pittsburgh city planning

ADOPTED SEPTEMBER 12, 2017

UPTOWN/
WEST OAKLAND

ECO INNOVATION DISTRICT

INTRODUCTION LETTER

Citizens of Pittsburgh,

Change is one of the key forces of nature in cities. Cities and communities can work to guide change in ways that realize bold community visions for the future, or they can choose to respond to change with fear and struggle in vain to turn back the hands of time. Pittsburgh has gone down both paths in its history, and in Uptown, we have the unique opportunity to test our shared aspirations of sustainable development, livability innovation and entrepreneurship in ways that benefit us all. That's what the Uptown EcoInnovation District Plan is all about.

When we began this project two years ago, we also started two other ventures: the City's first resilience strategy, OnePGH, and the P4 partnership between the City and The Heinz Endowments. Taking on issues of resilience, equity and growth at both citywide and community scales allowed us to understand the big issues all Pittsburghers will face and the opportunities these challenges create for each of our communities. This plan benefits from both citywide initiatives to spur new programs and development opportunities that will meet community goals. New land use controls will translate the community vision into zoning code and provide a dynamic set of tools that ensure our communities benefit from the development that happens in them. We're piloting these strategies in Uptown with the intent to see what works and expand these successes citywide to benefit all communities. For many reasons, Uptown is a great testbed.

Uptown is one of the oldest parts of our city, and at the same time, full of new opportunities and fresh ideas. Sandwiched between Downtown and Oakland, Pennsylvania's second and third largest employment centers, Uptown already has a rich tapestry of community organizations and institutions including but not limited to Uptown Partners, Duquesne University, UPMC Mercy Hospital and Avenu. These organizations are all actively using their diverse skills, expertise and resources to improve the community. Their investments in this planning process are matched by their excitement to make this document a reality. Even better, they're not alone. This planning process has included many voices and there are many in the community who can't wait to get going.

Over the last two years, the community voice has been central and powerful. Over 700 people completed surveys, 550 attended public events, 70 were involved in one-on-one interviews or focus groups, and a community steering committee met 10 times to help guide the development of the plan. The resulting document is organized into four simple chapters that represent the opportunities and challenges facing Uptown: Community, Development, Mobility and Infrastructure. The plan includes a mix of projects, programs and strategies that seek to build both a stronger community of residents and businesses as well as a better physical environment.

One of the bold ideas would recast Boulevard of the Allies as Uptown's riverfront by returning the highway back to the leafy boulevard envisioned by Olmsted when it was originally built. Fifth and Forbes are invigorated with a new bus rapid transit system and all the safety and livability improvements that come with it. And the plan builds on the wisdom of previous projects, for example, by reimagining the hillside between Uptown and the rest of the Greater Hill as a forested trail network that can reconnect these two areas and provide residents with a healthy and natural escape from the city – an idea originating in the Greenprint Plan almost a decade ago. But this plan doesn't just propose new energy efficient buildings, infrastructure and livability improvements – it also proposes the workforce development programs needed for residents of Uptown and the Greater Hill Community to gain the skills needed to build and maintain these improvements and start the small businesses to grow Pittsburgh's clean tech economy.

The result is a bold vision for the future where everyone is invited to come, to innovate, to build new businesses and to find a livable community to call home. The lessons we learn here, in Uptown, will shape the next generation of neighborhood plans across the city.

Sincerely,

William Peduto
Mayor, City of Pittsburgh

ACKNOWLEDGMENTS

This plan was the culmination of collaboration over the last two years and would not have been possible without the time, knowledge and energy of those listed below and to the hundreds of stakeholders who came to events, sat for interviews, joined focus groups and provided their invaluable input.

CITY OF PITTSBURGH

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STEERING COMMITTEE

This project benefited from a **45-member** Steering Committee composed of representatives from resident groups, non-profits, major institutions, businesses, and government agencies. This group included representatives from the Uptown, Downtown, Hill, and Oakland communities and met throughout the project to provide feedback on proposals as they formed and to review early drafts of the plan. Additional subcommittees met to discuss the financing of major infrastructure and to review mobility proposals.

We thank our committee members for their dedication and their time.

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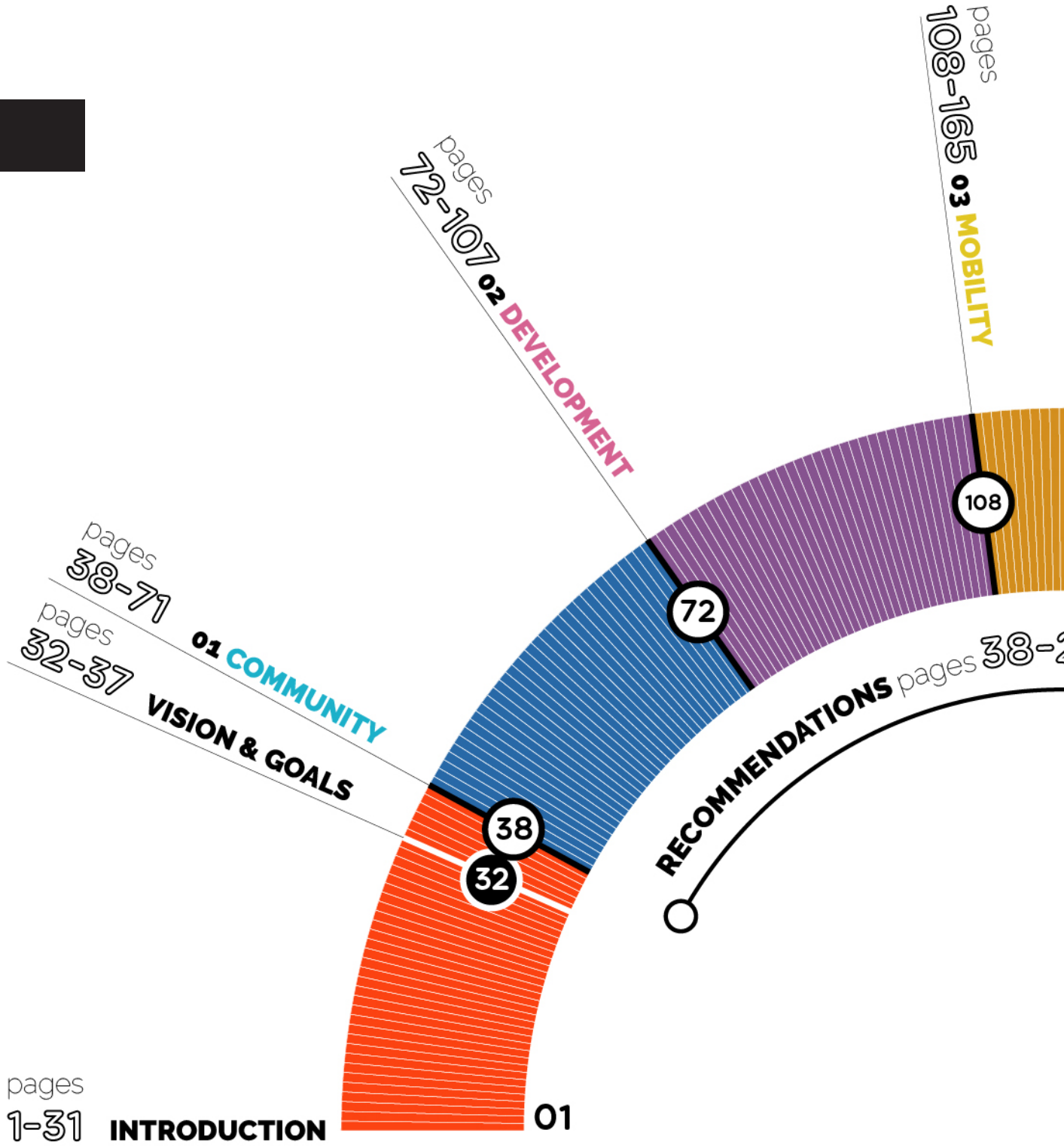

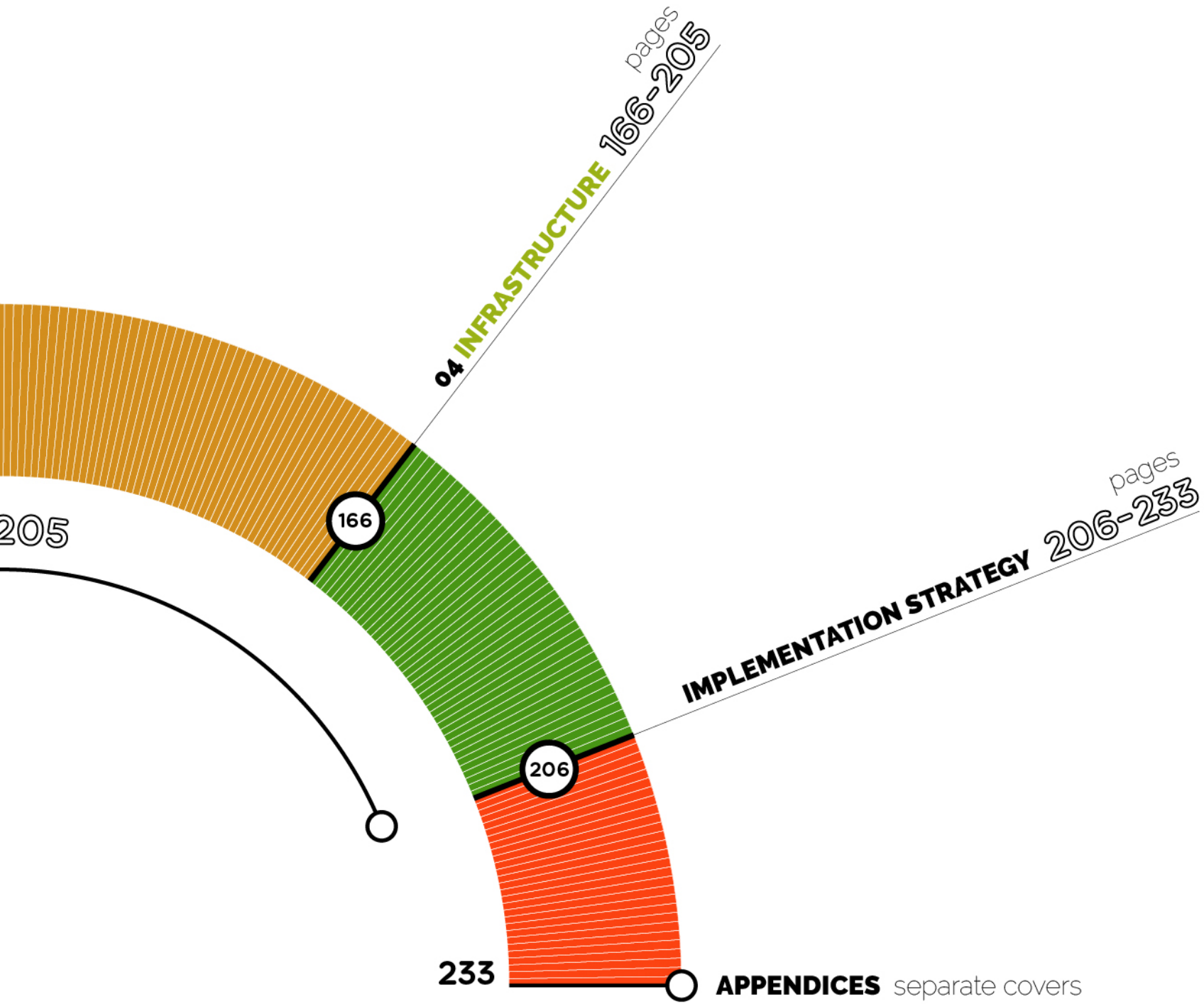
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LIST OF RECOMMENDATIONS

COMMUNITY

DEVELOPMENT

MOBILITY

INFRASTRUCTURE

IMPLEMENTATION

CHAPTER

01

INTRODUCTION

ECO: "connected to the environment"

INNOVATION: "the act or process of introducing new ideas, devices or methods."

ECOINNOVATION DISTRICT: an area dedicated to sustainability, innovative development practices an

WHAT IS AN ECOINNOVATION DISTRICT?

The EcoInnovation District in Pittsburgh is the first of its kind. Focused on the Uptown and West Oakland communities, it is a groundbreaking initiative that combines the goals of both EcoDistricts and Innovation Districts that have helped to positively transform communities across the country.

> **ECODISTRICTS** is an organization based in Portland, OR that certifies places as EcoDistricts using their "EcoDistricts Protocol." The EcoDistricts Protocol emphasizes a bottom-up model of planning and development to create a resilient and equitable city. The intent is to promote an alternative approach to development that is focused on economic opportunity, smart and efficient infrastructure, and green building practices, to name a few. Prior to this project launching, Pittsburgh sent a delegation of planners, designers and community activists to Portland to participate in an EcoDistricts Incubator. Their participation and the interests of local political leaders helped to drive the aspiration that Uptown should become the City of Pittsburgh's first EcoDistrict.

> **INNOVATION DISTRICTS** have sprouted across the country in cities of all sizes. Focused on economic opportunity, innovation districts are intended to help spur job growth by creating places where people can share ideas and establish new and innovative businesses. They are typically designed as walkable, bikeable, and transit-oriented places with plenty of public spaces to bring people together. Pittsburgh is no stranger to innovation as local institutions have helped to spur the growth of new technology-related businesses throughout the City. With all of this economic activity in and near Uptown, there is an opportunity to support and expand small businesses in the community and create jobs for local residents.

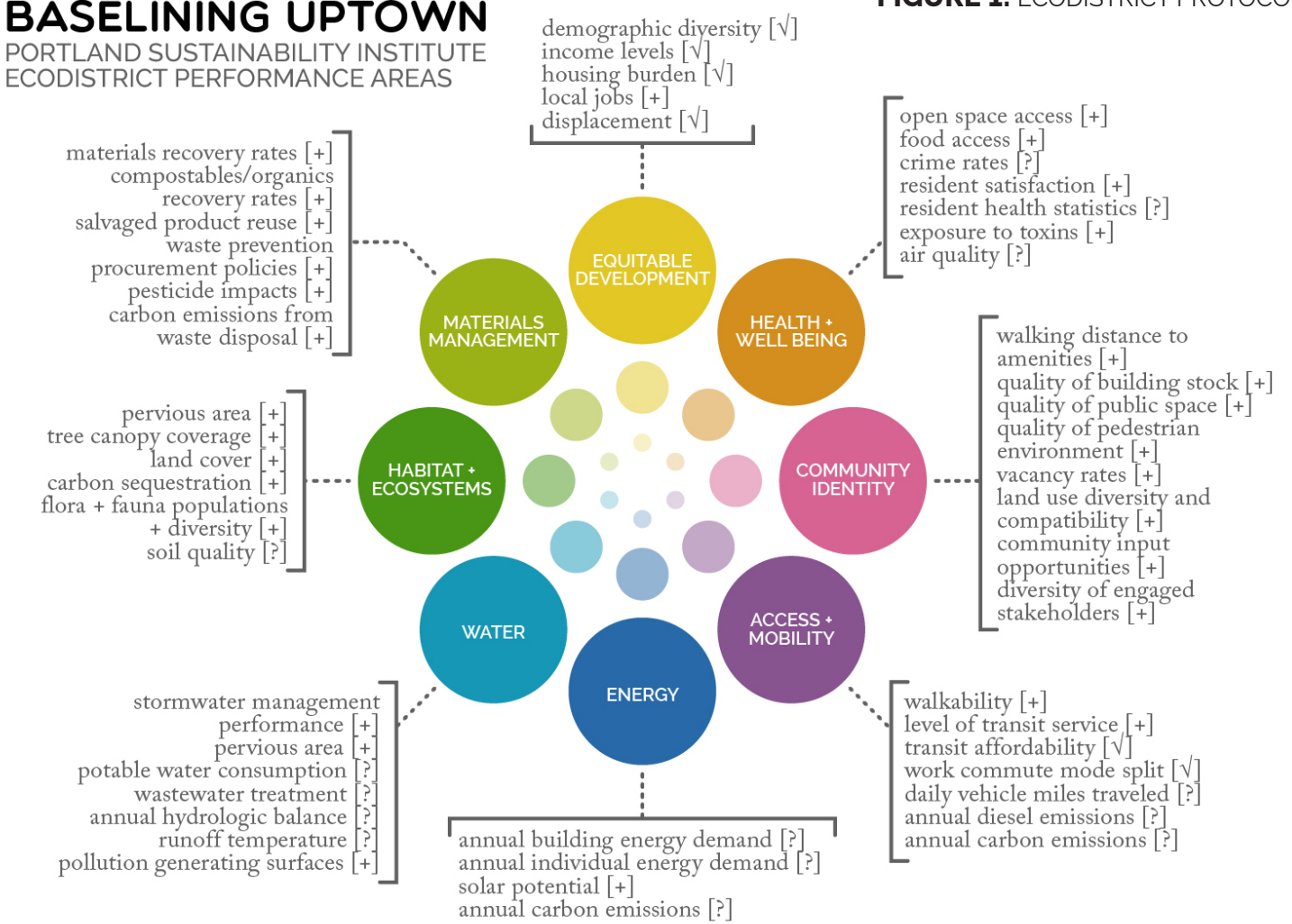
Simply put, **THE ECOINNOVATION DISTRICT IS A COMMUNITY PLAN WITH A FOCUS ON HEALING THE ENVIRONMENT, SUPPORTING THE NEEDS OF EXISTING RESIDENTS AND EXPANDING JOB GROWTH.**

To develop this plan, all members of the community – those who live, work, learn, and play in Uptown – were welcomed participants. Through this process, residents and stakeholders created a vision for their community and identified the key actions for change to help make that vision a reality. There was no shortage of ideas and opinions. Thank you to everyone who engaged with this planning process so closely and in doing so enriched the plan. Your words and ideas are present on every page.

This project is the product of ongoing collaboration among Uptown Partners of Pittsburgh, Oakland Planning and Development Corporation, City of Pittsburgh, Envision Downtown, Sustainable Pittsburgh, Urban Redevelopment Authority of Pittsburgh, Port Authority of Allegheny County, neighborhood residents and groups, universities, and other partners.

d inclusive job growth.

FIGURE 1: ECODISTRICT PROTOCOL



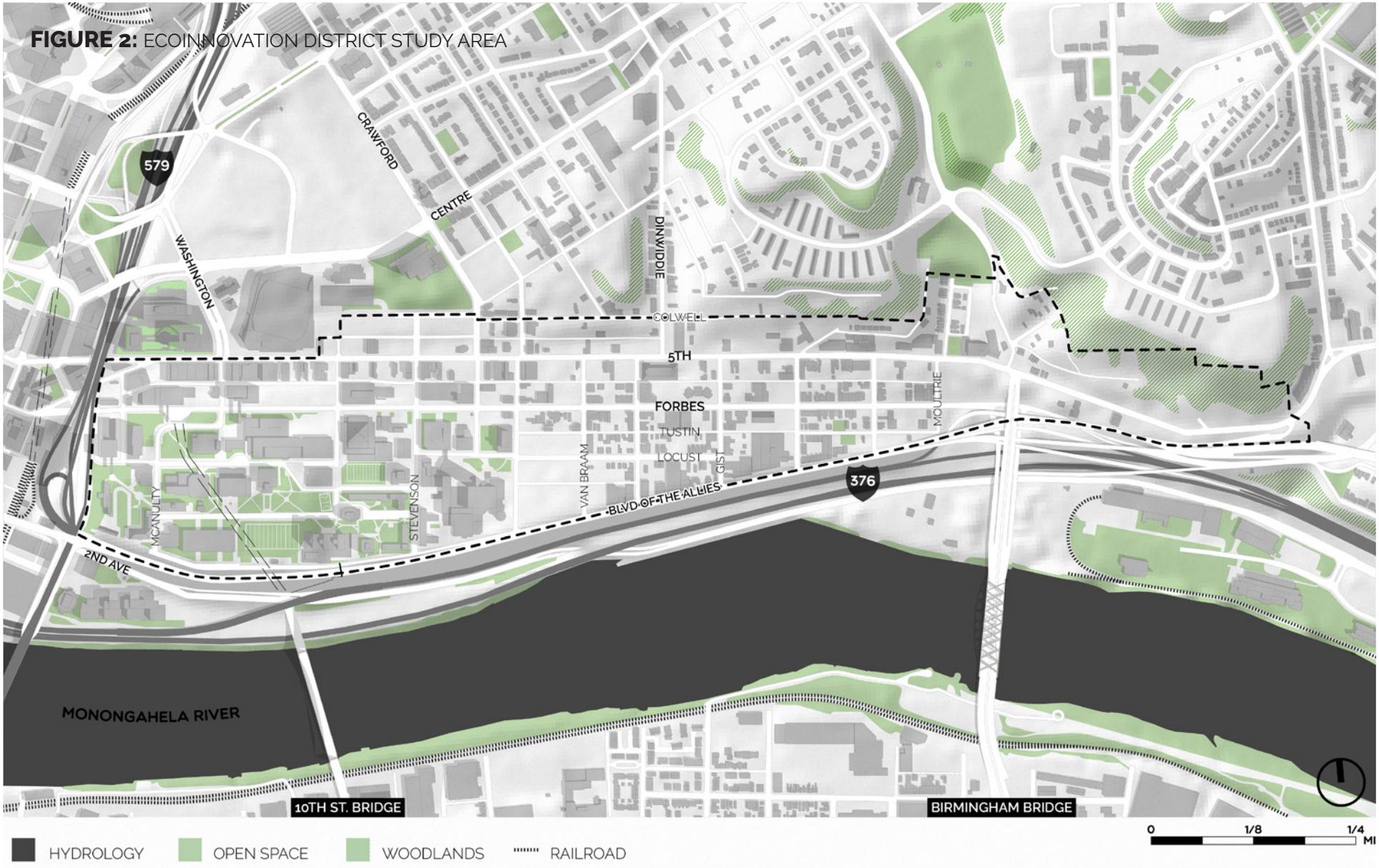
WHY UPTOWN/WEST OAKLAND?

Uptown and West Oakland are located between the 2nd and 3rd largest employment centers in Pennsylvania, Downtown Pittsburgh with 153,224 jobs and Oakland with 79,896 jobs.[1] With significant growth in surrounding areas, prices in Uptown and real estate speculation have grown over the last 30 years even though little new development has occurred. In the last decade, investments by major institutions and the work of community non-profits have helped to attract new housing and businesses. For these reasons, Uptown and West Oakland present unparalleled opportunities to encourage investment that supports new and growing businesses, but also creates opportunities for existing residents.

Despite the opportunities, Uptown and West Oakland face some long-standing challenges. Often overlooked by outsiders, the area is a convenient pass-through, shuffling traffic both to and from Oakland and Downtown. The sheer amount of cars in the area impacts not only the quality of the air but also the safety along the community's streets where crashes are far more likely than in the rest of the City. The legacy of disinvestment is visible in the area's empty buildings and land and, underlying these challenges, are issues related to housing affordability, infrastructure, and stormwater management. At just over 200 acres, the EcoInnovation District represents the typical challenges faced across Pittsburgh's neighborhoods all within a small footprint.

1 "Downtown Rebirth - Documenting the live-work dynamic in 21st century U.S. cities." Levy & Gilchrest - 2014

FIGURE 2: ECOINNOVATION DISTRICT STUDY AREA



The **STUDY AREA** is referred to as Uptown / West Oakland and extends from I-579 on the west to Robinson Street on the east, the hillside and Colwell Street on the north to Boulevard of the Allies on the south. As shorthand, this plan refers to the study area as "Uptown" but we recognize that the boundaries are fuzzy and that many of the plan's strategies were developed with adjacent partners to support their ongoing work.

SPECIFICALLY, THIS PLAN SEEKS TO:

Coordinate and inform budgeting decisions by the City, local institutions and private organizations potentially interested in investing in the community;

Leverage public, private and philanthropic dollars by clearly signaling where improvements will be made in the community;

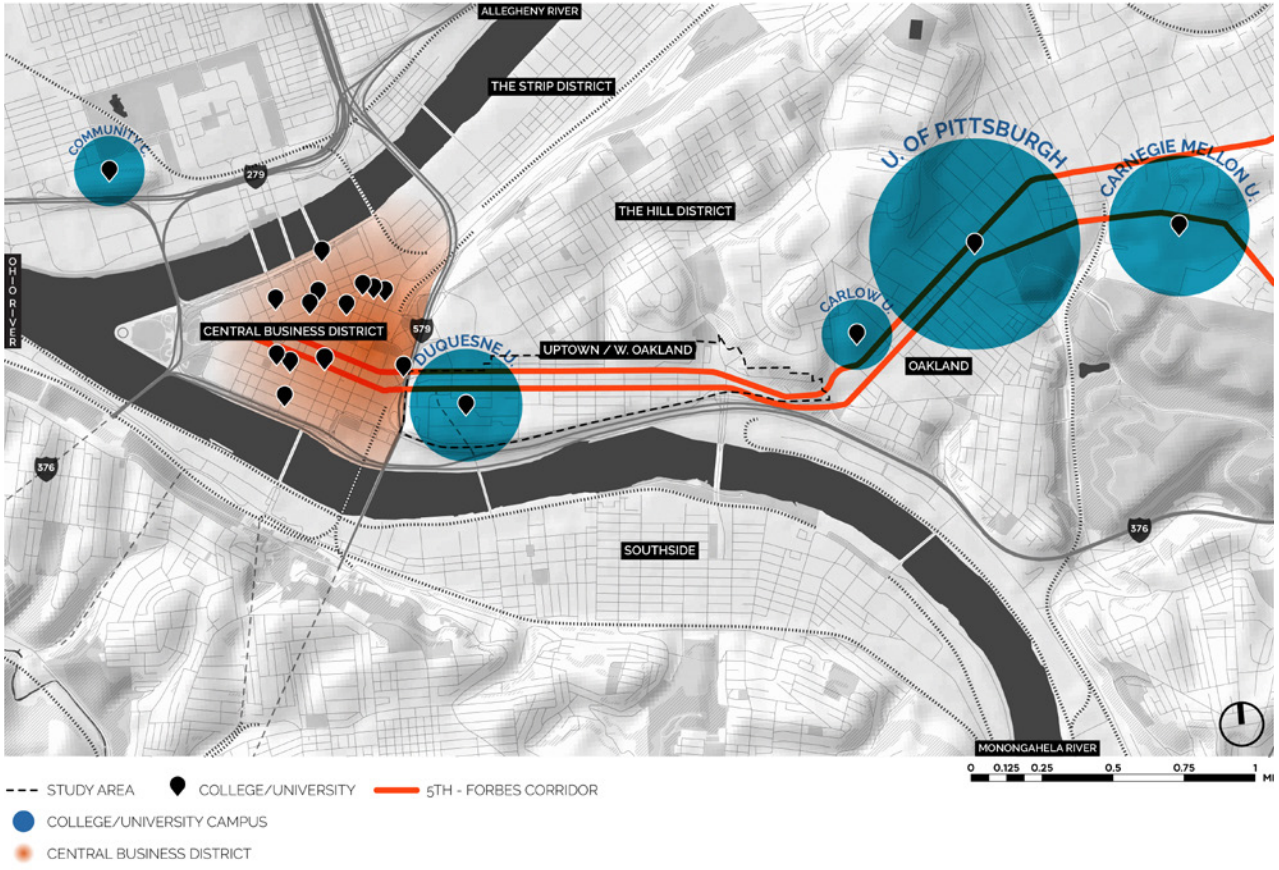
WHAT ABOUT BRT?

Given Uptown's unique location between Downtown and Oakland as well as some unique challenges with respect to traffic and the existing bus service, an idea was launched in 2011 to create a bus rapid transit (BRT) system between Downtown, Oakland and communities east of Oakland. The BRT planning process was put on hold so that the EcoInnovation District plan could shape potential transit improvements, and not the other way around.

Throughout this plan, the design and future of the Fifth and Forbes corridors were active topics of discussion. Working closely with residents, a strategy was developed to integrate dedicated bus lanes into both Fifth and Forbes recognizing that this dedicated lane opens the doors to Federal dollars that can help to address the community's many infrastructure challenges, including poor sidewalks, a lack of crosswalks, poor lighting and flooding basements, to name a few.

The Port Authority, in partnership with the City, County, and URA, is currently moving forward with preliminary engineering related to this BRT system. Key steps of developing the BRT project will be reviewed by residents to ensure that the design reflects the vision of the neighborhood development through the EcoInnovation District (this process).

FIGURE 3: CONTEXT MAP



Identify additional opportunities to raise funds for implementation from outside the City; and

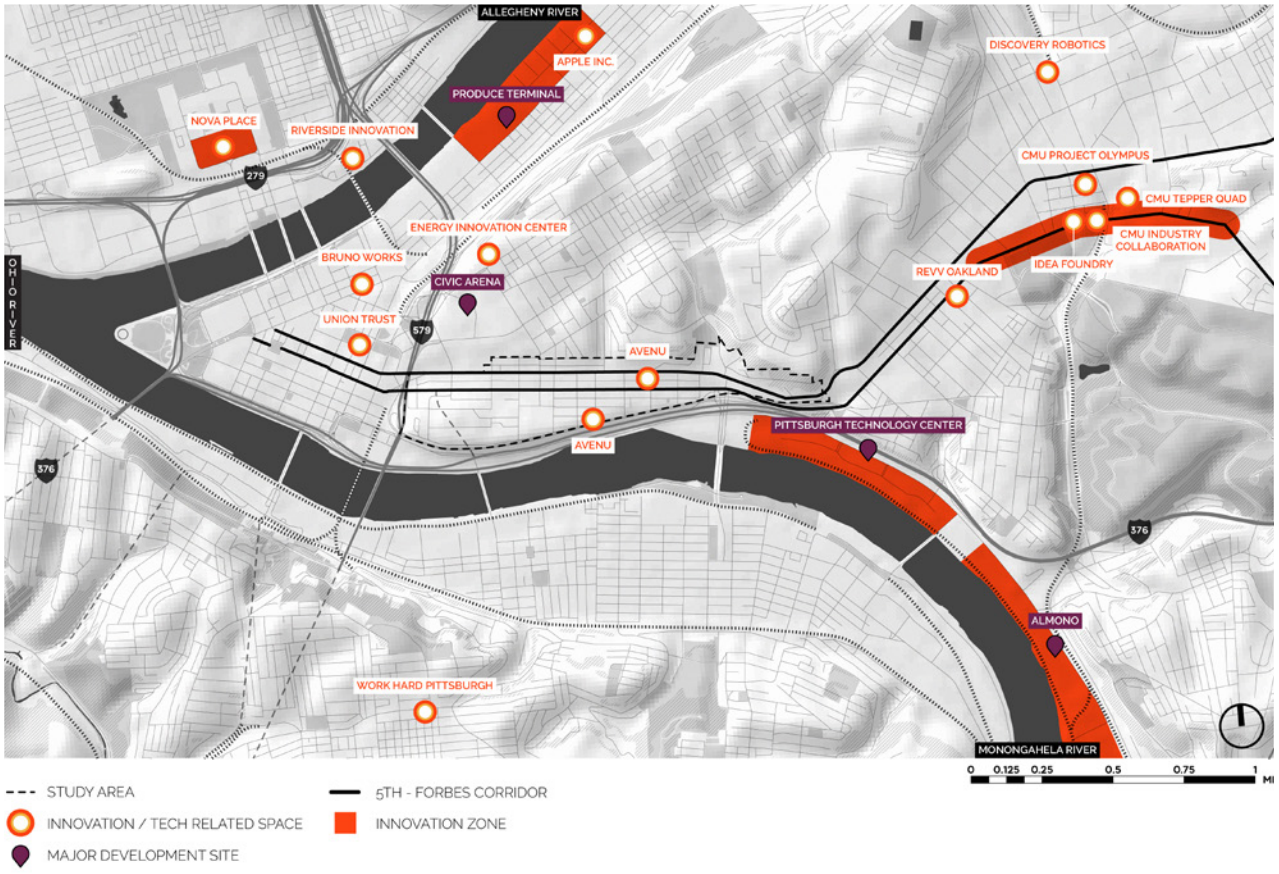
Empower local residents and stakeholders as partners in the implementation of this plan.

WHY DO WE NEED A PLAN?

Residents in Uptown and West Oakland have a lot of ideas for the future of their community. Organizing, prioritizing and implementing these ideas requires a clear plan of action. This EcoInnovation District planning process sought to answer several key questions: What are the main critical problems the community faces, and what are the ways that we can solve them? What is most important to the community? What can we achieve now and what should we do long-term? These questions and more are the reason we partnered closely with community members to craft this plan.

While this document contains many specific ideas, things can and will change. New development is already occurring in Uptown and, catalytic public investment along Fifth and Forbes including bus rapid transit and improved infrastructure are in planning. It is critical to have a common vision, developed by the community, to help drive this change so it is compatible with what the neighborhood wants for its future. As living documents, plans often need to be updated based on local conditions and/or larger economic trends like recessions that can hamper even the best laid plans. But while some of the specifics in this document may change over time, effective planning establishes the vision and core ideas that reflect the values of the community.

FIGURE 4: "INNOVATION DISTRICT" CONTEXT



HOW DOES THIS RELATE TO PREVIOUS PLANS?

Of critical importance is ensuring that this work supports and reinforces the plans completed by partner organizations. In recent years, several community-driven plans have emerged that address different issues and opportunities within Uptown and West Oakland.

These include:

- Find the Rivers! Kirkpatrick Park (2004)
- Uptown Community Vision (2009)
- Greenprint, A Village in the Woods (2009)
- The Greater Hill District Master Plan (2011)
- Innovation Oakland (2011)
- Oakland 2025 (2011)
- Avenu: Community Innovation Hub and Entrepreneurial Village (2013)
- Lower Hill Planned Development District (2014)
- Centre Avenue Corridor Redevelopment and Design Plan (2015)
- The Greater Hill District Housing Market Study (2016)
- Keep SOHO Real (2016)
- City-Wide Green First PWSA Priority Sewershed Plan (2016)
- Soho Run (M-19) Sewershed Plan (2017)

In addition to these plans, the City has produced significant strategies that directly speak to many of the challenges faced by the community including the Pittsburgh Roadmap for Inclusive Innovation, the City of Pittsburgh Affordable Housing Task Force Recommendations and Strategies to Mayor Peduto, One PGH, Pittsburgh's Resilience Strategy, the Pittsburgh Climate Action Plan, the p4 collaboration between the City of Pittsburgh and the Heinz Foundation and, the City's comprehensive plan. These efforts seek to align policy and resources to tackle some of Pittsburgh's ongoing challenges around affordable housing, employment, mobility, open space, and the management of the City's vacant land.

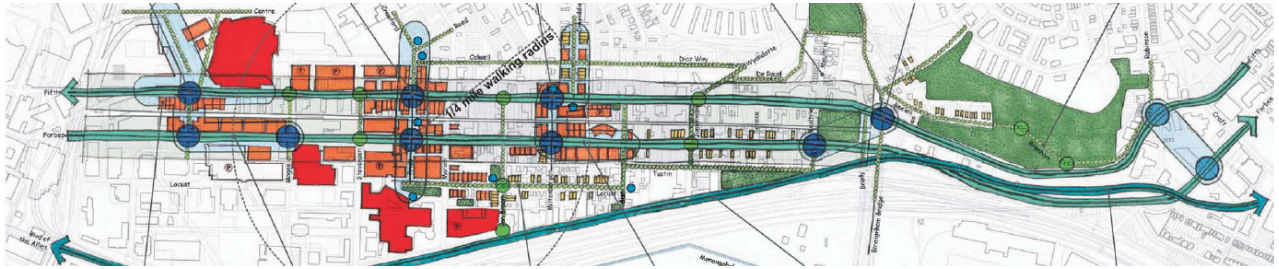
In recent years, a number of specific development proposals have garnered active discussion. These include development proposals for the Lower Hill, the Dinwiddie Triangle (of which phase 1 is complete) and proposals for the "Portal" in West Oakland. These proposals among others were integrated into this plan's overall analysis and discussions with community members.

Most pertinent to Uptown, Uptown Partners and Avenu have developed working visions for the community. Avenu provides a specific proposal for parcels of land adjacent to the Birmingham Bridge. These organizations worked with the planning team throughout this process to ensure this work is adequately reflected in this community plan. In addition, a day-long discussion organized by residents at the outset of this project resulted in the "Keep SOHO Real" report which emphasized the need to integrate equity and transparency into this planning process.

With respect to adjacent communities, the Greater Hill District Master Plan, Greenprint, and Oakland 2025 all provide detailed strategies for the heart of their communities. In this work, there are ideas for specific locations within Uptown including most notably potential mixed-use development along Fifth Avenue and the use of the Hillside as a park and trail system. Many of the principles used to create these documents reflect those that the EcoInnovation District has taken to heart, including:

- "Provide quality rental and homeownership opportunities for a broad range of family sizes and incomes" (Hill District Master Plan)
- "Ensure jobs for community members, the retention of current businesses, new opportunities for entrepreneurship" (Hill District Master Plan)
- "Make the Hill District a green and well-designed community" (Hill District Master Plan)
- "New infrastructure should promote walkability, street accessibility for the disabled, and access to work, retail and social amenities." (Hill District Master Plan)
- "Establish the Hill District as a healthy place with better-than-average quality of life characterized by urban development, working in concert with natural assets and offering people daily access to nature, green spaces, walking/biking routes and parks" (Greenprint)
- "Identify opportunities for leadership and innovation in a growing green local economy that is connected to emerging markets and can catalyze practical local solutions to issues of local and national scope, such as energy security and food security." (Greenprint)
- "Establish model multi-modal 'complete streets' linked to enhanced transit systems." (Oakland 2025)
- "Reinforce neighborhood identity and increase social capital through community consensus, social networks, stewardship, gathering places, increased connectivity, and communication/ access to information." (Oakland 2025)
- "Invest in the existing community. Direct financial and educational resources, as well as access to physical assets, into the hands of current residents." (Keep SOHO Real)

The quality and depth of work completed for the Hill District, Oakland, and Downtown is remarkable, and has enabled this plan to truly focus on distinct needs of Uptown/West Oakland while reinforcing the shared values and needs that cross neighborhood boundaries. We thank those in the Hill District, Oakland, and Downtown for their support and participation in this effort to create the EcoInnovation District Plan.



UPTOWN COMMUNITY VISION

DATE: 2009

GREENPRINT, A VILLAGE IN THE WOODS

DATE: 2009

THE GREATER HILL DISTRICT MASTERPLAN

DATE: 2011

OAKLAND 2025

DATE: 2011

LOWER HILL PRELIMINARY LAND DEVELOPMENT PLAN - PLDP

DATE: 2014

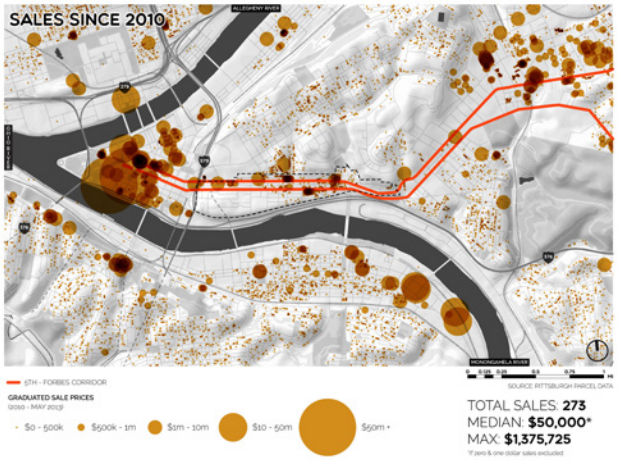
PROCESS & PUBLIC OUTREACH

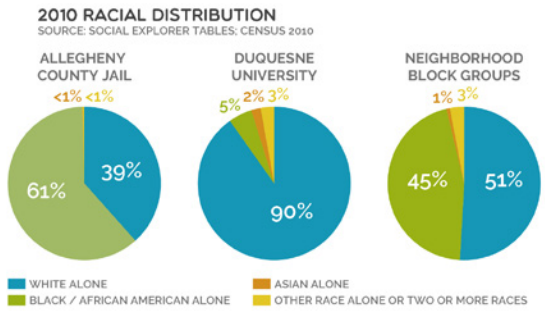
Starting in the Fall of 2015, the EcoInnovation District plan was driven by both data analysis and active listening to community members and stakeholders.

The team's work evaluated all different factors impacting Uptown using existing City data, US Census, other third party data, as well as a detailed parcel by parcel evaluation of every property in the area. This research was evaluated and presented to community members throughout the planning process to help set clear expectations for the how community could (and should) change. It is not enough to say that we want to protect and expand space for jobs or more effectively manage stormwater, for example. The data analysis and research undertaken for Uptown establishes a baseline from which we can set targets and measure the performance towards achieving these objectives.

The data analysis was coupled with discussions with residents, business owners, city leaders, local institutions and anyone else who had concerns or

DATA ANALYSIS





OPEN HOUSE 1

opinions about the direction Uptown was heading. The commitment from the City and expectation from neighborhood leaders was that the planning for the EcoInnovation District would be community-driven.

BY THE NUMBERS:

700 + surveys

550 + public event attendees

50 + interviews

20 + focus groups

9 steering committee meetings

8 neighborhood resident meetings

3,100 + web page users

OPEN HOUSE 2

To ensure widespread and active participation in developing this plan, the engagement process was designed to reach a diversity of residents and voices, offering multiple and unique opportunities to get involved:

- 700 + completed surveys by residents, students, employees and visitors. The survey was designed to help identify the key concerns held by those that experience the community very differently from one another. A full summary of the surveys findings is included in the Base Conditions Data Book.
- 550 + attended 3 public events held during the process.
- To publicly launch the project, the first "community open house" was held in February, 2016 in the former Forbes Auto Body garage on Gist Street. The event featured local catering and was designed as an exhibit of Uptown's past and present with multiple ways for residents to share their ideas with the team. Opening night attracted over 250 attendees with another 100 coming to the space over the next month.
- A public meeting was held in June, 2016 as a part of Uptown Partner's community meeting. The focus of this meeting was to share a draft vision and objectives with residents.
- The 2nd community open house was held in October, 2016. Marketed as "Uptoberfest", the event served as a block party along Gist Street in Uptown. The street was closed for the event which included Uptown musicians, local catering and food trucks. Exhibits were designed to help communicate the potential future of Uptown/ West Oakland and gain insight into what the potential priorities should be for improvements.
- 50 + one-on-one interviews were conducted with a mix of residents, business owners, employees, local leaders, institutions, City representatives, developers, real estate agents, architects and advocates.

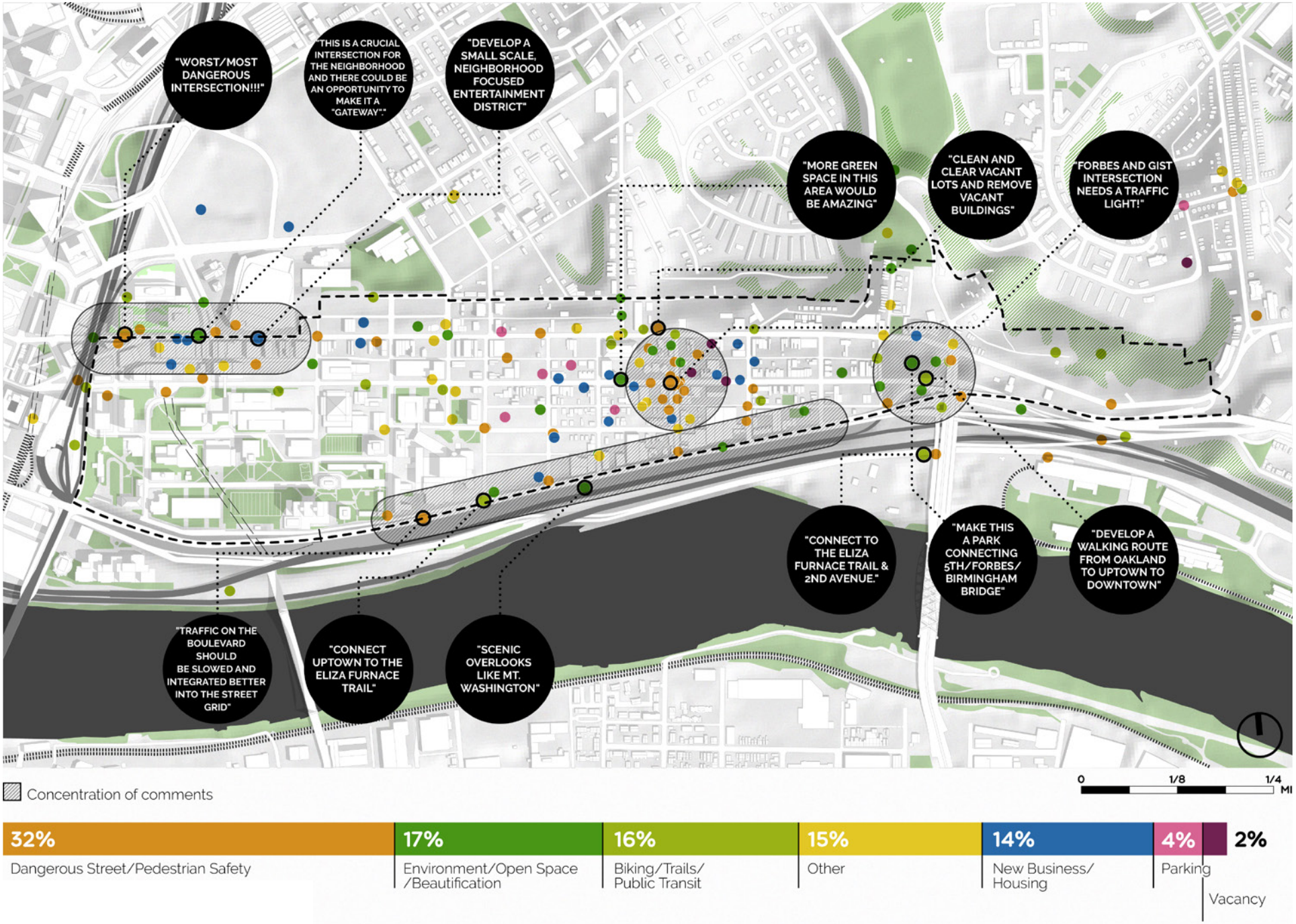
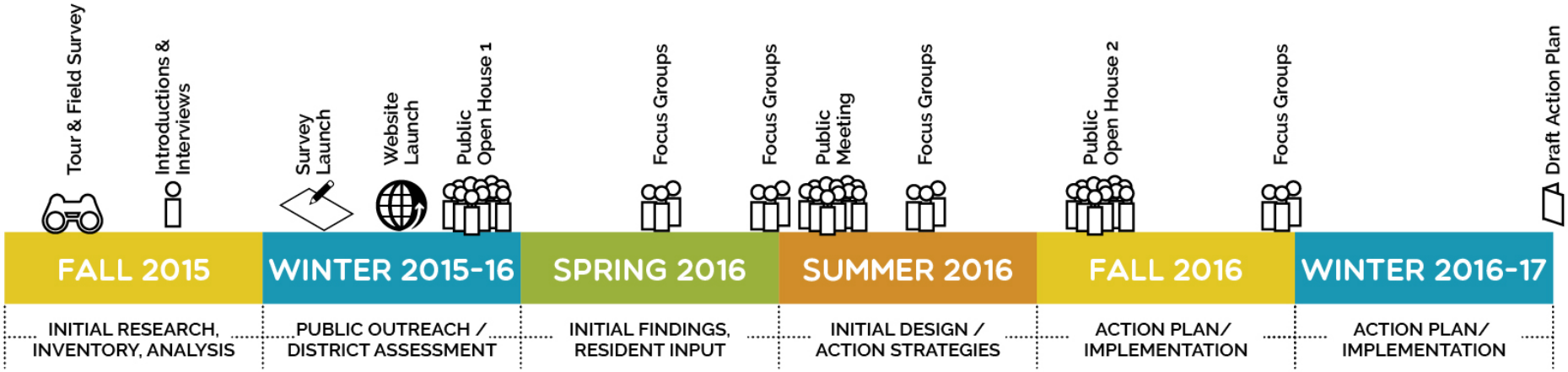


FIGURE 5: COLLABORATIVE MAP SUMMARY



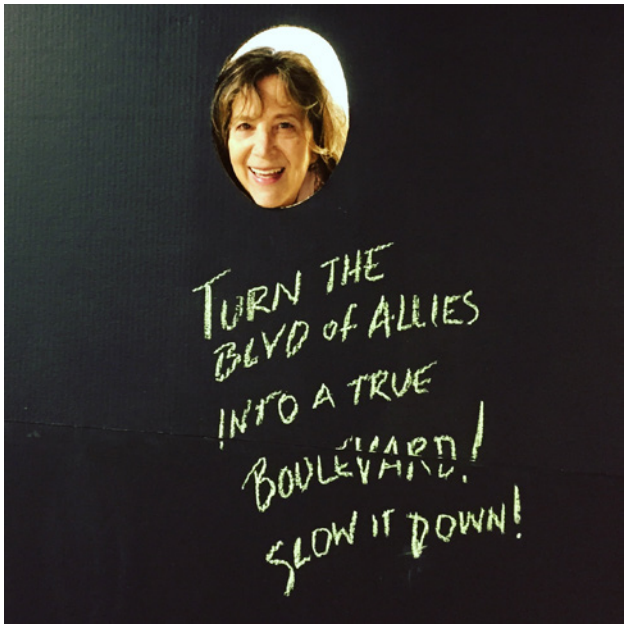
- 25 + focus groups were held to actively discuss specific issues and ideas around: Affordable housing; Boulevard of the Allies; the future of the Fifth / Forbes corridors; retail and job creation; zoning; the needs of local institutions both large and small; traffic including the issues around Robinson Street in West Oakland; walking, bicycling and transit; the future potential of the hillside to support the work of MLK Gardens and the Landslide Community Farm; potential programming of existing and new parks in the community; accessing the Heritage Trail; district energy; land use regulations and new bonuses; safety and; how to finance future improvements. These discussions were designed to help connect and learn from distinct populations in Uptown including residents, employees, business owners, students and those with special needs in the community including the many social service and homeless non-profits that exist in Uptown.

- 9 meetings were held with a steering committee of local residents, business owners, City and County representatives, non-profits and neighboring community organizations. The steering committee was intended to help guide the work and promote major public events ensuring that the process was driven by community input. 6 additional meetings were help with three subcommittees of this group focused upon mobility, development & zoning and, finance. These subcommittees helped to test and advance the ideas around implementation toward the end of the process.

- 8 meetings were held with a cross-section of residents in Uptown. These resident discussions were used as a way of understanding some of the community's core challenges and the range of potential solutions to address them.

- 3,100 + distinct web page users (update) and over 9,700 visitors to the **www.econinnovationdistrict.org** web site. This web site was used as an online front door to the project with regular updates and postings of new materials to help keep everyone informed. The online (and hard copy) collaborative map helped to generate almost 175 distinct ideas for intersections, blocks and buildings in the community.

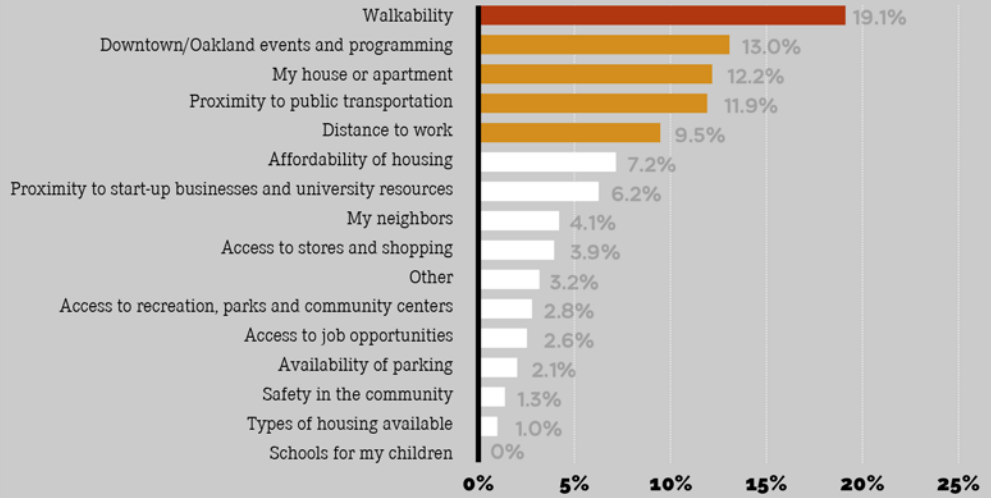
In short, the process included formal events and surveys, neighborhood parties and a lot of one-on-one and small group discussions. We talked with residents on the street, in their back yards, and in multiple locations in the community. This could not have been possible without the active support and hard work of Uptown Partners and their board who helped connect us to the right mix of local voices that needed to be involved in creating this plan. Coupled with the efforts of the Oakland Planning and Development Corporation, Start Uptown, Envision Downtown, and many others, this plan provided the opportunity for residents and neighbors not just to talk with the planning team but also with each other.



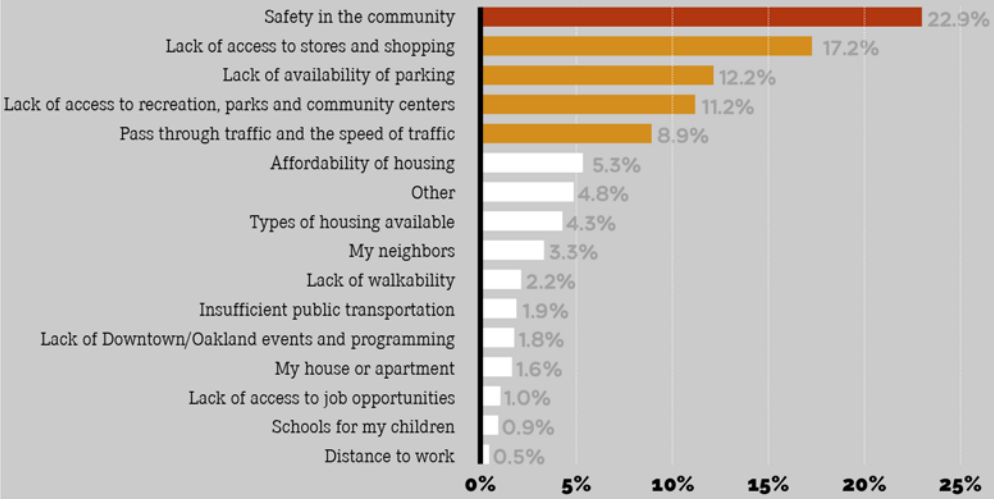
HERE ARE SOME OF THE MAJOR TAKEAWAYS FROM THE SURVEY & OPEN HOUSES

FIGURE 6: RESIDENT & BUSINESS SURVEY RESULTS

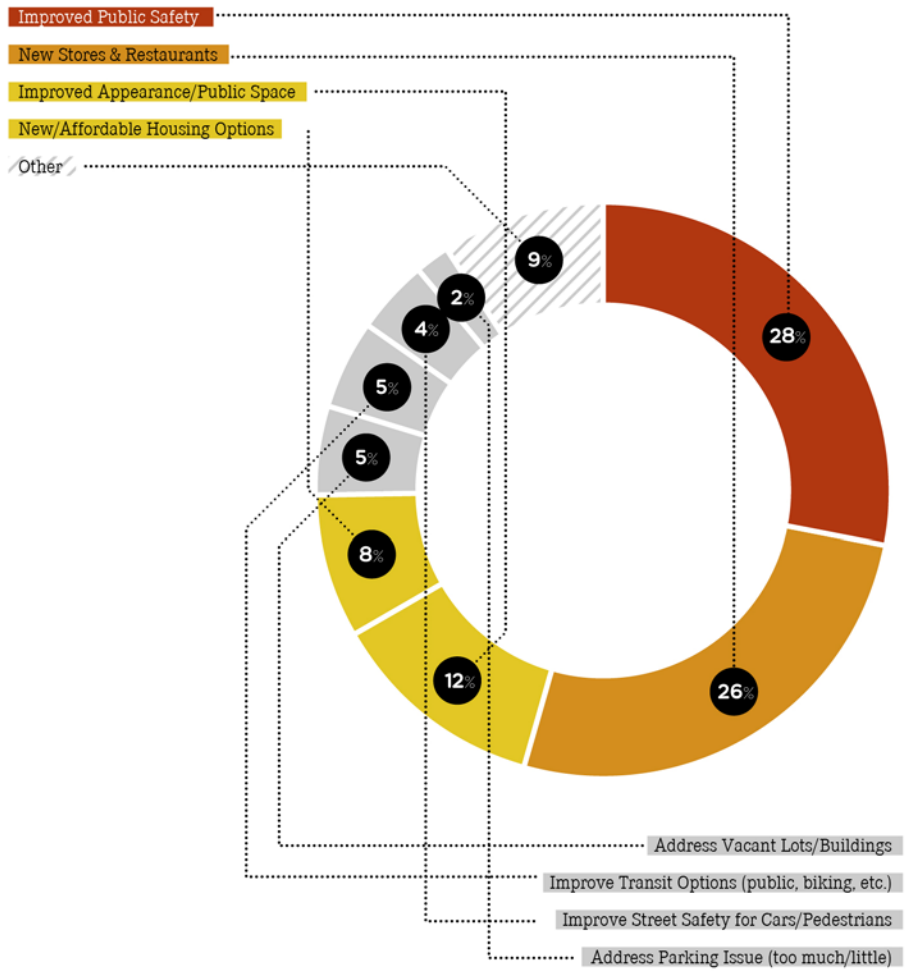
WHAT DO YOU LIKE BEST ABOUT LIVING IN UPTOWN?



WHAT DO YOU LIKE LEAST ABOUT LIVING IN UPTOWN?

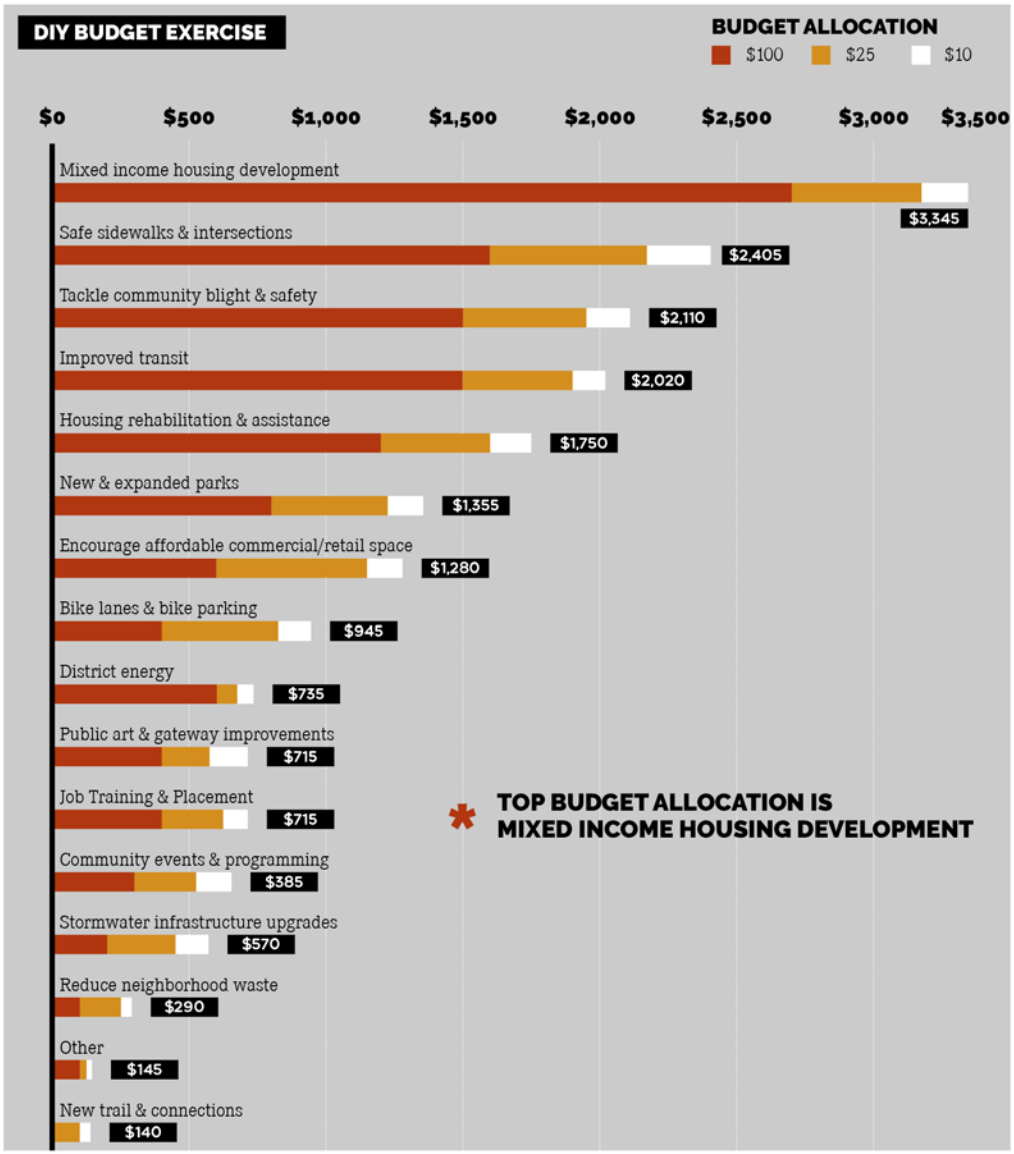


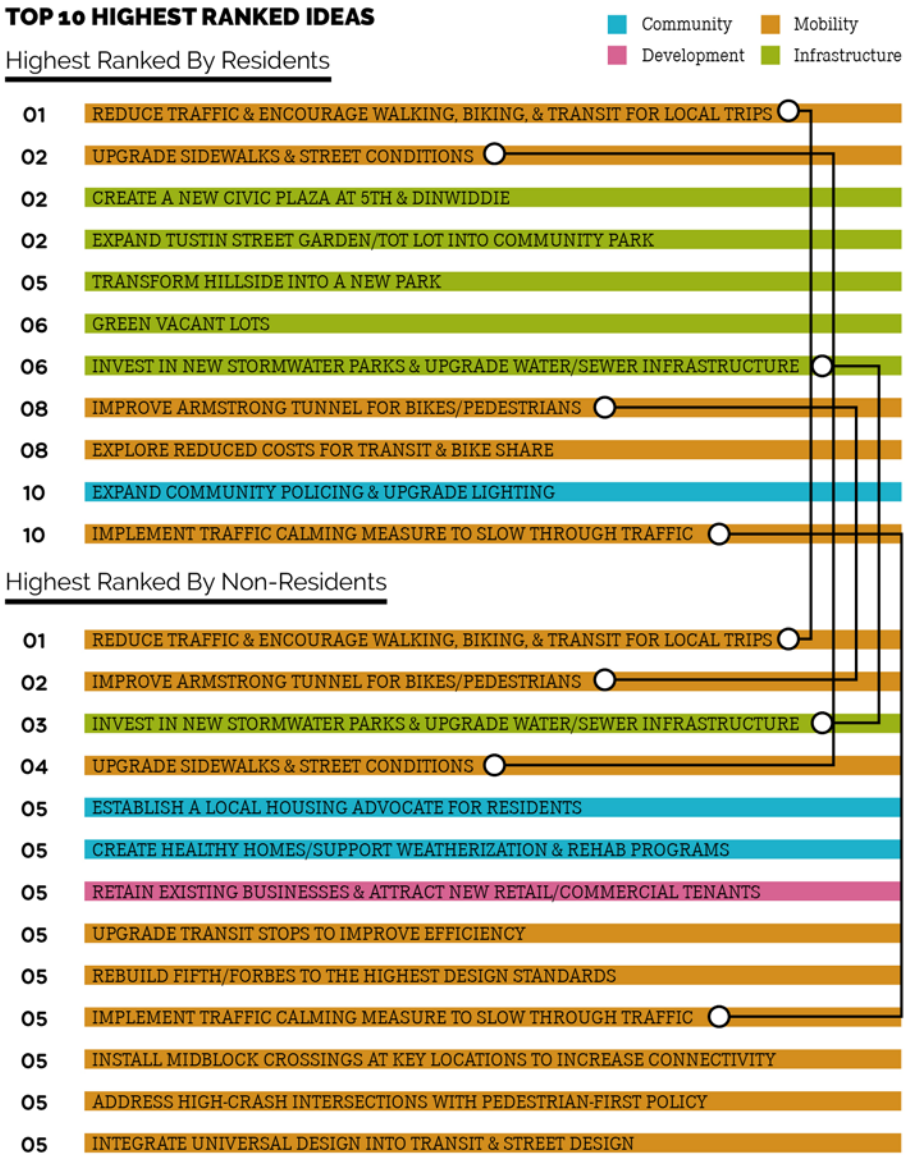
WHAT IS THE ONE THING THAT WOULD MAKE UPTOWN / W. OAKLAND A BETTER PLACE TO LIVE, WORK, OR STUDY?



✱ **TOP PRIORITIES ARE TO IMPROVE PUBLIC SAFETY AND ADD NEW STORES AND RESTAURANTS**

FIGURE 7: OPEN HOUSE RESULTS





THE DATA ANALYSIS AND PUBLIC OUTREACH PROCESS HAS BROUGHT TO LIGHT THE FOLLOWING KEY ISSUES WITHIN UPTOWN & WEST OAKLAND

The critical result of the outreach is what was learned and applied to this plan. Each outreach technique was designed to help us inform residents about what we were finding but also to learn from the local experts about the day to day experience of the community. Results from the public engagement activities are distributed across this document. However, here are a few common themes and highlights that often emerged in conversations:

Walkability, the affordability of housing, and location are the things residents like best about the community. Their concerns about the future often focus on the ability to remain in the community as it changes.

Safety remains a top concern for residents, business owners, and employees. Although many people recognize that Uptown is safer than it once was, for some, perception is reality, and the look and feel of the community often reinforces negative perceptions.

Safety is not just about real and perceived crime; of critical concern is traffic. Residents noted traffic and parking as daily issues. The collaborative map overwhelmingly revealed locations like Forbes Ave and Gist St as significant safety concerns for residents where a number of crashes have occurred, even during this planning process.

Uptown suffers from some unique transportation and parking challenges, including event management with the PPG Paints Arena and commuter traffic. The consensus is that parking needs to be managed more effectively and efficiently.

When asked about transportation priorities in the community, residents opted for “more lively streets and sidewalks” and “more attractive places to hang out outside,” which would serve to directly combat the negative perceptions of the community by providing places for neighbors to gather.

More of everything! Residents and employees want more things to do in Uptown. There are limited stores and places to eat in Uptown. Many older residents remember when Fifth Avenue was lined with community-serving stores and services.

Residents were not afraid to talk about big ideas like taming the Boulevard of the Allies, which is a traffic and health hazard for Uptown. In many forums, residents raised the issues associated with the Boulevard and suggested slowing traffic and creating a green edge to the community.

Residents are deeply proud of their community. They want the future of Uptown to reflect its present by reinforcing the community's local character, grittiness, creativity, and diversity. This comes through in their hopes for a tomorrow where "affordable," "diverse," "green," "fun," and "art" are the key terms to describe Uptown tomorrow.

As the plan moved toward specific strategies, residents and non-residents alike emphasized the need to: reduce traffic; emphasize walking, bicycling, and transit; upgrade sidewalks and street conditions; create new parks that also serve to manage stormwater; and improve specific locations like the Armstrong Tunnel for bikes and pedestrians. When asked to put a limited number of dollars where their priorities are in a budgeting game, the top three results include: 1) Mixed-income housing development; 2) Safe sidewalks and intersections and; 3) Tackle vacant and distressed properties and community safety.

UPTOWN/WEST OAKLAND: WHERE WE ARE

UPTOWN BY THE NUMBERS:

204 acres

1,000 residents

22 lanes of traffic between Fifth Avenue and the Monongahela River

81 businesses

27 institutions

HISTORY

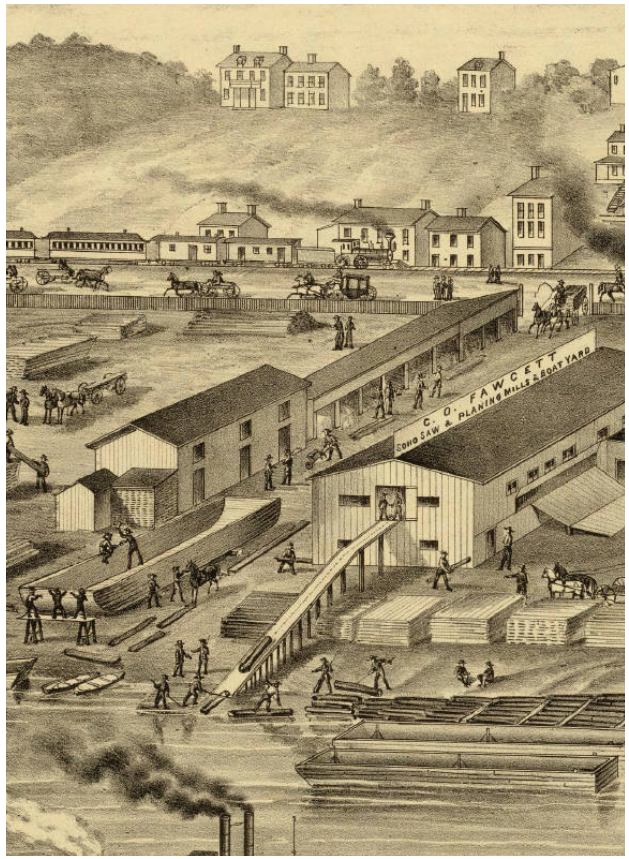
Uptown's beginnings are visible in the character of the community today and worth quickly reviewing. James Tustin built an estate in the community in the early 1800s and called it "Soho" after his previous home in Britain. The estate included fruit orchards, and according to the Pittsburgh Gazette Times in 1915, was regarded as "the most beautiful place in Pittsburgh." These Soho Gardens, as they were referred to, remain in the community in both spirit through Uptown's commitment to gardening but also in the recent development of Tustin Community Garden on Tustin Street.

Annexed into the City of Pittsburgh in 1846, Uptown served a critical function during the Industrial Revolution. Mills lined the Monongahela River and the goods from the river boats and products of the mills were distributed to the rest of the region via Second Avenue. Uptown developed as a hub for moving goods and people to other destinations, a characteristic that remains today.

The mills and factories in the area attracted a lot of people, most notably immigrants from Eastern Europe. These different cultures, along with a growing African-American population in the 20th Century, all found a home in Uptown. Many shared services at the Fifth Avenue High School, the 2nd high school built in the City in 1894 and, the Forbes Elementary School. In the mid-1900s, the Forbes school was home to the Adult and Immigration School preparing immigrants from 28 countries for citizenship. The school was closed in 1973 to make way for a parking garage.

It was at this time that Fifth and Forbes Avenues emerged as critical corridors connecting Downtown to the region with vibrant "main streets" filled with stores and services. They both served as vital links in the City's trolley network. In addition to Fifth and Forbes, the Boulevard of the Allies also played a prominent national role in film garnering the name "film row." Film exchanges, including the current location of Avenu, were facilities used by motion picture companies for screening and selling films – stores for theater owners.

Mills along the riverfront, "The Bluff" in the background



SOURCE: David Rumsey Map Collection

Fifth Avenue in the early 1900s.

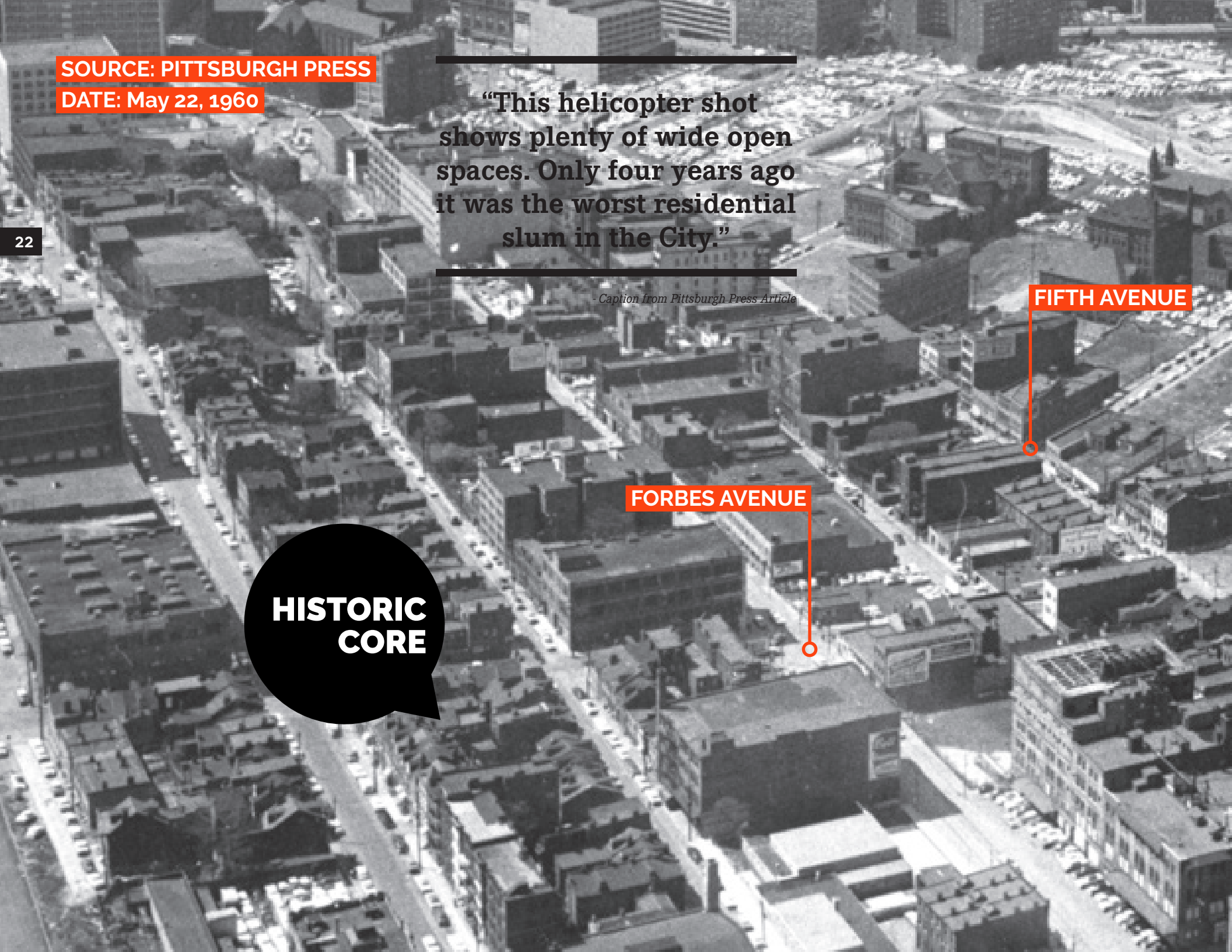
“When I was a child there were a lot of stores up and down Fifth and Forbes Avenues- there were a lot of mom and pop stores, small businesses. There are some opening up near the university, but there aren’t many stores left.”

SOURCE: Post Gazette

SOURCE: PITTSBURGH PRESS
DATE: May 22, 1960

"This helicopter shot shows plenty of wide open spaces. Only four years ago it was the worst residential slum in the City."

- Caption from Pittsburgh Press Article



URBAN RENEWAL

Like the rest of Pittsburgh (and many cities across the country), the community's fortunes changed in the mid-20th Century. Following WWII, a series of federal and local policy decisions were made that greatly changed the character of Uptown and the surrounding areas including the Hill District. Redlining deepened segregation in the Greater Hill District by limiting home buying options for African-Americans to only a few areas of the city including the Hill District. Uptown was outside this area and remained predominantly white. This racial separation set the stage for projects that sought to replace "blighted" areas in the Hill District largely populated by African-Americans with civic amenities that would serve predominantly white Pittsburghers from other parts of the region. During the 1960s and 1970s, major investments in the interstate freeway system allowed many white families to leave Uptown and other inner city neighborhoods for more modern housing in other parts of the city and in surrounding townships where they could commute to work by car quickly and easily.

With limited investment or development interest in available land or buildings, a slower, privately-driven form of urban renewal has taken hold. Private owners have purchased properties and replaced many with surface parking lots to serve both the needs of the arenas and commuters. Many of the 19th century rowhomes that characterized Uptown were lost to demolition, and what were once active uses are now gaps in the neighborhood's fabric. In response to community concerns about the demolition of historic building stock, the City created an Interim Planning Overlay District (IPOD) that requires review and approval prior to any demolition. The IPOD also eliminates non-accessory surface parking lots as an allowable use. The IPOD was in effect from May 2015 until May 2017–the maximum allowable time period, which coincided with the time this plan was developed. Developing a new zoning district to replace this IPOD permanently is an important part of this plan.

TOP: Redlining map of Pittsburgh.
MIDDLE: Vacant lot cleanup on Gist Street.
BOTTOM: Uptown gateway on Fifth Avenue.

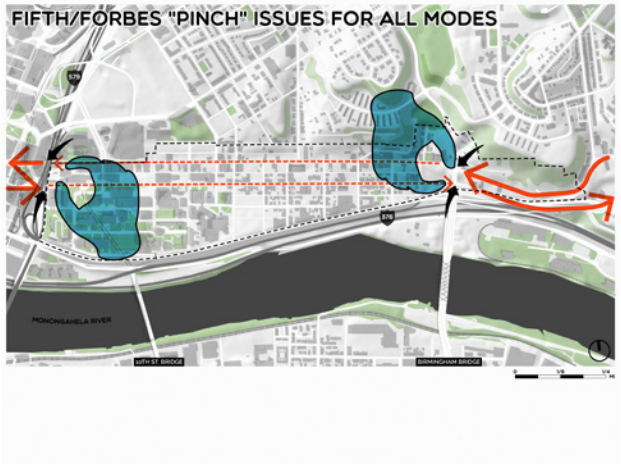
Although Uptown faces many challenges, the past decade has brought a significant amount of community activism and community improvements. Uptown Partners, formed in 2007, has worked to ensure a clean, safe, green environment while pursuing equitable neighborhood development. They are working to: Rebuild a mixed-income population by reclaiming vacant, blighted properties and encouraging new residential housing opportunities; supporting existing residents through advocacy and resource linkages; attracting new neighborhood retail and innovative entrepreneurship opportunities, while supporting existing business owners; fostering green, quality design in all development projects; and creating an environment where the arts flourish and are integrated into the urban landscape. A key role throughout, is a commitment to the neighborhood to provide robust outreach and inclusive engagement in all matters affecting the community.

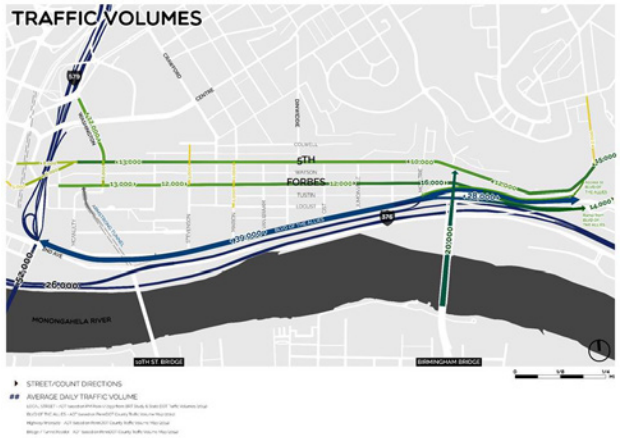
In addition, developers have started to discover Uptown, recognizing its prime location. Affordable and market-rate housing, including the reuse of the former Fifth Avenue High School for market-rate apartments, have filled empty spaces in Uptown. Finally, Uptown is critical to the Mayor and County Executive's vision to improve regional transit service with the creation of a bus rapid transit system. The opportunity to revitalize Fifth and Forbes with new transit services and improve the longstanding issues related to streets, sidewalks, and stormwater have made Uptown the ideal location to set high expectations for inclusive development that meets the highest standards for environmental sustainability. From this, the idea for the EcoInnovation District was born.

REDLINING MAP SOURCE: Carnegie Museum of Art

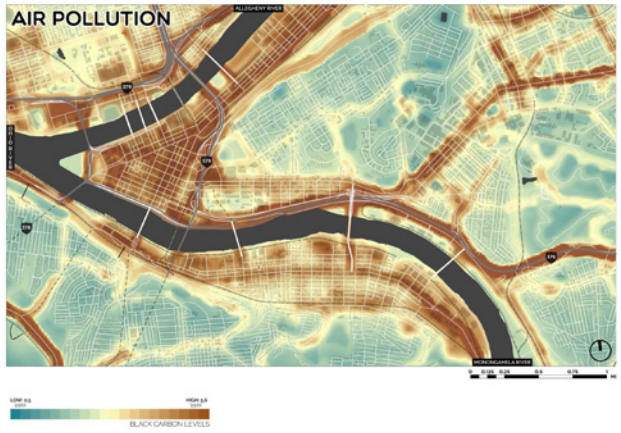
UPTOWN IS NEGATIVELY IMPACTED BY A NUMBER OF OUTSIDE FORCES

TRAFFIC 01

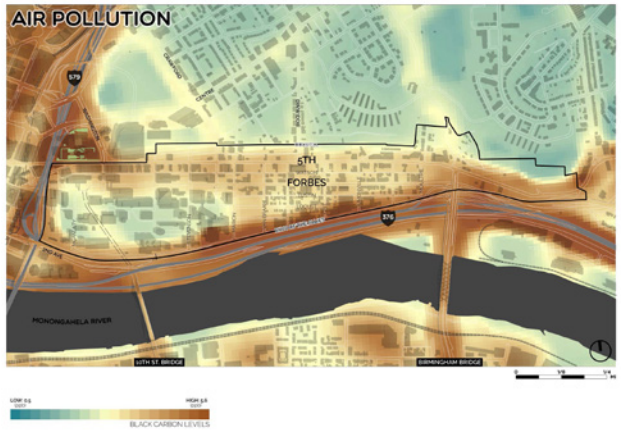




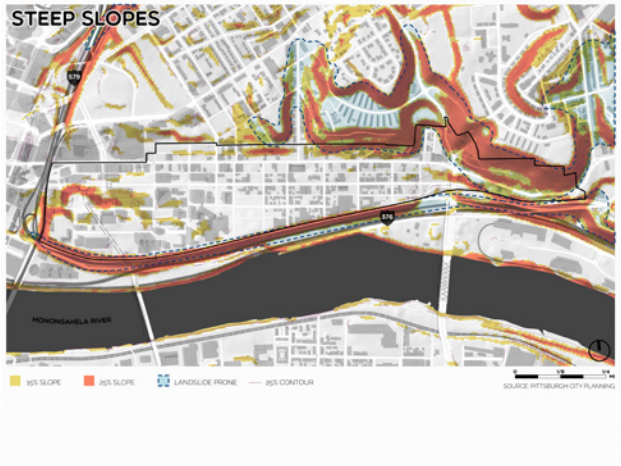
AIR QUALITY 02

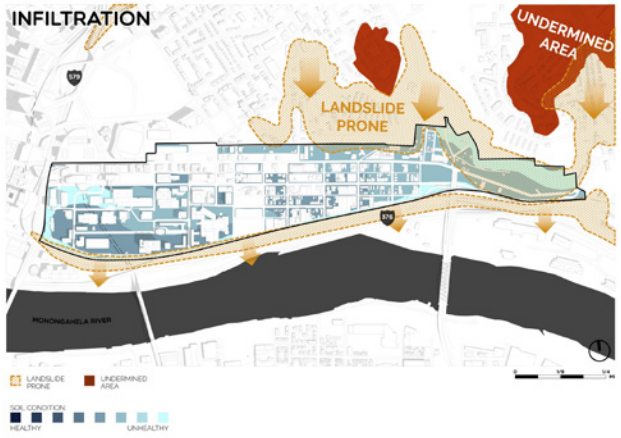


DATA FROM ALBERT PRESTO, CMU



STORMWATER 03





Uptown's long history of disinvestment has left many scars but has also created opportunities to address the unique challenges the community faces. Nestled between economic anchors, historic neighborhoods, highways and busy streets, and steep slopes, one of those unique challenges is that the community is negatively impacted all too often by outside forces. These include traffic, poor air quality from passing cars, and stormwater backups from nearby hillsides and highways.

IN SHORT, UPTOWN/WEST OAKLAND FACES MANY CHALLENGES THAT THE ECOINNOVATION DISTRICT MUST ADDRESS

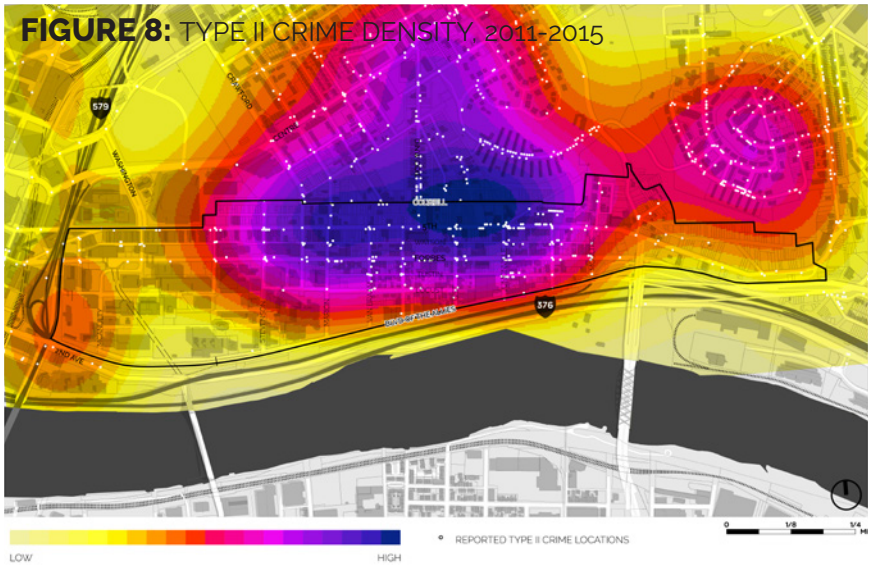


FIGURE 8: TYPE II CRIME DENSITY, 2011-2015

Crimes reported in Uptown declined 12% from 2011-2016, including 6.7% in 2016.

WE NEED TO PRIORITIZE SAFETY.

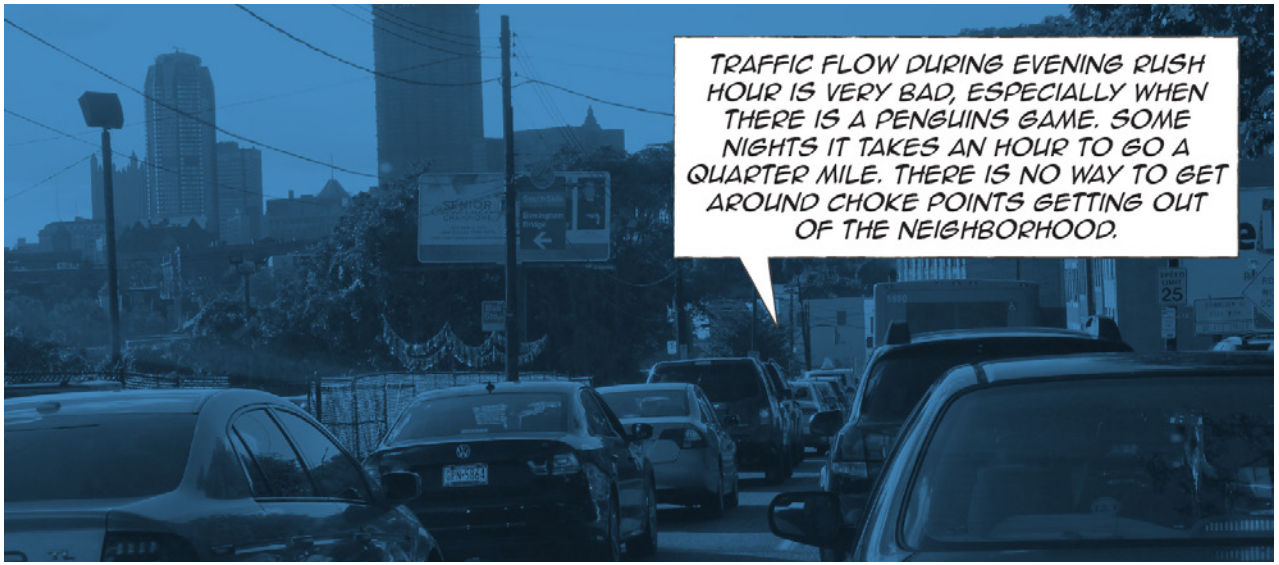
A review of Pittsburgh Police Department data for Part I and Part II offenses was used to understand the reality of crime in Uptown. Overall, the data shows that crimes reported in Uptown declined 12% between 2011 and 2016, including 6.7% in 2016 alone – faster than the decline in crime across the rest of the city. So why do people in Uptown report feeling unsafe?

