged to facilitate a mixed-used program, including commercial and non-commercial, and public and private uses.
- TYPE C. These buildings are taller than eight stories and may accommodate all Land Uses (except Residential: Low).
- TYPE D. These buildings will accommodate specialized production and other uses that are likely to require unique buildings whose architecture, layout, and character are derived from their functional requirements, and/or serve as an integrated element in the larger site systems.

LOT COVERAGE refers to the percentage of the Lot that is covered by impervious surfaces – i.e., buildings and/or parking. The Build-to Zone and any Shared Ways within the Lot boundaries shall be excluded from the lot coverage calculations entirely.

Above: Powerhouse energy efficient project in Philadelphia completed in 2014 :: Image Credit: Interface Studio Architects

4.3.4.A. TYPE A

This building type has a simple massing that is typically three to four stories tall and can be expressed in a variety of ways. This type may take the form of traditional attached townhouses (single units that are attached in a row), stacked townhouses (two units per building) or a small(er) unit stacked over or on the first level of a townhouse (two units per building). Transparency requirements ensure some visual interaction between sidewalk areas and the interior of residential units. Creative residential units such as patio apartments and efficiency studios are also permitted within a Type A building. Each unit shall have its own entrance from a public street, Shared Way, an Urban Open Space, and/or a Public-Private Open Space. Individual, freestanding houses are not permitted.

- BUILDING HEIGHT. Minimum Building Height is 32 feet; maximum is 45 feet.
- MASSING REQUIREMENTS. All units can have slightly different heights and depths to further individualize the facades. The minimum Lot coverage for Type A developments is 65% of the Lot area; there is no maximum.
- BUILDING ENTRANCES. Residential entries shall occur at an average of one door per 20 linear feet of building frontage. When possible, an 18" to 48" elevation change shall be provided between the first habitable floor of ground floor residential dwelling units and the sidewalk grade. Accessible units shall have access to at least one circulation path that meets universal accessibility standards and the Pittsburgh Visitability Ordinance Accessible units shall have access to at least one circulation path that meets universal accessibility standards and the Pittsburgh Visitability Ordinance. Entrances should have a porch or roofed stoop, be sheltered from the weather, and provide an entry light. Residential building lobbies are not permitted for a Type A building.
- ARTICULATION. A row of units shall be designed to emphasize the rhythm of individual units. The front walls of units that are 20 feet or wider must be divided into two parts, with neither more than 16 feet wide.
- OTHER BUILDING ELEMENTS. Decks (other than roof decks) and mechanical or utility equipment are permitted only in rear yards or on upper floors.

Top: Chophouse Row in Seattle, completed in 2015 :: Image Credit: Sundberg kennedy Ly-Au Young Architects

Middle: The LL Hawkins apartment building with ground floor commercial in Portland, OR :: Image Credit: The LL Hawkins

Bottom Left: Albina Yard timber office building in Portland, OR by LEVER Architecture :: Image Credit: Jeremy Bitterman

Bottom Right: New, mixed use building in New York City :: Image Credit: ReMake Group

4.3.4.B. TYPE B

These buildings range from three to eight stories, can accommodate all Land Uses, and are encouraged to facilitate a mixed-used program, including commercial and non-commercial, and public and private uses. This will be the most common building type at Hazelwood Green.

- BUILDING HEIGHT. The Building Height for Type B buildings shall be at least 32 and up to 85 feet.
- MASSING REQUIREMENTS. A ground floor height of at least 14 feet for non-residential is required. The minimum Lot coverage for Type B developments is 80% of the Lot area; there is no maximum.
- BUILDING ENTRANCES. Any ground floor residential units shall adhere to the Building Entrances regulations of Type A. All other uses shall adhere to *Section 4.3.1*, and *Section 4.3.3* if an active ground floor use is required.
- TRANSPARENCY. When possible, the ground floor facade shall maximum visual interaction between the sidewalk and interior of the building. When glazing consists of more than 50% in a contiguous area of any one facade, it must vary in appearance in the following ways: surface articulation, change in color, and/or pattern (fritting) up to 40% of the glazed area. If the building is required to have an active ground floor use, then it shall adhere to S*ection 4.3.3* requirements for transparency.
- OTHER BUILDING ELEMENTS. Other than life safety requirements, no mechanical or utility equipment may be visible from a street or public building entrance. Any rooftop equipment or mechanical penthouse must be set back from the highest occupied floor at least 10 feet and incorporated into the architecture of the building.

For the purposes of this document, TOWERS are considered any structure taller than 150 feet.

Top: Atlantic Plumbing, an apartment building with ground floor commercial in Washington, D.C. :: Image Credit: Morris Adjmi Architects - Alan Karchmer, Matthew Williams

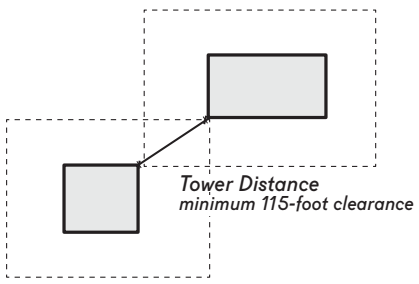
Middle: The Standard at South Market, an apartment building in New Orleans :: Image Credit: Morris Adjmi Architects - Alan Karchmer, Matthew Williams

Bottom: Columbia University's Northwest Corner Building for interdisciplinary research designed by Rafael Moneo, completed in 210 :: Image Credit: Michael Moran

4.3.4.C. TYPE C

These buildings are above eight stories and can include or incorporate towers. While this Building Type can accommodate all Land Uses, except for *Residential: Low*, these buildings are best suited to *Office*, *Research & Development*, *Hospitality*, *Residential: Medium*, and *Residential: High* Land Uses, with more active uses located on the ground floor. To reinforce the urban streetwalls, Type C buildings should be designed as a combination of a low to mid-rise podium building with a tower. If towers are a part of the building, they should be carefully sculpted to accentuate their height while maintaining a comfortable pedestrian realm.

- BUILDING HEIGHT. The Building Height for Type C buildings shall be at least 85 feet and up to 240 feet.
- MASSING REQUIREMENTS. A ground floor height of at least 14 feet for non-residential is required. Tower floor plates can be reduced at upper levels. However, towers may carry the upper level floor-plate form to the Block's ground plane by accommodation of the tower form as an item within the frontage zone and a projection from the lower level massing. Buildings taller than 85 feet shall maintain a minimum distance of 115 feet clear from any portion of another building taller than 85 feet. This distance is to be measured by a 115-foot offset from the building face. The minimum Lot coverage for Type C developments is 80% of the Lot area; there is no maximum.
- BUILDING ENTRANCES. Ground floor residential units are not permitted in Type C buildings. Building shall adhere to *Section 4.3.1*, and *Section 4.3.3* if an active ground floor use is required.
- TRANSPARENCY. The ground floor facade shall maximum visual interaction between the sidewalk and interior of the building. When glazing consists of more than 50% in a contiguous area of any one facade, it must vary in appearance in the following ways: surface articulation, change in color, and/or pattern (fritting) up to 40% of the glazed area. If the building is required to have an active ground floor use, then it shall adhere to *Section 4.3.3* requirements for transparency.
- OTHER BUILDING ELEMENTS. Other than life safety requirements, no mechanical or utility equipment may be visible from a street or public building entrance. Any rooftop equipment or mechanical penthouse must be set back from the highest occupied floor at least 10 feet and be incorporated into the architecture of the building. Outdoor spaces are encouraged but not required. If provided, balconies must be bounded by at least two building walls or at least one building wall and the floor below roof.



Top: University of Washington's west campus utility plant designed by Miller Hull Partnership, completed in 2017 :: Image Credit: AIA Seattle

Bottom: Vertical Harvest, a hydroponic vertical greenhouse and market in Jackson, WY, completed in 2016 :: Image Credit: Vertical Harvest

4.3.4.D. TYPE D

These specialized buildings have architecture, layout, and character derived from their functional requirements and uses and relate solely to the *Light Industrial & Production* and *Research & Development* Land Uses. High-bay manufacturing space is an example of this building type. The style and design of these buildings should be derived from and celebrate the aesthetic of their use and function.

- BUILDING HEIGHT. The Building Height for Type D buildings shall be at least 32 feet and up to 75 feet.
- MASSING REQUIREMENTS. Ground floor heights must be at least 14 feet, while upper floor heights must be at least 10 feet. The minimum Lot coverage for Type D developments is 65% of the Lot area; there is no maximum.
- BUILDING ENTRANCES. Ground floor residential units are not permitted in Type D buildings. Building shall adhere to *Section 4.3.1*, and *Section 4.3.3* if an active ground floor use is required. The ground floor shall be at an elevation that allows maximum accessibility from the sidewalk. Additionally, Type D buildings may have unique and different ground floor frontage needs in comparison to the other building types. Some special needs include, but are not limited to:
  - Freight lifts to enable the vertical movement of large loads.
  - Industrial-scaled building elements that meet durability and structural load requirements.
  - Roll-up or other large doors that provide a large opening may be used at the ground floor to help facilitate loading. Where possible, these doors should have translucent or vision panels incorporated to reinforce the visual connection between the space and the public realm, as well as provide social spill-out space for users and visitors, and create the potential for future adaptability.
- OTHER BUILDING ELEMENTS. Other than life safety requirements, no mechanical or utility equipment may be visible from a street or public building entrance. Any rooftop equipment or mechanical penthouse must be set back from the highest occupied floor at least 10 feet and incorporated into the architecture of the building, with an exception for equipment related to the building's use that are aesthetically integrated into the architecture to express the function of the building.

Top: Integral Parking at The Stables passive house townhome project in Philadelphia, completed in 2014 :: Image Credit: Onion Flats

Middle: Integral Parking at Rag Flats townhome project in Philadelphia, completed in 2005 :: Image Credit: Onion Flats

Bottom: Riverside Mews in Pittsburgh's South Side achieved Energy Star for Homes, completed in 2008 :: Image Credit: Sota Home Living

4.4 Parking & Service Areas

Hazelwood Green is intended to be a mixed-use community that minimizes the necessity for personal vehicles by actively encouraging non-motorized transportation and transit use by site users. Parking and servicing areas are intended to be distributed throughout the Hazelwood Green site to increase convenience and mitigate negative impacts on the public realm. Further detailed in *Section 5.3* and *Section 6*, a transportation demand management and shared parking strategy is required for all uses throughout the site, and parking maximums are determined based on Land Use (refer to *Section 3.3*). It is anticipated that the demand for parking spaces will continue to decrease in response to technological advancements, changes in behavioral preference, and investment in transit, all in conjunction with urban-density development on the site.

4.4.1 GENERAL REQUIREMENTS

The following regulations detail expectations for accommodating parking and service areas within Blocks.

a.) Permitted types of parking and service areas in each Block, public street, and Shared Way are identified in FIGURE 4–9 and detailed further in *Section 5.3*.

b.) All access to parking and service areas (including loading and parking entry/exits) shall be internal to the blocks (behind the building) via Shared Ways, unless otherwise noted (refer to FIGURE 4–9), and should be designed with a goal of minimizing paved surfaces.

c.) In the few instances where curb cuts are permitted from a street (for parking entry/exits and other loading and service uses) these curb cuts are restricted to a maximum of 24 feet. Additionally, there may be no more than two curb cuts per block and no curb cut may be placed within 80 feet of another curb cut the same block.

d.) All parking and service areas shall be appropriately screened both architecturally and with landscaping, such that they are not visible from a public street and in accordance with §918 of the Zoning Code. Parapet edges of parking trays, including the roof and screening around open surface parking areas, must be higher than vehicle headlights to screen adjacent properties. All lighting for parking areas must be contained within the parking area boundary, refer to *Section 4.1.2*.

e.) Storage of refuse containers should be accommodated inside the buildings. However, outdoor storage along a Shared Way may be provided if adequately screened with landscaping, a structure, and/or fencing, such that the storage is not visible from the street or neighboring buildings. No storage is allowed in front of any building and/or adjacent to the street.

f.) Underground parking can occur on any Block. In the case of underground parking on an Urban Open Space, the Block must meet Urban Open Space requirements first and foremost, with underground parking being a secondary function.

g.) All parking structures shall be built to be repurposed for other (habitable) uses by incorporating: flat floors, floor-to-floor heights comparable to other uses, and quality pedestrian connections to the street system, or the parking structure must be demountable. Parking shall be designed with an understanding of how it could be adapted or redeveloped in the long-term, should parking demand decrease.

h.) Podium and Parking Garages shall integrate safe, covered bicycle parking; electric vehicle plug-ins; priority for car and/or bike share parking; and other multi-modal infrastructure, as needed. At least 10% of available parking must be dedicated as preferred parking for carpool and/or shared-use vehicles. This parking must be marked and within an easily accessible location from a public street. Bicycle parking shall be placed at sidewalk grade, in an easily accessible location from a public street.

i.) All parking structures should employ daylighting techniques and dimmable sensor controls to minimize light pollution and energy consumption.

j.) Any surface and top-floor parking open to the sky shall cover at least 75% of the open area with photovoltaics, a green roof or Public-Private Open Space amenity (multi-level parking), and/or a parking surface with an initial solar reflectance (SR) of 0.82 or more. Photovoltaics shall be installed as part of the district energy system or with the intent to plug into a future district energy system.

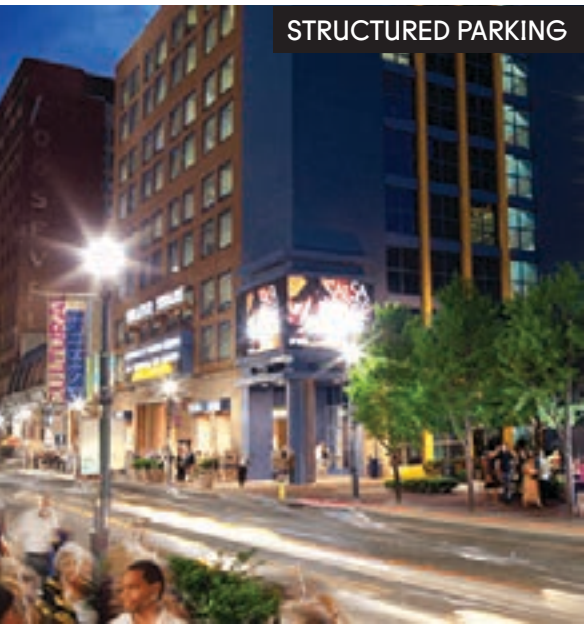
4.4.2 PARKING TYPES

Five vehicular parking types are established for use within Hazelwood Green –Surface Parking, Integral Parking, Podium Parking, Parking Garage, and Temporary Parking – and further detailed below.

a.) SURFACE PARKING includes open surface parking areas or decks that are only permitted when the *Light Industrial & Production* Land Use is the sole or primary use on the Lot. Surface parking is limited to no more than 15% of the Lot, or 0.2 acres, whichever is less. Surface parking shall be no wider than 120 feet and shall use permeable pavers, permeable pavement, and/or other green infrastructure to manage surface run-off on-site, provide shade, and provide natural air filtration.

b.) INTEGRAL PARKING is permitted only in conjunction with the *Residential: Low Land Use*, as "tuck-under" parking that does not have to be shared. Drives and/or spaces covered by permeable decks shall use permeable pavers, permeable pavement, and/or other green infrastructure to manage surface run-off on-site, provide shade, and provide natural air filtration. Integral residential unit garage entries shall not enter onto any street type other than a Shared Way.

Below: Surface Parking covered by Solar Panels at the Frick Environmental Center, Pittsburgh, 2016 :: Image Credit: Green Building Alliance



c.) PODIUM PARKING may be used in locations where topography encourages siting parking on the lower floors of a building with development on the upper floors. Specifically, Podium Parking may only be located on Blocks 13, 14, 20, 24, and 28, refer to FIGURE 4–9. Podium Parking shall be no more than three levels above the lowest grade. When adjacent to streets, Urban Open Spaces, and Public-Private Open Spaces, Podium Parking should be lined with a minimum of 18 feet of occupied habitable space at the ground floor between the parking area and exterior wall of the building.

d.) PARKING GARAGE must follow requirements established by the building heights regulating plan and shall otherwise comply with all articulation requirements. This type refers to above-ground Parking Garages exclusively. Parking Garages shall be given an architecturally articulated street facade with clearly defined openings. All frontages must visually screen the interior from the exterior under daylighting and night lighting conditions. When adjacent to streets, Urban Open Spaces, and Public-Private Open Spaces, Parking Garages shall be lined with a minimum of 18 feet of occupied habitable space at the ground floor between the parking area and exterior wall. Garage facades shall be designed and constructed with an articulated facade consistent with the surrounding buildings (including plane breaks, material changes and roof lines) and containing clearly defined openings resembling window or door compositions. Furthermore, facades should integrate elements of public art, nature (such as a living wall), and/or elements that contribute to site-wide sustainability goals. Parking Garages shall be designed with adaptability in mind, to include: flat floors and floor heights of at least 10 feet. Parking Garages shall not be the sole use on any Block, nor shall they be located on any Urban Open Spaces. Parking Garages are prohibited from Blocks 6, 13, 30, 31, 33, 36, 41, and 51, as illustrated in FIGURE 4–9.

e.) TEMPORARY PARKING is allowed on an interim basis until development reaches a level where such temporary parking is not feasible or desirable. Temporary parking may be used in the early phases of Hazelwood Green development until transit improvements and appropriately sized, shared parking structures are established. Temporary Parking shall only be built during the build-out of Phase 1 (the development of the Mill District) and is not to exceed 10 years from PLDP approval date and 2,000 spaces in total, across the site. Temporary Parking, including space to meet §918 screening requirements, may occupy up to 100% of any Block except those designated as Urban Open Space. Temporary Parking should make use of permeable pavers / pavement or packed crushed gravel, and should incorporate green infrastructure elements to manage stormwater on-site. Trees and other landscaping elements or equipment should be placed such that they can remain in place and/or be replanted elsewhere (on-site or within the city) when the Temporary Parking is redeveloped. Trees within Temporary Parking should be replanted either on-site or within the city.

