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# **Transit-Oriented Development Typology Strategy for Allegheny County**



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**The Center for Transit-Oriented Development (CTOD) authored the report in partnership with the Pittsburgh Community Reinvestment Group (PCRG), on behalf of GoBurgh.** GoBurgh is the leading non-partisan voice on transit for the Pittsburgh region. With a rich knowledge base, extensive research-backed data and a wealth of information on transit-oriented issues, GoBurgh acts as a convener of organizations and communities in the Pittsburgh region, working toward sustainable and vibrant transit infrastructure.

GoBurgh exists as part of the Regional Policy program of the Pittsburgh Community Reinvestment Group (PCRG) and as such brings a community-oriented voice to transportation planning, integrates transportation and land use policies, and leverages transportation assets as community revitalization and economic development tools. GoBurgh also monitors and works with local, regional and state government agencies to ensure smart and equitable legislative policy development.

**The Center for Transit-Oriented Development (CTOD)** is the only national non-profit effort dedicated to providing best practices, research and tools to support equitable market-based transit-oriented development. CTOD partners with both the public and private market sectors to strategize about ways to encourage the development of high performing communities around transit stations and to build transit systems that maximize development potential. CTOD works to integrate local and regional planning, generate new tools for economic development, real estate and investment issues, improve affordability and livability for all members of the community, and respond to imperatives for climate change and sustainability. The Center for TOD is a partnership of Reconnecting America, the Center for Neighborhood Technology, and Strategic Economics. For more information go to CTOD’s website at <http://www.ctod.org>.

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# Executive Summary

Cities and regions from coast to coast are pursuing transit-oriented development (TOD) strategies as a way to achieve many goals, including increased economic competitiveness through improved quality of life, reduced congestion, lower transportation costs for households, improved air quality, reduced costs for providing city services, and growth management. The concept of TOD is becoming more popular as the number of regions planning light rail, bus rapid transit, and other fixed-guideway transit investments expands.

While other regions must spend hundreds of millions – or billions – to create transit-oriented communities, Allegheny County, fortunately, is well-poised to capture the creative labor force and new employers interested in the improved quality of life offered through transit-oriented living that its current fixed-guideway investments could catalyze. Many of the county's neighborhoods – and surrounding communities – were built around historic transit lines. A large share of neighborhoods near the T, Busways, and Incline stations are already walkable and include their own nearby community retail and service amenities. However, a more systematic approach to transit-oriented investments is needed to unlock the potential of these neighborhoods and draw regional economic growth. This Transit-Oriented Development Typology Strategy is designed to provide a framework for understanding what these transit-oriented investments are, where they can leverage the greatest economic potential, and how they can be funded and implemented.

This Strategy focuses on the region's fixed-guideway transit network, which includes the East, West and South Busways, the Blue Line and Red Line T, the Monongahela Incline, and the planned Downtown to Oakland Bus Rapid Transit corridor.

## What is Transit-Oriented Development?

Transit-Oriented Development, or TOD, by definition is the integration of transportation with surrounding land uses. This integration is accomplished through urban design, zoning, community development, and supportive infrastructure investments and results in neighborhoods where residents and workers can get around without a car. Rather than being defined by a particular mix of uses at a particular density, successful TOD is defined by shared traits like neighborhoods that foster transportation choices of all kinds and healthy communities with vibrant commercial districts serving the daily needs of the residents.

## TOD Opportunities and Constraints

*Many Allegheny County neighborhoods have characteristics of TOD, but topography and other barriers often limit full access to the transit stations or between neighborhoods.*

An advantage of most Allegheny County communities served by fixed-guideway transit is their physical form. Unlike many other regions, which would have to tear down or retrofit entire neighborhoods to support walkability, most neighborhoods around existing fixed-guideway stations could become significantly more transit-oriented with small- or moderate-scale, strategic access improvements.