Drug violations and prostitution remain persistent problems. Prostitution was 13.7% of Uptown's reported Part II offenses compared to the city average of 1.4%. Drug dealing was 31% of Uptown's Part II offenses compared to 11% for the city. As the map above shows, these offenses were concentrated in the mostly vacant blocks around Fifth Avenue and Colwell Street between Van Braam and Jumonville.

Today, 23% of the community's land area is vacant and 12% is used for surface parking. At night, these spaces are dark and often used for criminal activities. Even though Uptown's overall crime rate has improved faster than the rest of the city, the continued presence of highly visible crimes such as prostitution and drug dealing combine with the look and feel of the community to create a perception that Uptown is dangerous. Expanding on programs such as Uptown Partners' "Safe Streets Uptown Initiative" and reactivating these spaces with new development are key to changing the way the neighborhood is perceived. Please refer to the data book for a complete crime analysis.

UPTOWN DESERVES HIGH QUALITY INFRASTRUCTURE.

Upgrade the local infrastructure including streets, sidewalks and storm sewers; all of which are in extremely poor condition and need major investment. There are great opportunities to save money and time by upgrading transportation, energy and sewer infrastructure in unison.



MITIGATE AND OFFSET THE ENVIRONMENTAL IMPACTS OF STEEP HILLSIDES, POOR SOILS, AND POOR AIR QUALITY CAUSED BY REGIONAL TRANSPORTATION CORRIDORS.

Address the traffic and parking challenges that impact the community, most of which are not generated by those that live in the community. Black carbon levels that negatively impact air quality and health are noticeably high along the Fifth / Forbes corridors and Boulevard of the Allies. In addition, crashes are a frequent occurrence in Uptown posing an additional safety concern for residents. Integrated landscape strategies can help to improve stormwater management, air and water quality, the impacts of the urban heat island, public health, and overall quality of life.

CONNECT TO EXISTING NATURAL AND ENVIRONMENTAL ASSETS.

Uptown is a community wedged between Pittsburgh's characteristic hillsides and the Monongahela River. Yet, it is cut off from these amazing resources due to a lack of access through the hillsides and substantial boundaries like the Boulevard of the Allies that sever the community from even enjoying views of the River.

FIGURE 9: OPEN SPACE COMPARISONS

OAKLAND
AREA: 979 acres
OPEN SPACE: 45 acres
PERCENTAGE: 5%

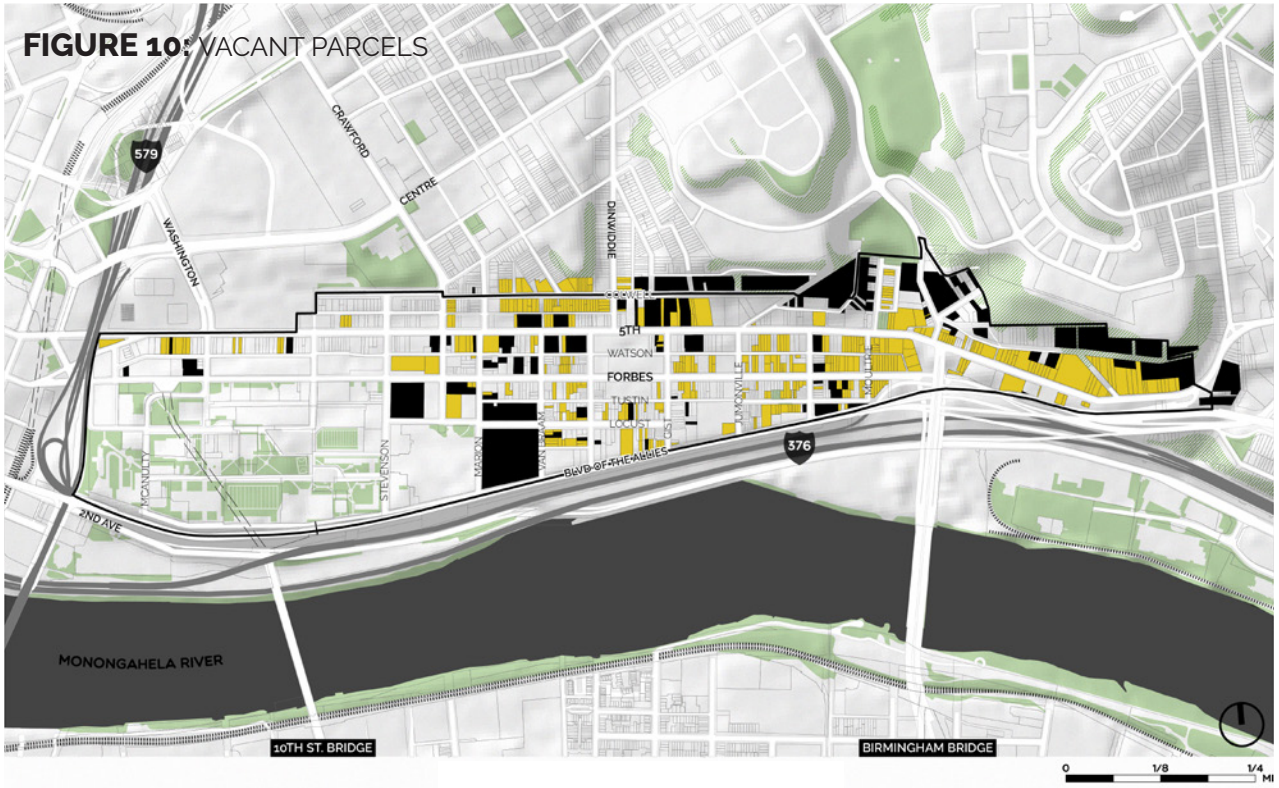
CENTRAL BUSINESS DISTRICT (CBD)
AREA: 433 acres
OPEN SPACE: 36 acres
PERCENTAGE: 8%

HILL DISTRICT
AREA: 788 acres
OPEN SPACE: 37 acres
PERCENTAGE: 5%

SOUTH SIDE
AREA: 602 acres
OPEN SPACE: 24 acres
PERCENTAGE: 4%

UPTOWN
AREA: 204 acres
OPEN SPACE: 4 acres
PERCENTAGE: 2%

FIGURE 10: VACANT PARCELS



CREATE MORE PUBLIC, PARK SPACE.

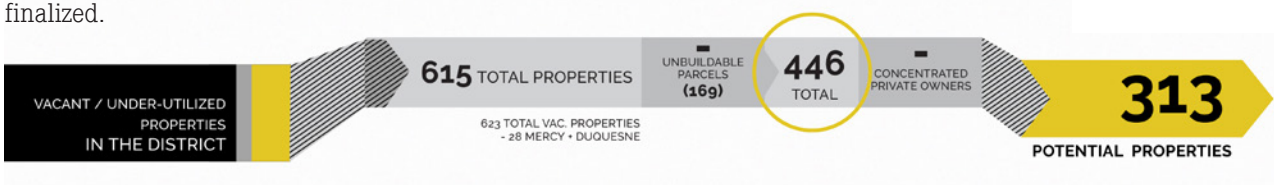
Uptown has less park and public space than any of its neighbors, which results in limited opportunities to bring neighbors together, to provide healthy green space, and to improve the image and quality of life in the neighborhood. 169 empty parcels are unbuildable due to steep slope restrictions and are often overgrown. Usable park space for neighborhood residents amounts to only 2% of Uptown's 204 acres. The lack of park access and poor park quality resulted in OpenSpace PGH to specifically call for additional park space in Uptown.

SITE CONTROL IS CRUCIAL.

We need to work to gain access to land that has been difficult to assemble often limiting opportunities to build, grow or improve existing amenities. Of the 615 vacant parcels, 133 are controlled by long-time landowners. At the time this plan was published, a variety of city groups are discussing the creation of one or more land banks to hold lands for community reuse. Because this work is ongoing, the results are not fully reflected in this plan, but it is expected that this work will be updated when the land bank strategy is finalized.

"Nothing is for sale. Everything has already been torn down or somebody's just sitting on it."

- Quote from Interview



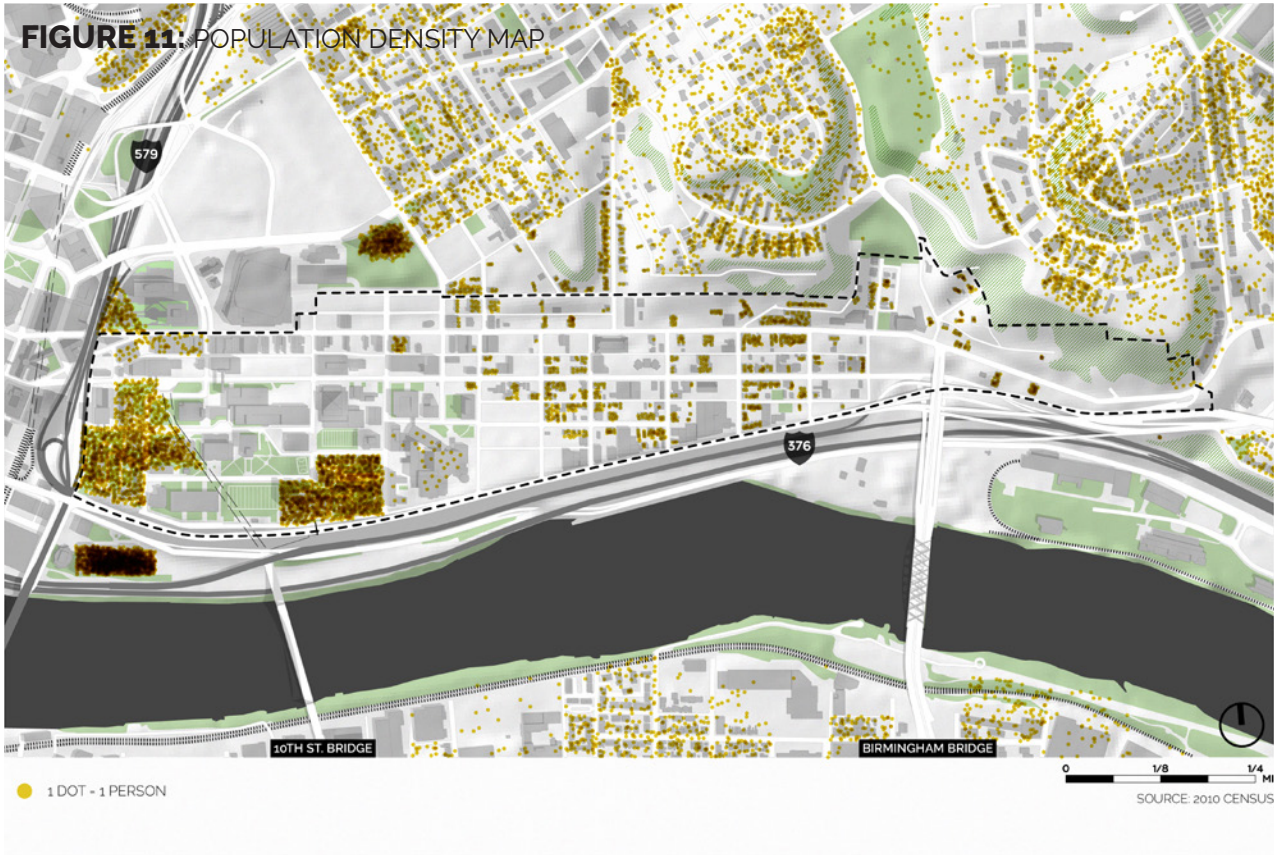


FIGURE 11: POPULATION DENSITY MAP

ADDRESS THE QUALITY AND QUANTITY OF WATER THAT IMPACTS THE COMMUNITY.

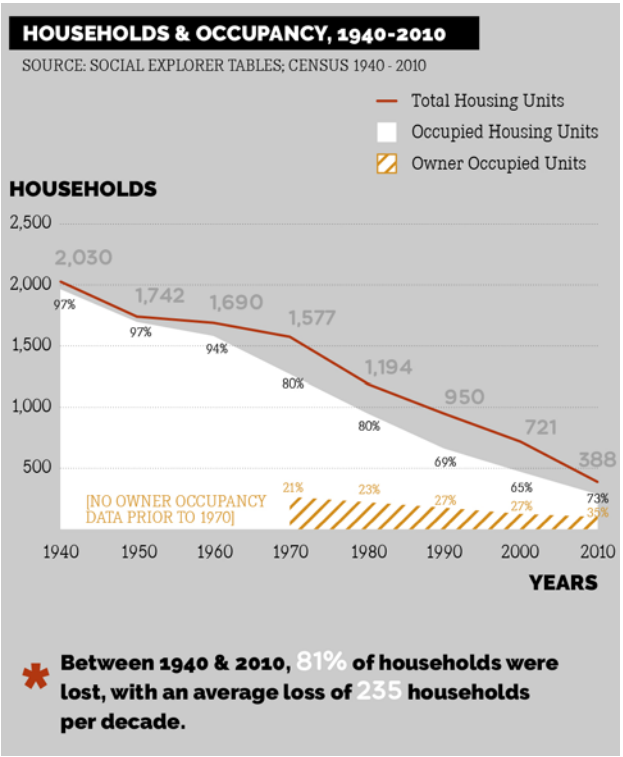
Develop solutions to manage rainwater and protect residents from local flooding. The Pittsburgh Water and Sewer Authority (PWSA) has recognized the need to address stormwater in sewershed M-19, and made it one of the City's top priorities. The 2016 City-Wide Green First Plan proposes a number of innovative new green infrastructure projects that would greatly improve stormwater management in Uptown.

INTEGRATE MEASURES TO PROTECT EXISTING RESIDENTS AND BUSINESSES.

The potential for rapid investment has raised concerns from residents about displacement and long-term housing affordability. Of the 691 households in the area, just over 200 are potentially vulnerable to rising housing costs, including 34 owners that pay over 30% of their income on housing and 173 households in older housing not developed or protected as "affordable housing."

"If all this does is replace the existing Uptown community with a bunch of rich white people, then we've lost."

- Quote from Interview



MORE RESIDENTS ARE NEEDED TO SUPPORT MORE SERVICES.

Grow the residential population with housing opportunities for a range of families / individuals to help attract more services and retail in the community. In 1940, there were almost 8,500 residents in Uptown however, between 1940 and 1990, the area lost over 60% of its population that once served stores in the community. Since 1990, the Census shows population growth but this is due to an increase in student population and construction of the County jail. Not including prisoners and students, there are currently about 1,000 neighborhood residents in Uptown today.

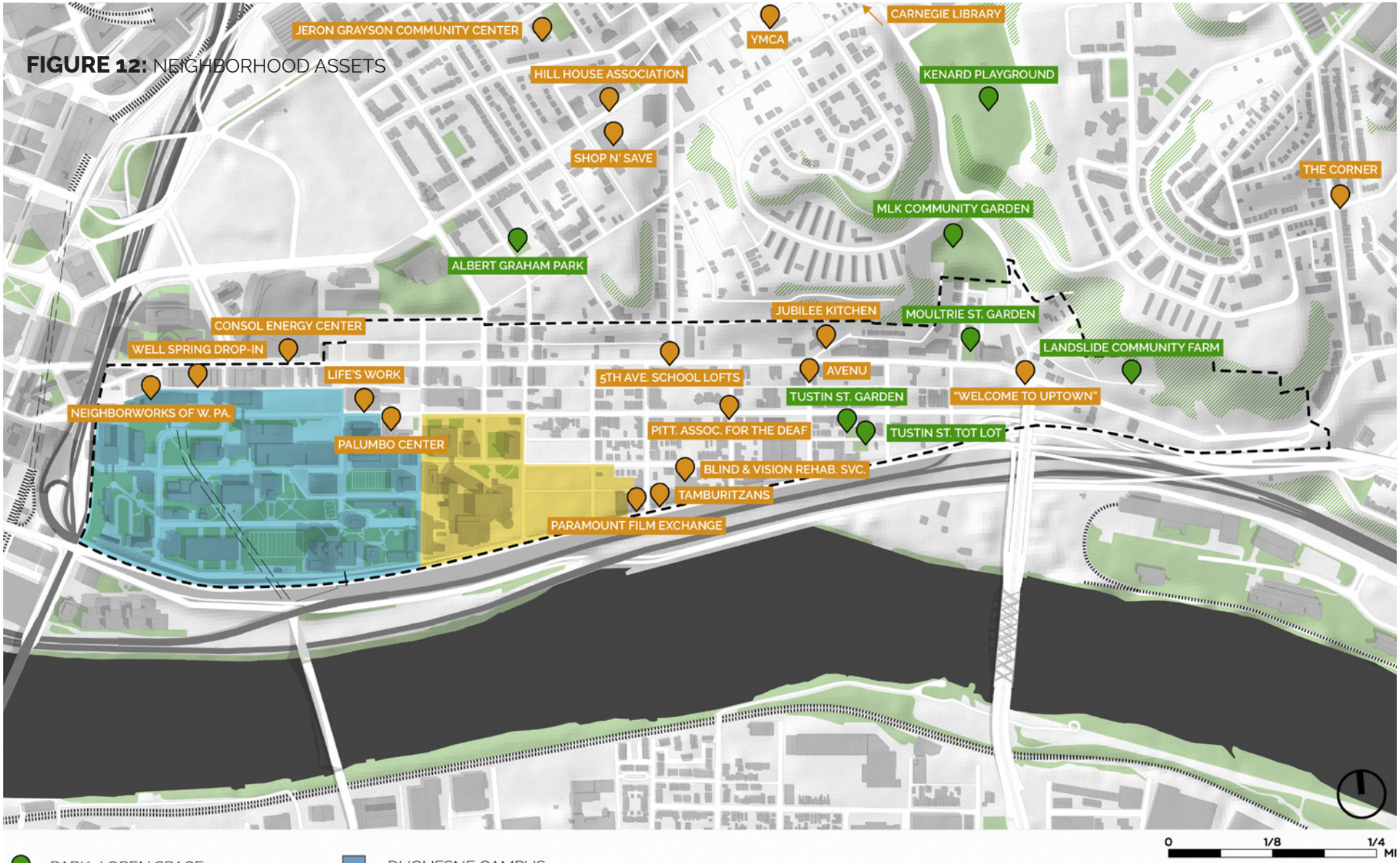
PRESERVE WHAT REMAINS.

Protect existing structures and help foster new small businesses and employment opportunities for residents. There are currently about 7,000-8,000 jobs in Uptown, most of which are at UPMC Mercy and Duquesne University. Attracting more jobs, particularly small businesses, requires space at the right price point in the community. There is currently about 300,000 sq. ft. of unused commercial space plus an additional 66 vacant homes that are all candidates for preservation.

PARTNERSHIPS ARE CRITICAL TO THE FUTURE OF UPTOWN.

Forge stronger partnerships with nearby institutions to help achieve mutually beneficial goals.

FIGURE 12: NEIGHBORHOOD ASSETS



UPTOWN HAS A LOT OF UNIQUE ASSETS TO BUILD UPON

CHAPTER

02

VISION & GOALS


02

BIG PICTURE

A VISION FOR THE ECOINNOVATION DISTRICT

Uptown/West Oakland will reinforce Pittsburgh as a hub of innovation and serve as a model for equitable growth, economic opportunity and sustainability. As Pittsburgh's healthiest community, Uptown/West Oakland will test new tools and innovative techniques to improve the quality of the community's air, water and land for the benefit of its residents, businesses, employees and the Hill District at large. Anchor institutions, working in partnership with residents, will continue to develop programs that serve to link local and regional resources and knowledge with community needs. We will be intentional in fostering an inclusive and diverse community while encouraging new housing that will support new stores, new businesses and new jobs for residents. Strategic investments in our infrastructure will improve and expand the community's green space, create safe streets and, provide transportation choices for all.

The design and implementation of the EcoInnovation District will be dynamic and interactive, monitoring the performance of each action and inviting community members to participate every step along the way. The models for healthy living that are created here will serve the local community and provide other neighborhoods and communities throughout the city with viable tools and projects for transformation there as well.

GOALS

THE ECOINNOVATION DISTRICT PLAN REINFORCES PITTSBURGH'S P4 INITIATIVE AND IS BUILT AROUND THE FOLLOWING GOALS:

EQUITY OPPORTUNITY HEALTH CHOICE IDENTITY CONNECTIVITY PERFORMANCE LEADERSHIP

PEOPLE

Foster a vibrant, diverse community where the residents of Uptown/West Oakland are an active and vital part of the community's future, benefit directly from improvements and don't solely bear the burden of systems that largely serve other communities.

Encourage new businesses and creative production, advance training opportunities and, create a clear pathway for residents to access job opportunities.

PLANET

Elevate individual, community and environmental health in the planning, design and development of Uptown/West Oakland.

Reduce traffic and offer real transportation choices that are cost effective, pleasant and safe for residents and businesses including walking and bicycling.

PLACE

Reinforce Uptown's unique character by protecting and reusing existing buildings whenever possible, promoting excellence in design for new structures and expanding local arts and community events.

Create stronger connections to the Hill, Oakland, Downtown, the Monongahela River, nearby parks and forested slopes, and beyond.

PERFORMANCE

Pursue solutions for water, building systems and district energy that will enable Uptown/West Oakland to reach the highest levels of environmental performance and efficiency.

Create partnerships and a model for sustainable local leadership that can continue to engage residents and effectively take action in the community.

The remainder of this document is organized into four chapters and an action strategy for accomplishing the community's vision, goals and strategies.

EXISTING - TODAY

PROPOSED - TOMORROW

SAFETY

FAST MOVING CARS and through traffic in your community causes many accidents. This is a real safety issue for you and your neighbors.

Want to ride your bike? It can be unsafe to do so due to a lack of BIKE INFRASTRUCTURE that helps to protect cyclists from traffic.

While our neighborhood has good BUS ACCESS, the bus stops are in poor condition and the buses often get stuck in traffic. This adds time to your day.

VACANT BUILDINGS encourage illegal activity and negatively impacts you and your neighbors.

It is challenging and sometimes unsafe for you to walk in the community due to POOR SIDEWALKS and crumbling infrastructure.

Poor STREET LIGHTING reinforces any concerns you have about public safety in the community.

STREETS ARE REDESIGNED to move traffic slowly in the community and improve safety for pedestrians.

New BIKE INFRASTRUCTURE provides a safe place to commute by bicycle. Each bike on the road is one less car on the road.

ENHANCED BUS SERVICE provides better bus stops and more reliability. Lights are timed to reduce time waiting in traffic.

REHABILITATED BUILDINGS eliminate the issues neighbors face living next to vacant ones and help the streets to feel safer.

NEW SIDEWALKS AND INFRASTRUCTURE help to create a safe and walkable community.

New STREET LIGHTING helps to address the real and perceived issues of safety at night in the community.

HEALTH

The vacant lots you see in the community attract ILLEGAL DUMPING. This results in rodents, bad smells and trash in your community.

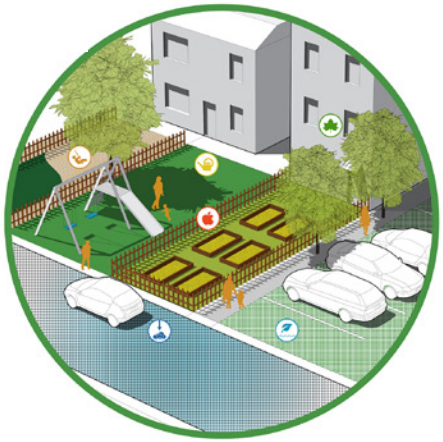
A LACK OF USABLE OPEN SPACE limits the opportunities for your kids to play nearby or for you to enjoy time outside with neighbors.

The vast number of cars and buses driving and idling in your neighborhood decreases the QUALITY OF THE AIR you breathe.

Large amounts of surface parking lots and few trees create a HEAT ISLAND EFFECT where your community feels even hotter in the summer.

Due to the lack of green space, rains cause street flooding, CLOGGED SEWERS and POLLUTION IN YOUR RIVER.

Vacant lots replaced what was once a vibrant shopping district - residents now have LIMITED ACCESS TO FRESH FOOD



VACANT LOTS ARE REUSED for gardening and other community-driven greening activities.

NEW OPEN SPACES provide opportunities for your kids to play nearby and for you to enjoy time outside with neighbors.

More bicyclists and transit users help to reduce car traffic over time and LOWER EMISSIONS in the community.

Redeveloped and reused surface parking lots plus new trees and green spaces will help to COOL THE COMMUNITY IN THE SUMMER.

NEW RAIN GARDENS AND GREEN INFRASTRUCTURE reduces street flooding, the flooding in your basements and the amount of trash and pollution in the river.

New stores, temporary markets, and expanded community gardening helps to IMPROVE ACCESS TO FRESH FOOD.

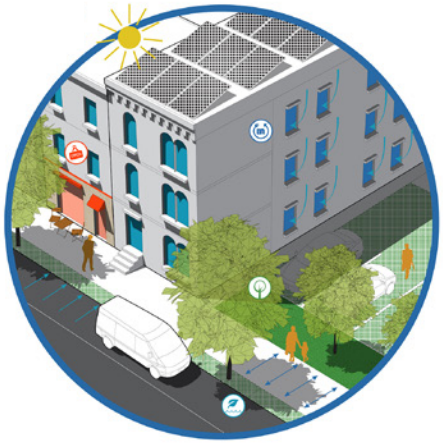
INCOME

Old and INEFFICIENT HOMES raise your utility costs in both the summer and winter.

Due to steep hillsides and hard, impervious surfaces, FLOODING poses a serious challenge for your home and/or business.

A LACK OF TREE COVERAGE increases the costs to cool your home and/or business in the summer.

Empty businesses limit the LOCAL JOB OPPORTUNITIES for you and your neighbors.

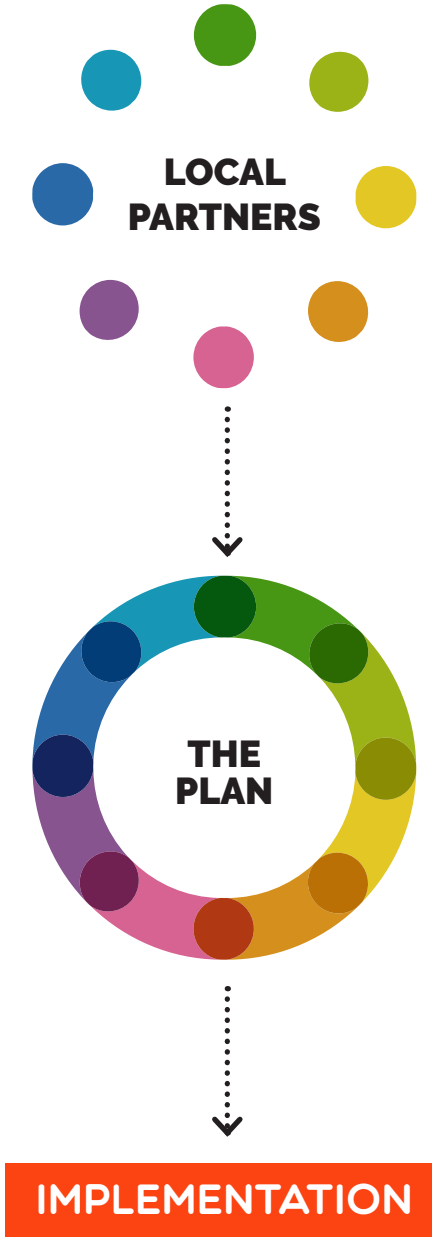


Old HOMES ARE RETROFITTED to modern energy efficient standards reducing cooling/heating costs and creating sustainable energy.

New GREEN INFRASTRUCTURE helps capture rainwater and prevent flooding.

NEW TREES AND LANDSCAPING reduces the heat island effect, keeping home cooling costs low.

NEW BUSINESSES PROVIDE JOB OPPORTUNITIES for local residents and create new active communities.



HOW TO USE THIS PLAN

Recognizing that the City, County, and local leadership and organizations are focused on different aspects of this plan, this document is designed to be comprehensive and flexible. Combined with this introduction and vision for the entire process, the plan is divided into four separate sections that cover the major themes of the plan:

01 **Preserve and Strengthen the Existing Community** – Preserve affordable housing, encourage job growth, support local institutions, address vacant/distressed properties and safety, and encourage more community events.

02 **Encourage Balanced, Equitable and Green Development** – Encourage both new development and preservation, and align zoning with community goals

03 **Provide choice in Mobility** – Calm traffic, improve safety, encourage walking and bicycling, and improve the Fifth / Forbes corridor.

04 **Invest in Sustainable Infrastructure** – Improve community health, upgrade existing parks, create new parks and trail connections, manage stormwater, and implement district energy.

Above all, the EcoInnovation District is about taking action. Some strategies can be accomplished very quickly, while others will take time due to many factors, including the availability of resources [time, people, and/or money]. This plan is designed to help local partners leverage various opportunities to help make the vision a reality. To that end, the last chapter of this plan is about how to manage, finance, and implement the plan.

Those that have provided their ideas and helped shape this plan expect results. Uptown and West Oakland is poised for real change that will benefit their residents, and the City as a whole. Stay involved and work with your neighbors to help achieve your vision.

CHAPTER

03

RECO-MMENDATIONS

COMMUNITY

DEVELOPMENT

MOBILITY

INFRASTRUCTURE

03

SEE RECOMMENDATION 3 - MOBILITY

SEE RECOMMENDATION 3 - MO

SEE RECOMMENDATION 4 - INFRASTRUCTU

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SEE RECOMMENDATION 4 - INFRASTRUCTURE

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SEE RECOMMENDATION 4 - INFRASTRUCTURE

COMMUNITY

Preserve and Strengthen the Existing Community – Preserve affordable housing, encourage job growth, support local institutions, address vacant/distressed properties and safety, and encourage more community events.

01

"When I was a child there were a lot of stores up and down Fifth and Forbes Avenues - there were a lot of mom and pop stores, small businesses. There are some opening up near the university, but there aren't many stores left."

- Quote from Interviewee

KEY GOALS ADDRESSED:

EQUITY

Foster a vibrant, diverse community where the residents of Uptown/West Oakland are an active and vital part of the community's future, benefit directly from improvements and don't solely bear the burden of systems that largely serve other communities.

OPPORTUNITY

Encourage new businesses and creative production, advance training opportunities and, create a clear pathway for residents to access job opportunities.

HEALTH

Elevate individual, community and environmental health in the planning, design and development of Uptown/ West Oakland.

IDENTITY

Reinforce Uptown's unique character by protecting and reusing existing buildings whenever possible, and expanding local arts and community events.

LEADERSHIP

Create partnerships and a model for sustainable local leadership that can continue to engage residents and effectively take action in the community.

KEY TAKEAWAYS:

- THE **PHYSICAL NEIGHBORHOOD** HAS CHANGED DUE TO **URBAN RENEWAL**, **INSTITUTIONAL GROWTH**, AND **POPULATION DECLINE**.
- NEIGHBORHOOD IS **EXTREMELY DIVERSE** IN REGARDS TO **RACE**, **EDUCATION LEVEL**, **INCOME**, AND **HOME-OWNERSHIP RATES**.
- **RENTS RISING** IN FROM **2014-15**. METRO: **9%**, CITY: **12.8%**, GREATER HILL DISTRICT: **14%**
- THERE ARE APPROXIMATELY **207 HOUSEHOLDS** "**AT-RISK**" OF BEING **DISPLACED** WITHIN THE NEIGHBORHOOD.
- **REPORTED CRIMES** CONTINUE TO **DECLINE** WITH A **DROP** OF **12%** BETWEEN **2013 & 2015**.

POTENTIAL RESULTS:

- A **MIXED-INCOME COMMUNITY** BY PROTECTING AFFORDABILITY & EXISTING RESIDENTS
- **SITE CONTROL AND THE REUSE OF VACANT, DELINQUENT PROPERTIES** TO SUPPORT COMMUNITY PRIORITIES
- **REPAIRED AND WEATHERIZED HOMES** SAVING RESIDENTS MONEY ON MAINTENANCE
- PATHWAYS TO NEW **CLEAN TECH JOBS**
- **NEW PUBLIC ART AND COMMUNITY EVENTS**
- **IMPROVED LIGHTING AND NO MORE ILLEGAL DUMPING**
- **STRONGER PARTNERSHIPS** BETWEEN LOCAL INSTITUTIONS AND NON-PROFITS

WHY IS THIS IMPORTANT?

Over the past century, Uptown and West Oakland have faced many significant challenges. What was at one time a diverse community of about 8,500 people in 1910, many of which worked in adjacent factories and mills, declined to 3,220 residents in 1990 of which 58% or 1,860 were students. During this decline, major institutions stepped in to create campuses that today provide thousands of jobs to Pittsburgh residents. The result is not just a loss of population but of the townhomes, small scale warehouses and structures that make Uptown unique.

Of the 6,600 residents in the community according to the 2010 Census, about 5,930 of these are either students living on Duquesne's campus or prisoners in the Allegheny County Jail along the River. With new construction since 2010 and a slightly larger study area that extends to Robinson Street, there are about 1,000 residents today in Uptown/West Oakland.

According to the 2010 Census, for the block groups located completely within Uptown but excluding Duquesne University and the County Prison, the community is 51% white and 45% black. 10% have less than a high school degree, 40% have completed high school and 50% have completed some college or more. Not surprisingly, the incomes are extremely varied. The overall median income is $41,782 compared to $52,353 for the City as a whole but Uptown includes many residents with incomes far below that median.

In 2010, there were 281 housing units in this area of which 96, or 34.4% are owner-occupied. When we look at the Census Blocks for our entire study area extending to Robinson Street and include the number of new units constructed since 2010, there are 691 households in this area. Only 132, or 19% of this number, are occupied by homeowners compared to the City homeownership rate of 47% in 2014.

While the community for years was overlooked in terms of investment and development compared to other Pittsburgh neighborhoods, this trend is shifting as the pace of development picks up City-wide. The City now generates nearly 25% of all permits in the region compared to just 3.4% in the years between 2005 and 2013.[1] With a large rental population in Uptown, this kind of development can have major impacts. Recent research indicates that "a rapid increase in rental rates is exactly what appears to be happening throughout the Pittsburgh area and within the Greater Hill District. Rental rates in Metro Pittsburgh increased by 9.0% between 2014 and 2015, by 12.8% within the city, and by 14.0% in the Greater Hill District."[2]

The increase in prices across the City along with some dramatic examples of displacement in specific communities have caused a lot of anxiety in Uptown. How will we protect existing residents and ensure that the community can provide housing at prices available to those that are the most vulnerable to displacement? The community is changing and will continue to do so. This chapter is focused on managing that change to help address the needs of existing residents, the very residents that help to make Uptown a unique community in Pittsburgh.

An analysis was conducted to understand the potential number of at-risk households in Uptown. Currently, there are 691 households in the study area. 132 are owner-occupied and 559 are renter-occupied. Of those renter-occupied units, 264 units or 47% are designed as "affordable" housing serving as transitional housing or developed with low income housing tax credits (LIHTC). 212 of these units were developed since 2010 of which 42% are designated as affordable. To determine potentially at-risk households, the analysis removed: 1) Those units that are owner-occupied and not paying more than 30% of their income for housing costs; 2) Units protected as affordable and; 3) Market-rate units that were developed recently and cater to higher-income individuals and families. From this analysis, there are 207 potentially at-risk units in the study area.

The issues of affordability have taken center stage with the recent completion of the City's Affordable Housing Task Force recommendations that seeks to provide more resources toward addressing the City's affordable housing gap[3] and prevent displacement. The Greater Hill District Housing Market Study which includes Uptown is also designed to "provide recommendations on ways to avoid displacement as the area's housing prices increase and new investment occurs in the Greater Hill District (GHD)."[4]

1 Greater Hill District Market Study, page 50.

2 Greater Hill District Market Study, page 60.

3 According to the Affordable Housing Task Force, "Although over 10% of the city's residential units are income-restricted, representing a substantial number of units preserved for households earning a certain income, there remains an affordability gap of 17,241 units for households earning up to 50% of the city's median household income," page 6.

4 Greater Hill District Market Study, page 3.

HOW MANY HOUSEHOLDS ARE "AT-RISK" OF BEING DISPLACED IN UPTOWN?

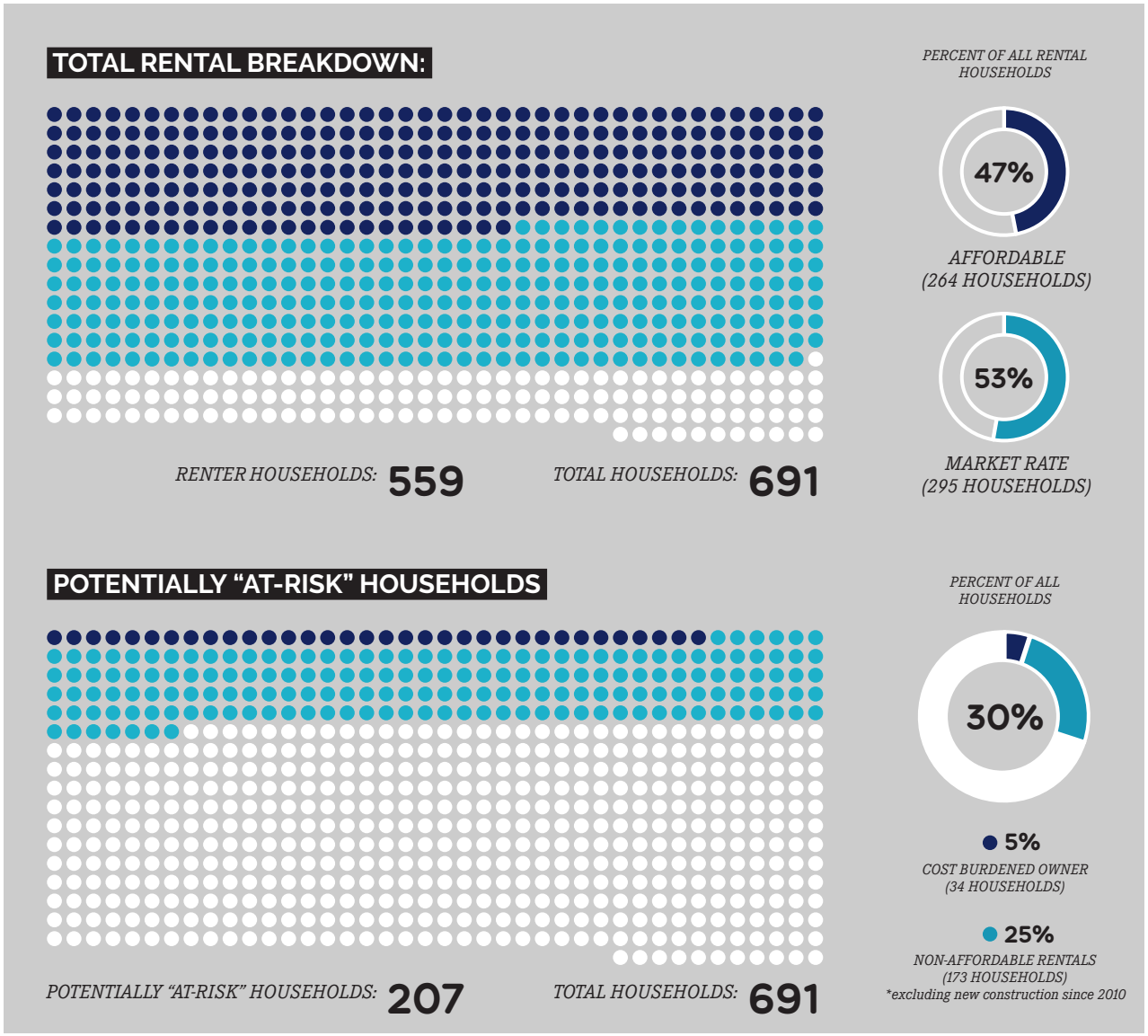


FIGURE 12: "AT RISK" HOUSEHOLDS

Rising taxes and/or rents are one threat to maintaining a diverse community but there are other challenges that need to be addressed. These include cost of utilities, home maintenance, and limited job opportunities. In Uptown, 32% of existing homes are either "distressed" (28%) or "failing" (4%) and require action to protect existing residents if occupied and neighbors. The opportunity is to put residents that can work on a pathway to jobs to address these housing issues in the community. As an example, new green or white roofs for existing buildings require installation, maintenance and monitoring. With access to the right training, these are job opportunities for residents.

THREATS TO MAINTAINING A DIVERSE COMMUNITY:

- RISING TAXES (HOMEOWNERS)
- RISING RENTS (RENTERS)
- COST OF UTILITIES
- HOUSING MAINTENANCE
- LIMITED JOB OPPORTUNITIES

"OLD & NEW" IN UPTOWN

In addition to housing and jobs, Uptown has many other challenges and opportunities to address. The perceptions of crime are starting to ease in Uptown but the safety of the community is not just a concern for those potentially willing to start a business but also to existing residents who have expressed that addressing safety is one of the most important issues to tackle. Overall reported crimes continue to decline (by 12% between 2012 and 2015) but the community continues to outpace the City with respect to drug violations, prostitution, aggravated assault and theft (largely from parked cars). The location, amount of traffic and vacant land and buildings unfortunately make Uptown a great location for both drug sales and illegal dumping.

One of the most important opportunities in Uptown is to bring everyone together. Residents of all backgrounds, artists and the institutions that serve some of the City's most vulnerable population are all nestled within Uptown. Too often, residents talked about the need to have spaces and opportunities to get together and share their experiences as neighbors. In truth, improvements in the community need to be driven by those in the community. This is what helped to create the MLK community gardens, address dumping through clean-up days and push forward the public art next to the Birmingham bridge that welcomes everyone to Uptown. These aspects of the community – the people, the public art, the character of the varied building stock – are essential ingredients to the future of Uptown.

FIGURE 13: NEIGHBORHOOD CHALLENGES

SAFETY

FAST MOVING CARS and through traffic in your community causes many accidents. This is a real safety issue for you and your neighbors.

Want to ride your bike? It can be unsafe to do so due to a lack of **BIKE INFRASTRUCTURE** that helps to protect cyclists from traffic.

While our neighborhood has good **BUS ACCESS**, the bus stops are in poor condition and the buses often get stuck in traffic. This adds time to your day.

VACANT BUILDINGS encourage illegal activity and negatively impacts you and your neighbors.

It is challenging and sometimes unsafe for you to walk in the community due to **POOR SIDEWALKS** and crumbling infrastructure.

Poor **STREET LIGHTING** reinforces any concerns you have about public safety in the community.

HEALTH

The vacant lots you see in the community attract **ILLEGAL DUMPING**. This results in rodents, bad smells and trash in your community.

A **LACK OF USABLE OPEN SPACE** limits the opportunities for your kids to play nearby or for you to enjoy time outside with neighbors.

The vast number of cars and buses driving and idling in your neighborhood decreases the **QUALITY OF THE AIR** you breathe.

Large amounts of surface parking lots and few trees create a **HEAT ISLAND EFFECT** where your community feels even hotter in the summer.

Due to the lack of green space, rains cause street flooding, **CLOGGED SEWERS** and **POLLUTION IN YOUR RIVER**.

Vacant lots replaced what was once a vibrant shopping district - residents now have **LIMITED ACCESS TO FRESH FOOD**

INCOME

Old and **INEFFICIENT HOMES** raise your utility costs in both the summer and winter.

Due to steep hillsides and hard, impervious surfaces, **FLOODING** poses a serious challenge for your home and/or business.

A **LACK OF TREE COVERAGE** increases the costs to cool your home and/or business in the summer.

Empty businesses limit the **LOCAL JOB OPPORTUNITIES** for you and your neighbors.

COMMUNITY VISION

MAJOR STRATEGIES

INVEST IN EXISTING RESIDENTS & PROTECT THE RESIDENTIAL CORE OF THE COMMUNITY

PROMOTE DIVERSITY AND INCLUSION IN THE INNOVATION COMMUNITY

BUILD ON UPTOWN/WEST OAKLAND'S CHARACTER AND IDENTITY

WORK TOGETHER TO ADDRESS VACANCY AND COMMUNITY SAFETY

EXPAND INSTITUTIONAL PARTNERSHIPS

CREATE
PARTNERSHIPS
BETWEEN
INSTITUTIONS &
RESIDENTS

INVEST
IN EXISTING
RESIDENTS

STRENGTHEN
COMMUNITY
IDENTITY

1.1 INVEST IN EXISTING RESIDENTS & PROTECT THE RESIDENTIAL CORE OF THE COMMUNITY

Displacement is a real fear that requires a number of strategies to assist residents that are vulnerable to changes in rents or rising rents. At the same time, doing nothing to address the community's challenges is not an option.

To address the issues that lead to displacement, we need to understand the causes of escalating housing prices. Sometimes this is a matter of rising taxes but it is many times a combination of inefficient and old buildings that need money for repairs – often money that is not available for those with low incomes. Utilities can also be a burden to those with fixed incomes. Finally, in Uptown there are high land prices that make building all housing more expensive to accomplish and demand for new units that is not being met. For instance, if more students want to live close to their university and there is not enough designated student housing available, some property owners and students will look for any opportunity nearby to rent and often at higher prices than other residents can pay.

These factors require many different approaches to addressing housing costs. Below are a series of strategies targeted toward helping to reduce housing cost burdens for residents. Other strategies including incentives to create more housing affordable to a range of individuals and families are included in Chapter 2 focused on development and zoning.

HOME IN NEED OF REPAIRS IN UPTOWN.

CREATE A HOUSING ADVOCATE FOR UPTOWN

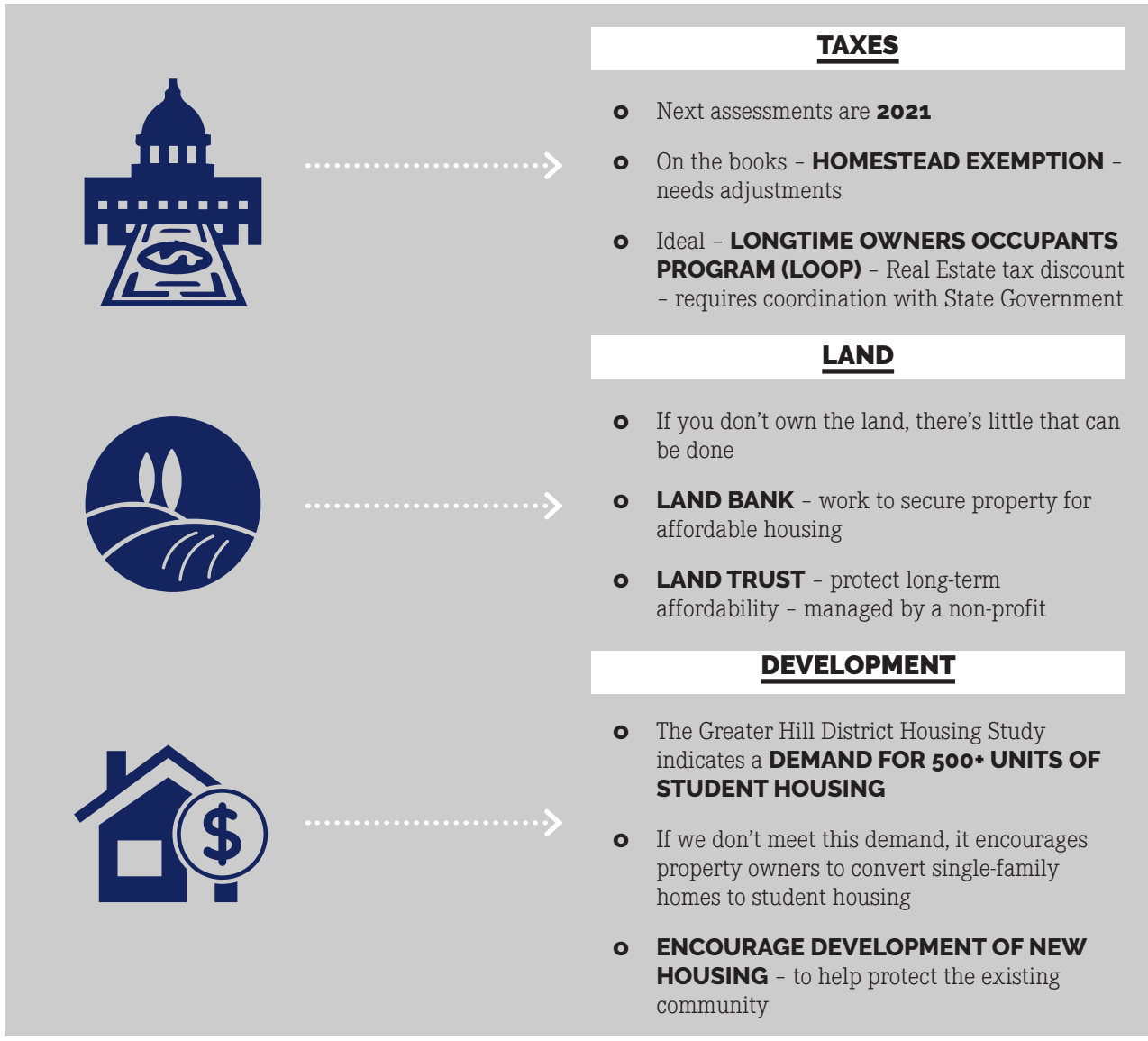
The Greater Hill District Housing Study recognized the need to have an on-the-ground advocate for local housing issues. This housing "advocate" can play a critical role in upgrading the housing stock in Uptown, working with residents and addressing nuisance issues. Working closely with Uptown Partners, this housing advocate would be responsible for a number of key activities.

- Maintain a list of available housing programs and helping residents that need assistance to access these resources.
- Work with residents to resolve credit issues that prevent them from accessing capital to make necessary home repairs. Mayor Peduto's executive order in February of 2017 specifically directs a "consortium of financial support providers to expand and improve the services offered to the residents of Pittsburgh for improving their financial capabilities." The housing advocate would coordinate closely with the Bureau of Neighborhood Empowerment on this activity.
- Work to connect residents with available foreclosure prevention programs.
- Monitor local housing conditions, maintain a list of the top ten nuisance properties in the community and, work with the City and local Council to address these problem properties.

EXPLORE TAX POLICIES TO PREVENT DISPLACEMENT

Rising taxes are a concern for residents, some of whom own their homes. The next assessment in Pittsburgh will not occur until 2021 leaving 4 years to address this concern. One of the most effective programs to address this issue is the Longtime Owner Occupant Protection (LOOP) program. LOOP is a real estate tax discount program to protect residents from rapid jumps in property taxes. It is designed for those that have lived in their home for more than 10 years and meet income eligibility requirements. LOOP is currently in use in Philadelphia but Philadelphia alone is currently able to utilize this program. However, Mayor Peduto signed an executive order on February 14, 2017 for the Department of Finance, Allegheny County and Pittsburgh Public Schools to evaluate the feasibility of bringing this program to Pittsburgh. Local advocates in Uptown should actively support this move toward implementing this program or something similar prior to the next assessments.

FIGURE 14: STRATEGIES/CHALLENGES AROUND DISPLACEMENT



ABOVE: Vacant buildings within Uptown.

WORK WITH THE URA AND CITY TO COORDINATE ACQUISITION OF KEY TAX DELINQUENT PROPERTIES

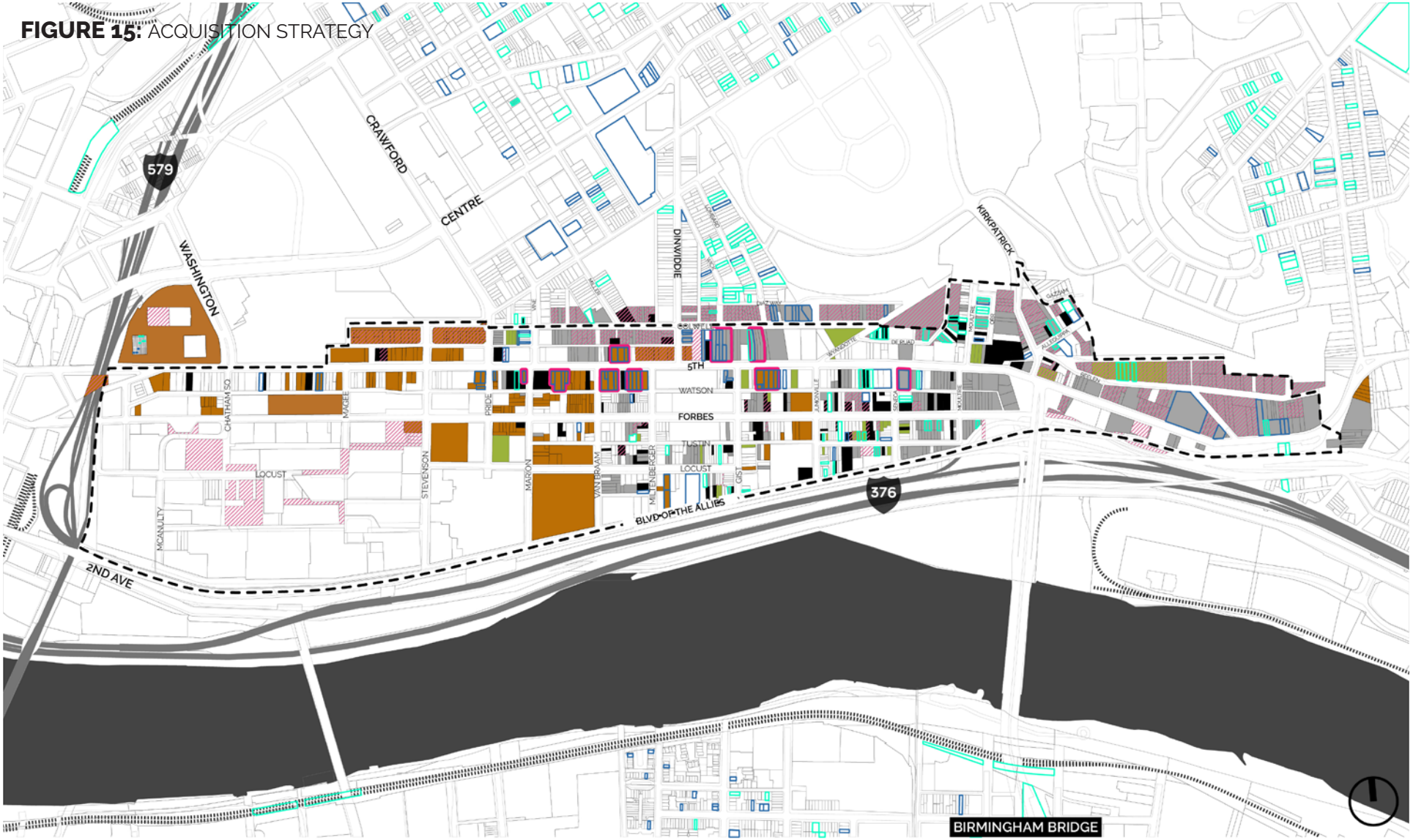
Of the 623 vacant properties in Uptown, 169 are unbuildable due to steep slopes, a few are controlled by local institutions and a large number are in the hands of long-term speculators that make acquisition of these properties expensive and extremely difficult. With development interest increasing in the community, it is imperative that the community work with the City to acquire and hold as many properties as possible to achieve this plan's goals. Currently, the City owns multiple properties along the hillside. In addition, the URA owns a concentration of properties around Fifth and Dinwiddie which can potentially support a mixed-use development at that location. Uptown Partners should coordinate closely with the URA to set aside or acquire properties in the community where possible for community uses.

These include:

- Vacant and available properties along the hillside should be reserved to support the transformation of the hillside into a park, trail system and stormwater infrastructure;
- Scattered properties within the residential core should be held for the development of affordable housing or, in some cases, stormwater parks in line with PWSA's strategy to help reduce flooding in the community; and
- Specific properties should be assembled to create "community infrastructure hubs" described in Chapter 2 that combine resident and business parking with facilities to support district energy, stormwater management, bike share and car share.

The immediate step is to maintain the current list of vacant, privately-owned tax delinquent properties in the community. This master list should serve as the basis for making requests for property at Sheriff Sales, from the City and to foundations to help support potential acquisition costs.

FIGURE 15: ACQUISITION STRATEGY



- VACANT BUILDING
- PARKING
- VACANT LAND
- GARDEN / MAINTAINED LOT
- PUBLICLY OWNED
- NO PARKING COO / SOON TO LOSE PARKING COO (Certificate Of Occupancy)
- TAX DELINQUENT
- MORE THAN 2 YEARS TAX DELINQUENT

EXPLORE THE POTENTIAL OF A LAND TRUST TO MAINTAIN AFFORDABILITY FOR BOTH RESIDENTIAL AND COMMERCIAL PROPERTIES

A community land trust is a non-profit, community-based organization that works to provide perpetually affordable home ownership or business opportunities. The land trust acquires land and removes it from the speculative, for-profit, real estate market. The land trust then holds the land it owns "in trust" for the benefit of the community by ensuring that it will always remain affordable. The land trust provides permanently affordable housing by owning the land of a particular property but selling the home on the land to an income-qualified buyer. The homeowner then leases the land from the land trust through a 99-year, renewable ground lease. Different than a land bank which helps to acquire and hold vacant property for eventual reuse, the land trust is community-driven and could act as the vehicle to hold and reuse properties in Uptown. A land trust was recently launched in Oakland to combat some of the same challenges faced in Uptown. Uptown Partners, local housing advocates and other partners should reach out to Oakland and open a dialogue with the City about the feasibility of this approach in the community.

CREATE PROGRAMS TO SUPPORT EFFICIENCY RETROFITS AND BASIC SYSTEMS REPAIR FOR EXISTING BUILDINGS

Many properties in Uptown show signs of deferred maintenance. These housing issues, if not addressed, become even more costly to improve and often reduce the efficiency of a home leading to higher utility costs.

Small grants to support these improvements for low-income families are available but often difficult to access due to the demand for these services. Foundations as well as the Affordable Housing Task Force recognize the need to preserve housing and offer potential new funding sources to support more of this work. With respect to weatherization, Action Housing runs the City's Weatherization Assistance Program, both Allegheny County and Duquesne Light offer weatherization assistance, and Conservation Consultants, Inc. (CCI) oversee the Grassroots Green Homes program. Working with local architects, Uptown Partners, OPDC and the housing advocate (described above) should align local programs and seek to "package" the rehabilitation of multiple units to save costs and more easily apply for funds.

The program should be designed to address the most common housing needs in the community including but not limited to:

- Typical system upgrades;
- Roof replacement / repair including best practices such as white roofs that reduce up to 20% of annual air conditioning energy use;
- Improvements for ADA accessibility;
- Fixing a party wall; and
- Upgrading windows or sealing the home for efficiency.

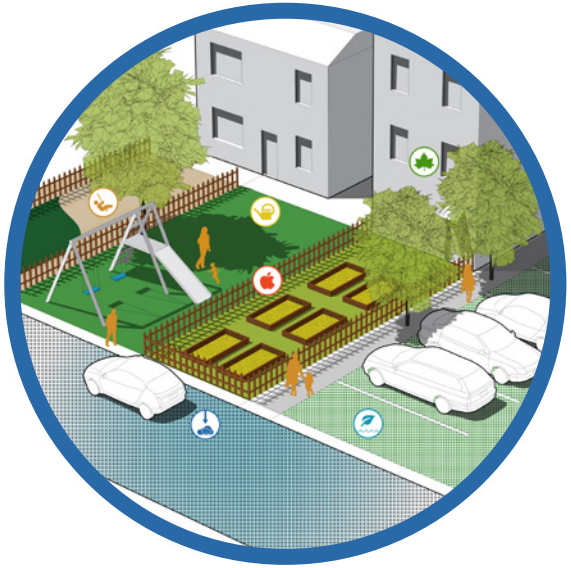
LEXINGTON COMMUNITY LAND TRUST

"The Lexington CLT is a non-profit membership organization that is providing permanently affordable for-sale and rental homes for income-qualified people in Fayette County." The CLT is also working toward economic development by encouraging new retail that best serves the needs of the neighborhood. http://www.lexingtonclt.org

STATE COLLEGE COMMUNITY LAND TRUST

"The State College Community Land Trust assists individuals, couples, and families in buying affordable homes in the Borough of State College (PA)." http://www.scclandtrust.org/

FIGURE 16: POTENTIAL SOLUTIONS TO NEIGHBORHOOD CHALLENGES



VACANT LOTS ARE REUSED for gardening and other community-driven greening activities.

NEW OPEN SPACES provide opportunities for your kids to play nearby and for you to enjoy time outside with neighbors.

More bicyclists and transit users help to reduce car traffic over time and **LOWER EMISSIONS** in the community.

Redeveloped and reused surface parking lots plus new trees and green spaces will help to **COOL THE COMMUNITY IN THE SUMMER.**

NEW RAIN GARDENS AND GREEN INFRASTRUCTURE reduces street flooding, the flooding in your basements and the amount of trash and pollution in the river.

New stores, temporary markets, and expanded community gardening helps to **IMPROVE ACCESS TO FRESH FOOD.**

Old **HOMES ARE RETROFITTED** to modern energy efficient standards reducing cooling/heating costs and creating sustainable energy.

New **GREEN INFRASTRUCTURE** helps capture rainwater and prevent flooding.

NEW TREES AND LANDSCAPING reduces the heat island effect, keeping home cooling costs low.

NEW BUSINESSES PROVIDE JOB OPPORTUNITIES for local residents and create new active communities.

CREATE A HEALTHY HOMES PROGRAM FOR UPTOWN AND THE HILL DISTRICT

Substandard housing conditions like mold, mildew, lead paint, and pests create and perpetuate health conditions like asthma and lead poisoning in those that are most vulnerable. The results are more hospitable visits, higher health care costs, and for kids, more days missed from school. By strategically addressing these housing issues, dozens of studies have shown that we can dramatically improve the health of the families and individuals living there and reduce the costs to local hospitals that are often caring for health problems that stem from the home. As shown by UPMC, preventive care like their Community Treatment Team reduced hospital readmission rate by 10% between August, 2014 and February, 2015.[5]

The Allegheny Health Department operates a Safe and Healthy Homes Program that provides free home assessments to qualified candidates. In addition, UPMC through its Health for Success Program has provided housing to the homeless which has reduced their health risks. Given the challenges in Uptown and the Hill District with respect to resident health, explore the possibility of creating a partnership between the County, City, UPMC Mercy and the community to address health issues in homes.

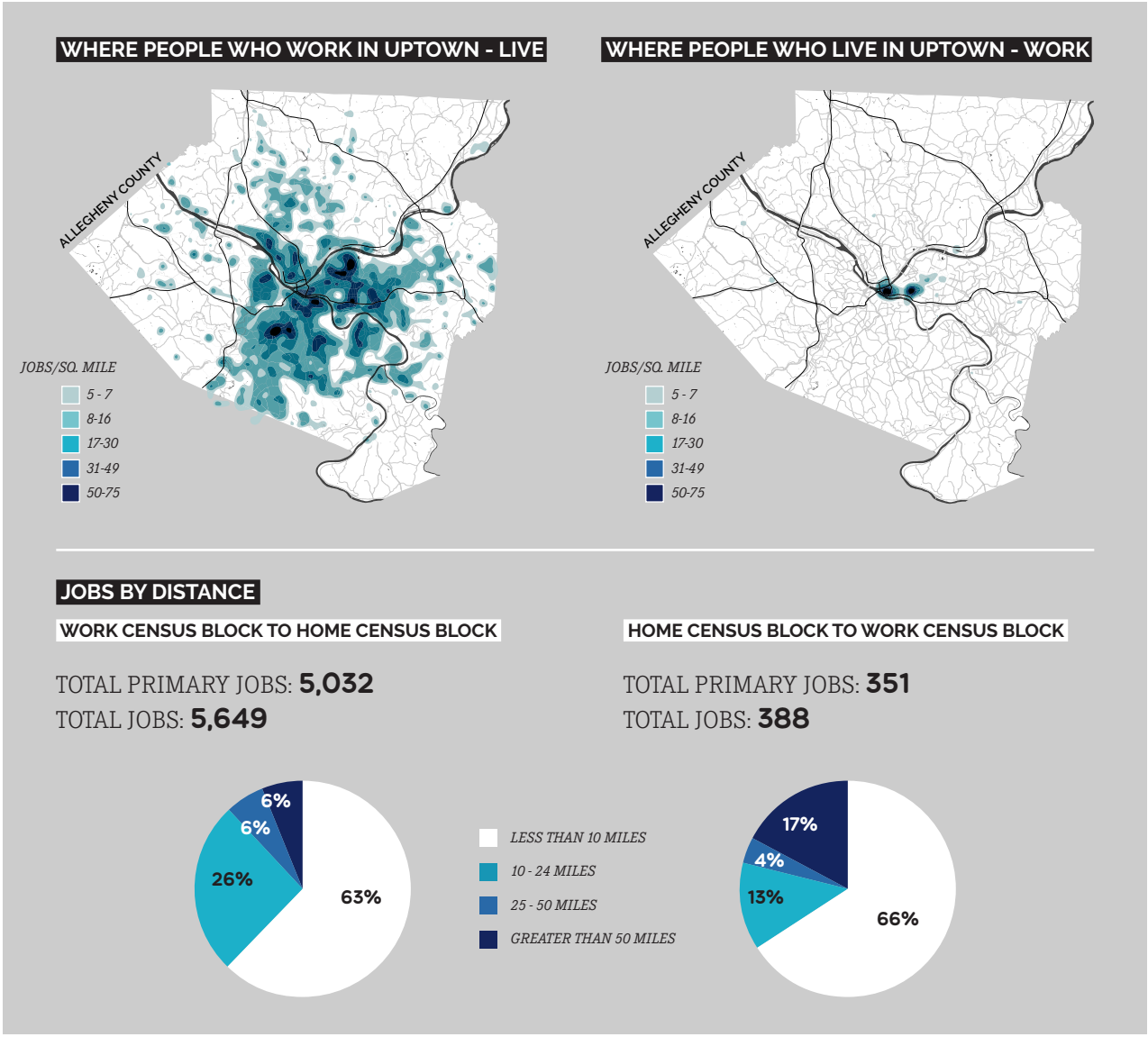
5 https://www.upmchealthplan.com/about/community/myhealth-community/improving-health-outcomes.aspx

1.2 PROMOTE DIVERSITY AND INCLUSION IN THE INNOVATION COMMUNITY

Based on the data from the local employment household dynamics (LEHD) dataset, the vast majority of employees in Uptown businesses come from outside the neighborhood. This is not surprising given the size of the neighborhood population and the existence of a large university and a major hospital in Uptown. Uptown's workforce could only support 6% of the total employment needs of Uptown's employers. The LEHD dataset also revealed that most employed residents in Uptown work nearby in either Oakland or the Downtown area. As these areas play an increasing role in the city's burgeoning innovation economy, it is essential to ensure that current and future Uptown residents have the skills necessary to continue to work in proximity to their homes.

The city's Roadmap for Inclusive Innovation includes a substantial commitment to the development of the Clean Tech sector in Pittsburgh. Clean Tech refers to initiatives like recycling, renewable energy, electric motors, information technology and transit to name a few. Given the alignment with strategies proposed for Uptown, we analyzed the local Clean Tech sector to understand potential job opportunities. The Clean Tech sector overall consists of 6 major sectors and 22 different potential market applications. Pittsburgh's leading sectors include energy efficiency technologies for buildings, renewable energy and pollution control, and water technologies/services. Pittsburgh's overall Clean Tech sector has 17-21,000 jobs with compensation rates that are 4.8% higher than the average wage. 47% of these jobs do not require more than a high school degree.

FIGURE 17: JOBS & EMPLOYEES ANALYSIS



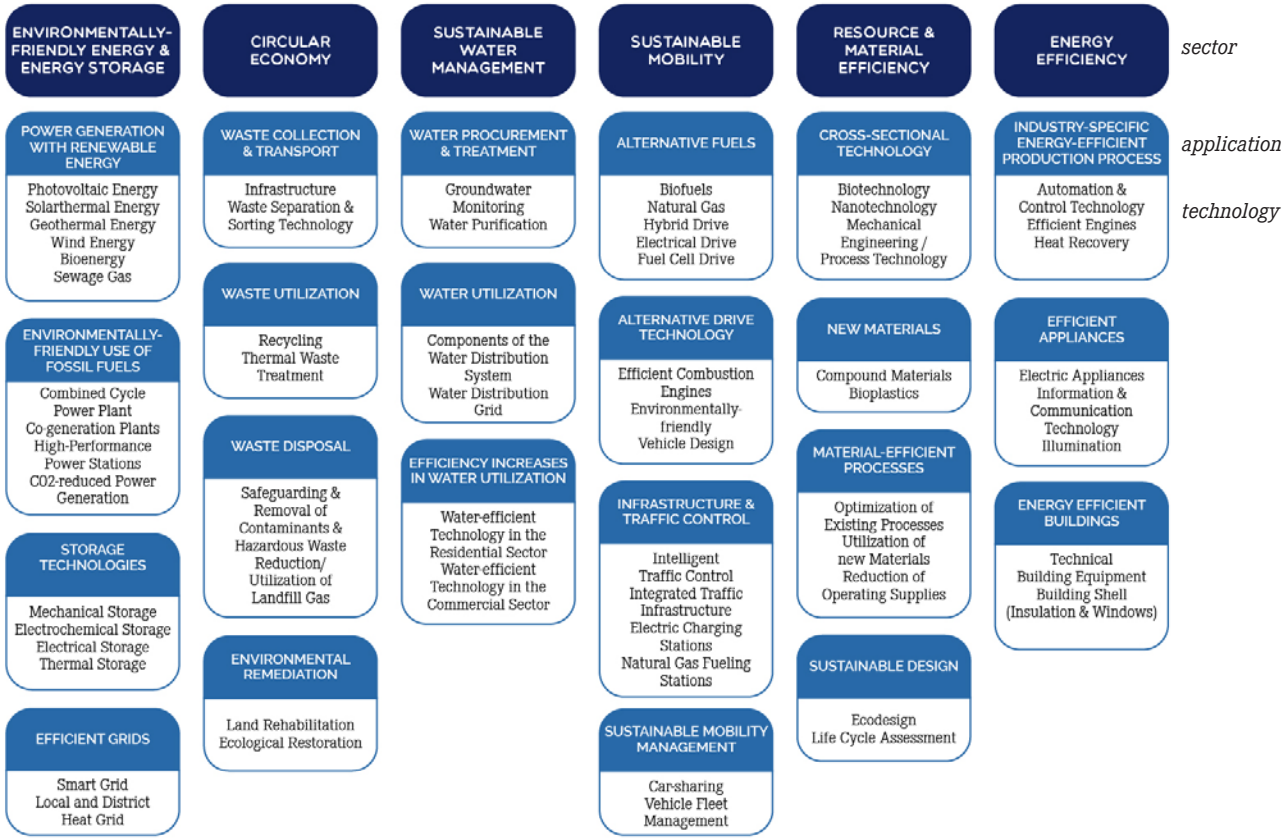
It is important to remember that every industry is organized along a value chain. Value chains are different steps in creating goods and services. For instance, the value chain for real-time monitors that relay data about how much stormwater is retained in a new park generally includes: 1) Design and engineering of the monitor itself; 2) Installation; 3) Maintenance; and 4) Monitoring / replacement. Each step in this value chain offers unique employment opportunities.

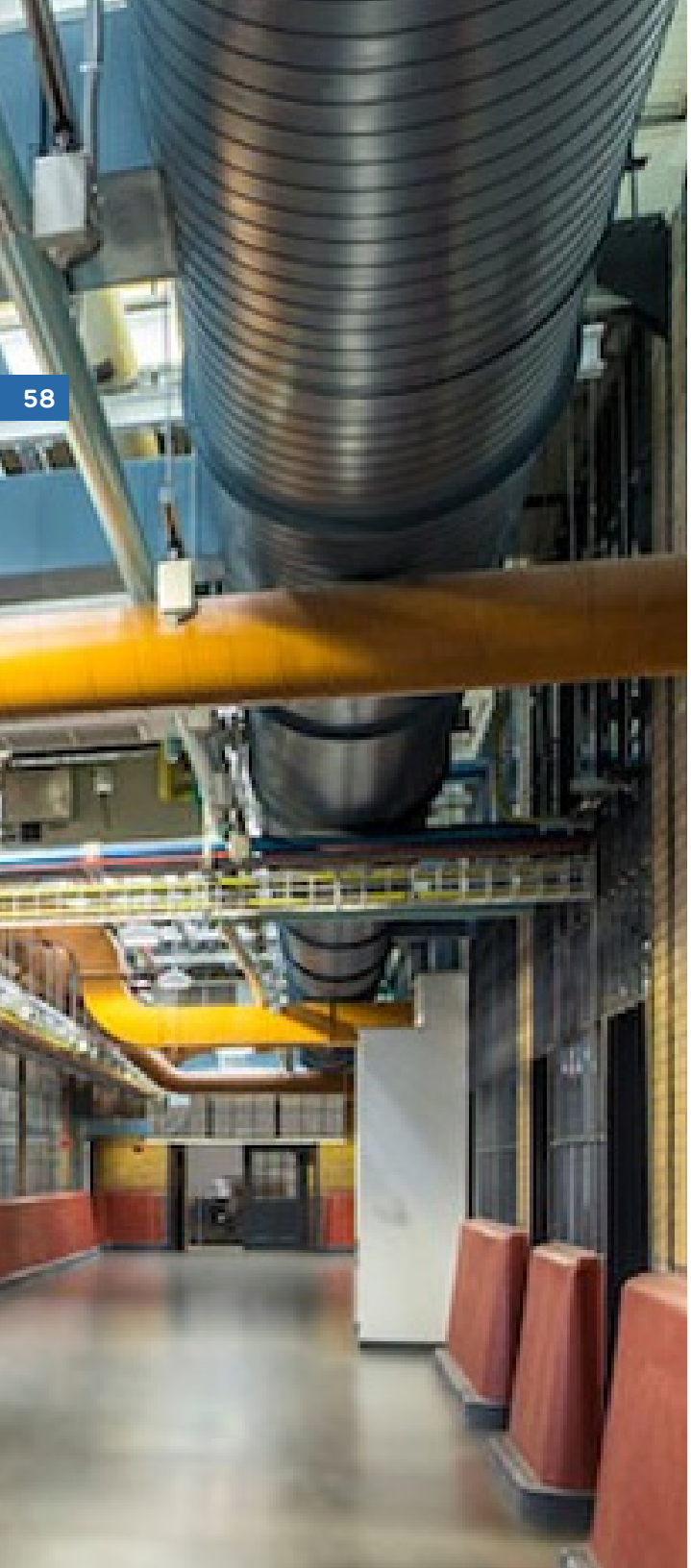
The EcoInnovation District Plan incorporates a number of new solutions to be tested in the community to address specific opportunities like reducing energy costs or local flooding. Using Clean Tech solutions as part of the redevelopment process creates the opportunity for a wide range of job requirements many of which are accessible with additional training. By aligning training opportunities with the specific improvements proposed for Uptown, residents become an active and employed part of Uptown's future because they are helping to build it.

GREEN/CLEAN ECONOMY METRICS

FIGURE 18: GREEN ENERGY JOBS

SOURCE: EuPD & KPMG (2013), Cleantech-Standortgutachten 2013, Roland Berger Strategy Consultants (2012), GreenTech made in Germany 3,0





Pittsburgh Energy Innovation Center

BECOME A HUB OF WORKFORCE DEVELOPMENT PROGRAMS ACCESSIBLE TO AND TARGETING A RANGE OF SKILL SETS AND EDUCATIONAL BACKGROUNDS

The green infrastructure, distributed energy systems and efficient building design and systems proposed as part of this plan create a series of specific job opportunities related to the development, deployment and maintenance of these technologies.

In addition to the current job training initiatives, consideration should be given to working with the appropriate building trades, training providers and community institutions to develop programs to help build qualifications and certifications for these emerging fields. In this capacity, partner with local organizations like Landforce and build upon the Energy Innovation Center's capabilities to support Clean Tech training related to EcoInnovation District initiatives. Further, work to support the creation of entrepreneurs with a focus on the deployment and maintenance of these technologies. Creating focused training and targeted programs to support contracting (e.g. performance bonding or working capital support) to these entrepreneurs will help to create a competitive group of Clean Tech companies that originate in the community.

Job examples include:

ENERGY SYSTEMS JOBS

- MicroGrid Engineers
- Power/Stationary Engineers System Operators
- HVAC Techs
- Grid control technicians
- Electronics technicians
- Electrical contractors

GREEN INFRASTRUCTURE CERTIFICATIONS

- Pervious Concrete Certifications
- GreenPlumbers
- Green Roof Professional
- EcoScaper certification

LOCAL EXAMPLE: LANDFORCE

SOURCE: http://www.eicpittsburgh.org/about/building/

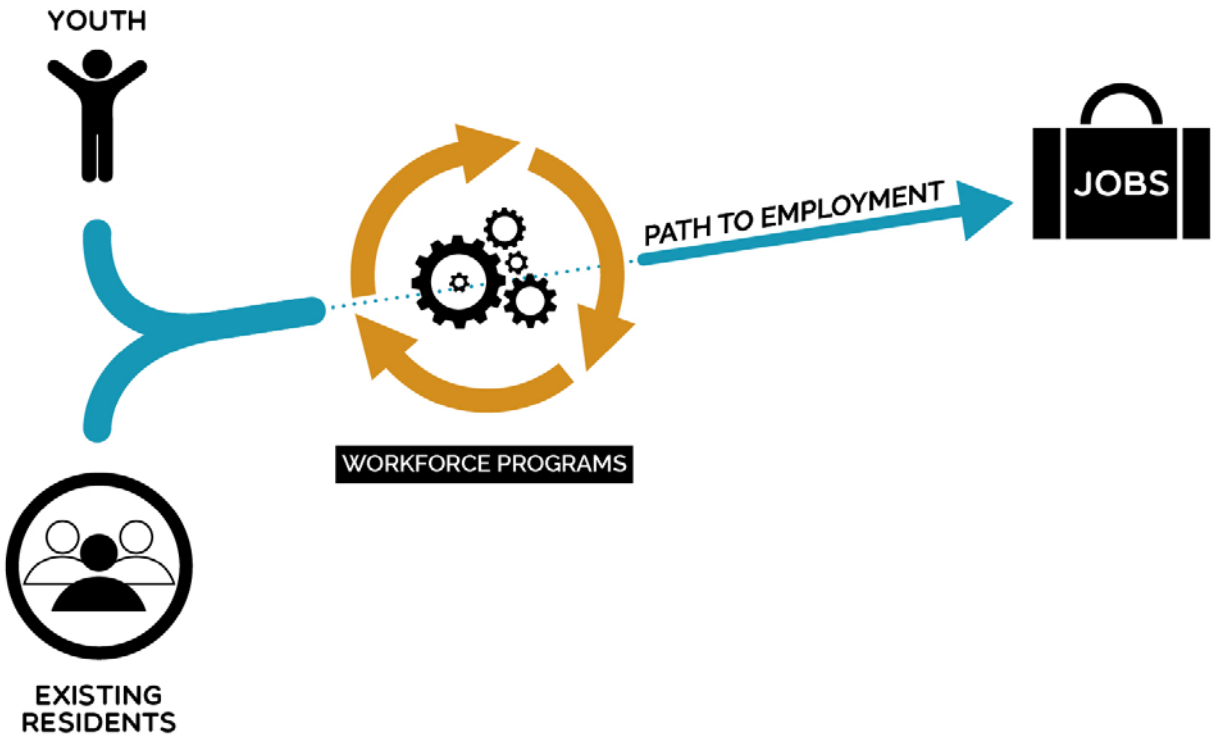
INVITE DISADVANTAGED YOUTH TO PARTICIPATE IN THE INNOVATION COMMUNITY

Programs that support youth entrepreneurship, provide exposure to the emerging Clean Tech fields as well as the expansion of internship opportunities can help break down barriers to knowledge of opportunities in the innovation economy. Coordinate closely with TechHire to tap into their programs and services to train and employ youth in Pittsburgh. Work with the Pittsburgh Public Schools to align their after school and training program goals with training and job opportunities in Uptown where possible. Build upon OPDC's School to Career and Joblinks programs that already serve Uptown and the Hill District.

CREATE AN ANNUAL UPTOWN JOB FAIR WITH LOCAL BUSINESSES

To help promote job opportunities in the community both with existing institutions and businesses as well as new opportunities in the Clean Tech sector, organize a job fair annually. The presence of major employers as well as the many small institutions in Uptown can all help to advertise local job opportunities and identify potential employees for available jobs. In addition to the fair, information should also be updated regularly to ensure continual access to available employment opportunities for residents.

FIGURE 19: PATH TO EMPLOYMENT



"Landforce helps restore and maintain land and green assets by providing professionally skilled crews who can assist in environmental management. Our crews are made up of people who have faced a variety of barriers entering the workforce – whether due to former incarceration, poverty, a lack of education, as a returning veteran, or as a new refugee. We work together to address these barriers, establish an Individualized Employment Plan, and identify real long-term employment opportunities. Landforce is a multi-organizational collaboration designed to maximize program self-sufficiency and impact, and is not bound to a particular land type or geography." https://www.landforcepgh.org/

1.3 BUILD ON UPTOWN/WEST OAKLAND'S CHARACTER AND IDENTITY

Uptown represents one of the more diverse and unique locations in Pittsburgh. No location is closer to job centers in Downtown, Oakland and the growing Almono District but at the same time historically overlooked as a place to pass through. It's a place of diverse races, incomes and building types. Old and new residents value these aspects of the community and have called for more opportunities to celebrate what is authentic about the community.

PRESERVE THE COMMUNITY'S HISTORIC CHARACTER

Existing buildings are essential to retaining what keeps Uptown unique. Too many, unfortunately, have been demolished either out of neglect or a desire to reuse the property for surface parking. The Interim Planning Overlay District (IPOD) enacted by the City placed a moratorium on demolition of existing buildings in the community. The new zoning proposed for Uptown recognizes the need to preserve these structures by: 1) Requiring a formal review and engineering study to determine the need for any demolition and; 2) Providing incentives to preserve structures with new development by offering additional density.

THE UNIQUE BUILDINGS AND TEXTURES OF UPTOWN

INVEST IN MORE PUBLIC ART

Uptown is already home to notable works of public art. A number of artists, most visibly on Gist Street, are active participants in the community and represent local talent that should be supported as the neighborhood evolves. The Welcome to Uptown sign is just one example of the work that has helped others to recognize Uptown as an arts community. This process has revealed a number of specific opportunities to integrate public art, and local artists, into neighborhood improvements:

"Welcome To Uptown" Gateway

- Gateways to Uptown are critical "pinch points" where there are often back-ups of traffic. These areas often present a negative view (or very little at all) of the community. Working with the BRT process, public art should be strategically integrated to improve these key transition points around the Birmingham Bridge, along Forbes under 579 and at the Armstrong Tunnel and, at Dinwiddie Street and Fifth Avenue to better connect with the Hill District.
- For those on the Boulevard of the Allies, Uptown mostly appears to be blank walls and some run down structures. To provide a better edge to the Allies, the existing buildings and blank walls can be a canvas for changing perceptions about Uptown.
- Investments in new and existing parks to better manage stormwater should integrate public art to help residents better connect with these spaces and the issues of water in their community.
- Connect local artists with owners of vacant retail / commercial space to provide temporary installations that improve the property but also highlights the talent of local artists.
- Encourage businesses to hire local artists for their graphic design and signage needs. Making use of local talent to support this need is an easy way to support artists, create stronger connections within the community, and grow the unique character of the neighborhood.

LAUNCH A TARGETED MARKETING STRATEGY

While there is a strong sense of community in Uptown, some new residents would benefit from a personal introduction to the neighborhood experience from those who know it best. To develop stronger community connections, create welcome materials for new residents and share these materials with area real estate agents, property owners, and developers. This brochure should provide information on the local history, key facts about the community, recent news, neighborhood services, local contacts, and how to get involved. This information can be used for a broader "living in Uptown" marketing campaign that could help to promote the community as a welcome location for families and homeowners. In addition, work with existing neighborhood businesses to put together and deliver welcome baskets featuring local goods and/or gift certificates for new neighbors who register with Uptown Partners and other participating community organizations.

CREATE NEW COMMUNITY PROGRAMMING

Residents are seeking ways to connect and engage. Many expressed concerns that there are limited spaces in the community that even provide this opportunity. Both of the "open houses" that took place for the development of this plan were intentionally designed as community events – the first as an opportunity to explore the Forbes Auto Body arts space and enjoy food from a local caterer and the 2nd as a block party on Gist with local music and food from local restaurants. Reactions to these events were pretty straight forward – "we should do this more often." Uptown Partners and their partners do organize regular events to support clean-ups, community gardening and other community issues. Where possible, expand the range of events and maintain an events calendar to provide regular opportunities to bring community members together such as community dinners and block parties.