Top: Rendering of an eight-story office building (New Beatrice West) with two floors of podium parking screened with vegetation in Silicon Beach, Los Angeles 2017:: Image Credit: Gehry Partners

Middle: Theater Square Structured Parking Garage opened in Pittsburgh in 2003 :: Image Credit: The Pittsburgh Cultural Trust

Bottom: West Hollywood Automated Parking Garage after completion in 2016, Los Angeles :: Image Credit: LPA

FIGURE 4–9 Parking & Service Access in Hazelwood Green

LEGEND

- Railroad Tracks
- Shared Way - Fixed
- Shared Way - Flexible
- Curb Cuts / Service Access Permitted

Note, all other access is from Shared Public Ways only

- Podium Parking Permitted
- Podium Parking Permitted, Garages Prohibited*
- Parking Garage Prohibited*
- Legacy Building
- Hazelwood Green Development Block
- Urban Open Space Block

**Note, Parking Garages refers to above-ground only. Sub-surface parking is permitted on any Block as noted in 4.4.1.b.*

4.5 Site & Building Performance

Almono LP is seeking U.S. Green Building Council's LEED for Neighborhood Development Plan certification (LEED-ND) to provide third-party validation by the Green Business Certification Institute (GBCI) of sustainability commitments. Each building project contributes to achieving site-wide goals and efficiencies through individual project certifications and participation in site-wide systems, further detailed in *Section 6*. During the FLDP stage, projects must detail their expected performance using the most current version of the standards referenced below at the time of design and should work to achieve certification following project completion.

The site's actual performance, over the course of development and full-build out, will be tracked by Almono LLC utilizing a combination of LEED standards, Pittsburgh's p4 Performance Measures (p4 Measures), Pittsburgh's 2030 District Goals (2030 Goals), and the International Living Future Institute's Living Community Challenge (LCC) Imperatives and other reporting methods created specifically for the site, as discussed in *Section 6*. Individual projects should also provide a plan for long-term monitoring and reporting of performance metrics through participation in project reporting protocols. This data collection and monitoring of metrics is critical to account for and improve performance, shape future development practices through lessons learned, and to demonstrate how Hazelwood Green is performing site-wide and contributing to city-wide goals.

4.5.1 GENERAL REQUIREMENTS

a.) All development projects, at the time of FLDP approval, must submit to the City documentation that the project is capable of achieving LEED Gold certification or better under the appropriate LEED rating system and version current at the time of design. This would include the documented ability to meet all prerequisites of the LEED Building Design and Construction (LEED BD+C) or LEED Core and Shell (LEED C&S), or future LEED-based standards. Other third-party building certification programs will be considered as an alternative to LEED; however, compliance with the LEED prerequisites for LEED BD+C or LEED C&S, or future equivalent systems, must also be obtainable and documented. Documentation must be prepared and signed by a professional who is current in their accreditation under the rating system that is documented. Exceptions to this requirement will only be made for special purpose uses or building types that are not recognized within LEED or an equivalent rating system at the time of design.

b.) In addition to the above requirements for individual building projects, all FLDP projects with multiple buildings or with a total site area greater than three acres must also submit documentation that the project is capable of achieving LEED-ND Project certification at a level of Gold or better under the version current at the time of design. Alternative third-party neighborhood certification programs will be considered as an alternative to LEED-ND; however, compliance with the LEED-ND project certification prerequisites, or equivalents, must also be obtainable and documented. Documentation must be prepared and signed by a professional who is current in accreditation under the LEED-ND rating system. Exceptions to this requirement will only be made for special purpose uses or projects that are not recognized within LEED-ND or an equivalent rating system at the time of design.

4.5.2 ENVIRONMENTAL PERFORMANCE GUIDELINES

Sustainable, high-quality buildings should be designed with their full lifecycle in mind. Over the long-term, the overall efficiency of the building has a significant impact on the cost of operations and "future-proofing" of the design, as well as the health and productivity of the occupants. Building certification is often not feasible prior to the fulfillment of entitlements required for building occupancy; however, all buildings shall be designed and constructed with the intent of achieving LEED Gold certification or higher, or an equivalent within a third-party certification system at the time of design. This commitment will support the overall Vision for the site and provide multiple benefits to the building owner and occupants. LEED-ND Plan certification will facilitate future building and projects certifications due to the number of site-wide credits achieved through Plan certification, implementation of district systems and the ongoing green operations of the site (refer to *Section 6*).

PITTSBURGH 2030 DISTRICT is a collaborative, nationally recognized, local community of high-performance buildings in Downtown, Oakland, Uptown, and the Northside that aim to dramatically reduce transportation emissions and energy and water consumption, and improve indoor air quality while increasing competitiveness in the business environment and owner's returns on investment. More information can be found at Pittsburgh 2030 District.

In addition to the relevant LEED prerequisites for buildings or neighborhoods, the following minimum building performance requirements should be documented as achievable under the current version of LEED-ND and, LEED BD+C or LEED C&S for individual buildings, or accepted equivalency metrics. While all credits are important and pursuit of Gold or above certification is encouraged, the following areas best align with the minimum environmental priorities for the site: energy, water, air, and transportation that also serve to improve overall human well-being and project resilience.

- GIB Credit: Optimize Building Energy Performance credit - achieve 2 points or more
- GIB Credit: Indoor Water Use Reduction - achieve 1 point
- GIB Credit: Outdoor Water Use Reduction - achieve 2 points
- NPD Credit: Transportation Demand Management - achieve 2 points
- EQ Credit: Enhanced Indoor Air Quality Strategies – achieve 2 points

Additionally, all projects should participate in the Pittsburgh 2030 District to measure ongoing performance and contribution to the 2030 goals. The p4 Measures should also be used to set early targets and track progress over the life of the project, and contribute to Pittsburgh's climate and resiliency goals. Therefore, all projects should document by an authority recognized for professional knowledge of the p4 Performance Measures, the expected p4 performance level of all applicable p4 Measures and demonstrate an ability to meet all relevant baselines. Documentation of Pittsburgh 2030 District participation and the p4 Measures should be submitted at the time of FLDP approval.

Below: View of the Pump House, Spring 2017 :: Image Credit: ReMake Group

4.5.3 SOCIAL DIVERSITY PERFORMANCE GUIDELINES

Hazelwood Green will include a mix of uses described in *Section 3*, that add variety and vitality to the site. Residential buildings should further this intent by providing variety in the building types and unit sizes to attract a diverse residential population to the site. Housing diversity is measured in a number of ways including: tenure, unit size, single vs multi-unit building, live-work space, etc. Diversity of housing also ensures a mix of affordability to provide for a range of household ages, sizes, and income levels. Housing should also be designed in a manner that supports a healthy and inclusive community. In addition to the relevant LEED prerequisites and minimum requirements for buildings or neighborhoods referenced in *Section 4.5.2*, the minimum project performance requirements below (or future equivalents) should be documented as achievable for *Residential* Land Use projects to address social aspects of project performance.

- NPD Credit: Housing Types and Affordability, Option 1 – Diversity of Housing Types, achieve at least 2 points.
- p4 Performance Measure, EC.4 Workforce Housing – achieve 1 point.
- p4 Performance Measure, H.3 Uniform Federal Accessibility Standards – achieve 1 point.
- p4 Performance Measure, H.4 Equity– achieve 1 point.

Below: Conversation during October's Big Tent Event, Fall 2018 :: Image Credit: James Knox Photography

05

MOBILITY

Above: Envisioning the Mill District, looking East with the Pump House in the foreground and Mill 19 in the background :: Image Credit: © Depiction, LLC 2018

05

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05

MOBILITY

Key to unlocking the development potential of Hazelwood Green is an adaptive and sustainable mobility network that enables people to easily and safely travel to, from, and within the site. Hazelwood Green is a people-first community that will work towards a Vision Zero goal through the design and implementation of active transportation options, traffic calming measures, and pedestrian-oriented streetscapes. These commitments also align with the site's overall objectives of minimizing its carbon footprint, improving air quality, and increasing opportunities for active lifestyles. The following section details how Hazelwood Green will achieve these objectives through: (1) mobility networks and their connections to the rest of the city; (2) street types and their design; and, (3) management of transportation demand to and from the site. All mobility elements planned for Hazelwood Green must be implemented in unison and in a fully integrated manner to achieve maximum overall success. Primary measures of success will be: a reduced parking footprint, a high percentage of site users who utilize alternatives to single-occupancy vehicles, and a reduced carbon footprint.

5.1 Mobility Networks

The site's location – between two rail lines, the river and a steep slope – requires innovative solutions for creating a robust mobility network that connects the site with its neighborhood and the rest of the city. These solutions must consider fast-shifting market trends in urban transportation methods and technologies and provide affordable alternatives that are accessible to an array of users. As a result, Hazelwood Green's mobility network is grounded around two key elements.

1. WALKABILITY: establish a walkable street grid. Extending the existing Hazelwood street grid will reconnect the site to its neighborhood. During the era of steel mill operations, thousands of people walked from the neighborhood to jobs on the site. This jobs-housing proximity is not a new idea, it is how communities once functioned. Walkable communities significantly reduce the need for households with cars and recapture time lost commuting, while also promoting healthy, active lifestyles.

2. MULTI-MODAL CONNECTIVITY: connect to and enhance existing multi-modal systems. The Hazelwood Green riverfront trail will provide direct, off-street trail connections from the Greater Hazelwood neighborhood to South Side, Downtown, Oakland, and to the Greater Allegheny Passage. The site's development will also provide the opportunity, resources, and critical mass to strengthen Second Avenue as a multi-modal corridor. Leveraging on- and off-site improvements at key intersections and along critical routes, Hazelwood Green will facilitate a shift to efficient, healthy, and equitable mobility options.

The concept of VISION ZERO started in Sweden in 1997 and has since turned into a multinational road traffic safety movement. At its core is the principle that "no loss of life is acceptable." For implementation in the U.S., this means a systemic change in transportation planning and policy, street and highway design, investment decisions, and behavior. Nationally, the Vision Zero Network has taken off in cities around the country.

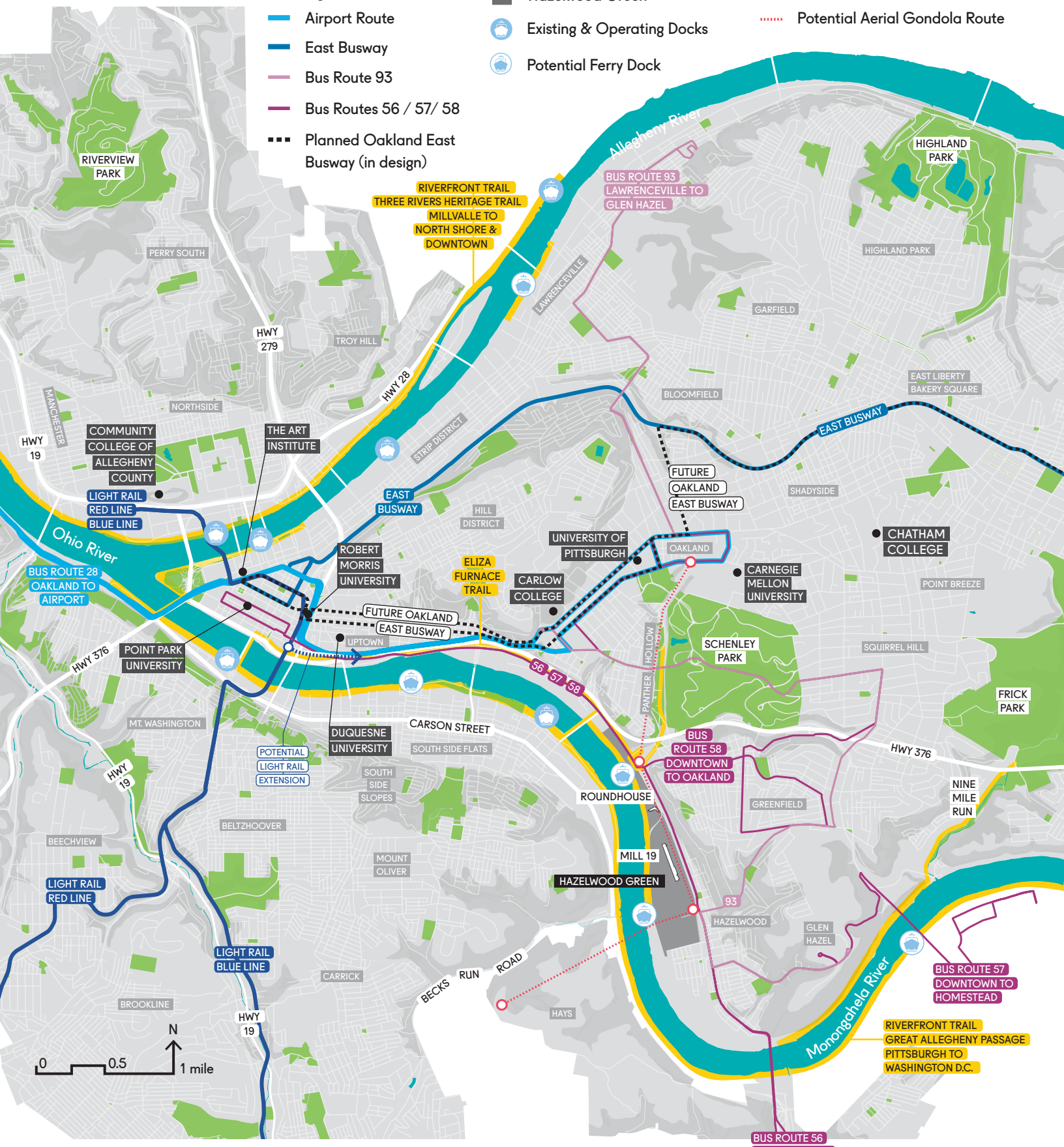


FIGURE 5–1 Existing & Potential Multi-Modal Connections to Hazelwood Green

Note: This figure is not intended to reflect Pittsburgh's complete multi-modal network, but rather the systems most relevant to Hazelwood Green and its development.

ACTIVE TRANSPORTATION is a term used to refer to any mode of transportation that is human-powered. This most frequently refers to walking or cycling, but could include other modes as well.

5.1.1 PEDESTRIAN NETWORK

The human-scale blocks and focus on pedestrian priority for the site creates a street grid that layers and facilitates multiple modes of transportation. The site's street grid lays the foundation for greater connectivity that promotes active transportation to and throughout the community. Hazelwood Green's Urban Open Space, streets, and Shared Ways are intended to put people first and provide a comfortable and safe pedestrian realm that encourages and promotes walkability. This is demonstrated at the district scale in an average block length of 400 feet and the frequency of Urban Open Spaces. At the Block level, the restriction of curb cuts and service access to Shared Ways as well as a minimum pedestrian clearway of 5 feet (and sidewalk of 10 feet) prioritizes pedestrian mobility and safety. Creating a pleasant pedestrian experience also requires the installation of streetscape amenities, such as: quality landscaping and street trees, shade structures, benches and seating areas, clear signage and wayfinding, and street lighting. Creation of a visually interesting pedestrian experience is another method for increasing pedestrian activity. *Section 4* includes several design parameters: building types (refer to *Section 4.3.4*), mandatory active ground floor in key areas (refer to *Section 4.3.3*), Build-to Zone requirements (*Section 4.2*), and stepbacks (refer to *Section 4.3.2*), which together create a built environment that contributes to walkability.

The highest potential for physically reconnecting the site to its neighborhood is at the southern end, where the historical street grid will be extended into the site (refer to FIGURE 5–2). The site has limited east-west connections across the CSX Mainline and Spur; however, the existing crossing at Hazelwood Avenue will be the main entry to the site from the south and east. An improved intersection is also planned off-site for Hazelwood Avenue and Irvine/Second Avenue with the inclusion of an enhanced pedestrian crossing to reinforce connectivity with Hazelwood's business district. Pedestrian access to the riverfront will be achieved through planned riverfront park and trail improvements, with primary access occurring within the River District. A long-term goal for the site, but also the Greater Hazelwood neighborhood is public access and a boat launch under the CSX tracks at Hazelwood Avenue to connect to the river.

Top: Trail on the northern end of the site, looking towards PTC, Spring 2017 :: Image Credit: ReMake Group

Bottom: Cycle Trail in permeable pavement during the Big Tent Event (October 2017) :: Image Credit: James Knox Photography

5.1.2 BICYCLE NETWORK

A complete network of bicycle paths will stitch together Hazelwood Green with existing and future bicycle pathways within the neighborhood and city. Hazelwood Green bicycle infrastructure includes: a multi-use path, on-street bicycle lanes, grade-separated bicycle lanes, trails, and shared roadways. Together, these create a bicycle network that accommodates all skill levels (ages and abilities) and provides multiple routes to destinations. This network will be complemented with bicycle facilities – bicycle parking, covered parking, lockers, fix-it stations, bicycle share, and restrooms – that support bicycling as a mode of transit and for recreation. Given the site's proximity to the Great Allegheny Passage and the Three Rivers Heritage Trail, development should look for opportunities to cater to and provide amenities for the bicycle touring industry.