"Uptoberfest" Block Party

EXPAND LOCAL FITNESS PROGRAMS

There is currently very little open space, let alone active, recreational space in the community. Even local trails like the Heritage Trail are disconnected from the community and require major physical improvements to provide access. However, it is not uncommon to see running clubs at Duquesne University using the sidewalk along Forbes for their exercise. In addition, local service providers like the Center for Hearing and Deaf Services and the Blind and Vision Rehabilitation Services offer their clients fitness programs and/or access to exercise equipment. To help improve neighborhood health and create stronger connections in the community, expand fitness options in the community including:

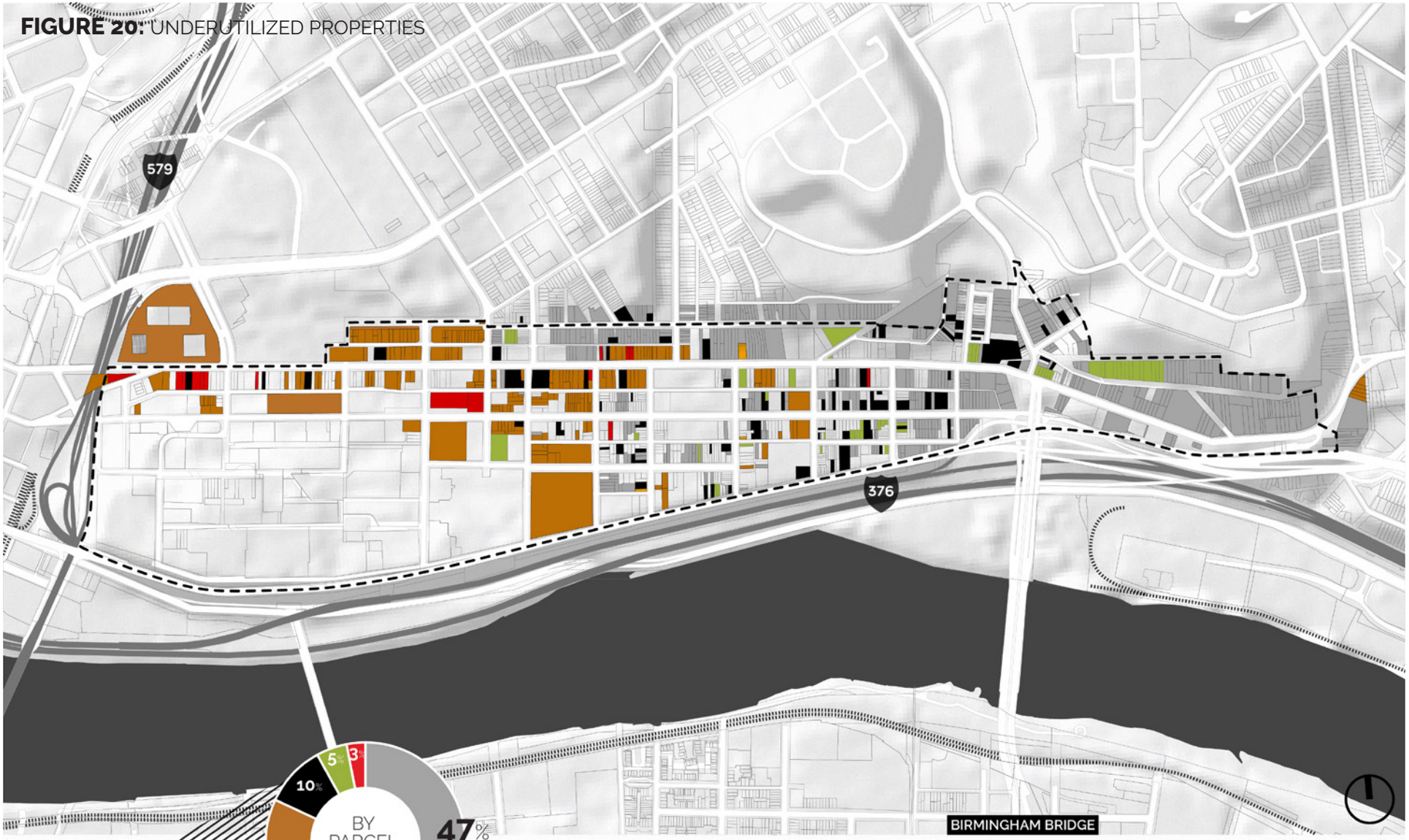
- Coordinate where possible fitness / exercise programs between local service organizations to expand access to existing exercise facilities and programming; and
- Develop a walking club in Uptown to help bring neighbors together but also to provide more outdoor activity which helps to deter crime. The proposed trails through the hillside are a perfect opportunity to create fitness opportunities and connections between communities who would be regular users of the trails.

1.4 WORK TOGETHER TO TACKLE VACANCY AND COMMUNITY SAFETY

37% of Uptown is vacant and underutilized. These visible gaps in the fabric of what were once homes and businesses reinforce the negative perceptions about the community and encourage the kinds of activities like drug dealing and illegal dumping that are serious day-to-day issues for residents. When asked about the biggest concerns about the community, safety was the top choice even by residents many of whom are familiar with the kinds of activities that occur in the area and that conditions have improved.

The best solution to address issues around vacancy and safety is to encourage more activity from the redevelopment of empty lots to the improvement and expansion of parks in the community that provide safe places for residents to get together. In the meantime, there are some strategies that the community can continue to pursue.

FIGURE 20: UNDERUTILIZED PROPERTIES



ILLEGAL DUMPING IN UPTOWN

MONITOR & ADDRESS ILLEGAL DUMPING AND NUISANCE PROPERTIES

The dumping and nuisance properties are not just negative signals to outsiders but issues for residents that must deal with the side effects. Community clean-ups have been effective to address some significant issues. For places out of view like Colwell Street behind the Hearing and Deaf services, the problems, if not addressed, can become major issues. One recent clean up showed 88 tires had been dumped in this area. A map should be created and maintained that locates the current dumping locations and nuisance properties in the community. This map should be regularly shared with the Councilman's office and the City to push for assistance in addressing the problem but also the underlying issues that create them. As a prevention campaign, the intent is to push for regular citations and investigations targeted toward the clear problem locations in the community but also site-specific design improvements including clear signage that indicates the penalties and fines for dumping, lighting and/or video cameras when possible, and landscaping strategies to help create better visibility and management of the space.

For nuisance properties, build on the example of the Oakland Code Enforcement Project or "Oakwatch" to bring together residents and partners to identify problem properties and work to address nuisance issues. This work should be done in coordination with the activities of a potential housing advocate for the community described in Objective 1.1.

UPGRADE LIGHTING

Public safety can be greatly improved by the installation of better lighting in areas known for high criminal activity. Pedestrian-scale lighting along commercial corridors and throughout residential areas can enhance traffic for businesses, support placemaking goals, and increase the number of residents willing to walk at night through their neighborhoods, while simultaneously deterring illicit activity.

During the planning process, residents expressed concern about the lack of proper lighting and its connection to criminal activity and vagrancy. Some of these areas include major corridors like Fifth and Forbes, at neighborhood gateways and under the highway overpasses.

Two supporting actions can help to address this issue:

- **CREATE RESIDENT-ASSISTED PORCH/ FACADE LIGHTING PROGRAM** Installing low-cost porch/facade lighting in areas with high concentrations of illicit activity will reduce crime and increase safety for neighborhood residents. Identifying funding sources would be the first step in developing a program which will assist residents with the purchase of solar power lighting that can be affixed to their porches or business facades.

- **INSTALL PEDESTRIAN-SCALE LIGHTING** The typical cobra-style street lamps seen posted along main thoroughfares in the plan area do not provide sufficient lighting to deter illegal behavior or enhance the streetscape. Installing pedestrian-scale street lighting will better illuminate walkways and public spaces while eliminating the gaps between lit areas. Work with UPMC Mercy, Duquesne University, Duquesne Light and PPG Paints Arena to install fixtures that would serve to improve lighting in the community and address the safety concerns expressed by employees and visitors to Uptown. Duquesne is already undertaking this work and has a project scheduled for the Summer of 2017 to replace and add lighting on Forbes between Shingiss and McAnulty. By utilizing new LED-based lights, perhaps in partnership with an interested manufacturer, the district can further its energy efficiency goals and also pilot technologies that can later be rolled out to other parts of the city.

EXPAND COMMUNITY POLICING

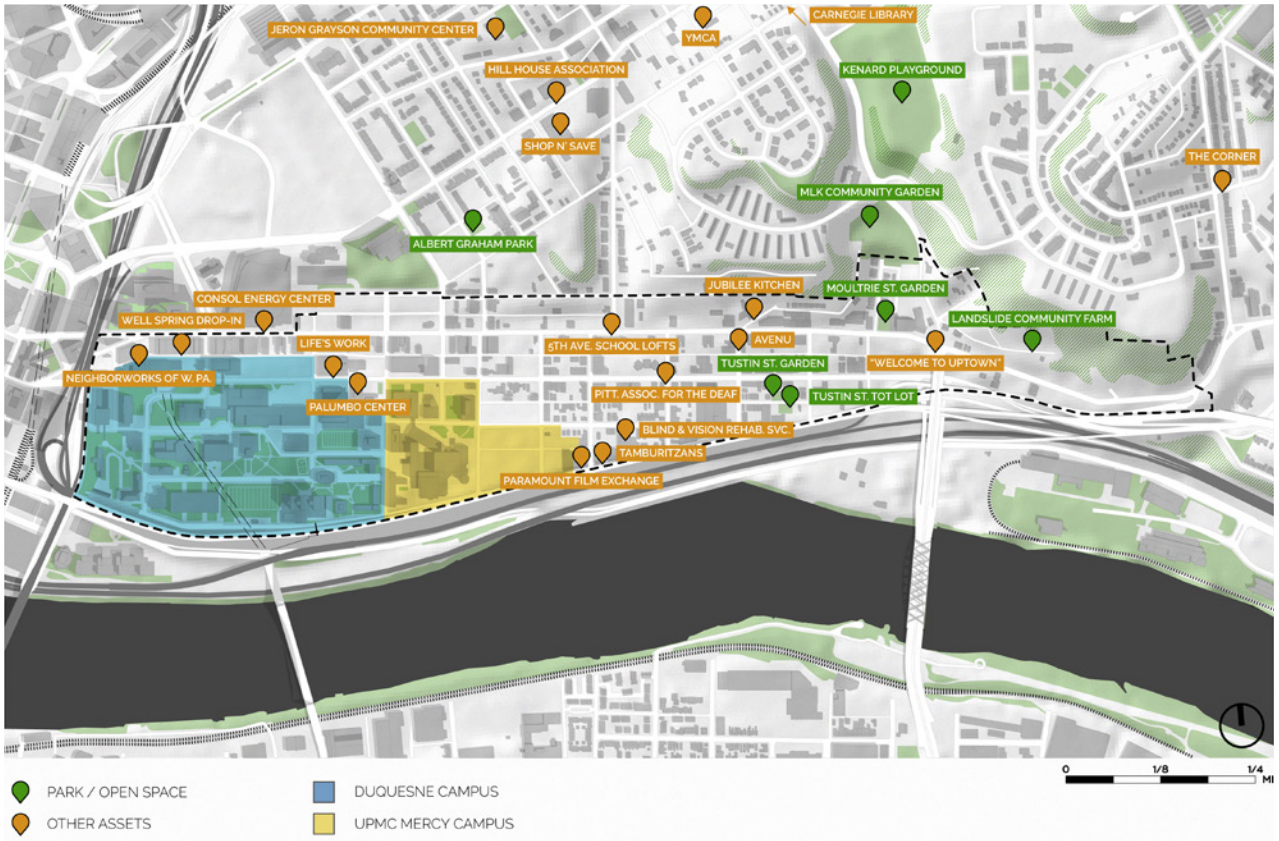
Uptown Partners has developed a strong working relationship with the Pittsburgh Police and convenes a Safe Streets Committee in the community. Partnerships with the local beat officers are essential in helping to address the key concerns that residents have about specific activities, properties and locations in the community. Continue to partner with police to improve community cleanliness and safety. Ensure that local institutions and service providers are actively involved in the Safe Streets Committee to help align their activities and with the ongoing work to address both the real and perceived crime in Uptown.

1.5 EXPAND INSTITUTIONAL PARTNERSHIPS

Institutions play a prominent role in Uptown as a source of employment, as anchor real estate holders and contributors to the wellbeing of the community. Institutions (including UPMC Mercy and Duquesne University) represent 65 acres or 37% of the total land area of Uptown. There are over 20 institutions providing a range of services to community members in Uptown and beyond including 6 that serve the City's homeless residents. These institutions, both large and small, form an essential social fabric of the community and contribute to needs far beyond the boundaries of Uptown. Continuing to support their work and their clients whether they are students, deaf or homeless, should remain central to Uptown's future. As one resident said, "Uptown has a heart."

UPMC Mercy and Duquesne represent 65 acres or 37% of the total land area in Uptown.

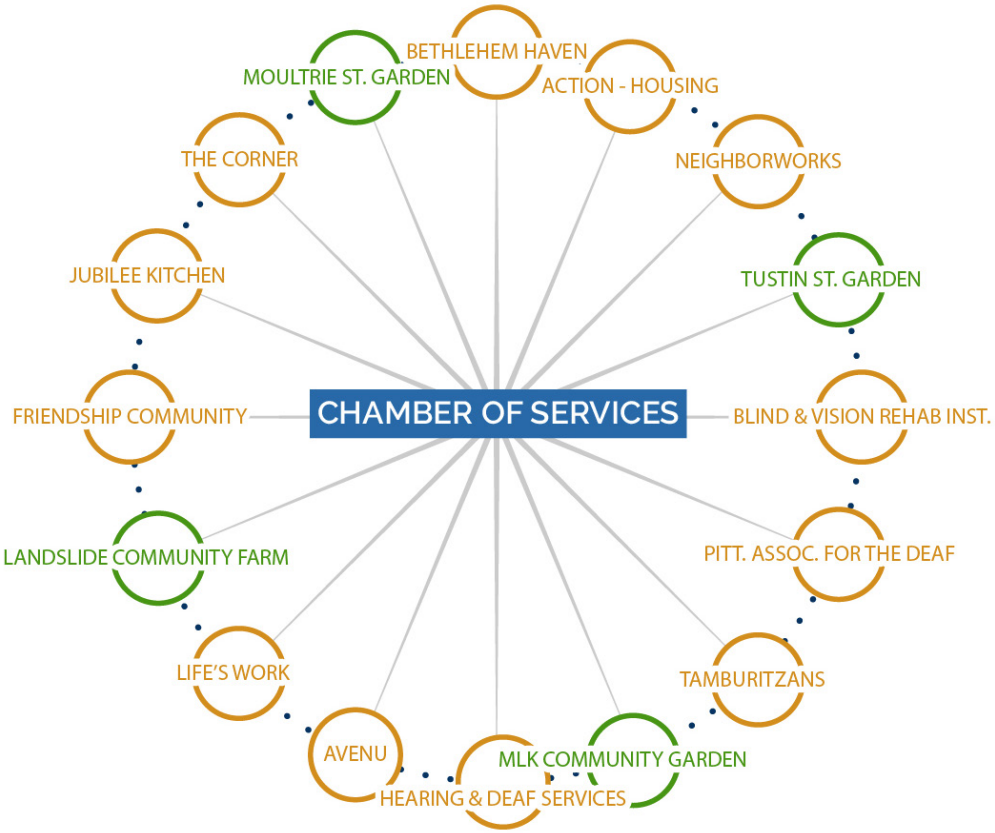
FIGURE 21: NEIGHBORHOOD ASSETS & INSTITUTIONS



CONNECT LOCAL INSTITUTIONS

The existing local institutions serve a wide range of needs and people in Uptown and throughout the City. But while their clients and missions vary, many face shared challenges associated with their location in Uptown. Similar to neighborhoods and cities that form chambers of commerce to bring businesses together, the opportunity in Uptown is to create a "Chamber of Services" to regularly bring the local institutions together. This entity would act as a coordinated voice to help tackle issues in the community like traffic, illegal dumping, access to parks among others. This Chamber can also serve to connect local resources and services to residents and coordinate and share programs where applicable – for instance shared fitness programs or transportation services.

UPMC through its hospitals and health plan has a number of programs on healthy lifestyles, parenting, community based behavioral health among others. The Neighborhood Improvement activity of the UPMC MyHealth Community has several examples of programs in other neighborhoods of Pittsburgh that are also applicable to several initiatives in this EcoInnovation District plan.



WORK WITH MAJOR INSTITUTIONS TO EXPAND THEIR RESEARCH, CURRICULUM AND STUDENT ACTIVITIES INTO THE COMMUNITY WHERE APPROPRIATE

Universities and hospitals across the country have recognized the value in partnering with their local communities to help address those issues that aligned with their mission. Hospitals, for instance, are a common resource and partner in developing community-based health programs focused on preventative care. Universities strategically invest in the community which helps in attracting students and faculty while reducing the costs of things like transportation.

Both Duquesne University and UPMC Mercy offer unique resources establishing them as major employers and research institutions. UPMC Mercy is already collaborating with the Energy Innovation Center around job training and will continue to do so. Students at Duquesne through specific classes already participate in some Uptown activities including clean-up days and working with the MLK community garden. Regular coordination between community members and these institutions is necessary to help define opportunities to:

- Tap the interest of students and faculty to undertake more work in the community which will further help to remove the "campus bubble" described by some students who are under the impression the surrounding community is unsafe;
- Explore opportunities for public programming (educational and entertainment); and
- Link these institutions research capacities to local challenges.

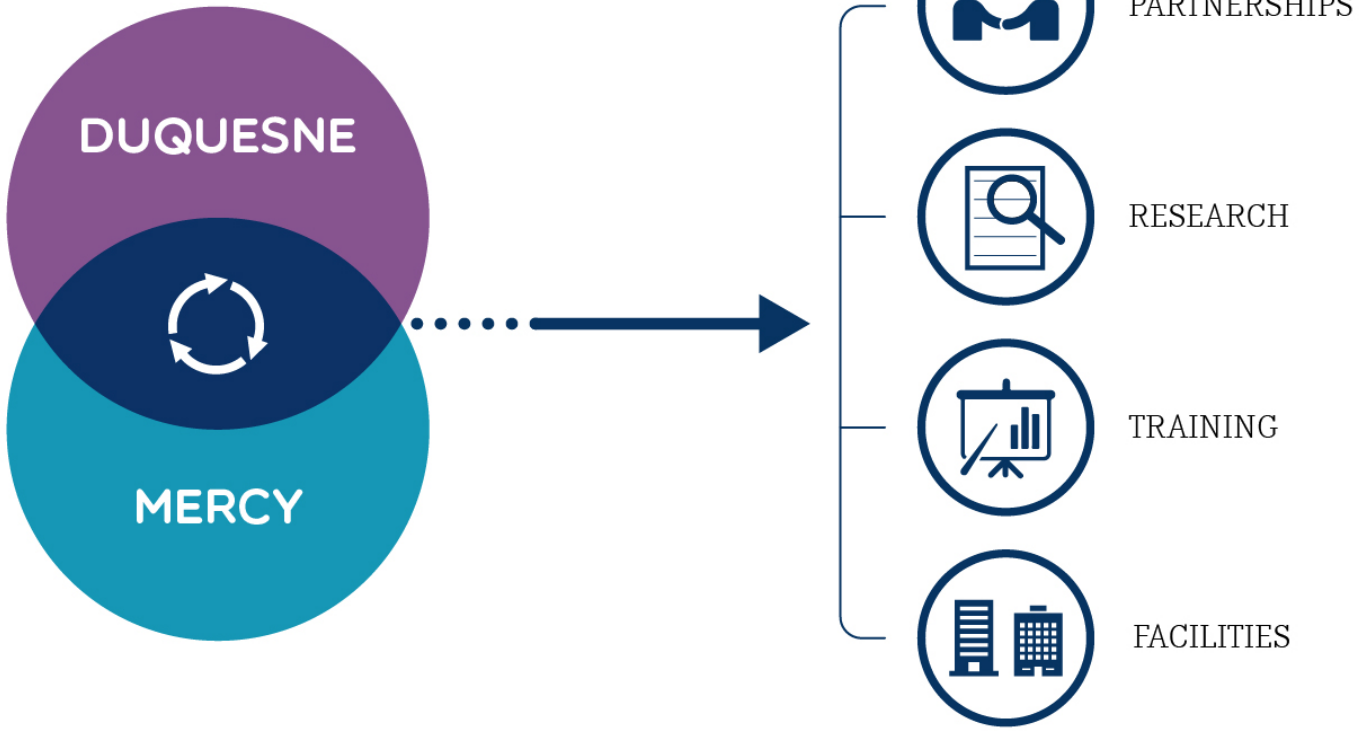
There are several examples of ways that major institutions can support the infrastructure, environmental and development concepts proposed in this Plan. Models include:

- The Urban Living Lab uses urban sites to design, test, and learn from social and technical innovation based real time activity. These sites have sensors to monitor the impact of different interventions on items such as traffic, air pollution, energy consumption, storm water management, and physical activity. They allow for rapid prototyping or "proof of concept" to scale up to create businesses and local jobs. Examples include the Smart Cities Lab in Lorraine France and the Sustainable Healthy Cities Network in the US, among others. Locally the Sensor Andrew project on the CMU campus could be applied to the Uptown neighborhood.
- A Knowledge Center focuses on research around specific topics typically with a test site and a series of monitoring stations. These are usually partnerships involving universities and community-based institutions around issues like urban stormwater which is a common example. Extending models such as the Penn State Pittsburgh Center Stormwater management program is a local example.

These types of activities represent opportunities to capitalize on the strategies proposed in this Plan as research and engagement opportunities.

Today, Duquesne University's current and planned activities through the Center for Community Engaged Teaching and Research (CETR), the Office of Mission and Identity, and the DU Volunteers student program fit perfectly within this framework. Current plans call for a greater degree of coordination between these three offices. The potential opportunity is to develop three key programs within CETR: Center for Community Health and Well-being; Sustainability Hub and; a University-Community Alliance.

MAJOR INSTITUTIONS



DEVELOPMENT

Encourage Balanced, Equitable and Green Development –
Encourage both new development and preservation, and align zoning with community goals.

02

“Uptown can take a form with multifamily and denser development that no other neighborhood in Pittsburgh can.”

- Quote from Interviewee

KEY GOALS ADDRESSED:

EQUITY

Foster a vibrant, diverse community where the residents of Uptown/West Oakland are an active and vital part of the community's future, benefit directly from improvements and don't solely bear the burden of systems that largely serve other communities.

OPPORTUNITY

Encourage new businesses and creative production, advance training opportunities and, create a clear pathway for residents to access job opportunities.

IDENTITY

Reinforce Uptown's unique character by protecting and reusing existing buildings whenever possible, and expanding local arts and community events.

PERFORMANCE

Pursue solutions for water, building systems and district energy that will enable Uptown/West Oakland to reach the highest levels of environmental performance and efficiency.

KEY TAKEAWAYS:

- APPROXIMATELY **37%** OF THE NEIGHBORHOOD IS **UNDERUTILIZED** (VACANT OR PARKING LOT)
- VACANCY FOR **OFFICE SPACE** IN NEARBY NEIGHBORHOODS IS APPROACHING "**FULL**"
- THE GREATER HILL DISTRICT HOUSING STUDY RECOGNIZES A **DEMAND FOR NEW HOUSING** IN UPTOWN.
- THE EXISTING **1,000** FULL TIME **RESIDENTS** IN UPTOWN IS **TOO SMALL TO SUPPORT** NEIGHBORHOOD **COMMERCIAL** SPACES.

POTENTIAL RESULTS:

- 300,000 SQ. FT. OF **REHABILITATED WORK SPACE**
- A MIXED-INCOME COMMUNITY INCLUDING **30% AFFORDABLE HOUSING** TO SERVE A RANGE OF FAMILY AND INDIVIDUAL NEEDS
- 360,000 SQ. FT. OF **NEW OFFICE AND RESEARCH SPACE**
- **NEW STORES AND SERVICES** AND **SUPPORT FOR EXISTING BUSINESS OWNERS**
- **BETTER MANAGED PARKING** WITH NO REDUCTION IN THE TOTAL NUMBER OF SPACES
- **A NEW ZONING CODE** TO ENCOURAGE DEVELOPERS TO BUILD WITH COMMUNITY GOALS IN MIND

WHY IS THIS IMPORTANT?

Cities across the country both large and small are seeing new investment in their downtowns, historic neighborhoods and around major institutions like universities. This rebound in what were once declining cities is no secret in Pittsburgh, which is frequently named one of America's most "livable" cities. While Uptown has yet to experience a similar level of investment as evident in other neighborhoods, all the ingredients are in place for change. With this plan, Uptown has the unique opportunity to establish a framework to guide the future of the community that reflects the priorities of its residents and businesses. Chapter 1 identifies key strategies to help invest in existing residents and protect affordability in the community. This chapter is focused on encouraging the kind of development that will help to preserve the character and diversity that exists in Uptown.

Given Uptown's unique location, it's remarkable that investment has, in many ways, bypassed the community. According to the land use survey analysis conducted at the beginning of the EcoInnovation process, 37% of the land in Uptown is underutilized - consisting of surface parking lots or vacant buildings/ land. Pittsburgh's office market is approaching "Full" (see Section 2.2) and Uptown is primed to absorb some of the spillover investment from Downtown and Oakland. As the City's innovation economy grows, small and growing businesses will need affordable space to succeed. Uptown contains a mix of building types that have historically supported a mix of small scale manufacturing and light industry. These buildings are often well-suited for such start-up businesses through reuse. To maximize the potential of Uptown as a home for small businesses, it is imperative to preserve these buildings and work to fill them with new activity.

There is not only potential for new businesses but also new housing in Uptown. According to the Greater Hill District Housing Study, demand exists for new housing that is currently not met within the existing housing stock. In order to meet this demand and help prevent a rise in housing costs, new development should be encouraged. Through a mix of new construction as well as rehabilitation of existing vacant buildings, there is ample opportunity to meet the demand while preserving Uptown's existing character.

In fact, encouraging development will help to address some of the major issues that residents are faced with on a day-to-day basis including commuter parking on underutilized lots and illegal dumping. Throughout the EcoInnovation process, residents consistently expressed their desire for "more things to do" as well as a desire for more stores and services. Uptown's current residential population of around 1,000 persons cannot support the retail that residents wish for their community. New stores and services will open as the population in Uptown's grows.

Instead of encouraging new housing and commercial space, a number of factors actually serve to discourage development. The tight urban grid in Uptown does not allow for the large development parcels found in some other communities in Pittsburgh. Uptown's close proximity to Downtown and Oakland coupled with great bus access have made Uptown a great place to park for commuters and, by extension, a great place for investors to spend very little to create parking lots that yield a healthy profit. The high prices some land owners ask for their lots only serves to increase the property costs for everyone else looking to develop. Finally, the current zoning only makes development

FIGURE 22: DEVELOPMENT CHALLENGES IN UPTOWN

more difficult and expensive due to height restrictions and parking requirements that require many variances to fully address.

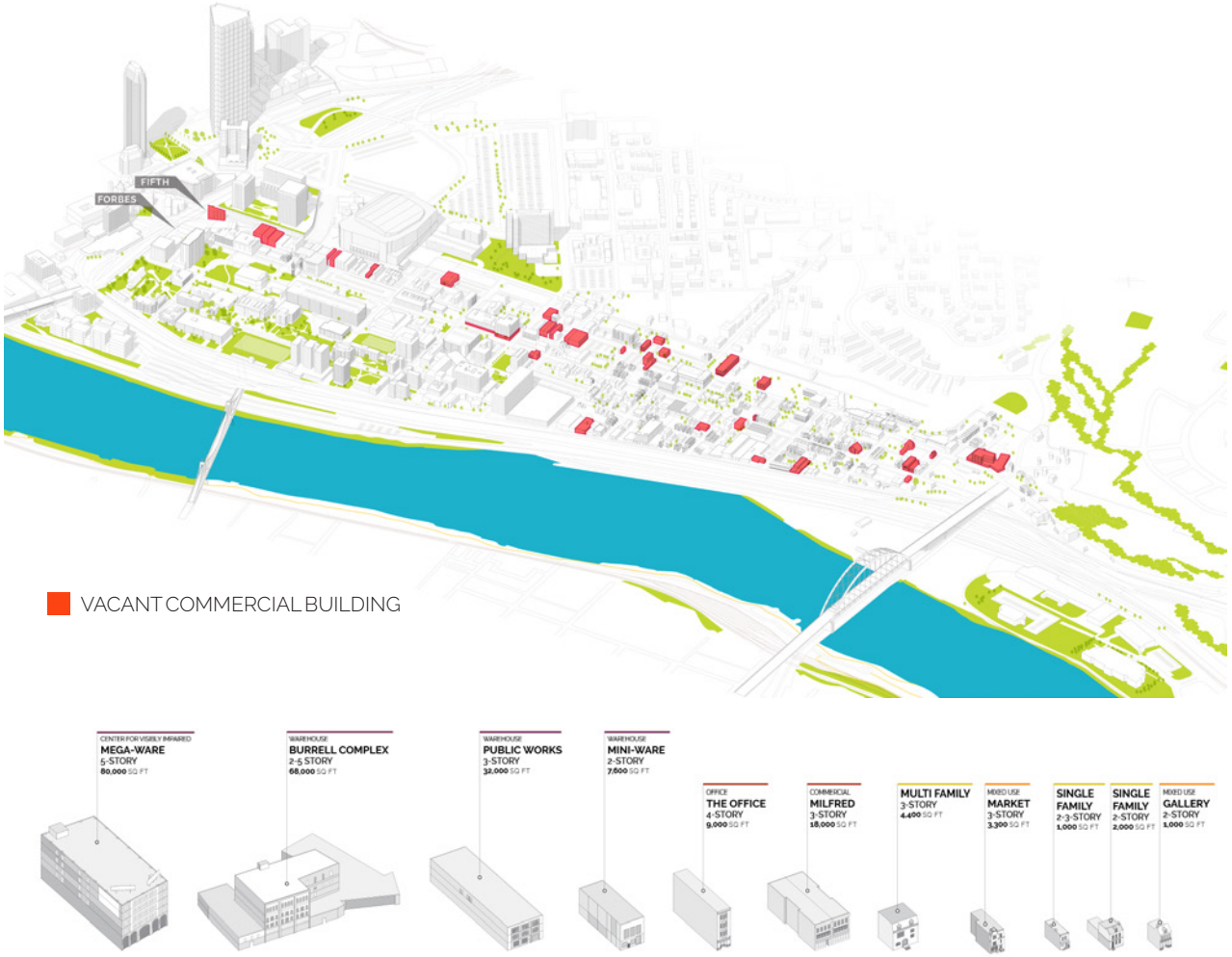
The existing zoning is being re-written so that it works for residents and those willing to invest in Uptown. Before this process began, the City had the foresight to employ an Interim Planning Overlay District or IPOD. The IPOD places restrictions on the demolition of existing buildings and removes non-accessory surface parking lots as a permitted use. The IPOD has expired and been temporarily replaced by a resolution imposing a temporary limitation on development through the end of 2017. This temporary measure will be replaced with a new set of zoning rules that extends these protections and provides clear rules for new development.

Using the City's p4[1] initiative as inspiration, the new zoning includes the IPOD protections and the community's primary goals. The new Uptown Public Realm District seeks to simplify the existing code but also incentivize new development in ways that help to address some major issues in the community including affordability, stormwater, energy and preservation.

Uptown is poised to encourage and guide development, helping to re-establish the vibrant mix of uses that once characterized the Fifth and Forbes corridors. The following objectives and strategies are intended to guide land use and development decisions for the community. Based on engagement with residents and market research, these reflect the key development opportunities and needs in Uptown that need to be incorporated into the new Public Realm District.

1 p4 - People, Place, Planet, Performance. These new metrics take into account a variety of issues including sustainability, innovation, and affordability.

FIGURE 23: VACANT COMMERCIAL BUILDINGS IN UPTOWN



COMMUNITY VISION

ENCOURAGE BALANCED, EQUITABLE, & GREEN DEVELOPMENT

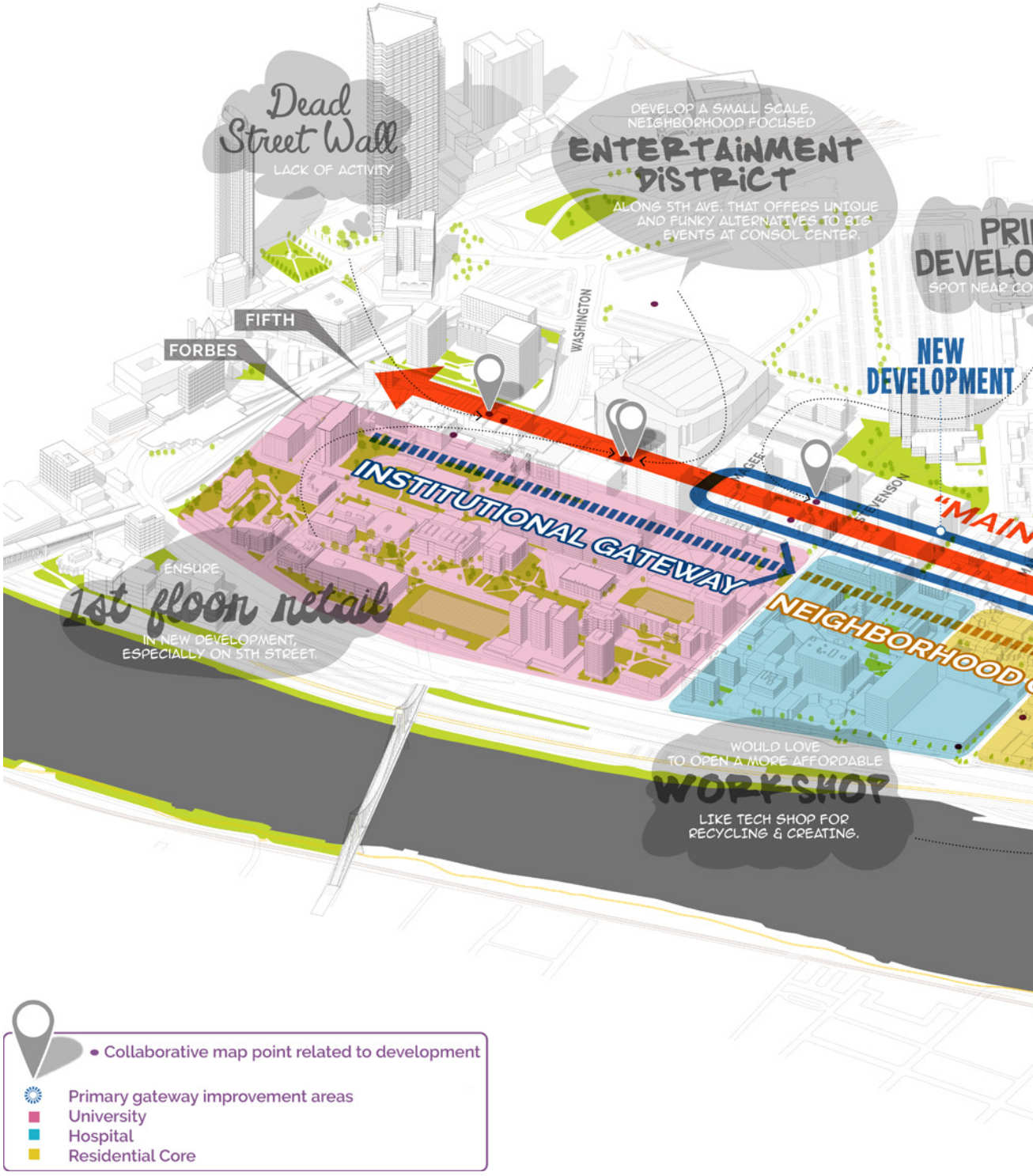
MAJOR STRATEGIES

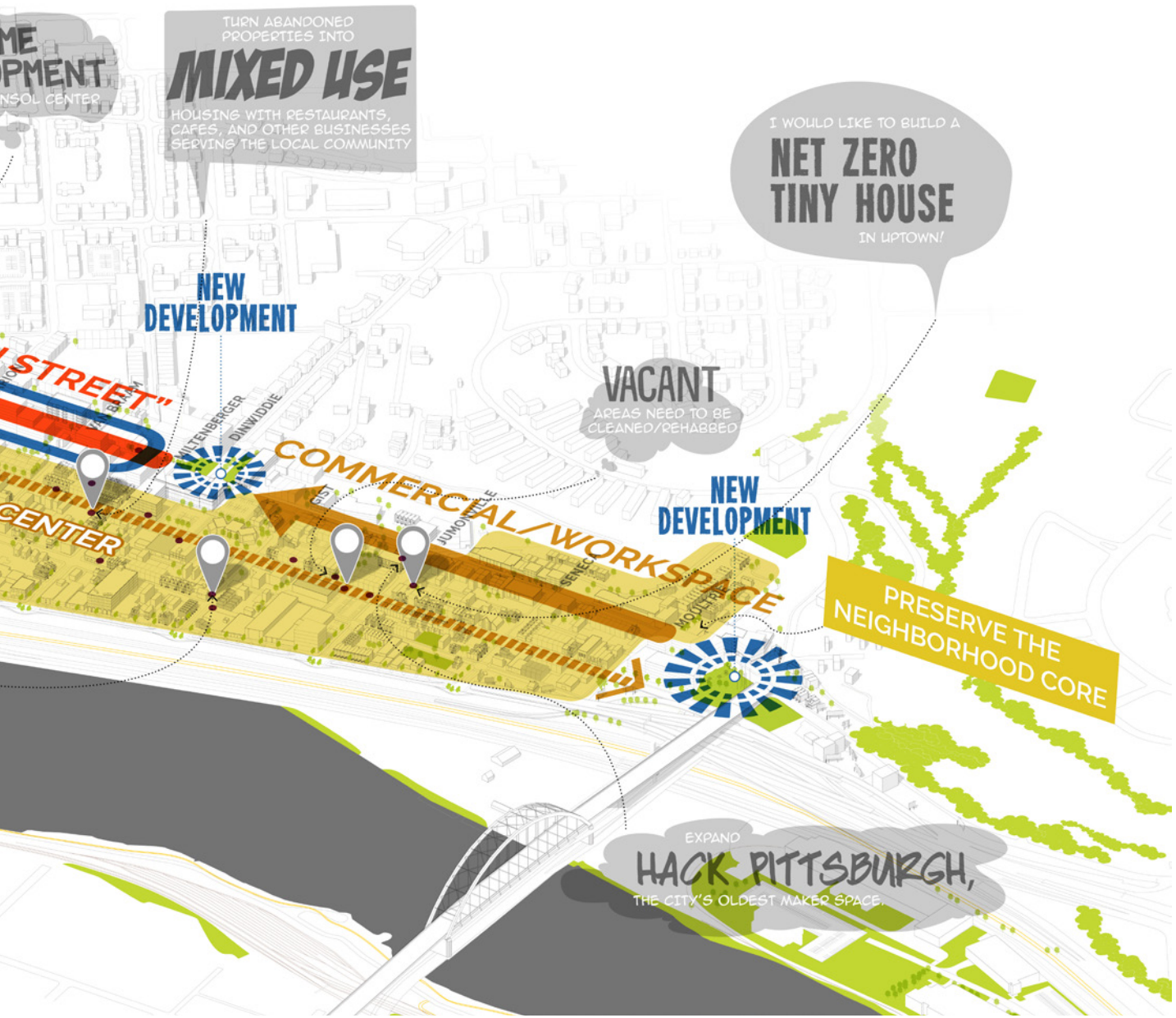
DIVERSIFY HOUSING OPTIONS

CREATE SPACE FOR INNOVATION

REVIVE COMMERCIAL CORRIDORS

IMPLEMENT POLICIES TO PROMOTE SUSTAINABLE & AFFORDABLE DEVELOPMENT





ENCOURAGE

BALANCED,

EQUITABLE,

AND

GREEN

DEVELOPMENT.

2.1 DIVERSIFY HOUSING OPTIONS

While the residential population in Uptown is extremely diverse, the housing stock available is much less so. The overwhelming majority of the 1,000 residents in the core of the neighborhood live in single family rowhomes. While this housing stock works well for families, it is not ideal for single renters, students, or seniors. The Greater Hill District Housing Study recognizes that there is demand for these other housing types that is currently not being met. While Duquesne University offers a consistent stream of student renters year-over-year, there are few suitable locations for them to live within Uptown. That is also true of a single person who works Downtown or Oakland and would love to live in Uptown due to its proximity and easy access.

To simply build out the neighborhood with the existing rowhouse typology would be a missed opportunity for Uptown. Due to its proximity to major job centers and along the Fifth / Forbes corridors, Uptown can handle a lot more density if it is encouraged in ways that do not threaten the remaining residential fabric. More density also offers the opportunity to bring new residents who can support more neighborhood commercial activity and existing businesses.

At the same time, there are significant opportunities for new single family housing in the neighborhood. Single family homes are the best opportunity to increase homeownership in the neighborhood – a stated goal of many existing homeowners. Of the 691 households in the community, only 19% are homeowners, compared to 47% citywide in 2014. If renters want to be here and can't find suitable apartments in multi-unit buildings, they create the market conditions that lead for property owners to hold on to poorly maintained properties as rental investments – space that could be improved or redeveloped by homeowners. To help boost homeownership, Uptown needs better marketing to attract families (see Chapter 1) combined with new suitably scaled apartment buildings that free up existing homes for ownership and new single-family construction that fills in some of the gaps in the existing blocks of rowhomes. The Greater Hill District Housing Study recognizes the need to boost homeownership and offers suggestions including better access to homeownership training programs, expansion of the URA's Second Mortgage Financing Program and a potential "letter of credit" program to help write down the underwriting costs of loans for homeowners making the process of buying or repairing a home cheaper for qualified residents. In addition, we need to consider other critical factors to diversify the community's housing stock.

MAKE HOUSING OPTIONS AVAILABLE AND AFFORDABLE TO A DIVERSE INCOME RANGE

Inclusive growth requires that Uptown remain a location that a mix of incomes and backgrounds can continue to afford to call home. Today, 47% of the housing currently within Uptown is designated as "affordable", a large percentage compared to many other communities but keep in mind that this a relatively small neighborhood. "Affordable" means that these units were developed with funds that protects their affordability, typically for families earning up to 60% of the Area Median Income [AMI]. Most of the new construction in the neighborhood has taken advantage of Low Income Housing Tax Credits (LIHTC) with developments by Action Housing located at Fifth and Seneca, Fifth and Wyandotte, as well as the redevelopment of the Mackey Building at Forbes and Miltenberger.

This issue of affordability is of critical concern to residents. But affordable housing is a difficult definition to pin down. What is affordable to one family is not to another. Further, even if housing is priced to be affordable it does not guarantee that the housing is in good condition or meets the needs of modern families.

LIHTC's are a useful but limited tool to address long-term affordability. Uptown's zoning should be designed to help provide new affordable units using incentives. Density bonuses can help encourage developers to provide a certain percentage of units in each development with rents affordable to those at different income ranges according to the Area Median Income.

The opportunity in Uptown is to provide housing for what is commonly referred to as the "missing middle". Uptown currently has a lot of units for low-income residents and units for those that can afford much higher prices but very little for working individuals and families that can't afford these higher prices nor qualify for LIHTC units.

To truly incentivize the inclusion of units priced to the missing middle and lower incomes, additional financing will need to be made available. Even with density bonuses, providing a percentage of units at reduced rents is still a cost that may discourage developers to take this important step. The City's Affordable Housing Task Force identifies a number of financing tools including use of the Housing Trust Fund and 4% LIHTC credits that could be used to help finance these units.

With an overall goal of encouraging more housing in Uptown for a wide range of incomes to support new services and retail, this plan recommends the following:

- Retain Uptown's existing, income protected housing units;
- Provide incentives and financing to encourage the development of new affordable units for the "missing middle" as a percentage of units within market-rate developments and;
- Develop new income-restricted units where appropriate to serve families or seniors.

This approach would encourage potentially **400 new units of affordable housing** to be created in concert with the development of new, market-rate units. To help guide and regulate new development, the community and the City should ensure that 30% of Uptown's total housing units be available for those earning below 120% of AMI.

Action Housing Developments along Fifth Avenue.

SOURCE: Action Housing

TRADITIONAL ROWHOUSE DEVELOPMENT IN UPTOWN

LOOK FOR OPPORTUNITIES TO CREATE NEW SENIOR HOUSING

With large front stoops and a lack of elevators, the existing rowhomes in Uptown are not the ideal housing stock to age in place. As existing long term residents age, they are left with the difficult decision between living in housing that can be detrimental to their health, or move away from the neighborhood they have called home.

In addition to the existing Uptown residents, there is a nationwide trend of seniors and empty nesters moving back into cities. With a variety of dining and cultural amenities located within a quick taxi or bus ride away, places like Uptown are an increasingly attractive place for seniors to live. Uptown is a particularly attractive to such development due to its close access to cultural amenities, great transit access, and nearby medical care with Mercy hospital.

New senior housing or ground up construction that incorporate universal design principals that ensure buildings are accessible to seniors or those with disabilities, can help to provide real opportunities to age in place and provide more customers for existing and potential retail. The neighborhood should work with developers and non-profits to build such housing within Uptown.

CREATE STUDENT HOUSING TO RELIEVE PRESSURE ON EXISTING HOUSING

Duquesne University has over 10,000 students with a variety of housing needs. The University has 5 residence halls and over 3,750 students who live on campus. That leaves a majority of students who find their housing off campus. While some students live at home and commute to campus, others live in neighborhoods across the City, particularly on the South Side. Duquesne provides shuttles to pick up off-campus students, but many elect to drive to campus. The result is more traffic and more demand for parking. In addition, a number of other universities including Carlow, the University of Pittsburgh and Carnegie Mellon University are at Uptown's doorstep, and Oakland is an increasingly difficult neighborhood to find locations to build new student housing.

Throughout the planning process, students expressed a broad range of reasons for not considering Uptown as a place to live including crime / safety and a lack of amenities like stores, bars and restaurants. One of the biggest issues, however, is that Uptown simply does not have the appropriate housing for students to live in. Building housing for the needs of students in Uptown can help to increase the population that supports local stores but also can help to address some quality of life issues faced by existing residents in the community.

The Greater Hill District Market Study indicates a demand for potentially 630 new student beds over the next 5 years. Without action, students looking for housing will continue to occupy (often illegally) homes rented by the bed by landlords who recognize the opportunity to make money. Code enforcement can help to address these issues but the best solution is to offer students real housing options in buildings that are built for their needs including the amenities like gyms and common spaces that make them more attractive than a single family rowhome.

Local universities should partner with private developers to build off campus, market rate housing. These partnerships exist on campuses across the country and have proven to be successful at providing purpose built apartment buildings to meet demand and prevent the conversion of single family homes to student housing. Development should be focused on the western edge of the neighborhood, distinct from the residential core of the community, but near campus and the growing amenities and nightlife provided downtown.

The Greater Hill District Market Study indicates demand for potentially 630 new student beds over 5 years.

2.2 CREATE SPACE FOR INNOVATION

The "innovation" part of this project recognizes that Uptown is in a unique position near many research institutions and start-up and technology-oriented businesses. Pittsburgh is experiencing a boom in this kind of activity earning national attention for research, robotics and small information technology businesses. In fact, the interest has been so strong that these traditional kinds of information technology businesses and research activities are happening in many locations including Oakland, Downtown, the Strip District, Almono and the North Shore. Uptown, too, is home to Avenu (formerly StartUptown and Revv Oakland) that supports small, start-up companies. In the context of all this activity around the City, what is Uptown's role in the innovation economy? With improved bus service on Fifth and Forbes, many of these other employment destinations are less than a 10-minute ride to Uptown. As noted earlier the redevelopment needs of Uptown present a unique opportunity to create a real life test platform to test and help bring to market products from the city's Clean Tech sector. Moreover, the proximity of Uptown to the city's major research institutions can help support some of their innovation space needs. However there is a substantial amount of innovation space development taking place in Pittsburgh. To help answer the question, we must examine Uptown's commercial market potential and real estate in relation to the rest of the city

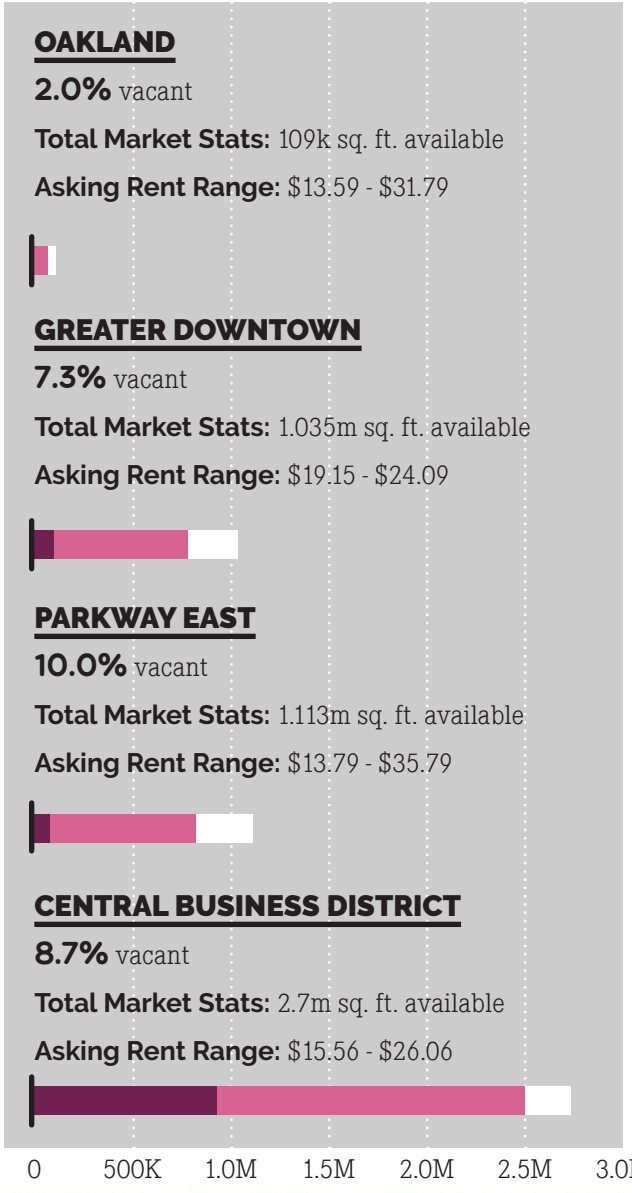
The Pittsburgh office market consists of 7 sub-market geographies. Four of these geographies – Oakland, Greater Downtown, Parkway East, Central Business District – are indicators for Uptown's potential. Uptown is not considered as a separate market but is included in the Greater Downtown submarket. At the time of this analysis, Oakland was the most in demand commercial market in the City with a 2.0% vacancy rate and less than 110,000 sq. ft. of available space with essentially no Class A space available. Greater Downtown had the next lowest vacancy rate at 7.3% with approximately 1 million sq. ft. of available space. Sixty seven percent of this space was Class B space. The remaining two markets had 3.8 million sq. ft. of available space. Less than 1 million sq. ft. is Class A space. 2.2 million sq. ft. is Class B space of which 1.5 million is found in the Central Business District.

When real estate markets approach less than 10% vacancy the market is effectively "full". The remaining spaces are typically smaller "infill" situations. There are few remaining large floor plate spaces that can accommodate a single user, and the ability for growing companies to grow is limited. However, the ability to build new is in part dependent on rents and build to suit anchor tenants. For the most part, across the city, rents remain below $30 per sq. ft. for class A space and class B space is in the low $20s.

We assessed the Crunchbase database to examine Pittsburgh venture backed innovation sector to understand the potential space implications based on their product and service offerings. Of the 168 companies in the database 79 or 47% require some type of industrial space that can accommodate clean rooms, wet labs, bioreactors, prototyping or fabrication space. By contrast 77 or 45% of their space needs can be met some form of office space since they are in the digital tech sector. 12 companies are ecommerce-related some of which may require a hybrid space that would allow for warehousing, order fulfillment and potential final assembly.

FIGURE 24: PITTSBURGH AVAILABLE OFFICE MARKET

SOURCE: NP Analysis of CoStar data



Pittsburgh Kickstarter activity provides a different lens for its start up / entrepreneurial economy. 388 projects are tied to physical products. Approximately 1000 projects are media related. Space implications for these activities include the need for creative space, performance space and manufacturing / fabrication space.

Given Pittsburgh's mix of entrepreneurial activity, a range of space typologies are required to maintain these businesses inside Pittsburgh as they go through their various stages of growth

- Industrial space capable of also becoming clean room wet lab space as well as space for fabrication and testing
- Flexible space that can serve as warehousing, final assembly, order fulfillment, design space and office space
- A range of office spaces offerings at a range of price points to accommodate the various digital tech products being created in PGH
- Creative space to support the media and entertainment entrepreneurial sectors

The existing real estate in Uptown raises some important questions about the potential role it can play in the evolving Pittsburgh innovation economy. The average floor size for commercial properties in Uptown is 3,680 sq. ft. This small size makes Uptown less competitive for large research facilities but is ideal for small or young businesses that need proximity to neighboring Oakland or Downtown without the expense

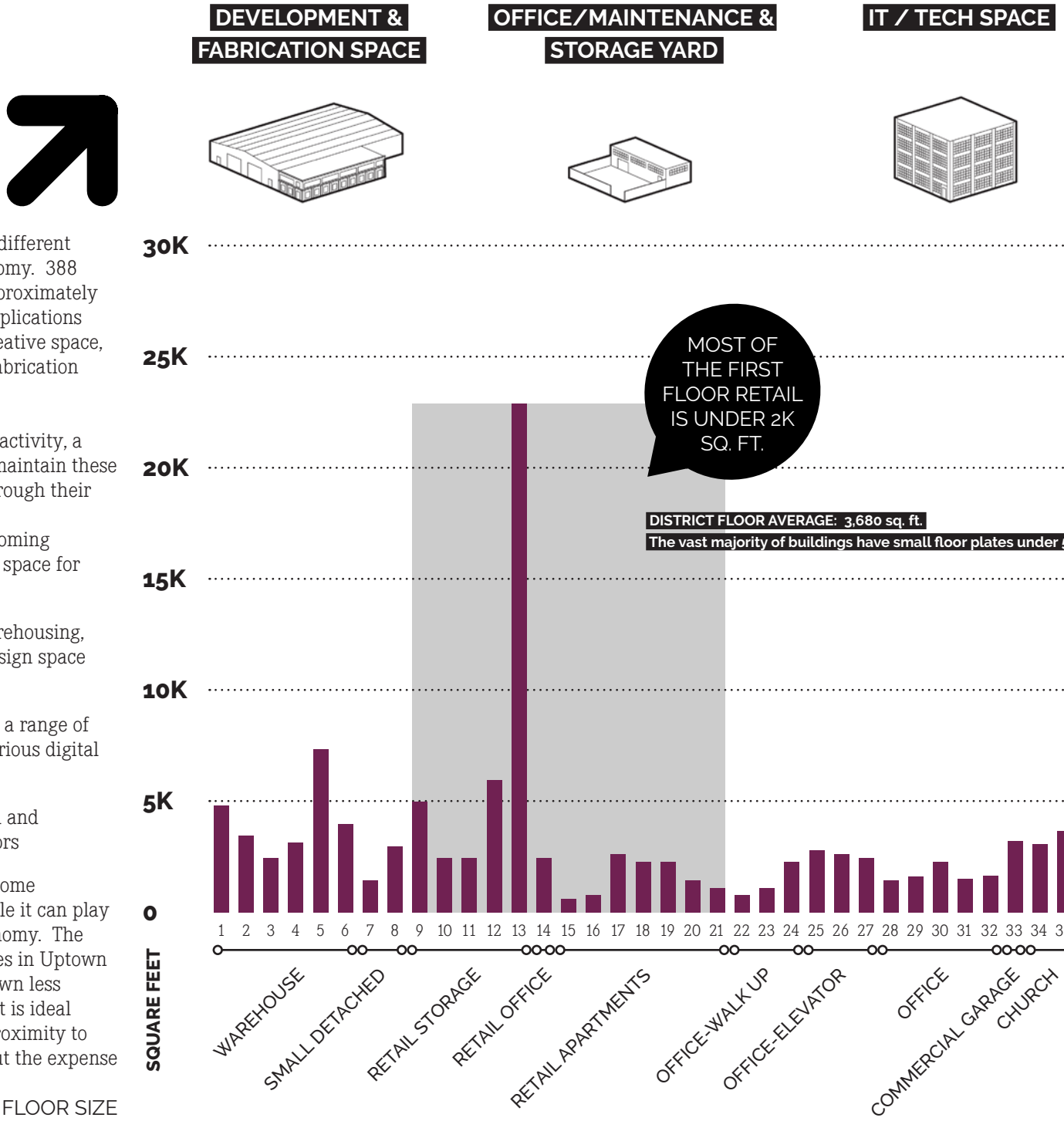


FIGURE 25: AVERAGE FLOOR SIZE

EXAMPLE OF A PROPERTY THAT COULD BE RETROFITTED FOR CREATIVE WORKSPACE

of actually being in those districts. Businesses that are rapidly growing would outgrow these spaces quickly and likely need to leave Uptown unless sites were developed to retain them or a pipeline is created that links opportunities to support small business in Uptown with larger buildings in Almono for when they grow and need larger space. The only three sites of any scale to support larger research, office and fabrication space include the URA properties at Fifth and Dinwiddie, the Duquesne Light owned property next to the Birmingham Bridge and the "portal" in West Oakland. All of these are opportunities to support new and innovative businesses.

This analysis looked specifically at the real estate needs of different types of businesses that could be well suited for Uptown. Three major development typologies were identified during this study:

- A fabrication space that facilitates small-scale manufacturing or assembly (and can also be used for warehousing and storing inventory). Six buildings are classified as warehouse space and these spaces are fairly small with footprints under 10,000 sq. ft. The warehouses in the district, depending on their layout and design, are potential spaces for fab/lab operations with upper floor usage as offices, design and engineering work or storage. These spaces could help absorb the estimated 82,000 ETSY products made in Pittsburgh and the city's active maker movement.

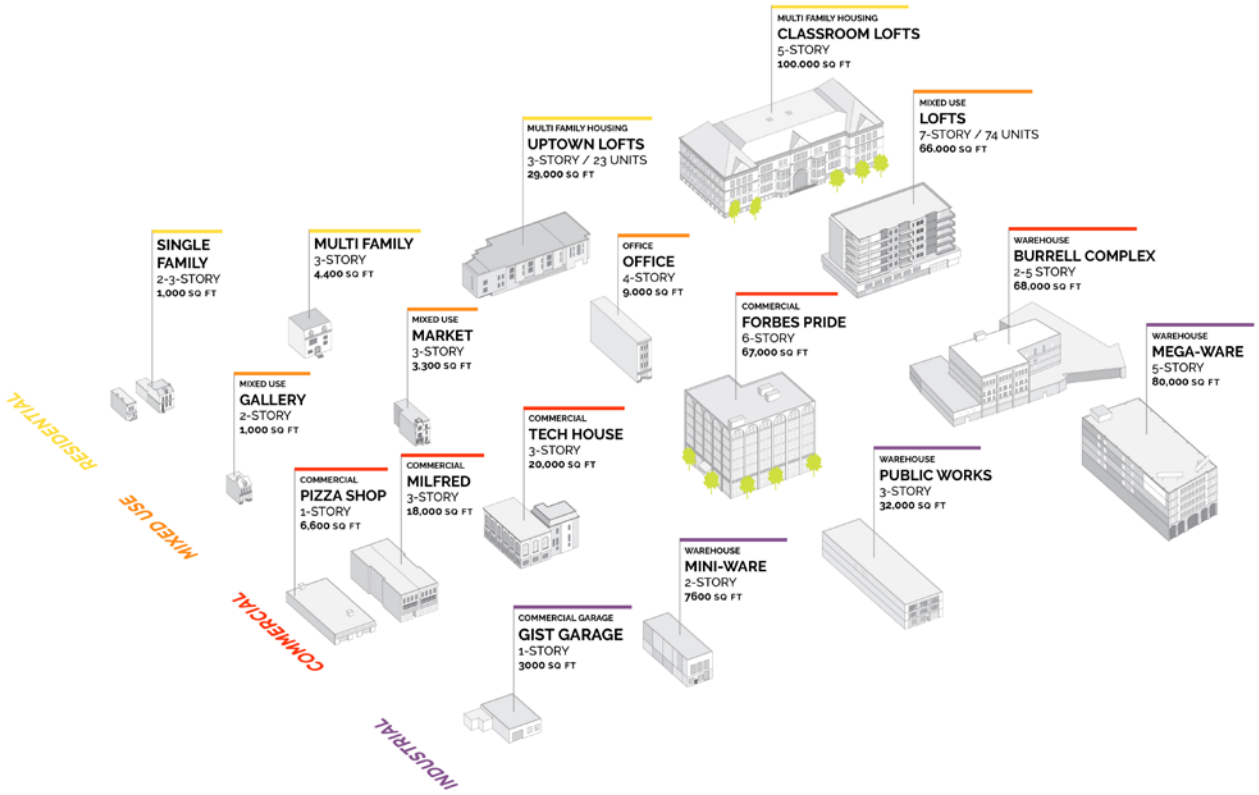
- Opportunities related to contractor facilities for the rehabilitation of housing and the construction of the green infrastructure in this plan require facilities with office, storage, and maintenance yards to support those clean economy activities.

- Finally, software, sensor monitoring and certain types of retail, need open floor plans typically found in open or "creative" office spaces.

Many of these typologies exist today within unused buildings in Uptown. However, there is also 17 acres of vacant land in the community with significant development opportunity along Fifth Avenue. New development along Fifth could create 338,000 sq. ft. of new first floor space for start-up and small businesses.

CONNECT START UPS WITH FLEXIBLE SPACES TO FIT THEIR NEEDS

This activity requires several steps. The first step is the identification of a group of buildings and landlords with a willingness to create a flexible space arrangement. It may require the creation of a business case for the landlords to understand the opportunity and why it's worth considering. It can be particularly effective if they have "migration space", for example, space to accommodate tenant growth, which reduces their tenant marketing and leasing costs. If willing landlords cannot be found, a master lease arrangement may be required that allows for subletting space. The master lease arrangement would be with a development entity whose purpose is to facilitate these types of flexible space arrangements. Among the items to consider on this arrangement is the role of tenant improvement allowances (if any), standardized utilities particularly digital services, and the development of a continuum of spaces that can accommodate a variety of requirements. The sub lease would be at market rates with its primary value being its flexibility. A next step is to present this portfolio through an electronic platform or web page to help match companies with potential spaces.



WORK WITH DEVELOPERS TO PROVIDE WORKSPACE

Development that receives substantial public financial support to help bridge the development financing gap could be linked to providing flexible lease arrangements to small businesses and startups that would not meet normal leasing and underwriting criteria.

SUPPORT HOUSING TYPOLOGIES THAT ALLOW FOR COLLABORATIVE CREATIVE PRODUCTION AND INNOVATION

Potential untapped space for small businesses and start-ups exist within the current housing stock. Current zoning regulations prevent live work type arrangements that can provide the cheap workspace needed for businesses that are just starting out. This is particularly relevant to Uptown which holds a variety of building types that are conducive to such arrangements. Ranging from garages that are underutilized on Watson and Tustin Streets, to former industrial buildings, there is potential for new workspace scattered throughout the neighborhood. Encouraging the retrofit of these buildings for a wide range of uses, including new workspace, will help to increase Uptown's supply of affordable workspaces and increase the retention of existing homes and buildings that might otherwise be demolished. Allowing live-work arrangements as an allowable use in the new zoning will help to enable this activity in Uptown.

2.3 REVIVE COMMERCIAL CORRIDORS

Fifth and Forbes Avenues once served as busy "main streets." Fifth Avenue, in particular, offered a range of stores and local services for the local population. With the decline in population, these corridors are now vastly different. Too much pass-through traffic, too many parking lots, too many vacant lots and a perception the community is unsafe are all factors that make encouraging new retail in Uptown a challenge. However, Uptown is home to PPG Paints Arena and their thousands of visitors, as well as almost 8,000 employees. These populations are looking for more places to eat or have a drink but ultimately, the population needs to grow to support additional stores that provide a wider range of services. To help frame the strategies to increase the number and range of stores, a market assessment was conducted for retail in Uptown.

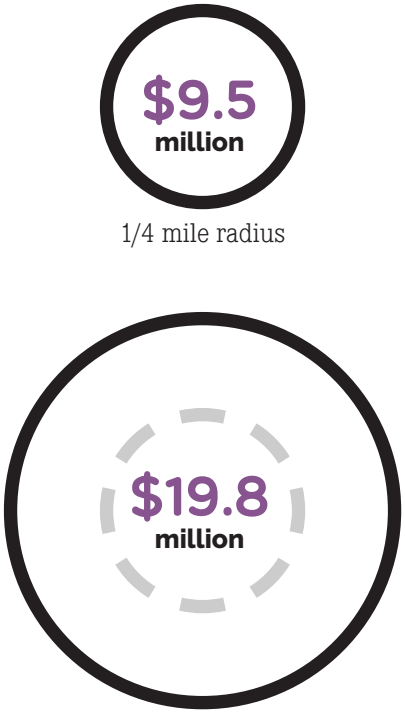
FIFTH AVENUE CHALLENGES

- PASS-THROUGH TRAFFIC
- PARKING LOTS
- VACANT LOTS

FIFTH AVENUE OPPORTUNITIES

- PPG ARENA
- 8,000 NEIGHBORHOOD EMPLOYEES
- STRONG VISIBILITY WITH MAJOR TRANSIT CORRIDOR

SALES GAP ANALYSIS



1/4 mile radius

1/2 mile radius

Retail Market Overview

Assessing market potential for a planning effort typically involves a sales gap analysis to gain a sense of relative retail potential. Sales gap analysis involves examining the difference between existing estimated retail sales (retail capacity) versus personal expenditure potential (what people typically spend in different types of stores). More potential than sales means an opportunity for additional retail may exist. Using a 1/4 and 1/2 mile radius from Avenu on Fifth as representative of walkable retail, at first glance it appears there is the potential for retail. At 1/4 mile there is $9.5 million in unmet demand (meaning more potential expenditures than estimated sales) in retail and $1.1 million in out of home food services (restaurants, fast food, coffee shop, bars/taverns etc). At a 1/2 mile there is $19.8 million in unmet demand and approximately $2.9 million in out of home food service.

However, retail demand actually occurs by merchandise category meaning items like clothes, food, hardware, electronics, etc. Looking at retail sales at the category level (figure 26) the amount of potential sales is in each category is relatively small and doesn't include existing retail outlets.

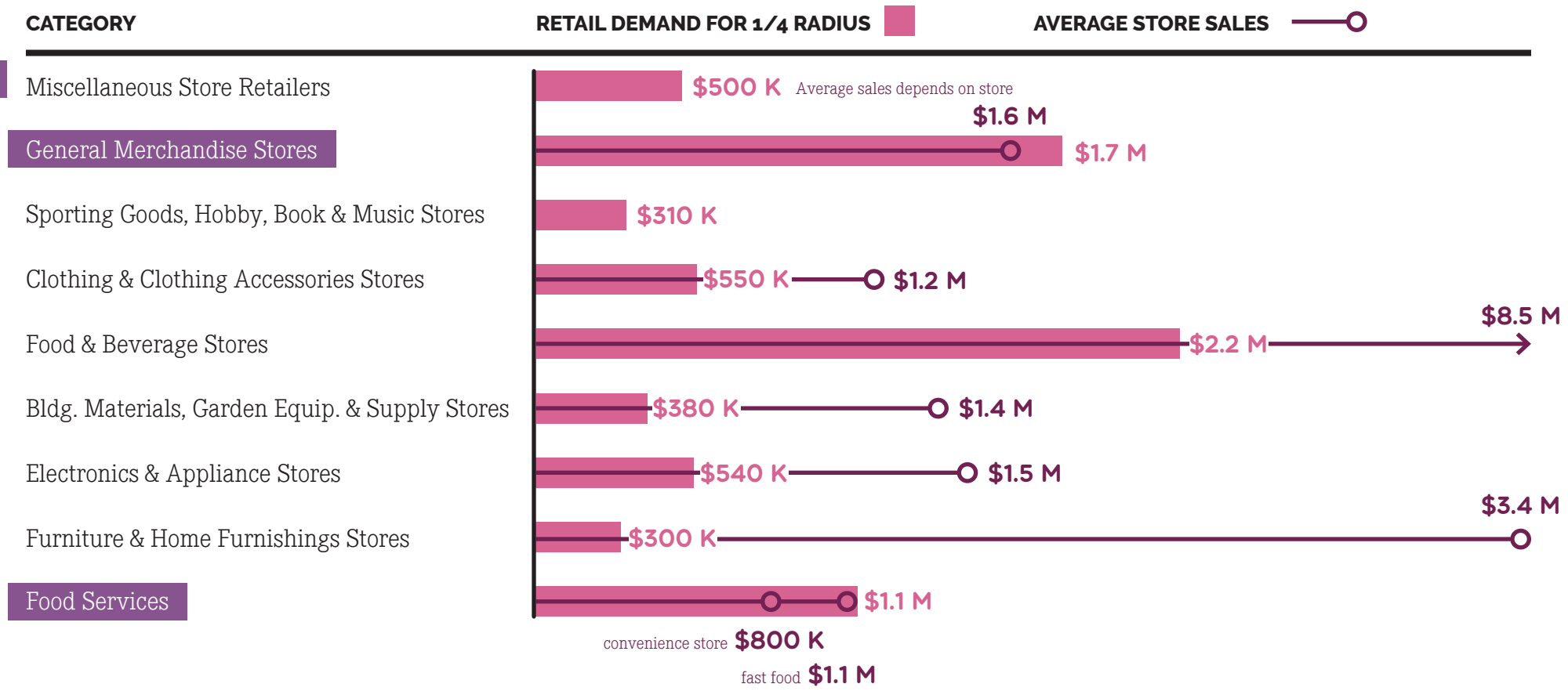
CATEGORY	0.25 MILES	0.5 MILES
Miscellaneous Store Retailers	$503,674	$1,351,738
General Merchandise Stores	$1,770,808	$4,751,897
Sporting Goods, Hobby, Book & Music Stores	$311,899	$827,528
Clothing & Clothing Accessories Stores	$549,147	$1,478,470
Food & Beverage Stores	$2,208,200	$5,970,541
Bldg Materials, Garden Equip. & Supply Stores	$383,888	$1,027,990
Electronics & Appliance Stores	$542,540	$1,448,217
Furniture & Home Furnishings Stores	$298,143	$794,594

FIGURE 26: RETAIL DEMAND BY MERCHANDISE CATEGORY

Based on the sales potential a key question is viability of individual stores. The answer to viability in part depends on if the store is locally owned and a primary source of employment for the store owner or a chain (regional or national). A locally owned store may tolerate a lower level of sales as long as the rent and fixed costs of the business are covered and it provides an income to the owner/operator. A chain demands profitability and wants both its fixed (facility) and operating costs covered plus generate a profit margin.

FIGURE 27: RETAIL DEMAND FOR A 1/4 MILE RADIUS VS. AVERAGE STORE SALES

SOURCE: NP analysis of ESRI retail demand estimates, 2015
NOTE: Retail excludes automotive related spending



From a sales perspective, typical average sales volumes per store by category is one indicator of viability. Total sales in an area that are below the store averages may be challenged to be viable businesses since they would need to capture 100% of sales or offer a unique product and service mix to pull sales from other areas.

Only two categories - **FOOD SERVICES** and **GENERAL MERCHANDISE** - are retail store formats that fit within the available market opportunity. For food services this includes convenience stores and for general merchandise this includes a store like Dollar General.

The $9.5million in unmet retail sales potentially support approximately 48,000 sq. ft. of space. Existing retail space represents 203,000 sq. ft. of space. For perspective, if all of the vacant lots along Fifth Avenue were developed with retail or restaurant ground floor uses, this would add another 338,000 sq. ft. of potential retail space or a square footage expansion of 166%. The potential local retail demand can fill only 14% of this new space.

FIGURE 28: RETAIL BEST CASE SCENARIO

To fill this amount of potential ground floor space, several items need to be considered:

- Due to the low number of residents in the neighborhood and diversity of incomes, retail that exclusively serves the neighborhood would need to be exceptionally well used by residents in order to survive. It's very unlikely that residents would spend such a large share of their disposable income solely within the neighborhood. Greater residential density within the neighborhood is necessary to drive demand and support new retail businesses that are neighborhood focused.
- Capital lending requirements for development consider the amount of equity or non-debt cash (incentives) in the project and the credit quality of tenants for retail and office space leases to determine the ability of those revenue streams to support the debt. Typically, locally owned small business or retailer credit quality without a personal guarantee is usually not considered sufficient. An incentive model to the developer that requires local owned retail or a lease guarantee / master lease model may be required to encourage more locally-owned retail.
- Given the small size of the sales volume in some categories a general merchandise chain like a CVS or Walgreens that can capture sales from the community and local businesses as well as grab the pass-through traffic MAY be plausible but will require parking that may be difficult to provide and/or not consistent with what residents expect of the character of Fifth Avenue.
- Destination retail and restaurants such as what occurs in the Strip District or, pop up options such as temporary retail spaces and food trucks, are possible. For the pop-up approach to work, substantial place-making and incentives are necessary to create the right environment to support these activities.

There Is Demand For Only 14% Of The Total Potential Retail Space

OVERSEE CORRIDOR MANAGEMENT EFFORTS AS A PART OF EID DISTRICT MANAGEMENT

Uptown Partners is a community-based organization focused on attracting new neighborhood retail and commercial business while supporting existing business owners. Management of the commercial district should focus on the provision of services including streetscape beautification/maintenance, marketing/promotion and public safety.

Unfortunately, Uptown Partners lacks the capacity to manage an ambitious business development and corridor enhancement initiative. Additional resources are necessary to support the growth and development of the organization so that they can oversee management of the Fifth and Forbes commercial revitalization efforts. Several strategies are available to increase the capacity of Uptown Partners including:

- Partnerships with other CDCs and organizations dedicated to promoting business growth in Downtown and Oakland to boost short-term capacity.
- Establish a Business Improvement District (BID) or seek support from the DCED Neighborhood Assistance Program. A BID can be accomplished in two different ways. One option is to form a traditional BID that is funded with a property assessment for a designated area. The other option is a BID fueled by the contributions of major employers, in this case UPMC Mercy, Duquesne University and PPG Paints Arena. Modeled on the University City District in Philadelphia, these employers gain the advantage of directly investing in services that save them money including security, greening, economic development and shared transportation services.

RETAIN EXISTING BUSINESSES

Businesses currently operating in Uptown should have the opportunity to remain within the community as these commercial corridors revitalize. In anticipation of future development/market pressures, we must explore technical and financial assistance programs available to retain existing businesses including:

- Develop a new marketing and promotional strategy.
- Provide linkage to various small business assistance programs.
- Conduct regular business surveys to obtain feedback on conditions within the District.
- Extension of the Local Economic Revitalization Tax Assistance Act.

ENCOURAGE EXISTING AND NEW BUSINESSES TO IMPROVE CURB APPEAL

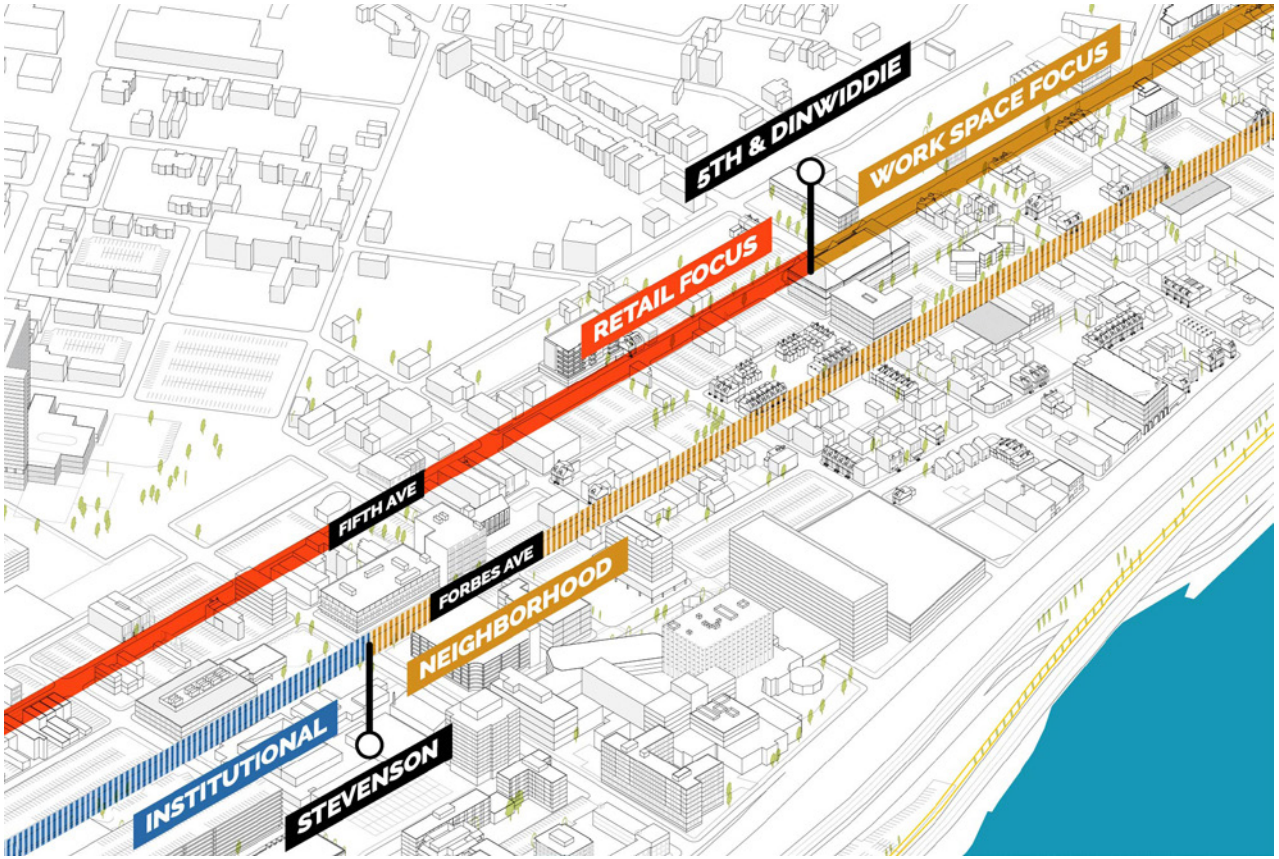
Part of the challenge in attracting new businesses to Uptown, or even in attracting new customers to existing ones is the “curb appeal” of Fifth Avenue. Broken sidewalks, old signage, trash / litter and a lack of street amenities like street trees, lighting and benches are signs of an unhealthy commercial corridor. As a part of corridor management efforts, existing businesses need technical and financial assistance to improve their curb appeal including facade renovations, sidewalk repair, new signage, planter boxes, facade lighting, benches and other amenities. Given that Fifth and Forbes will be reconstructed in the coming years to fix existing infrastructure, the reconstruction should build into its design streetscape elements like lighting, benches, and new sidewalks. Considering this, upgrading the curb appeal should focus on sidewalk cleaning, new store signage and facade upgrades. There are many successful programs that address these issues including initiatives to pay for half or more of new store signs (preferably designed by local artists and architects) and grant and loan programs to encourage facade improvements.

ATTRACT NEW RETAIL & COMMERCIAL TENANTS

The way that we shop is vastly different from years past. The development approach needs to acknowledge that all of Fifth Avenue will not be filled with new stores. We need to focus retail development where there are the most customers. This includes Fifth Avenue from Dinwiddie west to Williams Street. With new housing development, retail in this location can serve existing and new residents, arena visitors and employees of UPMC Mercy and Duquesne University.

East of Dinwiddie along Fifth Avenue, we should focus on promoting different kinds of commercial activities focused on supporting small business development and growth. The redevelopment of vacant and underutilized properties will create new first floor spaces that could provide space for this activity. In addition, there are over 250,000 square feet of non-residential space currently vacant within Uptown. The vast majority of available buildings, even warehouses, feature small floorplates and are also suited for smaller businesses that are not dependent on visiting customers. To be able to fill commercial space in the community with small businesses will require proactive thinking. Developers and banks are looking for credit-worthy tenants that can pay a higher price for space. Most small businesses are not yet credit worthy and very sensitive to rent prices. To address this challenge, we need to explore opportunities to subsidize tenant fit-out, work with developers to recruit tenants and likely enter into a master lease. Master leases provide the building owner with a longer-term tenant arrangement (the master leaseholder) that may also have credit rating sufficient to support a major rehab or new construction but also not be responsible for tenant specific improvements. The master leaseholder can then sublet the space under its own terms and conditions that are typically more flexible than a general lease.

FIGURE 29: RETAIL STRATEGY



There are a few locations in Uptown that could provide the space for larger office and research buildings. Often created as a partnership between universities and private developers, these developments provide research and collaborative workspace with the intent of stimulating the innovation economy and supporting local entrepreneurs. These kinds of developments often require building footprints of about 20,000 sq. ft. These modern standards limit the potential for this development to the Dinwiddie and Fifth intersection, on larger sites close to the Birmingham Bridge and close to Duquesne University and UPMC Mercy where enough adjacent land can be assembled.

2.4 IMPLEMENT POLICIES TO PROMOTE SUSTAINABLE & AFFORDABLE DEVELOPMENT

This process has revealed many issues to address in the community. Stormwater management, district energy, affordable housing and work space and, the preservation of existing structures are all important elements of this EcoInnovation district. To effectively manage stormwater or create new affordable housing cannot be done with public dollars alone. Creating a park that retains stormwater will be a huge benefit to the community but so will a development that instead of sending stormwater into the sewer, integrates a green roof that also captures stormwater. The opportunity is to design the rules of development to encourage private investment to participate in offering real solutions to the community's challenges.

Pittsburgh's 2030 District Challenge is one model that is successfully working with private partners to reduce energy and water use as well as carbon emissions. Currently focused on Downtown and Oakland, the City and local partners should seek to include all of Uptown into the 2030 District to help align the goals of the EcoInnovation District and this important program.

In addition, the current zoning rules neither serve the needs of developers nor the community. Variances are required to create developments that make sense for developers and the priorities outlined in this plan including the need to manage stormwater and improve air quality are not formally included in the codes. In some cases, the results of the current zoning requirements actively work against the desires of the community who have expressed a desire for walkable, active streets. For instance, parking requirements often force developers to allocate almost the entire 1st floor toward parking instead of active commercial uses that the residents are craving. This relatively inactive space on the street only furthers the perception that the streets are not active and unsafe.

Zoning should work for the community by encouraging development that the community and developers are seeking. The recommendations below set the framework for a new Uptown Public Realm District in line with the community discussions regarding density, parking and affordability.

ZONING CAN ADDRESS THE FOLLOWING:

- AFFORDABLE HOUSING
- STORMWATER MANAGEMENT
- DISTRICT ENERGY
- CREATIVE WORK SPACE
- PRESERVATION OF EXISTING BUILDINGS

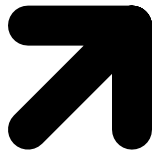
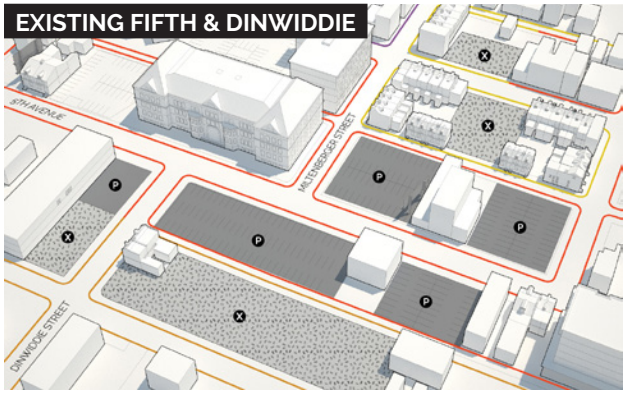


FIGURE 30: ZONING ANALYSIS DIAGRAMS

EXISTING FIFTH & DINWIDDIE

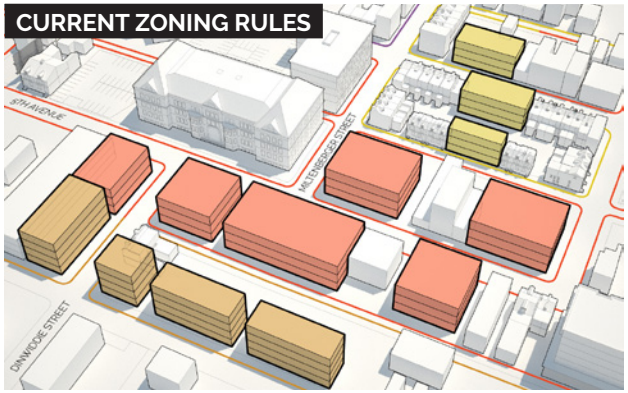


LNC - Local Neighborhood Commercial
- allows for a maximum height of 45 ft. (not to exceed 3 stories)

RM-M - Multi Unit Moderate Density
- allows for a maximum height of 55 ft. (not to exceed 4 stories)

R1A-H - Single Unit Attached Residential High Density
- allows for a maximum height of 40 ft. (not to exceed 3 stories)

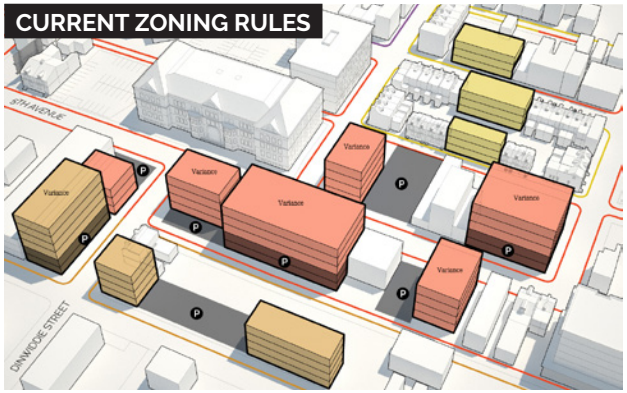
CURRENT ZONING RULES



No real change to the existing rules.

- \+ Helps to fill the gaps in the neighborhood
- \- Less value to capture for neighborhood improvements
- \- What is built will be costly

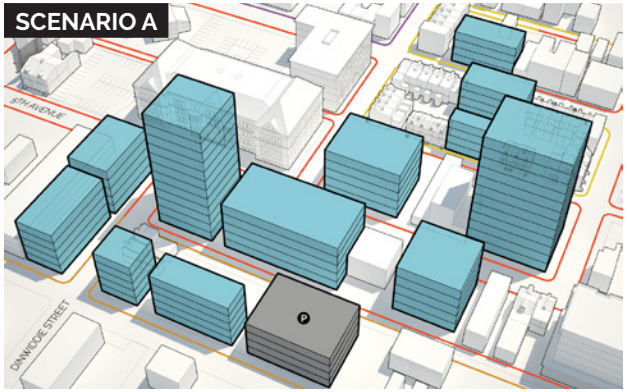
CURRENT ZONING RULES



In reality, due to parking requirements it would look something like this.

- \+ Helps to fill the gaps in the neighborhood
- \- Creates more surface parking lots
- \- Creates a dead streetscape with ground floor parking
- \- Less value to capture for neighborhood improvements
- \- What is built will be costly

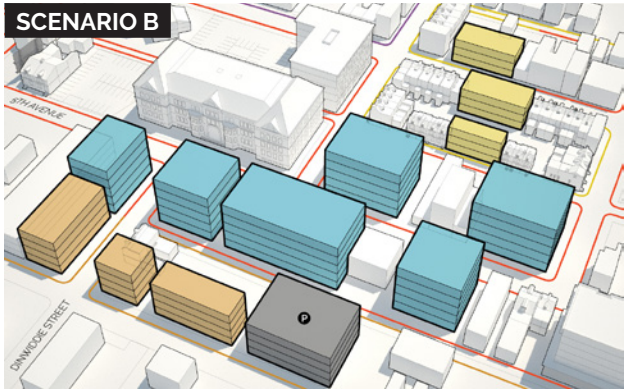
SCENARIO A



What if we allowed greater density everywhere?

- \+ Helps to fill the gaps in the neighborhood
- \+ Maximum value to capture to pay for a lot of neighborhood improvement
- \+ Add a lot of neighborhood residents to support local stores and services
- \- Depending on design, could have negative impacts on existing buildings
- \- Places pressure to redevelop existing buildings

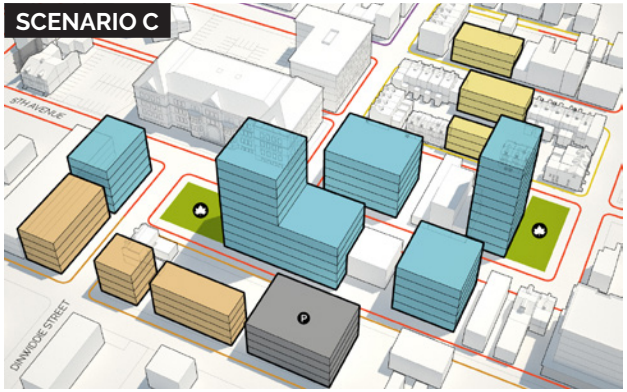
SCENARIO B



What if we allowed greater density in targeted areas?

- \+ Helps to fill the gaps in the neighborhood
- \+ More value to capture to pay for neighborhood improvements
- \+ More residents & activity along Fifth to support more stores & services in the community

SCENARIO C



What if we offered incentives to get more of what we want?

- \+ Helps to fill the gaps in the neighborhood
- \+ More value to capture to pay for neighborhood improvements
- \+ More residents & activity along Fifth to support more stores & services in the community
- \+ More amenities (for instance open space, affordable housing, or ground floor retail).