The complete bicycle network is illustrated in FIGURE 5–12, refer to *Section 5.2* for more detail on bicycle pathways within the streets. This bicycle network will be complemented with public and private investments in bicycle share options that may include: bicycle stations, dockless bicycles, electric-assist bicycles, etc. The site's 1.4-mile bicycle path along the river (adjacent to Blair Street) provides a vital connection for site users and Hazelwood residents to access city trails that were previously disconnected. A long-term vision held by residents and trail advocates is to extend a Hazelwood bicycle connection to the Duck Hollow Trail (which connects to Frick Park) and across the Glenwood Bridge. Hazelwood Green's bicycle path is a first, big step to completing the larger vision for riverfront trails.

5.1.3 TRANSIT NETWORK

TRANSIT in this document is used to refer to public, mass transportation – the movement of large groups of people via a variety of modes: bus, light rail, heavy rail, monorail, ferry, streetcar, tram, aerial gondola, incline (or funicular), etc. These routes are often fixed, or not easily changed, but are focused on moving the most people as efficiently and cost effectively as possible. The main transit provider in Pittsburgh is the Port Authority of Allegheny County (Port Authority), which operates buses, light rail, inclines (funiculars), and paratransit service.

Investment in transit, both on and off-site, is critical to the success of Hazelwood Green. Build-out of Hazelwood Green will create the critical mass of users required to support investment in existing and new transit routes, and increase demand for higher frequency service for Greater Hazelwood. There are three major transit connection priorities for the site, all of which should provide efficient, publicly accessible, and emissions-free service to/from Downtown, Oakland, and South Side.

This PLDP assumes and accommodates growth in transit solutions that will occur as the site is populated. Two major corridors for growth in transit service that would accommodate Port Authority buses have been identified on Hazelwood Green: Blair Street and Second Avenue, refer to FIGURE 5–1. Hazelwood Green will work with the Port Authority, and other public and private entities as needed, to bring transit service into the site as soon as a minimum level of required critical mass is reached. The construction of Blair Street is complete from Hazelwood Avenue to Second Avenue and will serve as the first opportunity for Port Authority buses to enter the site. Blair Street's two-way 11-foot travel lanes will accommodate buses within the vehicular traffic flow; however, to accommodate build-out, a dedicated transit lane is optimal.

Restoration of "old" Second Avenue on-site and the use of the existing corridor into downtown present the potential for a future multi-modal "Smart Spine." Prior to adding vehicular solutions to increase capacity, there are several options that should be explored for routing transit along a restored Second Avenue, these include:

- The rerouting of Port Authority bus routes 56 and 57 in dedicated transit lanes (BRT);
- An extension of the light rail (the "T") from First Avenue Station to Hazelwood Green, and beyond; and
- New transit routes, whether bus, street cars, and/or microtransit.

MICROTRANSIT is on-demand, shared, and dynamic service (typically vans or shuttles) that augments traditional fixed-route services and is enabled by technology (i.e., smartphones and artificial intelligence). Often times, microtransit is a public-private partnership. While not necessarily a new idea (taxis, jitneys, and informal ride-sharing have all existed for centuries), the term microtransit is new and leveraging the proliferation of smartphones. Working in tandem with a larger (public) transit system, microtransit can help solve the first-mile, last-mile problem of less populated areas, or function as a quick, interim step for underserved areas, especially for those unable to make use of active transportation options, such as walking and bicycling.

Transit and how people interact with transit systems has significantly changed over the past decade; with the most notable change of late being the growth of microtransit. Microtransit is typically smaller vehicles (shorter and narrower than a bus) that could navigate and use any of the streets in Hazelwood Green to quickly meet the demands of new development. With the arrival of smart phones and artificial intelligence, technology has had and will continue to have lasting changes to mobility approaches and success. The benefits of living carless is catching on in Pittsburgh and will continue to grow as a younger, tech-savvy generation demands more alternative options to the high cost and hassle of owning a car in the city. Examples of microtransit abound in Pittsburgh already (Uber, Lyft, UPMC shuttles, etc.), with more slated to arrive, such as the City's planned Mon-Oakland Connector.

Proposed to be operated as a pilot by a public-private partnership, the MON-OAKLAND CONNECTOR is an on-demand electric vehicle shuttle service that will enable people to move freely and quickly between Hazelwood, Hazelwood Green, Pittsburgh Technology Center, and Oakland. The planning process for this project is currently underway and is linked to the Four Mile Run green infrastructure project being conducted by PWSA and the Pittsburgh Parks Conservancy (refer to *Section 2.3.5*). Due to the site's unique geography and location, two additional long-term transportation options should be explored to serve the site and provide significant transit capacity:

- AERIAL GONDOLA(S) that could connect South Side to Hazelwood Green to Oakland. Mobility in Pittsburgh is often limited by hills (tunnels) and rivers (bridges), which are not a deterring factor in designing and routing gondolas. Accommodating 800 to 3,000 people an hour depending on demand, with no

need for added roadway vehicles, new tunnels or bridges, a gondola has the potential to be a critical, permanent transit solution to connect Hazelwood Green to South Side and Oakland, and potentially for connections beyond. Aerial gondolas are in use across the world, and locally, gondolas are not unlike the many inclines that once lined Pittsburgh's hillsides.

» FERRIES could provide a range of connectivity along the three rivers. Monongahela River ferry service could connect Hazelwood Green's future riverfront park to the South Side Works marina, to the Southside Riverfront Park to Station Square, and to Downtown. Furthermore, ferries could provide a ready connection to other riverfront developments, the North Shore, the Strip District, and Lawrenceville, all of which have focused and oriented towards fostering Pittsburgh's innovation economy.

Future studies should consider these and other routes that would redefine the site as a Transit Oriented Development (TOD), and optimize build-out potential of the site and its neighboring developments at South Side Works and Pittsburgh Technology Center. All of these options will be explored and detailed in a Long-Term Transportation Plan that examines the long-term vision for the site's full build-out (refer to *Section 5.3*).

5.1.4 VEHICLE & SERVICE NETWORK

The vehicle network in Hazelwood Green largely comprises a network of two-way streets, with a minimum travel lane of 10 feet and a maximum of 11 feet. This network is sorted into three categories:

a.) PRIMARY STREETS – expected to be more heavily trafficked including thru-traffic, are therefore designed with 11-foot travel lanes and/or dedicated transit lanes.

b.) SECONDARY STREETS – are local-serving with 10-foot travel lanes.

c.) SHARED WAYS – privately maintained and operated to provide service access to Blocks and increase site-wide connectivity via public easements.

Truck and service traffic should stay mainly on Primary Streets, using Secondary Streets only when required to reach a final destination (refer to FIGURE 5–2). Vehicle traffic may be limited or prohibited on Shared Ways if agreed upon by adjacent Lot owners and if not in violation of any emergency vehicle access requirements. Furthermore, in a concerted effort to improve safety, all access to parking and service areas (including loading and parking entry/exits) shall be internal to the Blocks (behind buildings) accessed via a Shared Way, unless otherwise noted (refer to FIGURE 4–9). In the few instances where curb cuts are permitted from a street (when access to the Block cannot be provided via a Shared Way), these curb cuts are restricted to a maximum width of 24 feet.

5.1.5 COMMUNICATION NETWORKS

The utilization of "smart grid" technology advancements is assumed and embedded in the mobility plans for Hazelwood Green, both as an integral ingredient of its mobility network and as an element of its street rights-of-way and utilities. Given the demands for high-speed digital communications in the tech sector and the tenants that Hazelwood Green will attract, access to telecommunications and fiber connections will be a priority on-site. Potential use of private, secure dark fiber should be allowed in the development plan, with spare conduits placed during roadway construction that are made available to future users. Finally, should "smart grid" elements incorporated into the Urban Open Spaces, public rights-of-way, or other generally public areas, should take into account public privacy.

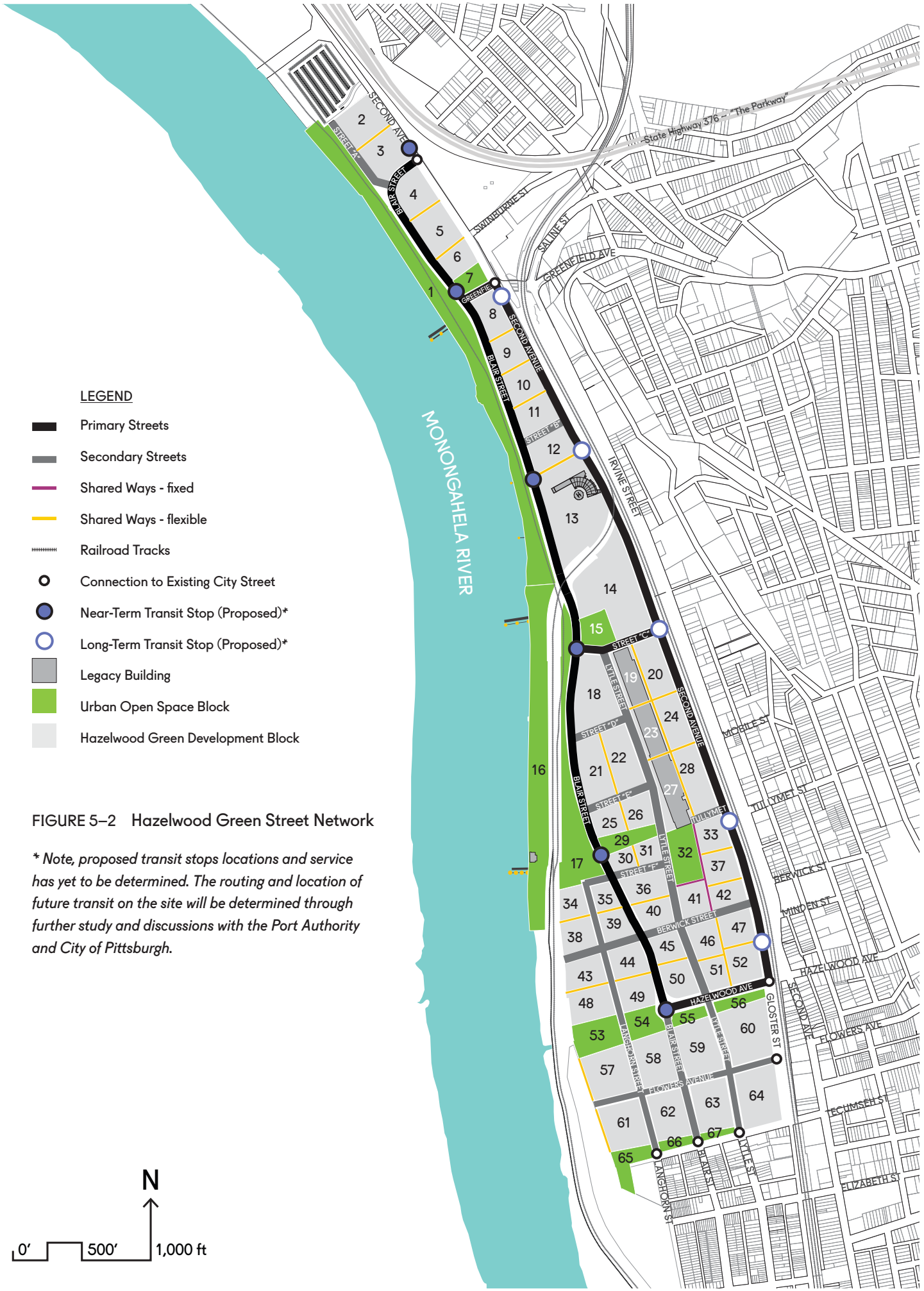


FIGURE 5–2 Hazelwood Green Street Network

** Note, proposed transit stops locations and service has yet to be determined. The routing and location of future transit on the site will be determined through further study and discussions with the Port Authority and City of Pittsburgh.*

5.2 Street Types

A network of pedestrian and bicycle-oriented streets will allow people and cars to meander through the site and provide a unique, human-scaled street experience. The streets in Hazelwood Green – including both public rights-of-way and public easements – are designed by type. This section provides detail on the general regulations for designing and building streets, as well as the characteristics of each street type. In addition, detailed specifications for each street and all elements within the street right-of-way (ROW) are included in the following pages.

5.2.1 GENERAL REGULATIONS

a.) All streets intended for public dedication shall be built to City standards. Should non-standard techniques or treatment be desired (such as green infrastructure), they must be designed and built in coordination and agreement with the City to ensure public dedication of the street.

b.) Should a desired technique, technology, or treatment prove unacceptable by City standards, the street may be maintained privately. However, in the case that a street remains privately owned and operated, every measure to ensure public access and equitable use of the street must be made.

c.) Streets at Hazelwood Green shall be open to the sky, publicly accessible at all times, and subject to reasonable maintenance, operations, repair, and security rights, during which alternative routes or detours should be in place.

d.) Curb cuts are largely prohibited on streets, with all loading and service access taking place on Shared Ways, refer to *Section 4.4* for further detail.

e.) Shared Ways are public easements that should be open to the sky for at least 80% of their length (with exceptions for connections between building structures, trees, and/or elements that protect against weather), and publicly accessible at all times, subject to reasonable maintenance, operations, repair, events, and security needs.

f.) In the development of street infrastructure, utility pathways shall be provided for future installation of below ground pipes, or other district energy and water-related infrastructure. These private utility easements shall be located within the Pedestrian Clearway, as illustrated in the Primary and Secondary Street details.

g.) All Streets shall have street trees spaced on average every 30 feet and use native tree species (refer to *Section 3.2.1.b.*).

h.) All intersections – vehicular, bicycle, transit, or other – shall take every effort to ensure safe pedestrian crossings by employing strategies, such as (but not limited to): pedestrian bump-outs, curb extensions, enhanced crosswalks, raised crosswalks and intersections, (pedestrian) refuge islands, etc.

i.) Streets that have yet to be named are identified with letters, such as "Street 'C'," and will remain as such until a name has been identified and approved by the City.

j.) Contingent on City approval, streets shall be named in accordance with FIGURE 5–2, names for any unnamed rights-of-way shall identified at the time of design and construction.

k.) Contingent on City approval, Shared Ways will be at the time of design and construction. Shared Ways that are generally in alignment along an east-west or north-south corridor shall share the carry the same name through, refer to FIGURE 5–2.

l.) Transit stops should include bicycle amenities (i.e. bicycle share, bicycle parking that is covered when feasible, etc.) and pedestrian amenities (i.e., seating, shelter, etc.) to create synergy between bicycle and transit users, as well as encourage multi-modal trips. Additionally, opportunities for art or play installations should be considered at transit stops; some examples include interactive displays, swings, artwork, etc.

m.) Each street and Shared Way is designed to accommodate the following zones for people on foot, on bicycles, on transit, and in cars.

- BUILD-TO ZONE – the area where building activity meets the street. For commercial or active ground floor uses, these zones are likely to include activity such as furniture, signage, merchandizing, music, etc. Residential frontages can be used as semi-private space – in the form of stoops, terraces, patios, planting, etc. – that creates a more comfortable social distance from the public sidewalk (refer to *Section 4.2.2*).
- PEDESTRIAN CLEARWAY – an unobstructed, accessible path of travel for pedestrians that shall remain clear at all times. All streets shall have pedestrian clearways of at least five feet in width on both sides, at all times.
- FURNISHING & PLANTING – a portion of the sidewalk that is adjacent to the curb and buffers the Pedestrian Clearway from the Flex Zone. The Furnishing and Planting area shall include planting – i.e. street trees, grasses, green infrastructure, flowers, etc. – as well as site furnishings, such as (but not limited to): seating, parking equipment, lighting, signage, waste receptacles, and bicycle parking. When planted, there must be a break in the planting at least 5 feet in width every 20 linear feet, on average. This break is to be provided by pavement, pavers, or another type of walkable surface that accommodates pedestrian access to the curb.
- FLEX ZONE – an area that can be at the grade of the Travel Lane, this area may change over time and can be used for a variety of elements including, but not limited to: on-street parking, bicycle corrals, bicycle share, bus / transit stops, loading and drop-off areas, additional sidewalk space, and landscaping and/or green infrastructure.
- TRAVEL LANE – a pathway for any moving traffic, including vehicles, transit, and bicycles. These lanes vary slightly in width and restrictions to accommodate larger vehicles (i.e., transit or trucks), dedicated transit, and/or a higher vehicular speed.

5.2.2 PRIMARY STREETS

Within Hazelwood Green there are Primary Streets that are intended for heavier and/or through traffic. Primary Streets are also intended to accommodate transit service and the majority of traffic through the site. These streets include: Second Avenue, Blair Street, Greenfield Avenue, Hazelwood Avenue, and Street "C." As these streets are more heavily trafficked, dedicated bicycle facilities have been proposed on three of the five Primary Streets. Each street is further characterized and detailed in the subsections following.

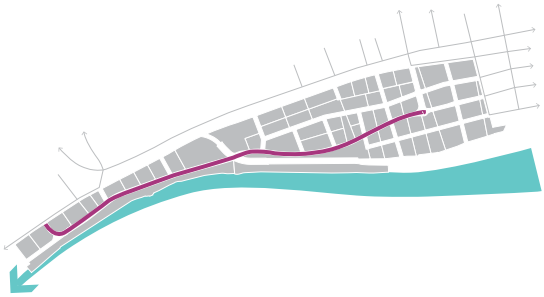
BLAIR STREET* SPECIFICATIONS	
ROW Width	60 to 80 feet
Travel Lane Width	(2) 11-foot lanes
Flex Zone	(2) 8-foot on-street parking lanes
Pedestrian Clearway	(2) 5 feet
Furnishing & Planting	(2) 5 feet
Mid-block Crosswalks	yes, as warranted
Curb Type	raised
Curb Radii	10 – 25 feet
Curb Bump-outs	yes
Bicycle Facilities	(1) 10-foot sidewalk-grade multi-use path
Transit Service	yes - in travel lane

*This refers to the 1.2 mile portion of Blair Street north of Hazelwood Avenue, the portion of Blair Street south of Hazelwood Avenue will be built to the Neighborhood Street specifications.

FIGURE 5–3 Blair Street (north of Hazelwood Avenue) Specifications

5.2.2.A. BLAIR STREET

Blair Street acts as Hazelwood Green's riverfront boulevard, running parallel to the Monongahela River and including a multi-use trail along the majority of its western length. Additionally, Blair Street has a pedestrian, riverfront promenade planned for its east side within the River District. This promenade is intended to include a double row of trees that will provide shade and be inviting for first floor active uses along this portion of the street, which has the most direct and unobstructed views of the river. Approximately 1.5 miles in length, Blair Street has several variations (refer to FIGURE 5–3) as it crosses underneath the CSX Spur and where it intersects Second Avenue. Blair Street (with the exception of the blocks between Hazelwood Avenue and Tecumseh that are included in future phases as a Neighborhood Street type) is expected to be completed and open for public use by 2019.



Top Left: Blair Street and its multi-use trail looking north towards Downtown along the Mon-Con Spur, Summer 2017 :: Image Credit: ReMake Group

Bottom Left: Blair Street during the Big Tent Event (October 2017), with the Pittsburgh Party Pedaler :: Image Credit: James Knox Photography

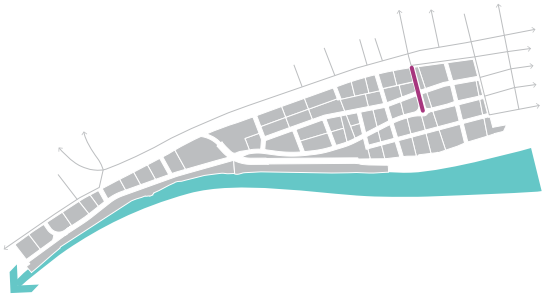
Right: Blair Street during the GBA Bicycle Tour of the site, July 2017 :: Image Credit: Bradd Celidonia, courtesy of the Green Building Alliance

HAZELWOOD AVENUE SPECIFICATIONS	
ROW Width	80 feet
Travel Lane Width	(2) 11-foot lanes
Flex Zone	(2) 8-foot on-street parking lanes
Pedestrian Clearway	(2) 5 feet
Furnishing & Planting	(2) 5 feet
Mid-block Crosswalks	no
Curb Type	raised
Curb Radii	10 – 25 feet
Curb Bump-outs	yes
Bicycle Facilities	(2) 5-foot on-street bicycle lanes
Transit Service	yes - in travel lane

FIGURE 5–4 Hazelwood Avenue Specifications

5.2.2.B. HAZELWOOD AVENUE

The portion of Hazelwood Avenue that is on the site was constructed in conjunction with Blair Street to serve as the primary access road for Hazelwood Green and connect into the Greater Hazelwood neighborhood. This street will facilitate bicycle traffic with on-street bicycle lanes, as well as transit with 11-foot travel lanes. Including both bump-outs and a landscaped median, Hazelwood Avenue incorporates green infrastructure and vegetation for traffic calming purposes (refer to FIGURE 5–4). Additionally, the southern edge of Hazelwood Avenue is bordered by a linear park that runs from Gloster Street towards the riverfront – Urban Open Space #7 (Blocks 53, 54, 55, and 56).



Top Left: Hazelwood Avenue during the Big Tent Event (October 2017) :: Image Credit: James Knox Photography

Top Right: Hazelwood Avenue during the Big Tent Event (October 2017) with Timbeleza and the Pittsburgh Samba Group :: Image Credit: James Knox Photography

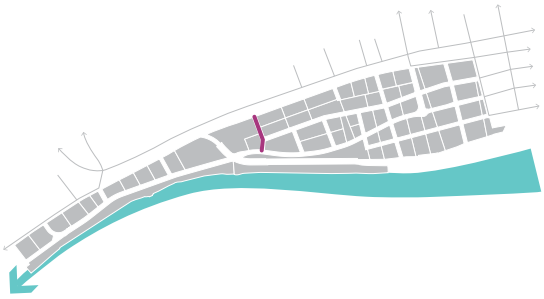
Bottom: Looking west on Hazelwood Avenue towards the river, Summer 2017 :: Image Credit: ReMake Group

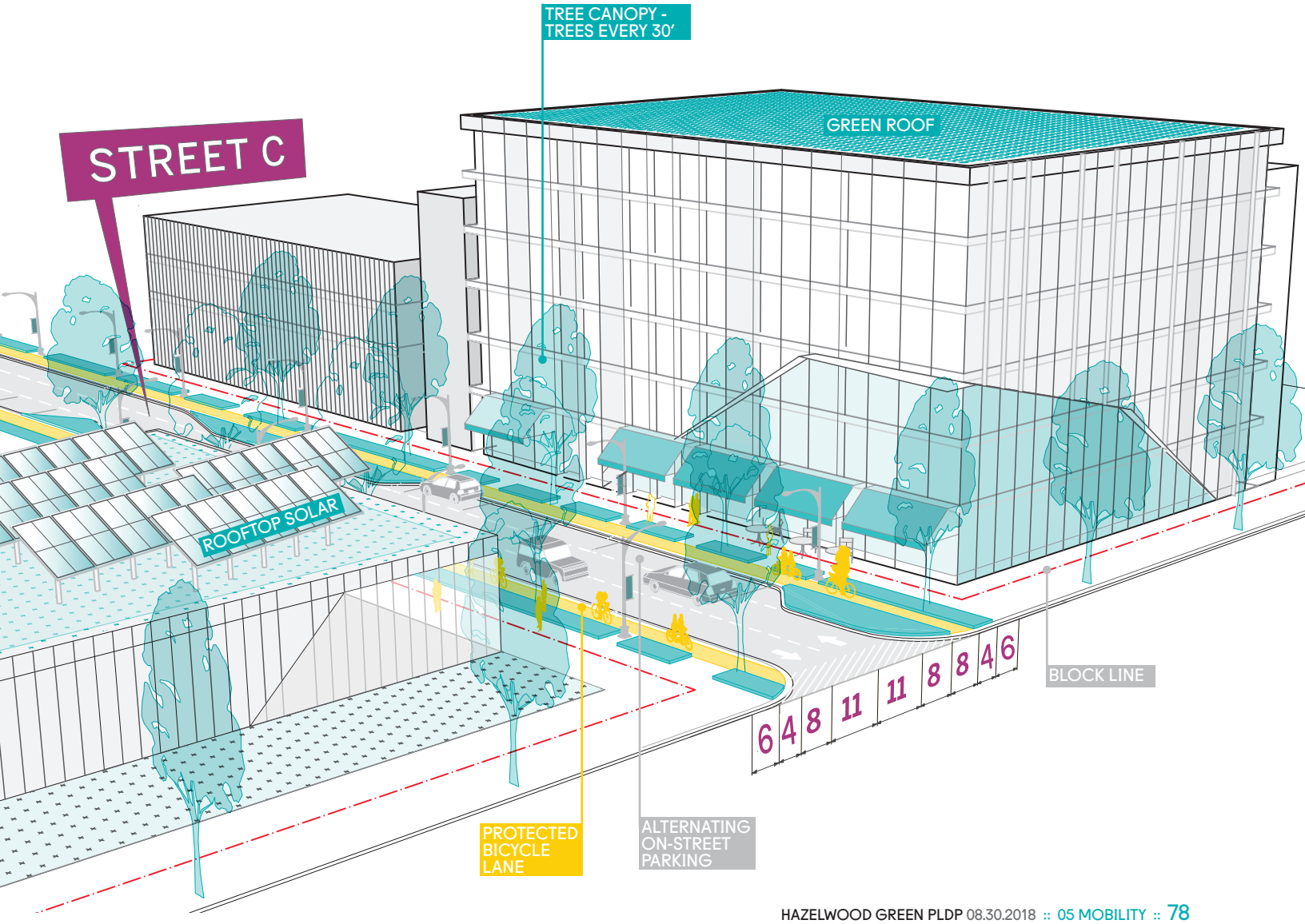
STREET "C" SPECIFICATIONS	
ROW Width	66 feet
Travel Lane Width	(2) 11-foot lanes
Flex Zone	(1) 8-foot lane [on-street parking]
Pedestrian Clearway	(2) 6 feet
Furnishing & Planting	(2) 4 feet
Mid-block Crosswalks	no
Curb Type	raised
Curb Radii	10 – 25 feet
Curb Bump-outs	yes
Bicycle Facilities	(2) 5-foot sidewalk, grade bicycle lanes with 3-foot buffer to curb
Transit Service	yes - in travel lane

FIGURE 5–5 Street "C" Specifications

5.2.2.C. STREET "C"

A midway point of Hazelwood Green, Street "C" is a connecting street between Blair Street and Second Avenue with 11-foot travel lanes to facilitate transit as well as service and loading vehicles such as trucks. Street "C" also incorporates two protected, sidewalk-level, bicycle lanes on each side of the street to facilitate local cyclists of all ages and skill levels (refer to FIGURE 5–5). Substantial planting, chicanes (artifical, designed turns that slow vehicle speeds) with alternating on-street parking, and raised intersections ensure that vehicles move at a slow speed.





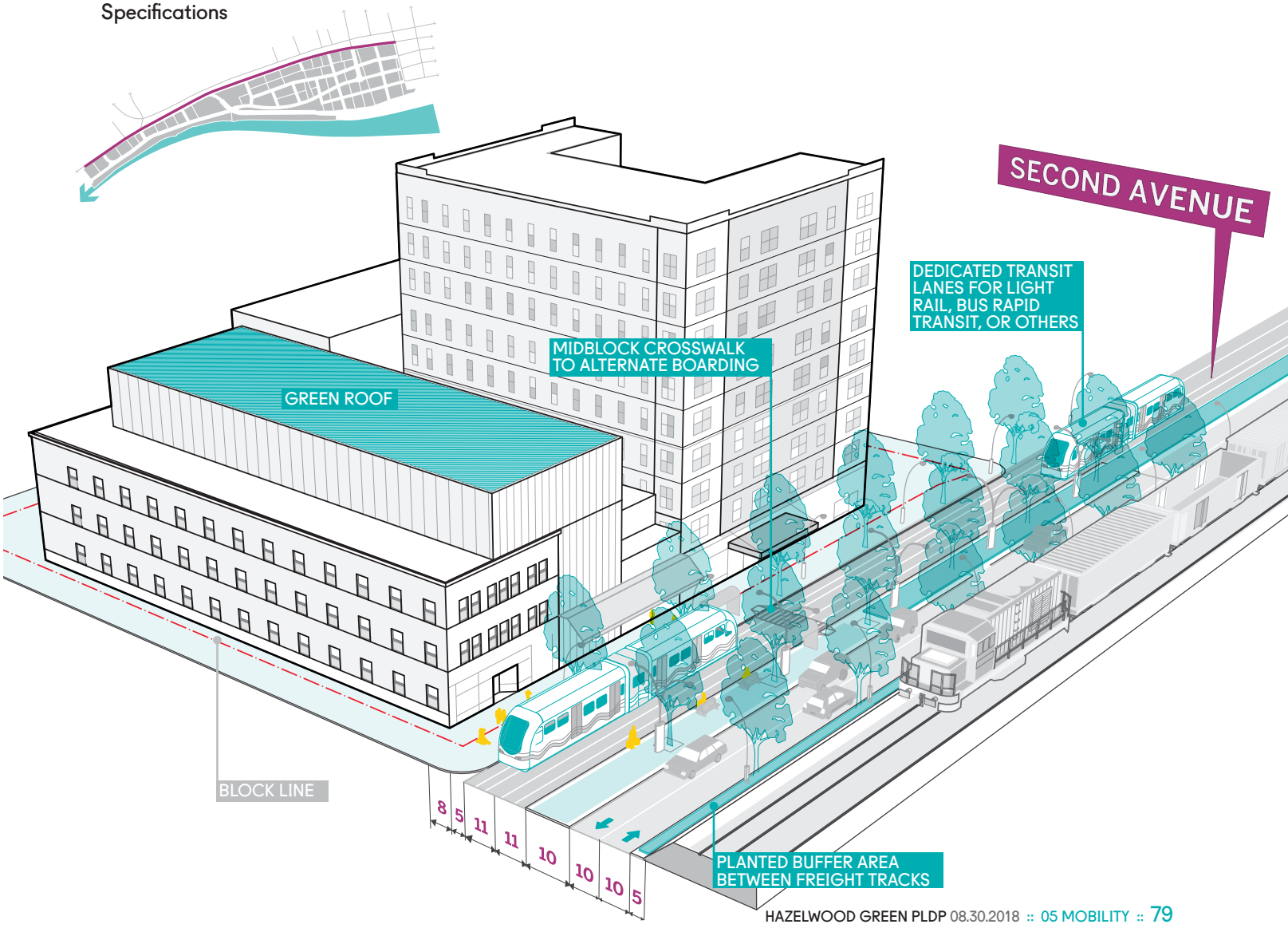
SECOND AVENUE SPECIFICATIONS	
ROW Width	70 feet
Travel Lane Width	(2) 11-foot dedicated transit lanes & (2) 10-foot lanes
Flex Zone	(1) 8-foot extended sidewalk, (1) 10-foot median, and (1) 5-foot lane [on-street parking prohibited]
Pedestrian Clearway	(2) 5 feet
Furnishing & Planting	na, see Flex Zone
Mid-block Crosswalks	opposite boarding only, and as warranted
Curb Type	raised
Curb Radii	10 – 25 feet
Curb Bump-outs	yes
Bicycle Facilities	in travel lanes
Transit Service	yes - dedicated transit lanes

5.2.2.D. SECOND AVENUE

At present, Second Avenue breaks between Greenfield Avenue (on the north end of the site) and Hazelwood Avenue (on the south end of the site). Historically, Second Avenue once continued through the site to run parallel to the CSX Mainline, adding a second connection between Greenfield Avenue and Hazelwood Avenue (a parallel to Irvine Street). Within the Pittsburgh region, Second Avenue is a major transportation corridor – it originates at the Glenwood Bridge (a major Monongahela River crossing to the south) and continues an additional three miles north into Downtown Pittsburgh.

Closed due to construction and partially vacated, the existing Second Avenue ROW should be reconnected and transformed into a dedicated transit corridor. This plan establishes the necessary easements to facilitate a design that accommodates: (1) pedestrians, (2) two-way, single lane vehicle traffic, and (3) most importantly, dedicated transit lanes for Port Authority operated transit and/or potential public-private microtransit strategies. Restoration of Second Avenue will require a joint effort with the Port Authority, the City of Pittsburgh, PA Department of Transportation, and others to determine how this corridor can best serve not only the transit objectives of the site, but also the larger, regional transit network that experiences delays of in-traffic routes during peak commute hours due to vehicular congestion. FIGURE 5–6 illustrates the desired character and specifications of the Second Avenue ROW, including how it interacts with adjacent development and the CSX Mainline.

FIGURE 5–6 Second Avenue Specifications



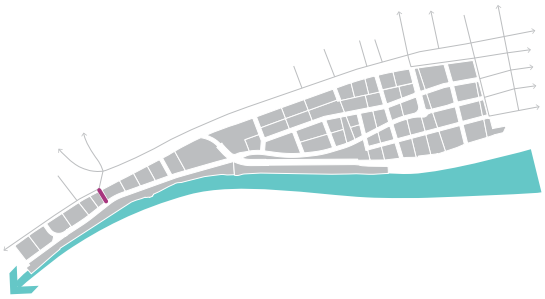
GREENFIELD AVENUE SPECIFICATIONS	
ROW Width	69 feet
Travel Lane Width	(2) 11-foot lanes, with (1) 11-foot turn lane / planted median
Flex Zone	(2) 8-foot lanes
Pedestrian Clearway	(2) 5 feet
Furnishing & Planting	(2) 5 feet
Mid-block Crosswalks	no
Curb Type	raised
Curb Radii	10 – 25 feet
Curb Bump-outs	yes
Bicycle Facilities	in travel lanes
Transit Service	yes - in travel lane