ENCOURAGE DENSITY AND MIXED USES IN TARGETED AREAS

Adding density to Uptown is indeed a benefit for many reasons but how and where this is encouraged is of critical importance. Uptown is comprised of a diverse collection of buildings and uses. Taller buildings with more commercial uses are huddled near the PPG Paints Arena, office and institutional buildings make up the campuses of UPMC Mercy and Duquesne and, to the east, the core residential portion of the community is made up largely of small-scale rowhomes. In addition, Uptown includes steep slopes along the hillside that are sparsely developed. It is important to consider these differences when recommending increased density. While a midrise apartment building makes sense near the arena, it would likely be out of scale and character within the residential core of the community.

A range of variables were taken into consideration for increased density locations.

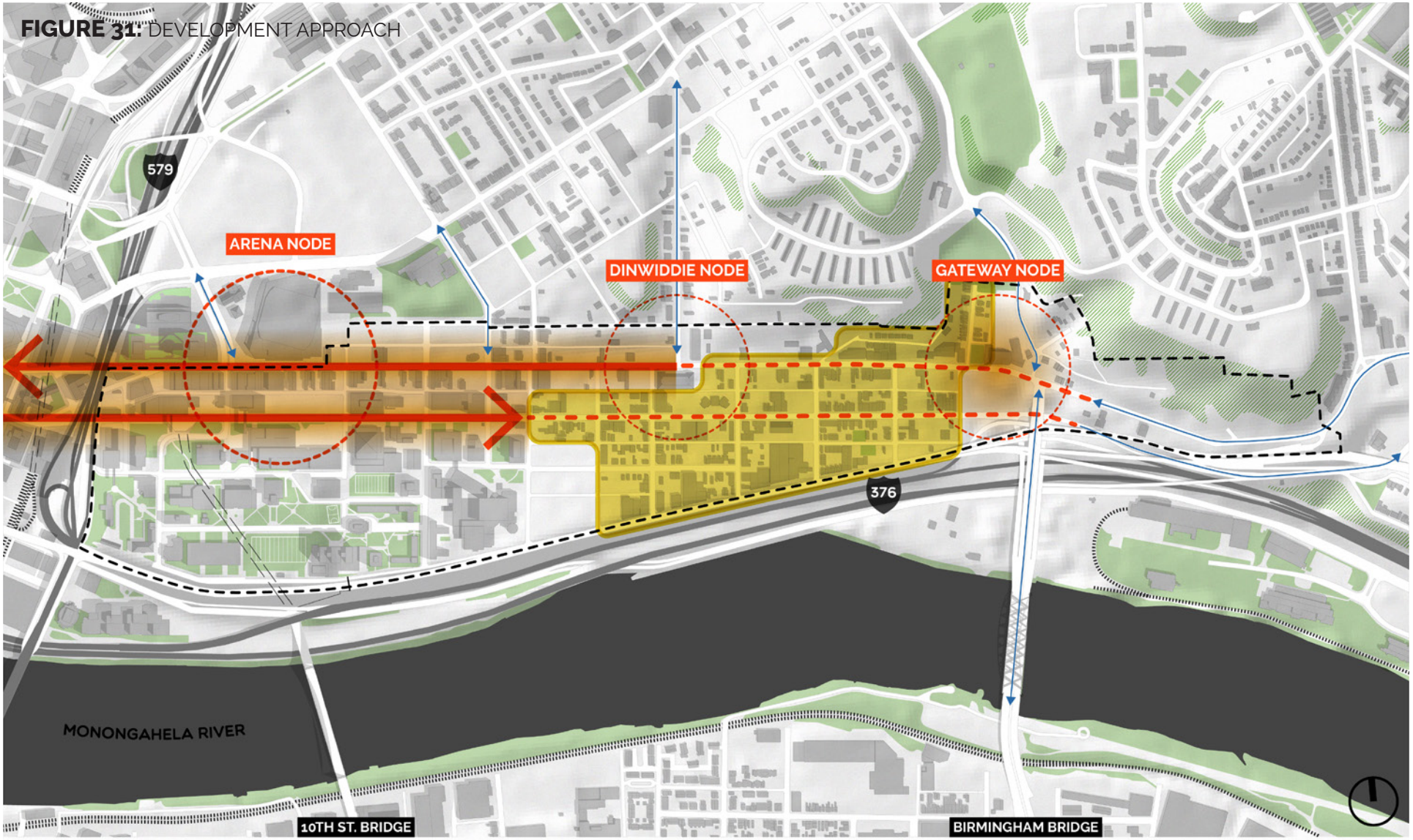
- **LAND USE:** portions of the neighborhood that are more mixed use in nature, containing residential, institutional, and commercial uses, are more appropriate for dense residential and commercial development.
- **STREET TYPE:** Uptown has both major thoroughfares as well as smaller scale residential streets. It is important to consider these factors when increasing density. Due to their nature as transit corridors, Fifth and Forbes are more appropriate locations for added density than smaller scale residential streets.
- **CONNECTIONS:** Although Uptown has great connections to Downtown and Oakland, topography, highways and the Monongahela River disconnect the community from the Hill District to the north and Almono and the South Side areas to the south. An active mix of uses should be encouraged where there are opportunities to create stronger connections to the north and south.
- **PARCELS:** Considering development potential is key to guiding development. Large surface parking lots on Fifth can handle larger/denser development, small individual properties are more appropriate for infill development unless assembled into larger sites.

Taking these factors into account as well as conversations with neighborhood residents, the overall approach is to reinforce these different characters. First, protect the residential core with infill development that reflects the scale of existing structures. Second, allow much greater densities closer to the PPG Paints Arena as an opportunity to increase the population and re-create a business corridor with small businesses, retail and services. Where the two areas meet, ensure a clean transition so as not to negatively impact existing homes. Finally, where development could occur along the hillside, ensure that it is limited in density and supports other goals for the hillside including managing stormwater and providing trails and improved park space.

"Develop a small scale, neighborhood focused entertainment district along Fifth Ave that offers unique and funky alternatives to big events at Consul Center. And at the same time attracts people going to PPG Arena to stay in the neighborhood and enjoy!"

- Quote from Open House Participant

FIGURE 31: DEVELOPMENT APPROACH



MANAGE PARKING DISTRICT WIDE & CREATE COMMUNITY INFRASTRUCTURE HUBS

Providing on-site parking for new development in Uptown is a challenge. The existing zoning code requires one space per residential unit. Developers can reduce this requirement a little by providing bicycle parking. Due to small parcel sizes and parking minimums, it is almost impossible to develop property in the neighborhood that is financially feasible under the current zoning code. This requires developers to obtain a costly variance and often results in increased rents to recoup the higher costs of development.

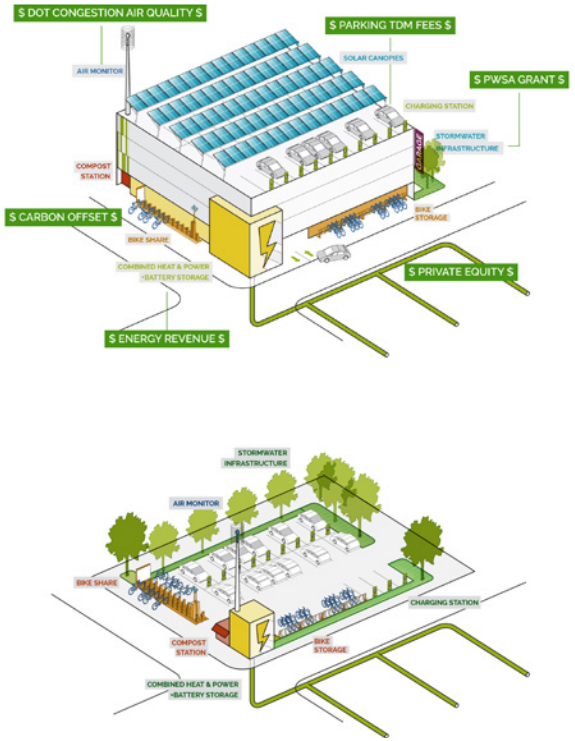
The parking requirements result in new buildings with inactive street frontages consisting entirely of ground floor structured parking. In a transit-rich neighborhood that is soon to see improvements, coupled with fact the 60% of residents walk or bike to work, it is imperative to think about parking in the EcoInnovation district from a new perspective.

Instead of managing parking on a site-by-site basis, it is far more efficient to manage parking at the scale of the neighborhood. Think of all the potentially available spaces that sit empty at the times that residents and others could put them to use. The idea is three-fold:

- Eliminate the required parking minimums and instead replace them with maximums so that developers build only the parking their projects actually need (if any);
- Better manage parking on-street as described in chapter 3 to eliminate the free commuter parking that occupies too much space and;
- Invest in new shared parking garages and lots to serve the overall parking needs.

This plan envisions these shared parking garages as "community infrastructure hubs" designed to not just provide parking but also other necessary infrastructure needs including stormwater management, bikeshare, electric vehicle charging and district energy. These hubs are intended as shared resources for the community to support many of the goals in this plan from reducing flooding to creating resilient and inexpensive energy for residents. To realize the full benefit of this strategy, these hubs will require upfront investment. By adding supply that is publicly accessible, future developments can use these resources as parking for residents and employees as needed.

FIGURE 32: COMMUNITY INFRASTRUCTURE HUBS



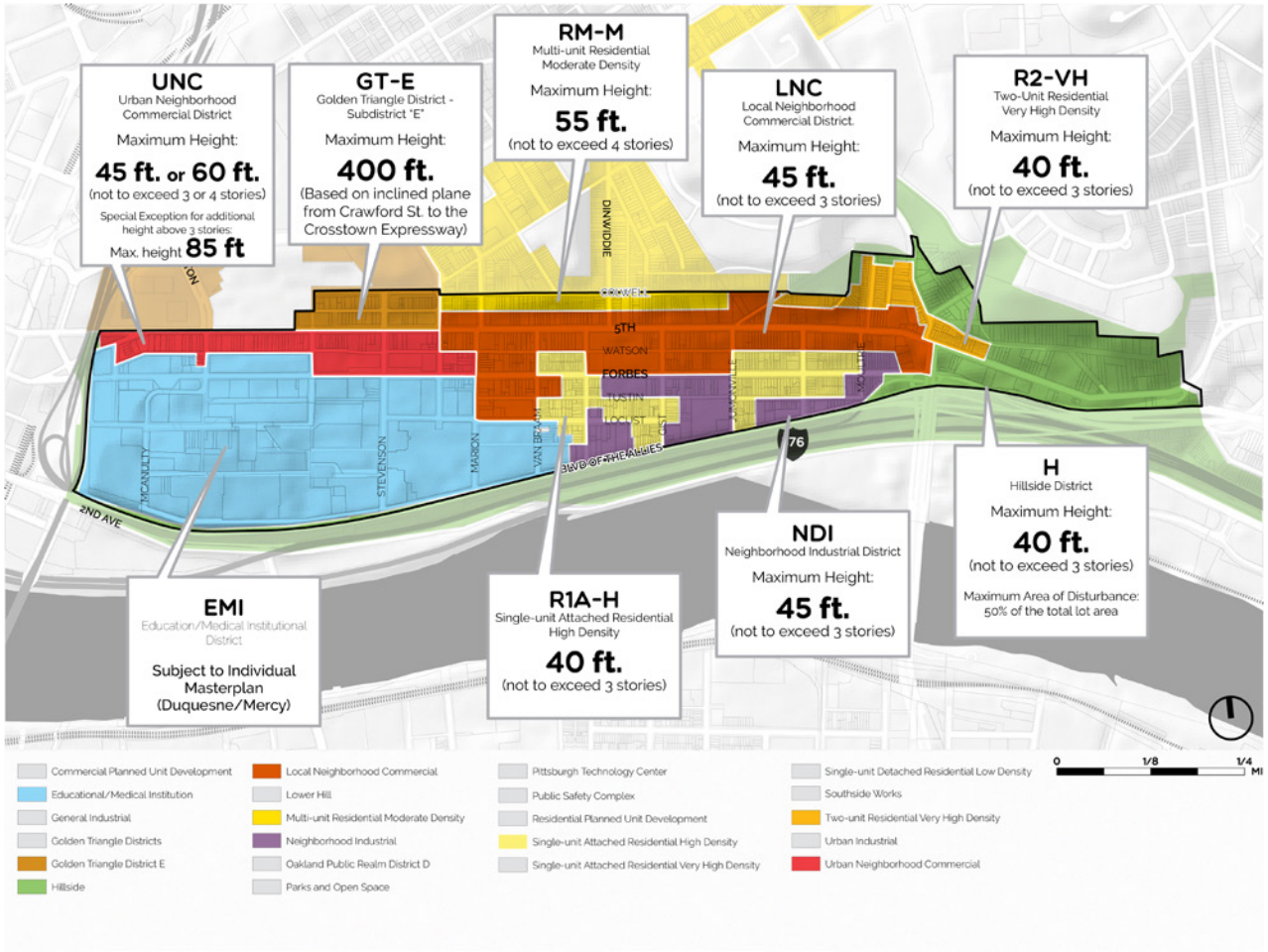
REWRITE ZONING FOR THE EID BASED ON PERFORMANCE

The existing zoning code in Uptown consists of 9 distinct districts all with a variety of different uses and maximum floor heights. Particularly challenging is the LNC classification which covers much of Fifth Avenue in the district and caps heights at 45 ft. With small parcel sizes, zoning requirements that don't fit the neighborhood including requirements for more parking than is needed, development is almost impossible without a variance.

The updated zoning should establish some base minimum requirements and new rules. These include minimum heights of two stories and zero front setbacks to match the existing character of the area. Other base requirements should include: Active ground floor uses; no surface parking lots; no ground floor parking garage entrances from Fifth or Forbes and; no demolitions of existing structures by right. The allowable uses should also be changed to align with goals discussed in this plan including a mix of small-scale commercial and residential uses allowed by right.

An important proposal for the new zoning is a bonus system that will set a base height, but allow more building height and mass through bonuses if certain affordability and sustainability goals are met. These goals are inspired by the p4 metrics developed by the City as standards for projects seeking public assistance. p4 includes metrics across 12 different topic areas. For simplicity, the proposed new zoning focuses on those issues that are most relevant to Uptown including

FIGURE 33: EXISTING ZONING



standards for affordability, storm water management, and energy. The preservation of existing buildings is also included in this bonus system. Projects receive points for achieving each of these different goals. The total points accumulated by developers on any one project enables them a certain amount of bonus. This allows the developer flexibility in how she can gain added density.

Equally important to the bonus system is the new zoning classifications. The new code condenses the existing 9 zoning districts to 2 districts. The Educational/Medical/Institutional (EMI) District which covers Duquesne and Mercy hospital, as well as the Hillside (H) District are unchanged. The existing UNC, RM-M, LNC, R1A-H, R2-VH, and NDI districts are simplified and condensed into two districts, The Mixed-Use Core and the Residential Core.

FIGURE 34: POTENTIAL UPTOWN PUBLIC REALM DISTRICT

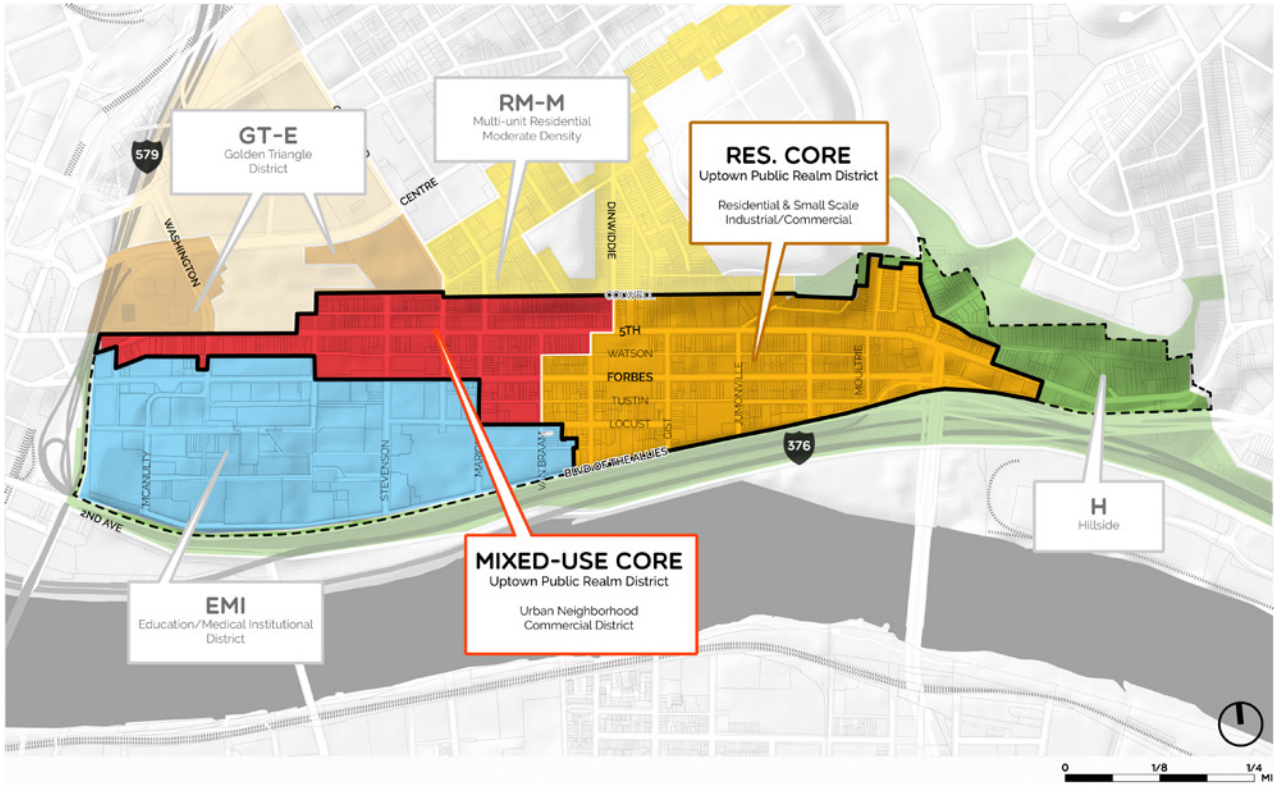
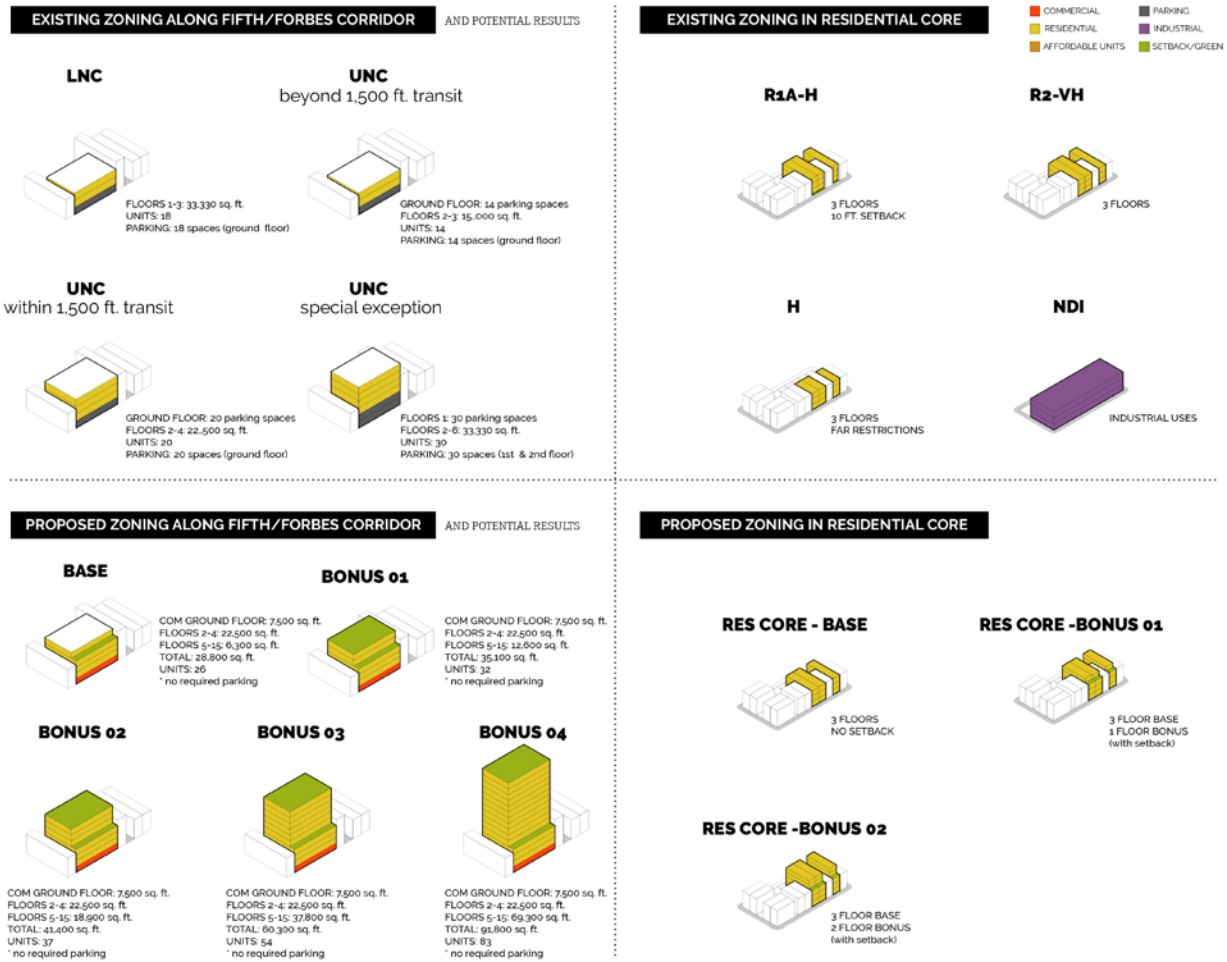


FIGURE 35: EXISTING VS. PROPOSED ZONING DIAGRAMS

The boundaries drawn for these districts are based mostly on the concepts for where density within the neighborhood makes the most sense. The Mixed-Use Core is focused near the PPG Paints Arena along Fifth and Forbes up to Dinwiddie Street. These locations are where residents expressed their comfort level with increased density and where the current character of the community is generally mixed-use in nature. The Residential Core covers the neighborhood that is currently made up of single family homes, small apartment buildings and small scale industrial/ manufacturing facilities. This classification restricts height in order to preserve the unique character of the neighborhood that already exists, but increases the flexibility of uses to allow property owners to make the best use of existing buildings.

Zoning based on bonuses and a point system is unique to Pittsburgh and is currently being drafted. If the Uptown Public Realm District proves to be a successful system, there would be opportunities to utilize the system in other neighborhoods across the city. A more detailed summary of the zoning proposal can be found in the Appendices.



IF WE FOLLOW THE RULES, WHAT SHOULD BE THE RESULT?

To test the ideas around zoning requirements and potential bonuses, we produced concepts for several key development opportunities in the community.

BY THE NUMBERS:

PROPOSED - OPTION 01

- ACCESS TO **0.4** ACRES OF GREEN SPACE
- **249** NEW RESIDENTIAL UNITS
- **17,000** SQ. FT. OF COMMERCIAL SPACE

EXISTING PARKING LOT AT DINWIDDIE & FIFTH

DINWIDDIE & FIFTH

Dinwiddie and Fifth is a critical, central location in Uptown that provides the most direct connection to the Hill District. The land in this location is owned primarily by the URA and the City. With this public ownership, there is an opportunity to redevelop this area as "Dinwiddie Commons" that would include a new active plaza programmed to serve and better connect Uptown and the Hill District. Surrounding the plaza, a new Community Infrastructure Hub is located along Colwell and potential mixed-use development with retail located along Fifth. On the east side of Dinwiddie, the concept shows additional park space and the repurposing of an existing building owned by the City. The building is one of the larger warehouse spaces that could serve as a resource to support new and innovative small businesses. The mixed-use redevelopment overlooking the plaza could be done in different ways:

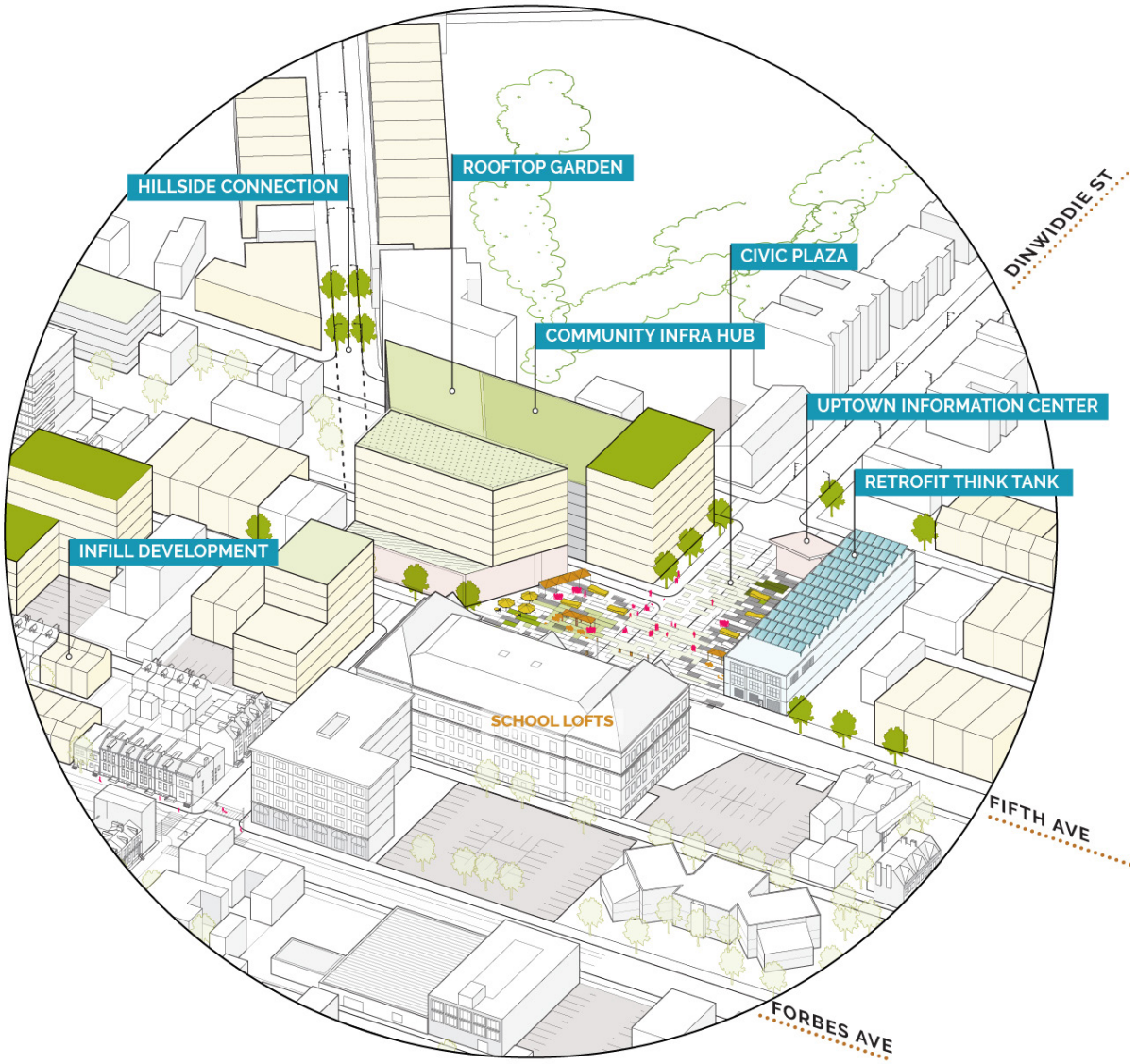


FIGURE 36: POTENTIAL DEVELOPMENT CONCEPT AT DINWIDDIE & FIFTH - OPTION 01

BY THE NUMBERS:

PROPOSED

- **775** NEW RESIDENTIAL UNITS
- **79,000** SQ. FT. OF RETAIL COMMERCIAL SPACE

OPTION 1

Create a new residential building to help activate the plaza and create a true gateway to the Hill District.

OPTION 2

Work with a local university and private partner to create a new research and office building that would provide support and space for Pittsburgh's innovation economy. This is one of three sites large enough to potentially support this kind of investment which also includes the Duquesne Light property and the "portal" site in West Oakland.

EXISTING PARKING LOT AT FIFTH AVENUE WEST

FIFTH AVENUE WEST

Sites along Fifth toward the Arena and University have the potential to be much taller which is in line with Chatham Center and many other buildings on Duquesne and Mercy's campus. The height and density is determined through the bonus system described above that allows extra density with the provision of stormwater management, district energy, building preservation and/or affordable housing.

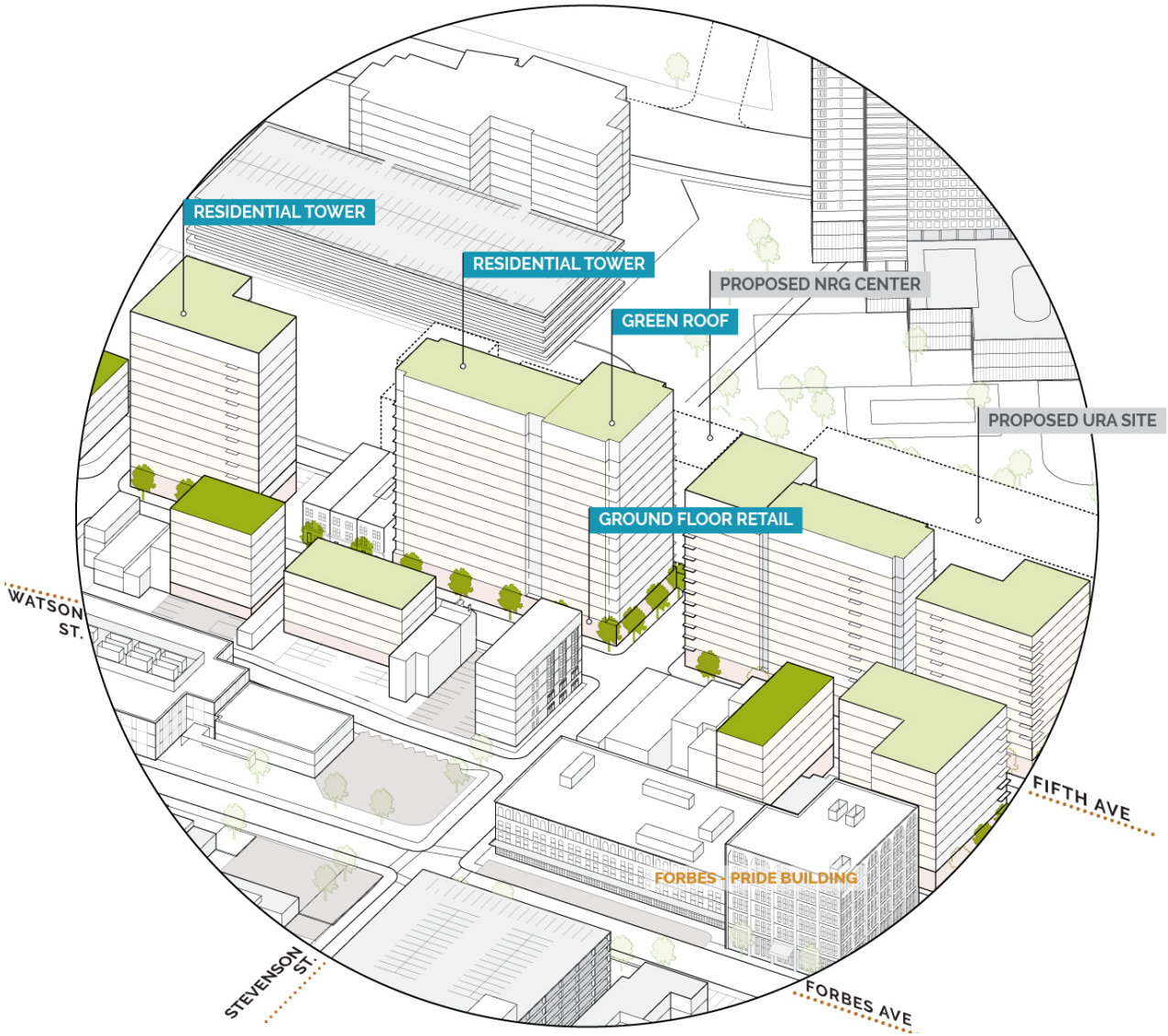


FIGURE 37: POTENTIAL DEVELOPMENT CONCEPT AT FIFTH AVENUE WEST

BY THE NUMBERS:

PROPOSED

- **93** NEW RESIDENTIAL SINGLE FAMILY HOMES
- **01** COMMUNITY INFRASTRUCTURE HUB

NEIGHBORHOOD INFILL

Small-scale infill and rehabilitation are targeted for the residential core which also includes critical street improvements and small community infrastructure hubs to serve the needs of residents and businesses.

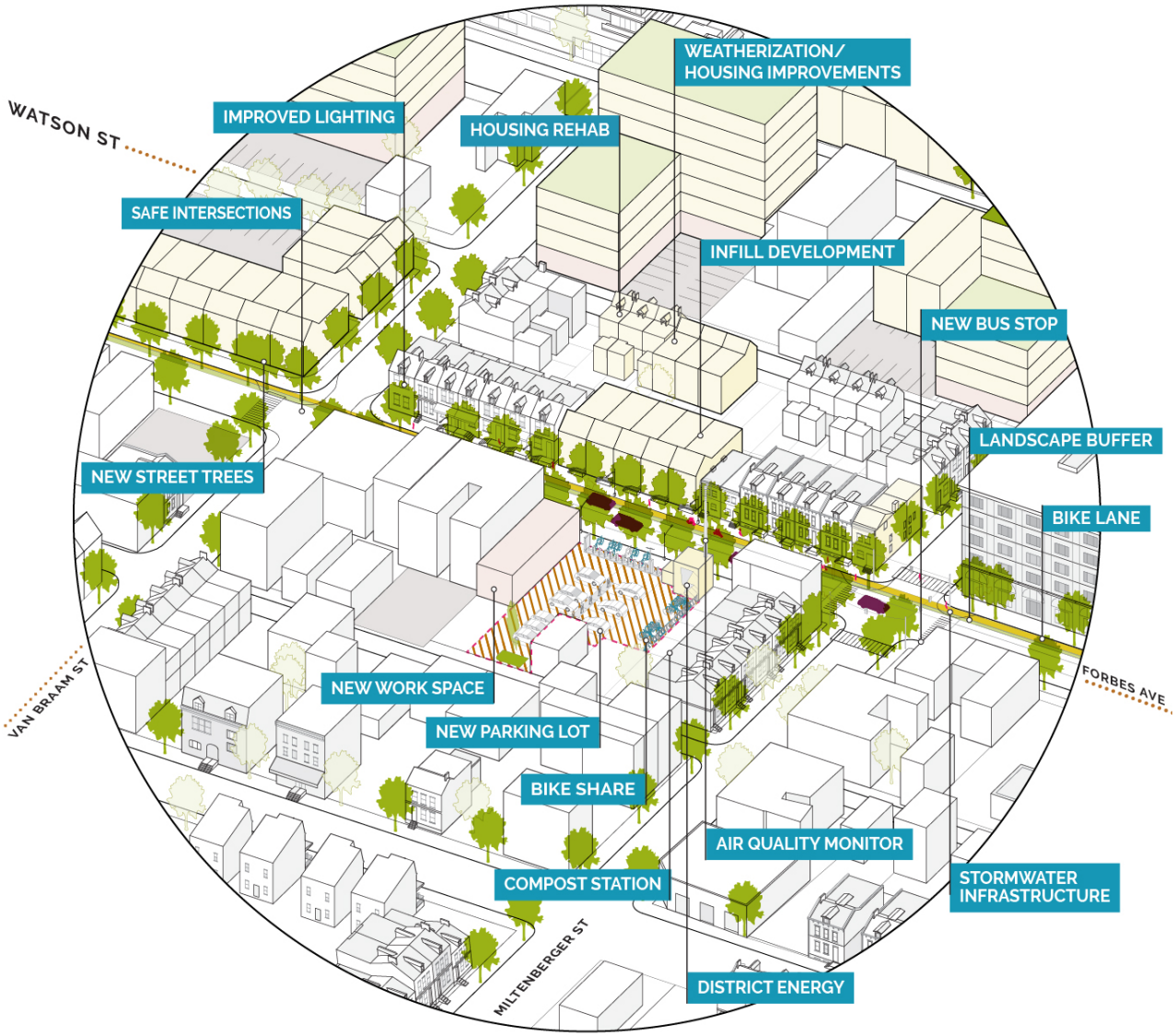


FIGURE 39: POTENTIAL DEVELOPMENT CONCEPT AT NEIGHBORHOOD INFILL

BY THE NUMBERS:

PROPOSED

- ACCESS TO **0.5** ACRES OF GREEN SPACE
- **68** NEW RESIDENTIAL UNITS
- **162,000** SQ. FT. OF RESEARCH/COLLABORATIVE WORKSPACE
- **20,000** SQ. FT. OF COMMERCIAL SPACE

EXISTING VACANT LAND AT THE EASTERN GATEWAY

EASTERN GATEWAY

The eastern gateway to Uptown contains a few large parcels whose reuse is critically important to consider. The Burrell Building is one of the larger, formerly industrial structures in the community. Across the street is an undeveloped site owned by Duquesne Light. Previous planning work has developed multiple visions for this site as both an academic hub and a stormwater park. During the planning process, it was clear that the community's strongly desires an academic hub on this site both to activate this mostly vacant part of the neighborhood and to provide collaboration space that would attract academic partners to invest in Uptown.

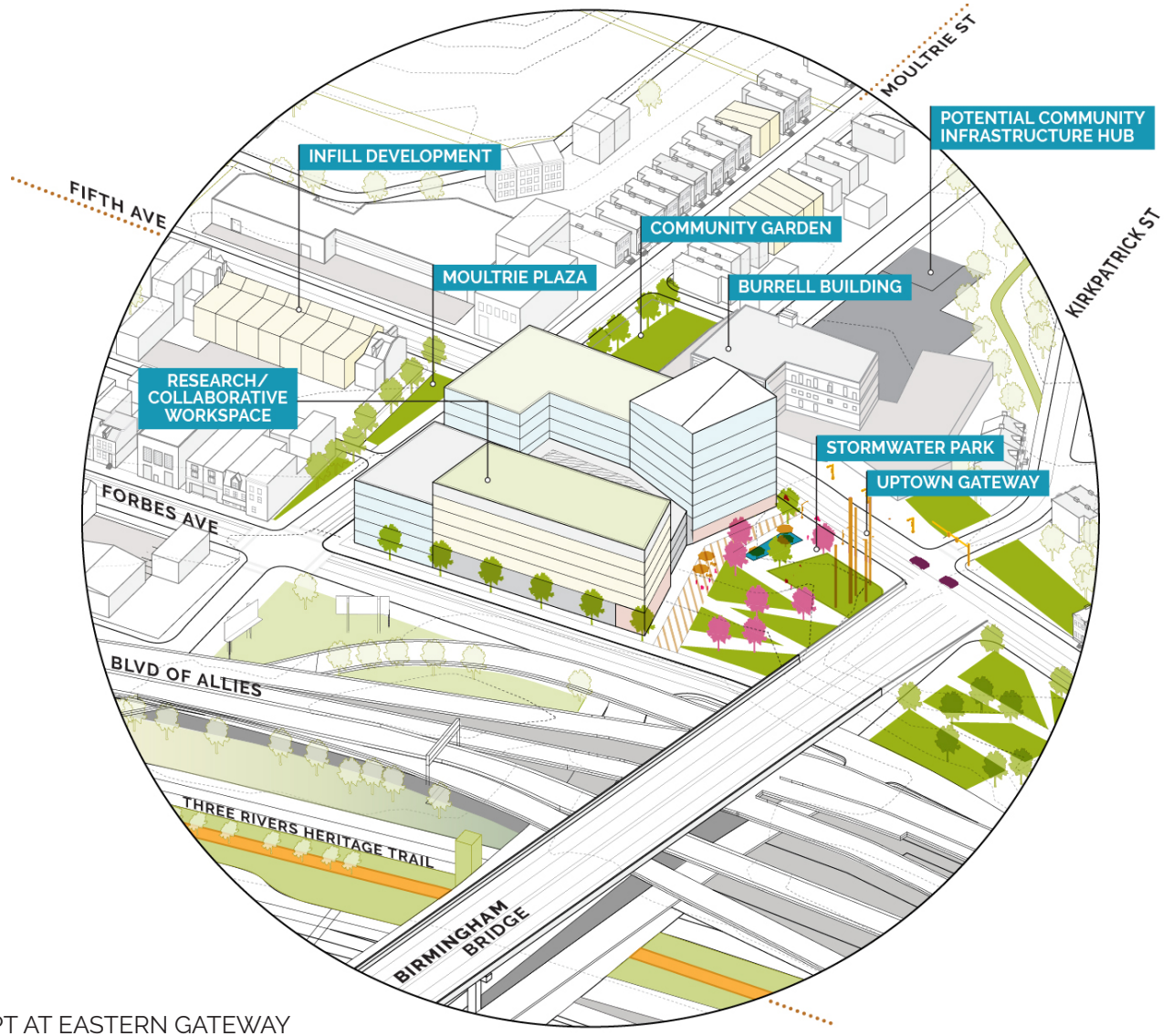
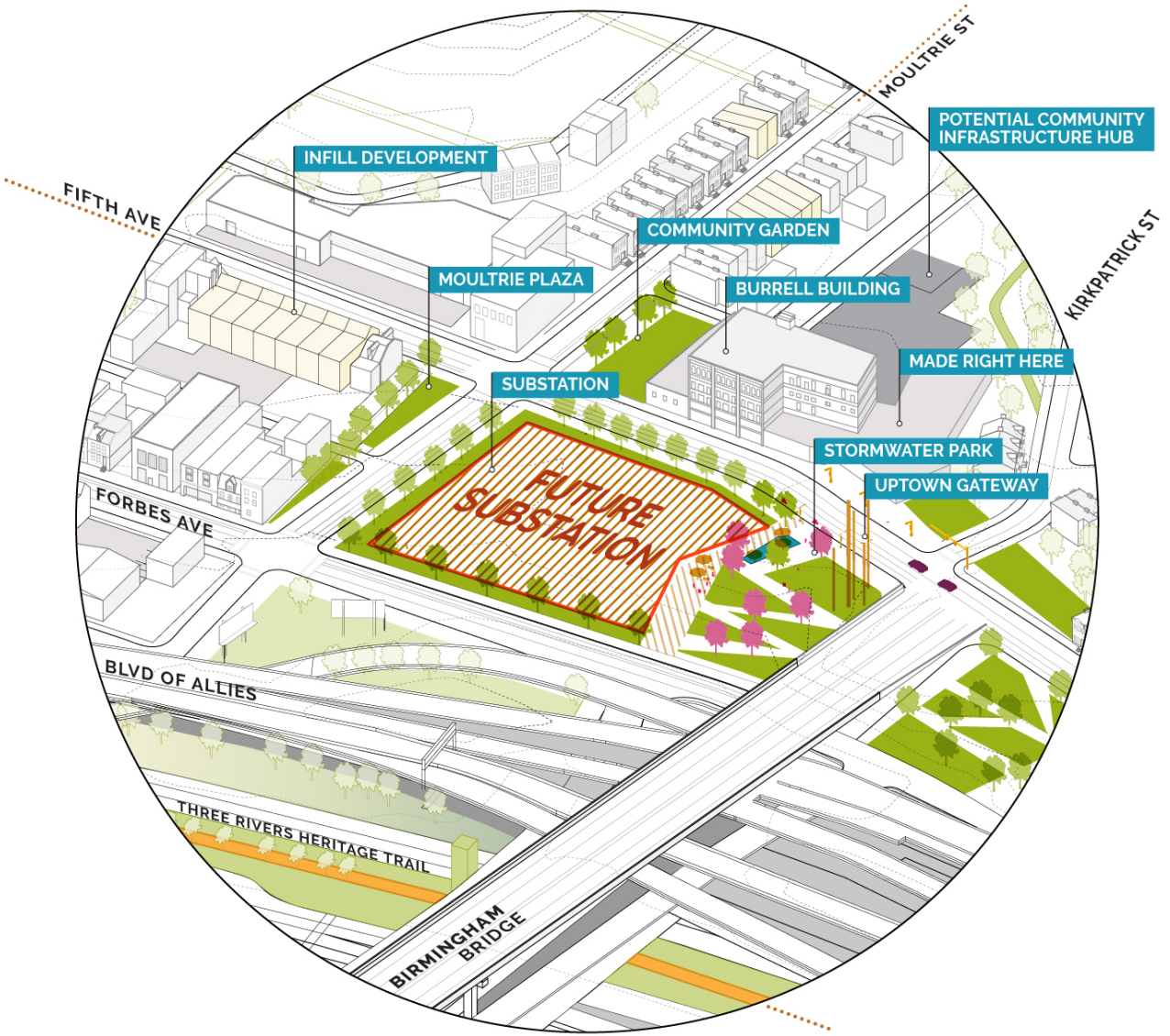


FIGURE 40: POTENTIAL DEVELOPMENT CONCEPT AT EASTERN GATEWAY

BY THE NUMBERS:

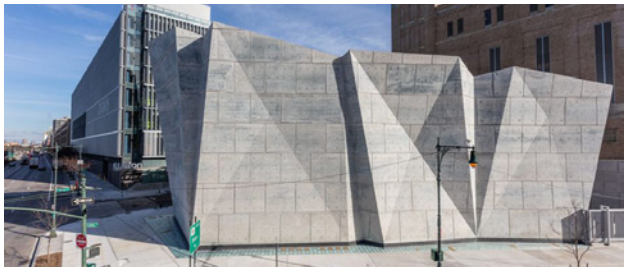
PROPOSED

- ACCESS TO **0.5** ACRES OF GREEN SPACE
- NEW SUBSTATION TO SERVE THE GROWING DOWNTOWN & OAKLAND NEIGHBORHOODS



If the site must be used for a substation, this plan imposes the following goals for this development:

- The exterior of the substation should be bold in design and integrate some community spaces and exhibits that help to educate residents about energy in the City. A design competition attracting design talent from around the world would be a great way to have an open and active conversation about what a substation should be in the 21st Century.
- Moultrie Street at Fifth is currently a very unsafe intersection because the street is offset at Fifth. To help provide a safer intersection, the site design of the substation should consider allowing for a sliver of land to be used to shift Moultrie south of Fifth Avenue slightly east.
- Land adjacent to the Birmingham Bridge controlled by PennDOT is very important to help retain and convey stormwater. Recommendations described in chapter 4 include a new stormwater park in this location to address the water issues. As the site plan for the substation proceeds, consider any unused land as an opportunity to create a larger stormwater park on the eastern edge of the site.
- The substation should incorporate elements consistent with its location in an EcoDistrict such as solar panels, bike facilities, bike share, plantings or other green infrastructure or public art.



SPRING STREET SALT SHED

NEW YORK, NY

SOURCE: CURBED - MAX TOUHEY

DENNY SUBSTATION

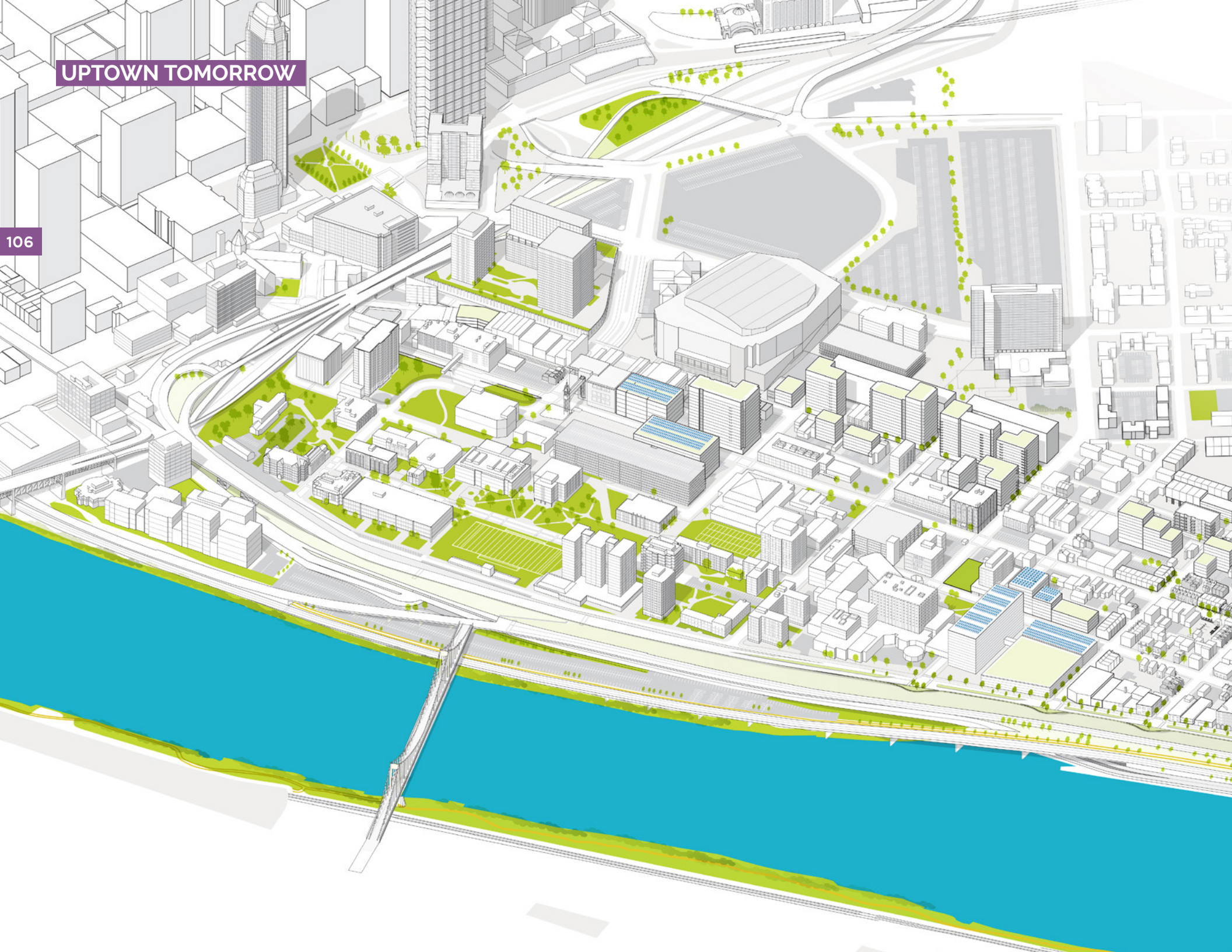
SEATTLE, WA

SOURCE: SLATE, NBBJ

PERRACHE-CONFLUENCE SUBSTATION

LYON, FR

SOURCE: INHABITAT, RUE ROYAL ARCHITECTS



Potential Results

In accordance with the potential zoning changes and strategies contained throughout this plan, we could see the following changes in Uptown in the future:

Today

- Households: **691** total (264 affordable rental units)
- Vacant commercial space: **300,500** sq. ft.
- Open Space: **4.8** acres
- On-and Off-Street Parking: **7,300** spaces

Tomorrow

- Households: **2,000**+ total (400+ NEW affordable rental units)
- Rehabilitated commercial workspace: **300,500** sq. ft.
- New ground floor commercial space: **180,000** sq. ft.
- New office / research / workspace: **360,000** sq. ft.
- Open Space: **15.06** acres
- On-and Off-Street Parking: **7,300** spaces

MOBILITY

Provide Choice in Mobility -
Calm traffic, improve safety, encourage walking and bicycling, and improve the Fifth / Forbes corridor.

03

"As an everyday bike commuter who works at Duquesne I would love to see a bike lane that connects Uptown/West Oakland to the other neighborhoods. Currently I avoid biking through the area because of the traffic flow and how dangerous it feels."

- Quote from Open House Participant

KEY GOALS ADDRESSED:

HEALTH

Elevate individual, community and environmental health in the planning, design and development of Uptown/West Oakland.

CHOICE

Reduce traffic and offer real transportation choices that are cost effective, pleasant and safe for residents and businesses including walking and bicycling.

CONNECTIVITY

Create stronger connections to the Hill, Oakland, Downtown, the Monongahela River, nearby parks and forested slopes, and beyond.

PERFORMANCE

Pursue solutions for water, building systems and district energy that will enable Uptown/West Oakland to reach the highest levels of environmental performance and efficiency.

LEADERSHIP

Create partnerships and a model for sustainable local leadership that can continue to engage residents and effectively take action in the community.

KEY TAKEAWAYS:

- THERE ARE **22 LANES OF TRAFFIC** BETWEEN FIFTH AVENUE AND THE MONONGAHELA RIVER.
- IN UPTOWN, **42%** OF OWNER-OCCUPIED UNITS **HAVE NO CARS** AVAILABLE AND 47% HAVE A SINGLE-VEHICLE.
- THE **PRESENCE** OF BASIC **INFRASTRUCTURE** IS **NOT A GUARANTEE** THAT IT WILL BE **SAFE**, ACCESSIBLE TO THOSE OF A RANGE OF AGES AND ABILITY LEVELS, CONVENIENT, COMFORTABLE, OR ENJOYABLE.
- BETWEEN 2001 AND 2009, THE AVERAGE **NUMBER OF MILES DRIVEN** BY 16 TO 34 YEAR-OLDS **DROPPED BY 23 PERCENT.**

POTENTIAL RESULTS:

- ACHIEVE A **50%** REDUCTION IN **VEHICLE EMISSIONS** BY **2030** FOR THE CITY OF PITTSBURGH.
- REDUCE **SINGLE OCCUPANCY VEHICLE** MODE SHARE TO **40%** OR LESS BY **2030** FOR PEOPLE COMING TO UPTOWN.
- MAINTAIN OR **INCREASE** THE **NON-SINGLE OCCUPANCY VEHICLE** MODE SPLIT FOR TRIPS ORIGINATING IN UPTOWN AS THE NEIGHBORHOOD GROWS.
- REDUCE **FATAL** AND SEVERE-INJURY CRASHES TO **ZERO**.
- **INCREASE TRANSIT** AND **BIKE**, AND **BIKE SHARE** LINKED TRIPS ALONG THE BRT CORRIDOR.
- **REDUCE SURFACE PARKING** ACREAGE WITHIN THE ECOINNOVATION DISTRICT BY **40%** BY **2030** WHILE MAINTAINING **UTILIZATION** OF PUBLIC LOTS AT **85%** OR LESS.
- **REDUCE** INSTITUTIONAL **DEMAND** FOR ALL-DAY PARKING SPACES **BY IMPLEMENTING TDM PROGRAMS**

WHY IS THIS IMPORTANT?

Uptown and West Oakland's transportation system is one of the community's biggest assets, with some of Pittsburgh's most robust transit, bridge, and highway connections. But, the same transportation infrastructure – and resulting traffic – often overwhelm the neighborhoods. Three streets connect the neighborhoods to each other and the larger region- Fifth Avenue, Forbes Avenue, and Boulevard of the Allies. Each funnels traffic from bridge and tunnel connections to the north and south through Uptown and on to, and between, Oakland and Downtown. There are 22 lanes of traffic between Fifth Avenue and the Monongahela River. And all that infrastructure –highways, bridges, overpasses, retaining walls–creates both real and perceived barriers nearly ringing Uptown entirely. Vehicle flows generate traffic congestion, traffic crashes, and air and noise pollution largely attributed to trips through or to Uptown and West Oakland, not resulting from residents themselves.

After housing, transportation is typically the second highest factor in a household's cost of living, and residents of Uptown have many opportunities to reduce these costs. Operating, insuring, and maintaining a car costs an average of $9,000 per year[1]. Because of its walkable scale and frequent buses along Fifth and Forbes Avenues, it's possible to live without a car in Uptown. Car ownership is lower for Uptown residents, in part due to cost. In Uptown, 42% of owner-occupied households have no cars available and 47% have a single-vehicle, compared to the City's estimate of only 10% without a car, 43% with a single car, and 47% with two or more vehicles[2]. But, that doesn't mean that it is easy or convenient to do so: basic services such as grocery stores can take up to 4 times longer to access on foot or by transit than by driving, highlighting an inequitable distribution of viable, affordable mobility options.

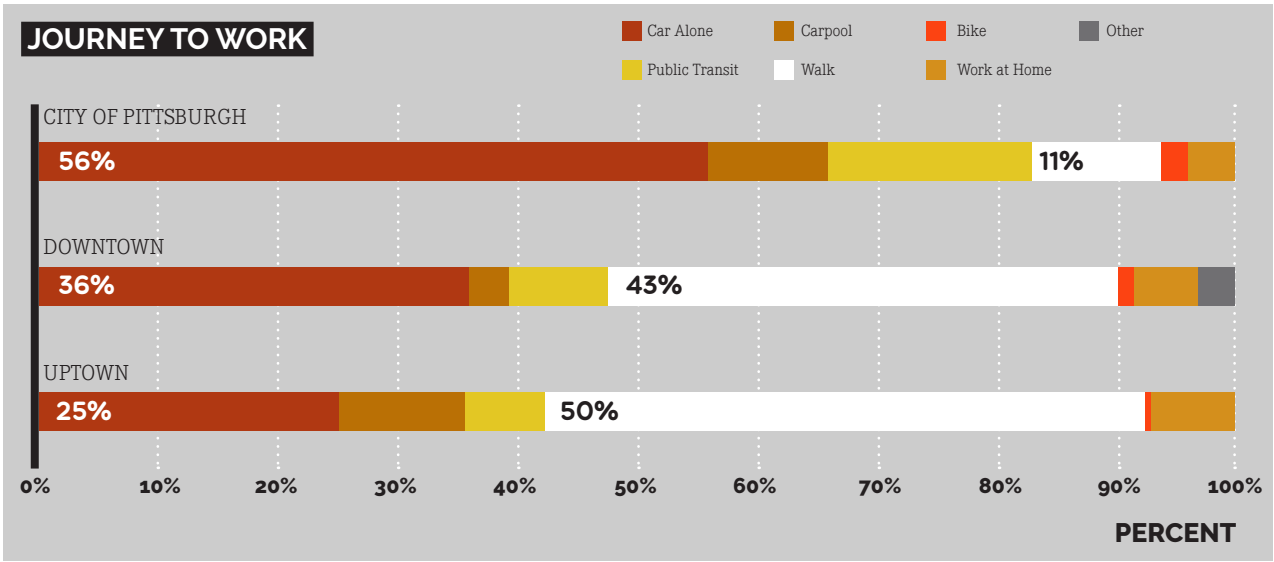
The mode split for those living in Uptown / West Oakland reflects this possibility (or necessity) of not owning, or rarely using, a car. U.S. Census Journey-to-Work data shows that 25% of Uptown residents drive to work, vs. 56% for Pittsburgh as a whole. Commutes on transit make up 7%, 50% walking, and 1% by bike, compared to 17% (transit), 11% (walking), and 2% (bike) citywide. Similarly, for those commuting to Uptown and West Oakland, 66% drive and 34% arrive by other options[3]. Clearly residents, workers, students, and visitors rely on modes other than the personal automobile to a much greater degree than all but the most mixed-use parts of the city.

1 Cost estimates from AAA's "Your Driving Costs"- Annual Cost to Own and Operate a Vehicle Falls to $8,698, Finds AAA

2 U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

3 Make My Trip Count Survey data (Sept 2015-Oct 2016).

FIGURE 41: MODE SHARE SPLITS



Yet, the quality of these other options is not always commensurate with their importance to the lives of residents, employees, and visitors to Uptown and West Oakland. The presence of basic infrastructure is not a guarantee that it will be safe or accessible to those of a range of ages and ability levels, convenient, comfortable, or enjoyable. In the case of walking, challenges range from the large-scale - highway and bridge infrastructure, hills, and difficult intersections creating barriers around all sides of the neighborhood - to the workaday - nearly half of intersections not having marked crosswalks. In the case of transit, buses run frequently and carry nearly a third of people moving along Fifth and Forbes but get stuck in traffic, hampering their reliability. Bus stop amenities for waiting passengers range from minimal to nonexistent. There are no dedicated facilities for bicyclists on the neighborhood's streets that would provide a sense of safety and comfort to all ages and abilities of cyclists–in spite of it serving as a critical connection between Downtown, Oakland, and beyond–and the existing bike share stations are not within a 1/2-mile walk to all residents.

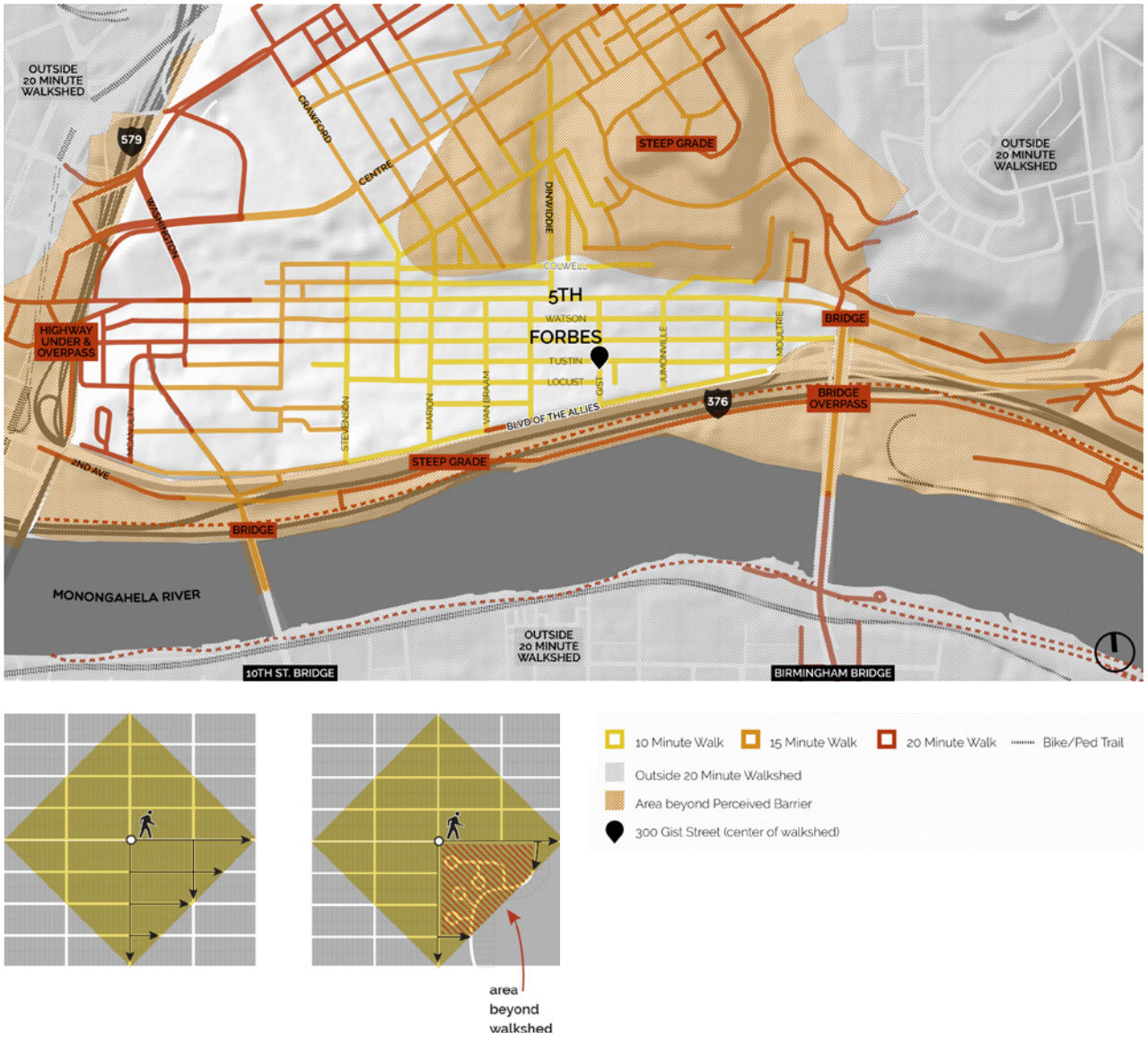


FIGURE 42: BARRIERS TO WALKABILITY

Meanwhile, the transportation landscape both locally and nationally is changing more rapidly than at any time since the dawn of the Interstate Era and mass adoption of the personal automobile. Younger demographics are placing less cultural importance on car ownership and more on having lifestyle choices. Between 2001 and 2009, the average number of miles driven by 16 to 34 year-olds dropped by 23 percent, as a result of young people taking fewer trips, shorter trips, and a larger share of trips by modes other than driving, according to a study by the U.S. Public Interest Research Group released in 2014[4]. A study by Noreen McDonald for the Journal of the American Planning Association attributes the reduction in driving to changing demographics (10-25 percent), changing attitudes (35-50 percent), and the general downward shift in U.S driving habits (40 percent). Commuter patterns are also changing; a 2014 survey by TransitCenter found that those under 30 used transit roughly two to three times more frequently than those aged 30 to 60 in every region of the country[5]. As the Baby Boomer generation retires they are likewise showing an increased preference for walkable, mixed-use neighborhoods.

New mobility services (such as rideshare or ride-hailing services, and other transportation network companies, or TNCs), technologies (including mobile trip planning and payment apps, and sensors and other feeds providing "big data"), and the advent of autonomous vehicles are facilitating a shift towards an integrated transportation system where mobility is a service, and users can plan the trip that best works for them all in one place without worrying about the particulars of payment, fare media, and whether it's publicly or privately provided. If planned for, regulated, and incentivized correctly, these changes can work in support of a more affordable, equitable, sustainable transportation system that, for example, transforms land currently devoted to parking to higher and better uses.

While mobility can seem technical, based on documentation of cities locally, nationally, and abroad, it is a foundation for achieving so many other community goals from economic development to job access and equity, environmental health to public health, cultural and civic vitality to long-term resiliency. The EcoInnovation District provides a tremendous opportunity to put the community's wealth of transportation assets and infrastructure in support of the project's broader goals. While the study area's modest size may preclude changes at the regional or citywide scale, it is the perfect size to test and refine the most innovative emerging concepts in sustainable and equitable urban mobility, serving as a proof-of-concept well beyond the borders of Uptown and West Oakland.

Declining travel is due to changing attitudes and perspectives about driving as well as lifestyle changes such as increased schooling, decreased employment, and delay in marriage and childbearing.

- Quote from "Are Millennials Really the "Go-Nowhere" Generation?", Noreen C. McDonald for the Journal of the American Planning Association.

4 U.S PIRG Education Fund. Millennials in Motion Changing Travel Habits of Young Americans and the Implications for Public Policy

5 TransitCenter, Who's on Board? 2014 Mobility Attitudes Survey, 2014.

The specific mobility goals of the EcoInnovation District emerged from the inclusive and robust public and stakeholder involvement process described earlier. Much of resident and stakeholder feedback focused on increasing neighborhood livability and a sense of safety on local streets, and how to better manage impacts of large institutions and major infrastructure on local mobility and access as the neighborhood grows and changes.

Finally, the proposed Oakland bus rapid transit (BRT) route Downtown-Uptown-Oakland-East End BRT ("BRT Project"), currently in preliminary design, is a critical linchpin to realizing many of these goals, both in the transformative impact it would have on the District's primary corridors of Fifth and Forbes Avenues, and in the funding it would help unlock to pay for the range of related transportation initiatives and improvements. But while the implementation of many of the proposals that follow will be facilitated by the BRT, many of these ideas stand on their own and can be implemented as opportunities arise with available funding and partnerships. Many ideas can also be implemented "tactically," i.e. using quick, lower-cost methods and materials. Such quick wins will put the mobility principles of the EcoInnovation District Plan into practice, building momentum and support for larger and even more transformative changes. All the while, the City, community, and key partners can track progress towards these goals utilizing the following performance measures:

COMMUNITY VISION

PROVIDE CHOICE IN MOBILITY

MAJOR STRATEGIES

INCREASE TRANSPORTATION CHOICE TO DECREASE CONGESTION

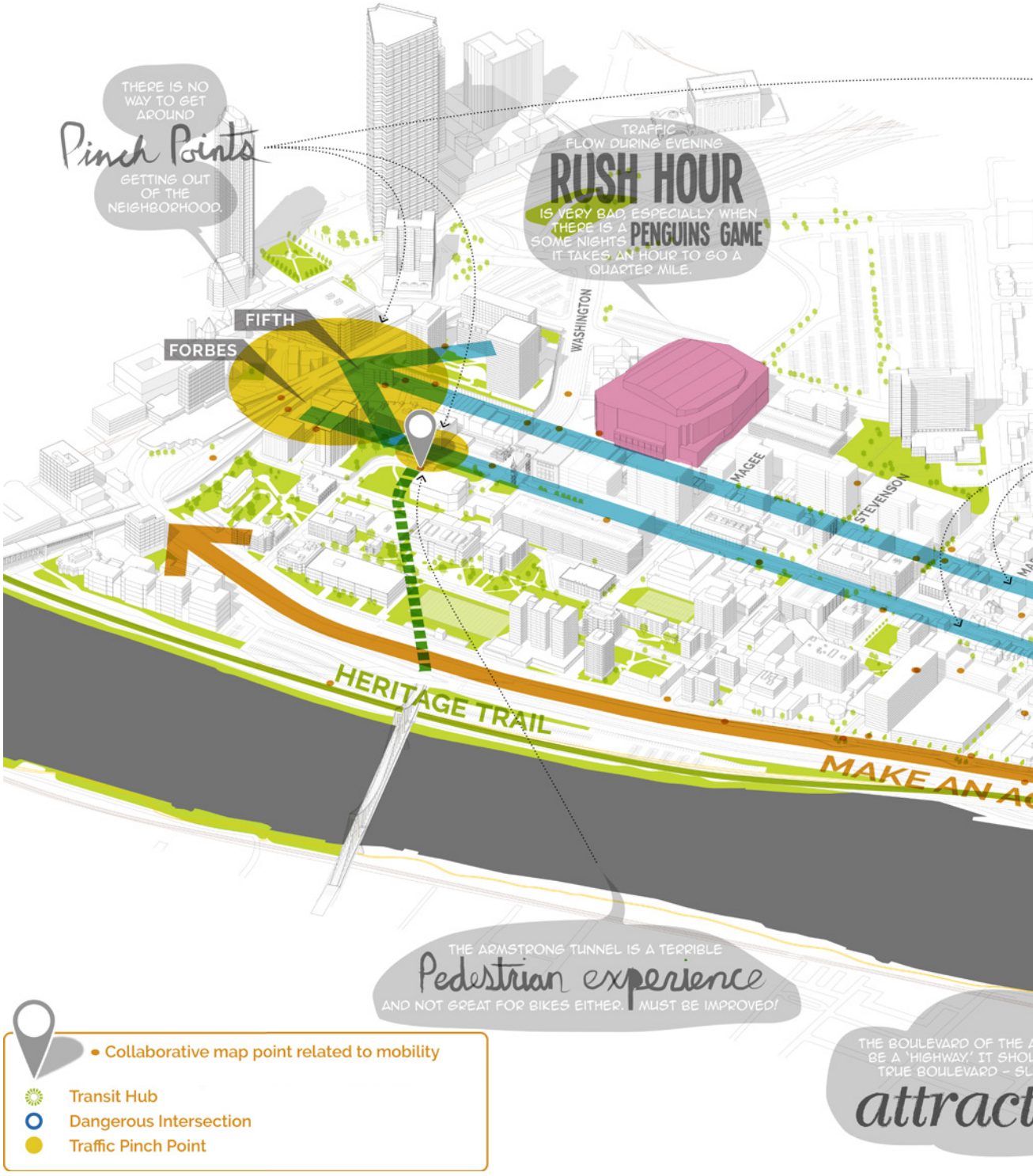
CREATE A SAFE AND LIVABLE STREET NETWORK

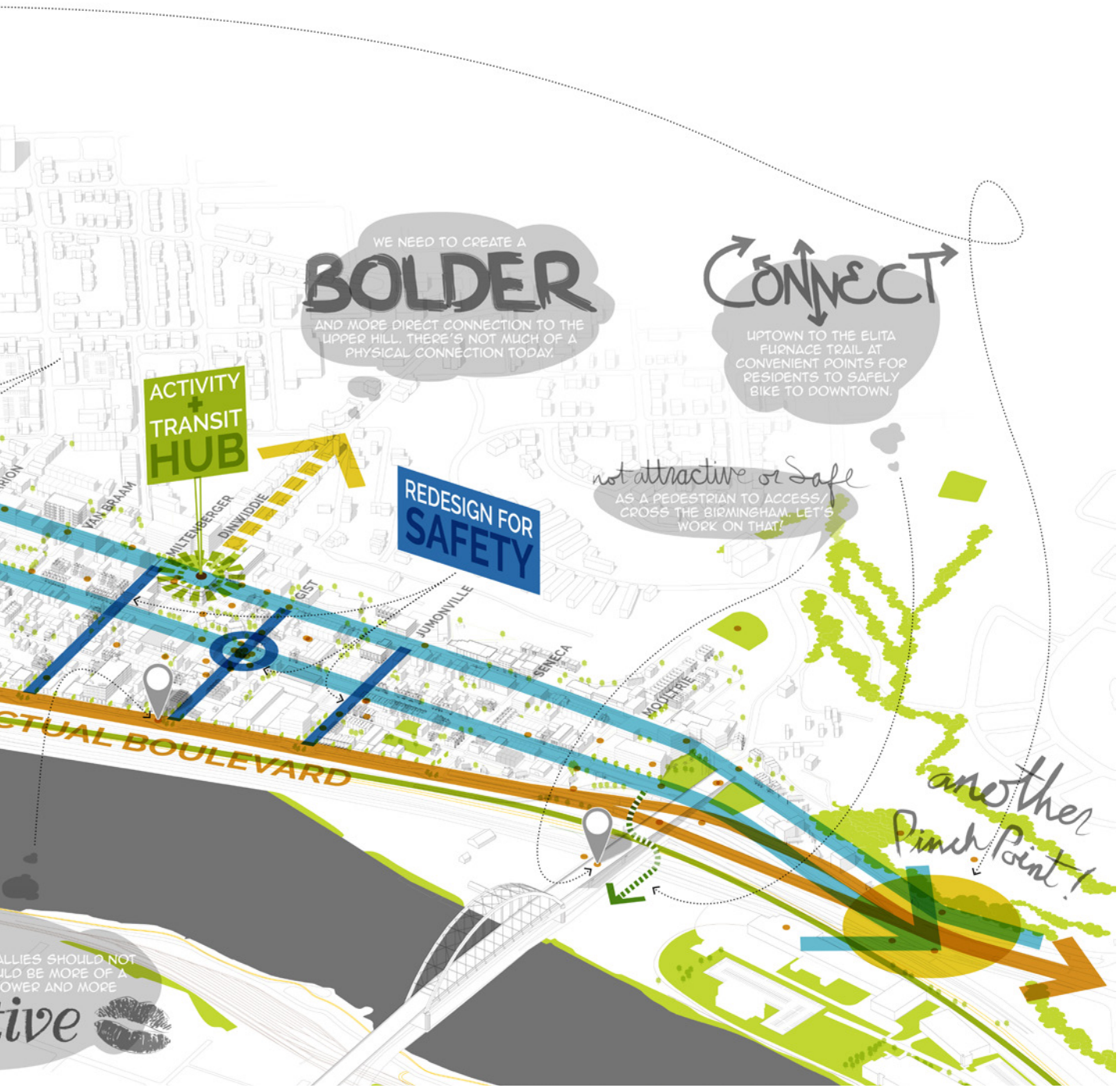
IMPLEMENT BUS RAPID TRANSIT ON FIFTH & FORBES AVENUE

BUILD A SMARTER UPTOWN

ESTABLISH A DISTRICT PARKING STRATEGY

INVEST IN BICYCLE INFRASTRUCTURE & CULTURE





CREATE A **BALANCED**

MULTIMODAL

CORRIDOR

3.1 INCREASE TRANSPORTATION CHOICE TO DECREASE CONGESTION

The City of Pittsburgh aims to reduce transportation-related greenhouse gas emissions (GHG) by 50% by 2030[6]. The first Pittsburgh Climate Action Plan committed to reducing greenhouse gas emissions by 20% below 2003 levels by 2023[7]. These ambitious goals require the widespread implementation of projects and programs that improve the availability, convenience, and cost of efficient modes of transportation such as transit, walking, biking, and ride-sharing, reduce vehicle ownership, and disincentivize the single-occupancy vehicle trips that cause the bulk of congestion, greenhouse gas emissions, and other air pollution on City streets. Reduction of GHG emissions has benefits beyond City sustainability goals; it also has the potential to reduce traffic on City streets and improve public health.

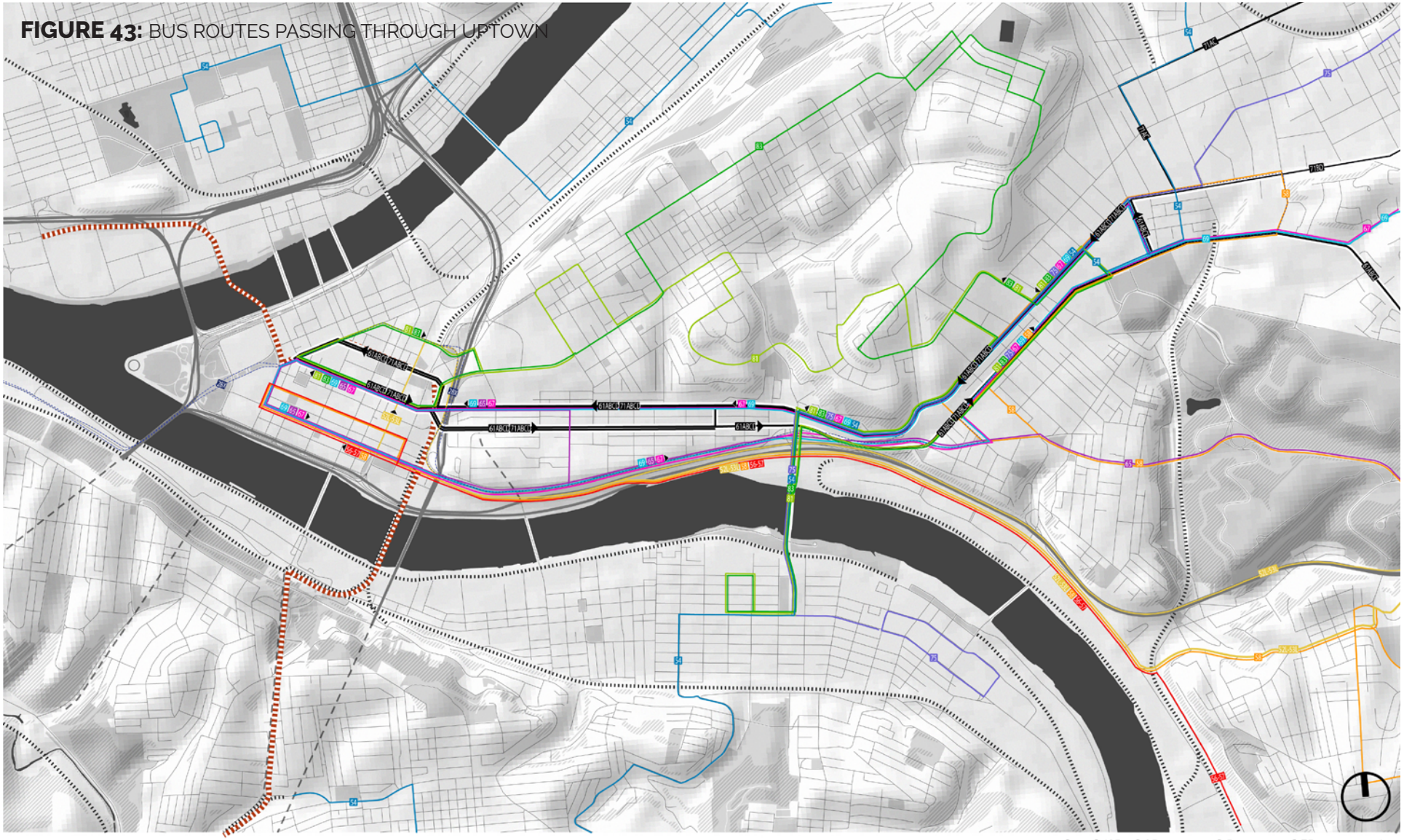
Uptown residents are no strangers to the negative effects of traffic congestion. Through the Uptown neighborhood, Fifth and Forbes Avenues function as a one-way pair traveling westbound and eastbound, respectively. These are the only two east-west streets that span the entire neighborhood and connect into Oakland and Downtown, which means that there is a lack of redundant routes for vehicles, buses, and bikes on-street, concentrating traffic and creating "pinch-points" at the connections on the west and east ends of the neighborhood. Furthermore, the Boulevard of the Allies creates a loud, high-speed wall along the neighborhood's southern edge, cutting off any physical or psychological connection to the bluffs and the Monongahela River below.

The continued development of Uptown and the City as a whole will bring more people in, and passing through the neighborhood. However, more people traveling on Uptown streets does not have to mean more congestion. Increasing transportation choice means providing both residents and commuters alternatives to single-occupancy vehicles to meet their transportation needs. Making it easier to choose to walk, bike, or take transit for short, local trips can be accomplished by reducing real barriers such as connectivity, cost, or access to non-SOV (single occupancy vehicle) modes. This also requires reducing real and perceived barriers such as safety, reliability, convenience, and comfort.
Setting targets for SOV reductions will help to focus investments where they are needed most to reduce congestion on neighborhood streets. Increasing the number of people in each vehicle by promoting transit and ride-sharing options will mean more efficient roadways and a more pleasant experience for people walking and biking.

6 USDOT Smart City Challenge- City of Pittsburgh Vision Narrative & U.S. Conference of Mayor's Climate Delegation to the UN Paris Climate Conference in November 2015

7 Pittsburgh Climate Action Plan (Version 1.0) , 2008

FIGURE 43: BUS ROUTES PASSING THROUGH UPTOWN



RAILROAD

T - BLUE/RED LINES

ROUTE DIRECTION

ROUTE (Average Weekday Ridership)

71ABCD (combined: 21,100)

61ABCD (combined: 15,700)

28X AIRPORT FLYER (2,000)

52L HOMESTEAD LIMITED (400)

53L HOMESTEAD PARK LIMITED (1,200)

54 NORTH SIDE-OAKLAND-SOUTH SIDE (3,800)

56 LINCOLN PLACE (1,600)

57 HAZELWOOD (1,400)

58 GREENFIELD (1,000)

65 SQUIRREL HILL (400)

69 TRAFFORD (1,600)

67 MONROEVILLE (2,100)

75 ELLSWORTH (2,700)

81 OAK HILL (1,600)

83 BEDFORD HILL (2,300)

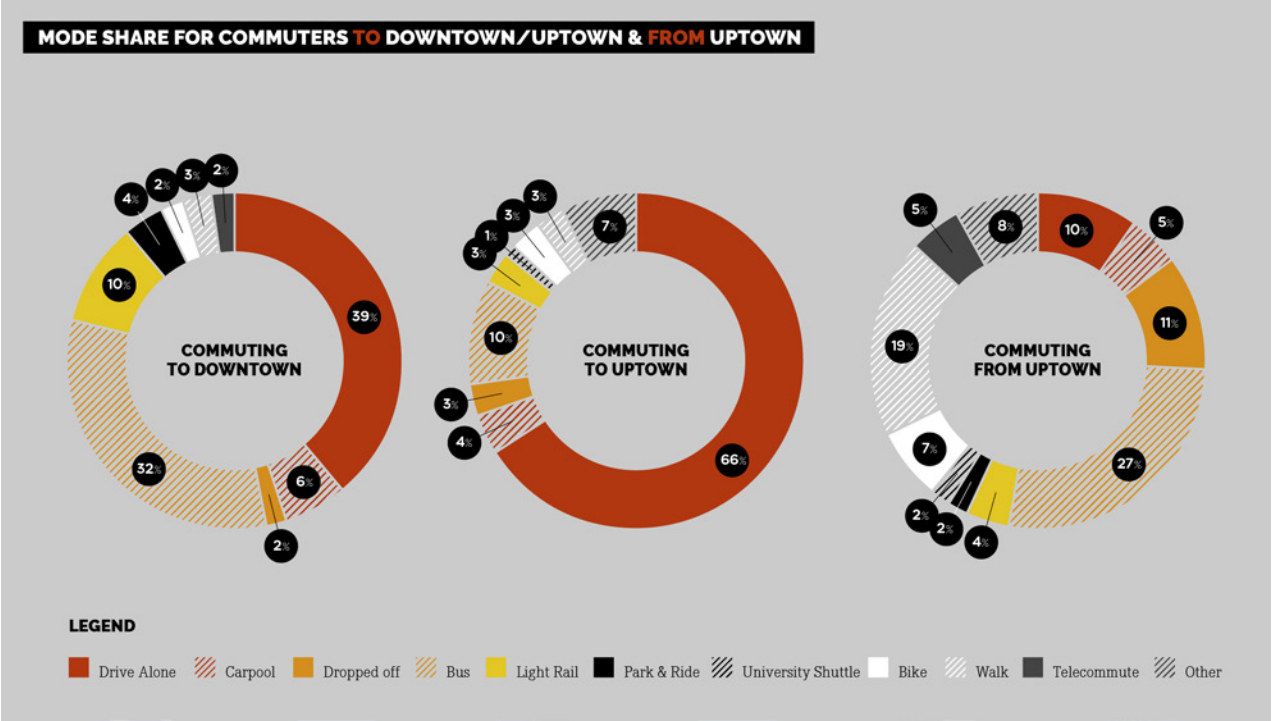
0 0.125 0.25 0.5 0.75 1 MI

FIGURE 44: MODE SHARE FOR COMMUTERS

ENCOURAGE WALKING, BIKING, AND TAKING TRANSIT FOR TRIPS TO, FROM, AND WITHIN THE ECOINNOVATION DISTRICT

In January 2016, Mayor Peduto announced initial results of the Make My Trip Count (MMTC) survey, offering a glance at the complexity of the Pittsburgh commuter, and which modes they regularly use. This survey was developed and distributed in partnership with the Green Building Alliance, Pittsburgh 2030 District, Envision Downtown, and others to learn how commuters in the Pittsburgh region travel to work and to school[8]. A startling 20,710 residents in the Pittsburgh region responded, about 9,200 indicating zip codes within the City of Pittsburgh. Roughly 400 respondents indicated that their weekly commute destination was in the Uptown neighborhood. Though it is only a small subset of the MMTC data, the difference in travel behavior between those destined for Uptown and those whose commutes originate in Uptown corroborates feedback from stakeholders and residents of the area–much of the congestion and parking demand on Uptown's streets is due to commuter's driving single-occupancy vehicles to major employers in Uptown and through the neighborhood to jobs in Downtown.

Mode share describes the percentage of travelers using a particular type of transportation, and mode shift describes a change between mode shares. The graphics below depict the existing mode share for people commuting to Downtown, those commuting to destinations in the Uptown neighborhood specifically, and people commuting from Uptown to other places in the City. Mode share targets are based on the MMTC estimates, due to the advantageous specificity in the data set as compared to ACS Journey to Work estimates.



Cities across the world have started to establish mode share targets, similar to targets for greenhouse gas emissions or vehicle miles traveled per capita, to guide policies and investment to encourage the shift from single-occupancy vehicles to higher-occupancy or non-motorized modes of transportation. The City of Pittsburgh has not set an official mode share target, but based on goals established in cities with some similarities to Pittsburgh, a mode share target for the City as a whole would look to reduce SOV mode share and increase public transit use, biking, and walking as shown in the table below.

Uptown's mode shift goals are complicated by the two different commuter groups today: commuters to Uptown and residents commuting from Uptown to other places. In Uptown these groups have dramatically different mode share charts. The goals for these two groups in the future, and steps to achieve mode shift goals, are different. For this reason, separate mode share targets should be set for these groups.