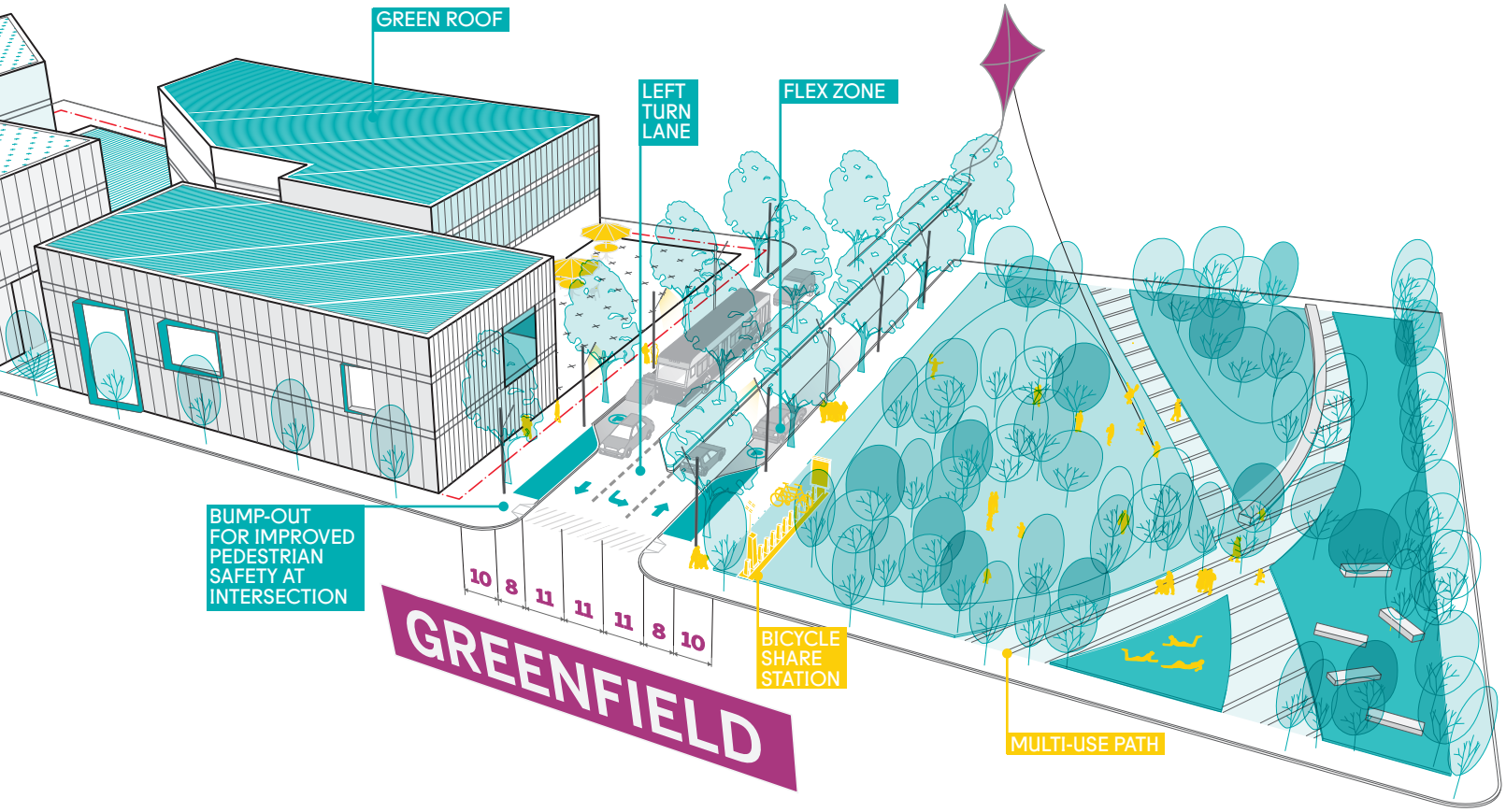
FIGURE 5–7 Greenfield Avenue Specifications

5.2.2.E. GREENFIELD AVENUE

Hazelwood Green continues Greenfield Avenue into the site for one block after its four-way intersection with Second Avenue, Irvine Street, and Saline Street. This four-way intersection is a major nexus of transit, bicycle and pedestrian pathways, and vehicle arterials. As such, this block of Greenfield Avenue shall be a major northern access point of the site and could accommodate transit access with 11-foot travel lanes (refer to FIGURE 5–7). Bicycle and pedestrian routes shall be primarily directed through a multi-use trail in Urban Open Space #2 (Block 7) rather than within the ROW.

The intersection of Greenfield Avenue, Second Avenue, Irvine Street, and Saline Street has been an access and transportation challenge for decades, in part because of the CSX railroad bridge at the intersection limits design options. The 2013 Traffic Impact Study (submitted with the 2013 PLDP) recommended minor improvements for this intersection that are in design and expected to be completed by 2020, along with others. This intersection is a critical junction of pedestrian, bicycle, transit, and vehicular access that will require a more extensive study and solutions to improve long-term performance and safety for all modes (refer to *Section 5.3* for further details on the 2018 TIS).





LYTLE STREET SPECIFICATIONS	
ROW Width	66 feet
Travel Lane Width	(2) 10-foot lanes
Flex Zone	(1) 8-foot lane [on-street parking]
Pedestrian Clearway	(2) 6 feet
Furnishing & Planting	(2) 5 feet
Mid-block Crosswalks	yes, as warranted
Curb Type	raised
Curb Radii	10 – 20 feet
Curb Bump-outs	yes
Bicycle Facilities	(2) 5-foot sidewalk-grade bicycle lanes with 3-foot buffer to curb
Transit Service	yes - in travel lane [microtransit]

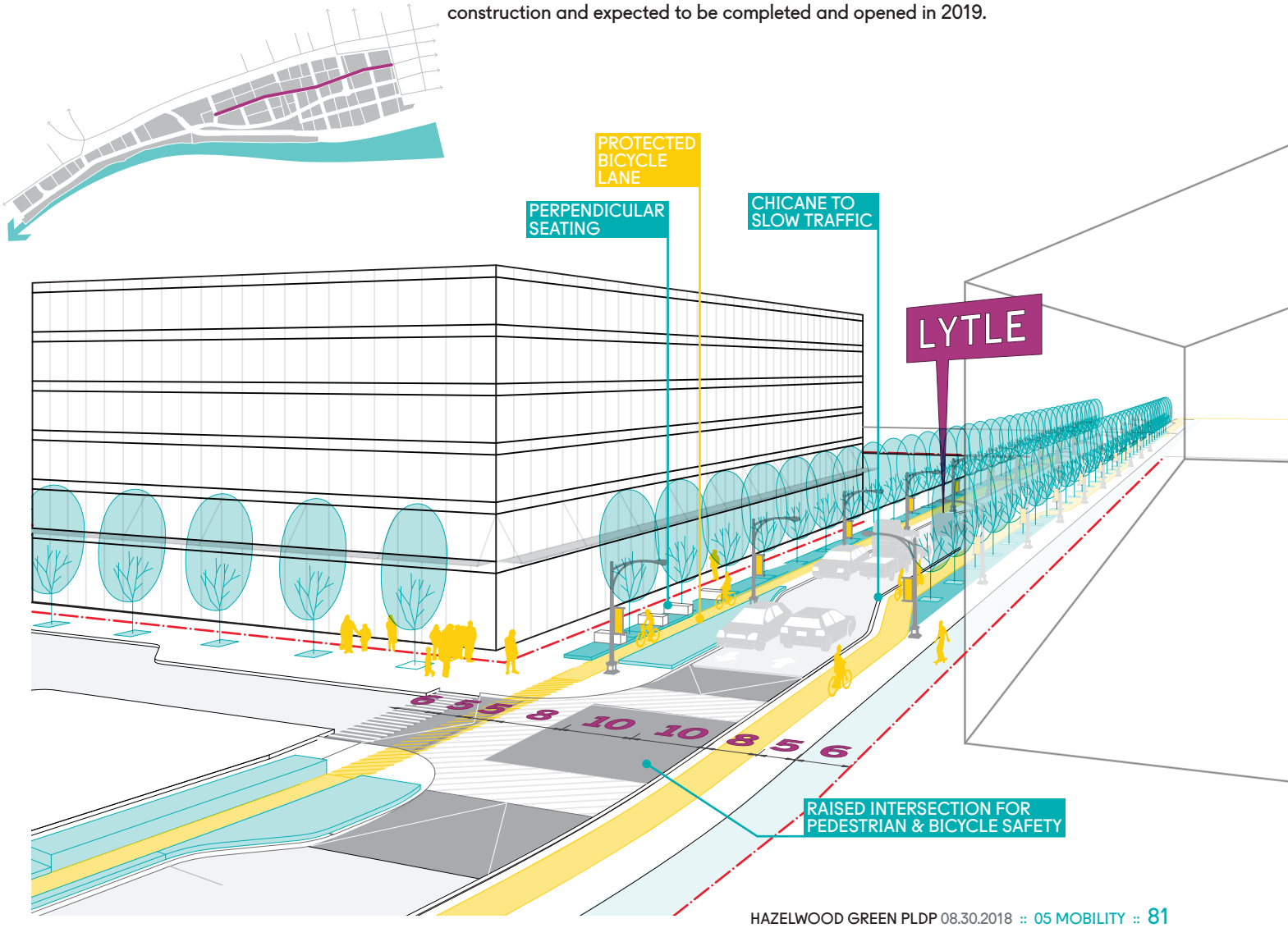
FIGURE 5–8 Lytle Street Specifications

5.2.3 SECONDARY STREETS

Secondary Streets are local serving streets designed for slower speeds. The majority of Secondary Streets are of the Neighborhood Street type and run laterally – east-west – on the site (refer to FIGURE 5–2). Secondary Streets are not conducive to transit vehicles larger than a van or shuttle. These streets are not meant to facilitate thru-traffic or heavy truck use, and as such are designed with 10-foot travel lanes.

5.2.3.A. LYTLE STREET

Lytle Street is Hazelwood Green's only north-south Secondary Street and serves as the site's "Main Street," where active ground floor uses and pedestrian activity shall be focused and concentrated. As such, the street is equipped with two protected, sidewalk-level bicycle lanes on each side of the street to facilitate local cyclists of all ages and skill levels (refer to FIGURE 5–8). Substantial planting, chicanes with alternating on-street parking, and raised intersections ensure that pedestrian safety is the priority. As part of Hazelwood Green's commitment to innovation, this street will demonstrate the use of these traffic calming measures and also include a test area for green infrastructure. This test area will be located along the eastern side of the street and will make use of 100% green infrastructure for three blocks to convey stormwater to the retention pond on Urban Open Space #3 (Block 15). The street will be monitored for performance to advance future duplication. Lytle Street shall also incorporate public amenities, public art installations and interventions, and facilities to accommodate festivals, block parties, and other special events in coordination with activity on the Plaza – Urban Open Space #6 (Block 32). This street is under construction and expected to be completed and opened in 2019.

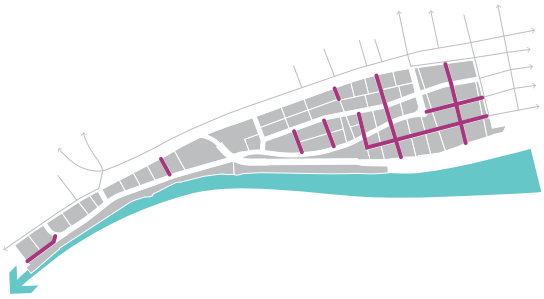


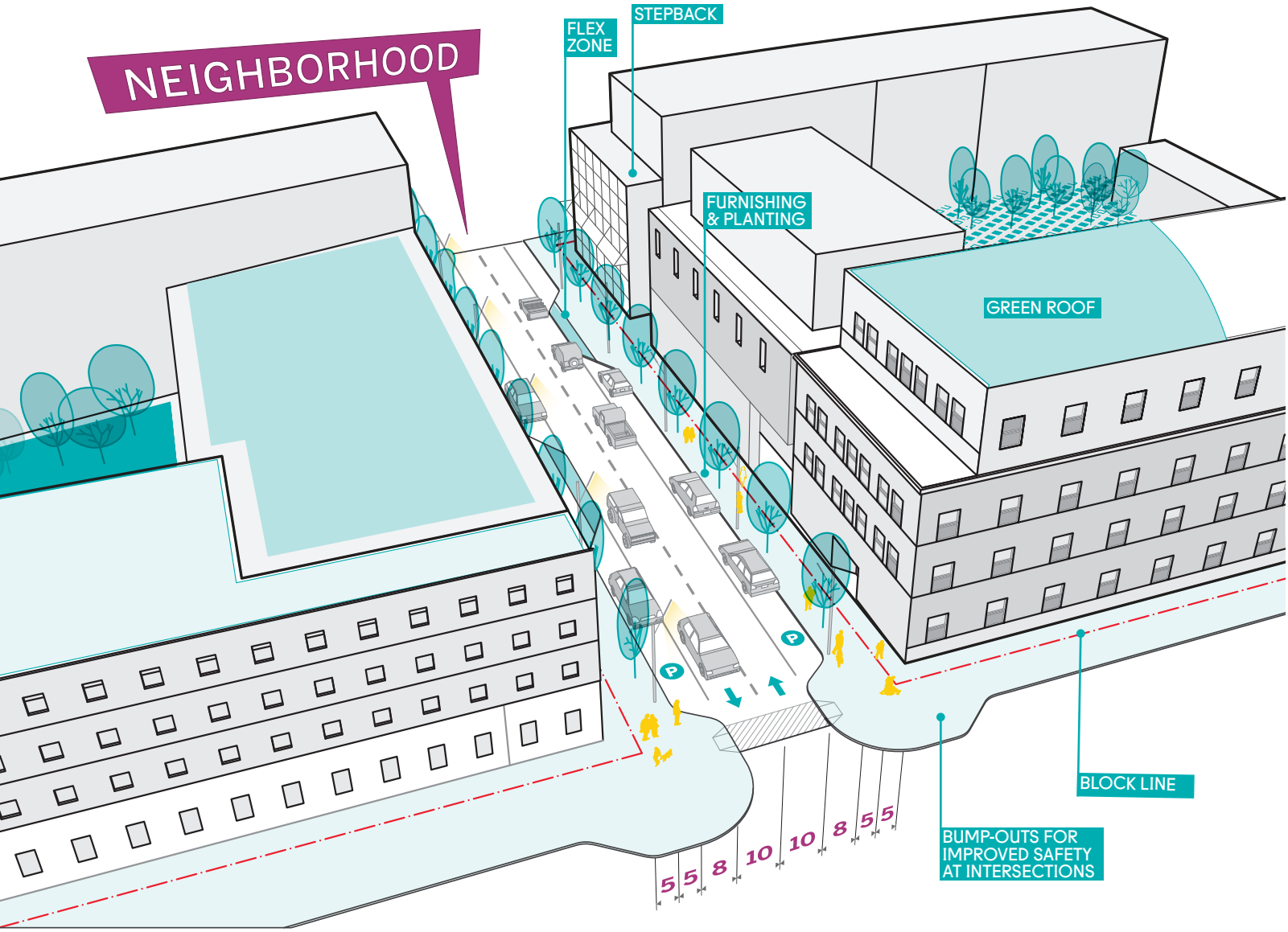
NEIGHBORHOOD STREETS SPECIFICATIONS	
ROW Width	56 feet
Travel Lane Width	(2) 10-foot lanes
Flex Zone	(2) 8-foot lanes
Pedestrian Clearway	(2) 5 feet
Furnishing & Planting	(2) 5 feet
Mid-block Crosswalks	yes, as warranted
Curb Type	raised
Curb Radii	10 – 15 feet
Curb Bump-outs	yes
Bicycle Facilities	in travel lanes
Transit Service	yes - in travel lane [microtransit]

FIGURE 5–9 Neighborhood Streets Specifications

5.2.3.B. NEIGHBORHOOD STREETS

Neighborhood Streets are Hazelwood Green's local routes that are designed for shared, safe use of multiple modes and activity through the use of bump-outs, tree planting and landscaping, pedestrian clearways, and shared travel and bicycle lanes. With the exception of Lytle Street, all Secondary Streets shall be designed to the Neighborhood Street standards. These streets will have flex zones for parking on both sides of the street, which may be converted or adapted in the future to accommodate different mobility and development needs (refer to FIGURE 5–9). Furthermore, these streets may vary slightly in design and aesthetic to respond to adjacent building design and uses. However, the basic properties identified below should remain constant.





SHARED WAYS SPECIFICATIONS	
ROW Width	24 feet (min) to 40 feet (max)
Travel Lane Width	na
Flex Zone	na
Pedestrian Clearway	6-foot wide un-obstructed pathway
Furnishing & Planting	no minimum
Mid-block Crosswalks	no
Curb Type	curbless
Curb Radii	5 – 15 feet
Curb Bump-outs	na
Bicycle Facilities	shared
Transit Service	no

FIGURE 5–10 Shared Ways Specifications

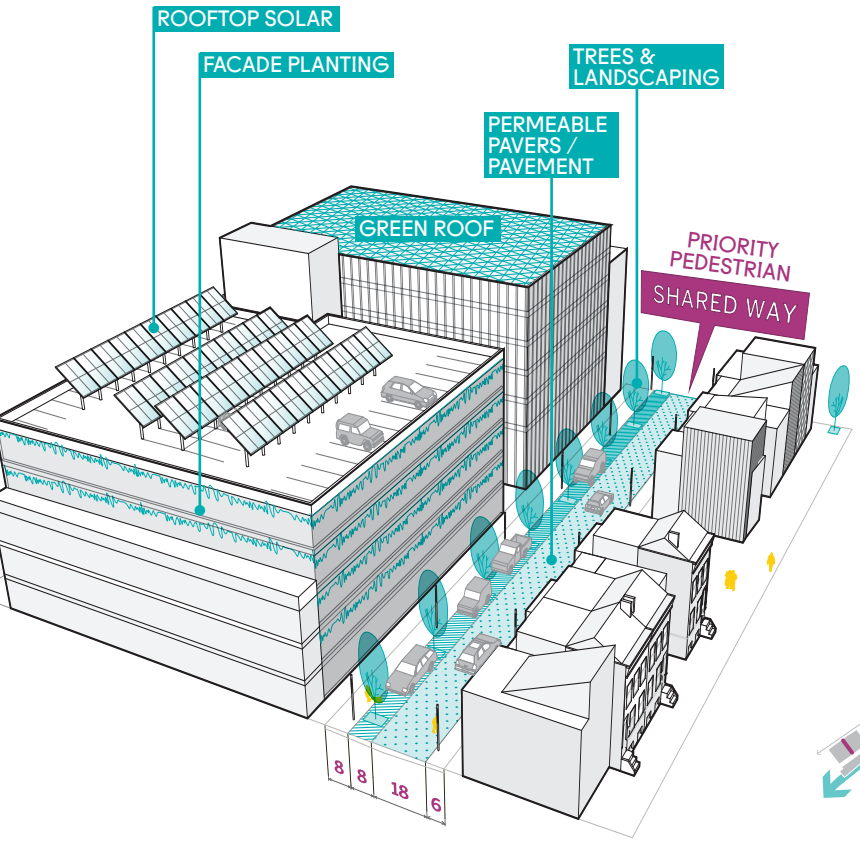
5.2.4 SHARED WAYS

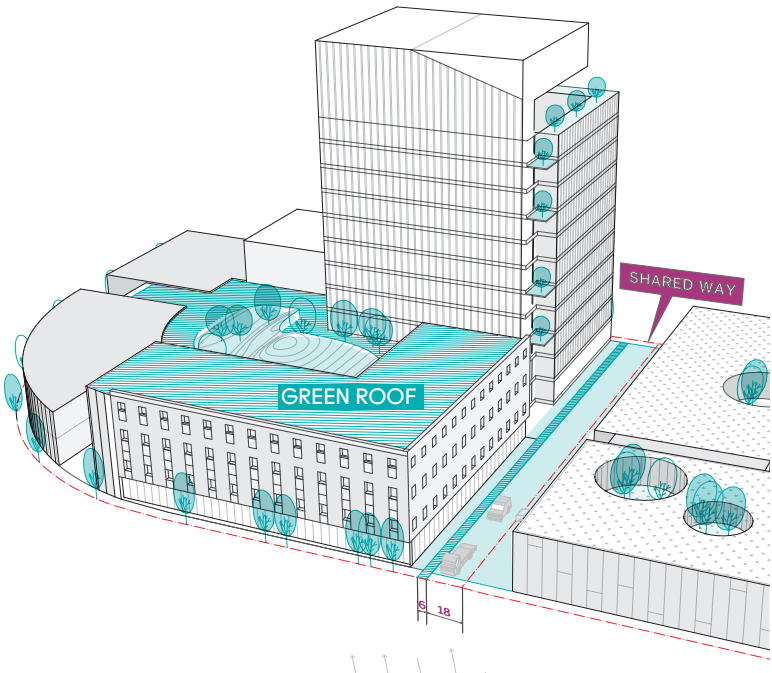
Shared Ways are public easements on Blocks that shall be curbless shared streets ranging from 24 feet to 40 feet in width and be open to the sky for at least 80% of their length (refer to FIGURE 5–10). Built by the Block developer and privately owned and maintained, Shared Ways shall be public easements that accommodate building access and use needs, while also providing points of connection. With few exceptions, placement is not fixed, but access through the block shall be provided in that general vicinity. The few exceptions relate to Urban Open Space and overall site connectivity.

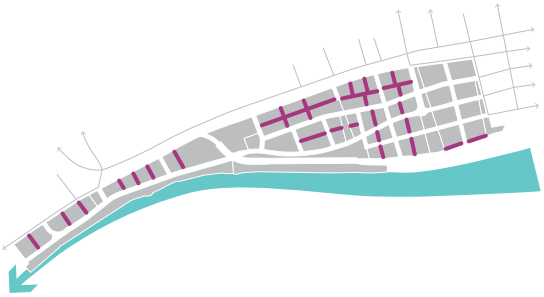
Shared Ways shall be designed to accommodate their adjacent building's needs, such as loading, service vehicles, and parking entrance / exits. Utilities and waste storage are also allowed and must be screened and/or accommodated within the building's architecture. In doing so, curb cuts on all other streets will be significantly reduced and prohibited in most cases (refer to FIGURE 4–9). Should a Shared Way be designated as "priority-pedestrian" (i.e. there is not another connection through the Block within 400 feet) then the following is required:

- Utilities and waste storage must be indoors, i.e. integrated within the building
- Landscaping (i.e. street trees)
- Human-scale 'street' lighting
- Public art installation(s)

The design of Shared Ways should contribute to the Block's stormwater strategy through permeable pavers or pavement, green infrastructure, or other retention and reclamation tools. In addition, these easements are at sidewalk grade, such that there is less disruption for pedestrians and bicyclists at their intersection with streets. Finally, paving patterns and/or color changes should be used to assist and delineate pathways for different modes and signal to drivers that these are low speed areas.







5.3 Transportation Strategy

Transportation demand is not static. People choose to drive, walk, bicycle, and ride transit based on the availability of options, convenience, price, weather, and changing schedules. A comprehensive transportation strategy is essential to ensuring adequate infrastructure and managing transportation demand. The transportation strategy must also be adaptive to market and technological changes, and be resilient to market to stresses due to accidents, weather events, construction, etc. The strategy for Hazelwood Green includes: a series of transportation improvements, transportation demand management, and a flexible shared parking strategy.

5.3.1 TRANSPORTATION IMPROVEMENTS

A series of transportation improvements identified during the 2013 Traffic Impact Study (TIS) are already underway as part of the original PLDP approvals. An updated TIS for Hazelwood Green predicts the traffic impacts of development for Phase 1 (Mill District) of Hazelwood Green, which is anticipated to be built out from 2018 to 2028. The 2018 TIS includes goals and mitigation from Transportation Demand Management (TDM) strategies that are used to forecast the trip generation of Phase 1 of Hazelwood Green and predict the necessary investments (transit, roadway, and intersections) required to mitigate this added trip generation. Trip generation is also based on the mode share split from Pittsburgh's 2014 American Community Survey (refer to FIGURE 5–11). The 2018 TIS informs a Long-Range Transportation Plan that includes recommendations on necessary transportation improvements over the course of Hazelwood Green's development to accommodate full build-out scenarios. These additional transportation improvements will be completed based on their priority – either required or recommended – in conjunction with city, regional, and state transportation projects.

FIGURE 5–11 Mode Share Split Comparisons

MODE	PENNDOT STANDARD	PITTSBURGH 2014 AMERICAN COMMUNITY SURVEY (ACS)
Walk	1.0%	11.1%
Bicycle	1.0%	2.0%
Transit	2.0%	17.2%
Work at Home	1.0%	4.0%
SOV (drive alone)	92.0%	56.0%
Carpool / Vanpool	2.0%	8.8%
Taxi, Motorcycle, Other	1.0%	1.1%
Non-Auto for ITE Trip Rate	5%	34.3%

The series of transportation improvements identified during the 2013 TIS include four intersection improvements along Second Avenue at the intersections of Bates Avenue, Hot Metal Bridge, Greenfield Avenue, and Hazelwood Avenue (refer to FIGURE 5–12). These are being completed in collaboration with PennDOT and the City of Pittsburgh's Department of Mobility and Infrastructure. Additionally, several other opportunities for future mobility improvements have been identified as part of the larger vision for the site and Greater Hazelwood. These improvements include historic connections over and under existing railroad tracks to access the river and other neighborhoods (refer to FIGURE 5–12). Re-establishing these connections may be part of a longer-term, collaborative effort with a variety of stakeholders.

5.3.2 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is an overarching set of policies and programs to reduce the number of Single Occupancy Vehicles (SOV) coming to and from the site. The reduction of single occupancy vehicle trips to and from the site has a substantial cost savings for both site users and developers, and provides significant environmental benefits for society. A successful TDM program requires the availability of transportation options, and interim measures to incentivize early adoption of SOV alternatives. The TDM tools for managing transportation to reduce SOV and reduce parking infrastructure requirements at Hazelwood Green include a set of strategies that should be considered by all site users. Hazelwood Green's Transportation Strategic Plan will provide details on the TDM and plans for future implementation are further discussed in *Section 6*.

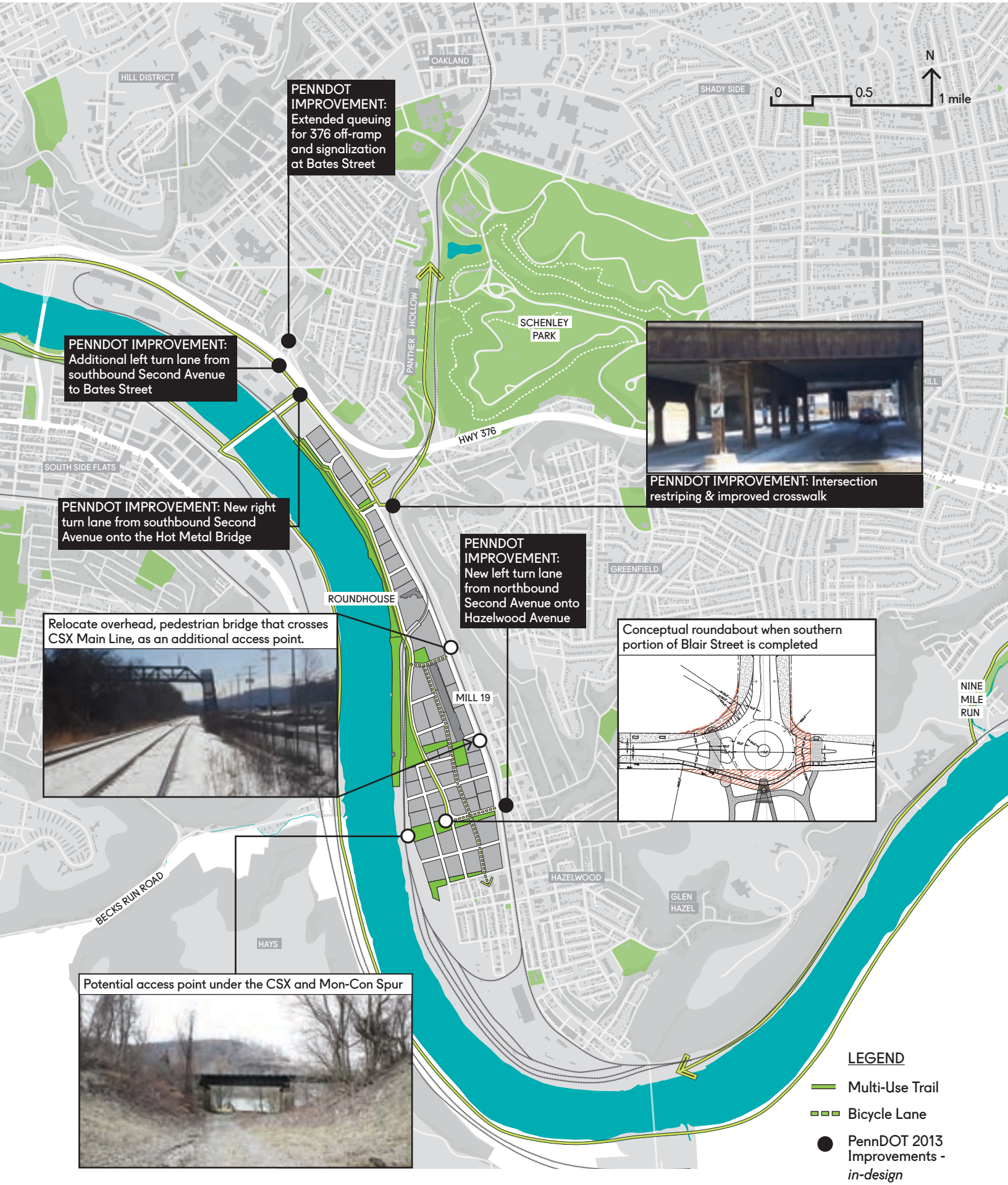


FIGURE 5–12 Planned Transportation Improvements & Important Connections

SHARED PARKING is an approach that optimizes parking supply by accommodating a variety of uses with fewer parking spaces due to varying land use and parking demand peaks – "staggered peaks." Additionally, this strategy recognizes the ease of parking once and walking between uses – "internal capture." As a result, with a shared parking approach, Hazelwood Green can:

- Efficiently utilize existing parking resources;
- Create cost savings use to the construction of less parking;
- Create a more walkable environment for site users; and
- Dedicate more land to productive land uses.

5.3.3 SHARED PARKING STRATEGY

Parking infrastructure requires a significant investment to build, and once permanently constructed reduces the amount of land area available for higher producing uses. The overall parking demand requirements on the site will be significantly reduced through a combination of TDM, a balanced mix of land uses, and expansion of multi-modal connectivity options, as discussed earlier in this Mobility Section. These mobility approaches to reducing parking demand will be combined with a shared parking strategy to promote multi-user parking throughout the site, and encourage reliance on active transportation and transit.

Hazelwood Green's parking supply is modeled to meet the proposed development's expected demand for parking based on a shared parking approach. The shared parking approach considers the site's design, mix of uses, and context as factors for reducing potential demand (refer to FIGURE 5–13). This strategy incorporates captive market effects and mode share characteristics to estimate a supply that meets 110% of modeled demand and ensures optimal operational conditions.

This approach to shared parking and commitments to TDM strategies at Hazelwood Green informed the PLDP's parking ratios and maximums included in *Section 3.3*. These ratios align with the City's recent and forward-looking re-zoning approaches in the Riverfront Zoning and Uptown Eco-Innovation Districts. However, this PLDP also recognizes that market demands may require a phased implementation approach until a critical mass (of residents, employees, and visitors) and transit are in place. These maximum parking ratios are tied to the FLDP submission, such that while the ratios cannot be exceeded within the FLDP area, additional parking may be available in other areas of the site.

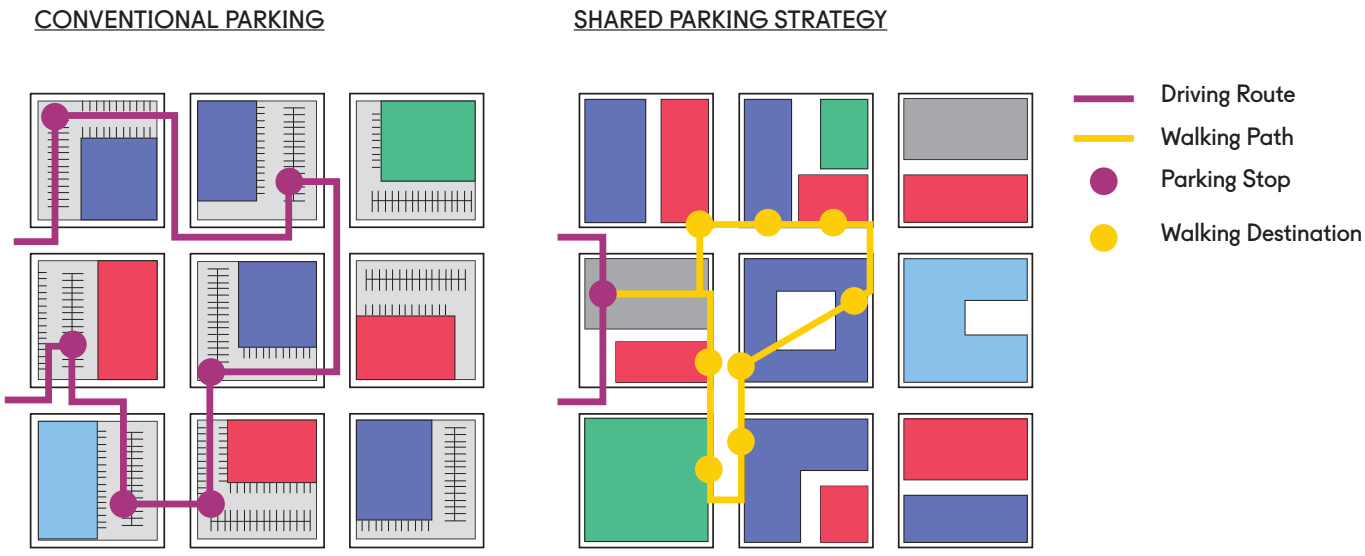


Image: Shared parking approach in a mixed-use area ::
Image Credit: Nelson \ Nygaard Consulting Associates

This means that while early users on the site may have access to more parking per building square foot (sf), overtime the available parking per sf will decrease as more development and users move onto the site, and as transit options increase. The shared parking analysis does not include on-street parking, which represents a total of potentially 1,200 on-street parking spaces throughout the site when all the streets are built-out. These on-street parking spaces will be metered and monitored in the future by the Pittsburgh Parking Authority once significant use occurs and it is necessary to encourage turnover.

A phased implementation of the shared parking strategy includes "right-sizing" of permanent facilities through the installation of temporary parking solutions in the early stages (refer to *Section 4.4.2*) to accommodate higher early market demands without overbuilding. These temporary parking solutions also require the implementation of a monitoring system to develop accurate measures on actual use and to track the impacts of alternative strategies as they are implemented. As required in §922.11, each proposed development must adequately address traffic generation and parking, including a demand analysis, and must make provisions for adequate vehicle access and loading facilities in their Final Land Development Plan (FLDP). Once actual parking demand is better understood and alternative systems are implemented, permanent infrastructure must then be designed and constructed with flexibility and adaptability to accommodate future alternative uses that may facilitate a dramatic shift in parking demand over the site's development timeframe. *Section 6* includes the owner's approach to creation of systems for monitoring, measurement, and phasing of the shared parking system.