8 Make My Trip Count Survey (2015)

MODE SHARE SHIFT GOALS FOR OTHER CITIES

Data gathered from the following sources:
Boston - GO Boston 2030, Journey to Work
New York - NYC 80x50, All trips
Portland - Portland Climate Action Plan 2015, Journey to Work

UPTOWN RESIDENTS

Uptown residents walk (19%) and bike (7%) at a higher rate than both commuters to Uptown or Downtown. The transit mode share for Uptown residents (27%) is more than double that of the cohort commuting to Uptown for work (10%). In fact, Uptown's current modal mix for biking and walking today meets Boston's 2030 mode share targets for these modes. Uptown is a small neighborhood that is well connected by transit. Many of the existing residents work within walking distance of their homes, and low levels of car ownership in the community can be attributed in part to the high proportion of low- and moderate-income residents. But the neighborhood is growing. New residents and development will increase the density of the neighborhood, and new people moving into the neighborhood may be wealthier, have more access to vehicles, or less experience using public transit. The challenge Uptown residents face is in maintaining their existing mode mix in the face of changing area demographics. The BRT project, effective parking management, increasing access to options like bike share and car share, and encouraging institutions to adopt Transportation Demand Management (TDM) strategies will help to maintain the desired mode share.

COMMUTERS TO UPTOWN

The proposed mode shift for commuters coming to Uptown emphasizes a shit from SOV mode share to other modes. The mode shift target horizon of 2030 aligns with the goals of the City to reduce greenhouse gas emissions. The proposed mode mix nearly doubles the share of public transit use by commuters. The coming BRT project facilitates an aggressive public transit mode shift goal. Enhancements to make transit service more convenient are a necessary complement to provide an attractive alternative to single-occupancy vehicle (SOV) use. Goals to increase biking for trips to Uptown will rely on the City's construction of all-ages bike facilities connecting more bikers to more places throughout the City, as discussed later. Expanding the Healthy Rides bike share system will further enable this mode shift. Institutions can also offer incentives to those who choose not to drive, such as parking cash-outs. For example, the City of Berkeley (CA) initiated the Commuter Benefit Services for Employers, under which the City requires that employers with ten or more employees provide a commute program to encourage employees to use public transit, vanpools, or bicycles. Many of these recommendations will be covered in Section 3.5 relating to TDM programs.

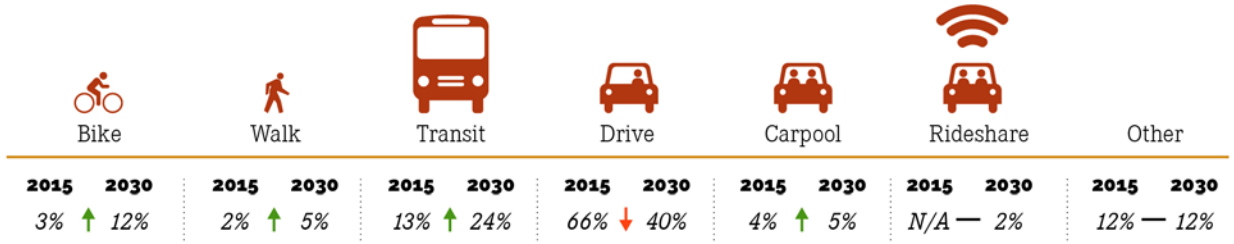


FIGURE 45: PROPOSED MODE SHIFT FOR COMMUTERS COMING TO UPTOWN

NEW YORK CITY

	2016	2050
BIKE	*1%*	*10%*
WALK	*38%*	*40%*
TRANSIT	*28%*	*30%*
DRIVE	*31%*	*12%*
CARPOOL	*N/A*	*N/A*
RIDESHARE	*2%*	*8%*
OTHER	*N/A*	*N/A*

BOSTON

	2014	2030
BIKE	*2.4%*	*7%*
WALK	*14.3%*	*20%*
TRANSIT	*34%*	*44%*
DRIVE	*38.9%*	*19%*
CARPOOL	*5.7%*	*5%*
RIDESHARE	*N/A*	*N/A*
OTHER	*4.7%*	*5%*

PORTLAND

	2012	2030
BIKE	*6%*	*25%*
WALK	*7%*	*10%*
TRANSIT	*11%*	*25%*
DRIVE	*59%*	*20%*
CARPOOL	*8%*	*10%*
RIDESHARE	*N/A*	*N/A*
OTHER	*9%*	*10%*

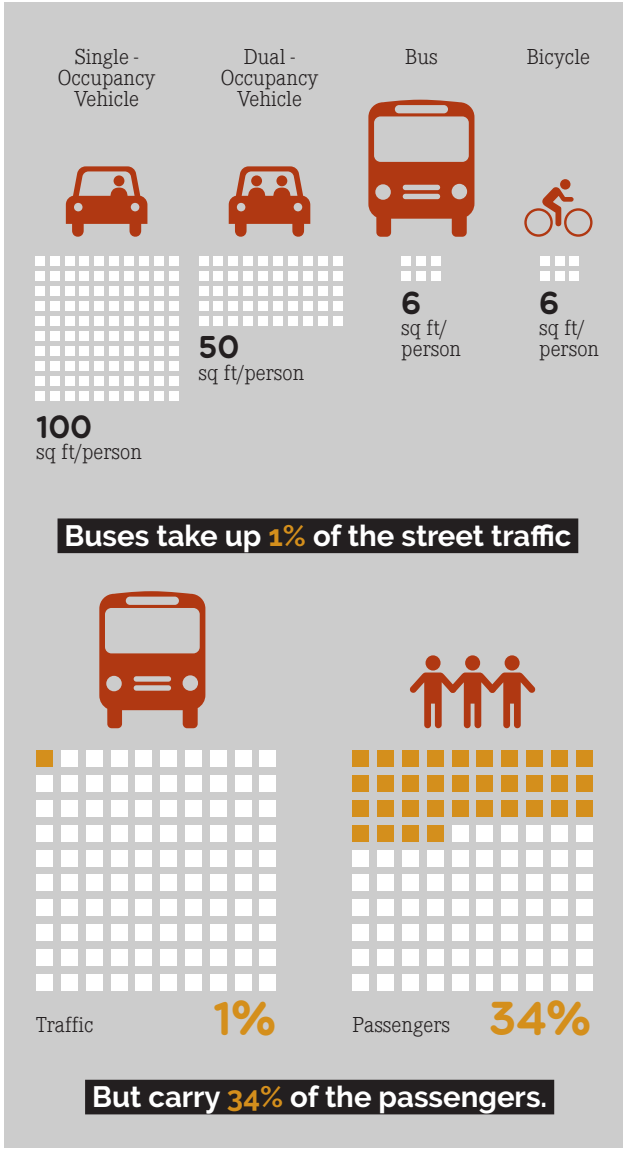
ENSURE TRANSIT MEETS THE NEEDS OF LOCAL USERS

Even today, buses make up 1% of traffic on Fifth and Forbes while carrying 34% of the people[9]. Without dedicated right-of-way, they get stuck in traffic, contributing to pollution and providing suboptimal reliability for passengers. The planned bus rapid transit (BRT) system along Fifth and Forbes, including battery-electric buses, will increase bus ridership by improving bus speeds and reliability as well as providing enhanced amenities for waiting riders. In doing so, they will reduce traffic congestion and air pollution along these key corridors. Specific community requests and recommendations for BRT design are covered in Section 3.3. BRT enhancements to the Fifth and Forbes corridors promise improvements for those commuting to and through Uptown.

Existing transit and enhanced service promised by the planned BRT project will improve connectivity to the Uptown neighborhood. But, residents also desire access to destinations to the north and south. Of MMTC survey respondents commuting from Uptown 43% were heading Downtown, 24% to Oakland, 25% to other unspecified destinations, and 7% to destinations in the Uptown / Bluff neighborhood. Improving and creating connections through re-routing, route adjustment, or increased service to important destinations and daily needs will increase the usefulness of transit for Uptown residents, and help maintain high bus mode share as the community grows.

9 Space vs Occupancy graphic dataset

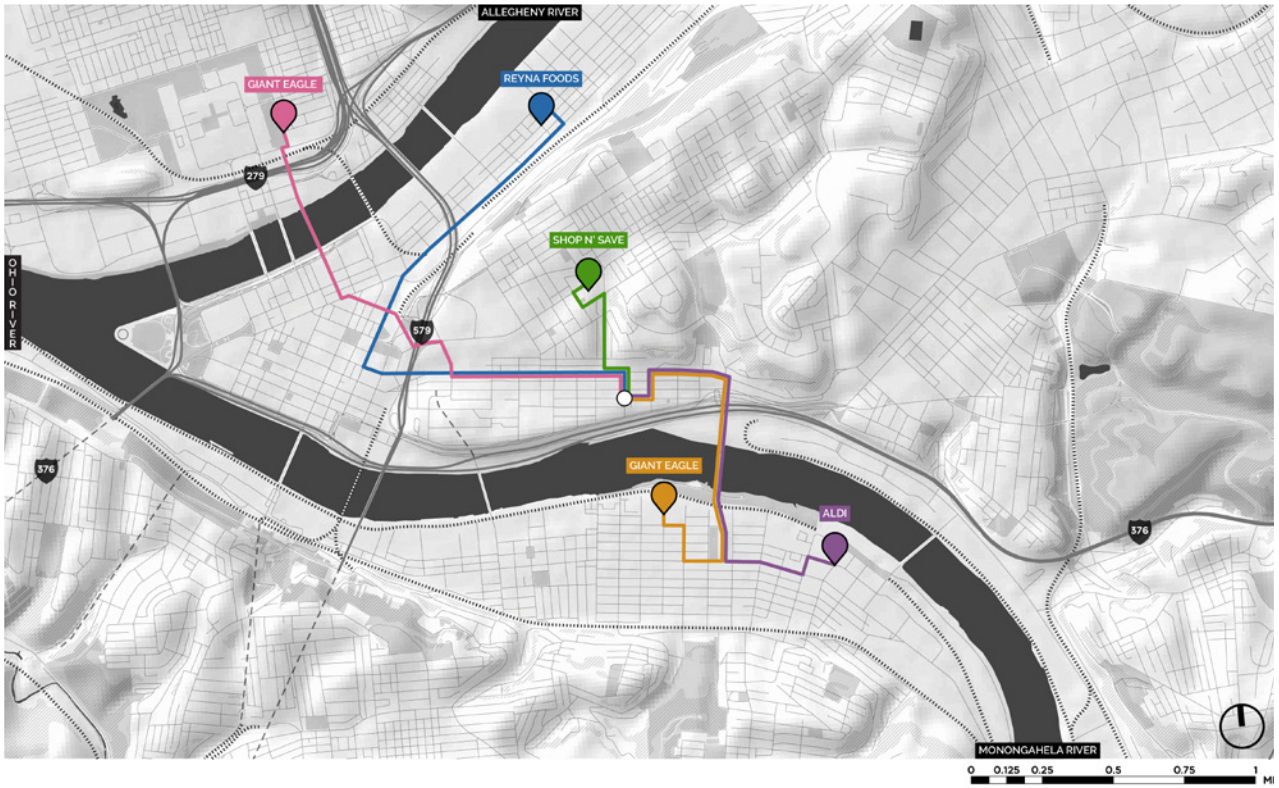
FIGURE 46: BUS SPACE VS. OCCUPANCY



Choice in mobility means more than your trip to and from work; it means having transportation options that fit your time, budget, and specific needs no matter where you're going or when. Mobility is only useful if it provides convenient access to the basic services, jobs, recreation, and other places we want to go. To better understand the relative access and mobility options for Uptown residents, trips from Uptown to nearby grocery stores–a critical service with a strong connection to cost-of-living and public health outcomes–were analyzed by every major mode. The results provide a useful benchmarking of the relative ease or difficulty Uptown residents have in accessing daily necessities using existing transportation options.

The analysis showed that the nearest grocery option, Shop N' Save (1850 Centre Ave), is not served by a direct bus route from Uptown. Although the distance is short–a 10- to 12-minute walk along Dinwiddie Street–the steep hill creates a physical barrier for those with limited mobility and a psychological barrier (making the distance feel longer) for everybody. More accessible grocery stores to the south are served by transit via the 75, 54, 83, and 81 buses, however each of those routes require the rider to board the bus at the intersection of the Birmingham Bridge and Fifth Avenue, a large and dangerous intersection for all modes. Although the distances are relatively short, multiple barriers to access and mobility exist around the perimeter of Uptown and West Oakland.

FIGURE 47: GROCERY STORE ACCESS MAP



Distance to grocery store from residential core.

Bus service along Dinwiddie that connected Uptown to the Hill District was cut several years ago due to low ridership. Though this was not a widely popular route, this service change removed the only direct transit link from the heart of Uptown to the Hill District and Center Avenue destinations. Today, many residents would like to see this service restored along Dinwiddie, but re-establishing this route faces both fiscal and physical constraints. Improving transit access to the north could be accomplished by re-routing or introducing new transit routes. With the reconstruction of Fifth and Forbes, rerouting 81 Oak Hill, 83 Webster, or 82 Lincoln routes should be evaluated to connect to Uptown via Dinwiddie Street.

Dinwiddie has a 29-foot curb to curb width, which also poses logistical challenges to providing bus service along it. The road isn't wide enough for buses to pass each other with parked cars on both sides of the street.

"We need a BUS to connect Uptown to The Hill District."

-Quote from Open House Participant

Potential strategies to connect Uptown to Center Avenue via Dinwiddie Street include:

- Restore the previous bus service along Dinwiddie without restricting parking.
  - Strategy may require pilot period to monitor potential conflicts between vehicles passing each other.
- Restrict parking on one side of Dinwiddie to accommodate transit access in both directions without conflict
  - Retain parking on one side of the street
  - Resident Permit-Only on Colwell Street and Wick Street to accommodate parking demand. Consider construction of stairway connection from Wick Street to Dinwiddie Street midblock.
- Pilot micro-transit service to Center via Dinwiddie
  - Respond to both physical constraints and anticipated low-ridership by providing smaller vehicles along the desired route. Micro-transit type of service could serve a fixed-route with many stops or a semi-dynamic route based on desired connections; it is distinguished from shuttle service which typically serves limited end destinations with few or no stops in-between.

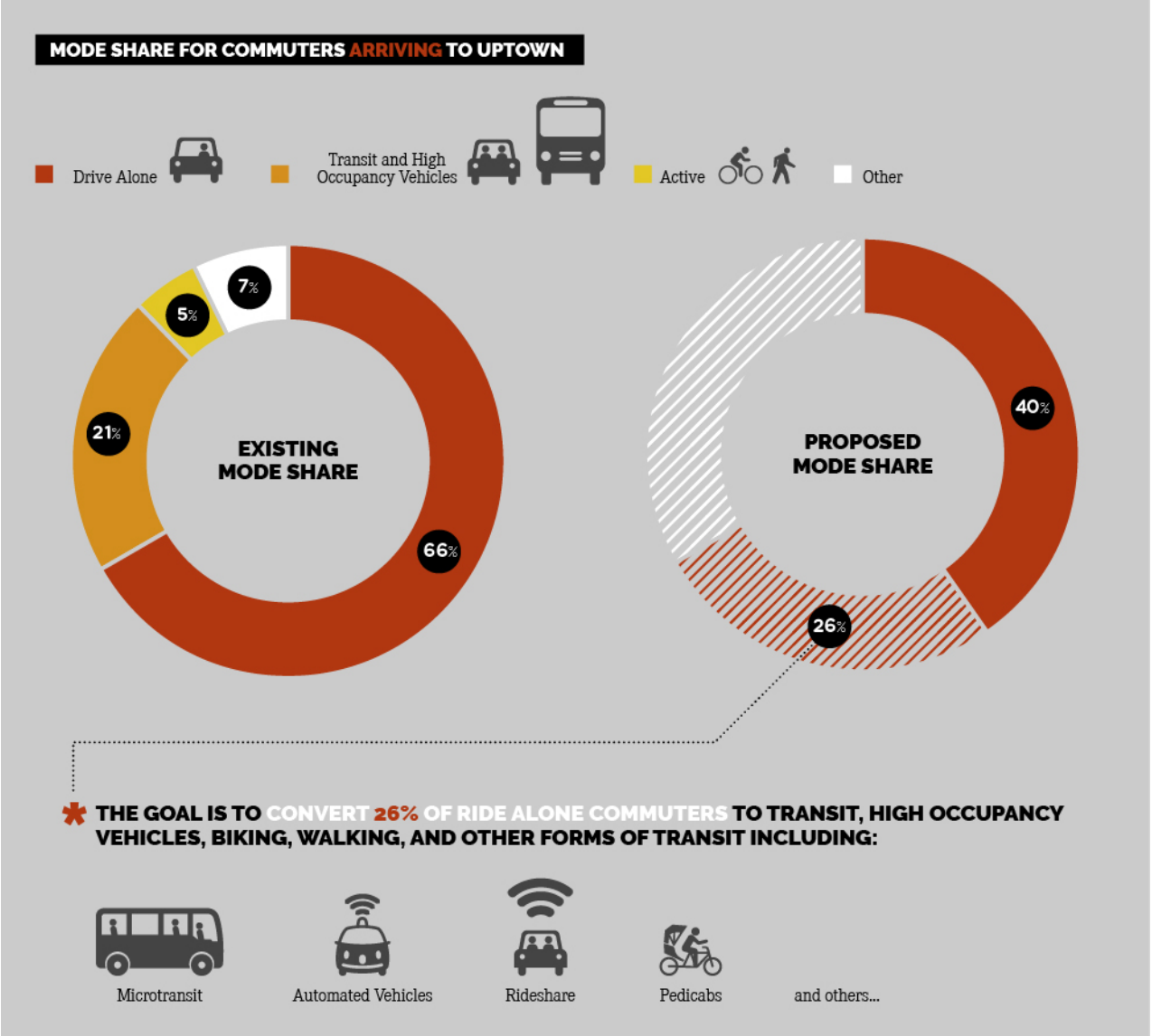
The increased population of residents, employees, and students in Uptown as a result of new development could provide an increased demand to justify such a future route, and should be monitored over time.

GET MORE PEOPLE RIDING TOGETHER

Getting more people to ride together starts with promoting public transit–the original rideshare service. Today 66% of employees who work in Uptown arrive by single-occupancy vehicle. This is a stark contrast to the 10% of Uptown residents departing from Uptown to commute to their place of work daily by SOV[10]. This flow of people into Uptown every day contributes to traffic congestion and safety challenges. The BRT project will make commuting by transit a more viable option for many coming to or through Uptown within the project's transit-shed and connecting to light rail system or regional bus network. But, the journey to and from work is only part of the equation, and some destinations will always be slightly out of reach by walking. Pittsburgh needs to encourage a shift to car-light or car-free lifestyles that rely more heavily on "shared mobility" to maintain the needed transportation flexibility for residents.

Shared-use mobility is a term used to describe transportation services that are shared among users and enable users to gain short-term access to transportation modes on an "as-needed" basis[11]. Shared-use mobility can mean many things, from public transit to point-to-point car share, filling empty seats in on-demand for-hire vehicles, or making what could have been a slow, congestion-filled vehicle trip on a more flexible (and healthy) bike share ride. The common theme is a widening spectrum of choice regarding

FIGURE 48: EXISTING & PROPOSED MODE SHARE SPLITS



10 Make My Trip Count Survey data. Sept 2015-October 2016

11 Shared Use Mobility Center, "What is Shared Use Mobility". http://sharedusemobilitycenter.org/what-is-shared-mobility.

TRAFFIC ALONG FIFTH AVENUE.

travel options that blend modes together and provide only the necessary level of service for a given trip. By removing the vehicle ownership element from the travel equation, the number of cars on the road–and parked on the curb–may decrease.

Reducing car-ownership and reliance on cars for commuting means less demand for parking. Every day SOV commuters store their cars in garages, lots, and on-street throughout the Uptown and West Oakland neighborhoods. In the evenings, residents who commute by SOV return home and replace the daytime parkers storing their vehicles in spaces on- and off-street. 12% of Uptown's undeveloped land area is used for off-street parking. The use of public open space for daily car storage is a waste of productive land and missed opportunity for public green space and community amenities.

Local institutions and employers also play a huge role in providing and encouraging car-light or car-free lifestyles. Employers are uniquely positioned to provide incentives for SOV commuters to make the shift to other modes by pursuing TDM programs and encouraging workers to enroll in public programs like the Port Authority's Job Perks program – a cost-saving incentive program for employers and workers. Many more TDM strategies are discussed later in this chapter.

New shared mobility options for Uptown fall into two main categories:

- Programs and services operated by public agencies and large institutions. Examples include:
  - Establish a free or reduced-fare transit pass program for students or employees of large institutions such as Duquesne University and University of Pittsburgh Medical Center (UPMC). Transit access is already provided to students at Carnegie Mellon University and the University of Pittsburgh through their Student ID cards
  - Pilot game-day reduced transit fares of micro-transit service to manage event-based parking demand
- Privately-operated shared-use mobility services for individuals and institutions. Examples include:
  - Consider optimizing service to South Side loop to further reduce student demand for on-campus parking
  - Consider reducing Duquesne South Side Shuttle Pass fee
  - Provide reduced rates for bike share to employees or students
  - Provide carshare options for students or employees within existing parking garages for UPMC and Duquesne University

EXPAND A TRANSPORTATION MANAGEMENT ASSOCIATION (TMA) TO INCLUDE UPTOWN

As options expand, they will also need to be coordinated so that the result is experienced by users as one integrated transportation system. Establishing an organization responsible for coordinating transportation services in the neighborhood – i.e. a Transportation Management Association or TMA – will help to better manage transportation-related services and programs in partnership with local institutions, supporting and integrating services that encourage the efficient use of transportation and parking resources. Building on local partnerships, the potential expansion of the Oakland or Downtown TMA should be considered rather than the creation of a new association for Uptown.

EXPAND MOBILITY ACROSS ALL INCOME LEVELS

Even if mobility options in Uptown are expanded, financial barriers may keep some residents from accessing these services. To increase equitable access to service, income-based subsidies or cost-matching programs and memberships in transportation services like bike share and public transit should be increased for residents and employees. Many cities are pursuing similar initiatives, such as Chicago's Divvy for Everyone program or Lyft's program to provide paratransit services to customers in Boston[12], and can be used as examples for implementation in Uptown.

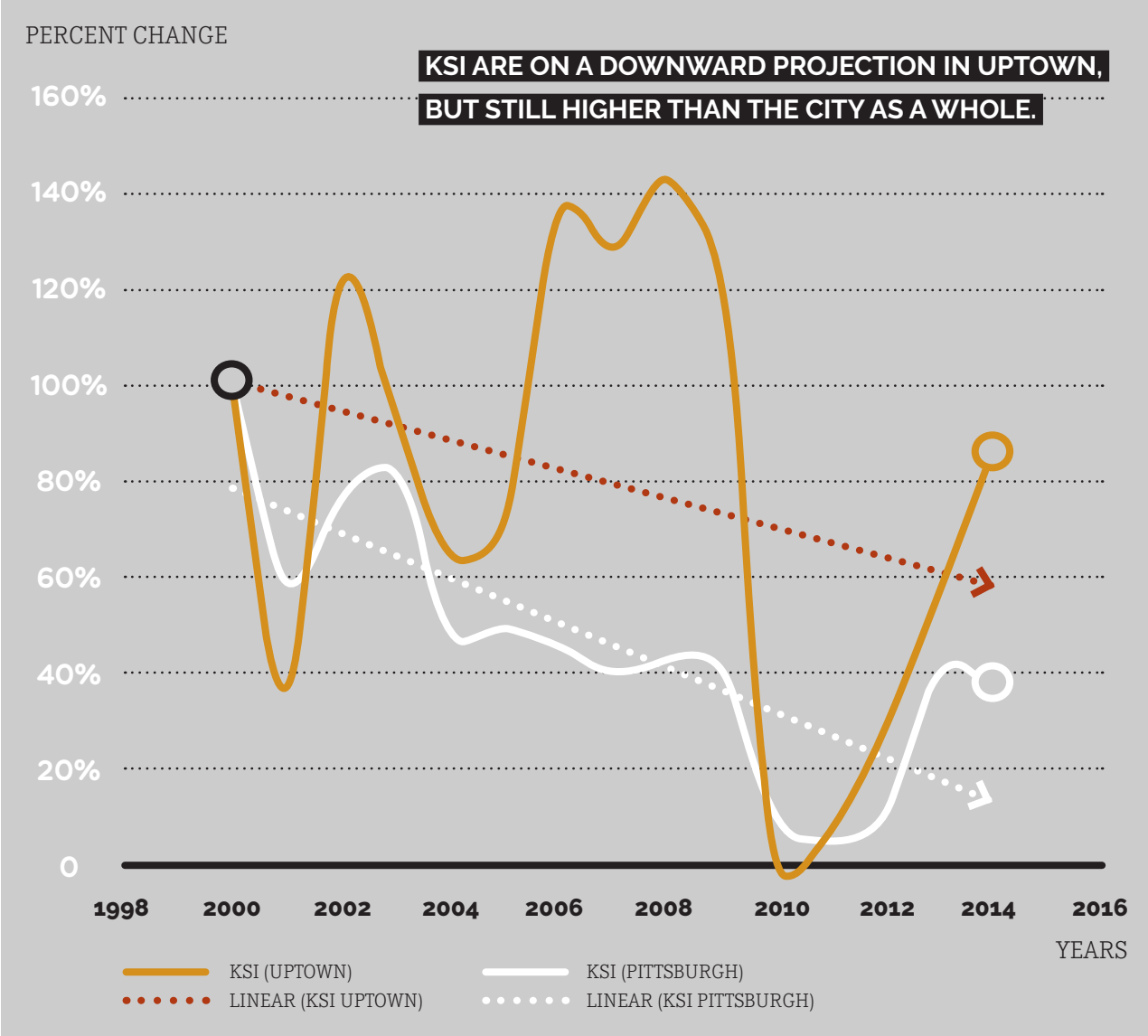
- Encourage workers to enroll in the Port Authority's Job Perks Program
- Develop a transit fare match program in partnership with employers in the district
- Consider bike share membership cost based on income level for residents, students and employees
- Explore partially subsidized, transit-linked ride-sourcing trips for students and employees
- Explore low-income car-sharing programs for residents and students

12 https://www.washingtonpost.com/news/dr-gridlock/wp/2016/09/16/uber-lyft-partner-with-city-to-offer-paratransit-customers-on-demand-service-in-boston/?utm_term=.ffcd4b077aaa

3.2 CREATE A SAFE AND LIVABLE STREET NETWORK

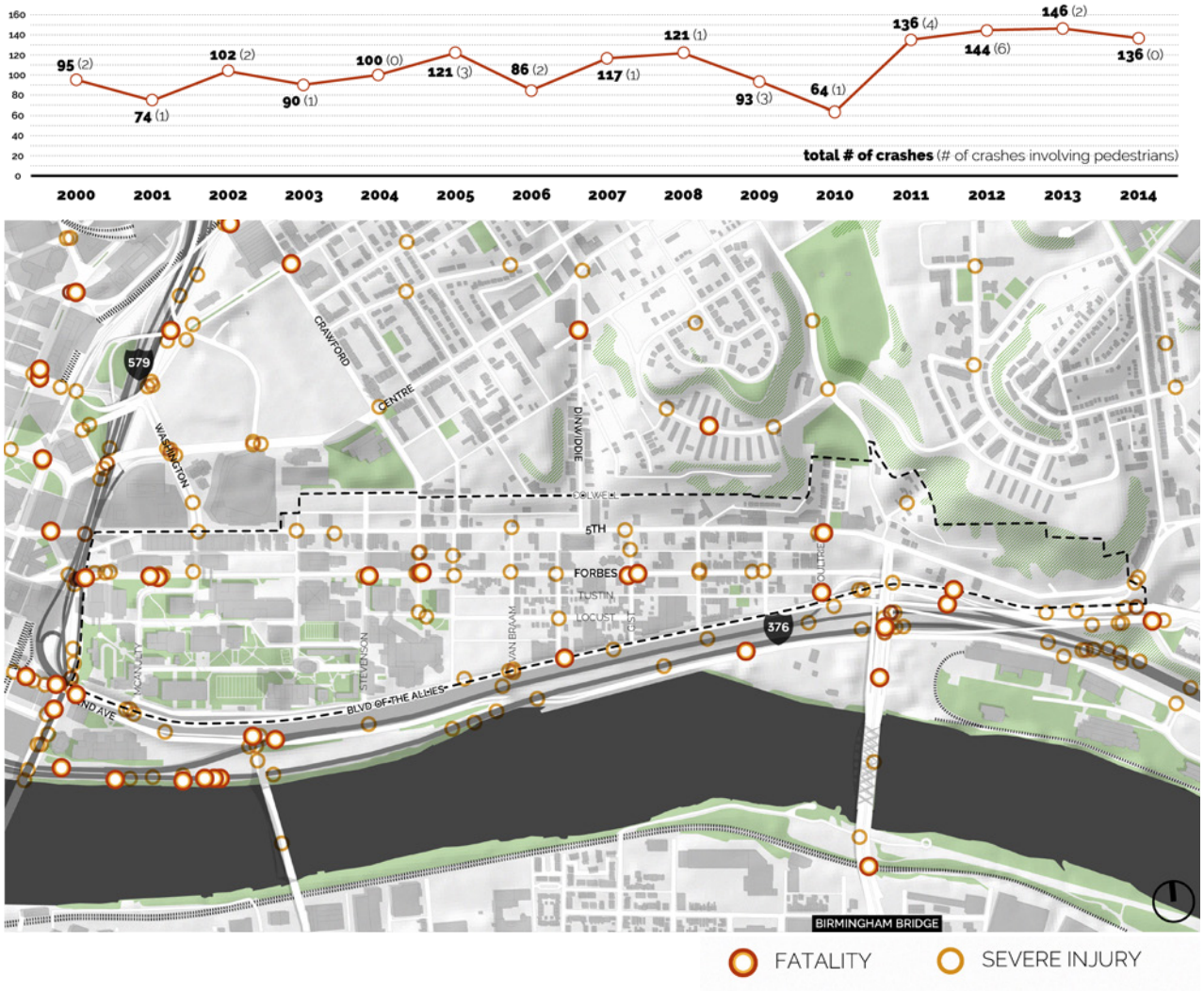
Although it is a major connector in the larger transit and vehicle network, Uptown is a neighborhood, first and foremost. Data shows that there has been a notable increase in crashes resulting in severe injuries in the Uptown neighborhood since 2010[13]. It's no surprise that many of these crashes occurred along Fifth and Forbes Avenues and along Boulevard of the Allies, as the larger streets in the network crossing Uptown–but a significant number of crashes occur along many other neighborhood streets as well. The impact on the community's health and the safety concerns that come with high-speed traffic so close to a neighborhood and slow-moving neighborhood streets demands attention. No amount of crashes is acceptable on neighborhood streets. Design and policy recommendations are meant to guide street improvements to prioritize the safety of people walking, biking, and those accessing transit, first.

FIGURE 49: PEOPLE KILLED OR SEVERELY INJURED (KSI) IN CRASHES



13 PennDOT Crash Data 2000-2014

FIGURE 50: TRAFFIC CRASHES 2000-2014



Intersections with greater than 5 crashes (2013-2014)

- Fifth & Birmingham - 15 crashes, 4 injuries, no fatalities
- Fifth & Chatham – 6 crashes, 2 minor, 2 moderate
- Forbes & Chatham – 9 crashes, 3 minor injuries, 1 ped hit, 3 sideswipe, 2 angle
- Forbes & Gist – 8 crashes
- Blvd of Allies & Marion – 11, 5 injuries total, 3 fixed object, 4 rear end, 2 angle, 2 sideswipe
- Blvd of Allies & Miltenberger

Pittsburgh adopted its first Complete Street policy in 2016.

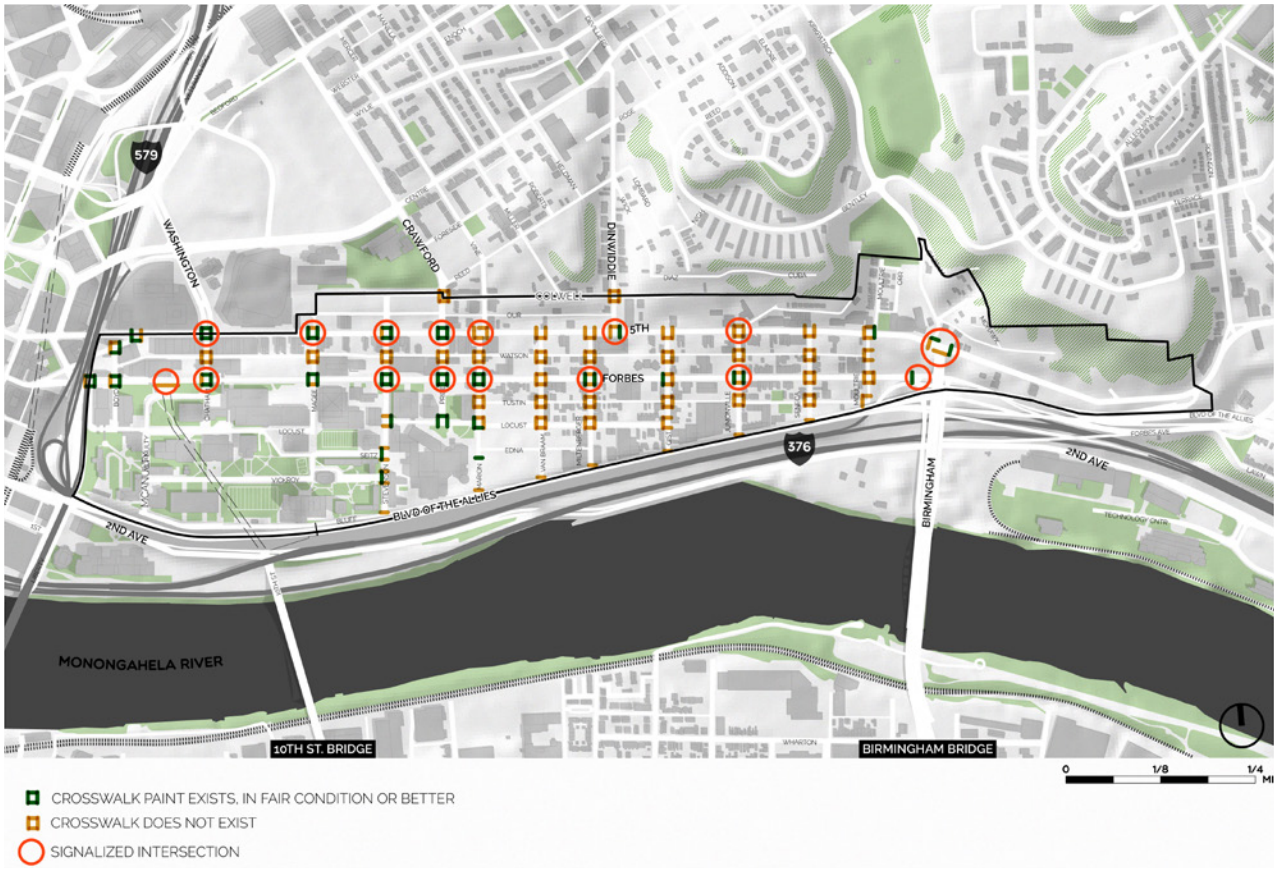
"Pittsburgh's Complete Streets approach aims to improve the quality of life for all Pittsburghers by creating streets that are safe and comfortable for all people, activated public spaces, and connected transportation networks for everyone. This initiative will consider all modes of travel in making mobility recommendations – walking, biking, taking transit, and driving – and create a more livable public realm that encourages active lifestyles."

Goals established by Pittsburgh's Complete Street policy emphasize the connection between increasing multi-modal trips, health and air quality benefits gained for SOV reduction, public safety benefits of a reduction in traffic crashes, and positive benefits of green infrastructure in the public way on stormwater management in Pittsburgh's environmental health. Stating clearly that expanding travel options for all modes is one way the City is working to combat climate change and reducing emissions from transportation.

ACHIEVE ZERO TRAFFIC FATALITIES AND ZERO SERIOUS INJURIES WITHIN UPTOWN

There is a significant need to address intersections with a high number of crashes annually to improve safety for all modes. Crossings with safety challenges are currently a widespread issue in the study area. A sidewalk and crossing survey was conducted in the Uptown neighborhood, which found that 46% of all intersections surveyed lacked crosswalk paint. Typical signalized intersections in Uptown have standard crosswalks on all four corners or high-visibility crosswalks on two sides of the intersection (across the higher traffic street). When considering only neighborhood intersections, not including intersections with Fifth and Forbes, the survey found that 88% of intersections have no crosswalk paint at all. The deteriorated and inconsistent treatment of neighborhood intersections in Uptown / West Oakland is a significant issue when it comes to pedestrian safety. Uptown and West Oakland street improvements should put the pedestrian first in design and improvements. The first step is identifying and exploring how pervasive the problem is, then prioritizing projects to fix it. Fifth and Forbes are commercial corridors connecting Uptown to Downtown and Oakland–we will anticipate more people walking along these streets. Crosswalks making people more visible at crossings with these busy streets are more important. All intersections along Fifth and Forbes should be re-painted with high-visibility crosswalks in the north-south direction, at least.

FIGURE 51: CROSSWALK QUALITY SURVEY



Percent with crosswalk paint

PEDESTRIAN CONDITIONS IN UPTOWN.

FIGURE 52: PROPOSED FIFTH AND DIAMOND INTERSECTION.

EXISTING FIFTH AND DIAMOND INTERSECTION.

Beyond physical improvements, the drive to reduce traffic fatalities should be reinforced through policy goals. The Uptown and West Oakland communities support the goal of establishing a Vision Zero policy for the City of Pittsburgh. The goal of this policy is to reduce pedestrian fatalities related to vehicle crashes to zero by a determined year. The policy itself recognizes that no level of fatality on City streets is acceptable. Implementing a multi-modal travel and accident reporting app, such as was proposed in MovePGH, and marketing it to Uptown / West Oakland residents as a means of reporting and tracking incidents increases communication of issues in this area. Vision Zero invites everyone to join the public conversation on street safety and to do his or her part to safely share the roads–MovePGH is one step forward.

- Gist Street at Forbes Avenue and Diamond Street at Fifth Avenue are the highest priority with respect to pedestrian safety. Signalizing the Gist Street intersection would significantly improve crossing safety for people walking, and reduce the number of vehicle conflicts. The high incidents of crashes alone may not warrant a signal controlled intersection in the near term, however signalization of Gist Street is likely with the reconstruction of Forbes Avenue for the BRT project, and should be pursued.
- The T-intersection at Moultrie Street/Fifth Avenue is an offset intersection. This high-crash location is a gateway for residents north of Fifth Avenue to access the Tustin Tot-lot to the south. Primary pathways for residents and families through Uptown should be a high priority for improvements.

IDENTIFY "SLOW STREETS" COORDINATED WITH TRANSIT EMPHASIS ON FIFTH/ FORBES

As part of the traffic and crash analysis, and through discussion with residents, neighborhood streets were identified as candidates to implement traffic calming to increase safety, minimize cut-through traffic, and preserve neighborhood quality of life. Most of these streets run north-to-south, and have suitable alternative routes to absorb any diverted traffic.

A Slow Street is one where traffic has been slowed down using signs and design elements like traffic islands and curb extensions, speed humps and tables, and streetscape elements like plantings and street furniture. Slow Streets are designed to reduce vehicular traffic speeds and cut-through traffic and promote pedestrian and cyclist use, while maintaining limited vehicular access.

- Robinson (Fifth to Allequippa)
- Terrace (Robinson to Darragh)
- Tustin (Jumonville to Moultrie) - Shared Street Design
- Jumonville (Forbes to Boulevard)
- Gist (Fifth to Boulevard)
- Locust (Van Braam to Gist)
- Moultrie (Fifth to Tustin)

Robinson Street was the subject of much discussion throughout the planning process. Residents of West Oakland voiced concerns over cut-through traffic and cars speeding along this street during rush hour, treacherous crossing conditions for people at the Terrace and Robinson intersection, and limited availability of parking along the street.

A recent traffic study confirmed that traffic backs up along Robinson from the Fifth Avenue intersection at the end of the workday, and many drivers make an illegal right turn from Robinson onto Fifth Avenue beyond the slip lane to access the westbound lane with access to Boulevard of the Allies. Many of the concerns voiced by residents described drivers breaking speed limit and intersection turn-restrictions. Increasing police presence and enforcement of these traffic laws is the first step to addressing these resident concerns.

The intersection of Robinson Street and Fifth Avenue will be impacted by the BRT project and nearby development. Some priorities for intersection improvements include:

- Enhanced and protected pedestrian crossings at both Fifth Avenue and all slip lane intersections with Robinson
- Potential signalization of the Robinson intersection
- Closure of southbound slip-lane from Robinson Street

FIGURE 53: SLOW STREETS DIAGRAM

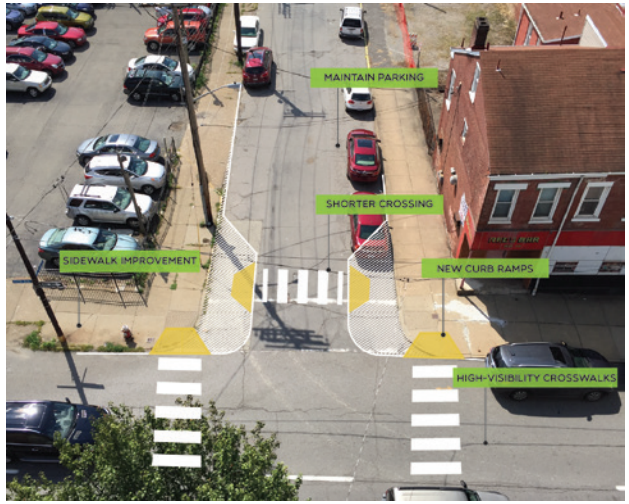
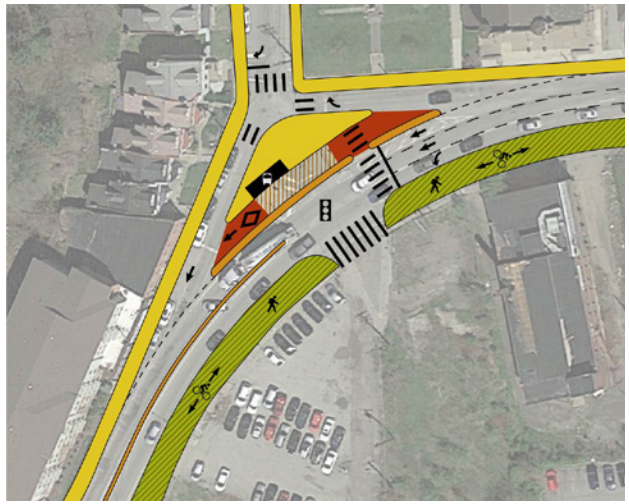
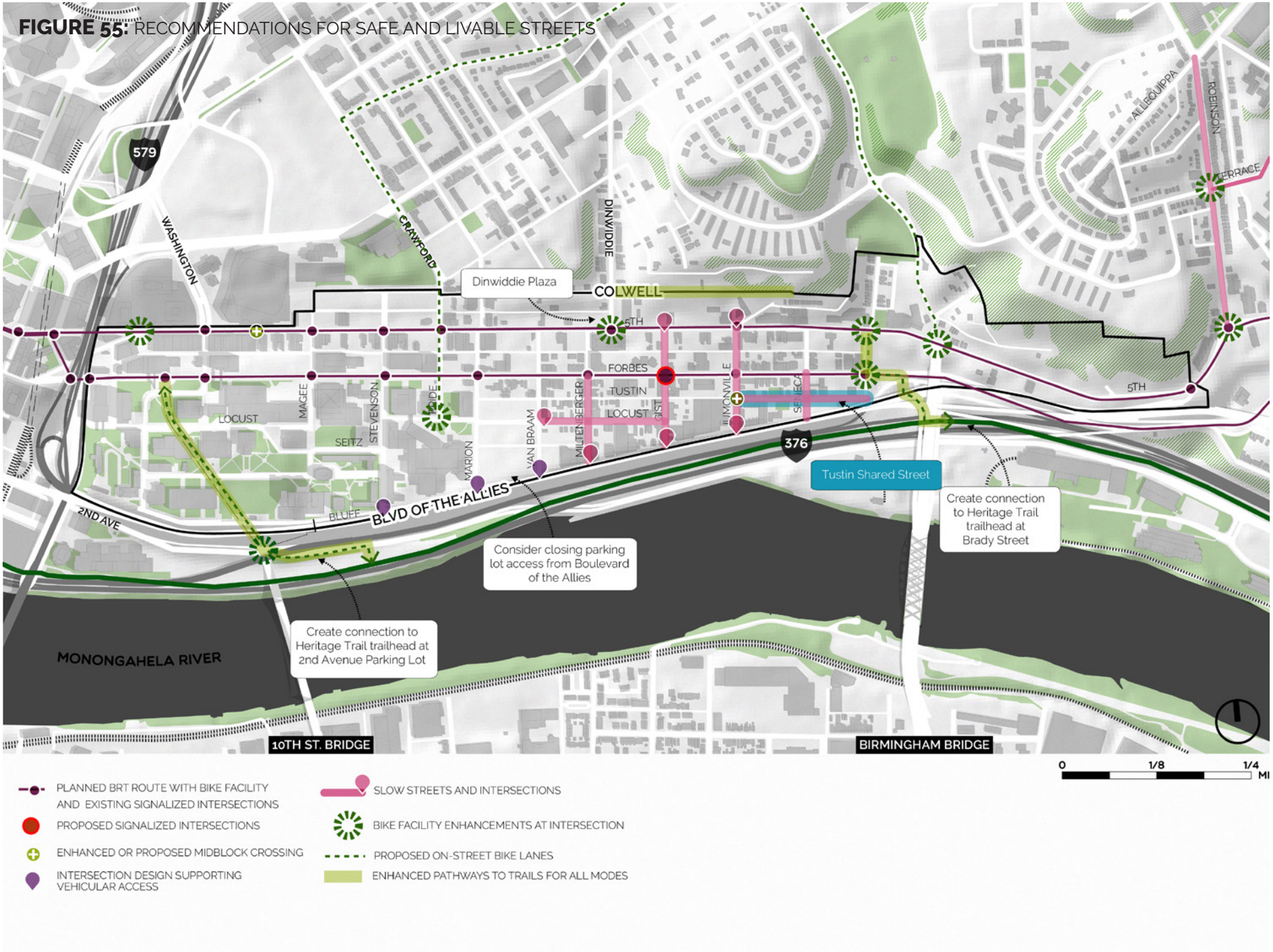


FIGURE 54: POTENTIAL FIFTH & ROBINSON



NOTE: Above is one of many discussed alternatives for the Fifth & Robinson intersection.

FIGURE 55: RECOMMENDATIONS FOR SAFE AND LIVABLE STREETS



IMPROVE SAFETY OF CROSS STREET CONNECTIONS WITH BOULEVARD OF THE ALLIES FOR ALL MODES

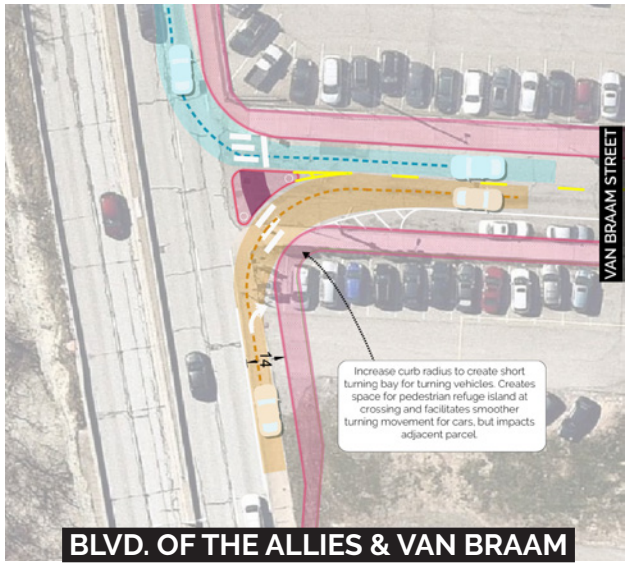
Today, Boulevard of the Allies is more highway than boulevard. Improving safety along this corridor emerged as a clear priority of the adjacent community, and this study's analysis showed that doing so would offer local benefits on multiple levels: not only safety but also public space, public health, and economic development. The change will be slow, as today the Boulevard of the Allies carries approximately 39,000 vehicles on an average day, more than both Fifth and Forbes combined[14]. Local benefits of lane reduction must be balanced against the regional function that the Boulevard serves in the roadway network.

With this much traffic flowing on the street, the first step will be to improve the safety of cross street intersections. Redesigning the cross-street connections with the Boulevard of the Allies should reinforce streets which are most appropriate for commuter circulation, improve pedestrian safety and visibility at intersections, and conditions for those waiting at bus stops. This can be accomplished by more clearly designating pedestrian crossings, widening sidewalks where possible –focusing near intersections and bus stops–and beginning to make changes to the Boulevard itself to slow vehicles. The Boulevard's speed limit is 40 MPH. 30 MPH would be a more appropriate speed limit and should be accompanied by additional signage.

14 based on PennDOT County Traffic Volumes (2014)

INTERSECTION DESIGN SUPPORTING VEHICULAR ACCESS

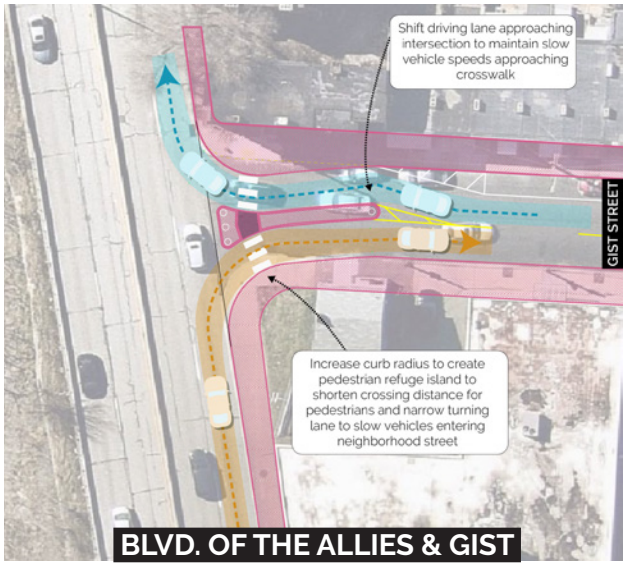
Several neighborhood cross streets which provide vital connections to local institutions: Stevenson, Marion, and Van Braam Streets. The design of these intersections should encourage drivers to use these through-streets through easier turning movements as well as signage. The intersection design shown here increases the corner curb radius of the intersection. While creating a small pedestrian refuge island in the intersection. This allows cars to make a smoother turn, while limiting the turn lane width, slowing vehicles and shortening the unprotected crossing distance for pedestrians. With enhancement to Van Braam Street intersection for turning vehicles, consider closure of access to the parking lot between Marion Street and Van Braam Street to reduce potential rear-end crashes.



BLVD. OF THE ALLIES & VAN BRAAM

PEDESTRIAN-ENHANCED OR "SLOW STREET" INTERSECTION DESIGNS

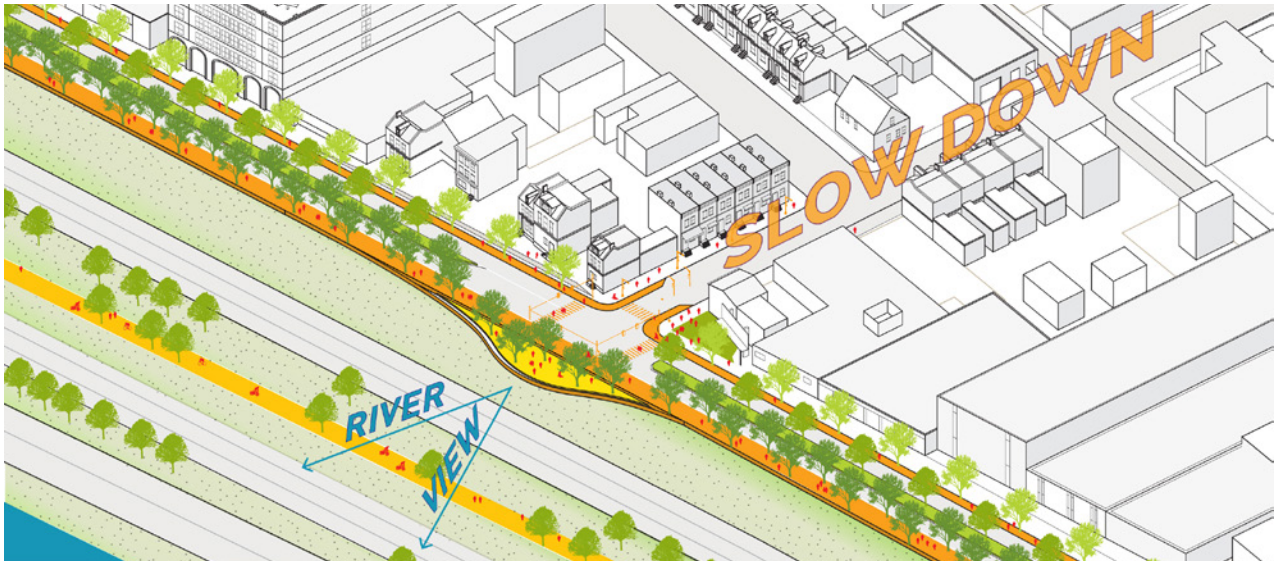
Design of intersections to residential streets should discourage through traffic and signal to drivers that they are entering a residential area. Miltenberger Street, Gist Street, and Jumonville Street should be redesigned to slow vehicles and reduce cut-through traffic from the Boulevard. At these intersections, as shown, the curb radius should be reduced, sidewalks expanded, and crosswalk striping enhanced to make people walking along Boulevard of the Allies as visible as possible in the crosswalk. Relocate/improve bus stop waiting areas: Consider locating bus stops to the west (far) side of intersection.



BLVD. OF THE ALLIES & GIST

Designs for long-term reconstruction are introduced in Chapter 4 on infrastructure. These concepts reduce the Boulevard from four to three lanes, enabling the ability to capture the extra space for a River-facing trail with overlooks. One option treats the middle lane as a reversible lane according to morning and rush hour traffic, enabling the Boulevard to carry effectively the same number of cars it does currently. The other treats the middle lane as a planted median with turn lanes enabling access to Uptown from both the east and west, providing significantly improved vehicle access and network redundancy for Uptown compared to today, where Uptown and its institutions can only be accessed from the westbound direction. Reduction of the Boulevard of the Allies to three lanes with or without signalization along the Uptown segment requires further study, and will need to be evaluated after traffic returns to normal after the reconstruction of Fifth and Forbes for BRT. Traffic patterns before and after reconstruction should provide critical insight into the impact of lane reduction on vehicle flows through Uptown.

FIGURE 56: CROSS STREET IMPROVEMENTS ON BOULEVARD OF THE ALLIES.



PRIORITIZE SIDEWALK IMPROVEMENTS BASED ON NEED AND CRITICAL PATHWAYS

Residents are the best resource for identifying problem spots along neighborhood streets and sidewalks. The residents in Uptown and West Oakland are a vocal and engaged group, with a keen knowledge of where improvements are needed most. In addition to ongoing discussion of BRT design in the neighborhoods, and 311 issue reporting, residents can organize a neighborhood sidewalk survey to identify missing, deteriorated, or obstructed sidewalks throughout the community for immediate repair. The information collected can build upon a survey dataset created as part of the Uptown EcoInnovation District Plan research into existing neighborhood conditions. An effort like this is timely, as some cross-street challenges near intersections with Fifth and Forbes could be completed as part of the larger project and must be documented in advance of full BRT project design.

Pathways to major institutions should also be a priority for improvement. Ensuring safe and straightforward access to local institutions, destinations, and large employment centers is paramount in thinking about local mobility. Wayfinding, intersection, and pathway enhancements should focus on pedestrian and bicycle access points to building entrances, large parking facilities, and transit hubs. Several key intersections for bike and pedestrian intersection enhancement are discussed later in this chapter.

IMPROVE SAFETY AND QUALITY OF THE PEDESTRIAN EXPERIENCE CROSSING UNDER BRIDGE AND OVERPASS INFRASTRUCTURE

Fifth and Forbes Avenues' reconstruction should seek to improve bike and pedestrian access, particularly at pinch-points crossing under and around bridge and highway ramp infrastructure. Fifth and Forbes are the primary routes crossing under the spaghetti of infrastructure around Interstate-579 (Crosstown Boulevard) and the Birmingham Bridge, and serve as the gateway streets to Uptown and West Oakland for all modes. These areas have wide, complex intersections, often at skewed angles; are poorly lit and frequently congested; and make the walk or bike ride into Downtown, Uptown, and West Oakland feel treacherous.

The Second Ave intersection with the Armstrong Tunnel, Birmingham Bridge connection to Fifth Avenue, and Fifth and Forbes crossings under I-579 pose significant challenges to the safety of people walking and biking. As part of the BRT project, these important intersections should be redesigns to improve safe conditions for all modes by identifying and reducing unnecessary motor vehicle lanes or turn lanes and eliminating slip lanes (and reconnect traffic islands) where possible. Intersections should be designed to minimize skewed crosswalk angles angle and provide crosswalks at all key pedestrian desire lines. Pedestrian scale lighting and wayfinding should be installed in areas shaded by overhead infrastructure to improve visibility of people approaching crossings and walking across intersections

Today, the character of Forbes Avenue changes as it passes under Birmingham Bridge heading toward Oakland, making it impossible for those biking or walking to connect into Oakland along the street. This forces those users to choose between a much more circuitous route, or one with no bike facility. Streetscape improvements can be implemented to make the streets feel safer and more comfortable for these users, but a much bigger investment is needed to make Fifth and Forbes truly welcoming connections between the neighborhoods. Strategies 3.7 and 4.4 in this plan describe key improvements to this area with respect to Brady Street and ensuring that residents have safe access to the Three Rivers Heritage Trail.

ARMSTRONG TUNNEL IMPROVEMENTS

As cycling increases within Uptown, there is an increasing need to improve the condition and visibility in the interior separated pathway through the Armstrong Tunnel and crossing conditions at the connecting intersections.

- Improve interior pathway safety and aesthetics
- Improve lighting in tunnel and at entrances.
- Conduct test of air quality and make sure ventilation mitigates the vehicle exhaust
- Explore the possibility of a 2-way dedicated bike lane through one of the Armstrong tunnels or for a 1-way on each side
- Widen sidewalk along south side of Second Avenue to 10ft; sign for bikes on sidewalk OR stripe a dedicated bike facility on street
- Increase signage to the Three Rivers Heritage Trail from Forbes Avenue

FORBES AVENUE AT SECOND AVENUE

- Provide on-pavement bike turning facility through intersection.
- Increase lighting at corners
- Repaint crosswalks in all directions

BIRMINGHAM BRIDGE AT FIFTH & KIRKPATRICK

Crosswalks in all directions at this large, and irregular intersection should provide pedestrian countdown signals. Due to long crossing distances, pedestrian countdown timers and Leading Pedestrian Intervals – pedestrian signal gives pedestrians a 3–7 second head start when entering an intersection with a corresponding green signal in the same direction of travel for vehicles – to ensure comfortable walking speeds for people crossing the intersection. For cyclists, large intersections or those with irregular geometries demand enhanced bike facilities that ensure dedicated space for cyclists alongside vehicle turning paths. At this intersection, bike facilities in all directions should be striped through the intersection.

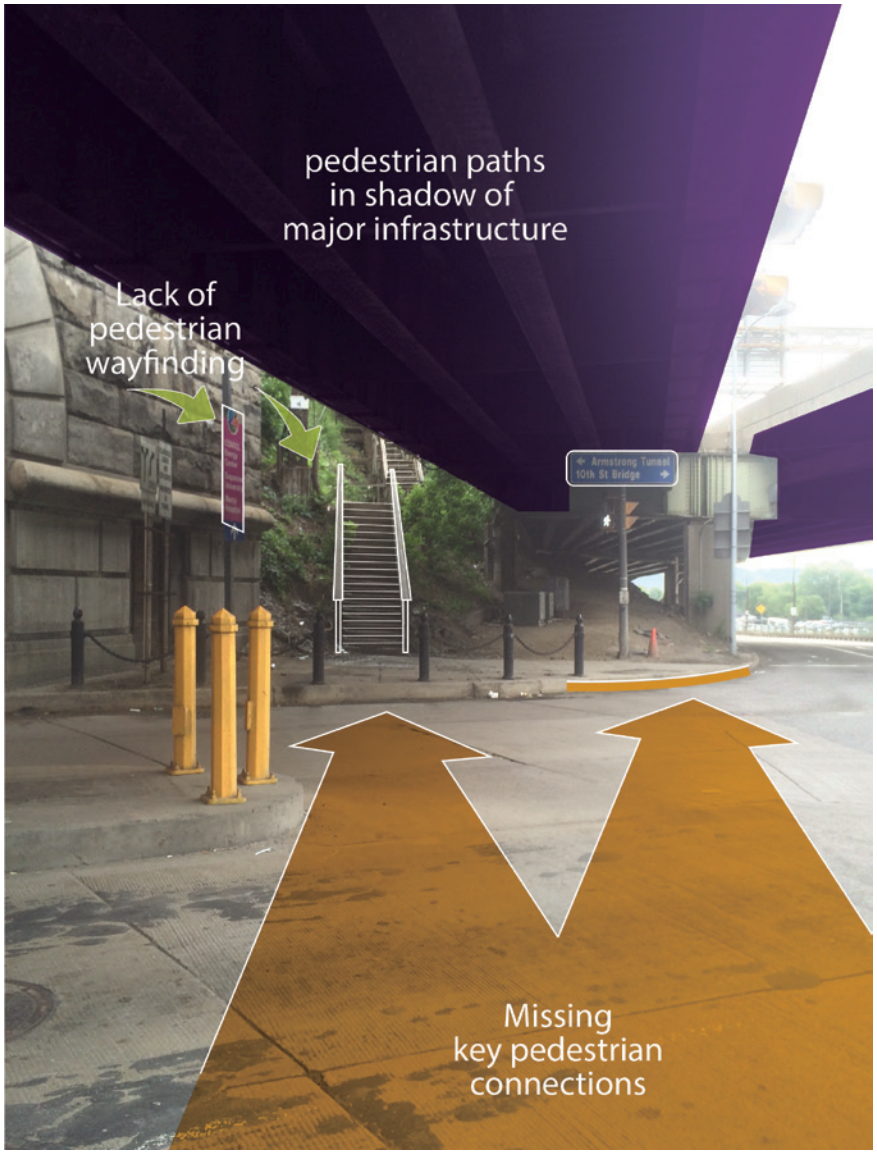


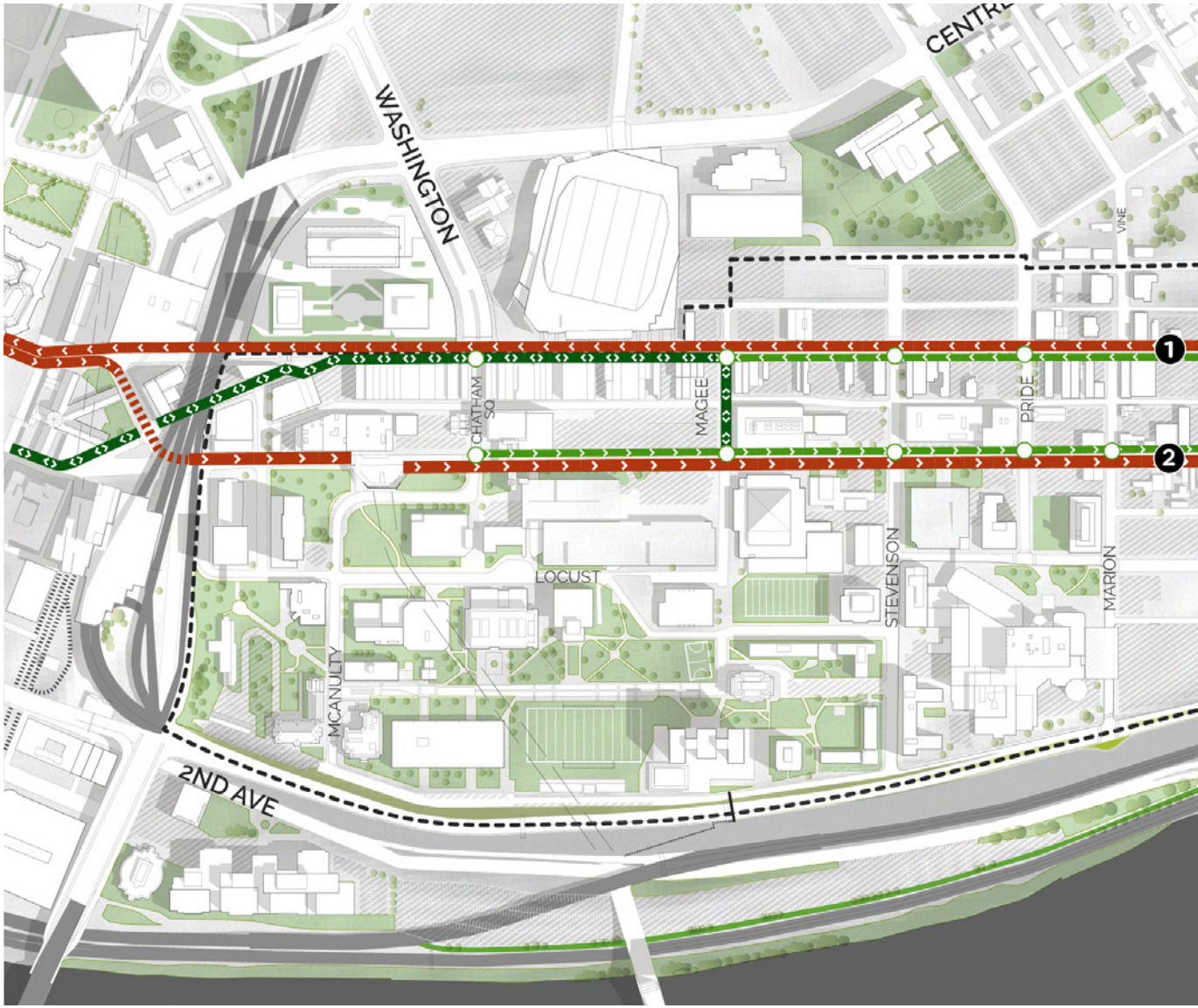
FIGURE 58: POTENTIAL PEDESTRIAN IMPROVEMENTS AT 2ND AVE. AND THE ARMSTRONG TUNNEL ENTRANCE.

3.3 IMPLEMENT BUS RAPID TRANSIT ON FIFTH & FORBES AVENUE

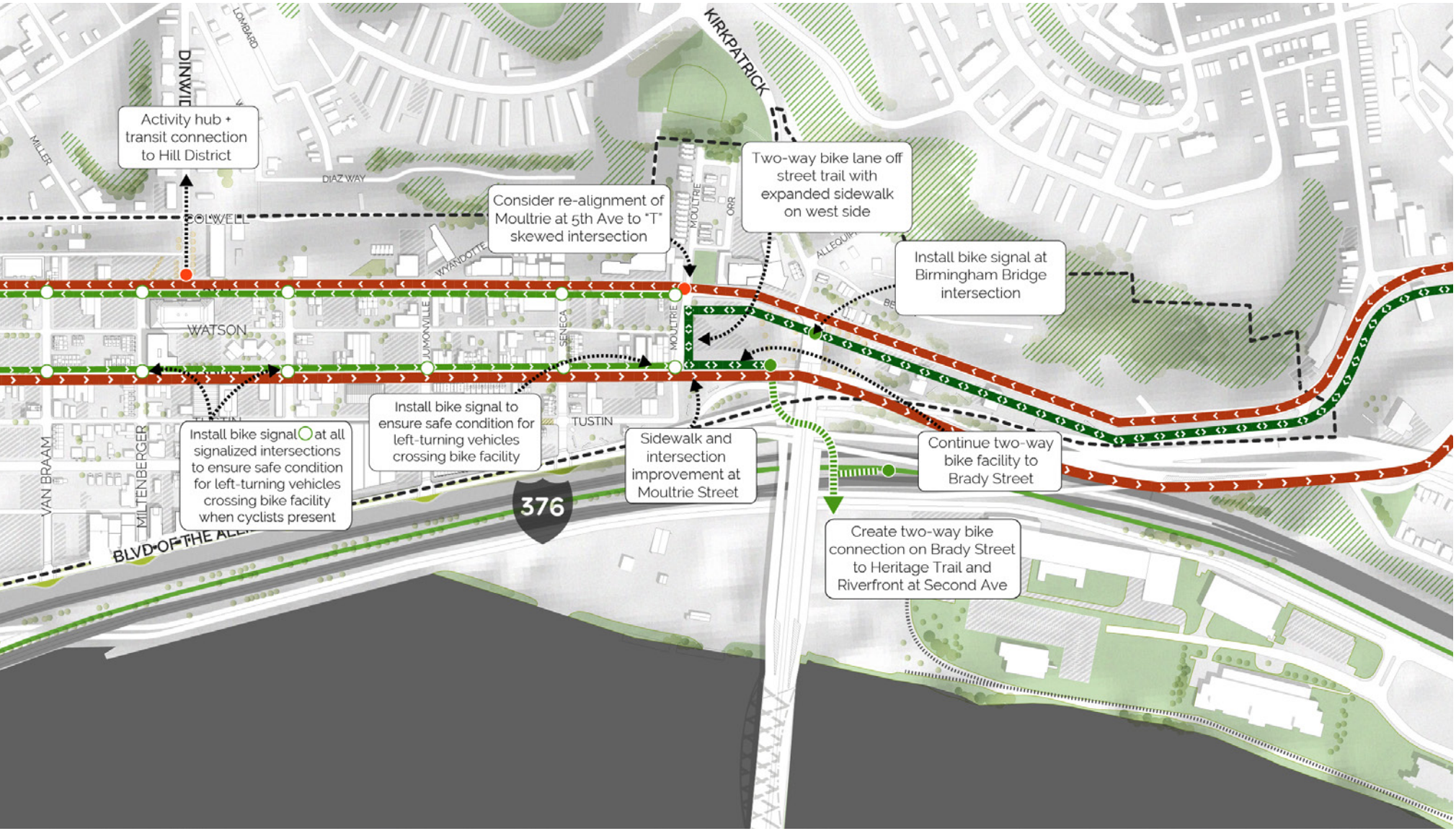
Fifth and Forbes Avenues are critical corridors connecting Downtown to the region, and carry 10-14,000 vehicles on average per day in each direction, with the highest traffic counts near Downtown and Oakland. These gateways at the Birmingham Bridge and Washington Place are critical "pinch points" where there are often back-ups of traffic for all modes. Today, Fifth and Forbes carry 11 different bus routes through Uptown from Downtown, to and from Oakland, and beyond. Given Uptown's unique location and traffic challenges, an idea was launched in 2011 to create a bus rapid transit (BRT) system between Downtown, Oakland, and neighborhoods to the east along Fifth and Forbes. With input from the community gathered during the EcoInnovation District planning process, the Port Authority is currently moving forward with preliminary engineering of the BRT project. BRT will have many benefits for local Pittsburghers:

- Dedicated transit lanes and signal priority will ensure more reliable schedules for all riders
- Station improvements and new buses will enhance the rider experience along some of the most heavily used transit routes
- Coordinated schedules and less route redundancy will reduce bus bunching along Fifth and Forbes, which will reduce traffic congestion and result in more reliable travel times on transit
- Reduced vehicle emissions with a fleet of electric vehicles will improve air quality and public health in Uptown
- Full street reconstruction required to facilitate the project through Uptown will enable much-needed improvements to sidewalks, intersections, and bike routes through the study area

FIGURE 59: PROPOSED BUS RAPID TRANSIT (BRT) ALIGNMENT



DEDICATED BUS LANE ONE-WAY CYCLE TRACK TWO-WAY CYCLE TRACK



BUT WHAT DOES BRT MEAN FOR UPTOWN RESIDENTS?

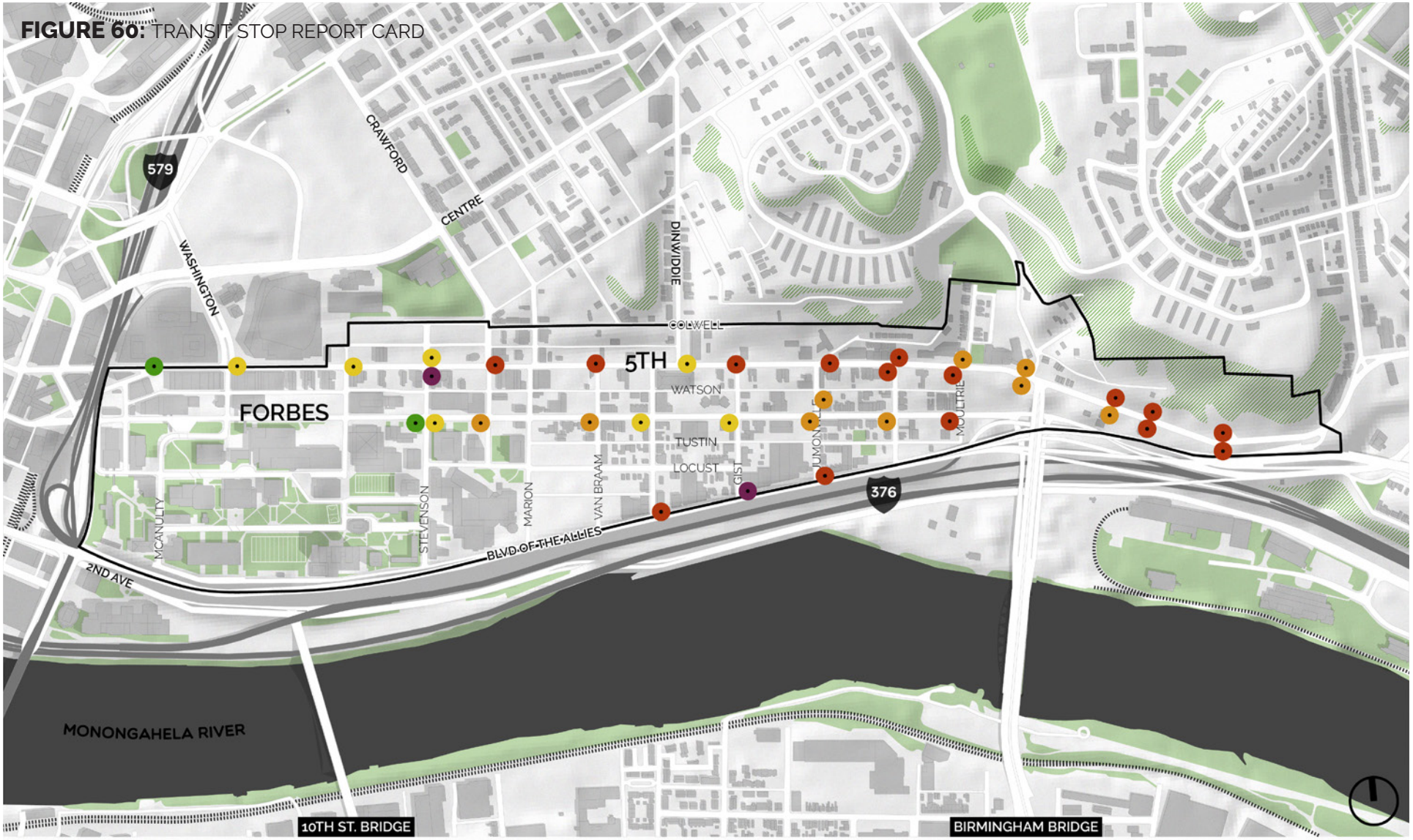
Bus rapid transit (BRT) is more than a way to reduce congestion; it is a mechanism for extensive street reconstruction which would not be feasible in Uptown without a project of its scale. Uptown's streets and intersections today are largely in a state of disrepair. Most sidewalks along the corridor are 8-foot sidewalks, many of which are obstructed by public utilities or stoops for adjacent homes which limit the functional width below 4 feet along some segments. Along Fifth and Forbes alone, a crosswalk quality survey showed that 51% of intersections exist without crosswalk paint in at least one direction, and nine intersections lack crosswalk paint in at least three directions. As the major commercial streets running through the neighborhood, all intersections along Fifth and Forbes should have painted crosswalks and all those crossing Fifth and Forbes should be high-visibility crosswalks.

Within the Uptown neighborhood, existing bus stop quality was surveyed giving grades to each of the bus stops, A-D. A-quality stops have amenities like covered seating, lighting, and sufficient sidewalk width to support wheelchair access to the bus stop. D-quality stops lack all amenities, and in some cases the bus stop sign itself is deteriorated. The survey concluded that 13 of the 22 bus stops along Fifth Avenue received a "D" grade and 4 received a "C" quality grade, with only 5 scoring an A or B. The lowest rated stops were primarily located east of Dinwiddie. Bus stops of the highest quality are located nearest the east end of Uptown adjacent to the PPG Paints Arena and Duquesne University Campus. High-quality bus stops should exist at all stops along this major transit corridor.

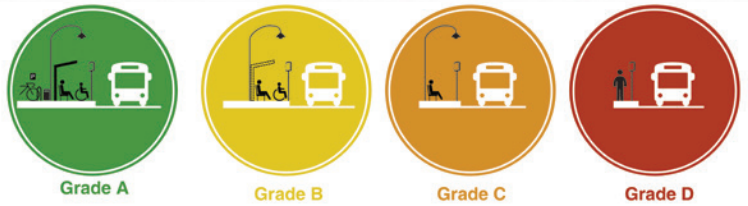
The highest concentrations of crashes occur at intersections along Fifth and Forbes, or residential street connections with Boulevard of the Allies. Even after recent, low-cost enhancements, the intersection of Forbes and Gist–which has a high incidence of vehicle crashes–remains unsignalized. Of the existing 16 intersections along Fifth and Forbes in Uptown, only four have pedestrian crossing signals. And, although both Fifth and Forbes are used as bike routes through the neighborhood today, neither has dedicated space for cyclists. Infrastructure supporting pedestrian and bicycle safety at intersections should exist at all crossings in the study area. This east-west couplet provides the only direct access for people walking and biking in the Uptown and West Oakland neighborhoods into Oakland and Downtown.

The need for sidewalk repair and intersection safety upgrades is immediate. Sidewalks and intersection conditions for people walking along the whole lengths of these critical corridors are in need, and a piecemeal approach to improvements could take too long to see meaningful improvements. The BRT project presents an opportunity for full reconstruction of Fifth and Forbes with pedestrian and transit enhancements.

FIGURE 60: TRANSIT STOP REPORT CARD



- GRADE A
- GRADE B
- GRADE C
- GRADE D
- STOP MISSING



PROVIDE A TRANSIT ONLY LANE ON BOTH FIFTH & FORBES AND INTEGRATE PEDESTRIAN IMPROVEMENTS INTO BRT DESIGN

A reconstruction of this scale needed for both major corridors without the BRT project was unlikely, or very far off in the future. Federal funding for the project enables this wholesale reconstruction, but is contingent on one element of the BRT design–a transit-only lane. This means that through Uptown, there would be a single lane adjacent to the curb that can only be used for public buses and emergency vehicles. Providing a transit-only lane through Uptown on Fifth and Forbes would increase transit reliability for all users by taking buses out of mixed-traffic which can cause delays.

The project's design with a transit-only lane is certain, but design details beyond the curb are still being developed. The sections shown here illustrate the community-preferred street design with BRT. This configuration includes the required transit only lane, a single vehicle lane, a dedicated bike facility in the direction of traffic, and on-street parking along one-side of the street on both Fifth and Forbes. The final design for these streets will be determined through the BRT planning project development process carried out by the Port Authority. Details such as lane widths, intersection configurations and signalization, and more specific programmatic decisions – such as the location of parking restrictions for loading zones – will be made as the design details are finalized.

This plan represents community priorities for street reconstruction through the neighborhood. Some additional goals of the BRT reconstruction residents would like to ensure are integrated into the BRT project include:

- Ensure local buses stop at multiple locations within the neighborhoods, and serving West Oakland
- Signalize all intersections, ensure signalization of Gist Street
- Upgrade all intersections to meet ADA standards for curb ramp, sidewalk, and transit stop design and construction
- Install pedestrian signals at all intersections, and give pedestrians additional time to cross at popular intersections and community destinations
- Consider design of cross-street intersections, including bulb-outs and enhanced crosswalks
- Integrate stormwater management and landscaping in streetscape design
- Maintain access for local business loading and delivery functions in lane configuration
- Loading zones should be included on all commercial blocks and can be accommodated in the parking lane. Timing of loading operations and their exact location can be resolved during the detailed phase of the BRT project

In addition to design guidance, through the planning process many concerns were voiced regarding access management for all modes during the period of construction. It is imperative that safe, clear, accessible pedestrian pathways are preserved during construction within Uptown, particularly at critical access points to the east and west where pathways are already constrained by major infrastructure and bridges.

USE BRT CONSTRUCTION TO BEGIN THE SHIFT AWAY FROM SINGLE OCCUPANCY VEHICLES (SOV's)

The positive impacts of the BRT project on commuter mode share are possible even before implementation is complete. Education and awareness about the BRT construction timeline and impacts should start early. Uptown community members and leaders should begin working with local institutions to develop transit incentives before construction to begin the shift from SOV's as the BRT system is built.

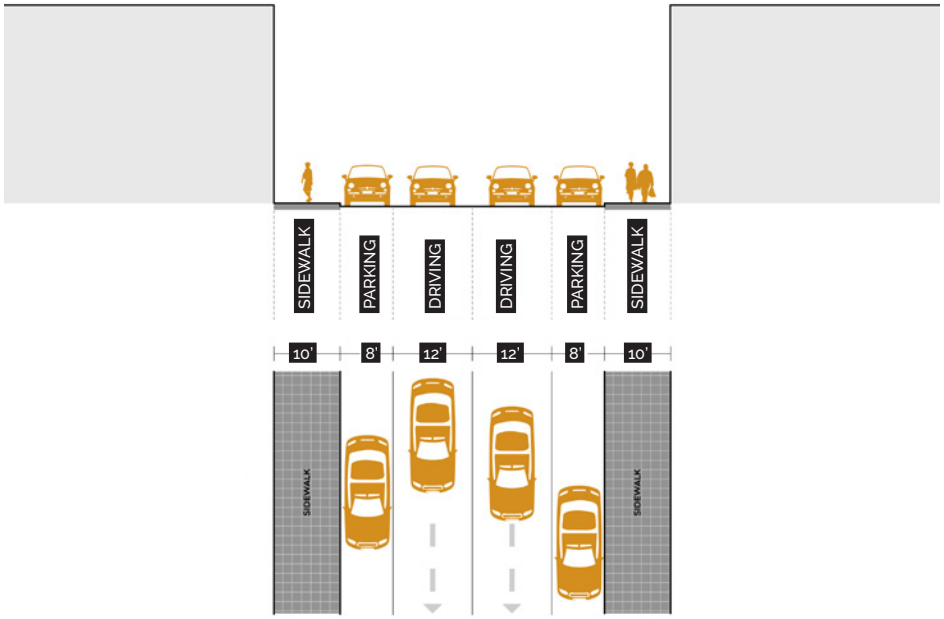
Communication is key:

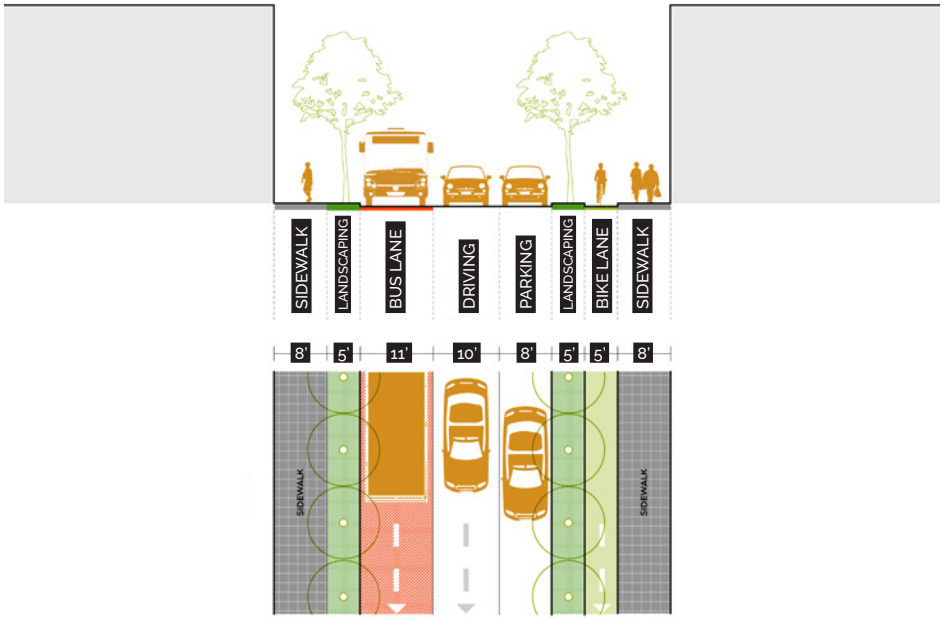
- Develop a visual timeline for construction along with clear and widely disseminated detour route maps must be created and distributed to residents and online.
- Major Uptown, Downtown, and Oakland employers should be contacted far in advance of construction to develop proactive transit and access plans for local employees.
- Resident or community groups should be identified as partners in ongoing information distribution during construction.