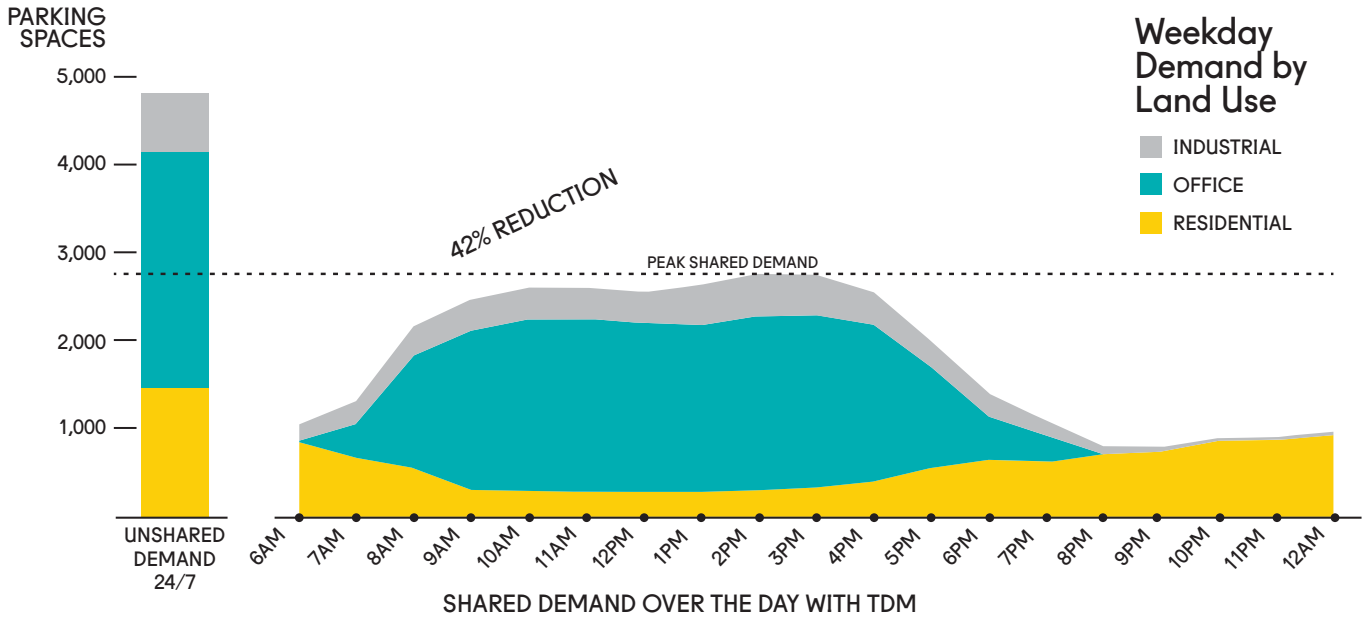


FIGURE 5–13 Unshared vs. Shared Parking Demand Modeled for the Mill District

06

IMPLEMENTATION

Above: Connecting to the river in the River District, looking North along Blair Street with South Side and Downtown in the distance :: Image Credit: © Depiction, LLC 2018

06

90 — Development Program
95 — Site-wide Systems
97 — Site Management

06

IMPLEMENTATION

The Hazelwood Green site is the largest remaining tract of riverfront development area in Pittsburgh. It must be developed in a manner that is both dynamic to attract people today and adaptable for evolving market needs. At current market performance levels, the 178-acre site may require at least 20 years to reach full build-out. It is with this long-term vision in mind that this Implementation section is written to include areas of immediate public interest, as well as the foundational elements of private commitments and intentions in future years. These combined public and private interests will shape the development of this unique site to create excellence in riverfront, urban redevelopment that is sustainable and lasting for generations to come. This section provides the public requirements of the PLDP Implementation Program and also includes owner commitments and intentions for district systems and management over the site's full build out and beyond.

6. 1 Development Program

The SP-10 Hazelwood Green Planned Development District will be developed in accordance with this SP-10 Hazelwood Green Preliminary Land Development Plan ("PLDP") and the associated amendment to the Zoning Ordinance regulating the SP-10 Hazelwood Green Development District ("SP-10 Zoning Text"). Once approved, these documents will replace the SP-10 PLDP and amend the associated SP-10 Zoning Text recorded under the project name "Almono" in 2013. The following subsections reflect those areas of highest public interest that are reflected in this PLDP and its implementation.

6.1.1 SITE CONTROL

A total of 165.6 acres of the Hazelwood Green site is currently owned by Almono LP and managed by Almono LLC, the General Partner. The remaining 12.6 acres are owned by RIDC, the developer for this area (Blocks 19, 20, 23, 24, 27, and 28), which includes the existing Mill 19 building. Boundaries of the public rights-of-way will require minor adjustments through the final construction and dedication process. Public utility easements and rail rights-of-way are noted on FIGURE 2–5. Almono LP, future site ownership entity, and/or future vertical developers will be responsible for activity to further prepare the site for "vertical" development, this may include installing and connecting utilities, placing the final cap of 12" of clean fill, and other related environmental covenants under Act 2 clearance. Almono LP plans to lease and/or sell land for development in accordance with the PLDP and the vision for the site's development.

6.1.2 PROJECT BUDGET

Almono LP first initiated the project in 2002 with the acquisition of the site from LTV Steel Corporation, who had previously demolished most buildings on the vacated site. Since that time, over $65 million of private and public funds have been invested in the remaining demolition, remediation, and infrastructure improvements completed or underway. Additional funds will be required to fully develop Phase I on-site infrastructure over the next 10 years (through 2028), and to provide the necessary off-site infrastructure to support full build out of the site. It is anticipated that federal, state, local, corporate, community, and private developers will be engaged to varying

degrees, as such entities may agree, to fully realize the redevelopment potential of Hazelwood Green. Tax Increment Financing (TIF) has also been approved by the City of Pittsburgh, County of Allegheny, and the Pittsburgh School District to support reimbursement of on- and off-site development costs of up to $80 million over the 20-year TIF timespan of 2017 to 2037, with significant long-range public returns also anticipated from the site. *Section 2* provides a summary of the improvements made to date and existing conditions.

6.1.3 PUBLIC APPROVAL

Each development project on the site will be shared with the public and submitted for approval by the Planning Commission through the Final Land Development Plan (FLDP) process as outlined in the City of Pittsburgh's Zoning Code §922.11.C. In addition, developments must show how the project fits within the overall vision for the site, aligns with the district targets included in *Section 3*, and contributes to overall site performance goals provided in *Section 4*, among other provisions in this PLDP.

6.1.4 MARKET-DRIVEN DEVELOPMENT TARGETS

This PLDP serves as a foundational document that with other controls can adapt to changing market conditions anticipated to occur over the next 10 years or more. As such, all types and paces of market performance should be capable of being accommodated in the PLDP and its interpretation.

While Hazelwood Green is envisioned as a mixed-use development, early stages will focus on creating quality employment centers within the Mill District. Once momentum and critical mass is created through business recruitment, support services will be attracted to the site, along with residential uses that will be integrated into the Phase 1 area – The Mill District. A higher proportion of residential development is expected to follow in The Flats District, located adjacent to existing neighborhood housing. The River District is expected to provide the greatest opportunity for higher densities, partially due to its adjacency to steep slopes and the river that enable higher buildings without obstruction of view corridors. *Section 3* provides detail on the estimated amount of urban open space, development area, and expected jobs / housing ratios.

The unpredictability of market performance on this pioneer site makes it imperative that allowances be considered for temporary and interim uses that align with the site's vision and advance project implementation in the early stages of creating market momentum. Temporary, interim uses would be intended to facilitate early activation or interim needs through pop-up programming, installations, and structures, all of which would be required to be portable and easily relocated or broken down. These interim uses must be in alignment with the goals and intent of the PLDP, however they may require additional land area (typically open air) for testing or other uses that would not be considered desirable at full build-out. For example, a tree nursery, robotics testing ground, music festivals or other events are all desirable temporary uses to activate and productively use portions of the site. However, their large land requirements make these uses undesirable over the long-term. These temporary uses are not the "highest and best use of the land" to meet the site's vision and would generally not meet the PLDP's development requirements. Further detail on temporary uses can be found in the SP-10 Zoning Text.

6.1.5 PUBLIC INFRASTRUCTURE

The PLDP proposes 4.5 miles of new streets to be dedicated to the City and further detailed in *Section 5*. The first of these is the new 1.5-mile site access road (Blair Street and Hazelwood Avenue extensions) that has been constructed to City standards and will be dedicated following necessary approvals. Lytle Street and Street C, and possibly portions of Street F and/or Berwick Street, will be completed in 2019.

The pace of development of the site will increase proportionally with added variety and capacity of off-site mobility options connecting to the site, implementation of demand management practices on-site, and maintenance of a mix of uses that create an optimal balance of trip generation numbers. These alternative approaches to managing traffic will reduce the level of highway improvements required. Thus, investment will be first directed toward alternative, shorter timeframe approaches for addressing mobility requirements for access to the site, rather than investment that promotes and facilitates single-occupancy vehicles (SOV). The 2018 Traffic Impact Study referenced in *Section 5* supports a balanced approach to mobility solutions that does not limit development by how much parking and SOV can be accommodated, but rather by the mix and variability of daily trips to and from the site. With this alternative mix of mobility solutions in mind, phasing of infrastructure will be directed toward activity that will encourage multi-modal options, cluster development for future transit-oriented development stops on this very linear site, and integrate residential opportunities within close proximity to employment centers.

6.1.6 URBAN OPEN SPACE

After 100 years of industrialization, the redevelopment of Hazelwood Green will work to restore the natural ecology of the site through an investment in the natural environment and landscape. In doing so, the site will include elements that nurture the innate human-nature connection and embrace biophilic design, an approach that incorporates nature's patterns into the design of the built environment. To accomplish these objectives, an ecological restoration plan should be included in future Guidelines.

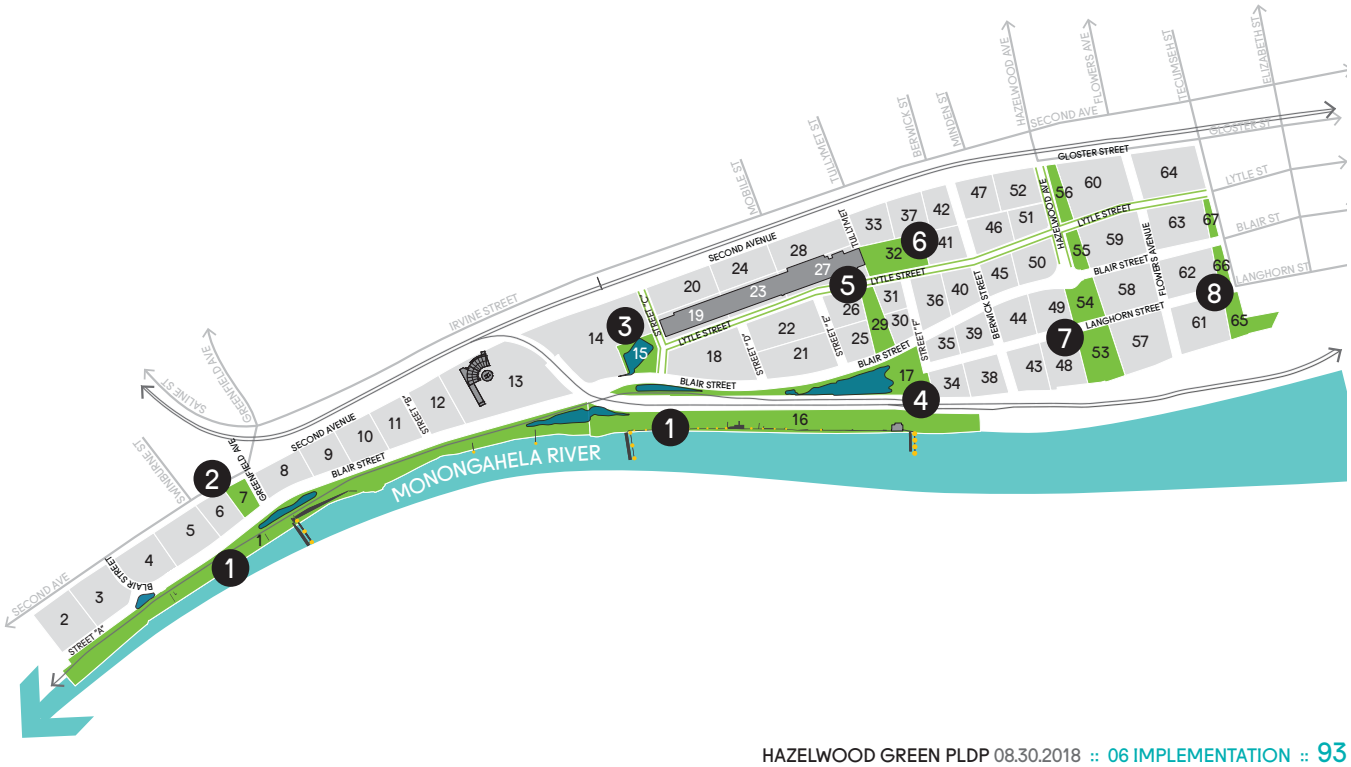
The City of Pittsburgh's Zoning Code requires that 10% of the gross development area be dedicated Urban Open Space. This Hazelwood Green PLDP intends that the fulfillment of this requirement will be accomplished through the creation of eight Urban Open Spaces (locations identified and further described in *Section 3.2*) that make up about 17% of site's total land area. Additionally, depending on the design and build, elements of the mobility infrastructure, such as the trail and Shared Ways may count toward meeting the site's Urban Open Space requirements. The spaces will be developed in an order that is aligned with phasing of the site's development to realize the benefit of aggregating the Urban Open Spaces for a variety of uses.

The estimated 13.8 acres of Urban Open Space planned for Phase 1 began with the construction of the stormwater retention area on Block 17 (UOS #4) as part of the site-wide stormwater management system in 2014-2016. Only a portion of Block 17 was constructed, of which, approximately a 2.7-acre area includes a native landscape, overlooks with seating, and a low impact, accessible pathway. As of this PLDP, this area has been completed and design for the next Urban Open Space – the 2-acre "Plaza" – is underway, with an anticipated completion in 2019. Together, this 4.7 acres will meet the minimum Urban Open Space requirements to develop all of the Mill District. As development proceeds for all three Districts, a series of triggers will guide how and when the Urban Open Spaces are completed, refer to FIGURE 6–1. Furthermore, each FLDP must provide an update on Urban Open Spaces site-wide and their status at the time of approval.

FIGURE 6–1 Urban Open Space Implementation Approach

Note, the following table is intended to provide a strategy for the design and development of Urban Open Spaces at Hazelwood Green. The acreages and timelines are approximations.

Urban Open Space (UOS)	Acres	Design Begins	Constructed & Opened to the Public
Blocks 1 & 16 UOS #1	14.31 acres	Phase A: 2014 – design for the trail connection to Hot Metal Bridge and Hazelwood Ave began (1.90 acres) Phase B: 2019 – begin the feasibility and planning studies to provide direct public access to this portion of the riverfront that is owned by Almono LP.	Phase A: 2019 – Trail along Blair Street (Block 1 and 17) will open to the public Phase B: TBD – The completion of Blocks 1 and 16 (and 17) is contingent on when funding is secured for this regional asset.
Block 7 UOS #2	0.72 acres	2018 - this UOS is reliant on the timelines of the Four-Mile Run Green Infrastructure Project planned by PWSA and ALOCSAN's plans for M-29. Both infrastructure projects are required to include a UOS as the finished condition above all subsurface infrastructure.	The completion and opening of this UOS is dependent on the timeline of the infrastructure projects, both below and above ground.
Block 15 UOS #3	1.21 acres	Phase A: 2014 Phase B: Redesign shall begin when Block 14 begins design, if not before.	Phase A: 2016 – Construction completed Phase B: Completed and open to the public when at least 1 Development Lot on Block 14 is built with occupancy permits.
Block 17 UOS #4	5.04 acres	Phase A: 2014 – partial development of the UOS includes stormwater retention area with trail, overlooks, seating, and native planting, of which 2.7 acres count as UOS Phase B: 2019 – this UOS will be included as part of the larger riverfront park, as such the Block will be completed to accommodate increased public access and multi-purpose functions	Phase A: Construction completed in 2016, anticipated to open to the public in 2019. Phase B: Finalization completed in conjunction with Blocks 1 and 16, as a part of the larger riverfront
Block 29 UOS #5	1.13 acres	Design for this UOS must begin when the first of surrounding the Development Blocks (25, 26, 30, and/or 31) begins design.	This UOS must be completed and open to the public when half (50%) of the total land area of the surrounding Blocks (25, 26, 30, and/or 31) is built with occupancy permits.
Block 32 UOS #6	1.95 acres	As of Spring 2018, under design.	Expected to be complete and open to the public by the end of 2019.
Blocks 53, 54, 55, 56 UOS #7	4.29 acres	Design for this UOS must start when design for Block 48, 49, 57, 58, 59, and/or 60 begins.	UOS Blocks 55 and 56 must be completed and open to the public when half (50%) of the total land area of Blocks 59 and 60 is built with occupancy permits. UOS Blocks 53 and 54 must be completed and open to the public when half (50%) of the total land area of Blocks 48, 49, 57, and 58 is built with occupancy permits.
Blocks 65, 66, 67 UOS #8	1.95 acres	Design for this UOS must begin when the first of surrounding Development Blocks (61, 62, 63, and/or 64) begin design.	Each UOS Block must be completed and open to the public when half (50%) of the land area of its adjacent Development Block(s) is built with occupancy permits. For example, Block 66 must be completed by the time that Block 62 is 50% built with occupancy permits.



6.1.7 ENVIRONMENTAL PERFORMANCE

Almono LP is committed to a high standard of environmental performance for the site as stated in *Section 1* and *Section 4.5* and integrated throughout this PLDP. LEED-ND Plan certification will be pursued by Almono LP, and as stipulated in *Section 4.5*, each development project will be required to demonstrate an ability to achieve relevant LEED standards, or equivalent, at a level of Gold or better, and document targeted p4 Performance Measures, as part of the FLDP submission. In addition to performance standards referenced in *Section 4.5*, the district systems described in *Section 6.2* further reinforce the commitment of Almono LP to a high level of environmental performance. As a result, no adverse environmental consequences are anticipated on the site; rather, the site will be regenerated to well beyond its current environmental condition.

6.1.8 SOCIAL & ECONOMIC PERFORMANCE

Since 2011, Almono LP's individual member foundations have contributed over $21 million to the Greater Hazelwood neighborhood to support capacity building in community-based organizations, workforce development, job creation, home ownership and affordability, as well as advancement of neighborhood planning efforts, among others. *Section 2* further discusses the site, and its history in the context of the existing neighborhood. The PLDP works to strengthen the physical connections to the site and its neighborhood. *Section 4.5* provides a commitment to advancing diverse and equitable housing measured through the p4 Performance Measures.