EXISTING

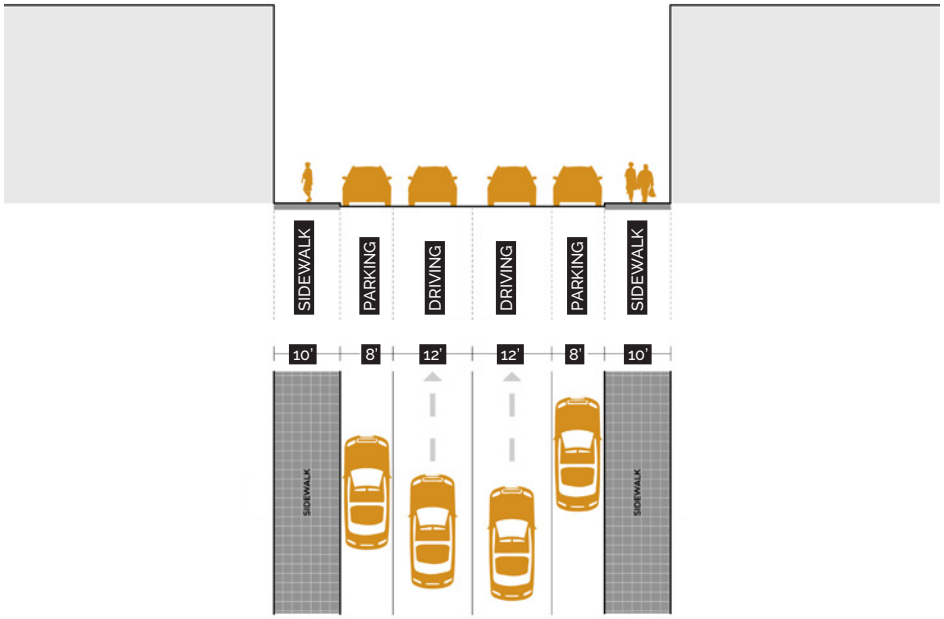
PROPOSED

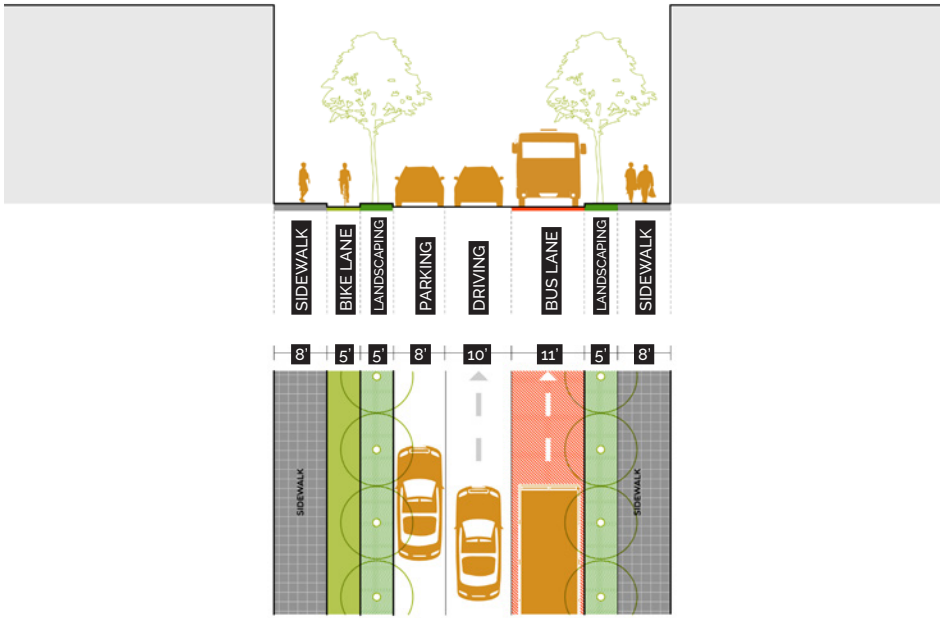
FIFTH AVENUE - LOOKING EAST





FORBES AVENUE - LOOKING EAST





3.4 BUILD A SMARTER UPTOWN

Even after BRT construction on Fifth and Forbes, the streets will operate differently. General traffic capacity may be reduced, replaced with a world-class transit corridor providing capacity approaching that of light rail. Developing methods of managing transportation demand and access should not be seen as a short-term or construction-related service, but instead as an opportunity to re-think how institutional services can better serve employees, students, and visitors in a new transportation paradigm. Smart cities require smart transportation. Advanced Intelligent Transportation Systems (ITS) provide ever-smarter transportation infrastructure by collecting and analyzing more data–and more useful data–using it to optimize the system, and sharing it with customers so they can make better-informed travel decisions. By planning for innovation in transportation, Uptown is poised to reap many benefits such as the reduced congestion resulting from fewer cars on the road, a healthier environment, increased access and mobility supporting job access and equity, and redevelopment of existing parking spaces with uses that provide greater benefit to the community.

Optimizing transit will give Uptown residents more reliable access to jobs in Downtown, Oakland, and beyond. The greater use of sensors and demand-response technology in traffic operations will increase the efficiency of local streets. Innovative mobility solutions such as autonomous vehicles (AVs), shared mobility, and micro-transit can fill gaps in the transportation network with more flexibility than traditional transit service.

We live in the Information Age. Data describing demand, activity, and efficiency can drive decision-making. It is increasingly important for communities to work closely with stakeholders–including city, county, regional, and state government–policymakers, the private sector, non-profit organizations, and entrepreneurs to encourage innovation.

AUTONOMOUS VEHICLE CAR - RIDESHARE

SOURCE: TECHNOLOGY REVIEW

AUTONOMOUS VEHICLE - BUS

SOURCE: DAIMLER BLOG

AUTONOMOUS VEHICLE TRUCK

SOURCE: BBC

With local universities leading the charge toward an AV future, the potential benefits of AV technology in Uptown could go far beyond point-to-point travel. Implications of city-wide adoption of this new technology will affect neighborhood development density. Automated vehicles reduce the need for parking spaces within the community–land which holds significant development potential in the Uptown neighborhood.

ENCOURAGE IMPLEMENTATION OF SMARTPGH* SENSOR NETWORK IN UPTOWN; SMART SPINES* ON FIFTH AND FORBES

Pittsburgh is a leader in progressive technology in transportation that improves mobility and connectedness in local communities. One such program is SmartPGH, which originated from Pittsburgh's response to the Smart Cities Challenge. SmartPGH integrates technological innovation into transportation infrastructure, creating traffic signals that adapt to changing roadway conditions, and street lights that test air quality.

One of the planned "Smart Spines" corridors includes the BRT project along Fifth and Forbes through Uptown. Although details of the project are not decided, the Scalable Urban Traffic Control program (Surtrac) technology developed by Carnegie Mellon University aims to control traffic and reduce vehicle emissions by decreasing the amount of time cars idle at intersections.

Some other steps toward integration of SmartPGH might include:

- Work with the Western Pennsylvania Regional Data Center (WPRDC) and partners to develop an implementation strategy for Uptown
- Implement Dedicated Short Range Communications (DSRC) equipped traffic signals, public buses, city fleet vehicles, bike share bicycles, and more. Explore "connected vehicle" technology
- Deploy CMU's Center for Atmospheric Particle Studies (CAPS) Real-Time Affordable Multi-Pollutant on streetlights in Uptown to measure concentrations of air pollutants

"Smart Spines" – may be key to achieving the Uptown community's goals to reduce congestion, improve air quality, and make streets safer for all users. "The "Smart Spine" corridors connect Pittsburgh's densest population centers to Downtown and Oakland, the second and third largest employment hubs in the state where 50% of our region's residents work. Deploying advanced technology like real-time adaptive traffic signals and vehicle-to-vehicle communication at key intersections in Pittsburgh is an important part of SmartPGH. It provides the foundation for connectivity and automation that will improve mobility and make streets safer for pedestrians, cyclists, and motorists."

MAKE REAL-TIME TRANSPORTATION DATA AVAILABLE IN THE PUBLIC REALM

One of the smartest investments in mobility the City can make is in modernizing existing public transit. This requires updating transit infrastructure and making real-time transit data readily available when you need it. The presence of information such as next bus arrival and wait times better enables us to plan our trips. With the BRT project and development of spaces like the Dinwiddie Civic Commons, Uptown can move beyond open data and find ways to integrate real-time information (such as bus and shuttle trackers, traffic incidents, bike and pedestrian counters, and carshare availability) into the public environment to make smarter public spaces. Whether it's choosing to wait for a bus or take bike share immediately for short trips, information is inextricably linked to choice in personal mobility. Uptown and West Oakland can serve as a proving ground for current and emerging innovations in collecting and sharing data related to transportation. Implementation of this recommendation relies on private funding and partners.

In addition to providing transit information in public spaces, Uptown can learn from Oakland which has successfully deployed real-time transit and rideshare information screens in private businesses and in the lobbies of buildings. The lobby of the UPMC Mercy hospital would be an ideal location for such a screen and allow visitors to see their options and make informed decisions before they leave the facility.

ENCOURAGE AUTOMATED VEHICLE (AV) PILOT PROJECTS IN UPTOWN

The introduction of AVs has already begun to take place in cities, both as a shared mobility option and through a traditional ownership option. Pittsburgh has been a leader in testing the viability of AVs in urban areas, working with Uber to introduce a pilot to bring self-driving technology to its passengers in the City in 2016. At the same time, Ford announced it will have a fleet of autonomous vehicles available nationally by 2021 that can be used for ride-sharing, and Tesla has pledged to produce a car that can drive itself from Los Angeles to New York City by 2017.

At this current point, it is impossible to predict the future business model or models of autonomous vehicles, whether people will continue to own vehicles at the current rate or if ownership will drop. As AVs grow, pilot programs in Uptown could provide immediate benefits to local residents not only by alleviating traffic and parking issues, but by creating opportunities for new jobs in this quickly-evolving industry. Opportunities to support AVs in Uptown include:

- Consider converting Duquesne student shuttle services to AV micro-transit to extend hours and to increase frequency of service and reduce SOV demand on campus
- Provide AV shuttles or micro-transit between UPMC Mercy and local transit hubs to provide last-mile connections to patients with limited mobility within the larger transit network
- Establish a game-day AV as shuttle to remote parking to make more distant lots and garages a viable option for PPG Paints Arena event attendees or employees, alleviating parking pressure on Uptown
- Provide assisted access to Deaf Association, to unlock personal mobility with unprecedented access for those with auditory impairment

As AVs become more common, policymakers must also ensure that those in legacy occupations (like rideshare services and taxi drivers) can find work as transportation changes. For example, professional drivers may need training and certifications to operate and maintain an AV. There may also be opportunities to shift responsibilities from driving to selling services to riders or managing a large-scale fleet.

EXAMPLES OF AUTOMATED SHUTTLE BUSES

UNIVERSITY OF MICHIGAN

SOURCE: METRO-MAGAZINE

HELSINKI FINLAND

SOURCE: METRO-MAGAZINE

BRING ELECTRIC VEHICLE (EV) CHARGING STATIONS TO UPTOWN

Although EV vehicles are not yet ubiquitous, the demand is growing. As EVs become more popular and costs are driven down by the market, the demand for charging facilities will increase. In many places, homeowners can charge EVs overnight through their home's utilities. However, many homes in Uptown are built without garages, or even alley access–making at-home or overnight charging near impossible. As this technology grows in popularity and becomes more accessible for the average family, building public charging stations or workplace charging will be vital to ensuring the Uptown community's ability to take advantage of this technology. Uptown should integrate electric vehicle charging stations into existing and proposed Community Infrastructure Hubs with parking. The presence of EV charging stations within a community also opens the opportunity to convert car-sharing programs to EVs, further reducing the environmental impacts of cars. Without sufficient recharging facilities, EV fleets are not a viable option[15].

As a demonstration project, consider implementation of the Solar EV Fleet Charging Pilot Project on the "2nd Ave Parking Plaza," first introduced by SmartPGH. Plans included equipping the City facility with a solar canopy to charge the City's electric vehicle fleet and other EVs.

EXAMPLE OF ELECTRIC VEHICLE CHARGING STATION POWERED BY SOLAR PANELS

SOURCE: ENVISION SOLAR

15 San Diego Example Car2Go EV fleet removal due to lack of EV infrastructure: http://www.sandiegouniontribune.com/news/politics/sdut-car-share-car2go-fleet-gas-electric-2016mar16-story.html

3.5 ESTABLISH A DISTRICT TDM & PARKING STRATEGY

Parking defines much of Uptown today–and not in a good way. The overabundance of surface parking lots where buildings once stood blight and drain the vitality from Uptown, suppress property values and development, and reduce the "eyes on the street" that support a safe environment. Moreover, they mainly serve commuters heading Downtown or to an event at the arena. In other words, those passing through Uptown benefit from the abundant and generally low-cost parking, while those who live there (and many of those who work and study there) bear the negative effects.

The provision of parking–and associated policies and pricing–must work in support of overall mobility and development goals, because the two are inextricably linked. Abundant and cheap parking makes driving an easier choice, leading to more driving, more traffic, more pollution and crashes, which begets a greater driving culture and higher expectations of easy parking. The resulting development, in turn, becomes car-oriented. On the other hand, smartly providing and pricing parking, and looking at parking structures and lots as opportunities to facilitate other travel modes and community amenities, can support the EcoInnovation District's goals of sustainable, equitable, and innovative development.

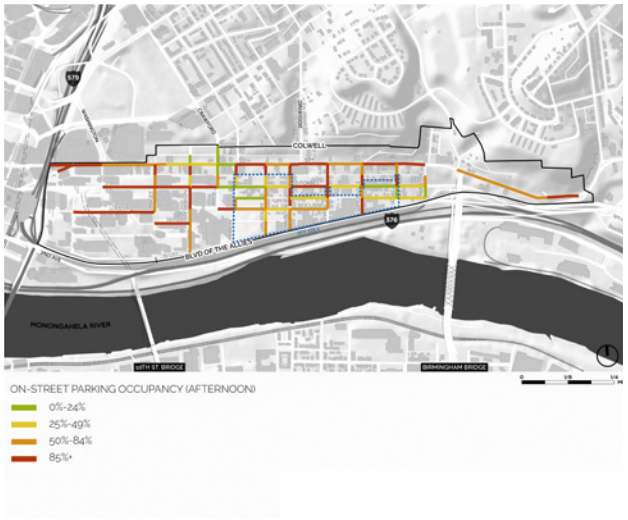
Today's general best parking practice in cities is to provide sufficient off-street parking to support the percentage of commuters who, for whatever reason, must use a car. What off-street parking is provided should be shared between different land uses (e.g. housing, retail, office, and institutional) so that it can be utilized most efficiently as the parking demand from each of those uses ebbs and flows over the course of the day and the week, and it should be priced to discourage all but essential car trips. Off-street parking should be "unbundled" from the sale and rental of residential and office property, and space should be prioritized for bicycle parking, carshare vehicles and electric vehicles.

In commercial areas, on-street parking should serve the adjacent retail businesses, both for customers and deliveries, rather than long-term parkers, and should be priced to ensure adequate turnover so that drivers need not wastefully circle looking for a parking spot. Residential parking permits are one option to manage curbside usage on non-commercial streets, but those systems must be carefully devised to avoid unintended consequences and spillover effects. In all cases on-street parking regulations require consistent enforcement to be effective.

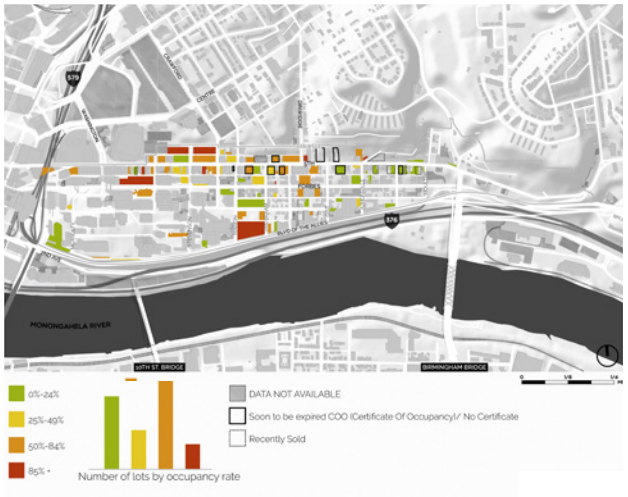
Throughout the planning process, Uptown residents described the challenge they often faced in finding available parking on residential streets in the neighborhood, blaming the lack of available parking on commuter employees for monopolizing on-street parking space and overstaying 1- or 2-hour parking restrictions. A basic goal of parking regulation changes in Uptown and West Oakland is to shift the use of on-street spaces now primarily used by commuters as remote parking for Downtown and Oakland to be more readily available for resident parking or in support of local businesses and destinations that lack dedicated parking.

FIGURE 62: PARKING UTILIZATION

ON-STREET



OFF-STREET



The effective and efficient turnover of convenient parking spaces is most successful when the facility reaches an 85% occupancy rate, meaning that 10% to 15% of spaces are not occupied at any given time and are available for incoming parkers. This translates to approximately 1 to 2 open spaces per block. When this threshold is exceeded, incoming drivers are forced to circle the block for parking, creating congestion on local roads, contributing to GHG emissions and pollution, and frustrating drivers. A parking utilization survey of the neighborhood indicated that some blocks were, indeed, over 85% occupancy, but that this level of occupancy was not consistent along all blocks.

Ideally, on-street parking in Uptown would be close to 85% occupied. Utilization surveys completed on a weekday afternoon revealed that a concentration of street segments along Fifth and Forbes Avenues experienced high on-street parking utilization, with many street segments exceeding 85%. On the other hand, neighborhood cross streets including Magee, Stevenson, and most of Van Braam and Miltenberger displayed a more moderate utilization, ranging between 50%-80%, indicating that the issue with on-street parking may not be one of insufficient quantity but rather that some residents or businesses would like to be able to park closer to their house or destination.

Today, vacancy and surface parking lots account for 37% of the community's land area of which 24% is vacant and 13% is used for surface parking. Development of these vacant and underutilized parcels, commercial opportunities, and infill residential will decrease the off-street parking supply available to those commuting into or through Uptown while potentially increasing parking demand as new employees, residents, and visitors come into the area. The need to provide an appropriate–and appropriately priced–supply of parking that accommodates necessary driving trips while discouraging unnecessary driving trips, and that strikes an appropriate balance between demand from residents and those working, studying, or visiting Uptown will be critical.

To solve Uptown's parking challenges, it is important to think more like an economist (supply and demand) and less like an engineer (how can we build more parking). When the supply of any commodity is limited and the demand for it is high, the price goes up. If the commodity is free, it will be quickly used up by the first people who get to it, regardless of who might need it or want it more. In these situations, supply is the only thing dictating how much will be consumed. The same economic principles apply to parking, and that is why pricing is important. Cost-correction as a singular tactic to better manage parking in Uptown has the potential to cost-burden residents. In Uptown, the lack of enforcement along segments of 1-hour and 2-hour parking restrictions means that all streets essentially function as free parking, with no threat of ticketing for abusers. Increasing enforcement will also result in a behavior correction, without an additional cost burden to residents.

As communities grow, their parking needs and demands also undergo transformations, requiring different types of parking management. Addressing any parking problems should be part of a comprehensive multi-modal transportation system evaluation. Driving and parking make up just one facet of a community's transportation infrastructure. In an area as well-served by transit as Uptown, many people are able to live without cars. Continuing to support the more efficient modes of transit, walking, biking, and rideshare helps to reduce the strain on parking while helping residents lead healthier lives and improving the environment.

MAKE PARKING POLICY "WORK" FOR UPTOWN RESIDENTS

Balancing Uptown's residential parking demand requires a district-wide approach that starts with increasing enforcement to better define the problem, the first step being enforcement and monitoring of residential permit areas. In an urban neighborhood where the housing stock does not have on-parcel garages it is an unrealistic expectation that residents will have dedicated on-street parking spaces directly in-front of each home. But, spaces should be available within a short walk when they need them.

The City's Residential Permit program is intended to help local residents park near where they live. Unfortunately, there is no system in place to keep track of how many spaces are available. Today, within the designated residential permit zone there are an estimated 301 on-street parking spaces, with an additional 76 spaces on Forbes. There are currently an estimated 225 homes within the residential parking permit zone and 193 issued permits as of 2015, meaning that there are more available spaces on street than residential permits sold[16]. These numbers reinforce that complaints from residents regarding lack of available parking are not reflective of issued permits, but may indicate enforcement issues or residential parking abuse.

Over time, at the current price ($20-25), residential parking demand is likely to increase, leading the city to issue more permits. However, handing out more permit parking passes does not solve the problem when on-street parking is at capacity.

- If this is determined to be the case, the City should consider graduating pricing for residential permits per additional vehicle per household. This would incentivize residents to have the fewest possible vehicles per household, and continue to encourage use of non-automotive modes as the community grows.
- Parking utilization data and tickets issued should be collected and reviewed over a series of 3 months to determine if high utilization on residential streets is the result of non-permit holders overstaying time restrictions.
- The City or Parking Authority should consider a dedicated Parking Enforcement Officer for Uptown and West Oakland's residential areas weekdays 8:30am–4:00pm to monitor abuse of residential permit parking streets in the near-term, and following the reconstruction of Fifth and Forbes BRT to ensure a smooth evolution of on-street use in the changing conditions.

Recognizing that Uptown is changing, it will be increasingly important to establish mechanisms for feedback to track and respond quickly to increased pressure on residential parking resources.

- Conduct near term monthly daytime and evening utilization counts to understand how enforcement of residential permit parking affects overall usage
- Conduct seasonal utilization counts to get a more accurate understanding of demand patterns within the system
- Consider expanding hours of residential permit protection if it is found that non-permit holders are abusing spaces
- If residential on-street permit space utilization is found to be high due to demand from residential permit holders, consider graduated permit pricing per vehicle or limiting permits to one per household

16 RPPP Audit 2015. http://apps.pittsburghpa.gov/co/Residential_Parking_Permit_Program_September_2016.pdf

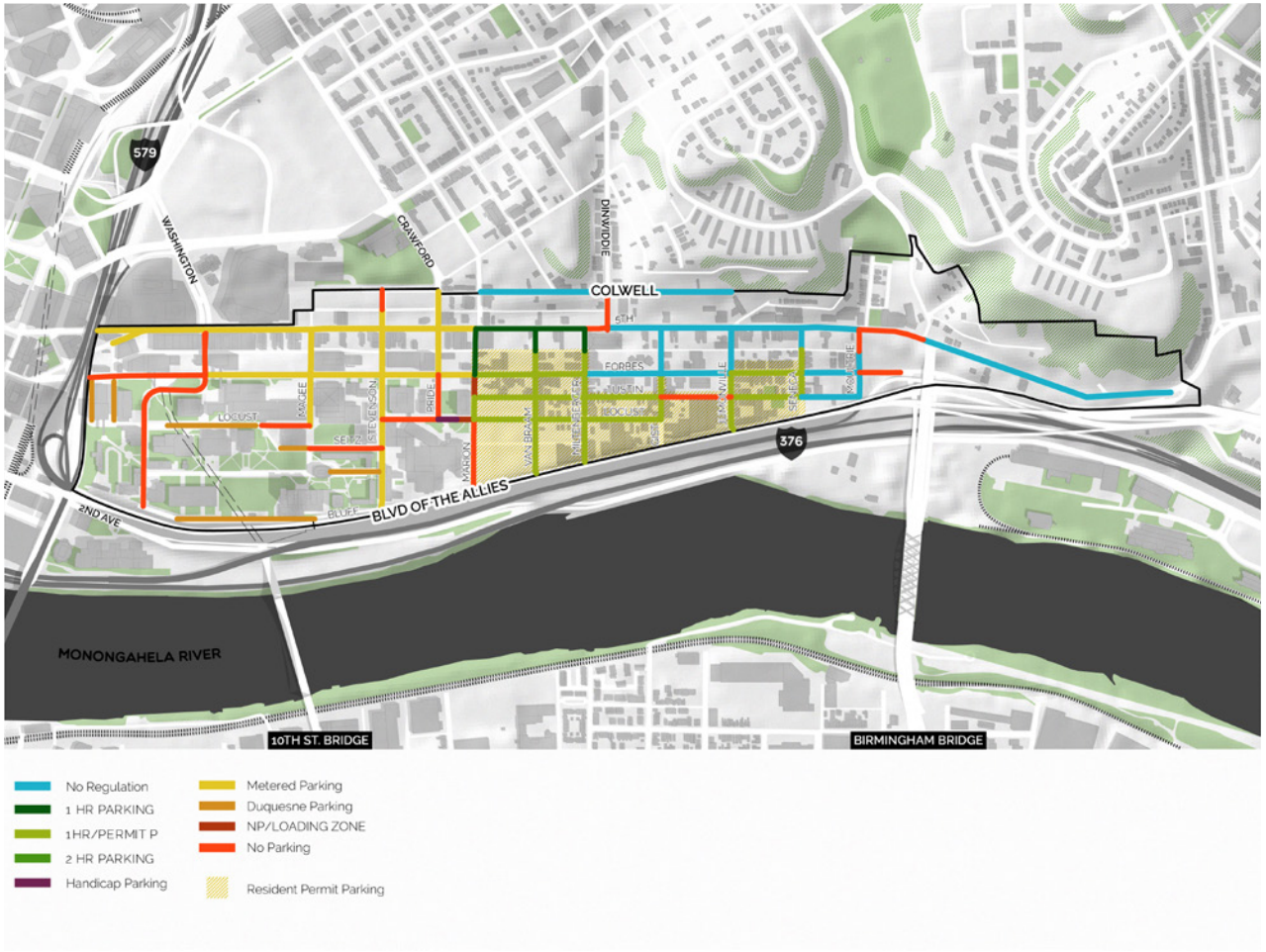
With its proximity to Downtown and Oakland and existing issues with parking abuse by commuters, all on-street parking should be metered and priced along commercial corridors and regulated with residential parking permit time restrictions on side streets.

- Fifth and Forbes entirely metered
- All blocks connecting with Fifth and Forbes should be 2-Hour parking restriction
- Meter Stevenson and Marion between Colwell and Boulevard of the Allies
- Extend residential permit parking area to include Moultrie between Forbes and Tustin to limit public parking on Tustin shared street

Potential policy changes the City should consider system-wide to alleviate on-street parking congestion in West Oakland and other high-demand or oversold areas:

- Pursue reduction in rental unit residential parking permits to 2 per household. (limit is currently 3 per household)
- Establish a progressive fee structure for multi-car households, regardless of ownership status.

FIGURE 63: EXISTING PARKING REGULATIONS IN UPTOWN



IMPLEMENT DYNAMIC PARKING MANAGEMENT STRATEGY* FOR UPTOWN / WEST OAKLAND

Now is the time for big changes to parking dynamics in Uptown. Major moves should be considered to manage the supply of, and demand for, parking on Uptown and West Oakland's streets.

DEMAND-BASED PARKING PRICING

Underpriced and free parking distort travel decisions. Studies have found that free parking can increase the drive-alone rate for commute trips by as much as 50, and concluded that approximately 30% of cars in congested downtown traffic may be looking for parking, adding unnecessary vehicle trips to already congested areas[17]. Correctly priced parking can help address these issues.

Dynamic parking allows for the price of parking to align with demand in different areas at different times to achieve the desired turnover of spaces. Much of Uptown and West Oakland is currently used as a parking lot for Downtown and the PPG Paints Arena, with on- and off-street spaces used by commuters and visitors to avoid paying a high price for parking in garages closer to Downtown and Oakland. To incentivize turnover for local businesses and preserve side-street parking for resident use, consider conversion of the full lengths of Fifth and Forbes Avenues, and adjacent side streets on the west end of the study area, to metered parking with a pricing model maintaining a competitive price for on-street spaces.

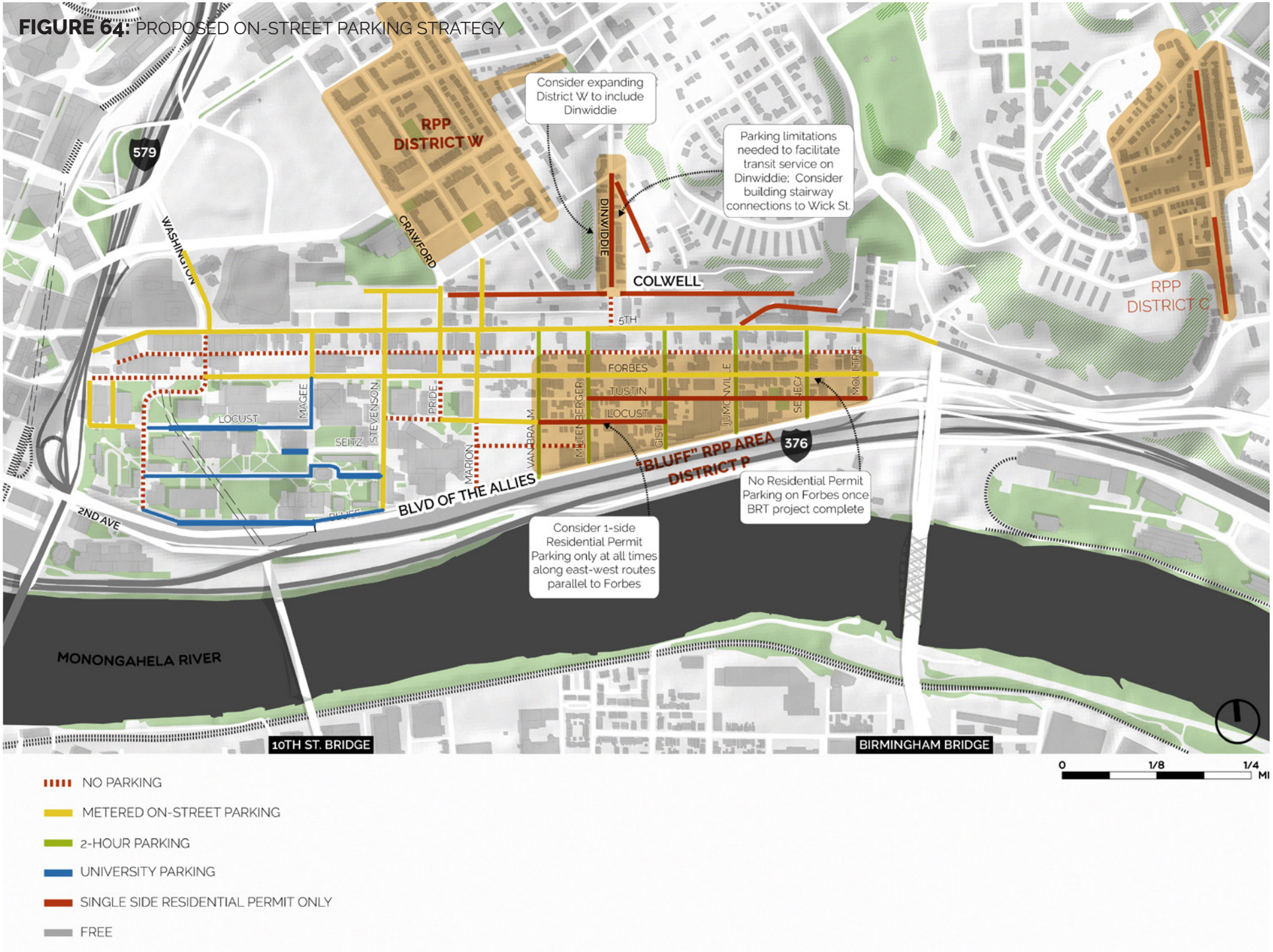
Fifth and Forbes parking spaces should be priced to maintain no more than 85% occupancy, and at rates closer to those downtown. Long-term, consider metering all on-street space within 100 feet of Fifth and Forbes in Uptown (with dispensation for residential permits) to allow for the most flexibility of curbside management and demand-based pricing. The goal of pricing is to free up just one or two spaces per block and shift the long-term parkers out of high-demand spaces.

As changes to on-street parking and metering are made, Uptown should pursue designation as a Parking Enhancement District after the Pilot in the South Side Flats initial year passes. In the future, Uptown should consider event-day increased rates for on-street metered spaces. Parking management technology opens the door for fine-grain analysis of parking demand patterns to accurately balance the systems assets district-wide in real time. Some of these technologies are already enabled by the City's Parking Enhancement District program.

- Restructure revenue collection such that all parking meter revenue in the district go into local improvements, as part of the Parking Enhancement District designation, and be used for transportation and streetscape improvements in the neighborhood.
- Pilot dynamic pricing for parking in the City of Pittsburgh throughout the Smart Spine corridors.
- Pilot camera-based (or in-pavement) sensors to track parking demand throughout Uptown.
- Pilot increasing on-street parking pricing on game days/event days on Fifth and Forbes as part of an Event Parking strategy.
- Pilot camera or parking guidance system (PGS) technology in parking ramps with public real-time feedback (note: Envision Downtown has piloted this system in Downtown PGH using off-the-shelf TV monitors posted at key intersections.)
- Without additional enforcement, time-restricted spaces in Uptown will continue to be abused by daytime commuter parkers. Integrating technology may be the best solution for managing Uptown's parking challenges, as it provides both instant feedback and tracking, and enhances the efficiency of enforcement.

17 Hess, 2001; Willson and Shoup, 1990a; San Francisco County Transportation Authority, 1996)

FIGURE 64: PROPOSED ON-STREET PARKING STRATEGY



THE DUQUESNE UNIVERSITY PARKING GARAGE IS ALREADY ONE OF THE LARGEST FACILITIES IN THE CITY OF PITTSBURGH.

PARTNER WITH INSTITUTIONS & MAJOR EMPLOYERS TO DEVELOP TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAMS

Duquesne University has over 10,000 students, of which 3,750 students live on campus in Uptown. Most students find their housing off campus (many in nearby neighborhoods to the south) and commute to campus. Although Duquesne provides shuttles to pick up off-campus students, many elect to drive. The Greater Hill District Market Study indicates a demand for potentially 630 new student beds over the next 5 years. In addition, there are currently about 7-8,000 jobs in Uptown, most of which are at UPMC Mercy and Duquesne University[18].

This means that there is an existing and increasing population of students and employees coming to Uptown every day, primarily by car. Unless mode share for this population changes, the demand for parking for this group will also continue to increase. The increased demand will spill over into the surrounding residential neighborhoods, burdening Uptown and West Oakland residents as well as those trying to visit local businesses and cultural destinations.

Managing demand for parking from these growing institutions will require an ongoing partnership to identify what quantity of off-street parking is necessary to meet the demand from those who are unable to utilize more efficient modes to access them, e.g. whether additional off-street parking supply is necessary or if existing supply is adequate if paired with demand management.

- Pursue commitment from local institutions/ major employers not to expand their parking footprint–instead, address access demand by other means or deck on-street parking lots to increase capacity.
- Identify remote, shared parking resources. Focus on parking amenities at the periphery of Uptown to reduce cut-through commuter traffic.
- Reduce on-site parking through building incentives and resources for last-mile connections from remote parking resources (emphasis on access by transit/BRT, bicycle connections and amenities for active transportation users, rideshare partnerships or payback incentives, shift/flexible schedules to enable shared parking spaces).

Beyond managing supply, Uptown stakeholders should pursue partnership and commitment from local institutions and major employers to establish Transportation Demand Management (TDM) programs to incentivize employees and visitors to shift away from personal vehicle use for commutes. Many programs exist that could be modeled to grow TDM in Uptown and West Oakland. Common TDM Strategies to be explored are listed on the opposite page. The Port Authority's Job Perks program, an incentive program for employers and workers, is one key example of an existing TDM program in the Pittsburgh area. This tax-savings program, utilized by some area universities, allows employers to offer transit passes pre-tax, and employers benefit by saving on payroll taxes.

18 Source from previous chapter- Interface

FIGURE 65: TRANSPORTATION DEMAND MANAGEMENT (TDM) TOOLBOX

ORGANIZATIONAL STRATEGIES	• Designate staff to promote and educate • Create flex schedule • Encourage employees to work remotely	**FINANCIAL INCENTIVES**	• Parking cash-out programs • Discounted transit or ride-sharing in lieu of parking spaces	**ACTIVE TRANSPORTATION INITIATIVES**	• Install bike parking + amenities • Create health incentives programs • Bike-to-Work annual event + monthly targets • More bike share
PROMOTE PUBLIC TRANSIT	• Promote BRT • Discount public transportation for employees	**MODE-SPLIT MONITORING**	• Establish institution mode-split goals • Conduct annual travel surveys	**ENCOURAGE CARPOOLING**	• Designate convenient carpooler spaces • Create ridematching program • Discount parking rate for carpoolers • Create emergency ride home program
RIDESHARE & CARSHARE	• Rideshare/ride-hailing service partnerships • Dedicate spaces for carsharing • New microtransit/ shuttle routes to transit or parking	**PARKING PRICE CONTROL**	• Support demand based pricing on-street • Regularly monitor utilization • Price based on demand and desirability	**SHARED PARKING**	• Identify opportunity sites for shared parking

MAJOR EVENTS AT THE PPG PAINTS ARENA - SUCH AS A STANLEY CUP HOCKEY GAME - CAN CAUSE HAVOC ON UPTOWN'S STREETS

ESTABLISH A MAJOR-EVENT MANAGEMENT STRATEGY IN PARTNERSHIP WITH THE PPG PAINTS ARENA

With Uptown's proximity to the PPG Paints Arena – with its thousands of visitors and employees - event-based parking demand is a major challenge in the area. These populations are looking for nearby parking on game days and more places to eat or have a drink before and after games. As the area grows to support additional stores that provide a wider range of services, the demand for parking turnover – even during games – will increase. As informal off-street lots are developed along Fifth Avenue nearest the arena, competition for spaces will increase, too. A holistic event management parking strategy must be devised in partnership with the PPG Paints Arena to shift parking demand for major events from Uptown toward garages elsewhere.

Parking management improvements for Uptown have three primary goals:

- Price on-street parking to reflect the demand for those spaces on event days; to ensure turnover to serve local businesses during events.
- Emphasize off-street parking assets further from the arena, itself, for use by drivers searching for parking. Encourage and promote use of lots in downtown, or further east and north of the Arena, with the hope people will walk or take advantage of transit for their last mile.
- Emphasize pre-sale and real-time feedback to reduce congestion caused by visitors searching for parking; shift emphasis to the use of Downtown lots for event parking.
- Increase transit services and incentivize use of transit for event day access to the area.

On- Street Management:

- Event parking that remains in Uptown – both on- and off-street - should be priced more competitively. This can be achieved through implementation of variable pricing of on-street parking meters (described earlier in this section), and increased on-street enforcement of parking regulations during game time-periods.
- Increase ticketing price for game-day tickets issued in on-street time-restricted spaces commensurate with on-street parking pricing.
- Implement meters and dynamic-pricing along Fifth and Forbes with game-day rates (as successfully employed adjacent to Boston's Fenway Park[19])
- Establish a dedicated Parking Enforcement for Uptown to circulate during event periods.

Balance demand for Garage Spaces:

- Use the PPG Paints Arena's website to direct those arriving by car to parking structures in Downtown and lots further west of the Arena in Uptown to shift pressure of vehicles circulating looking for event parking beyond the Uptown pinch-points.
- Increase signage from Grant Street Transportation Center; emphasize as additional event parking. (11-minute walk from here to Centre Ave Arena Entrance)
- Consider additional PPG Paints Arena parking exit westbound to Bedford Ave midblock between I-579 access and Crawford (requires minimum 1 additional crossing guard)
- If street design reduces segment of Fifth Avenue to 1 lane westbound, consider limiting Chatham Center Garage Exit to Washington Place only to reduce traffic on Fifth Avenue.

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19 *Boston Fenway Park Red Sox Variable Ticketing Price. http://www.cityofboston.gov/news/Default.aspx?id=20070*

FIGURE 66: POTENTIAL EVENT MANAGEMENT STRATEGIES

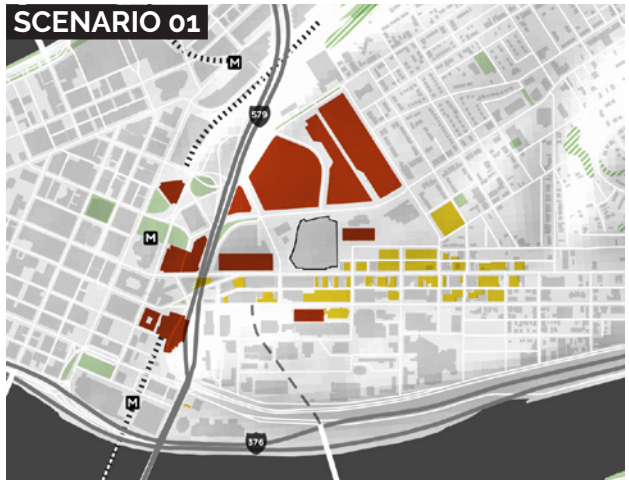
Emphasize Pre-Sale and Real-Time Parking Information:

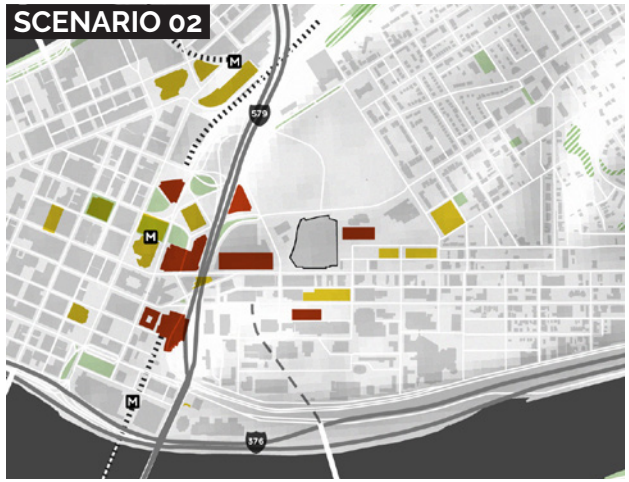
- Emphasize pre-sale and real-time feedback to reduce congestion caused by visitors searching for parking. In these lots, spaces would be pre-sold in advance of the event. As awareness of the pre-sale only lots grows, fewer drivers will attempt to reach lots closest to the arena at the time of the event, alleviating some congestion in the near area.
  - Institutional Partnerships: Convert all parking facilities south of Centre Avenue to pre-sale only.
  - Assist local private parking lot owners to meet safety standards and shift to pre-sale model on private lots to reduce idling for parking. Encourage adoption of digital tools for marketing of pre-sale spaces and operation of lots.
- Implement real-time parking feedback signage or app to share PPG Paints Arena Parking facilities capacity as they fill for events.

Increase Transit services:

- Provide free or $1 shuttle to downtown parking structures and remote lots post-game. Consider North Shore and First Avenue parking with T to Steel Plaza. With BRT, consider alternative parking locations in Oakland and Wilkinsburg.
- Consider Pilot of Free Bus or Transit with event ticket for same day (a strategy successfully employed at Brooklyn, New York's Barclays Center).

Pre-sale /advertised by PPG Paints *Potential parking lot*





3.6 INVEST IN BICYCLE INFRASTRUCTURE & CULTURE

As the Uptown and West Oakland communities grow, it is imperative that local streets include safe bicycle infrastructure that enables all residents–young, old and in between–to ride their bike. Bicycling is a reliable, fast, affordable, and healthy form of transportation. Developing this infrastructure will improve the quality of life for all residents. Bikes are more than transportation, without a metal cage bikes put people in closer contact with their surroundings.

Studies show that a multi-modal street holds benefits beyond increased connectivity. One such study completed by Smart Growth America, which surveyed the impact of Complete Street design in 37 cities in the US, found remarkable positive returns for business districts with bike access[20]. All six of the responding agencies reported increases in businesses following their Complete Streets improvements. "Of these six communities, two also noted that retail sales increased at businesses after their redesigns. In Lancaster, CA, retail sales shot up 96 percent in the BLVD district, and in Normal, IL, retail sales rose 46 percent in the Uptown District." Although the data sets in these studies are limited and cannot prove a causal result from reconstruction, the study shows that there is a positive relationship between building multi-modal streets and economic development.

In designing bike networks, the difference between "convenience" bike facilities and "recreational" bike facilities is important. In Pittsburgh, regional bike trails like the Three Rivers Heritage Trail allow many who walk and bike a means of crossing longer distances without encountering potential conflicts with vehicles. However, access points to these trails are limited. This means that a cyclist may be forced to ride far out of their way to reconnect to the local street network, and finally to their destination. When forced to decide between safety and convenience, some cyclists will choose a more dangerous on-street route to avoid a circuitous route. One great example of this trade-off exists already in Uptown. Cyclists are often seen biking between Downtown and Oakland on-street using the contra-flow bus lane on Fifth illegally. This is a dangerous condition for people biking, and impedes the flow of City buses. Cyclists face these trade-offs when a safe on-street network of bike facilities is not in place. To grow a desirable and useful bike network, convenient facilities on City streets must exist; routes that allow more direct connections to destinations and will help facilitate longer trips by bike.

Every neighborhood has its own unique opportunities and challenges for bicycling. In Uptown and West Oakland, topography is the challenge. The neighborhoods are constrained by the hillside, which limited development of the street network. Today, access to the area from Oakland is possible via only a few major roads–Fifth, Forbes, and Boulevard of the Allies, and Bridges. No dedicated bike connections exist to Downtown or the Hill District for people biking on-street.

Making bicycling safer and more convenient will increase bicycling activity which will have positive impacts on the quality of life for everyone.

INFILL EXISTING BIKE NETWORK WITH SAFE, ALL-AGES FACILITIES

The Bicycle Confidence Scale, developed by the City of Portland, categorizes who is riding a bike by using the following four classifications: (1) No Way No How, (2) Interested but Concerned, (3) Enthused and Confident, and (4) Strong and Fearless[21].

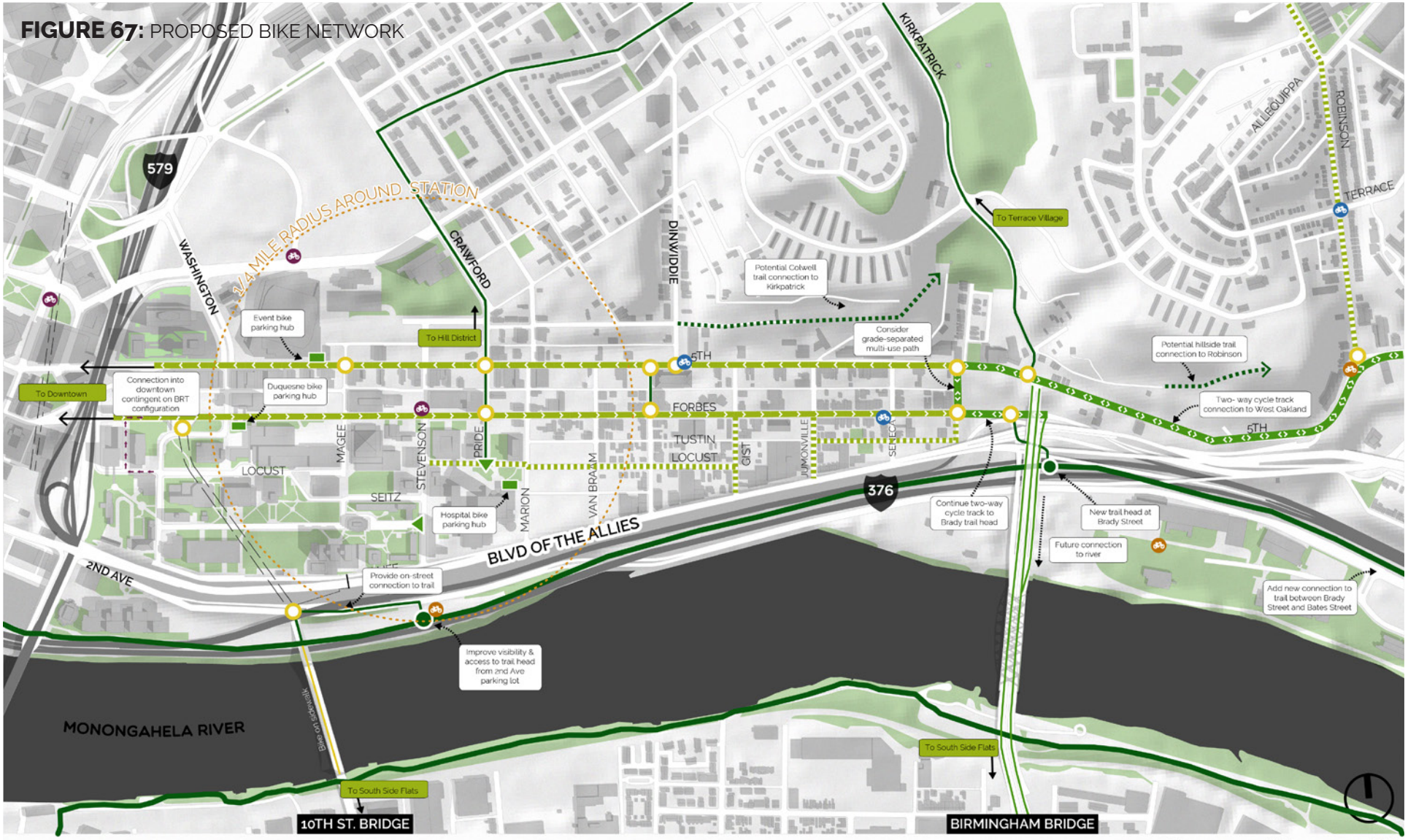
Without dedicated bike facilities, the on-street bike network in Uptown and West Oakland does not provide enough protection and perceived safety to encourage "interested, but concerned" people to ride on street. The rules that guide growth of a bike network are simple:

- Build bike facilities that connect to each other; infill segments that don't connect.
- Establish a strong backbone of connected infrastructure that follows critical pathways between homes, employment centers, and destinations.
- Provide better bike facilities where more people live and work.
- Design bike facilities that support riders of all ages and abilities.

20 Safer Streets, Stronger Economies Complete Streets project outcomes from across the country, March 2015.

21 The City of Portland, Oregon. (2011, October 19). https://www.portlandoregon.gov/transportation/article/158497 Scale Creator: Roger Geller in the Portland Office of Transportation

FIGURE 67: PROPOSED BIKE NETWORK



EXISTING

- TRAIL
- BIKE LANE

PROPOSED

- M.U PATHS OR SEPARATED BIKE FACILITIES
- ON- STREET BIKE LANE
- SLOW STREETS
- NEW TRAIL
- BIKE PARKING HUB
- INTERSECTION IMPROVEMENTS SUPPORTING CYCLISTS
- SIGNED INSTITUTIONAL GATEWAY
- NEW TRAIL HEAD
- EXISTING HEALTHY RIDE STATION
- PROPOSED NEW HEALTHY RIDE STATION
- LONG-TERM PROPOSED EXPANSION OR INFILL HEALTHY RIDE STATION

PROPOSED FORBES AVENUE COMPLETE STREET, INCLUDING DEDICATED BUS LANE AND SEPARATED BIKE FACILITIES

The lanes in the final BRT proposal may differ from what was included at the time this rendering was created.

FIGURE 68:

PROPOSED FORBES AVENUE AND MOULTRIE STREET

EXISTING FORBES AVENUE AND MILTENBERGER STREET.

On-street bike facilities can take many forms–but generally the more protection from traffic provided, the more comfortable the facility is for novice riders. More robust bike facilities are needed in all directions from Uptown and West Oakland. Some key pathways for improvement or infill include:

- Fifth and Forbes one-way pair: Protected bike facility planned as part of BRT project.
- Crawford / Pride Street (Uptown): Implement dedicated bike facility connecting to Center Avenue into Hill District.
- Brady Street (Uptown): Create bike connection from Fifth and Forbes bikeways to Three Rivers Heritage Trail via Brady Street through construction of off-street path or lane reduction of Brady Street
- Moultrie Street (Uptown): Create bike facility connection between Fifth (westbound) and Forbes (eastbound) bike facilities
- Kirkpatrick (W. Oakland): Stripe dedicated or enhanced shared bike facility along Kirkpatrick north of Fifth Avenue
- Second Avenue (Uptown): Create dedicated, preferably protected, bike facility from Armstrong Tunnel intersection with Second Avenue to Second Avenue Parking Lot and Three Rivers Heritage Trailhead.

The single most important connections needed are on Fifth and Forbes. These streets are critical connections from Downtown and the larger region to Uptown and West Oakland for all modes, not just motorized vehicles. They have higher traffic volumes than neighborhood streets, and traffic signals at major intersections. The scale of these streets, volume of traffic, and steep slope mean that bike infrastructure must be robust. Facilities must be comfortably separated from traffic to allow the slower moving cyclists to take on hills without impeding vehicular traffic, and a physical barrier is necessary to provide protection from high volumes of traffic and city buses. Through outreach for the BRT, the preferred design expressed by residents integrates a separated bike lane on-street on the curb side of the transit-only lane.

Some recommended details in the design of bike facilities on Fifth and Forbes include a minimum width of five feet with buffer protection from vehicle lanes (vertical protection preferred), and bike signals at intersections to ensure turning vehicles do not cross people biking. The most critical considerations are to reduce conflicts with vehicles and ensure predictable behavior by the street users. Intersection designs should be consistent, where possible.

THE ONLY BIKE SHARE LOCATION WITHIN UPTOWN AT FORBES AND STEVENSON

MAKE THE BIKE COMMUNITY MORE VISIBLE

Making people who bike more visible is about reinforcing to everyone that Uptown and West Oakland are bike-friendly communities. Seeing bike-related amenities and facilities on-street establishes the understanding that bicyclists are legitimate users of the roadway and this is in fact where they are expected to be. Programs and amenities to support cyclists also have the effect of communicating that they are welcome and can be just as important as infrastructure. Establishing an Uptown Bike/Ped Committee to lead the development of programs, events, and general bike advocacy will help to affirm and celebrate the growing cycling. Local bike advocate groups should continue to work with the City and Stakeholders to improve and increase bike access to shops and restaurants. They should advocate for bike racks and bike corrals, provide valet bike parking at outdoor events, organize community bike rides and events, and promote the "Bike-Friendly Community" message, or initiate a "Bike Friendly Business" Campaign. Consider providing bike valet at PPG Paints Arena events encourages biking by ensuring that there will be safe parking for their bike during events. Installing bike-counting totems along the Fifth and Forbes bikeways, and featuring enhanced bike parking areas also shows a commitment to the bike community, and provides physical evidence of cyclists when they aren't seen biking on street.

Amenities for cyclists can be a draw for new residents. Developers should be encouraged to provide indoor bike parking, purchase shared bikes for tenants, sponsor bike share stations, or support the creation of a Community Bike Garage.

EXPAND BIKE SHARE IN UPTOWN AND WEST OAKLAND

In June 2015, the City of Pittsburgh in partnership with local advocacy organization Bike Pittsburgh, and Allegheny Health Network, and Pittsburgh Bike Share launched the Healthy Ride bike share system with 500 bicycles and 50 stations city-wide. The system is one of very few "smart bike" systems now in operation worldwide, in which the customer's point of interaction is physically located on the bicycles themselves instead of a nearby kiosk[22].

As one of many transportation options for linking trips, bike share can be a great solution for the first- and last-mile connections– completing the last leg of a journey from transit to the doorstep of your destination. For residents and visitors alike, bike share also makes this connection possible for those without access to a bicycle. For many, using bike share is a better option than taking their own bike on transit to create those connections, as it removes the hassle and physical barrier of getting one's bike on and off the bus. To make bike share a viable option for all local trips, stations must be distributed spatially throughout the area, with special attention to proximity to major employment centers, amenities, recreation, and health care centers. Bike share networks are most effective when stations are located less than 1/2-mile from each other in all directions, but with the significant topography and physical barriers, 1/4-mile station area is more appropriate for Uptown. Homes and destinations within a 1/2-mile radius around a station are typically considered within the "service area" of that station. Uptown currently has two stations: at the intersection of Forbes and Stevenson, and north of the PPG Paints Arena on Center Avenue. These stations provide convenient access from Mercy Hospital, Duquesne, and the PPG Paints Arena, but many of the homes in Uptown are located at the edge of, or outside, the 4-mile service area from these stations. West Oakland is similarly underserved by Healthy Ride bike share. The nearest bike share station is at the intersection of Coltart Avenue and Forbes Avenue, but most homes along Robinson Street are beyond a 1/2-mile walk from this station. To make the system more useful to residents, at least an additional three bike share stations should be in the neighborhoods, with additional station expansion where possible.

Suggested station locations are:

- Along Forbes Avenue near Seneca Street
- Dinwiddie and Fifth as part of Dinwiddie Civic Plaza design
- Near the intersection of Robinson Street and Terrace Street

Potential locations for long-term expansion/infill include:

- At Birmingham Bridge near Fifth Avenue and Kirkpatrick Street
- Locations along Three Rivers Heritage Trail near Downtown, Second Avenue Trailhead, and [CMU Industrial park]
- Along Fifth Avenue near Robinson Street

In Pittsburgh, steep inclines may dissuade some commuters from using bikes as transportation–but station co-location with transit hubs will allow longer distance commuters a seamless multi-modal journey. Many cities like Birmingham, Alabama also provide a fleet of electric-assist bikes as part of their standard bike share systems, an option that should be explored in Pittsburgh. These e-assist bikes have a small electric motor that gives riders increased power while pedaling, which helps riders go longer distances or up steeper inclines. Pittsburgh should work with the bike share provider to begin integrating e-assist bikes into the Healthy Ride fleet. Update City laws/regulations, and work to update State laws as needed, to legalize and create a rational regulatory framework for e-assist bikes.

22 Healthy Ride Bike Share Station Locations Map - https://healthyridepgh.com/stations/

The Three Rivers Heritage Trail is visible from Brady Street, but inaccessible.

GROW REGIONAL BIKE TRAIL NETWORK AND CONNECTIONS TO/FROM UPTOWN

The Three Rivers Heritage Trail is a 25-mile urban rail-trail on either side of the Monongahela River. It is accessible via only one direct pathway from Uptown - through the Armstrong Tunnel and along the sidewalk on Second Avenue, then through the Second Avenue Parking Lot.

Trails can be a crucial element to a seamless urban or regional multi-modal transportation system. Trails offer safe and comfortable off-road option for people who bike and walk, and a great alternative for bikers who are uncomfortable with riding on streets with vehicle traffic. Improving multi-modal connections to the Uptown neighborhood for people biking and walking not only increases transportation options, but celebrates an amenity already in the neighborhood. Trails are destinations. They provide accessible, widely available and low-cost opportunities to meet the physical activity needs. Creating and improving connections to the Three Rivers Heritage Trail, and constructing new trails makes the most of open spaces in and around Uptown.

In addition to providing a safe place for people to enjoy recreational activities, the trail is a viable transportation corridor connecting Downtown to Four Mile Run. Today there is no safe and direct access point to the Three Rivers Heritage Trail from Uptown or West Oakland. The only existing trailhead is from the Second Avenue Parking Lot, with no on-street bike facility connecting to it along Second Avenue. Improving access to this trail should be a priority in growing the bike network in Uptown. East of the trailhead from the Second Avenue Parking Lot, there is no trail access point until Bates Street, nearly 2 miles away.

An informal connection to the trail can be reached via Brady Street under the Birmingham Bridge, but people walking and biking must traverse uphill along gravel and dirt to reach the trail. This connection represents a low-hanging fruit recommendation to formalize the connection to the Three Rivers Heritage Trail under the Birmingham Bridge. With bike-access possible via the Birmingham Bridge, this is a natural trail connection. To complete this connection, bike facilities would need to be built between Brady Street at Forbes to the Birmingham Bridge at Fifth along Moultrie Street or on adjacent parcels. This would provide a more convenient connection from West Oakland to the Three Rivers Heritage Trail.

Connections to the Three Rivers Heritage Trail:

- Create formal trailhead at Brady Street near Second Avenue
- Make improvements to the Armstrong Tunnel and Second Avenue trailhead

New trail opportunities introduced in section 4.2:

- Build the Colwell Street Greenway (reference in plan)
- Construct a Hillside Trail (reference in plan)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RENT & RETURN

INFRASTRUCTURE

Invest in Sustainable Infrastructure –
Improve community health, upgrade existing parks, create new parks and trail connections, manage stormwater, and implement district energy.

04

"Create an "Emerald Strand" of parks, gardens, urban farms, and pedestrian/ bike paths starting in the Hill at the Kennard Playground (at Reed and Kirkpatrick), connecting to the landslide farm."

- Quote from Open House Participant

KEY GOALS ADDRESSED:

EQUITY

Foster a vibrant, diverse community where the residents of Uptown/West Oakland are an active and vital part of the community's future, benefit directly from improvements and don't solely bear the burden of systems that largely serve other communities.

HEALTH

Elevate individual, community and environmental health in the planning, design and development of Uptown/West Oakland.

CONNECTIVITY

Create stronger connections to the Hill, Oakland, Downtown, the Monongahela River, nearby parks and forested slopes, and beyond.

PERFORMANCE

Pursue solutions for water, building systems and district energy that will enable Uptown/West Oakland to reach the highest levels of environmental performance and efficiency.

KEY TAKEAWAYS:

- UPTOWN CONTAINS AMAZING **NATURAL ASSETS** THAT ARE **UNTAPPED/UNDERUTILIZED.**
- THE NEIGHBORHOOD HAS THE **FEWEST** NUMBER AND ACREAGE OF **OPEN SPACE** COMPARED TO NEIGHBORHOODS CITYWIDE - **1/2** OF THE **HILL DISTRICT** AND A **1/4** OF **DOWNTOWN**.
- **HILLSIDES**, **STEEP SLOPES**, & **ANTIQUATED INFRASTRUCTURE** CAUSE SIGNIFICANT **STORMWATER** ISSUES.
- THERE EXISTS AN OPPORTUNITY TO INTEGRATE **DISTRICT ENERGY** WITHIN **EXISTING** INSTITUTIONAL **SYSTEMS**.

POTENTIAL RESULTS:

- **OVER 10 ACRES OF NEW OPEN SPACE** - AN OVER 300% INCREASE
- **2.25 MILES OF NEW TRAILS & CONNECTIONS**
- **A 40% STREET TREE CANOPY** UP FROM 5% TODAY
- **30 ACRES OF STORMWATER MANAGEMENT** ACCOUNTING FOR 20% OF UPTOWN'S EXISTING IMPERVIOUS SURFACES
- **RESILIENT AND INEXPENSIVE DISTRICT ENERGY** WITH REDUCED CARBON DIOXIDE EMISSIONS
- INCREASED RECYCLING, COMMUNITY COMPOSTING AND **LESS WASTE DIRECTED TOWARD LANDFILLS**

WHY IS THIS IMPORTANT?

OAKLAND

AREA: 979 acres

OPEN SPACE: 45 acres

PERCENTAGE: 5%

CENTRAL BUSINESS DISTRICT (CBD)

AREA: 433 acres

OPEN SPACE: 36 acres

PERCENTAGE: 8%

Uptown is blessed with some potentially amazing natural assets: an incredible wooded hillside to the northeast that could serve in both an open space and ecological capacity; and a stunning 180-degree view down to the Monongahela River–if one could safely connect to the hillside bluff overlooking the river. It also boasts an emerging urban agriculture movement, experiments in public art and landscape throughout the neighborhood, small but socially important gathering spaces like the Tustin Street Playground and community garden, and an incredibly energetic set of residents at work in these spaces and efforts.

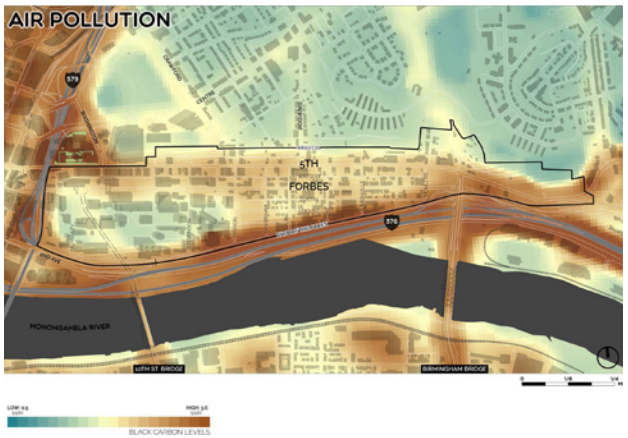
Unfortunately, many of these assets are yet untapped or mostly unrealized. They lack physical and visual access to them, connections between and among them, and have limited resources to support major upgrades or expansion except for the time and efforts and personal contributions of those active in their founding, installation, and upkeep.

Uptown contains among the fewest number and acreage of open spaces and parks throughout the city. It has half the amount of open space as the Hill District, and about a quarter that of Downtown. Few places within the neighborhood are served with open space within a 5-minute walk, an important national and City standard for healthy communities. Uptown also lacks a diversity of open space types: currently several formal and informal community gardens and a play space exist, but larger neighborhood and district open spaces and plazas, parks and landscapes are all lacking. And while the hillside is potentially a great open space asset, it lacks adequate access to and through it.

Uptown is also impacted by stormwater flooding, stormwater quality, and air quality issues–in part due to steep slopes on the north and south, a lack of tree cover, an abundance of impervious pavements, and poor soil quality throughout much of the neighborhood. Because stormwater is not being absorbed into the subsurface soils, it inundates and overwhelms existing sewer infrastructure, often resulting in flooding in streets, basements, and the first floors of buildings. It also brings with it debris, trash, oils and other mild contaminants that it picks up from the streets, rendering it hazardous to people, plants, and wildlife. Air quality is among the poorest in the city, impacted by remaining industrial uses on the River but largely due to the enormous number of vehicles moving through Uptown on Fifth and Forbes Avenues and just to the south on Boulevard of the Allies, Interstate 376, and the Penn Lincoln Parkway. And where landscape and trees do exist, they are often only in fair health and rate poor on an ecological scale - offering very limited contributions to wildlife habitat and ecological diversity.

Landscapes and sustainable infrastructure can address these challenges and form the basis for a lush, healthy, socially vibrant, and environmentally robust and sustainable community–rooted in its people and in its place. Landscapes can clean air, water, and soil, and help mitigate the impacts of stormwater in the district. Landscapes can reduce urban heat through canopy coverage and planting, which also helps to absorb carbon out of the atmosphere. Landscapes can also contribute to emerging food networks, and provide rich sources of fresh fruit and vegetables in a portion of the city lacking good food access. By investing in the community's landscape and open spaces, an idea pursued by the Greenprint Plan in the Hill District, we can improve the visual quality of a neighborhood, create places for community and cultural gathering,

FIGURE 69: ENVIRONMENTAL CONCERNS FOR THE NEIGHBORHOOD



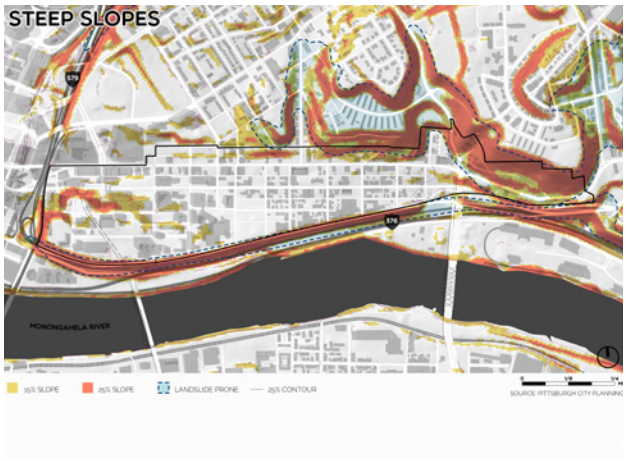


FIGURE 70: PERCENT OPEN SPACE - NEIGHBORHOOD COMPARISONS

HILL DISTRICT

AREA: 788 acres

OPEN SPACE: 37 acres

PERCENTAGE: 5%

SOUTH SIDE

AREA: 602 acres

OPEN SPACE: 24 acres

PERCENTAGE: 4%

UPTOWN

AREA: 204 acres

OPEN SPACE: 4 acres

PERCENTAGE: 2%

and help to greatly improve the residents' quality of life. Importantly, too, investing in parks, open spaces and landscape in Uptown is an opportunity for innovation by developing environmental techniques to address the challenges of flooding and air quality with new hybrid forms of parks and open spaces that act as infrastructure. This kind of a commitment to the community will help set Uptown apart from other neighborhoods in the City and provide other places with new models for how to creatively manage these kinds of challenges.

In addition to landscape, we must critically evaluate the opportunity to conserve and reuse where possible and evaluate our current energy needs. The City mandates recycling but there is still much that gets thrown away that could be reused. However, the local institutions are leading the way toward reducing waste – an effort that should be encouraged. Duquesne University, for instance, diverted 26% of its waste from landfills in 2016.

With respects to energy, Pittsburgh is already a national leader in implementing district heating and cooling. This interest has sparked conversations about the possibility of implementing a district energy system and micro-grid in Uptown. Currently, government and institutional facilities (Duquesne University, UPMC Mercy Hospital and the Allegheny County Jail, consume approximately 69% of all electricity in Uptown. Commercial and industrial load account for the 29% of electricity use. Single family residential use has the smallest share at 2%. However, Duquesne and UPMC Mercy are already addressing much of their energy needs and the NRG plant next to the Arena will supply Mercy with heating and cooling. The opportunity is to integrate district energy systems into new construction as the community grows and help existing residents connect to this infrastructure.

LANDSCAPES CAN BE USED FOR A VARIETY OF DIFFERENT PURPOSES

COMMUNITY VISION

INFRASTRUCTURE

MAJOR STRATEGIES

CREATE AND EXPAND OPEN SPACE AMENITIES FOR RESIDENTS

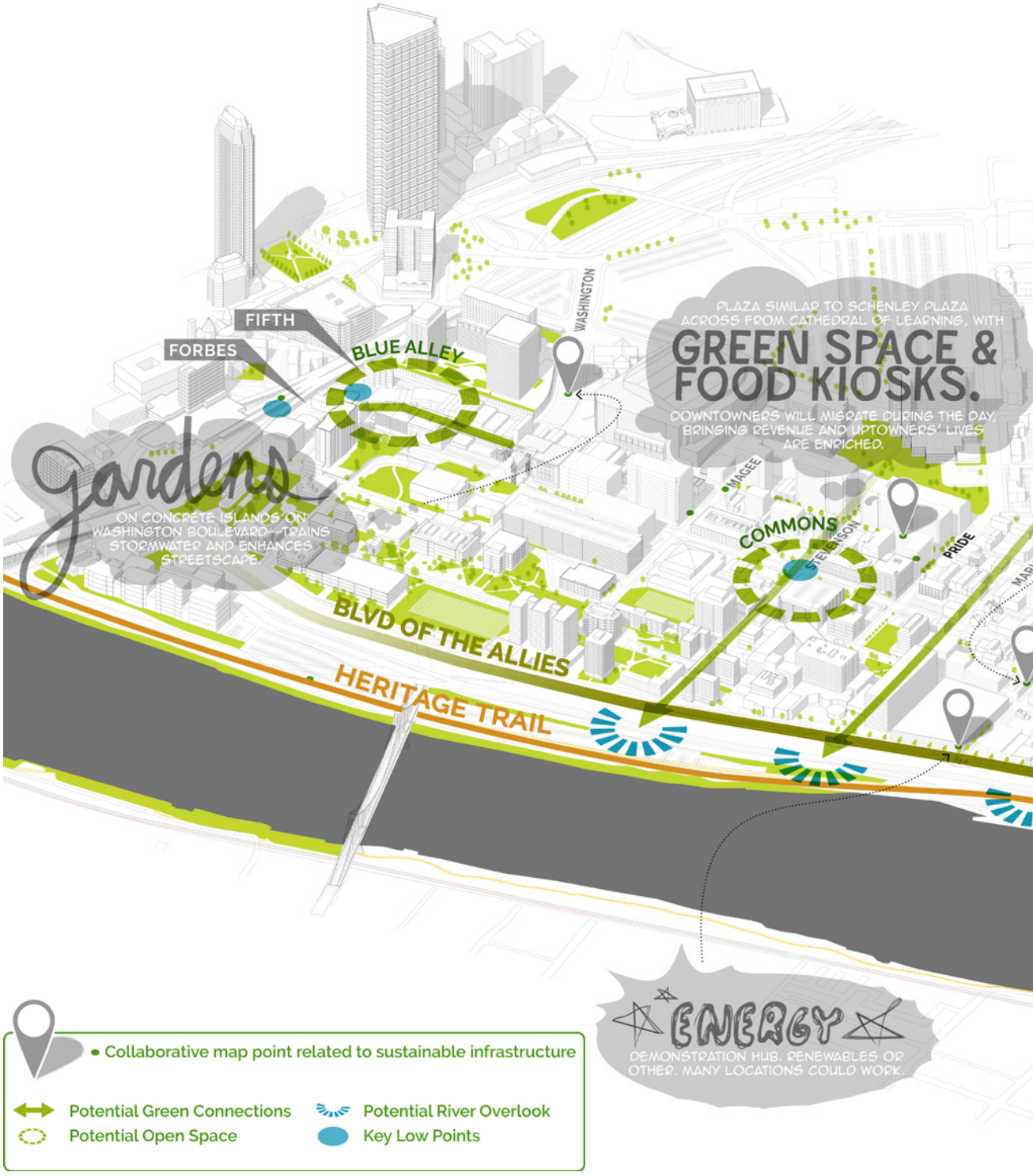
CREATE NEW GREEN CONNECTIONS

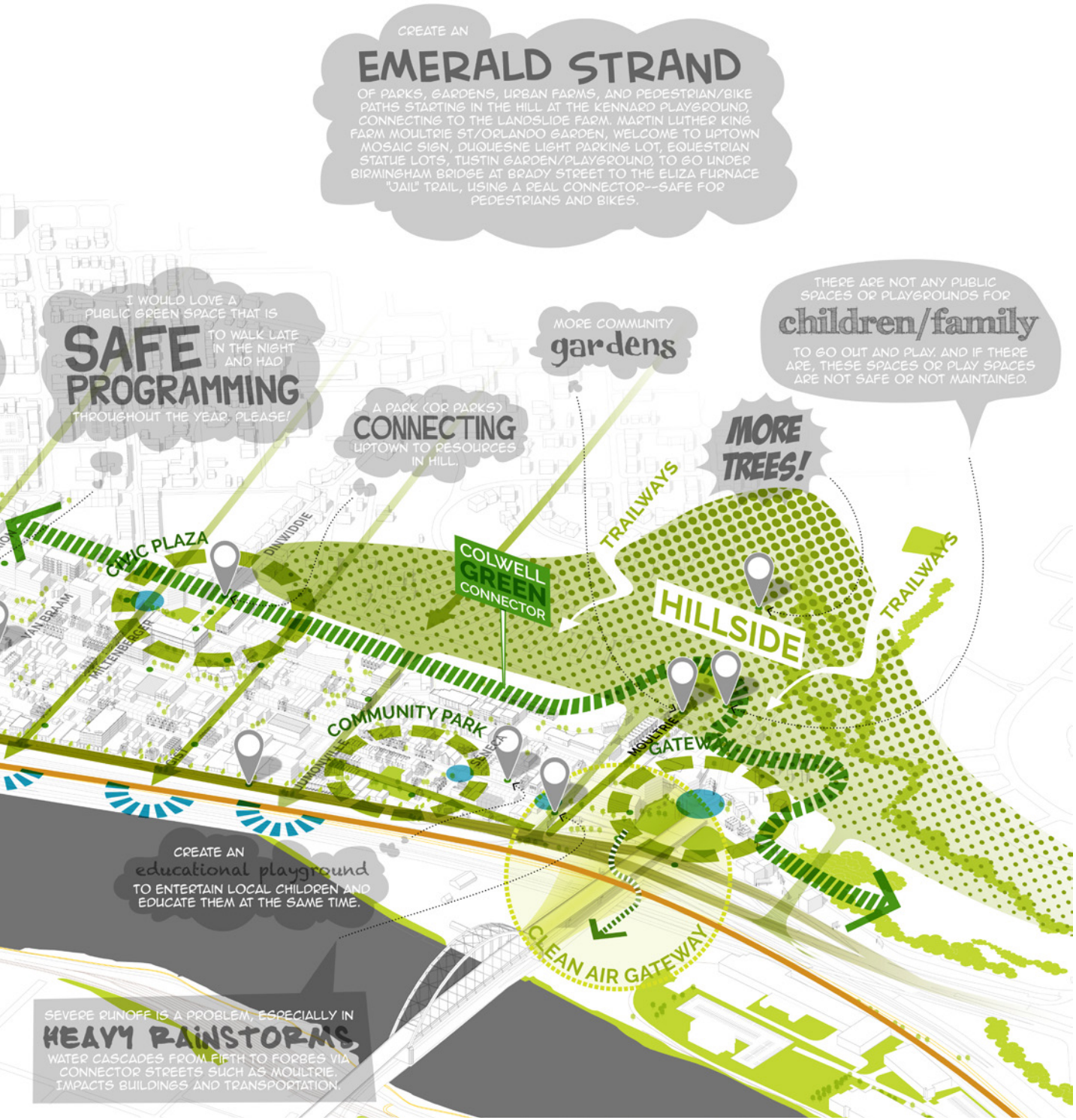
USE LANDSCAPING TO ENHANCE LOCAL QUALITY OF LIFE

UPDATE UNDERGROUND INFRASTRUCTURE

PURSUE DISTRICT ENERGY

BECOME A MODEL FOR INNOVATIVE WASTE MANAGEMENT AND UPCYCLING





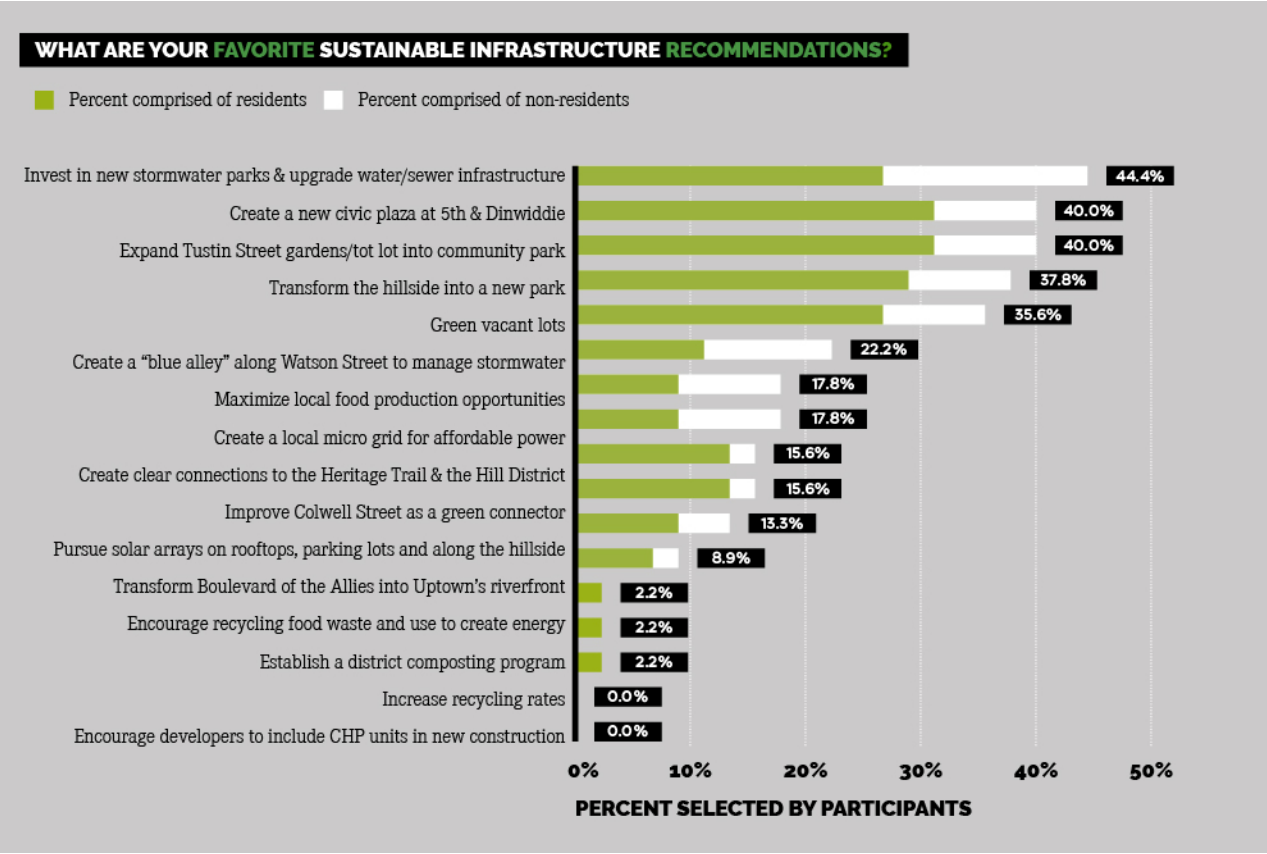
CREATE & EXPAND
OPEN SPACE

PROVIDE NEW GREEN
CONNECTIONS

INVEST IN
SUSTAINABLE INFRASTRUCTURE

4.1 CREATE AND EXPAND OPEN SPACE AMENITIES FOR RESIDENTS

Uptown is a location in great need of new and improved open spaces for residents. When asked to prioritize the ideas presented in just this chapter, the residents' top four choices all had to do with creating new parks that also manage stormwater. Of all strategies included in this plan, recommendations to create and improve specific parks occupied half of the top ten community priorities. From the outset of the project, we worked closely with Uptown residents to help define where these potential parks could be located and what types of activities they would be designed to support. By investing in the parks and open spaces described below, Uptown would increase the amount of available open space by 300%.



CREATE A NEW CIVIC PLAZA AT FIFTH AND DINWIDDIE

Fifth and Dinwiddie is a major intersection where the Hill District meets Uptown. It is a corner that is 100% visible to all passing through–and roughly at the geographical center of the entire District. Here the opportunity is for a district-scale meeting place, a lushly planted and socially vibrant plaza on either side of Dinwiddie, that gives primary presence to the old high school, that establishes a new focal point for new development and for the community at large. Envisioned by residents as an active plaza, it can serve as a festival and event space on occasion and become the district's signature open space offering a place to bring the community together. The space dedicated for this use is currently owned by the URA on the west side of Dinwiddie and the City to the east. Its design should include a BRT station stop or locating one nearby but also be closely coordinated with the potential development of other land owned by the URA in that location.

This project has the potential to align community desires for additional transit connections to the Hill District. If a transit route is created along Dinwiddie Street connecting to the Hill District, Dinwiddie Civic Plaza would become a transit hub serving both the Dinwiddie route and the BRT routes along Fifth Avenue. The design for Dinwiddie/Fifth Civic Plaza must support safe circulation of transit vehicles in the context of a hub of pedestrian activity.

FIGURE 71: RESIDENT OPEN SPACE PRIORITIES

Design considerations include:

- Ensure streetscape supports safe pedestrian crossings in all directions and universal design details.
- Consider Leading Pedestrian Interval (LPI) in pedestrian crossings as volumes increase. LPI's provide pedestrians a 3-7 second head start to cross the street.
- Curb radius at Dinwiddie intersection with Fifth must easily accommodate a turning City bus.
- The cross section of Dinwiddie Street should at minimum restrict parking to a single side (west) with two 12' vehicle lanes. (A dedicated bike facility is not possible on Dinwiddie Street without removing all curbside parking due to constrained width)
- Identify and gain commitment from community partners to manage and maintain Dinwiddie Plaza as part of the design and implementation of this project.

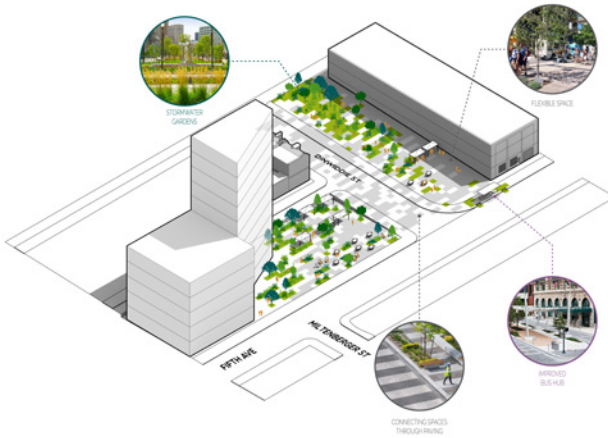


FIGURE 72: PROPOSED DINWIDDIE CIVIC PLAZA

EXPAND THE TUSTIN STREET GARDENS / TOT LOT INTO A NEIGHBORHOOD PARK

EXISTING TUSTIN STREET

As demonstrated by hydrology maps, Tustin Street sits at a critical junction in the overall sewershed and therefore needs to handle a lot of stormwater during storms. In addition, Tustin Street is home to one of the very few community green spaces in Uptown. For these reasons, Tustin Street is a critical opportunity for both enhanced parks space and stormwater management.

The neighborhood efforts that have been put into the Tustin Street community garden and tot lot are a terrific starting point for an expanded and true neighborhood park that will better serve the local neighborhood–a place shared by kids, families, old and new residents, artists, gardeners, and the elderly. Rather than separate areas for gardening, play, or sitting, the expanded neighborhood park creates more opportunities to mix and interact, so people enjoying one activity area can see into others, and the people enjoying those. Fruit- and nut-bearing trees can be integrated into the play space itself, providing shade for kids and extending the food growing capacity of the park across the whole site.

Importantly, the street itself is transformed to visually and physically link the two sides of the street and the two parts of the park. Implementation of a shared street design could begin with a temporary shared street design using movable traffic diverters and pavement marking. Next, speed tables at the entrance to Tustin Street at Jumonville Street would signal to drivers that they are entering a shared space. Finally, a full scale curbless "woonerf" design (Jumonville Street to Moultrie Street), or central raised table, would give priority to people in the shared space created. Design elements such as tactile warning strips can be integrated into a shared street design to ensure it is accessible for users with limited vision. The curbless design itself is more accommodating to those with barriers to mobility because it minimizes grade changes (i.e. ramps). A partnership with the local institutions serving the deaf and blind in designing the street would ensure that all users can enjoy the result.

FIGURE 73: POTENTIAL SHARED STREET ON TUSTIN

TRANSFORM THE HILLSIDE INTO AN OPEN SPACE AMENITY AND STORMWATER PARK

The Hillside north and east of Forbes is perhaps Uptown's greatest untapped resource. It's an amazing and dramatic landscape, with lushly planted hillsides, steep roads that disappear into the forest, and a scattering of stair and path remnants active in years past. Yet today these steps and pedestrian trails are in disrepair, the roads lead nowhere, the vegetation has been invaded with new species that block others out, and stormwater sometimes pours off the hillside in large storm events.

We imagine the hillside transformed into Uptown's premier open space, a lushly planted hillside with community gardens, urban agriculture, river overlooks, and community gathering spaces–all linked up with neighborhoods north and south, and with the future bus rapid transit system. An accessible trail system will serve as an amenity reconnecting Uptown, West Oakland and the Hill District.

Stormwater retention strategies will be integrated throughout, slowing stormwater as it moves down the hillside and offering a ground for experimentation for new stormwater retention strategies that can be implemented across the city. Kirkpatrick Street is an essential element of this strategy as the street covers what was once a creek that conveyed water to the River. It is important to redesign this street to slow stormwater before it reaches low-lying areas of Uptown.

Existing community gardens and urban farms will be expanded to increase capacity and visibility, and will accommodate other uses such as walking and sitting so that multiple populations can mix in these important food landscapes. Most dramatically, overlook structures will extend from the hillside, through the tree canopy and out into the clear air, offering walkers, hikers and bikers the opportunity to take in vistas of the entire Monongahela River Valley, from Downtown to the South Side and beyond. These overlook structures may also double as air quality monitoring stations, providing vital statistics to those monitoring environmental improvements in the district.

Innovative work already underway on the hillside should be supported. This includes an initiative to plant specific species of mushrooms to clean the ecoli bacteria found in the ground water. Naturally cleaning the water in this way will provide a ready water source for irrigating crops within Landslide Community Farm.

FIGURE 74: POTENTIAL WOODLAND OVERLOOK

DEVELOP A NEW BLUE ALLEY ON WATSON STREET ON THE WESTERN END

Watson Street's downhill location from Forbes Avenue and it's undersized sewer infrastructure creates stormwater backups near the corner of Boyd and Diamond. It is also serves as the defacto public space for several social service organizations that lack the interior space capacity to handle all of their beneficiaries.

Watson can be transformed as an innovative new Blue Alley, a multi-functional space that services existing buildings, creates a mixed use street that can provide space for social activity, integrates stormwater retention strategies to alleviate flooding and runoff, and still accommodate parking. Here, new paving can mark the street as a shared pedestrian and vehicular space, new stormwater gardens can detain stormwater and enhance the visual qualities of the space, and informal drop-in areas can enhance some of the uses within the buildings themselves, adding sitting and waiting capacity and a better quality of environment for all who work in and utilize the offices and storefronts in the area.

INTEGRATE NEW GREEN SPACE AT FORBES & STEVENSON TO CAPTURE STORMWATER AND SUPPORT NEW SOCIAL USES

At Forbes and Stevenson, a historic warehouse on the north side and a parking structure on the south side are both set back from the street, creating more parking and a green buffer. Neither actively serves in a stormwater retention capacity–in fact the impervious parking area exacerbates stormwater problems–and neither is designed to support social use. Yet the location is important in that in marks an intersection between institutional uses at the University and more retail uses that serve the wider district.

This space can be renovated as a Blue Plaza that spans Forbes Avenue and extends from one building face to the other, with integrated and continuous paving patterns that visually unite the space and help to slow traffic along Forbes. Stormwater gardens will be integrated to collect and hold stormwater during peak storm events, and new seating areas will encourage social activities, the extension of café spaces from inside the warehouse building, and the development of a new meeting area at the intersection of a robust new mixed use neighborhood and university campus.

FIGURE 75: WATSON BLUE ALLEY

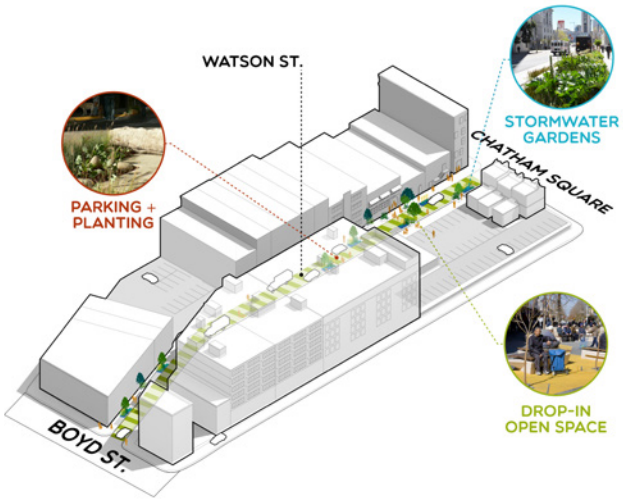


FIGURE 76: FORBES & STEVENSON GREEN SPACE

4.2 CREATE NEW GREEN CONNECTIONS

Creating new parks and open spaces will not be enough. Despite Uptown's small footprint, it is remarkably disconnected both from nearby neighborhoods and amenities. Major corridors like Fifth, Forbes and the Boulevard of the Allies carry a lot of traffic that serves to divide the community. Topography, steep slopes and unfinished or failing infrastructure only serve to further separate Uptown residents from what is nearby. Several key connections need to be addressed.

CREATE CLEAR CONNECTIONS TO THE HERITAGE TRAIL

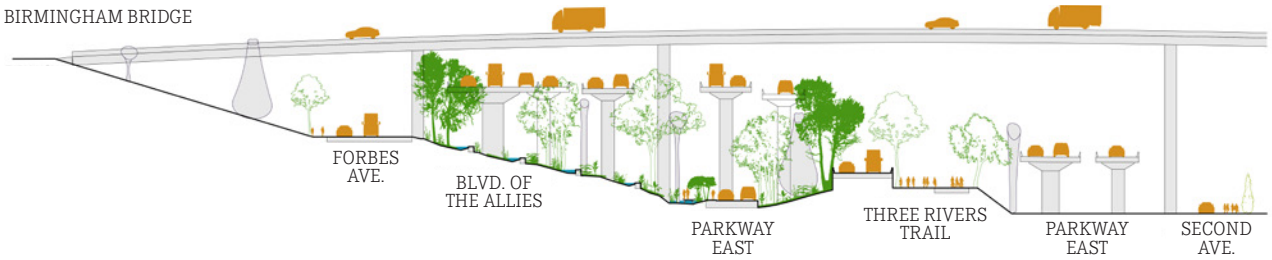
Uptown offers few opportunities to connect to the lower Heritage Trail along the river, due to the steep slopes along the neighborhood's south side and the layers of transportation infrastructure that have come to inhabit the various elevations of the hill. But the street connections are inhumane and dangerous for pedestrians and bicyclists trying to get down, and the old stream valley has been filled in with hard surfaces that exacerbate stormwater runoff problems here.

Yet the opportunity is huge. The slope and open lands around and beneath the roadway infrastructure can be transformed into a unique stormwater park that offers new and dramatically beautiful access opportunities, trails, and layered stormwater wetlands that retain stormwater runoff and improve its quality before if heads down into the river. PennDOT land adjacent to the Birmingham Bridge should be used for stormwater functions to manage stormwater prior to the underpass. From there, accessible pathways and bikeways can be integrated throughout, providing easy and safe access from Forbes and Kirkpatrick to the Heritage Trail and the riverfront below. New plantings and stormwater gardens inhabit the areas beneath and around the freeway pilings, creating a fantastic new space unlike any other in Pittsburgh–a true merging of twentieth-century infrastructure with forward-looking and multi-functional open space.

The space includes important amenities to address air quality as well. Carbon "scrubbers" are proposed to take carbon from the nearby traffic out of the air. Implementation of these scrubbers need to be closely monitored to provide quality data on the improvements possible with this new technology.

A lot of engineering and design is necessary to carry this proposal toward reality. Specific solutions need to be designed to model stormwater in this area and a new structure that connects Brady Street to the Heritage Trail for cyclists and pedestrians needs to be tested for feasibility.

FIGURE 77: HERITAGE TRAIL CONNECTION



EXISTING CONNECTION TO THE HERITAGE TRAIL.

FIGURE 78: PROPOSED HERITAGE TRAIL CONNECTION

IMPROVE COLWELL AS A GREEN CONNECTOR

Across the Hillside, Colwell Street and remnant trails can be reconfigured and redesigned as a green connector that links neighbors, urban farmers, community activities, and new and old residents alike. It can also provide a new kind of urban hiking and food experience in the city.

Colwell Street itself is refashioned as a multi-use street, with recreational trail alongside vehicular lanes, all lushly planted and with integrated green infrastructure. From the Albert Turk Graham Park on Vine Street in the Hill District, an on-street trail will provide a connection down to Colwell Street and extend to the Wyandotte Garden and De Raud Street as a fitness trail. This improvement will provide the Center for Hearing and Deaf Services an outdoor fitness amenity for their clients. This trail extends further east to the MLK Community Garden at Warren K. Branch Park, with one of two hillside overlooks offering river views and a connection down to Soho Community Park, then follows along Kirkpatrick and crosses to extend as hillside trails that link up to the Landslide Community Farm and West Oakland neighborhoods. This extended trail connection will leverage the value of Uptown's gardens and social services while connecting the Hill District, West Oakland and Uptown communities. As the trail develops, the City and community partners outside the study area should look for further opportunities to increase connections to the trail and expand this trail into a system of trails.

FIGURE 80: PROPOSED COLWELL CONNECTOR

FIGURE 79: POTENTIAL COLWELL CONNECTOR SECTIONS

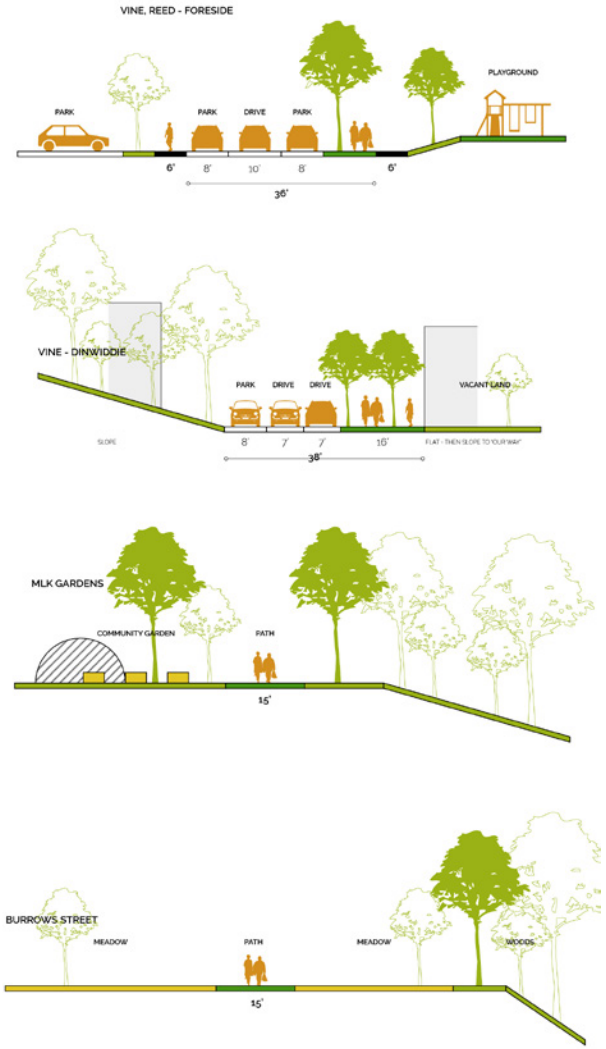
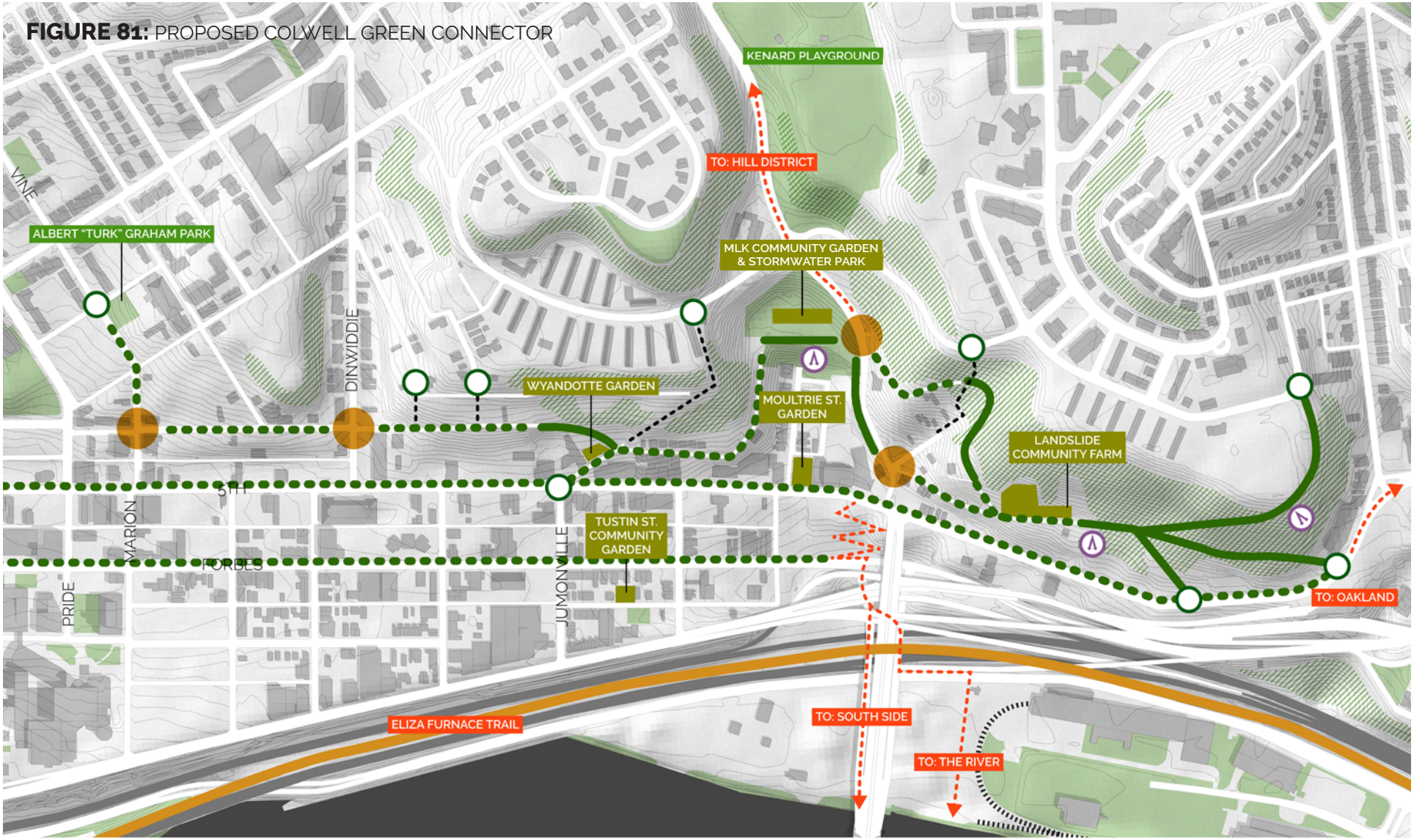


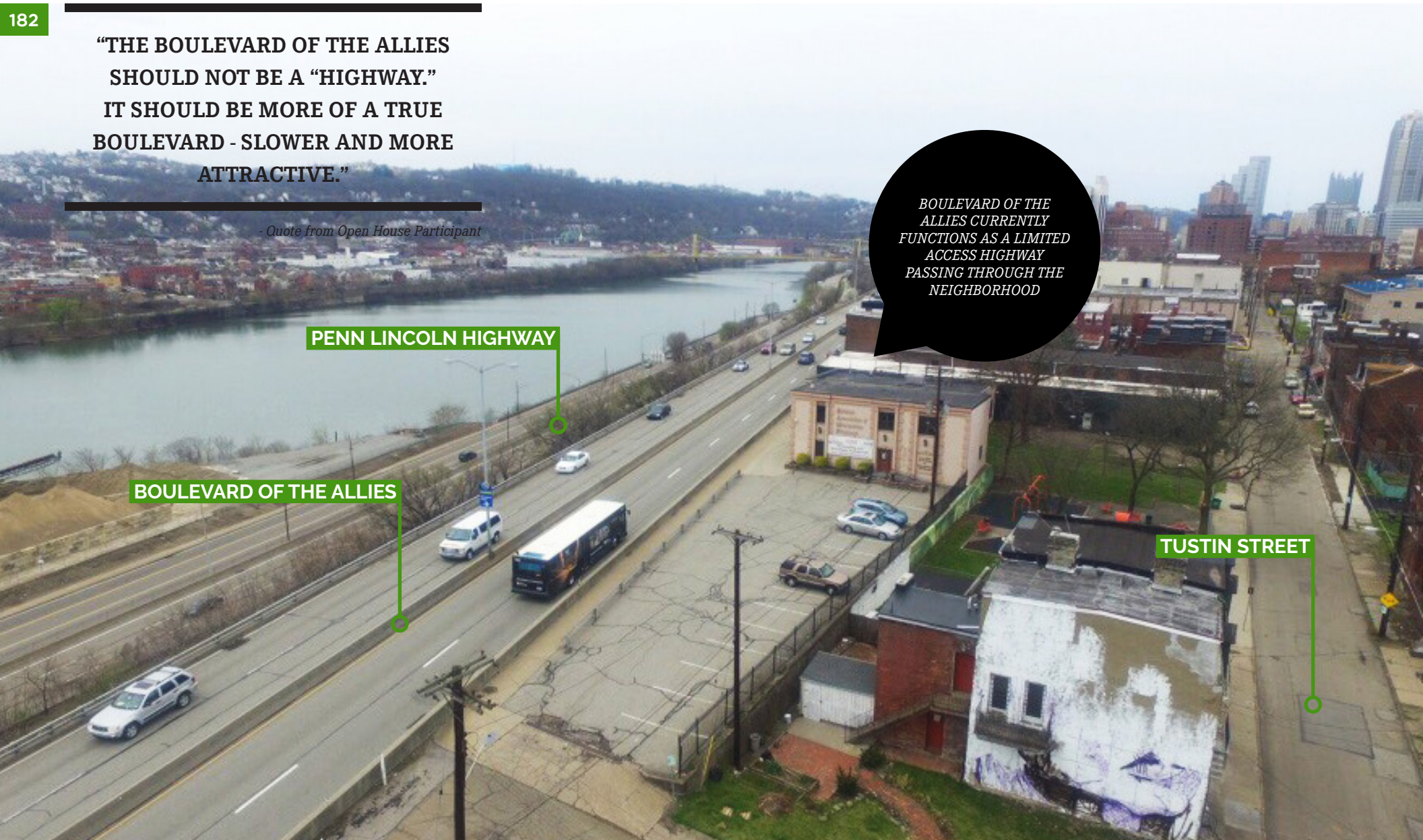
FIGURE 81: PROPOSED COLWELL GREEN CONNECTOR



TRANSFORM BOULEVARD OF THE ALLIES INTO UPTOWN'S RIVERFRONT

"THE BOULEVARD OF THE ALLIES SHOULD NOT BE A "HIGHWAY." IT SHOULD BE MORE OF A TRUE BOULEVARD - SLOWER AND MORE ATTRACTIVE."

- Quote from Open House Participant



Frederick Law Olmsted once imagined Boulevard of the Allies as a civilized and lushly planted parkway that lined the top of the slope from the Monongahela River, with trees and walking paths that offered both pedestrians and vehicle passengers incredible views of the river valley below. This is now little more than a high-speed highway, packed tight against the Uptown neighborhood but severing it from the incredible river landscape below.

While the vertical slopes of the hillside and the infrastructure below prevent Uptown from having a riverfront on the Monongahela River, there is great opportunity to redesign the Boulevard as a true Boulevard, lined with trees, with safe crossings at cross-streets, and with river overlooks and a planted promenade for pedestrians. This would truly be Uptown's riverfront to rival any in town–think of the upper level boulevard along Fort Duquesne Boulevard as an example. This would be a great opportunity to truly connect Uptown to the rivers that make Pittsburgh great, and to offer residents an enhanced quality of life beyond any other.

The solution can include one of two options. Both reduce the Boulevard from four to three lanes, enabling it to capture the extra space for a river-facing trail with overlooks. One option treats the middle lane as a reversible lane that responds to peak-hour flow, enabling the Boulevard to carry essentially the same number of vehicles it does currently. The other treats the middle lane as a planted median with turn lanes enabling access to Uptown from both the east and west – a vast improvement from existing conditions.

While a substantial opportunity, reconsidering the Boulevard of the Allies is not only costly, but politically sensitive. It currently serves to connect a regional highway system that carries users from all parts of the region. However, its impact on the community's health and the safety concerns that come with high-speed traffic so close to a neighborhood makes this an important strategy to evaluate closely. For those concerned about traffic impacts, the reconstruction of Fifth and Forbes will provide a useful case study to help advance the discussion.

FIGURE 83: BOULEVARD REDESIGN CONCEPT

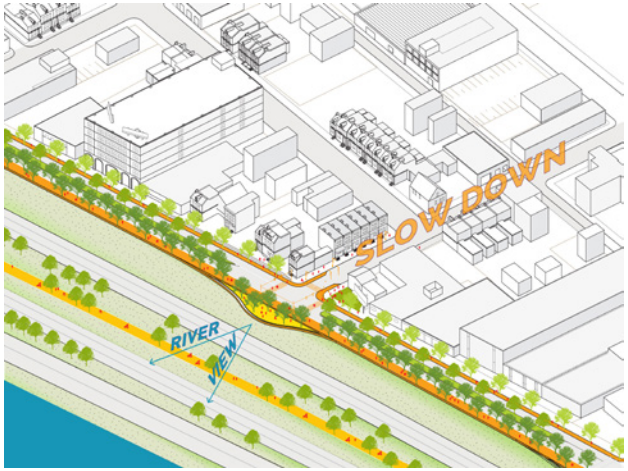
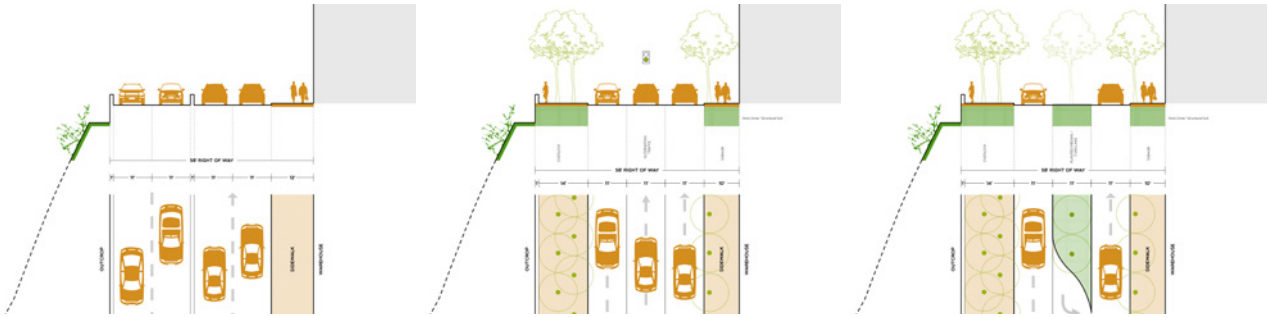


FIGURE 82: EXISTING & PROPOSED BLVD. OF THE ALLIES SECTIONS



EXISTING BOULEVARD OF THE ALLIES.

BOULEVARD OF THE ALLIES TRANSFORMED INTO A TRUE BOULEVARD: UPTOWN'S RIVERFRONT

FIGURE 84: PROPOSED BOULEVARD OF THE ALLIES

4.3 USE LANDSCAPING TO ENHANCE LOCAL QUALITY OF LIFE

Uptown suffers from challenges related not just to issues like stormwater runoff but also from illegal dumping and a character that all too often signals the community is unsafe. Strategically investing in landscape improvements, tree plantings and the ecology of the community can provide residents with: More access to quality open space; cleaner air and water; a more comfortable and attractive environment; and access to fresh food.

LANDSCAPING IN UPTOWN.

ENCOURAGE ALTERNATIVE APPROACHES TO MANAGING VACANT LAND

While existing vacant properties contribute negatively to quality of life issues, perceptions of blight and abandonment, social life, and environmental health, Uptown could become the city's leading neighborhood for alternative and innovative landscape infill strategies. A wide range of interim and permanent landscape and open space uses should be implemented across the district, signaling an open and innovative approach to the role landscape can play in urban neighborhoods.

Green and blue infrastructures (landscapes that clean water, soil, and air, and detain stormwater); urban agriculture and community gardens; art installations and events; community and district gathering spaces; landscapes for research and energy generation, and for testing and monitoring; and river overlooks and promenades are all part of the expanded suite of landscape types that can occupy currently vacant and underutilized properties and rights-of-way throughout Uptown.

Importantly, because space is at a premium and landscape must contend with so many issues, single-use landscapes and vacant lot infill strategies need to be designed to serve social, environmental, and functional roles all at once.

MAXIMIZE AND CONNECT LOCAL FOOD PRODUCTION OPPORTUNITIES

While Uptown could be characterized as an urban food desert–a neighborhood lacking traditional sources of fresh foods, fruits and vegetables (like true grocery stores)–it has a number of vibrant community gardens that could form the basis of a new landscape-based food network of gardens, groves, and food incubators throughout the district.

To accomplish this, existing community gardens need to be enhanced, expanded, and provided with better access. As reflected to the ongoing work of gardeners and their partners, these spaces need to be designed to better support food production and to offer expanded amenities for other residents and visitors who are simply interested in using the community gardens as a place for passive recreation and enjoyment of open space (in this way, the gardens also serve in an important educational role). Connective trails between and among the gardens–including the Landslide Community Farm, the MLK Community Garden, the Moultrie Street Garden, the Wyandotte Garden–could link one to the other, provide accessible pathways through the hillside, and even link up to a potential food incubator currently under discussions along Fifth Avenue at the Burrell Building. All this, in addition to planting of fruit- and nut-bearing trees in clean urban sites, could all contribute to a healthier community and a sense that Uptown is leading Pittsburgh as a food innovator.

MLK COMMUNITY GARDEN

KIRKPATRICK STREET

SOURCE: www.facebook.com/MLKcommunitygardenfarm

TUSTIN STREET COMMUNITY GARDEN

TUSTIN STREET

MOULTRIE STREET GARDENS

MOULTRIE STREET

LANDSLIDE COMMUNITY FARM

BEELEN STREET

SOURCE: www.facebook.com/pages/Landslide-Community-Farm

INTEGRATE STREET TREES

New street trees in all areas of Uptown are critical to making a healthy neighborhood, and creating a lush, green, and sustainable image for the neighborhood. Trees can absorb carbon from the atmosphere, helping to reduce a contributing factor to climate change. Trees create canopy and shade, making for a more comfortable urban environment for people, reducing the urban heat island effect, and creating better habitat for birds and other creatures that live in the city. Trees, with proper structural soil mixes and volumes–especially along tight urban streets–can also play a role in slowing and absorbing stormwater, thereby playing an important role as green infrastructure.

Fifth and Forbes are important corridors for dramatically enhanced street tree plantings, in combination with other improvements related to bus rapid transit, bicycle paths, and better sidewalks and crossing. Tustin Street, which requires improvements to handle stormwater, is an opportunity for integrated tree plantings as a part of this work. In addition, all the north-south streets lack street trees including most notably Van Braam and Jumonville as well as portions of Miltenberger, Gist and Seneca Streets. These are all critical gateways to the community from Boulevard of the Allies and street improvements including street trees help to reinforce to drivers that this is a neighborhood and not a highway off ramp. Target tree plantings first along Van Braam and Jumonville to help slow traffic and fill the gaps in the community where there is currently surface parking.

MANAGE DISTRICT VEGETATION

Overall vegetation in the district needs to be dramatically improved and diversified in order to support a healthier habitat for people and for wildlife, and to better serve functionally as green infrastructure and open space. It also needs to be planted in ways that help to ensure that the plants will prosper, even with limited city resources for upkeep over the long term. Work with the Penn State Extension and other partners on developing specific planting plans for key open spaces and parks that help to create ecological diversity and better support community goals.

VACANT LOTS HAVE POOR ECOLOGY.

MONITOR AND IMPROVE ENVIRONMENTAL HEALTH

There is increased interest in testing and monitoring different environmental factors that impact resident health. Recent examples include the air quality data referenced in this plan collected by Carnegie Mellon University. With an increasing concern around lead levels in water from old pipes and contamination from lead paint, research should be undertaken to determine and monitor lead levels in the community. The work of Duquesne University's Center for Environmental Research and Education has already provided valuable data on water quality in the region. Continue to encourage to apply this local knowledge and resource and seek to use the results to advocate for necessary improvements where necessary.

FIGURE 85: ECOLOGICAL RATING

After a thorough land cover analysis of each parcel was done, a rating system established land values based on runoff coefficients for the Rational Method and vegetative establishment. Using this system, we valued an "Urban Successional Shrubland," for instance, that might be found in the hillside forest higher than an "Urban Wild Grassland," as an example, which might be found on a vacant lot along a major street. This method evolved with the addition of criteria that addressed ecological foundations – quality of habitat, diversity of species, resilience/adaptability, etc. Through this, we were able to understand where efforts to improve conditions would be the most necessary and which places in the neighborhood were already established and required better access for the local community.

4.4 UPDATE UNDERGROUND INFRASTRUCTURE

It is no secret to residents that the infrastructure in the community is old and in need of major repairs and, in some cases, replacement. The City's sewer system is a Combined Sewer System (CSS) where sewage from our homes and businesses goes to the same pipes as rainwater from the storm drains. This means that when it rains, the pipes can sometimes be overwhelmed with the volume of water causing water backups into basements and streets. In addition, the system was designed to discharge water to the rivers during major rain events. This is called Combined Sewer Overflow (CSO) which seriously impacts water quality as rainwater carries with it home and business sewage as well as debris and other pollutants from the streets.

The age and condition of underground pipes only exacerbates the issues of flooding that impacts the community. Uptown needs replacement of underground infrastructure as well as investments that help to ease the burden on that infrastructure.

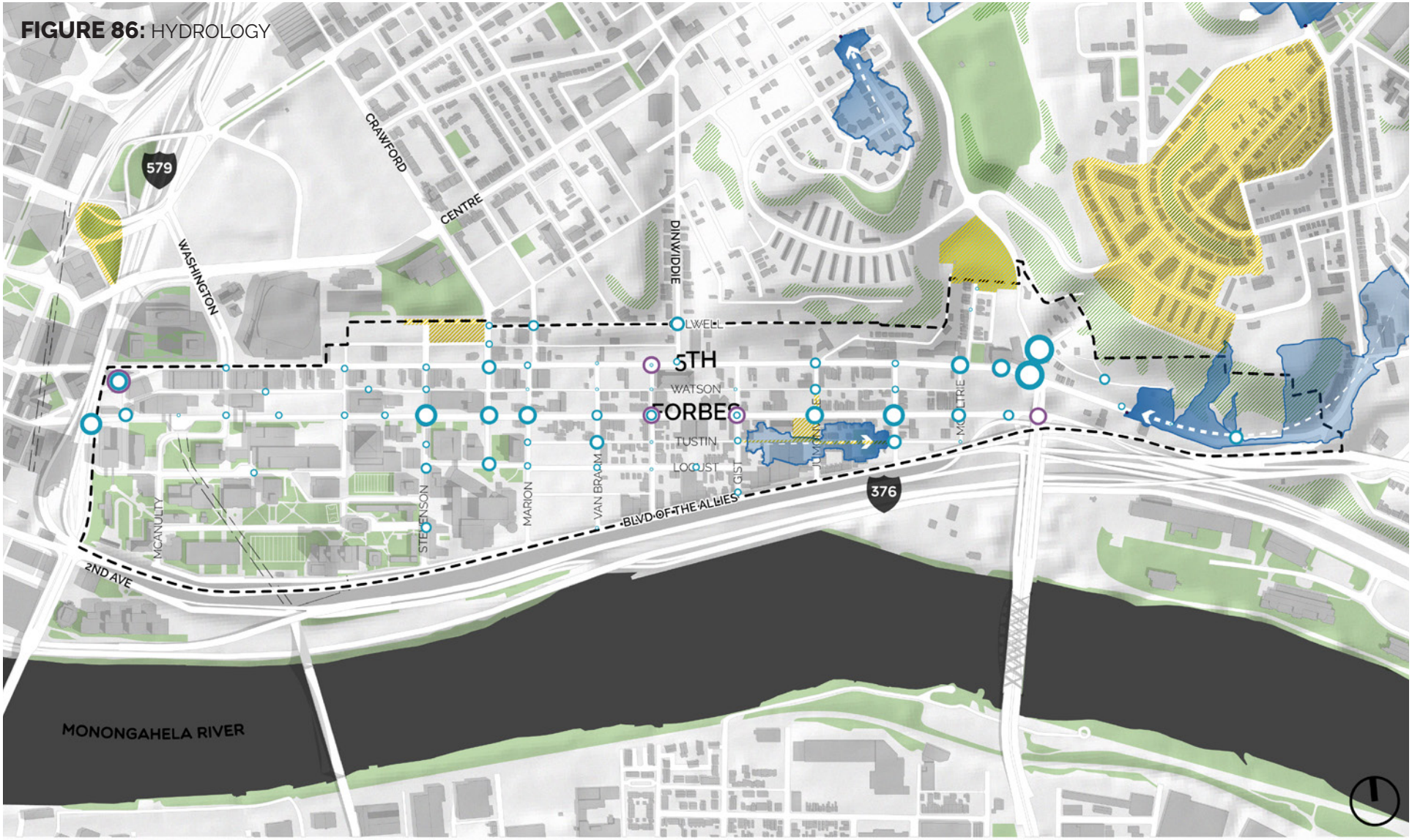
FOCUS ON STORMWATER RETENTION STRATEGIES AT THE SURFACE TO EASE THE BURDEN ON SEWER SYSTEMS

Landscape has the capacity to retain stormwater during peak events, cutting down on street runoff and flooding. It can do so in rain gardens, streetscapes designed for retention and new planting, and even in public spaces that temporarily function as stormwater holding areas during peak events. The sheer presence of trees and vegetation also helps to absorb stormwater, reducing overall quantities that need detention and slow release.

As a low point, Uptown is subject to a lot of water that starts in other locations and flows to the community. This work in Uptown, therefore, should actively supporting the Hill House in their efforts regarding Greenprint. Greenprint is a community-driven strategy focused on expanding open space and managing stormwater in the Hill District. The document is guiding the Hill House and their partners in helping to create a greener and more sustainable Hill District.

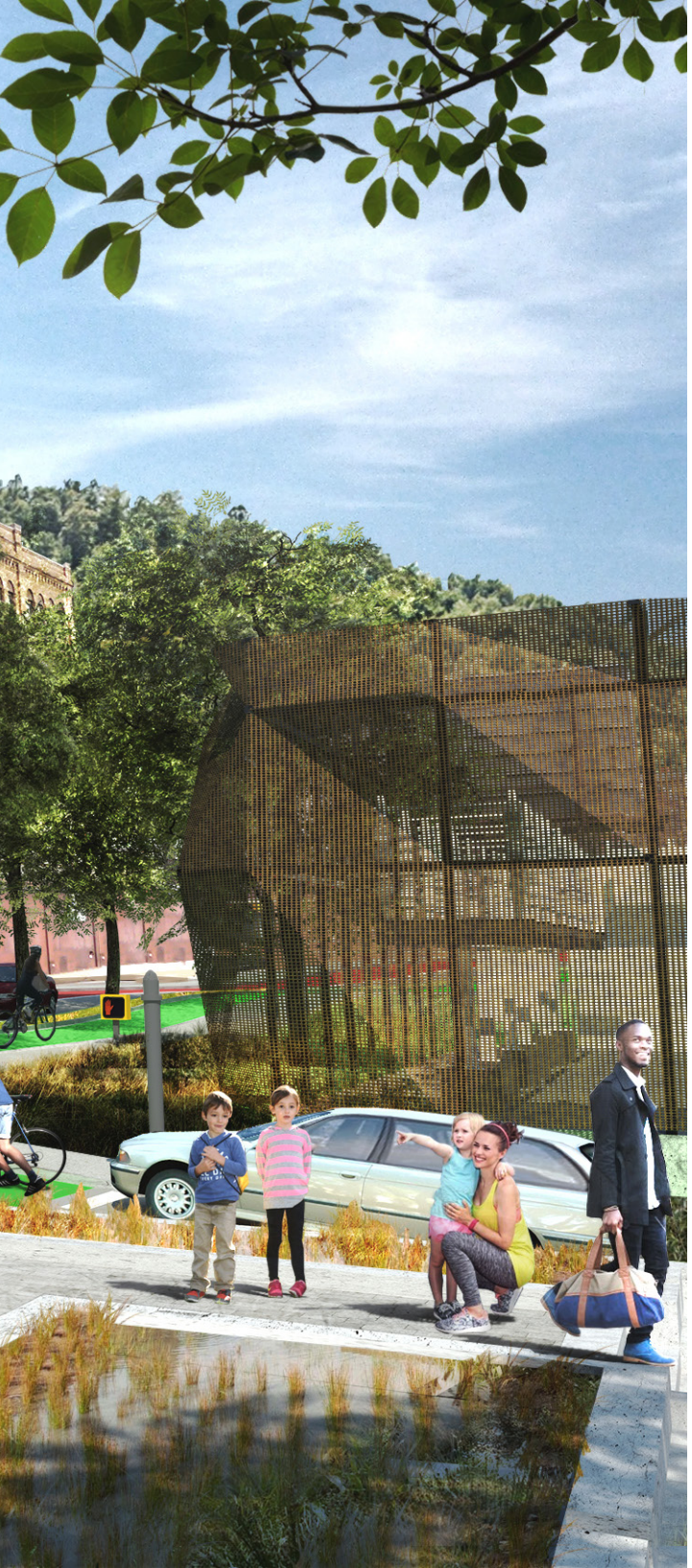
Many of the plants installed in rain gardens and stormwater-retention landscape also help improve the quality of stormwater–they filter some of the oils and other street residues, resulting in a healthier environment overall. Therefore, use of green stormwater infrastructure (GSI) strategies can improve the quality of the water in the Monongahela River which is typically inundated with polluted water when the existing storm sewers overflow. Thus, Uptown can play a role in the City's goals of increasing recreation and water activities along the River by investment in new parks and spaces to hold water before it rushes into the sewers.

FIGURE 86: HYDROLOGY



POTENTIAL STORMWATER PARK AT THE REDESIGNED INTERSECTION OF FIFTH AND MOULTRIE STREETS.

FIGURE 87: PROPOSED FIFTH & MOULTRIE.



EXISTING FIFTH AND MOULTRIE INTERSECTION.

There are 142 acres of impervious surfaces in Uptown (73% of the neighborhood) and, due to the steep slopes and development patterns, the community is a priority for PWSA to integrate stormwater retention strategies like the use of GSI. GSI can be integrated in open space and streetscape designs with the objective to help collect the runoff from nearby streets, buildings, sidewalks, and parking lots. GSI is also encouraged within new development where GSI strategies can include green roofs and elaborate water recycling and reuse systems. Uptown will need to embark on many strategies to meet a goal of managing 30 acres, or about 20%, of existing impervious surfaces. This includes the integration of GSI into new developments, the investment in new parks and, by integrating stormwater retention basins into street reconstruction projects.

UPDATE SEWER / WATER LATERALS WHERE POSSIBLE

Aging sewer and water infrastructure as well as other utilities can be replaced or upgraded at the time of other right-of-way infrastructure investments. Key opportunities for replacement:

- Fifth and Forbes - upgrade and replace infrastructure along Bus Rapid Transit alignment especially in areas that are targeted for full depth pavement replacement.
- Stormwater collection along Fifth and Forbes using GSI. This should include managing stormwater runoff from impermeable sidewalk and street right-of-ways and the installation of permeable bike lanes, parking spaces, or intersections to convey water to subsurface stormwater detention facilities.
- Moonscape/Kirkpatrick where investments to address stormwater could also be leveraged to replace nearby laterals.
- On and adjacent to new park investments described in objective 4.3.
- Along and adjacent to Watson Street and Tustin Street that are priorities for creating blue / green alleys to address existing stormwater concerns.

4.5 PURSUE DISTRICT ENERGY

A district energy system provides heating, cooling (also termed "thermal energy") and electricity to multiple buildings located in a defined area, such as a downtown business district, a college campus or a government office complex. A district energy system is comprised of the following elements:

- Energy Supply: Electricity and thermal energy are produced by multiple small scale, high-efficiency fossil fueled and renewable energy sources located within the district.
- Energy Delivery: Electricity is delivered via a localized electric grid, known as a "micro grid". Thermal energy is transported via underground pipes that carry steam or hot water for building heating and chilled water for building cooling.

DISTRICT ENERGY STRATEGY GOALS

The goal of the Uptown EcoInnovation District Energy strategy was to conceptualize an energy supply and delivery architecture capable of providing the following benefits for businesses, institutions and the residents of Uptown:

- Lower Electricity Costs: The delivered cost of electricity should be less than consumers are currently paying for power supplied by the local electric utility company
- Lower CO2 Emissions: Electricity supplied should have lower carbon dioxide emissions than power from the electric grid.
- Improved Resilience: Ensure that power remains available to all in the event of an extended electric utility outage.

These EcoInnovation District principles should also be integrated into institutional master planning in Uptown and West Oakland.

The following energy supply and delivery technologies, each with unique cost and emissions characteristics, were evaluated as part of development Uptown:

- Combined Heat and Power
- Solar Photo Voltaic
- Heat-to-Power
- Battery Energy Storage
- Community Food Digester Plant
- Central Plant Thermal Energy
- Micro grid

No single supply option or delivery technology would be capable of providing all of the benefits in the strategy goal. An effective way needs to combine the cost and emissions into an integrated supply and delivery system is needed. The district energy architecture is a proven approach to accomplish this. Each of these supply and delivery technologies, to varying degrees, will be part of the Uptown EcoInnovation District Energy strategy.

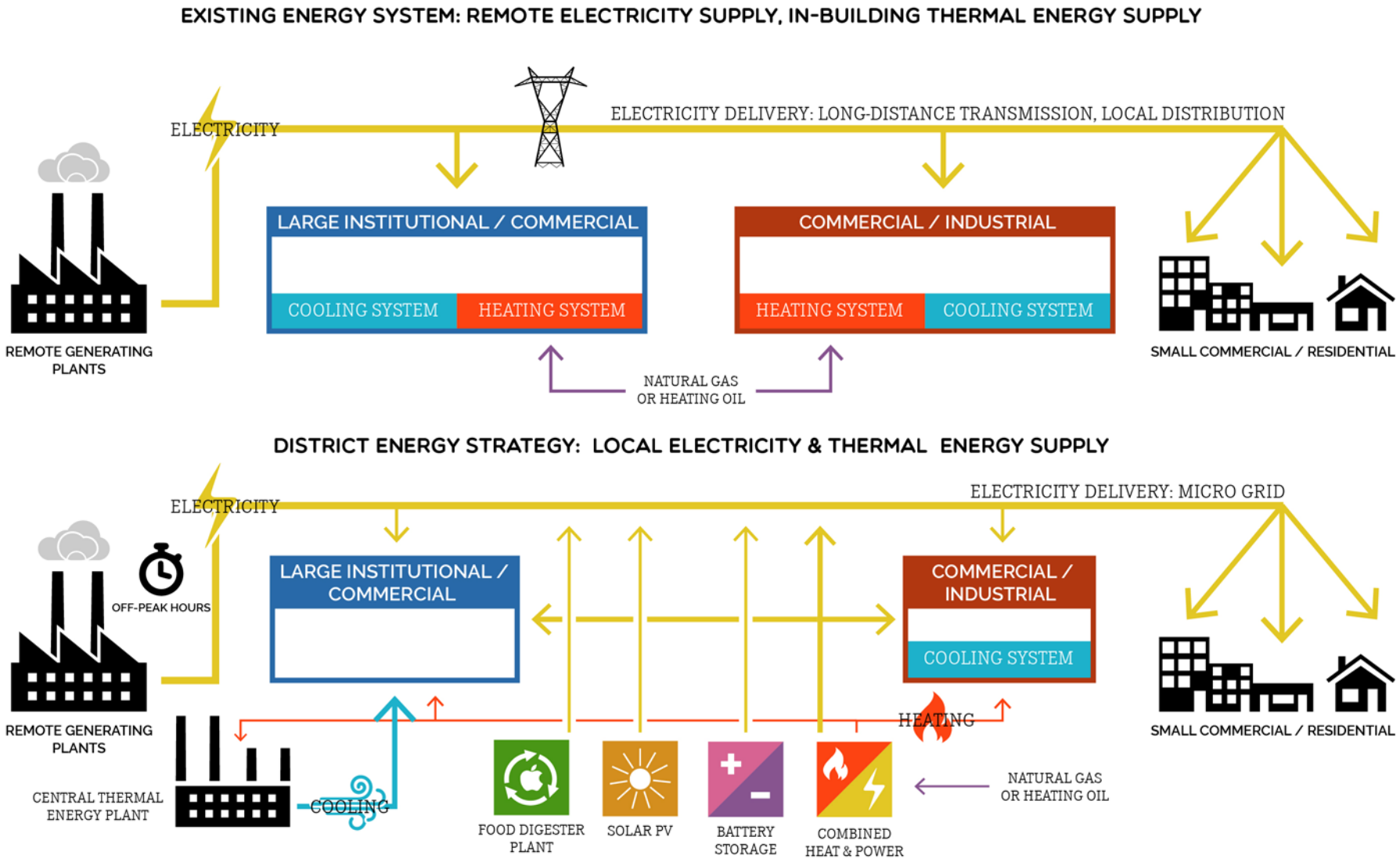


FIGURE 88: ENERGY SYSTEMS DIAGRAM

COMBINED HEAT & POWER

66% of all electricity generated in the U.S. in 2015 was produced by fossil-fueled central power plants that, on average, convert only 30% of the energy content of the input fuel (primarily coal or natural gas) into electricity. The remaining 70% of the energy contained in the fuel is released into the environment as waste heat. Combined heat and power systems (also known as "CHP" or "cogeneration" systems) generate power using natural gas but are designed to recover and utilize waste heat that a central power plants reject into the environment. Thus, CHP systems can produce power at 40% lower costs and with 60% lower carbon dioxide emissions than central power plants.
Small scale CHP systems are available for use in buildings as small as 5,000 sf that have heat demand throughout the year. Examples include multifamily housing, dormitories, restaurants and lodging facilities. In these facilities, CHP waste heat is used to produce domestic hot water and the electricity generated will be used to reduce purchased power consumption.
Electricity generated from 13 CHP units can supply approximately 82% of the electricity demand in the Uptown EcoInnovation District Energy strategy.

BATTERY STORAGE

Batteries will be used to store low-cost, off-peak electricity from the regional power grid and excess power generated by CHP units during off-peak hours to supply micro grid electric load during on-peak hours.
In the Uptown EcoInnovation District Energy strategy, electricity from two battery storage systems can supply approximately 8% of the demand in Uptown.

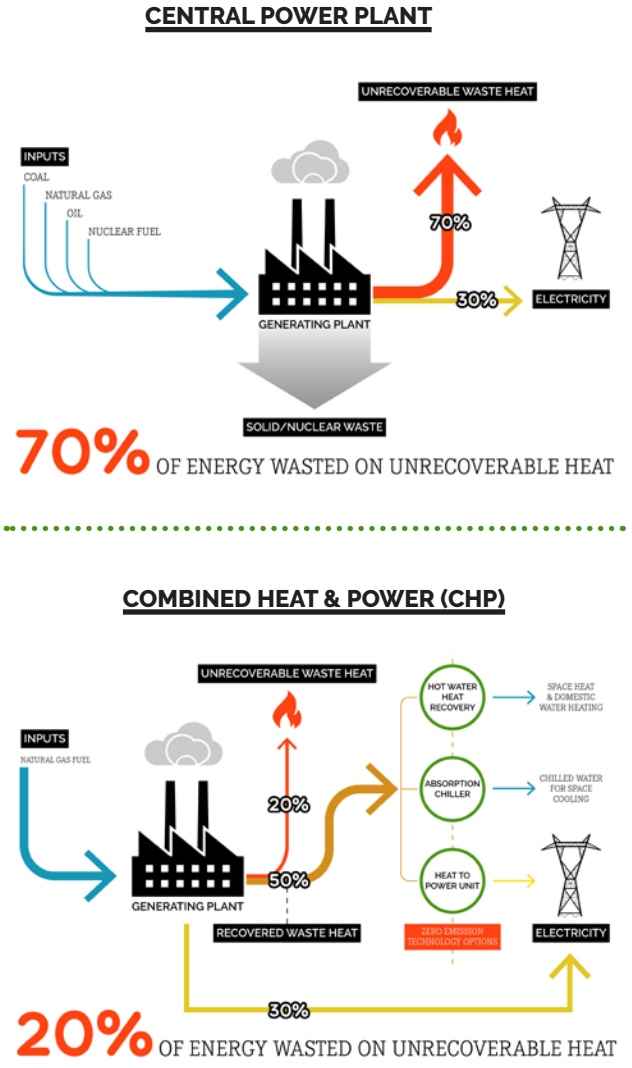
SOLAR PHOTOVOLTAIC (PV) POWER

Solar PV systems convert sunlight into electricity with zero air emissions. This supply technology is used to reduce the average CO2 emissions of the Uptown power supply mix.

The cost of solar PV electricity will be approximately 14 to 16 c/kWh compared to 6 to 8 c/kWh paid by businesses and 10 c/kWh paid by residents in Uptown. Including solar power in the Uptown electricity supply mix would undermine the cost reduction strategy goal. **As a result, the amount of solar PV power in the Uptown EcoInnovation District Energy strategy is limited to 1 Mw which would be sufficient to supply approximately 2% of the electricity demand in Uptown.**

The Uptown EcoInnovation District Energy strategy includes installation of five solar PV systems totaling 1 Mw capacity at Second Avenue Plaza parking lot and on the hillside near Wyandotte Street. If the community places a higher value on using this area as a park or for low-density development and cannot the solar PV system swill have to be installed elsewhere. Creative ways to integrate solar PV in the urban environment will be needed to maximize solar electricity in the Uptown supply mix. The EcoInnovation District Energy strategy calls for installing solar PV systems in spaces that have no higher value use, such as over parking lots, on parking garage roofs, over roadways or between buildings in the event the hillside is not available.

FIGURE 89: COMPARISON OF CENTRAL POWER PLANT VS. CHP SYSTEM



WASTE HEAT TO POWER (HTP)

HTP units are used to convert CHP waste heat into electricity during the summer months when building heat demand is low. HTP units have zero carbon dioxide emissions and are used to reduce the average CO2 emissions of the power supplied to Uptown. HTP units will be installed with the larger CHP units included in the Uptown District Energy System strategy.

Electricity generated by the HTP units can supply approximately 1% of the electricity demand in the Uptown EcoInnovation District Energy strategy.

COMMUNITY FOOD DIGESTER PLANT

A carbon-neutral process is used to produce biogas from waste food that is used to generate power. Electricity generated at the food digester plant will supply the Uptown micro grid. This facility can be located near the Allegheny County prison where a substantial volume of waste food can be collected The 60 kW plant in the Uptown EcoInnovation District Energy System strategy will be capable of processing approximately 80% of the food waste from the prison. In addition to being a source of clean energy, the biogas food digester plant is also an example of innovative waste management and upcycling. **In the Uptown EcoInnovation District Energy strategy, electricity generated by the food digester plant can supply approximately 1% of the electricity demand in Uptown.**

CENTRAL THERMAL ENERGY PLANT

A central thermal energy plant uses high-efficiency boilers and chillers to produce thermal energy for use in nearby buildings. The Uptown District Energy Center (UDEC) is a thermal plant is being constructed by NRG Energy, Inc. near the Consol Energy Center. UDEC will initially supply steam and chilled to UPMC Mercy Hospital via an underground piping system. NRG plans to supply thermal energy from UDEC plant to other large facilities as well. Installing underground piping to deliver thermal energy is typically financially viable only when supplying large facilities such as UPMC Mercy. There are no large facilities in the EcoInnovation District Energy study area that are not already supplied by a central thermal energy plant. As a result, there are no additional central thermal energy plants proposed in the EcoInnovation District Energy strategy.

OFF-PEAK PURCHASED ELECTRICITY

Low cost off-peak purchased power will help offset the higher cost of electricity supplied by solar PV, HTP and battery storage systems and help meet the Uptown EcoInnovation District Energy strategy's cost reduction goal. **Off-peak purchased electricity can supply approximately 5% of the electricity demand in Uptown.**

MICRO GRIDS

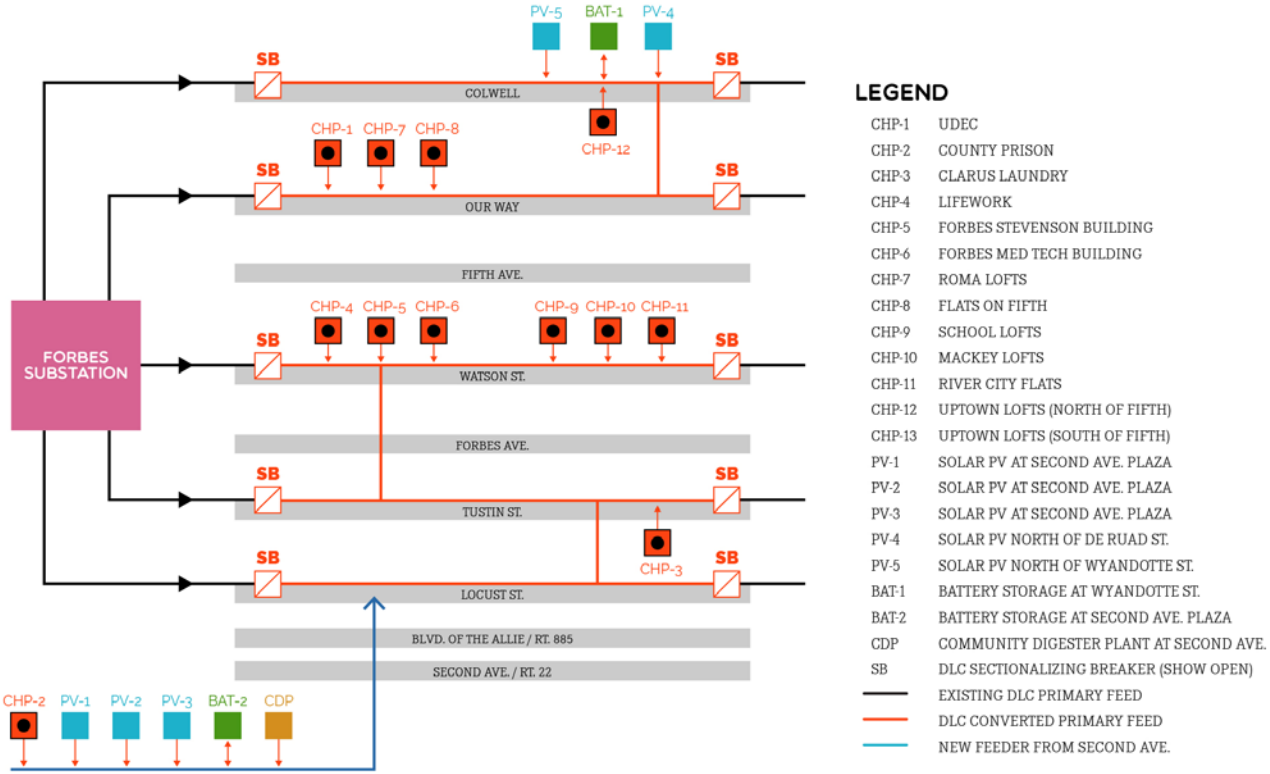
Conventional power plants are typically constructed on a large scale, at widely dispersed locations far from major metropolitan areas where most electricity is consumed. The electric power grid is designed to collect power produced at power plants for delivery to end users. The power that these plants produce must be carried long distances by high-voltage transmission lines to electric distribution companies (such as Duquesne Light Company in Pittsburgh) that deliver the power at lower voltage to end users.

A micro grid is a localized electric grid that interconnects a defined, limited group of electricity consumers with multiple, locally-sited, small-scale power sources such as combined heat and power (CHP) systems, battery energy storage systems and solar photovoltaic systems. The micro grid will deliver low-cost power from the regional power grid to Uptown when power prices are low. Duquesne Light Company (DLC) will continue to own the distribution system in Uptown and operate it as a micro grid. Conversion of their electric distribution system to micro grid service will require the approval of the Pennsylvania Public Utility Commission. In addition, DLC will be required to issue new tariffs with pricing based only on cost recovery associated with use of DLC's distribution assets in Uptown and not the use of distribution assets located outside of Uptown that will no longer be needed to serve Uptown residents and businesses.

The micro grid will operate isolated from the DLC distribution system outside of Uptown and the regional power grid. It will connect with the DLC system only during off-peak hour to import electricity from the regional power grid when prices are low. EcoInnovation District Energy System will have sufficient generating capacity interconnected to the micro grid to supply power in the event of a power outage in DLC territory or the region.

A schematic representation of Uptown District Energy System Micro Grid Architecture is shown below showing the relative geographic locations of electricity supply and storage systems. Portions of the existing DLC distribution system to be converted to micro grid service are shown in red. A new feeder to deliver electricity generated from solar PV, CHP, battery storage digester plant sources is shown in blue. Sectionalizing breakers used to isolate the micro grid from the rest if the DLC distribution system are shown as well.

FIGURE 90: MICRO GRID ARCHITECTURE SCHEMATIC



IMPACT OF DISTRICT ENERGY ON CARBON EMISSIONS IN UPTOWN

ELECTRICITY USE IN UPTOWN

Currently, government and institutional facilities (Duquesne University, UPMC Mercy Hospital and the Allegheny County Jail), consume approximately 69% of all electricity in Uptown. Commercial and industrial load account for the 29% of electricity use. Single family residential use has the smallest share at 2%.

Annual electric load is expected to increase approximately 8 million kWh in the commercial/ institutional sectors and 9,000,000 kWh in the residential sector over the next 20 years if development occurs in Uptown as envisioned in the EcoInnovation District energy strategy. This load growth will be driven by additional residential units, rehabilitation of commercial workspace, new ground floor commercial space and new office and research work space.

PROJECTED IMPACT ON CO2 EMISSIONS

The EcoInnovation District energy strategy's projected impact on CO2 emissions are summarized below. CO2 emissions are expected to be reduced 54% with power supply mix shown below.

As shown in below, CO2 emissions from electricity use is projected increase from 49,000 Metric Tons annually to 63,000 Metric Tons as shown as a result of electric load growth due to increased development in Uptown. CO2 emissions are 54% lower with the micro grid supply mix resulting in emissions reduction ranging from 27,000 Metric Tons 34,000 Metric Tons with projected load growth.

Estimated Uptown Electricity Use by Sector

	kWh/Yr.(%)
Residential	1,000,000 (2%)
Commercial/Industrial	18,000,000 (29%)
Government/Institutional	43,000,000 (69%)
Current Uptown Consumption	**62,000,000 (100%)**
Load Growth – Commercial/Institutional	8,000,000
Load Growth – Residential	9,000,000
Total Projected Uptown Consumption	**79,000,000**

Projected Impact Reduced Carbon Emissions

Energy Production /Delivery Tech.	**Percent of Supply**	**CO2 Emissions Lbs./kWh**
Combined Heat & Power	82%	0.8
Solar Photovoltaic Power	2%	0.0
Battery Storage	8%	1.9
Biogas Food Digester Plant	1%	0.0
Waste Heat-to-Power	2%	0.0
Off-Peak Purchases	5%	1.8
Average Production	**100%**	**0.8**
Baseline: Regional Electric Grid		1.75
CO2 Emissions Reduction		**54%**

Impact on GHG Emissions

	CURRENT	**PROJECTED** *(w/ load growth)*
Electricity Consumed, kWh/Year	62,000,000	79,000,000
CO2 Emissions w/ Current Supply Mix MT/Year	49,000	63,000
CO2 Emissions w/ Micro Grid Supply Mix MT/Year	22,000	29,000
Projected CO2 Emissions Reduction MT/Year	27,000 **(54%)**	34,000 **(54%)**

ESSENTIAL AREAS OF COLLABORATION BETWEEN THE CITY AND THE UTILITIES INCLUDE:

REDUCE ENERGY BURDEN

It has been shown that energy efficiency the most cost effective way to reduce energy costs and CO2 emissions. When energy efficiency measures are implemented broadly, less generating capacity will be required to supply the Uptown micro grid which will lower delivered price of power. Examples of energy efficiency measures that have frequently found to be cost effective are described herein:

- Improve Lighting Efficiency - Install LED Lighting: Fixtures that employ light emitting diode ("LED") technology will provide the same amount of light as standard T8 fluorescent fixtures while consuming 50% less electricity. They are best suited to areas of a building where lighting is required to operate for over 3,000 hours annually and in facilities that are continuously occupied such as prisons and hospitals
- Lighting Controls - Install Occupancy Sensors: In the spaces that are sporadically used, and where code does not require lights to be on continuously, installation of occupancy sensor controls would allow for the lights to only be used when needed (e.g. the space is occupied). Such spaces include restrooms, conference rooms and offices. In stairwells, where a minimum level of lighting must be continuously provided, occupancy sensors can be used to shut down lights to the minimum code level and only provide full lighting when the stairwell is occupied.
- Smart Meter Installation: Smart meters enable measurement of electricity usage in hourly or shorter increments. Having access to detailed usage data will facilitate energy cost management practices such as participation in time- of-use or demand response programs. The City and Duquesne Light should accelerate deployment of smart meters so that customers can take advantage of such opportunities. The usage data from smart meters may also enable better facilitate automatic control of the CHP and battery systems described in the District Energy Plan to minimize electricity supply costs.
- Natural Gas Cooling: A natural gas-fired absorption chiller operates using heat combustion of natural gas. Chillers operate using electricity which is typically priced very high during the summer afternoon hours when chillers operate at full load.
- Building Controls, Remote Operations and Networking: HVAC controls can be used to ensure that heating and cooling systems operate at reduced levels when areas of a building are not occupied. Controls can also be used to minimize outside air intake based on building occupancy.
- Building Envelope Improvements/White Roofs/ Roof Insulation: These measures reduce heat loss during winter months and reduce heat gain during the summer months thereby reducing demand on heating and cooling systems and the resultant energy use. These measures are most economic when they are implemented when replacing a roof that has reached the end of its useful life.
- Outside Air Control: Ventilation requirements varies with building occupancy but typically ranges from 10% to 50% of supply air volume. Controls are available to limit outside air to minimum levels based on occupancy and code requirements. Reducing outside air flow 50% can reduce electricity use for air conditioning as much as 14% and reduce natural gas consumption for space heating as much as 40%.
- HVAC Retro Commissioning: Retro-commissioning is the practice of testing and adjusting building systems that were not initially properly commissioned to meet their design intent and/or optimizing building systems to satisfy the current operational needs of the building. The process helps identify poor equipment performance, opportunities for equipment replacement, and strategies for savings energy and money.
- Expand Home Weatherization Programs: One of the objectives of the District Energy strategy is to reduce the delivered cost of electricity and thermal energy to businesses and residences in Uptown. Installing underground pipes to deliver heat (i.e. thermal energy) from a central plant to single-family residences is not financially feasible. As result, the District Energy strategy offers only reduced-price electricity to residences. Most homes are heated using

natural gas or heating oil therefore the District Energy strategy will not impact residential heating costs. Residential heating costs would be reduced if weatherization program participation were expanded. The goal of weatherization is to seal drafts to prevent the loss of heated or conditioned air to the outside and to insulate a house to reducing energy costs and improve comfort. Such programs can also include repair or replacement of storm windows and doors, attic insulation and replacement of space heating and water heating systems. A weatherization program with specific energy performance metrics (such as energy use index) together with micro grid service, will improve the affordability of homes in Uptown. The City should explore with DLC ways to expand their subsidized energy program for low income customers to include renewables. This would be a primary component of the healthy homes program discussed in Recommendation 1.3.

COORDINATE INFRASTRUCTURE INSTALLATION WITH BRT

Fiber optics cables and other telecommunications system components can often be installed at much lower cost when undertaken in conjunction with implementation of other larger infrastructure projects such as the District Energy system or BRT. The City should coordinate with utility partners and institutional partners to take advantage of the opportunity to install 21st century communication in right-of-ways when as part of work infrastructure projects are undertaken.

ESTABLISH MULTI-USER MICRO GRIDS

In Pennsylvania, any entity that produces generates, transmits, distributes or furnishes electricity to or for the public for compensation is a public utility and is subject to regulation by the Pennsylvania Public Utility Commission. A micro grid can distribute power from generators to multiple building owners. If the micro grid were owned by an entity that is not a public utility, a ruling from the Pennsylvania PUC would be warranted to clarify whether the owner of a micro grid would be subject to regulation by the PUC. Conversion of Duquesne Light's distribution assets to micro grid service circumvents this issue because DLC would continue to own and operate the micro grid.

There may be few, if any, instances of an electric utility converting distribution assets in this way, therefore approval from the Pennsylvania PUC will be required to establish a micro grid in Uptown. In addition, there will also be few, if any, instances in which a regulated utility has carved out selected utility assets for the use by a subset of ratepayers in a defined area to the exclusion of all others. DLC will be required to issue new tariffs with pricing based only on use of DLC's distribution assets converted to micro grid use. This will result in reduced electric rates for residents, business and institutions in Uptown. DLC and many electric utilities are keenly interested in finding ways to bring the resiliency and cost benefits of micro grids, CHP and zero emission power technologies to rate payers. DLC, the PUC and all stakeholders can work together constructively to obtain the regulatory clarity needed to implement a micro grid in Uptown and in other communities in Pennsylvania.

PROMOTE USE OF COMBINED HEAT & POWER

Capturing and utilizing waste heat allows CHP systems to produce 2.5 times as much useful energy output (heat + electricity) per unit of fuel input compared to a central power plant. This higher level of fuel utilization results in lower fuel cost and lower carbon emissions per unit of output.

CHP systems are much smaller than central power plants and can be installed near the building where the power and heat produced can be consumed (the "Host Facility"). Hot water produced from recovered waste heat can be used to provide space heating or domestic water heating in the Host Facility. Hot water from the CHP system can also be used to operate an absorption chiller to produce chilled water for space cooling during the summer months. High potential Host Facilities located in Uptown that have significant heat demand throughout the year are:

- Allegheny County Prison
- Clarus Linen System
- Various Multifamily Residential Buildings

CHP systems that use waste heat to produce steam could potentially represent a lower cost steam supply for the Uptown District Energy Center (owned NRG Energy or to Pittsburgh) and for Allegheny County Thermal (PACT) that serves downtown Pittsburgh.

ENCOURAGE INSTALLATION OF SOLAR PV IN UNDERUTILIZED AIR SPACE

It will not be possible to reach aggressive greenhouse gas (GHG) reduction goals that many governments and institutions have set (such as Pittsburgh's goal to reduce GHG emissions 50% by 2030), without implementing solar PV technology. Solar PV requires over fifty times as much space to install than CHP project with the same generating capacity and over 190 times more space than a CHP project in order to achieve the same impact on CO2 emissions. Creative ways to integrate solar PV in the urban environment will be needed if this technology is to be beneficially utilized on a large scale.

Solar panels can be installed in unused air space that have no alternative, higher value use. Such areas would include:

- Large building rooftops
- Between buildings
- Over parking lots and garages
- Alleyways
- Over publics spaces providing shade and partial shelter from rain
- Along hillsides in select locations that do not interfere with other development plans

Zoning ordinances and D.O.T. regulations must be reviewed before installing solar PV in some of these areas. Issues related to property owner air rights may also need to be addressed.

The City is also encouraged to work with partners to conduct a solar viability survey to validate the potential for wider deploying of solar PV systems on roofs or on district scale. The City should also explore the creation of a Solar Authority to facilitate the implementation and financing of solar PV in Pittsburgh.

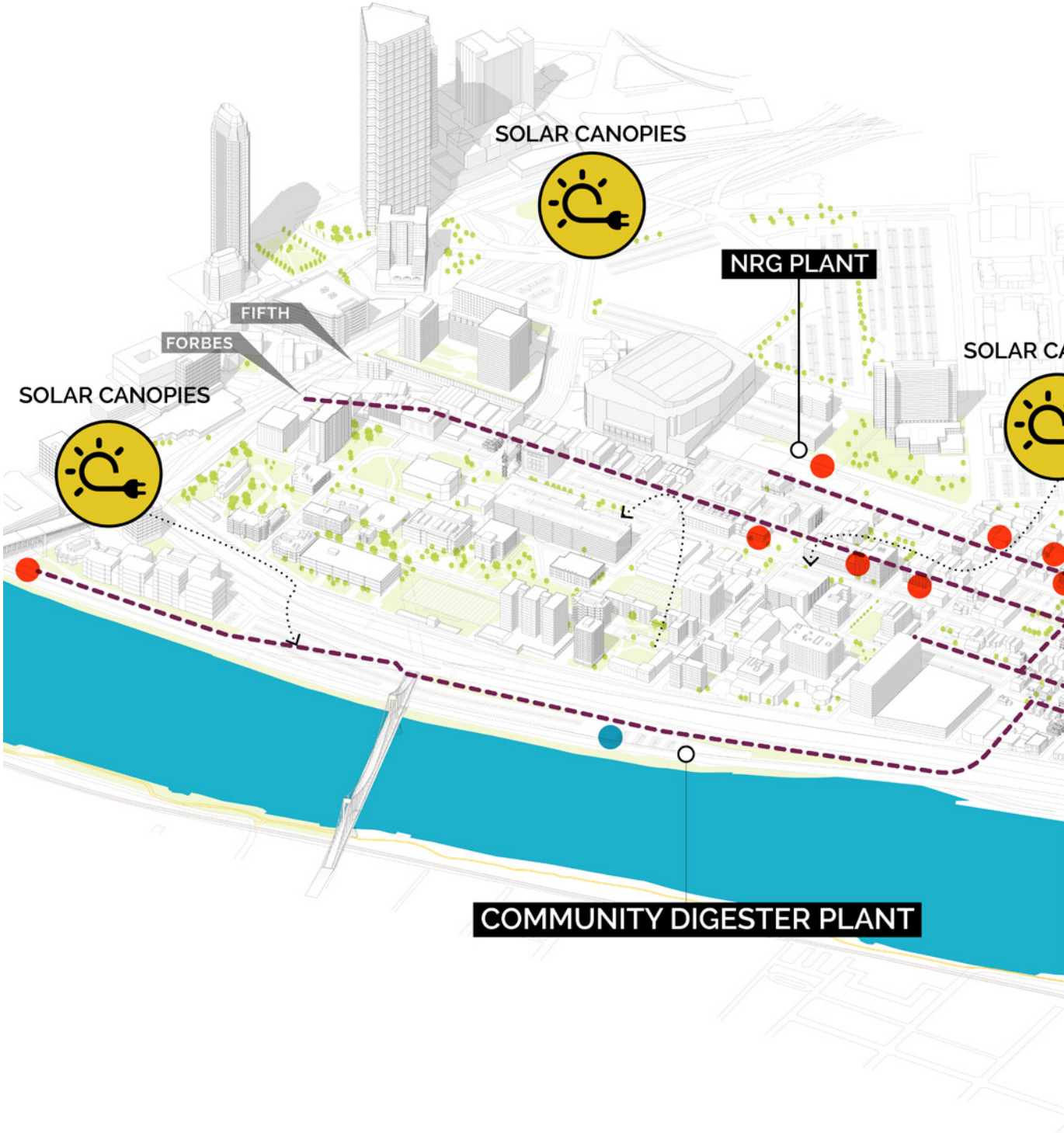
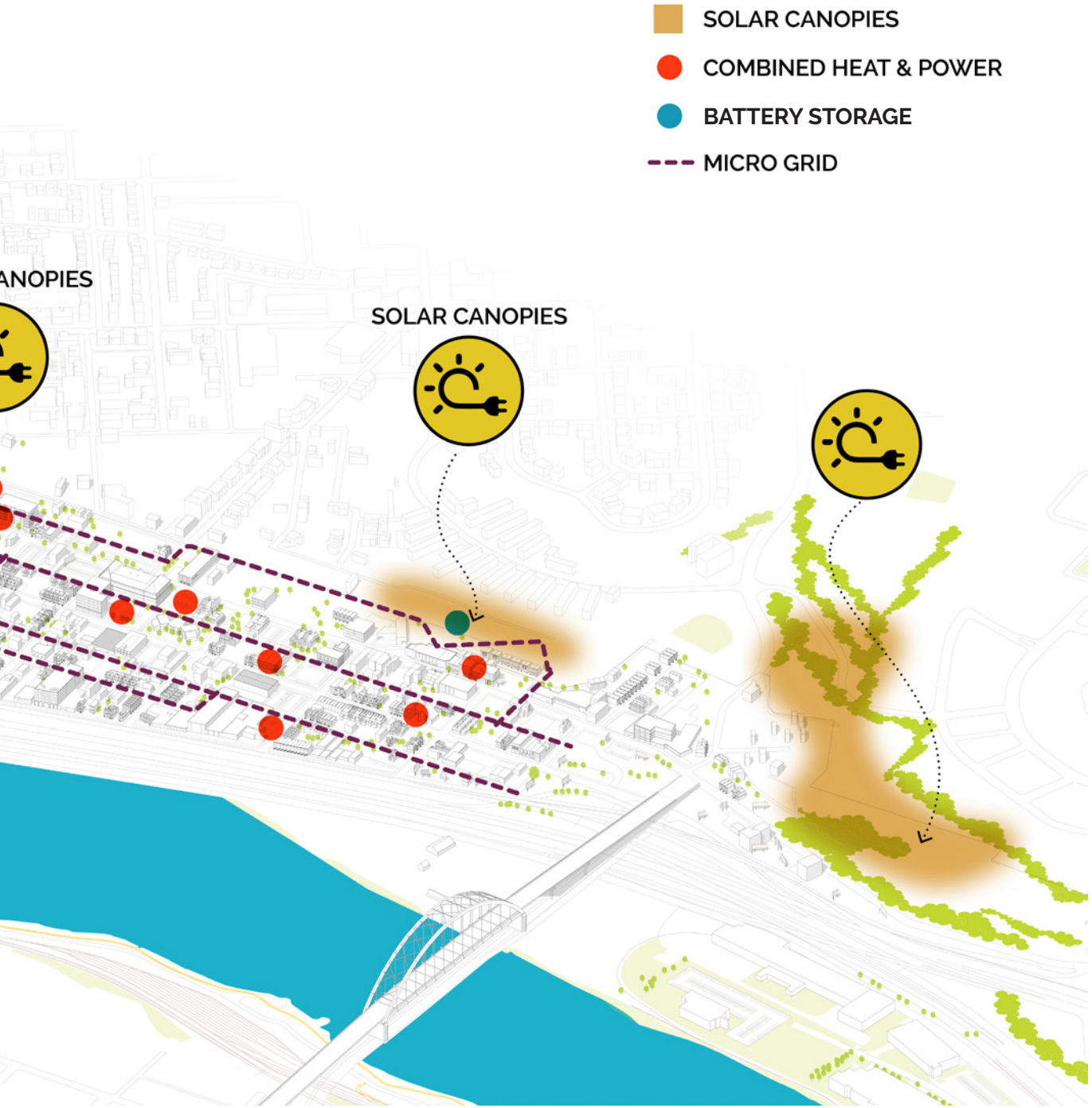


FIGURE 91: DISTRICT ENERGY STRATEGY



ENCOURAGE RECYCLING WASTE FOOD AS AN ALTERNATIVE ENERGY SOURCE

An estimated total of 1,800 tons of food waste per year originate from Duquesne University, UPMC Mercy Hospital and the Allegheny County Prison. Approximately 60% of this food waste comes from the prison. The Uptown EcoInnovation District Energy System plan included an evaluation of a 60kW capacity modular digester gas plant comprised of four, prefabricated modular digester gas generating units. These units generate electricity from waste food that otherwise would be collected and disposed of in a landfill. The units would be capable of processing approximately 80% of the food waste from the prison and produce a liquid byproduct that can be used as fertilizer. All four units would occupy less than half an acre of space in total and the facility can be located adjacent to the Allegheny County prison where collected food waste can be delivered to the digester plant at very low cost. The avoided outhaul and disposal cost of waste food is greater than the operating costs and capital recovery associated with the digester units. This results in negative price for electricity generated by this process.

EXTEND THE 2030 DISTRICT INTO UPTOWN

The Green Building Alliance's 2030 District is a powerful tool to promote energy efficiency, lower water usage, improve air quality and improve the return on investment for property owners. Currently, the 2030 District covers much of Downtown and Oakland. To support the EID and the district energy strategies, the 2030 District should expand to include Uptown where greater densities are encouraged in the proposed "mixed-use core" zone discussed in Recommendation 2.4.

4.6 BECOME A MODEL FOR INNOVATIVE WASTE MANAGEMENT

An EcoDistrict addresses not only the form and performance of key systems like energy, but also in how we change our behavior to reduce waste. Waste carries a significant environmental cost from the ever-increasing landfills that collect what we do not reuse to the elevated carbon levels generated from the trucks required to haul waste from neighborhoods to these landfills. But reducing waste is also a quality of life issue in the community where all too often trash finds its way into streets and resident's stoops or yards. Alternative approaches to waste like recycling and composting create more jobs than just throwing it all in a landfill.

Uptown already is a leader in reducing and recycling waste since the area includes three large institutions – UPMC Mercy, Duquesne University and the Allegheny County Prison – that all have waste management plans. These include recycling and separating food waste from other materials. Occupying over 30% of Uptown's land area, these activities are significant and point toward opportunities for the rest of the community like the potential Bio-Digester described in the district energy strategies. The need in Uptown is to establish ways in which the community can also reduce its waste and reuse more.

STRIVE TO BECOME A ZERO WASTE COMMUNITY

Reducing waste is a benefit to everyone. As such, Uptown should strive to become a "zero-waste" community by evaluating ways to eliminate trash through careful planning and investments. A successful zero waste community can recover up to 90% of what is typically thrown away.

To work towards a zero-waste community, the community will need to work on several different fronts:

- As an immediate step, raise awareness about waste by planning for all future community events to be "zero waste events" where all waste is recycled or composted. The first open house for this project was a zero-waste event including an on-site composter.
- Create a "roadmap" toward zero-waste working with local advocates using readily available resources like http://ecocyclesolutionshub.org/.
- Coordinate with the City to acquire better data regarding the amount of trash and recycling collected in Uptown. This will help to monitor and track performance.
- Work with local architects to define the types of amenities that should be included in new construction to promote waste recovery and reuse.
- Work with developers to reduce construction waste.

ENFORCE RECYCLING MANDATE

Recycling is required in the City of Pittsburgh. Be sure to advocate for local enforcement but also provide information to residents to encourage their active participation. Regular discussions at community meetings with materials that explain the local rules and regulations can help significantly.

NORTHSIDE KEEPS IT CLEAN CAMPAIGN

Supported by the Buhl Foundation, the Pennsylvania Resources Council and Allegheny CleanWays have created a program to reduce litter and boost recycling. The program includes litter and illegal dumpsite cleanups, the distribution of 1,000 recycling bins and working with local 5th graders to educate them on litter and how best to reduce it in their community. For more, visit http://prc.org/one-clean-northside/.

PROVIDE PUBLIC TRASH AND RECYCLING RECEPTACLES WHERE NEEDED

The trash on the street and sidewalks sends the wrong first impression to residents and employees let alone outsiders that form their impressions of Uptown by what is seen on the street. The difficulty is not in organizing a clean-up but in maintaining regular efforts to spruce up the community. There are a few ways in which to address this issue:

- Lobby to install BigBelly trashcans [solar powered bins that compact the trash to reduce the number of times the trash is picked up as well as to reduce waste overflow] on Fifth and Forbes. This effort should continue with the goal of establishing a BigBelly on every block. Though these bins are expensive, advertising space on the bins' outer walls can be used to defray costs. Local partners could subsidize the purchase and installation of trashcans across the community.

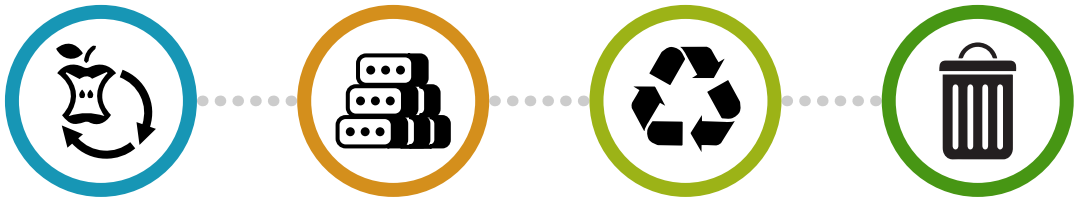
- Pursue funding for periodic pressure washing of sidewalks. If possible, contract with an eco-friendly company that uses organic cleaning solutions and a water recovery system to filter and reuse the water necessary for cleaning, thereby reducing project water usage by 60 to 70 percent.

ESTABLISH A DISTRICT COMPOSTING PROGRAM

Uptown has the benefit of both an extensive amount of food waste but also a need for clean soil to support the gardening and farming already active in the community. The opportunity is to match the supply and the demand through community composting with the help of Grow Pittsburgh and the City's Office of Sustainability.

As an initial step, the MLK Community Garden, Landslide Community Farm, Tustin Street Community Garden and the Wyandotte Street Garden should explore means of sharing the cost of composting bins (which are inexpensive) and identify volunteers willing to manage the use of the bins. Food waste to create soil for these gardens should come from local restaurants and businesses willing to separate food waste but also from the local institutions that already separate their waste. The work required to develop partnerships among the institutions, local businesses and gardeners brings the added benefit of strengthening ties within the community.

With enough local interest, Uptown can also work to establish a residential composting program. Currently, leaves, newspapers and other non-food items can be dropped off at a City compost facility. There is also a pick up for leaves in the Fall. However, to ramp up composting house by house, these items and food waste need to be collected from the home on a regular basis. There are both pay for service models and free models of this service in different cities. All of them include a weekly bin pick up of compost-ready material from participating residents. While formal residential composting in Uptown requires a program that serves multiple neighborhoods and likely the City at large, local neighbors could organize to jumpstart the activity with the goals of supporting local food production and the transformation of the hillside into a park and food corridor.



DISTRICT COMPOSTING

REDUCE OF WASTE PRODUCTS FROM LOCAL BUSINESSES

ENFORCE RECYCLING MANDATE

PROVIDE PUBLIC TRASH/ RECYCLING RECEPTACLES

CHAPTER

04

IMPLEMENTATION STRATEGY

IMPLEMENTATION APPROACH

The EcoInnovation District (EID) represents an ambitious vision for the future of Uptown. To achieve the desired outcomes, a significant effort will be required including additional engineering and analysis, changes to City and some State policies, new community-driven initiatives and, financing and construction. Various entities will be required to continue the effort over the coming years. There is no one agency, project or funding source that can do it alone – coordination will be critical to achieve the long term goals described in this plan.

To help make this plan a reality, we must recognize the constraints including limited resources – both in terms of money and time. While a large amount of investment will be necessary, anticipated social, economic and environmental benefits greatly outweigh the costs. But to truly guide investment, the work must be managed by a group of individuals and key organizations and agencies that are committed to the EID vision.

Priority capital projects and programmatic initiatives have been determined through an extensive public outreach process and detailed technical analysis. The project team reviewed funding and implementation strategies with several stakeholder groups including the EID Finance subcommittee. Although many of the recommendations presented here represent long-term goals, the plan includes early action items and a detailed investment strategy for priority initiatives.

The approach to implementation includes three interlocking components:

COMMUNITY PLANNING.

A governance framework is necessary to support implementation. District management will require capacity building at the neighborhood level and continued community engagement. A key component will be coordination of the overall implementation strategy, including the pursuit of funding opportunities. Prioritization of recommendations within the City capital budget will result in the availability of predevelopment and local matching funds. Finally, ongoing performance monitoring is essential to understand the social, economic and environmental impacts.

STATUTORY/REGULATORY APPROVAL FROM STATE GOVERNMENT

Certain implementation strategies require statutory action from the Pennsylvania General Assembly. For example, legislative action is necessary if Pittsburgh is to develop a similar tax discount program similar to the one currently utilized in Philadelphia to prevent displacement of residents. Others require regulatory coordination with agencies such as PennDOT and DEP. The City and other stakeholders need to add these issues to the policy agenda and work with members of the local delegation to advance discussions in Harrisburg.

PROJECT FINANCE

We have catalogued existing Federal, State, Local and Private funding sources that might be available for implementation of this work. It is important to note that significant funding constraints currently impact all levels of government. Public financial assistance is increasingly competitive with a larger number of projects seeking less available dollars.

With that in mind, the planning process included a detailed investigation into innovative and emerging development finance tools. We must continue to explore potential new funding mechanisms and strategies to fill the capital stack for priority projects. Specifically, the planning team reviewed tax value capture mechanisms (TRID), Impact Investing, Carbon Finance, the EB5 program and PACE. Detailed summaries and strategies are provided below.

ALTERNATIVE FUNDING SOURCES

A variety of funding tools exist to implement components of the EID Plan recommendations -debt and equity - public and private. In some cases, it may be appropriate to utilize existing traditional funding resources. Implementing EID priority projects and programs will most likely require new and innovative funding approaches.

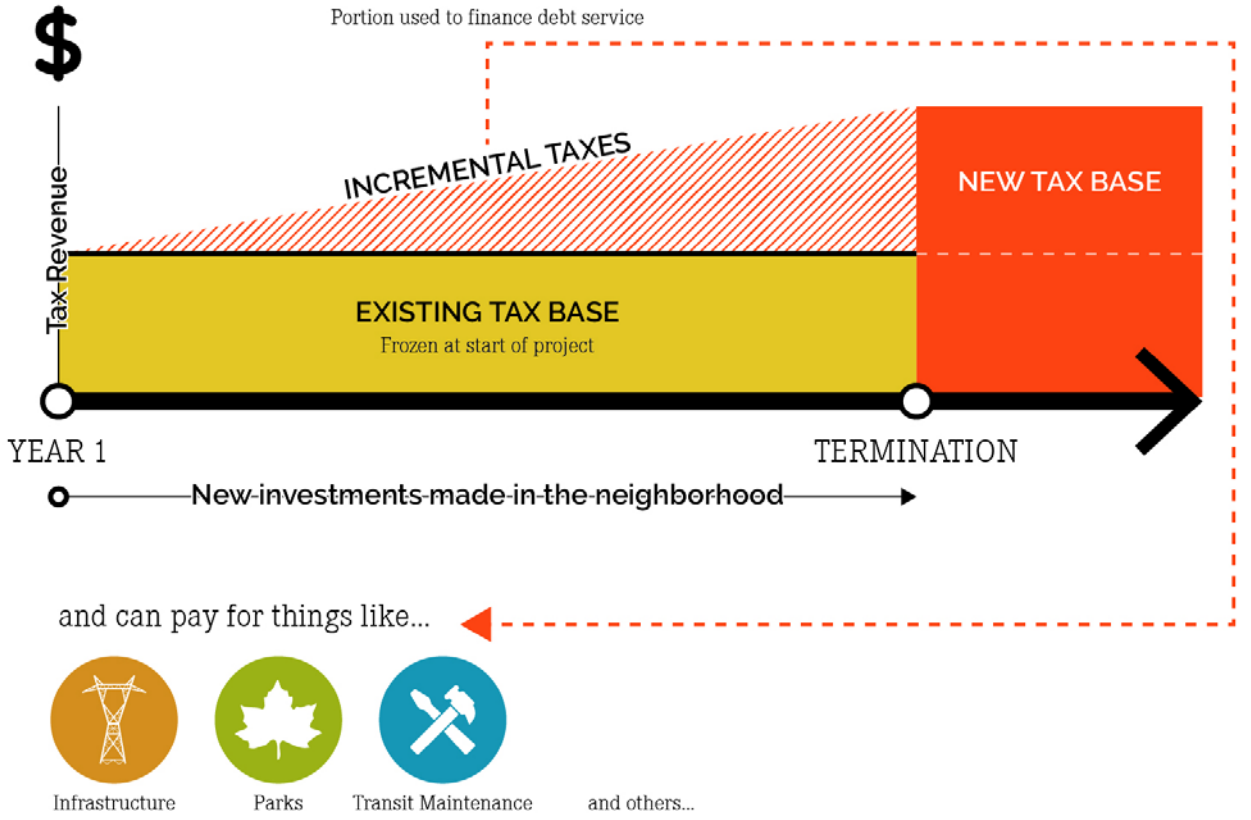
TRID:

The planning process included work to identify boundaries, develop financial information and tax value capture estimates for the creation of a potential new Transit Revitalization Investment District (TRID) within the greater Downtown to Oakland BRT corridor. The program is an economic development tool which allows for the capture of incremental tax revenues to help fund community revitalization initiatives. It is intended to:

- Promote joint development in conjunction with public transportation improvements,
- Encourage development at transit stations and along public transportation corridors,
- Increase transit ridership,
- Support implementation of comprehensive and area-wide plans,
- Encourage community involvement, and;
- Finance public transportation capital improvements, related site development and transit maintenance.

TRID enables the use of a district-based tax increment financing mechanism to capture increases in real property and other designated taxes resulting from new development to pay for local improvements like necessary public infrastructure. All or a portion of new tax revenues generated above the initial tax base can be diverted to finance eligible project costs.[1]

FIGURE 92: VALUE CAPTURE DIAGRAM



1 In this model, nonrecourse debt, typically a revenue bond, is issued via an eligible authority of the sponsoring municipality to provide upfront funding. Alternatively, investments can be reimbursed from the flow of annual tax revenues diverted and captured within the district ("pay-as-you-go" method).

The program was enabled by Act 238 of 2004 (TRID Act) in an effort to coordinate land use, transportation and redevelopment opportunities. Designation of a TRID must be supported by a planning study that establishes existing environmental conditions, proposed/potential redevelopment, market conditions, land use/zoning, necessary infrastructure improvements and a financial plan. In addition to the planning study, TRID requires an administrative agreement, local legislative approval by the participating taxing bodies and creation of a management entity to oversee implementation.

The authorizing legislation was amended via Act 151 of 2016. Over the decade since passage of the original TRID Act, numerous planning studies have been conducted statewide, but only one district was implemented. The effectiveness of the program was limited in part to the lack of dedicated 'jump-start' funding to generate the necessary tax increment in absence of a known development pipeline. Several revisions and updates sought to enhance the program with a focus on implementation. The amendment expanded the eligible TRID locations to a defined area not to exceed a radius of mile from a transit station or along a transportation corridor. It further clarifies language regarding the capture and dedication of incremental tax revenues as well eligible project costs (as delineated in the TIF Act).

The TRID Act amendment also provides for the establishment of a special dedicated fund at the Department of Treasury. A TRID management entity will be able to apply to PA DCED for dedicated project funding or for covering debt service payments related to debt incurred to fund eligible projects. TRID Fund Grant applications will be reviewed by the Department in consultation with the Office of the Budget. The amended Act stipulates that TRID Fund investments shall be matched by other sources of funding at a ratio of two Fund dollars to one dollar of non-state/private funding. DCED issued the TRID Fund Grant program guidelines and a funding application in the spring of 2017. Two applications that have met all requirements of the program guidelines and the Act will be approved to receive annual TRID Fund Grants of up to $350,000 for up to 20 years. The Department and DCED may approve additional applications in the future.

CHALLENGES:

The tax increment financing model utilized by TRID is relatively straightforward. However, the ability to capture incremental taxes within the district depends upon new growth that results in increased real estate assessed valuation and other economic activity. These development projects in turn often require financial assistance to overcome funding gaps. It is difficult to solicit upfront financing to complete planned improvements based upon speculative future development and unknown tax revenues. Until recent creation of the TRID Fund Grant, there was no dedicated funding to 'jump-start' implementation.