The full build-out of the site will have a tremendous impact on the tax base, creation of jobs and new investments from companies that locate there. The job / resident mix and ultimate densities will determine the direct and indirect fiscal impact. Companies located on the site will be encouraged to identify methods for active participation in the creation of opportunities for disadvantaged populations. The p4 Opportunity Measure and "*Path to An All in Pittsburgh*" report prepared by PolicyLink in 2016 will serve as guiding metrics and resources to further advance the economic and social benefits of the site.

6.1.9 PUBLIC ART PLAN

Each FLDP shall include a Public Art Plan (Art Plan) regarding the inclusion of publicly available art. Such art may be included on-site or off-site as part of a wider strategy for providing art and engaging artists in the development of SP-10 Hazelwood Green, provided that the location and placement of such art allows for it to be experienced by the general public. Submission of Art Plans located on private property or within Urban Open Space shall not require Art Commission approval. Project types may include permanent and temporary works of art, artist made building parts, locations for performance and artist-led events, platforms for multiple artists for future work, engaging artists on the design team with artist/architect/engineers. Future Guidelines for Public Art Plans will be developed by Almono LP to provide added direction. In the interim, Art Plans should, at a minimum, include the following:

- Explanation as to how the plan relates to the owner Guidelines (once developed) for urban design and public art.
- Explanation of how art and the work of artists will be integrated into the site, i.e, artist designed building components, freestanding work, artist-led community engagement, etc.
- Process for including an artist or artists on the design team.
- Preliminary assessment of artwork ownership, maintenance, and lifespan.

» Plans to incorporate public art into the project budget, including preventative maintenance, and in the case of temporary or revolving artwork platforms, overall program budget and source of funds for the lifespan of the program.

6.1.10 SIGNAGE & WAYFINDING

Signage and wayfinding are crucial to providing directional guidance for site visitors, residents, and employees, and for creating a sense of place. Users and visitors to the site should also be introduced to the historical and innovative elements of the site through a variety of educational and storytelling signage and other methods that are interactive and able to evolve with advances in best practices and products. An effective signage system that also advances placemaking, aligns with the following strategies:

» Wayfinding for multiple modes and users;

» Integration of public art at various levels;

» Multiple scales of signage;

» Flexibility of temporary and permanent installation;

» Sustainability and best practices of materials; and

» Cohesive, unified location and positioning of signage.

Signage shall comply with the strategies identified above and shall meet all other applicable standards established in §919 of the Zoning Code. Finally, the following regulations also govern signage in SP-10 Hazelwood Green.

» Business signs and identification signs shall be allowed in accordance to §919.03.M1 and §919.03.M.3, except ground mounted signs may not extend more than 10 feet from the top of the sign to the grade beneath the sign.

» Projecting signs as defined in §919.03.M.8 are permitted.

» Advertising signs as defined in §919.01.C.2 are not permitted.

Review of proposed signage will take place by the Review Panel (refer to *Section 6.3*) and adhere to any additional governing land and/or building covenants prior to City of Pittsburgh Zoning review. The City is not responsible for verification of the Review Panel's review. Hazelwood Green is anticipating the development of a customized Signage & Wayfinding Plan that will be integrated into the Guidelines. As per §909.01.C, this Signage & Wayfinding Plan may seek approval under §922.11.B to propose specific standards for sign regulations in SP-10 Hazelwood Green.

Below: Gathering for the site's renaming at the Big Tent Event include (left to right): Senator Jay Costa, City Councilman Corey O'Connor, Reverend Tim Smith, George Thomas, Pittsburgh Mayor Bill Peduto, Allegheny County Executive Rich Fitzgerald, and Project Director Rebecca Flora, October 2017 :: Image Credit: Annie O'Neill

6.2 Site-wide Systems

Hazelwood Green is taking a systems approach to site-wide infrastructure elements that will benefit from a cohesive, integrated strategy for design, construction, and operation. This section of the PLDP establishes an expectation for development of district energy, water, and transportation systems that also acknowledge the need for staged implementation and flexibility as markets evolve. An approach to these district-scaled and operated infrastructure systems will be further documented through a combination of Almono LP developed Guidelines that will be updated as site improvements occur, and through developer agreements that reflect the current market condition and requirements at the time of individual project developments.

OBJECTIVES FOR THE FUTURE DISTRICT ENERGY SYSTEM AT HAZELWOOD GREEN

- Aspire to achieve a site-wide goal of net positive energy.
- Meet or exceed 2030 Challenge Goals for all new construction and renovation, with plans for progressive, incremental improvements as per the Pittsburgh p4 Performance Measure for Energy.
- Manage energy consumption through technologies, site user education, incentives, transparent user interaction, and dashboard systems and programs.
- Leverage viable on-site resources to create renewable energy supply sources.
- Create opportunities for energy storage to advance site resiliency.
- Provide competitive and predictable energy rates for building owners and tenants.
- Advance new technologies and practices that mitigate the potential carbon impact of high-capacity production, process, and plug-related loads.
- Include transparent monitoring and testing of performance for effective management to inform the evolution of best practices as development progresses.
- Allow for market advances through flexible design and phased implementation.
- Consider the potential for expansion of services and other benefits to the adjacent residential neighborhood.

NET POSITIVE WATER is a standard used by the Living Community Challenge, by which 100% of a project site's water needs must be supplied by captured precipitation or other natural, closed loop water systems, and/or by recycling used on-site water; the water must be purified as needed without the use of chemicals.

WATER CONSERVATION is the reduction of water use, which can be achieved through techniques such as: education, metering, efficient fixtures, and natural planting (i.e. reduced irrigation).

6.2.1 DISTRICT ENERGY SYSTEMS

A central component of the Vision for Hazelwood Green is the implementation of a comprehensive energy strategy that will serve as a national model for district energy integration. The owners plan to identify an Integrated Energy Services Provider (IESP) who will be responsible for creating a business model that allows for phasing of energy infrastructure in alignment with development to deliver district energy on the site. The overall strategy requires efficiency first, followed by on-site renewable sources before utilizing off-site renewable sources. Until an adequate critical mass of buildings (demand) are in place, off-site renewable solutions may be required to meet immediate needs until these can be transferred to on-site solutions. District energy on-site could include a combination of strategies such as: generation, biomass, geoexchange, geothermal, solar, wind, microgrid, and electrical storage at the building and site-wide scale.

The IESP identified for the site should also consider ways to leverage the site's scale for other district utility systems such as water (i.e., potable, process, rain, reclaimed, and waste water). Each building on site may be provided with piped, wired, and metered energy services that would allow heating and cooling systems in the buildings to maintain comfort conditions. The IESP may also provide energy metering for each building and tenant as appropriate for heating, cooling, electrical energy, and renewable energy. Renewable energy in the form of PV is encouraged and even if not installed initially, all roof areas should be designed for future installation of PV panels. The specifics of the energy systems will be developed with the IESP and included in the Guidelines. The plan for an on-site energy district must be phased in sync with development due to the upfront cost of infrastructure investment and ongoing changes in technology.

6.2.2 DISTRICT WATER SYSTEMS

Net positive water on-site is a long-term goal that the development should work towards, in collaboration with local efforts to efficiently manage natural resources for future generations. Prior sections of the PLDP highlighted green infrastructure for rainwater management and water conservation within individual building projects, both of which are fundamental to mitigating the development's footprint on the ecosystem. Tackling water conservation through site-wide water reclamation and reuse, including the potential for wastewater treatment, is also fundamental to the Principles for Hazelwood Green. As district energy and district water may share infrastructure and have synergy related to waste water treatment, the implementation of a district on-site water system will be intimately connected and tied to the overall IESP strategy. The aspirational vision for net positive water on the site is currently limited by regulations and the economics of gray and/or blackwater systems. However, these factors may shift in upcoming years as water pricing is adjusted to match the scale of current city-wide aging infrastructure issues and the real costs that make rainwater capture and reuse a more viable option.

PURPLE PIPE is commonly used to convey reclaimed (recycled) water. In many cases this non-potable water is used for irrigation, manufacturing processes, fighting fires, etc. However, in some cases it can be used for anything other than drinking water. Purple pipe has become the universal symbol of recycled water.

Implementation strategies may take shape in the form of an on-site wastewater treatment plant, installation of purple pipes for non-potable water reuse, underground cisterns, and other related infrastructure, none of which are precluded in this PLDP. This long-term vision will be incorporated into district energy and infrastructure planning as development progresses, such that rainwater harvesting is encouraged, and private utility easements within the sidewalk right-of-way are allocated for both district energy and water infrastructure beyond the standard Pittsburgh utilities (DLC, PWSA, etc.). The Guidelines will provide specific requirements that will evolve with IESP input and changes in markets and policy.

6.2.3 DISTRICT TRANSPORTATION SYSTEMS

Transportation efficiency and reduction of impacts cannot be addressed solely on a project-by-project basis, they must be also considered as part of a system. *Section 5* defines the various approaches to mobility that depend on a balanced mix of uses, shared parking approaches, and commitments by buildings owners and tenants to transportation demand management strategies. Just as with energy and water, a "district" systems approach will create the highest opportunity for success, as each component of mobility must work in sync with the others.

Hazelwood Green intends to create a platform for multi-modal mobility options that are reinforced with site-wide shared parking strategy and management systems which together will reduce the demand for SOV over the project's Phase 1 timeframe and set the course for accelerated adoption of alternatives in future phases. The additional infrastructure required for successful implementation of a transportation system includes the following elements and actions:

- MANAGEMENT. Create a centralized place for coordination, information, management, and support. Aggregation of these functions will make it easier to create a community of users and advocates, and improve access to more alternatives.
- TECHNOLOGY. Improve access to information about locations, schedules, sharing, wayfinding, and other tools to make alternative transportation an acceptable and easily accessible option.
- INCENTIVES. Make it cost effective to choose alternatives through discounted passes and shared parking management that will be more cost efficient than SOV-related infrastructure.
- FACILITIES. Provide bike share, storage, showers, repair and other facilities that make it easy to cycle, walk or use other active transportation options. Provide transit stop amenities that create pleasant, safe, and function places to board or disembark transit. Transit stop amenities may include, but is not limited to: shelter, queue space, transit screens, seating, charging station, wifi, and public art.

The PLDP is intended to advance this systems approach to transportation, and the FLDP for all projects should provide detail on how the project will participate. Just as with energy and water, this systems approach will need to be phased in, with interim strategies supported until a critical mass of users is created on the site.

6.3 Site Management

The site is intended to far surpass baseline public requirements for urban redevelopment. In doing so, the site will be a transformative model for best practices in sustainable development within an urban context. The Vision and long-term timeframe for development of this site requires these intentions to steadily be raised in balance with market fluctuations, and to evolve with the introduction and adoption of new technologies, practices, and policies. The PLDP provides a solid framework for assuring that design standards and intents are defined for the site. However, the ultimate long-term success of the project will depend on a management approach that considers the roles of each project participant, both before a project is initiated, and over the life of the project. This section provides a general understanding of the intended approach to site management that will evolve as more users occupy the site and development partners are added to the decision-making processes.

6.3.1 PROJECT REVIEW

As a supplement to the PLDP, SP-10 Zoning Text, and FLDP public review and approval processes, Almono LLC will establish a privately managed Review Panel of relevant areas of expertise (members may vary based on project type) and a process to review development occurring on the site prior to FLDP submission for public approval. This Panel will work collaboratively with the public process and Hazelwood Green's development requirements to review approval of all physical improvements to Blocks, designated Urban Open Spaces, rights-of-way and easements, and other physical features on the site before submittal of any FLDP. There are aspects of the Vision and Principles for the site that cannot or should not be included in SP-10 regulatory documents. Such additional development requirements will be included in developer agreements and terms, and in Conditions, Covenants, and Controls (CCRs) that are transferred with the land. The Review Panel will take into consideration market conditions and needs, current stage of development, progress toward performance metrics, overall excellence in design, adherence to the PLDP, and other elements to provide assurance to investors that each development on the site is creating positive triple bottom line returns and advancing the Vision for the site.

The Guidelines referred to in several places throughout this PLDP will be developed by Almono LLC as the project progresses and is informed by practice. They will include a series of specialty topics that are aligned with the PLDP and will be provided to development prospects as supplemental guidance early on in project discussions and used by the Review Panel in its project review.

6.3.2 PERFORMANCE MEASUREMENT & DOCUMENTATION

The Hazelwood Green site is intended to be a place of experimentation and a platform for innovation. As such, all aspects of the site, its development, and the users on the site present opportunities for learning to continuously evolve as a transformative model for sustainable development. Throughout the PLDP there are references to standards and metrics that will be utilized to measure project targets and track performance. Almono LP will work with public and private partners to monitor performance and collect data on the site systems, as well as work with private-sector developers to aggregate data that will measure building performance and analyze outcomes. Through measurement, verification, and documentation, areas for improvement will be identified and ongoing progress toward realization of the Vision and Principles for the site will be acknowledged.

6.3.3 MAINTENANCE & OPERATIONS

Sustainable design and development practices embedded in this PLDP will require a green operations plan that supports these investments and continues the commitment to sustainability measures beyond construction completion. All site and building operations are intended to include green maintenance practices that will create a healthy place for humans and ecological systems. Maintenance and operations responsibilities for common, private, and public areas, programs, and infrastructure are described below, with the overriding intent that all adopt green operations and maintenance practices, and integrate durable materials and finishes that are lasting.

6.3.3.A COMMON

Building and/or land owners, along with site developer(s), will be expected to participate in a management association and pay fees for the maintenance of common areas (predominately, but not exclusively, Urban Open Spaces), programs, and infrastructure that benefit all users and visitors to the site. Common Area Maintenance (CAM) fees will be included in all development agreements.

There will also be opportunities to benefit from economies of scale in the sharing of other resources and services on-site. These concepts may go beyond traditional CAM items to include activities such as: solid waste management that includes recycling and composting stations; community gardens; civic spaces; site programming; mobility options; and other activities that will help shape the vitality of this community, both within individual sub-district development areas and throughout the entire development site. A management association will be created once additional development occurs to provide a democratic process for implementation of these policies and management practices.

Opportunities for ongoing improvements, replacement, and maintenance may also be included in the creation of a future Neighborhood Improvement District (NID) to provide a mechanism for assessing and funding mutually beneficial activities that also create larger site and regional value.

6.3.3.B PRIVATE

Individual land and/or building owners will be responsible for all activity on their Lot, including the building area and all associated site development within the Lot. This may also include Shared Ways, Public-Private Open Space, and access to shared parking and service/loading areas that are integral to the whole Block and building area.

6.3.3.C PUBLIC

All Primary and Secondary Streets will be built to City standard for dedication to the City and inclusion in the public rights-of-way (ROW) network. Maintenance of these public ROWs will be the responsibility of the City. Regional assets such as the riverfront park and trail will be considered for inclusion in a regional network to facilitate public access and shared maintenance.

6.3.4 PLACE-MAKING

The creation of a dynamic place and identity for Hazelwood Green is the ultimate goal of the urban planning, design, and community building intents of this PLDP. While excellence in planning frameworks set the stage for placemaking, it will not perform without great programming and management that together make underutilized spaces fun and exciting for people. This PLDP prescribes those planning and design elements that are known to influence the physical attractiveness of a place. The vitality of an area also depends on street level activity and a critical mass of people on the site throughout the day and into the evening, on both weekdays and weekends. Creating vitality in the early stages of development will require active programming to bring visitors to the site, along with opportunities for users of the site to interact and feel safe walking and biking to places throughout the site. Interesting, safe walkways to parking locations and neighborhood amenities will further enhance positive interaction and activation in the early stages of site development and occupancy.

Ultimately, residential development, along with restaurants and other activity that expands on the core workday use of the site, will create a sense of place. This will take time and requires a staged approach to create clusters of activity around core areas that once occupied and active, will be a launching pad for the next cluster area. The first cluster will be around the Plaza, at the south end of Mill 19 in the Mill District. Development will be focused here and along Lytle Street in the Phase 1 area to create an active main street that connects with Hazelwood's core main street. Programming of these cluster areas should be a key responsibility of the management of the site to catalyze activity.

Placemaking takes time to establish momentum and perseverance to sustain and grow that momentum. Almono LP is a unique ownership entity that is committed to a long-term view for the site's development that will have lasting transformative impact. Hazelwood Green is also fortunate to be part of a neighborhood that is experiencing a renewal that will evolve as the site and the neighborhood create a mutually beneficial relationship. Finally, the city and other government partners are ready for the innovative approaches included in this PLDP, ones that will be necessary to attract and grow new talent, along with generating opportunities for existing populations. Together, all these elements and participants are required to achieve genuine, lasting placemaking and a world-class model for sustainable community development.

PHOTOGRAPHY NEXT PAGE (101)

Top Left: Center of Life's group The KRUNK Movement during the Big Tent Event, October 2017 :: Credit: James Knox Photography

Top Right: Mill 19 for the Future of Manufacturing groundbreaking, November 2017 :: Credit: ReMake Group

Middle Left: Play activities during the Big Tent Event, October 2017 :: Credit: James Knox Photography

Top Right: Interior of Mill 19 for the groundbreaking, November 2017 :: Credit: ReMake Group

Bottom Left: Aerial view of the Pump House and Uber test track looking south towards Hazelwood, March 2018 :: Credit: Environmental Planning and Design

Bottom Right: Attendees during a Green Building Alliance bicycle tour of the site, July 2017 :: Credit: Bradd Celidonia, Courtesy of GBA

Back Cover Image: 2018 PLDP Vision for Hazelwood Green :: Image Credit: © Depiction, LLC 2018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