Weak local market conditions and significant development constraints currently limit redevelopment opportunities within Uptown. The neighborhood lacks the critical mass of projects to generate the incremental tax revenue growth required to finance upfront capital improvements (or to capture via the 'pay-as-you-go' method). It is necessary to focus the initial TRID boundary on adjacent areas within the BRT corridor to capture the value of planned development nearby if we are to address current investment needs identified in this plan.

STRATEGY:

Our TRID study area included the entire BRT corridor from Downtown through Uptown into Oakland. Several strategies exist for implementation of the proposed TRID and value capture boundary. All options have been analyzed for their potential feasibility. Detailed financial analysis was performed for all planned development within the study area and specific build-out scenarios within Uptown.

A phasing strategy could address many of the challenges detailed above. The initial boundary would include portions of Downtown and Oakland based upon current planned development projects. Ultimately, the amount of TRID proceeds available for non-CIG BRT local match will be dependent upon the pledged projects, credit enhancement and source of upfront capital. The proposed City LERTA program will lessen the amount of pledged incremental revenue available for TRID implementation. Potential financing structures must be reviewed to more accurately determine feasibility.

An alternative approach utilizing the 'pay-as-you-go' strategy could still allow for capture of the value created by the significant current development pipeline along portions of the BRT corridor. A portion of incremental revenues in excess of any tax abatement be diverted to a local EID TRID fund during the ten year exemption period. Establishment of the TRID will also allow the management entity to seek any future DCED TRID Grant funding that might be available. Stakeholders need to finalize the TRID strategy with

respect to local match for BRT funding and supporting the implementation of non-BRT projects in Uptown.

Following completion of the transit and infrastructure improvements along Fifth and Forbes, the TRID boundary would be amended to capture the value of potential development within Uptown. Extension of the boundary should be timed based upon investment needs and in consideration of available financing options. A second phase of the TRID would result in approximately $15 million of additional pledged revenue available at potential full build-out which is an aggressive goal (smaller in-fill redevelopment opportunities have not been considered, but could provide additional revenue to support TRID backed debt or captured through the 'pay-as-you-go' method.). If the proposed Tech Village project is not feasible, Phase II would result in $12.5 million of increment pledged to the TRID. This additional funding could be made available for continued community revitalization activities in Uptown. It would also provide continued funding for transit system maintenance.

Another option would be to establish the TRID value capture boundary focused on Uptown at a future date following completion of the BRT and other planned improvements. This strategy is not recommended if the TRID proceeds are expected to be utilized as part of the non-Federal local match funding for the BRT. Further, it would not provide funding for early stage EID implementation priorities or immediate transit maintenance. Eligible TRID Fund Grant program applicants are limited to established management entities officially designated to implement an approved TRID (including value capture boundaries).

IMPACT INVESTMENT:

Unfortunately, public sector and philanthropic resources are insufficient to address the challenges faced by underserved communities. Impact investing is an emerging area of the capital markets that links desired societal outcomes to sources of capital. Beyond financial returns, investors seek to generate social and environmental benefits. These outcomes are measured and reported to investors. It should be noted that this is not a new source of capital for projects. However, it represents a strategy to attract additional investors and funding dedicated to sustainable development.

Foundations, governments and development finance institutions have started to partner in an attempt to leverage investments that will address society's greatest challenges. For example, the Rockefeller Foundation seeks to provide philanthropic risk capital to develop innovative financing mechanisms that will mobilize private sector capital in new and more efficient ways for projects that create a more resilient and inclusive world. The Kresge Foundation recently launched Kresge Community Finance, a $30 million program-related investment offering available to development finance agencies working to expand opportunities for low-income people in America's cities. The Goldman Sachs Social Impact Fund is one of the first domestic impact investing vehicles sponsored by a major financial institution.

Impact investments can be made across asset classes, including but not limited to cash equivalents, fixed income, venture capital and private equity. The following are examples of structures that can be employed during EID implementation.

- 'Green Bonds' are fixed-income securities where the proceeds have been earmarked for use in special projects tied to environmental outcomes. Specifically, the investment advances goals including renewable energy, low carbon transportation, waste/pollution reduction, energy efficiency, water management (including stormwater) and sustainable land use. The use of proceeds is tracked and outcomes require certification through an audit style process. It is overall similar to a standard tax exempt debt issuance in terms of pricing.

  It is an emerging method that is still relatively small. Its primary role is to draw attention to environmental benefits of projects. In 2014 last year for which data was available, public issuances of certified green bonds totaled $2.5 billion of out of the $337 billion municipal bond market. The green "use of proceeds" bond market has developed around the idea of flat pricing; where the bond price is the same as ordinary bonds.

- Federal, state, and local governments are facing cutbacks or elimination of programs that support vital areas including social services. Social Impact Bonds (SIBs) are a creative approach to funding these initiatives and programs. They are not traditional bonds, but rather operating/capital loans tied to performance contracts. In this 'Pay for Success' (PFS) model, private investors fund up front project costs. However, they are only repaid if and when improved social outcomes are achieved. It is a model designed to both improve

outcomes and reduce costs to payers. Projects must be able to effectively deliver and measure their social impact and they must be able to translate that impact into financial benefits or cost savings.

Recently, SIBs have been deployed to meet environmental outcomes as well. DC Water utilized the model to fund construction of green infrastructure. This impact investment reduces some of the financial risk associated with GSI faced by a city. Goldman Sachs and the Calvert Foundation partnered to invest $25 million in a project to construct green infrastructure to manage 20 impervious acres. DC Water is undertaking this project as part of its combined sewer overflow (CSO) control plan. Again, SIBs based on the PFS model are backed by a specific revenue stream or by the full faith and credit of a municipality.

Locally, Enviro Social Capital, a program of the Green Building Alliance, is studying variations of PFS to address investment needs outlined in the PWSA Green First Plan. The proposed funding model would seek to monetize the secondary social, environmental and economic benefits of green infrastructure. The proposed PFS structure, including a Benefits Fund, could provide a framework to attract private capital to develop green infrastructure solutions in Uptown. Ultimately, the role of this model needs to be considered within the construct of the PWSA's borrowing and cost of capital policies.

Within Uptown, impact investment strategies could focus on neighborhood revitalization, job creation/ small businesses development, green infrastructure and the provision of social/educational services. Private capital can be deployed to further EID implementation with outcomes measured against the Pittsburgh p4 metrics. It is recommended that stakeholders explore a partnership with the local foundation community and major financial institutions operating in the region. They can further leverage commitments in an effort to seek additional support from the large national foundations actively seeking to further innovative finance mechanisms tied to social, economic and environmental outcomes. Many proposed EID projects closely align with the sustainable development policy goals of these organizations.

CARBON FINANCE:

In an effort to address climate change, global advocates have called for the establishment of a price on carbon to account for external costs of greenhouse gas (GHG) emissions. One pricing mechanism, "cap-and-trade," is a market based regulation designed to stimulate less carbon intense activities. The program sets a firm limit on emissions with allowances distributed to producers of GHGs, either for free or through an auction. Trading of these carbon credits creates incentives to reduce GHGs emissions below allowable limits through investments in clean energy. Market forces can thus spur innovation and development of new technologies.

The auction method of distributing emissions allowances generates sale proceeds that can be invested in infrastructure (transit), energy efficiency, renewable energy and other programs. These initiatives can further develop the clean energy economy and create green jobs. Pricing considerations vary greatly between programs.

- **California's Global Warming Solutions Act** (AB 32 of 2006) was the first program in the country to take a comprehensive, long-term approach to addressing climate change. It requires California to reduce its GHG emissions to 1990 levels by 2020. The state's Air Resources Board is mandated to develop a Scoping Plan and implement the strategy for meeting the ambitious goals included in the legislation.

  This plan identifies a cap-and-trade program as one of the key strategies California will employ to reduce GHG emissions to mitigate the impacts of climate change. The development of this program included a multi-year stakeholder process. It sets a statewide limit on sources responsible for 85% of California's GHG emissions, and establishes a price mechanism through an auction. The strategy includes creation of the Greenhouse Gas Reduction Fund (GGRF) to invest in a variety of projects, including public transit improvements, to provide long-term reductions that will help meet emissions goals.

  In 2012, the program commenced with the first auction of allowances. Cap and Trade auction proceeds are utilized to fund the GGRF. California is working closely with British Columbia, Ontario, Quebec and Manitoba through the Western Climate Initiative to develop harmonized cap and trade programs that will deliver cost-effective emission reductions. The California program is designed to link with other state and regional carbon markets as well. Below illustrates the

proposed GGRF investments generated by the program.

- **Regional Greenhouse Gas Initiative, Inc.** (RGGI) is a cooperative effort among nine states – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont – to reduce greenhouse gas emissions. Participating states issue carbon emissions allowances in an amount defined in their applicable statute and/or regulations. These allowances are distributed almost entirely through regional auctions, resulting in proceeds for reinvestment in strategic energy and consumer programs. Individual state budget trading programs together create a regional market for carbon emissions allowances.

  RGGI states created a nonprofit corporation to develop and implement this strategy including creation of a platform to auction carbon allowances. Through 2014, $1.37 billion in RGGI auction proceeds have been invested in the energy future of the participating states. This includes investments in energy efficiency, clean and renewable energy, greenhouse gas abatement and direct bill assistance. Overall, RGGI investments have benefited 4.6 million participating households and more than 21,400 participating businesses according to a recent study of the program benefits.

The EPA 2015 social cost of carbon equaled $36 per ton. Prices for carbon based on the last listed market exchange were in a trading range between $13 and

FIGURE 93: CALIFORNIA CLIMATE INVESTMENTS CHART

CALIFORNIA CLIMATE INVESTMENTS
FROM THE GREENHOUSE GAS REDUCTION FUND

TRANSPORTATION AND SUSTAINABLE COMMUNITIES

	Prior Funding To Date ($M)	FY 2016-17 Funding ($M)
High Speed Rail Authority		
High Speed Rail *Funding for planning and design, right-of-way acquisition, and construction of Initial Operating Segment*	$707	25% Continuous Appropriation
California State Transportation Agency		
Transit and Intercity Rail Capital Program *Funding for capital improvements to modernize and integrate transit and rail systems for increased, reliable and connected service*	$208	$135+ 10% Continuous Appropriation
California Department of Transportation		
Active Transportation Program – *NEW for 2016* *Funding for infrastructure that encourages active transportation (walking/biking)*		$10
Low Carbon Transit Operations Program *Funding for new/expanded bus or rail service to increase reliability and ridership*	$116	5% Continuous Appropriation
Strategic Growth Council		
Transformative Climate Communities – *NEW for 2016* *Support combined climate investments within a local area (e.g., energy, transportation, active transportation, housing, urban greening, etc.)*		$140
Technical Assistance – *NEW for 2016*		$2
Affordable Housing and Sustainable Communities Program *Funding for housing, land-use, and transportation projects*	$496	20% Continuous Appropriation
Sustainable Agricultural Lands Conservation Program *Funding for land preservation projects*		

$15 per ton. The 2008 Pittsburgh Climate Initiative 5 year carbon emissions benchmark determined that total carbon emissions from the city equaled 6.79 million tons with almost half coming from commercial buildings and another 1/4 from transportation activities.

Based on the 2008 emissions amount at $13 per ton (the reserve auction price or lowest allowed price), the total potential "value" of carbon reduction in Pittsburgh could be worth $88 million. Proceeds from the sale of carbon allowances could potentially fund certain local projects and programs that reduce GHG emissions. The ability to utilize carbon finance to implement EID priorities would require Pennsylvania's adoption of a system of emissions allowances to participate in an existing market trading program.

EB-5:

Congress created the EB-5 Immigrant Investor Program to stimulate the economic growth through foreign capital investment. Enacted in 1990, the EB-5 allows foreign investors to achieve legal U.S. residency as a result of financial investments that create domestic jobs. Participants receive an employment-based fifth preference visa if they make the necessary investment in a U.S. commercial enterprise and plan to create or preserve 10 permanent full-time jobs for qualified U.S. workers. Successful projects using EB-5 financing have included large commercial developments, transit infrastructure, manufacturing and the redevelopment of closed military bases.

The EB-5 is administered by USCIS. The investor's minimum contribution must be $1 million, or $500,000 if located in a targeted employment area with an unemployment rate of at least 150 percent of the national average. Investments may be used as debt or equity capital, but remain 'at-risk' with no guarantee principal contributions will be returned. The primary attraction of the EB-5 program is the promise of securing permanent U.S. residency and not the financial returns associated with the project. A benefit of EB-5 is its flexibility within a project's overall capital stack.

These foreign investments in an eligible project are made either directly or more commonly through a USCIS designated regional center. The regional center is established as a private business with a designation to accept foreign investment for projects that benefit specific industries and geographic areas. These entities pool funds from multiple investors to support economic development projects. Dozens of regional centers are authorized to operate within Pennsylvania and some have financed projects in Pittsburgh.

A recent report by the Brookings Institute estimates that since 1990 the program has captured approximately $5 billion in direct investments and created over 85,000 full-time jobs. The EB-5 has grown in popularity as a source of capital since the Great Recession when traditional financing became more difficult to obtain. It has been utilized for projects similar to those being recommended in this plan. Below are a few brief case studies related to the EID.

- The University of Miami Life Science and Technology Park (UMLSTP) is located in the heart of Miami's Health District. Situated on an eight-acre site adjacent to the Miller School of Medicine, UMLSTP will eventually generate up to two million square feet of new space that will benefit from and enhance the healthcare and biotech clusters in the area. Phase I of the project included a $20 million EB-5 investment structured as a second mortgage to fill a funding gap.

  The proposed development Stadium Place is located in the Pioneer Square neighborhood of Seattle. The site was a surface parking lot used for CenturyLink Field event parking. It is ideally adjacent to the regional transportation hub. Upon completion the project as envisioned will include over 900,000 sf of development with approximately 740 residential units targeting mixed income levels. The project benefited from a $300 million EB-5 investment.

  The Philadelphia Industrial Development Corporation (PIDC) Regional Center is a public-private partnership established in 2001 between PIDC and CanAm Enterprises, LLC (CanAm). EB-5 has been utilized to capitalize the Welcome Fund which pools foreign investment for development projects in Philadelphia. The PIDC Regional Center provided $175 million of EB-5 in funding for implementation of SEPTA's New Payment Technology system. This project includes the main "Smart Card" initiative, as well as related improvements to infrastructure, communications and customer service.

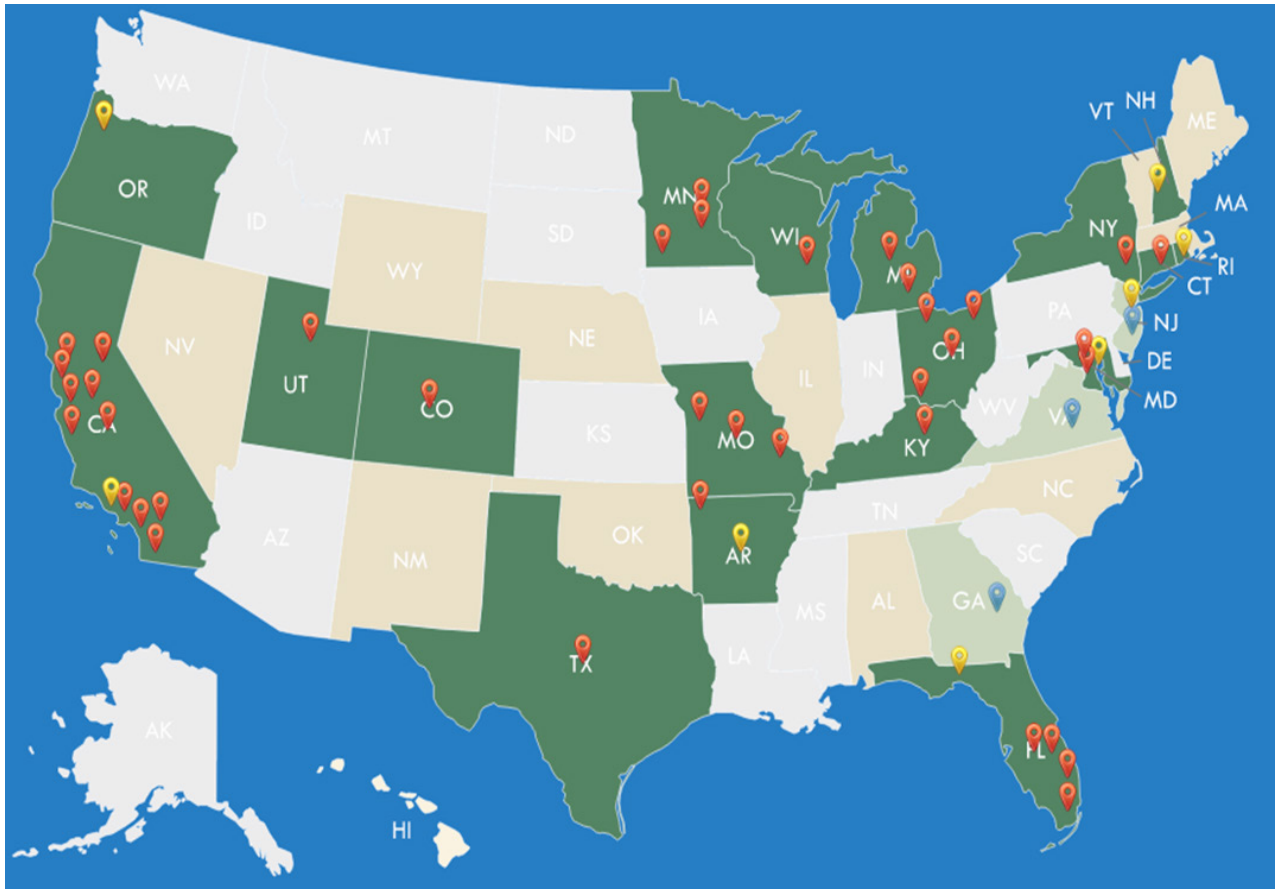
Significant opportunities exist to leverage EB-5 to help fund the BRT, affordable housing/TOD and innovation hubs. The program provides flexible, relatively low cost capital that can facilitate a range of projects. The City and other stakeholders need to further explore ways the EB-5 might attract foreign investment to implement these EID priorities.

PACE

Property Assessed Clean Energy (PACE) is a building-based way to finance energy efficiency and renewable energy improvements on private property without a large upfront cash payment. PACE programs allow local governments, state governments, or other government authorities, when authorized by state law, to fund the up-front cost of energy improvements on commercial and residential properties, which are paid back over time by the property owners. It is a voluntary program with assessments typically over 10-20 years. The property assessment provides the security for the financing. The PACE project is tied to the property rather than the property owner and is transferred with a sale of the property. Therefore, the payback value is not tied to length of ownership.

Pennsylvania does not currently authorize the use of PACE for commercial, industrial or residential properties. Enabling legislation has recently been introduced in the PA Senate (SB 234) that would authorize PACE for industrial and commercial properties. A separate coalition is developing legislation that would authorize PACE for residential properties. The City along with Pittsburgh non-profits and advocacy organizations should continue to support this legislation, but should also explore possibilities to implement a similar financing model through existing neighborhood improvement district or business improvement district programs.

FIGURE 94: PACE LOCATIONS



DISTRICT MANAGEMENT - THE ECOINNOVATION TASK FORCE

Central to the success of bringing these ideas to reality is a clear management structure on the ground that is charged with coordinating different initiatives, bringing key stakeholders together, fundraising and, taking on the task of driving different strategies forward. To help transition this planning into a sustainable management structure, local partners should work toward creating an EcoInnovation Task Force. The task force should include the following core partners:

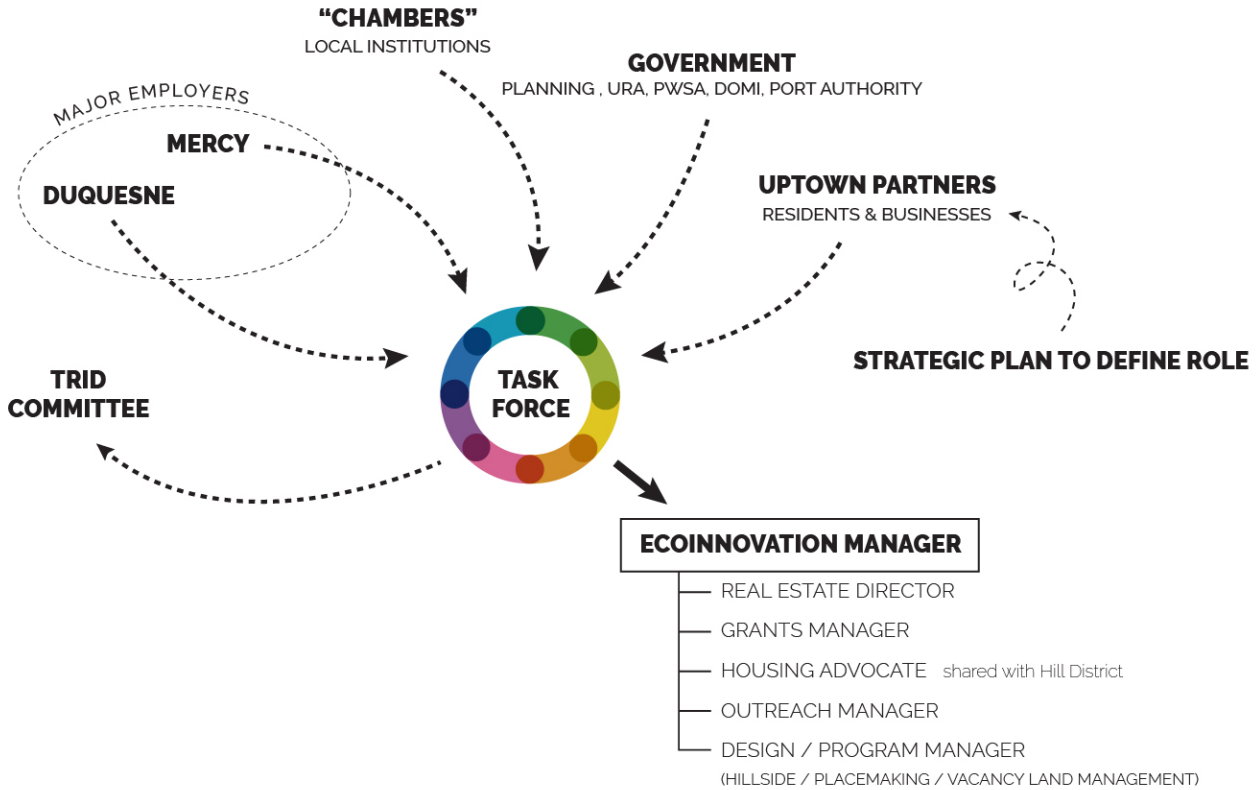
- **UPTOWN PARTNERS.** As the critical connection to the community, Uptown Partners and their key local partners like the Oakland Planning and Development Corporation and Envision Downtown should all be represented on the task force
- **SERVICE PROVIDERS.** As described in the Community chapter, there are a significant number of non-profits that provide specific services in Uptown. Bringing them together into a local "Chamber of Services" would help to provide them a voice to strongly advocate and work towards address issues that affect them all. Representatives from this Chamber of Services are needed to bring these issues to the task force during implementation of this plan.
- **MAJOR EMPLOYERS.** UPMC Mercy and Duquesne make up a significant part of Uptown, providing thousands of jobs, students, research and economic activity that enlivens Uptown. This plan includes many opportunities for these organizations to work with the community to achieve mutual goals and potentially bring additional resources and capacity toward implementation where specific strategies align with their core missions.
- **CITY OF PITTSBURGH.** The City has demonstrated a keen interest on working with the community to define its future. Besides the reconstruction of Fifth and Forbes to address key infrastructure challenges, the City will play an active role in the improvement and creation of new open spaces, stormwater initiatives, the potential development around Fifth and Dinwiddie and, policy and funding actions designed to protect affordability for residents (just to name a few).

The task force would meet monthly to bring these and other partners together to coordinate and track the progress toward implementation around key initiatives. In addition to the core partners listed above, the Task Force should specifically include Avenu (formerly StartUptown), Sustainable Pittsburgh, the Port Authority, URA, PWSA, DOMI, and the Energy Innovation Center. Organizations in the Hill District should be invited to be full members, but may choose to join specific meetings where they see an alignment with their work. Duquesne University has offered to work with City Planning and other partners in Uptown to convene the task force.

Subcommittees should be established as necessary to address specific action items. At this time, we recommend creating subcommittees around the four chapters/topics of this plan.

With additional funding, more capacity could be added to support the task force but also drive implementation forward with local residents and businesses. Sustainable funding would most critically help the EcoInnovation District to: 1) Demonstrate solutions that could be replicated in other communities and; 2) Help coordinate solutions across neighborhood boundaries where multiple organizations are working toward the same goals. To meet this potential opportunity, the EcoInnovation District would need a dedicated management team consisting of a number of key skill sets:

- EcoInnovation District Manager – to guide all aspects of the implementation, coordinate with City and County leadership and work with local partners on specific improvements. This position could initially be shared (i.e. part-time) with an EcoDistrict manager in another location in the region to share the cost but also benefit from other's experience in tackling these challenges.



- Housing Advocate – to connect residents with housing programs and monitor the conditions of existing housing. As recommended in the Greater Hill District Housing Study, this is a need that extends far beyond Uptown but includes the Hill District and West Oakland. This position could be created to address a much broader geography where there are a lot of shared concerns around affordability and nuisance properties.
- Program / Design Coordinator – to work on designs for specific sites including vacant lots and importantly the hillside with partners like the Hill House, MLK Community Gardens and Landslide Community Farm.
- Outreach Coordinator – to continue to engage and empower the public to improve their community.
- Grants Coordinator – to pursue available grants and other funding opportunities for specific projects. This position will be critical to maintain funding over time and support EID activities.

Should a TRID move forward, the legislation requires a "management entity" to direct the use of TRID dollars toward an approved list of community projects[2]. It will be technically separate from the task force, but should be directed by task force activities to ensure consistency with the EID Plan. This entity will be responsible for administration of the TRID value capture boundary and investment of TRID proceeds. To help move this important financing opportunity along, the URA should seek to:

- Continue to review phased TRID implementation strategies and financing options/'pay-as-you-go'
- Apply for DCED TRID Fund grant
- Seek legislative approval of the value capture boundary by the local taxing bodies to enable implementation of a TRID when the time is right to best support community projects
- Establish TRID management entity and (execute TRID Cooperation Agreement)

2 Eligible projects include including construction, renovation, infrastructure and site preparation which will result in economic development, including TOD, in accordance with the TRID planning study.

IMPLEMENTATION TIMELINE

The following represent those catalytic projects/ programs recommended for priority implementation. We have identified early action items across the four major themes of the plan. Though, it is important to note some of these initiatives will only be accomplished over a longer term (up to 10 years). The attached summary spreadsheet also includes necessary actions, potential funding sources and performance metrics for each recommendation. Agencies and organizations that should be responsible for leading implementation are also identified. Priority projects include:

COMMUNITY:

- Explore tax policies to prevent displacement
- Work with the URA and City to coordinate acquisition of key tax delinquent properties
- Become a hub of workforce development programs accessible to and targeting a range of skill sets and educational backgrounds
- Preserve the community's historic character
- Create new community programming
- Monitor and address illegal dumping and nuisance properties
- Work with major institutions to expand their research, curriculum and student activities into the community where appropriate

DEVELOPMENT

- Make housing options available and affordable to a diverse income range
- Connect start-ups with flexible spaces that fit their needs
- Retain existing businesses
- Attract new retail and commercial tenants
- Encourage density and mixed uses in targeted areas
- Manage parking district-wide and create community infrastructure hubs
- Rewrite zoning for the EID based on performance

MOBILITY

- Ensure transit meets the needs of local users
- Achieve zero traffic fatalities within the Uptown neighborhood
- Identify 'slow streets' coordinated with improvements to Fifth/Forbes
- Improve safety of cross street connections with Boulevard of the Allies for all modes
- Prioritize sidewalk improvements based on need and critical pathways
- Provide a transit only lane on both Fifth & Forbes
- Use BRT construction to begin to shift away from single occupancy vehicles
- Make parking policy 'work' for Uptown residents
- Partner with institutions + major employers to develop TDM programs
- Establish a major-event management strategy in partnership with PPG Paints Arena
- Infill existing on-street bike network with safe, all-ages facilities
- Expand bike share in Uptown and West Oakland

INFRASTRUCTURE

- Encourage alternative approaches to managing vacant land
- Integrate street trees
- Focus on stormwater retention strategies at the surface to ease the burden on sewer systems
- Create a new civic plaza at Fifth & Dinwiddie
- Expand the Tustin Street Gardens/Tot Lot into a community park
- Transform the 'Hillside' into an open space amenity and stormwater park
- Create clear connections to the heritage trail
- Reduce energy demand
- Facilitate establishing multi-user micro grids
- Promote the use of combined heat and power
- Strive to be a zero-waste community

JUMPSTART: INITIAL INVESTMENTS AND ACTIONS

These identified priority projects require very different kinds of actions. In some cases, implementation requires time to advocate for changes in policy. In other cases, fundraising and construction is required. To help understand what is required to move this plan forward, all of the strategies fall into one of the following actions:

01

Organizing by community partners to tackle business retention, administering housing programs / activities, land acquisition, linking residents to training programs, planning community events, working to create transportation demand management programs, ensuring the community is clean & safe and, encouraging public art in the neighborhood.

Initial work in the community including the acquisition of vacant properties, monitoring illegal dumping and housing conditions, and ramping up community programming require additional support and capacity on the ground. Uptown Partners is currently seeking grant dollars to expand their current activities. However, a broader discussion is necessary to ramp up the capacity within the community. Discussions with the Uptown Partners Board of Directors identified three short term-actions:

- Commit to finding funding and retaining a real estate professional with CDC experience for at least one day per week with the goal of creating a full-time position.
- Establish/expand fundamental partnerships with sustainability organizations and develop memorandums of understanding (MOUs) in 2017 to solidify the relationships.
- Develop a new strategic plan.

The strategic plan should carefully evaluate different options to create sustainable funding for community activity. This includes evaluating the potential for a local Neighborhood or Business Improvement District (NID or BID) but one modeled on the participation of major non-profit institutions to help them achieve their community goals. The University City District in Philadelphia is based on this model and provides dollars to address safety and cleaning but also community programming and improved infrastructure and parks.

Another option is to look toward philanthropic support to create an “EID Growth Fund” that serves to help leverage funds from other sources and provide patient capital for EID projects. The Growth Fund would provide support to build local capacity and help to provide the first dollars to support innovative financing models for stormwater parks and district energy. It could also help to provide initial dollars to support the Community Infrastructure Hubs and support efforts to monitor the performance of the EID during each step of implementation. A concept of this nature needs active discussion with the philanthropic community to determine where EID strategies most closely align with each foundation’s mission and goals.

02

Advocacy to push for tax policy changes at State level, use of PACE financing, energy tariff for district energy at the state, PennDOT coordination and, local advocacy to steer local potentially available dollars (like the housing trust fund) to Uptown.

A coordinated strategy is required to align the City and County's primary interests with the need to advocate for important legislative changes in Harrisburg. Of critical importance and echoed in the Mayor's February Executive Order is to evaluate ways in which the Long Time Owner Occupants (LOOP) program can be implemented in Pittsburgh to protect low-income homeowners.

03

Zoning organized by the City but coordinated with local partners to re-write the local codes to support the vision and goals of this plan.

To retain the protections the IPOD provides for Uptown, it is critical that new zoning be introduced to Council in May, 2017. The City is currently working to develop an Uptown Public Realm District based upon the goals and strategies contained in this plan. Public participation is required to review and refine the zoning approach prior to its formal adoption.

04

Mixed-Income / Mixed Use Development primarily by private developers and investors to build affordable housing and new market-rate housing in the community.

Urban, mixed-use projects are overburdened with higher costs when compared to competing suburban or even infill real estate investments. Projects faced with additional costs, especially related to upfront infrastructure, often require sophisticated financing structures that add to the time frame for completion. These development challenges demand a high level of expertise and patience on the part of the developer. Due to higher development costs, these kinds of projects often face competition for limited investment dollars. This inherent gap often requires some type of subsidy/ incentive to ensure mixed-use projects attract private financing and equity sources. Potential funding sources include:

- Pittsburgh Affordable Housing Trust Fund
- Low Income Housing Tax Credits
- TRID
- RACP
- EB-5
- NMTC
- Other
  - Impact Investing
  - Extend LERTA authorizing legislation with a focus on low income/distressed neighborhoods
  - Explore creation of a TOD Fund

05

Innovation Village/Small Business Workspace working closely with non-profits, developers and the City to secure dollars to encourage ground floor retail uses and to rehabilitate existing buildings suitable for small businesses. Development of office and research space in connection with local academic programs and institutions.

One concept explored during the planning process was an innovation center and academic village. Consideration should be given to a public private partnership to develop this concept in Uptown. Locally, Duquesne was a co-founder of the Citizen Science Lab and is a potential partner going forward. To fit within the vision for Uptown the following components should be considered:

- Anchor institution (s) entering into a long term lease with a private or quasi-public development to help make the project financeable.
- Building design and systems plus landscape consistent with the "eco" component of the plan
- Test bed opportunities for new environmental and clean technologies potentially supported by federal research funds or national foundations or nongovernmental organizations supporting the development of such programs.

- Citizen Lab space modeled after the Citizens Science Lab but to include capabilities for prototyping and clean tech deployment.
- Space allocations for small businesses in the underserved community tied to a comprehensive accelerator and training program
- Financial support provided by Foundations and public agencies.

Duquesne University and other local institutions were involved in the founding of the Urban Innovation21 (formerly the Pittsburgh Central Keystone Innovation Zone) which should continue to serve as an important resource to connect state incentives and entrepreneurial resources through its existing network. The network's existing ties and entrepreneurial programs for underserved communities of the Hill and Uptown allow it to assist in making access to the innovation economy proposed in this plan more equitable. The small business community could be nurtured through the continued support and expansion of their initiatives, enhancements such as the master lease/flexible space approaches described earlier, as well as additional collaboration with the Small Business Development Centers at Duquesne University and Pitt related to federal Small Business Innovation Research (SBIR) funding.

BRT coordinated by the City, County, Port Authority, Urban Redevelopment Authority and partners to raise funds and improve Fifth and Forbes in Uptown and beyond.

The proposed Downtown-Uptown-Oakland BRT will seek financial assistance through the FTA Capital Investment Grant (CIG) Small Starts program. This category covers projects with the following characteristics:

- New fixed guideway projects, extensions to existing fixed guideway systems or corridor-based BRT
- Must have total estimated capital cost < $300 million
- Must be seeking < $100 million of CIG program funds

The maximum CIG share is 80% and total Federal funds may not exceed 80% of the total project cost.

PAAC and the URA requested entry into the FTA Project Development process in March 2017. During this phase, the Locally Preferred Alternative is established, the project is placed on the regional long range transportation improvement program and NEPA process is completed. Following an operational early rating, the project must be included in the FTA Annual Report on Funding Recommendations. Inclusion is dependent upon a Medium Overall FTA rating, advanced engineering and design and commitment of at least 50% of non-CIG funding[3]. The FTA will negotiate and approve the construction grant agreement once all funding commitments are in place and the project is ready to proceed.

Potential funding sources to support improvements along Fifth and Forbes include:

- FTA CIG Small Starts
- Other Federal Funding
- CMAQ
- TIFIA
- Local Match
- TRID
- PennDOT
- City/County/PAAC
- EB-5
- Impact Investing

3 Only 30% of the non-CIG funding must be committed or budgeted to obtain the necessary Medium rating under the Simplified Financial Plan.

07

Community Infrastructure Hubs URA and City initiative to develop these shared "hubs" complete with district energy, bike share, stormwater and parking either in the form of a garage or a lot.

The URA currently owns properties near the Arena (Lot F which was recently released for development as a parking garage) and concentrated near the Fifth and Dinwiddie intersection. Lot F has already received proposals including the addition of affordable housing. Fifth and Dinwiddie is an opportunity to pilot the community infrastructure hub sited along Colwell. A hub in this location would support other new development in the area and could provide additional stormwater management and district energy infrastructure.

Potential funding sources to support construction of the hubs include:

- CMAQ
- TRID
- RACP
- Multimodal Transportation Fund
- PA Infrastructure Bank
- Carbon Finance

08

Stormwater Parks by PWSA, the City and local partners to create new green space that manages local stormwater at Fifth & Dinwiddie, Tustin Street, the hillside, Watson Alley, and under the Birmingham Bridge.

Standard approaches to stormwater management focus on "gray infrastructure," including pipes, tunnels and tanks. More recently, interest has grown in "green infrastructure" practices in place of or in combination with traditional stormwater infrastructure. Implementation of green infrastructure technologies has faced numerous barriers including uncertainty whether the projects will contribute to achieving water quality improvements and the lack of information on the overall cost-effectiveness.

Another key barrier is the lack of dedicated funding for green infrastructure. A Pay for Success (PFS) model of Social Impact Bonds (SIB) would seek to attract private investment to implement green stormwater management practices with repayment conditioned upon how well the project(s) reduces wet weather flows. This structure could reduce the performance and financial risk of utilizing green infrastructure to meet water quality goals. There are several steps required to develop the project performance evaluation system necessary for the PFS model:

- **Step 1** - Pre-construction monitoring to measure the existing stormwater runoff without green infrastructure.
- **Step 2** - With results from the pre-construction monitoring and green infrastructure design plan establish outcome ranges predicting the expected reduction in storm water runoff. An independent engineering firm selected by the investors confirmed these ranges.
- **Step 3** - Post-construction monitoring to measure the actual stormwater runoff with green infrastructure

These calculations form the basis for the creation of a "Risk Sharing" mechanism linked to investor repayment. If the expected stormwater reductions are achieved there is no change in repayment (standard principal and interest). If higher levels of reduction are generated than the expected target levels the stormwater agency makes a contingent "outcome payment" to the investors. However, if the green infrastructure underperforms versus the target level the investor makes a "risk sharing payment" to the agency to help offset any additional costs incurred by needing to add additional infrastructure to meet water quality goals.

The City and PWSA City-Wide Green First Plan outlines methods to use innovative, cost-effective, and green infrastructure approaches to manage stormwater. The Plan established an estimated potential in

stormwater reduction through an integrated stormwater management infrastructure program. As part of the assessment, secondary social, environmental and economic benefits of the planned green infrastructure investment were also calculated.

The potential Triple Bottom Line benefits ranged from $428 million to over $850 million from the full implementation of the plan over the 50 year life cycle. The largest amount of secondary value creation was in local flood mitigation representing 79% of the total benefit followed by property value increases making up 13% of the total (or between $55 million and $110 million). A SIB/PFS approach could be employed to also monetize a portion of these secondary benefits to finance the necessary stormwater improvements.

This impact investing (PFS) model as well as existing funding sources such as ALCOSAN GROW, GTRP, C2P2 and CITF dollars should all be pursued to move forward with three critical early-action projects.

01 - APPLY FOR FUNDS TO DESIGN, ENGINEER AND IMPLEMENT A SOHO GREEN INFRASTRUCTURE PROJECT

The M-19 Sewershed was identified by the City-Wide Green First Plan as a top six priority sewershed where proposed GI would best complement strategic urban development plans, existing characteristics, and high yield areas to most effectively illustrate what a green first approach could look like for the City.

The Soho GI Project is a series of phased projects which could reestablish natural drainage paths of historic Soho Run - a tributary to the Monongahela until the combined sewer network was constructed. The first phase of the Soho GI Project is the MLK Field Stormwater Park – this area is envisioned to include a combination of regenerative step pools along new park trails, rain gardens, underground detention facilities, and community gardens.

Stormwater is collected from two main areas a) the Addison Terrace developments and b) the right-of-way along Kirkpatrick Street and the eastern portion of Bentley Street. Future phases of the Soho GI Project will be linked to the redevelopment of the Uptown neighborhood including redevelopment along the Fifth Avenue and Forbes Avenue corridor. These future developments are expected to take less than 6 years and are not considered as part of the Phase I: MLK Stormwater Park.

02 - APPLY FOR FUNDS TO DESIGN, ENGINEER AND IMPLEMENT THE TUSTIN SHARED STREET GREEN INFRASTRUCTURE PROJECT

The Tustin Shared Street Green Infrastructure Project is a vision to create additional community open space in the residential core of the Uptown Neighborhood. Tustin Street has an existing sense of community from the Tustin Street Community Garden and the Tustin Street Tot Lot Playground –expanding and combining these areas with a shared street concept would suite local community needs. The proposed project will include Green Stormwater Infrastructure (GSI) facilities such as bump outs, green alley features, or other streetscape features to collect and detain runoff from the right-of-way of Tustin Street, Seneca Street and the Tustin Tot Lot.

03 - APPLY FOR FUNDS TO STUDY THE HIGHWAY STORMWATER PARK

The area under the Birmingham Bridge represents a complex collection of roads and infrastructure but is also a source of stormwater issues as it sits near the bottom of the M-19 sewershed. This plan envisions this space as a new stormwater park that serves to also provide a connection along Brady Street to the Heritage Trail. Given the necessity for coordination with City and State agencies, this proposal requires additional study to fully understand the engineering and potential costs.

09

District Energy installation of Solar PV, battery storage, combined heat & power (CHP) and digester gas power generation systems interconnected by a micro grid to ensure secure electricity supply to Uptown.

The financial analysis of the power production and supply technologies evaluated as part of the Uptown EID Energy System plan assumed the capital costs shown as illustrated below. Total Investment of $26 million would be required to fund all of the recommended projects. Our evaluation assumed issuance of 20-year, 4.5% tax exempt debt to fund implementation of these systems. This rate reflects the current national average yield on 20-year A-rated municipal bonds.

Uptown EID Energy System Projected Capital Requirements:

Energy Production/Supply Technology	Total Investment
Combined Heat & Power	14,500,000
Solar Photovoltaic Power	3,500,000
Battery Storage	5,500,000
Biogas Food Digester Plant	500,000
Waste Heat-to-Power	2,000,000
Average Production Cost	**26,000,000**

There is no capital cost for the micro grid in this calculation because in this planning scenario, Duquesne Light will own the micro grid. As owner, DLC will make investments needed to convert their distribution system in Uptown to micro grid service and recover this cost from the users of micro grid. Conversion costs are expected to be minimal.

Many foundations fund projects that positively impact the environment, accelerate GHG reduction or improve the lives of people in vulnerable communities. The solar PV and waste heat-to-power projects have the highest delivered power costs but produce carbon-free power. They also have no variable operating costs. If a foundation were to fund these projects, they would produce power at near-zero cost for the life of the project.

Currently DLC supplies power to eligible low-income residents at discounted rates that are subsidized by all DLC ratepayers. If a foundation were to fund the solar PV and waste heat-to-power projects, near-zero cost power would be produced that could then be delivered to residents participating in the subsidy programs, thereby reducing the need for subsidies.

Potential funding sources to support the EID Energy System Plan include:

- DOE Loan Guarantee Program
- PA CFA Alternative and Clean Energy Program
- Sustainable Energy Fund
- TRID
- Impact Investing

10

Performance and Monitoring through the installation and coordination with local research institutions , integrate monitoring and sensor technology across different initiatives including district energy, mobility, air quality and stormwater.

The cost of monitoring performance of the recommended EID priority projects and programs should be included in development budgets where applicable. Return on investment should include calculation of all social, environmental and economic benefits in line with the p4 evaluation metrics. Annual reports should be provided to the EcoInnovation Task Force, investors and other stakeholders. Lessons learned through this evaluation effort will help refine future EID implementation and investment strategies.

IMPLEMENTATION MATRIX

1 PRESERVE AND STRENGTHEN THE EXISTING COMMUNITY

1.1 INVEST IN EXISTING RESIDENTS & PROTECT THE RESIDENTIAL CORE OF THE COMMUNITY

METRICS: # of homes served for weatherization and rehabilitation; # of properties acquired; # of residents in a LOOP program

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc....	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
	CREATE A HOUSING ADVOCATE FOR UPTOWN	Hire an on-the-ground organizer responsible for connecting residents to existing programs, working to resolve credit issues and monitoring local housing conditions. Work with program providers to match foreclosure prevention programs with local needs.	organizing, advocacy	4-6 years	Foundations / DCED Neighborhood Assistance Program	Uptown Partners	Hill District CDC / Hill House / OPDC
X	**EXPLORE TAX POLICIES TO PREVENT DISPLACEMENT**	Support expansion of the Homestead Exemption / Lobby Harrisburg for a LOOP program	advocacy	< 3 years	n/a	Affordable Housing Task Force	Uptown Partners
	Initial Action Steps - Work closely with the Affordable Housing Task Force to push for changes to create tax protections for residents						
X	**WORK WITH THE URA AND CITY TO COORDINATE ACQUISITION OF KEY TAX DELINQUENT PROPERTIES**	Secure as many vacant, tax delinquent properties to reuse for community uses including affordable housing and green space	data monitoring, acquisition, maintenance	ongoing	CFA Business in Our Sites / DCED Neighborhood Assistance Program / CDBG / Allegheny County CITF / TRID / City & URA Capital Budgets	City	City / URA / Uptown Partners
	Initial Action Steps - Develop a map of key properties for potential acquisition - work closely with the URA and Land Bank to secure land for community use						
	EXPLORE THE POTENTIAL OF A LAND TRUST TO MAINTAIN AFFORDABILITY FOR BOTH RESIDENTIAL AND COMMERCIAL PROPERTIES	Set up management structure and work with Land Trust expert to establish strategic plan	land acquisition, property management, finance	<3 years	CFA Business in Our Sites / DCED Neighborhood Assistance Program / CDBG / Allegheny County CITF / TRID / City & URA Capital Budgets	A land trust - new / expanded non-profit	OPDC / City / URA / Uptown Partners
	CREATE PROGRAMS TO SUPPORT EFFICIENCY RETROFITS and BASIC SYSTEMS REPAIR FOR EXISTING BUILDINGS	Develop partnerships with existing resources and develop supplemental resources to address local housing needs.	advocacy, education, best practice dissemination	< 6 years	CFA Alternative and Clean Energy Program / PA Dept. of Environmental Protection / PA Energy Development Authority / Keystone HELP / US Dept. of Health and Human Services (LIHEAP) / Allegheny County	URA	City / Allegheny County / Action Housing / developers / Uptown Partners
	EXPLORE THE POSSIBILITY OF A HEALTHY HOMES PROGRAM FOR UPTOWN / WEST OAKLAND AND THE HILL DISTRICT	Work with Allegheny County's Safe and Healthy Homes Program to provide local assessments and develop an assistance program with local hospitals to improve health factors in homes.	advocacy, education, program development	< 10 years	UPMC, URA	URA	UPMC / Allegheny County / developers / Uptown Partners

1.2 PROMOTE DIVERSITY AND INCLUSION IN THE INNOVATION COMMUNITY

METRICS: # of youth employed; # of residents trained; # of participants in the job fair; overall employment rate

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc....	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**BECOME A HUB OF WORKFORCE DEVELOPMENT PROGRAMS ACCESSIBLE TO AND TARGETING A RANGE OF SKILL SETS AND EDUCATIONAL BACKGROUNDS**	Build on the Energy Innovation Center capabilities to develop a range of programs for ecoinnovation activities including installation, maintenance, and monitoring of technologies	community organizing, training	< 3 years	Foundations / Economic Development Administration / US Dept. of Housing and Urban Development / US Dept. of Health and Human Services / US Dept. of Labor / PA Dept. of Labor and Industry	TBD	Avenu / Uptown Partners / OPDC / Made Right Here / Energy Innovation Center
	Initial Action Steps - Define Clean Tech needs for pilot projects in Uptown including the installation and maintenance of stormwater parks						
	INVITE DISADVANTAGED YOUTH TO PARTICIPATE IN THE INNOVATION COMMUNITY	Build on the TechHire initiative and ensure accessibility to Uptown and Hill youth for jobs created by the Ecoinnovation district	community organizing, training	< 6 years	Foundations / Economic Development Administration / US Dept. of Housing and Urban Development / US Dept. of Health and Human Services / US Dept. of Labor / DCED Neighborhood Assistance Program / PA Dept. of Labor and Industry	Avenu	Techhire / OPDC & Schools 2 Careers / Pittsburgh Public Schools / Uptown Partners / Hill District Consesus Group / Center That Cares
	CREATE AN ANNUAL UPTOWN / WEST OAKLAND JOB FAIR WITH LOCAL BUSINESSES	Establish, organize and market a yearly opportunity for local businesses to meet local residents seeking work. Coordinate with TechHire initiative, Energy Innovation Center and other partners	community organizing, event planning	< 3 years	Foundations / Economic Development Administration / DCED Neighborhood Assistance Program	Avenu	Uptown Partners / local businesses / Energy Innovation Center / Techhire

1.3 BUILD ON UPTOWN/WEST OAKLAND'S CHARACTER AND IDENTITY

METRICS: # of buildings preserved; # attendees at community events; # of public art projects and; # of participants in helping to create them

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**PRESERVE THE COMMUNITY'S HISTORIC CHARACTER**	Protect existing residential and commercial buildings in Uptown from demolition and establish incentives in zoning for preservation	advocacy, land acquisition, property development	ongoing	DCED Neighborhood Assistance Program	City	Uptown Partners
	Initial Action Steps - Codify the IPOD into new zoning and maintain a list of properties in danger of demolition by neglect						
	INVEST IN MORE PUBLIC ART	Work to secure resources to design, install and maintain new public art in the community.	community organizing, installation	< 3 years	Foundations / DCED Neighborhood Assistance Program Allegheny County CITF	Uptown Partners	local artists / local businesses
	LAUNCH A TARGETED MARKETING STRATEGY	Develop a welcome to Uptown brochure for new residents / develop a living in Uptown marketing campaign	design, community organizing	< 6 years	DCED Neighborhood Assistance Program	Uptown Partners	OPDC
X	**CREATE NEW COMMUNITY PROGRAMMING**	Develop a calendar of community events including dinners, outdoor movies, celebrations, block parties and more.	community organizing, event planning	< 3 years	DCED Neighborhood Assistance Program	Uptown Partners	OPDC
	Initial Action Steps - Develop a calendar of community events including dinners, outdoor movies, celebrations, block parties and more.						
	EXPAND LOCAL FITNESS PROGRAMS	Provide coordinated fitness options in Uptown for people with disabilities and all Uptown residents / Create Uptown walking club / Expand access to institutional fitness facilities for residents	community organizing	< 3 years	local institutions / City	local institutions	Uptown Partners

1.4 WORK TOGETHER TO TACKLE BLIGHT AND COMMUNITY SAFETY

METRICS: reduction of crime rates in relation to city-wide rates; improved neighborhood perception; # of new lights

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**MONITOR and ADDRESS ILLEGAL DUMPING AND NUISANCE PROPERTIES**	Work on a prevention campaign that advocates for strict enforcement of illegal dumping laws and creates design solutions to help address the conditions that promote dumping / build on the Oakwatch model to empower residents to relay code enforcement issues	community organizing, advocacy	< 3 years	CDBG	Uptown Partners	City
	Initial Action Steps - Identify 2-3 target properties and develop short-term designs to integrate signage, landscaping and better lighting where possible Develop and maintain a top ten list of nuisance properties in Uptown for discussion with Council and City representatives						
	UPGRADE LIGHTING	Install pedestrian scale lighting at priority intersections / establish resident- and business-assisted façade light programs	installation, maintenance	< 6 years	City Capital Budget / CDBG / DCED Neighborhood Assistance Program	City	local institutions / Uptown Partners
	EXPAND COMMUNITY POLICING	Strengthen the existing Safe Streets Uptown Initiative	community organizing	ongoing	n/a	Uptown Partners	City Police

1.5 EXPAND INSTITUTIONAL PARTNERSHIPS

METRICS: # of research projects taking place in Uptown; # of student volunteers; % of local institutions participating in a Chamber of Services

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
	CONNECT LOCAL INSTITUTIONS	Create an institutional "Chamber" in Uptown to discuss ongoing common challenges and potential opportunities to share resources	community organizing	< 3 years	DCED Neighborhood Assistance Program	Uptown Partners	local institutions
	Initial Action Steps - Convene a meeting with local institutions to discuss the structure of a local "chamber" including the key topics that need to be collectively addressed						
X	**WORK WITH MAJOR INSTITUTIONS TO EXPAND THEIR RESEARCH, CURRICULUM AND STUDENT ACTIVITIES INTO THE COMMUNITY WHERE APPROPRIATE**	Align EcoInnovation District strategies with the missions of major local institutions and work in partnership toward implementation	community organizing	ongoing	Institutions / private equity	Uptown Partners	UPMC Mercy / Duquesne University / University of Pittsburgh / CMU / Avenu / Energy Innovation Center
	Initial Action Steps - Coordinate with Duquesne on creating a Center for Community Health and Well-being; Sustainability Hub and; a University-Community Alliance. Identify pilot projects for these centers in Uptown that support EID goals.						

2 ENCOURAGE BALANCED, EQUITABLE, AND GREEN DEVELOPMENT

2.1 DIVERSIFY HOUSING OPTIONS

METRICS: income diversity, unit mix, percent of residents facing a housing burden

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**MAKE HOUSING OPTIONS AVAILABLE AND AFFORDABLE TO A DIVERSE INCOME RANGE**	Look for opportunities to both create new affordable housing options on publicly-owned land and encourage affordable housing as a part of private development	advocacy, provision of capital, land disposition	ongoing	Housing Opportunity Fund / CDBG / PHFA Low Income Housing Tax Credit / New Market Tax Credits	Uptown Partners	Potential Land Trust
	Initial Action Steps - Work to secure land and integrate affordable housing incentives into the new zoning for the community						
	LOOK FOR OPPORTUNITIES TO CREATE NEW SENIOR HOUSING	Work with the URA and City to promote new senior developments within Uptown / West Oakland	advocacy, development	< 10 years	Private equity / URA	URA	developers
	CREATE STUDENT HOUSING TO RELIEVE PRESSURE ON EXISTING HOUSING	Work with local developers and institutions including Duquesne to develop new student housing to meet local demand	advocacy, development	< 6 years	Housing Opportunity Fund / CDBG / PHFA Low Income Housing Tax Credit / New Market Tax Credits	Duquesne	Private developers / City / Uptown Partners

2.2 CREATE SPACE FOR INNOVATION

METRICS: Amount of sq. ft. preserved for workspace, # of business and jobs in Uptown

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**CONNECT START UPS WITH FLEXIBLE SPACES TO FIT THEIR NEEDS**	Work to secure space at affordable rates for start-up and small businesses	coordination with LaunchPGH	< 6 years	n/a	Avenu	City / LaunchPGH / Uptown Partners
	Initial Action Steps - Work to create an online presence of facilities and landlords willing and able to provide flexible lease and space arrangements						
	WORK WITH DEVELOPERS TO PROVIDE WORKSPACE	Provide flexibility on first floor programming for spaces that can be utilized by nonretail small businesses and start up companies;	finding developers who are willing partners; zoning and use requirements that are flexible	< 10 years	Foundations / DCED Neighborhood Assistance Program / Small Business Funding Resources	City	Avenu / Uptown Partners
	SUPPORT HOUSING TYPOLOGIES THAT SUPPORT COLLABORATIVE CREATIVE PRODUCTION AND INNOVATION	Enable live / work to be allowed in the zoning code and work to protect and preserve existing warehouses and structures suitable for collaborative work space	advocacy	< 3 years	Housing Opportunity Fund / CDBG / PHFA Low Income Housing Tax Credit / New Market Tax Credits	City	Avenu / Uptown Partners / developers

2.3 REVIVE COMMERCIAL CORRIDORS

METRICS: commercial vacancy, façade renovations, district retail sales, number of jobs, foot traffic, reduction in number of trips outside the district for goods and services

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
	OVERSEE CORRIDOR MANAGEMENT EFFORTS AS A PART OF EID DISTRICT MANAGEMENT	Work toward securing additional resources to coordinate existing businesses, clean the streets and help with joint marketing	installation, maintenance, program management	< 10 years	Foundations / DCED Neighborhood Assistance Program	Uptown Partners	Institutions / Corporations / OPDC / Pittsburgh Downtown Partnership / businesses
X	**RETAIN EXISTING BUSINESSES**	Technical, financial assistance with vacant upper story rehabs, egress requirements, and ADA compliance; small business workshops and technical support; networking events	Research, coordination, event planning, grant writing	< 3 years	Small Business Funding Resources	Uptown Partners	–
	Initial Action Steps - Develop a list of existing business resources available for support and undertake a targeted business survey to align key needs with resources						
	ENCOURAGE EXISTING AND NEW BUSINESSES TO IMPROVE CURB APPEAL	Technical, financial assistance with façade renovations, sidewalk repair, sidewalk vestibules, signage, planter boxes, façade lighting	program creation, community organizing	< 10 years	URA Façade Improvement Program	Uptown Partners	local businesses / City
X	**ATTRACT NEW RETAIL & COMMERCIAL TENANTS**	Explore opportunities to subsidize the development of space for retail and new businesses by providing fit out and signage support; consider master lease arrangements to allow more flexible lease structures; create a unified recruitment program	program creation, community organizing	< 10 years	DCED Neighborhood Assistance Program / Small Business Funding Resources	Avenu	URA / developers / foundations
	Initial Action Steps - Work to identify suitable warehouses and spaces for small businesses / begin setting up a master lease program for Uptown						

2.4 IMPLEMENT POLICIES TO PROMOTE SUSTAINABLE & AFFORDABLE DEVELOPMENT

METRICS: reduced building emissions, LEED certified structures, new zoning code

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**ENCOURAGE DENSITY AND MIXED USES IN TARGETED AREAS**	Provide density bonuses for mixed use projects with special weighting for meeting EID objectives on affordability and sustainability	Realignment of zoning and incentives	ongoing	n/a	City	Uptown Partners
	Initial Action Steps - Work to create a new zoning Public Realm District for Uptown						
X	**MANAGE PARKING DISTRICT WIDE and CREATE COMMUNITY INFRASTRUCTURE HUBS**	Replace existing parking regulations in the zoning code and strategically invest in shared parking resources to serve residents and Uptown employees	Realignment of zoning and incentives	< 3 years	n/a	City	Uptown Partners
	Initial Action Steps - Work to create a new zoning Public Realm District for Uptown						
X	**REWRITE ZONING FOR THE EID BASED ON PERFORMANCE**	Consider potential for new construction techniques for commercial/industrial (project example Bldg. 25 Brooklyn Navy Yard) or utilizing new wood product technologies such as cross laminated timber (CLT) (e.g. Carbon12 project Portland OR) for office or residential to support additional density and affordability	Realignment of zoning and incentives	ongoing	n/a	City	Uptown Partners
	Initial Action Steps - Work to create a new zoning Public Realm District for Uptown						

3 PROVIDE CHOICE IN MOBILITY

3.1 INCREASE TRANSPORATION CHOICE TO DECREASE CONGESTION

METRICS: Reduce SOV mode share by 26%. Increase non-motorized or shared modes including increasing public transit by 11%, and bike modeshare by 9%, and walking by 3% by 2030. Maintain existing mode share for Uptown residents by 2030. Increase shared use mobility options available to residents, employee, and student population.

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
	ENCOURAGE WALKING, BIKING, AND TAKING TRANSIT FOR TRIP TO, FROM, AND WITHIN THE ECOINNOVATION DISTRICT	Pursue a mode shift by 2030 for the population commuting to Uptown, daily, that reduces SOV mode share by 26% to non-motorized or shared modes including increasing public transit by 11%, and bike modeshare by 9%, by 2030. For residents of Uptown and West Oakland commuting elsewhere, focus effort on maintaining existing commuting modal mix with high public transit use and walking as the community grows.	advocacy, community organizing	on-going	Foundations / Institutions /Federal/State grants	TMA	Institutions / Uptown Partners
X	**ENSURE TRANSIT MEETS THE NEEDS OF LOCAL USERS**	Improve transit access to the north (Hill) and south (via Bridges) by re-routing or introducing new transit route along Dinwiddie. Explore microtransit pilot to match demand and street scale. Explore other transit expansion better connecting Uptown / West Oakland residents to community destinations and necessities not located along BRT route.	planning, advocacy	on-going	Federal (BRT related) / State / County / PennDOT Multi-Modal / TRID / PAAC Operating Budget / Federal Transit Administration Funding	UPP/ PCRG / PPT/ PAAC	UPP/ PCRG / PPT/ PAAC / Uptown Partners
	Initial Action Steps - Work with Port Authority to pursue transit connection along Dinwiddie in tandem with BRT design; Explore pilot model of micro-transit service.						
	GET MORE PEOPLE RIDING TOGETHER	Get more people around on Uptown streets without increasing the number of vehicles by increasing the number of people in each vehicle. Promote existing and expanded public transit services as an alternative to SOVs for both residents and commuters. Encourage and plan expansion of shared-use mobility services to make the shift to car-light or car-free lifestyles more attainable for residents.	advocacy	<3	Foundations / private funding / Federal (BRT related)	City	City / private sector / PAAC / Uptown Partners
	EXPAND A TRANSPORTATION MANAGEMENT ASSOCIATION (TMA) TO INCLUDE UPTOWN	Investigate potential expansion of Oakland TMA or Downtown TMA, or creation of new Association for Uptown and West Oakland.	research, advocacy	<6	private development / institutions / CMAQ	Institutions	City / Uptown Partners
	EXPAND MOBILITY ACROSS ALL INCOME LEVELS	Increase income-based, subsidy, or match programs/membership to transportation services like bikeshare and public transit for local residents. Encourage enrollment in Port Authority Job Perks Program. Explore partially subsidized ride-sourcing trips, and low-income car-sharing programs.	research, advocacy, program management	<3	Foundations / FTA Grants	City	Uptown Partners

3.2 CREATE A SAFE AND LIVABLE NEIGHBORHOOD STREET NETWORK

METRICS: Reduce fatalities and severe injuries to zero. Achieve a 20MPH target speed on neighborhood streets. Increase activity in public spaces, increase biking and walking to neighborhood destinations.

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**ACHIEVE ZERO TRAFFIC FATALITIES AND ZERO SERIOUS INJURIES WITHIN THE UPTOWN / WEST OAKLAND NEIGHBORHOOD**	No amount of crashes is acceptable on Pittsburgh's streets. Advocate for the City to establish a Vision Zero Policy City-wide, and implement a multi-modal travel and reporting app as a means of reporting and tracking accidents. Address high-crash intersections through pedestrian-first design.	Advocacy	ongoing <3 Tactical improvements to high-crash intersections	U.S. DOT New Starts / Small Starts / Core Capacity / TIGER Grants / HSIP	City	PennDOT / Uptown Partners / OPDC
	Initial Action Steps - Ensure Gist Street signalization is included in BRT design; Study Gist Street traffic calming measures as near term solution.						
X	**IDENTIFY "SLOW STREETS" COORDINATED WITH TRANSIT EMPHASIS ON 5TH/FORBES**	Identify key neighborhood streets to implement traffic calming to minimize cut-through traffic; preserve neighborhood street quality and improve safety. Bolster BRT stations with safe connections to the adjacent streets.	Engineering, installation	<3	City Capital Budget / CDBG / Allegheny County CITF / TRID	City	Uptown Partners
	Initial Action Steps - Garner community support for desirable "Slow Street" traffic calming elements to be installed and prioritize street segments.						
X	**IMPROVE SAFETY OF CROSS STREET CONNECTIONS WITH BOULEVARD OF THE ALLIES FOR ALL MODES**	Re-design the cross-street connections with the Boulevard of the Allies to reinforce streets which are most appropriate for commuter circulation, improve pedestrian safety and visibility at intersections.. Encourage driver use of Stevenson, Marion, and Van Braam through intersection design for commuter vehicular access through Uptown from Blvd. Discourage use of Miltenberger, Gist, and Jumonville for cut-through traffic.	Design, engineering, advocacy	<3 tactical improvements 10+ long term reconstruction	Allegheny County CITF / TIGER / TGF / City / EPA / PennDOT Multimodal Transportation Fund	City	City / UPMC Mercy / Duquesne / PennDOT / Uptown Partners
	Initial Action Steps - Initiate schematic design study for intersection at Van Braam and Gist Streets.						
X	**PRIORITIZE SIDEWALK IMPROVEMENTS BASED ON NEED AND CRITICAL PATHWAYS**	Prioritize sidewalk improvements throughout Uptown based on the severity of obstruction and context. Address any immediate safety concerns and develop a 10-year plan to improve all sidewalks. Consider local partnership in improvements. Identify permanent obstructions – bring to the attention of responsible Utility, City Department, or Private entity.	Engineering, community organizing	<3	City Capital Budget / CDBG / TRID / URA RHDIP	City	Uptown Partners
	Initial Action Steps -						
	IMPROVE SAFETY AND QUALITY OF PEDESTRIAN EXPERIENCE CROSSING UNDER BRIDGE AND OVERPASS INFRASTRUCTURE	Improve the condition and visibility in the interior separated pathway through the Armstrong Tunnel, and crossing conditions at the connecting intersections. Ensure Fifth/Forbes street reconstruction improves bike and pedestrian access, particularly at pinch-points crossing under bridge infrastructure.	Advocacy, planning, engineering	<3	TA Set-Aside (SPC TAP) / STBG Program / PA Infrastructure Bank / City Capital Budget / CDBG / Allegheny County CITF / TRID	City	Allegheny County / Duquesne

3.3 IMPLEMENT BUS RAPID TRANSIT ON FIFTH AND FORBES AVENUES

METRICS: Increase person throughput on Fifth and Forbes without increasing traffic congestion. Increase transit and bike, and bike share linked trips along the BRT corridor. Increase bus mode share for those living/working/studying in Uptown.

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**PROVIDE A TRANSIT ONLY LANE ON BOTH FIFTH & FORBES AND INTEGRATE PEDESTRIAN IMPROVEMENTS INTO BRT DESIGN**	Provide a Transit Only lane through Uptown on Fifth and Forbes to increase transit reliability for all users. Implement Bus Rapid Transit (BRT) as a mechanism to further reduce congestion by increasing mobility options, and as a mechanism for extensive street reconstruction which would not be feasible in Uptown without a project of its scale. Where possible, complete other infrastructure work as part of BRT Project including sidewalk and crossing improvements at area cross-street intersections.	Design, engineering	<6 according to planned project implementation schedule	US Dept. of Transportation / TIGER / Federal Transit Administration Funding / PennDOT / PA Infrastructure Bank / TA Set-Aside (SPC TAP) / City and County Capital Budgets / TRID	City	City / County / PAAC / URA / Uptown Partners

Initial Action Steps -
Participate in on-going discussion with Port Authority in determining streetscape design of BRT project

X	**USE BRT CONSTRUCTION TO BEGIN SHIFT AWAY FROM SINGLE OCCUPANCY VEHICLES (SOVs)**	Start education and awareness about the BRT construction timeline and impacts early. Work with local institutions to develop active transportation and transit incentives during construction to begin the shift from SOV access as the BRT system is built.	Community organizing, advocacy	<3 Initiate programs to encourage mode shift <6 Strategy should tie to BRT construction schedule	TA Set-Aside (SPC TAP) / TRID / Federal Transit Administration Funding	City	Uptown Partners / Institutions

Initial Action Steps -
Develop a visual timeline for construction along with clear and widely disseminated detour route maps must be created and distributed to residents and online.

3.4 BUILD A SMARTER UPTOWN*

METRICS: Install 1 Electric Vehicle Charging station in Uptown.

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
	ENCOURAGE IMPLEMENTATION OF SmartPGH* SENSOR NETWORK IN UPTOWN; SMART SPINES* ON FIFTH AND FORBES	Encourage implementation of projects identified in Pittsburgh's Smart City application - SmartPGH - including the Smart Spines and sensor network on Fifth and Forbes.	Advocacy, research, design, engineering, monitoring	<6 Consider with BRT design and construction	US DOT Grants (AID) / TFA Zero Emissions Research Opportunity	City	CMU / private sector / Uptown Partners
	MAKE REAL-TIME TRANSPORTATION DATA AVAILABLE IN THE PUBLIC REALM	Move beyond open data - find ways to integrate real-time information into the public environment (bus trackers, bike/ped counters, etc.) to make smarter public spaces. Expand data collection related to transportation and continue sharing with WPRDC.	Advocacy, research, design, engineering, monitoring	<6 Implement enhanced transit feedback signage with BRT station design	US DOT Grants (AID) / TFA Zero Emissions Research Opportunity / Private Sector	City	Institutions / transportation organizations and advocates
	ENCOURAGE AUTOMATED VEHICLE (AV) PILOT PROJECTS IN UPTOWN	Partner with CMU - leader in AV tech - to demonstrate AV as part of institutions suite of transportation options for Uptown institutions/destinations. (i.e. Consol event shuttle, Assisted access to Deaf Association, etc.). Focus on building AV into shared-ride strategies, rather than increasing convenience for individual rides.	Advocacy, community organizing	<6	US DOT Grants (AID) / TFA Zero Emissions Research Opportunity / Private Sector	City	Uptown Partners
	BRING ELECTRIC VEHICLE (EV) CHARGING STATIONS TO UPTOWN	Integrate an Electric Vehicle charging station into a Community Infrastructure Hub located in Uptown.	Advocacy, community organizing	<6 (implement with Energy Hub)	Foundations / City Capital Budget / Allegheny County CITF /CFA Alternative and Clean Energy Program / FTA Zero Emissions Research Opportunity	City	Uptown Partners

Initial Action Steps -
Explore implementation of the Solar EV Fleet Charging Pilot Project on the "2nd Ave Parking Plaza," first introduced by SmartPGH

3.5 ESTABLISH A DISTRICT PARKING STRATEGY

METRICS: Reduce surface parking acreage within the EcoInnovation District by 40% by 2030 while maintaining utilization of public lots at 85% or less. Reduce institutional demand for all-day parking spaces by at least 50 spaces per year.

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**MAKE PARKING POLICY WORK FOR UPTOWN RESIDENTS**	Simplify neighborhood street regulations and focus enforcement to reduce on-street parking abuse on residential streets. Recognizing that Uptown is changing, establish mechanisms for feedback to track and respond quickly to increased pressure on residential parking resources.	Advocacy, planning / design	<3 Enforcement	City Capital Budget / Pittsburgh Parking Authority / CDBG	City	Uptown Partners
	Initial Action Steps - Explore potential for a parking benefit district within Uptown Increase enforcement and tracking of utilization of Uptown on-street parking. Pursue establishment of a dedicated Enforcement Officer for Uptown / West Oakland.						
	IMPLEMENT DYNAMIC PARKING MANAGEMENT STRATEGY FOR UPTOWN / WEST OAKLAND	Now is the time for big changes to parking dynamics in Uptown. Major moves should be considered to rebalance the demand for parking on Uptown streets. In order to incentivize turnover for local businesses and preserve side-street parking for resident use, consider conversion of the full lengths of 5th and Forbes, and west end cross streets to metered parking with variable event pricing and enhanced enforcement.	Planning, management	<10 (consider off street implementation with Energy Hubs)	City Capital Budget / Pittsburgh Parking Authority / CDBG	City	Uptown Partners / OPDC
X	**PARTNER WITH INSTITUTIONS + MAJOR EMPLOYERS TO DEVELOP TDM PROGRAMS**	Pursue partnership and commitment from local institutions/major employers to establish Transportation Demand Management programs to incentivize employees to shift away from SOV use for commutes.	Advocacy, community organizing	<3	CMAQ / Foundations / PAAC	Institutions	Uptown Partners / OPDC / City
	Initial Action Steps - Establish meetings with large local institutions and employers to identify low-hanging fruit TDM strategies for implementation.						
X	**ESTABLISH A MAJOR-EVENT MANAGEMENT STRATEGY IN PARTNERSHIP WITH THE PPG PAINTS ARENA**	Consider a new event management strategy that emphasizes pre-sale and real-time feedback to reduce congestion caused by visitors searching for parking; shift emphasis to use of downtown lots for event parking and explore new shuttle services to supplement connections to more distant lots. Pursue pre-sale model for parking spaces closest to the PPG Paints Arena	Advocacy, planning	<3 (should include scenarios with 5th/Forbes under reconstruction) <6 Revise following BRT reconstruction	PPG Paints Arena / Private owners (parking management) / Port Authority Operating Budget / Pittsburgh Parking Authority / Advanced Transportation and Congestion Management Technologies Deployment (FAST Act)	PPG Paints	City / Parking Authority / Uptown Partners / PAAC
	Initial Action Steps - Pursue lot-owners closest to shift to a pre-sale model; encourage and facilitate adoption of digital sales solutions.						

3.6 INVEST IN BICYCLE INFRASTRUCTURE & CULTURE

METRICS 3 additional bike share stations; New and enhanced trail connection to Three Rivers Heritage Trail

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**INFILL EXISTING ON-STREET BIKE NETWORK WITH SAFE, ALL-AGES FACILITIES**	Ensure that important bike connections to/through Uptown support cyclists of all ages and abilities, and that facility design appropriately responds to the context.	Planning, advocacy	<3 (<6 5th/Forbes)	TA Set-Aside (SPC TAP) / CMAQ / City Capital Budget / Include with BRT Project Cost on 5th/Forbes	City	Uptown Partners
	Initial Action Steps - Pursue design of on-street bike facility along						
	MAKE THE BIKE COMMUNITY MORE VISIBLE	Increase visibility of the biking community through programs and events that celebrate the growing cycling community.	Community organizing	<3	People for Bikes Community Grant / CDBG - CBO	City	Bike Pgh / Riverlife / SPC / Uptown Partners
X	**EXPAND BIKE SHARE IN UPTOWN AND WEST OAKLAND**	Expand bikeshare in Uptown / West Oakland by 3 stations to make it a useful program for commuters and residents with 1/4 mile station area coverage. Implement e-assist bikeshare.	Planning, advocacy, installation	<6 (follow BRT reconstruction)	Federal DOT Grants / (CMAQ / Foundations / Highmark and Allegheny Health Network Sponsorship / Better Bike Share Grants	Uptown Partners	Healthy Ride / City
	Initial Action Steps - Pursue station funding sponsorship for additional Healthy Ride station in Uptown by local institutions.						
	GROW REGIONAL BIKE TRAIL NETWORK AND CONNECTIONS FROM UPTOWN	Create connections to existing trails, and construct new trails to make the most of open spaces in and around Uptown. Construct physical connections at Brady, Liberty/Armstrong to the Three Rivers Heritage Trail.	Planning, advocacy, installation	<10 or Ongoing	TA Set-Aside (SPC TAP) / City Capital Budget / Include with BRT Project Cost/Sources	City	Bike Pgh / Riverlife / SPC / Uptown Partners

4 INVEST IN SUSTAINABLE INFRASTRUCTURE

4.1 USE LANDSCAPING TO ENHANCE LOCAL QUALITY OF LIFE

METRICS: Increase in local food production, expanded tree canopy, # of acres of vacant land greened / maintained

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**ENCOURAGE ALTERNATIVE APPROACHES TO MANAGING VACANT LAND**	Seek to create a range of temporary and permanent landscape approaches on vacant land	advocacy, planting, maintenance	< 3 years	PWSA / City / Foundations	City	Uptown Partners
	Initial Action Steps - Work with the City to identify 1-2 pilot lots for improvement						
	MAXIMIZE LOCAL FOOD PRODUCTION OPPORTUNITIES	Enhance and expand community gardens and create a connected food corridor along the hillside	advocacy, best practice, zoning advocacy	< 6 years	Foundations	Grow Pittsburgh	Landslide Community Farm / MLK Community Gardens / Uptown Partners / Hill District Consensus Group / Hill House Association
X	**INTEGRATE STREET TREES**	Target new tree plantings on north-south streets to slow traffic and integrate new street trees in the reconstruction of Fifth and Forbes	advocacy, planting, maintenance	< 3 years	City Capital Budget / Port Authority / BRT	Tree Pittsburgh	City / Uptown Partners
	Initial Action Steps - Work with Tree Pittsburgh to create a tree planting plan for north-south streets						
	MANAGE DISTRICT VEGETATION	Develop planting plans for vacant properties and the hillside to create ecological diversity	advocacy, planting, maintenance	< 6 years	City Capital Budget / Foundations	Penn State Extension	City / Uptown Partners
	MONITOR AND IMPROVE ENVIRONMENTAL HEALTH	Undertake targeted soil testing and work with researchers to test water lead levels	advocacy, education, best practice dissemination	< 3 years	Institutions / PWSA	Universities	Uptown Partners

4.2 UPDATE UNDERGROUND INFRASTRUCTURE

METRICS: Gallons of stormwater diverted from the sewers, miles of updates laterals

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**FOCUS ON STORMWATER RETENTION STRATEGIES AT THE SURFACE TO EASE THE BURDEN ON SEWER SYSTEMS**	Design, implement and monitor initiatives to manage stormwater at the surface including new greens stormwater infrastructure and other landscape design approaches	Design, engineering, program design	< 3 years	PWSA/ALCOSAN / City Capital Budget CDBG / Foundations / DCED Neighborhood Assistance Program CFA Greenways / Trails and Recreation Program / Allegheny County CITF	PWSA	City / Uptown Partners
	Initial Action Steps - Coordinate with PWSA to design, engineer and install Green Stormwater Infrastructure						
	UPDATE SEWER / WATER LATERALS WHERE POSSIBLE	Use funding for Transit as the opportunity to address longstanding underground infrastructure issues	Design, engineering, program design	< 6 years	PWSA/ALCOSAN / PA Redevelopment Assistance Capital Program / City Capital Budget / CDBG / Allegheny County CITF / Include with BRT Project Cost/Sources	City	PWSA

4.3 CREATE AND EXPAND OPEN SPACE AMENITIES FOR RESIDENTS

METRICS: Gallons of stormwater diverted from the sewers, % of open space in the community, improved air quality / lower emissions

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**CREATE A NEW CIVIC PLAZA AT 5TH AND DINWIDDIE**	Create a new civic plaza at the junction of Uptown and the Hill District - should be actively programmed and designed to manage stormwater.	Design, engineering, maintenance, monitoring	< 6 years	City Capital Budget / CDBG / Foundations / PA Redevelopment Assistance Capital Program / DCED Neighborhood Assistance Program / CFA Greenways, Trails and Recreation Program / Allegheny County CITF	URA	City / developers / Uptown Partners / Dinwiddie Community Alliance
	Initial Action Steps - Begin design work on the civic plaza / develop an RFP for the remainder or the URA-owned parcels						
X	**EXPAND THE TUSTIN STREET GARDENS / TOT LOT INTO A COMMUNITY PARK**	Strategically improve the Tustin gardens and tot lot including a heavy focus on managing stormwater and design Tustin Street as a "shared street" designed to connect the gardens and tot lot.	Design, engineering, maintenance, monitoring	< 3 years	City Capital Budget / CDBG /Foundations / PWSA Growth Fund / CFA Greenways, Trails and Recreation Program / Allegheny County CITF	City	PWSA / Uptown Partners / Grow Pittsburgh
	Initial Action Steps - Growth funding for design starting in 2018						
X	**TRANSFORM THE HILLSIDE INTO AN OPEN SPACE AMENITY AND STORMWATER PARK**	Design and create a new hillside park that provides stormwater management, lookouts and trails designed to connect neighborhoods.	Design, engineering, maintenance, monitoring	< 3 years	City Capital Budget / CDBG / Foundations / DCED Neighborhood Assistance Program / CFA Greenways, Trails and Recreation Program / Allegheny County CITF	City	PWSA / MLK Gardens / Landslide community farm / Uptown Partners / Hill House / OPDC / Grow Pittsburgh
	Initial Action Steps - Grow funding for design starting in 2018						
	IMPROVE THE EASTERN EDGE OF UPTOWN AS A CLEAN AIR GATEWAY	Integrate air quality monitors and towers designed to absorb carbon emissions around the Birmingham Bridge - monitor the results and impact	Design, engineering, maintenance, monitoring	< 10 years	Foundations / Institutions	City	EPA / institutions / Uptown Partners / CMU
	DEVELOP A NEW STORMWATER PARK ON WATSON STREET ON THE WESTERN END	Create a blue alley along Watson where there are currently issues with flooding. Integrate new green space on Watson as a part of the design to serve the drop-in center.	Design, engineering, maintenance, monitoring	< 6 years	PWSA/ALCOSAN / City Capital Budget / CDBG / Foundations / DCED Neighborhood Assistance Program / CFA Greenways, Trails and Recreation Program / Allegheny County CITF	PWSA	City / Uptown Partners
	INTEGRATE NEW GREEN SPACE @ FORBES & STEVENSON TO CAPTURE STORMWATER	Design a green stormwater park at Stevenson and Forbes where there is currently issues with street flooding - design the space as a small plaza to bring together Mercy employees with neighborhood residents.	Design, engineering, maintenance, monitoring	< 6 years	PWSA/ALCOSAN / City Capital Budget / CDBG / Foundations / DCED Neighborhood Assistance Program / CFA Greenways, Trails and Recreation Program / Allegheny County CITF	PWSA	City / UPMC / Uptown Partners

4.4 CREATE NEW GREEN CONNECTIONS

METRICS: miles of trails, # of trail users, reduced carbon emissions

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**CREATE CLEAR CONNECTIONS TO THE HERITAGE TRAIL**	Expand and improve the sidewalk along Brady Street all of the way to 2nd Avenue / Create a new Heritage Trail Ramp under the highways	Design, engineering, installation, maintenance	< 6 years	City Capital Budget / CDBG / Foundations / DCED Neighborhood Assistance Program / CFA Greenways, Trails and Recreation Program / Allegheny County CITF	City	PennDOT / Uptown Partners
	Initial Action Steps - Develop design and engineering for Brady Street connection to the Trail / include GSI						
	IMPROVE COLWELL AS A GREEN CONNECTOR	Redesign Colwell Street to provide trail connections to and from the proposed hillside park.	Design, engineering, installation, maintenance	< 10 years	City Capital Budget / CDBG / Foundations / DCED Neighborhood Assistance Program / CFA Greenways, Trails and Recreation Program	City	Uptown Partners / Hill District / local institutions
	TRANSFORM BOULEVARD OF THE ALLIES INTO UPTOWN'S RIVERFRONT	Work to redesign Boulevard of the Allies to integrate a new trail, overlooks, greening and other amenities to create a true boulevard and improve safety.	Advocacy, design, engineering, installation, maintenance	< 10 years	Allegheny County CITF / TGF / City / EPA	City	Uptown Partners / UPMC Mercy / Duquesne / PennDOT

4.5 PURSUE DISTRICT ENERGY

METRICS: % reduction in carbon emissions, % reduction in building energy use, % reduction in energy costs

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**REDUCE ENERGY BURDEN**	Install high-efficiency lighting and HVAC systems and associated controls in commercial and residential buildings. Convert electric air conditioning to gas-fired absorption chillers and heat pumps. Home weatherization programs. Expand use of smart meters	installation, maintenance, community organizing, advocacy	< 3 Years	Peoples Gas /Urban Redevelopment Authority of Pittsburgh / Duquesne Light	Duquesne Light	Uptown Partners / City
	Initial Action Steps Work with Peoples Gas Co. to expand incentive programs to increase use of natural gas technologies to reduce customer energy costs and CO2 emissions. Expand home weatherization programs.						
X	**COORDINATE INFRASTRUCTURE INSTALLATION WITH BRT**	Coordinate with utility partners and institutional partners to take advantage of the opportunity to install 21st century communication in right-of-ways when as part of work infrastructure projects are undertaken.	design	< 3 Years	City	City	Duquesne Light / Uptown Partners
	Initial Action Steps Continue to integrate infrastructure into BRT design development						
X	**ESTABLISH MULTI-USER MICRO GRIDS**	Work with Duquesne Light and Pa. Public Utility Commission to develop a micro grid tariff. Require secure electric power via micro grids for critical facilities e.g. hospitals, gas stations, supermarkets, water and sewage treatment plants supermarkets, fire stations, traffic signals, etc.)	advocacy, education, community organizing	< 3 Years	CFA Alternative and Clean Energy Program / PA Dept. of Environmental Protection / PA Energy Development Authority	City	Duquesne Light / Urban Partners / Sustainable Pittsburgh / Green Building Association
	Initial Action Steps Work with Duquesne Light to get approvals from the PA Public Utility Commission to convert existing assets to micro grid service and to develop a micro grid tariff.						
X	**PROMOTE USE OF COMBINED HEAT & POWER**	Modify zoning and building codes to encourage developers to incorporate CHP and CHP-compatible HVAC systems in their building designs.	advocacy, education, community organizing	< 3 Years	CFA Alternative and Clean Energy Program / PA Dept. of Environmental Protection / PA Energy Development Authority /Foundations	City	Duquesne Light / Urban Partners / Sustainable Pittsburgh / Green Building Association
	Initial Action Steps Develop methods quantify the impact on property values and the City's sustainability goals if CHP were incorporated in zoning and building codes.						
	ENCOURAGE INSTALLATION OF SOLAR PV IN UNDERUTILIZED AIR SPACE	Identify "dead" air space zones and streamline permitting for installation of solar canopies in these spaces. Enlist support of philanthropic community to support solar electric supply programs for low-income population. Estimate the beneficial impact that grant-funded solar PV projects would have on in low-income subsidy program costs that are currently funded by ratepayers. Conduct a solar viability survey. Explore creation of a Solar Authority to fund and install solar PV on a district scale	planning, engineering, community organizing	< 6 years	Foundations / CFA Alternative and Clean Energy Program / PA Dept. of Environmental Protection / PA Energy Development Authority	City	Duquesne Light
	ENCOURAGE RECYCLING WASTE FOOD AS AN ALTERNATIVE ENERGY SOURCE	Encourage separation and collection of food waste at high-volume sources e.g. supermarkets, restaurants, and institutions. Streamline permitting for construction and operation of digester plants. Explore a digester plant associated with the prison	planning, engineering, community organizing	< 3 Years	CFA Alternative and Clean Energy Program / PA Dept. of Environmental Protection / PA Energy Development Authority	City	local institutions / Uptown Partners
X	**EXTEND THE 2030 DISTRICT INTO UPTOWN**	Work with GBA to promote and expand the district to cover the "mixed-use core" zoning proposed in the new Uptown public realm district.	advocacy, education	< 3 Years	GBA	GBA	City / Urban Partners
	Initial Action Steps Reach out to property owners in Uptown about the 2030 District						

4.6 BECOME A MODEL FOR INNOVATIVE WASTE MANAGEMENT AND UPCYCLING

METRICS: reduction of waste stream volume, recycling mandate compliance rate

Priority Project	Recommendation	Details	What kind of action does this require? (advocacy, organizing, development, etc...	When could this happen? (<3 years, < 6 years, < 10 years)	What are potential funding sources?	Who will lead this?	Who are the key partners?
X	**STRIVE TO BECOME A ZERO-WASTE COMMUNITY**	Work toward reducing waste that goes to landfills by 90% through education and coordination on recycling and composting	installation, maintenance, monitoring	< 10 years	Foundations / local businesses and institutions	Uptown Partners	City / Sustainable Pittsburgh / community gardeners / institutions
	Initial Action Steps - Work to undertake both zero-waste events and a plan for the community						
	ENFORCE RECYCLING MANDATE	Work to educate residents and encourage full compliance with City recycling	enforcement	ongoing	-	City	Uptown Partners
	PROVIDE PUBLIC TRASH AND RECYCLING RECEPTACLES WHERE NEEDED	Provide trash cans in the community and seek green power washing of sidewalks to improve the cleanliness of Uptown	installation, maintenance	< 3 years	City Capital Budget	City	Uptown Partners / institutions
	ESTABLISH A DISTRICT COMPOSTING PROGRAM	Connect the separated food waste of institutions with the needs of community gardeners and farmers - work toward residential composting program in Uptown	installation, maintenance, monitoring	< 6 years	Foundations / City Capital Budget	Grow Pittsburgh	City / institutions / Uptown Partners

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