However, many historic transit lines have been dismantled, leaving walkable communities that have become isolated from the region's major job centers. And for many of the areas that have retained fixed-guideway transit (e.g. the Red Line corridor), topography presents an access challenge to getting to stations, especially in communities with aging populations. In the case of the East Busway, the transit infrastructure itself, which operates alongside a major freight rail corridor,

presents a physical and psychological barrier.

***Economic and population patterns have shifted dramatically, but recent growth in the city of Pittsburgh suggests a surge in demand for TOD.***

Demographically, the region's generation-long socioeconomic remake has left it as a region of contrasts. Though the region serves fewer workers than it did 40 years ago and has lost significant population due to de-industrialization, land consumption growth has mirrored similar-size regions. However, Allegheny County recently hit its record high number of jobs, and job sprawl has been minimal compared to similar-size regions. Workforce transit use is one of the highest in the country, and while walking and biking (and overall transit use) have dwindled with the compounding effects of suburbanization and population outmigration, the city of Pittsburgh has seen a 269% increase in bike commuting since 2000 and ranks 5th among metros in bike/walk commuter mode share, 8th in transit commuters, and 7th in the combined active transportation category. The county and larger region lag significantly behind the city. However, through transit-oriented development, an opportunity exists to catalyze on Pittsburgh's history of walking and transit to expand affordable transportation choices to more residents. Both the city and region have recently reversed the long decline of population and continued aging of that population. The city itself, now significantly younger than the national average, has gained population as has the region. Both trends reinforce the need for investments around transit of all sorts – TOD, market-based capital investments, and operational improvements – as national demographic preferences show an increasing preference for transportation choice by young professionals.

***Access improvements will play a key role in stimulating economic revitalization in many communities.***

The Pittsburgh Community Reinvestment Group (PCRG), through its GoBurgh Initiative, and PCRG's members are interested in transit and TOD because they

understand the enormous impact that access improvements can have on the vitality of the neighborhoods in which they work. One of the most vivid regional illustrations of this point took place when PennDOT restored parts of the Penn Circle loop in East Liberty to its historic, two-way traffic pattern at the urging of the community, developers and prospective tenants, including Target and Whole Foods. Such access changes may seem minor but can unlock significant pent up potential for reinvestment in communities by calming traffic and livening the street.

Access improvements that result in economic revitalization extend well beyond the experience in East Liberty. In every interview that this report's authors conducted with CDCs, other neighborhood groups, and municipal representatives throughout the region, access improvements floated to the top of the list of key activities that could contribute to economic revitalization.

Many communities lack the paid staff time needed to implement these changes. While some neighborhoods and municipalities have highly experienced planning staff or community development corporations in place to support TOD planning and implementation, some neighborhoods within Pittsburgh, boroughs, and townships lack staff who can advocate on a daily basis on their behalf. But the economic revitalization of these communities depends on giving them the tools to zone for and implement their own area plans.

***Transit and TOD are also key to future regional economic competitiveness.***

With these access challenges and their impact on the vitality of neighborhoods, Allegheny County faces critical choices in how it invests in moving residents around. To ensure that downtown Pittsburgh can add jobs and remain competitive with suburban job centers, new investments to improve commute times are necessary. The good news is that improving access to the region's transit system could help alleviate road congestion and offer an alternative to those bottlenecked

drivers. If traffic continues to worsen, transit becomes all the more attractive, offering commuters less time spent traveling. The even better news is that improving transit access is a cheaper option: fundamentally, widening roads into hillsides will be vastly more expensive and intrusive into nearby communities than improving access to station areas and increasing transit frequency.

By tapping into the region's transit assets, uplifting surrounding neighborhoods, and highlighting their access to major centers of economic activity like Downtown and Oakland, the region can continue to capture the young professionals interested in living in neighborhoods where they don't need a car and can walk, bike, or take transit to work, to see friends and run errands. Neighborhoods near fixed-guideway stations will draw both investors and new potential residents seeking a certain quality of life.

## Transit Operations and TOD

With the Port Authority facing perhaps the largest fiscal crisis in its history, it may seem like transit-oriented development is a low priority where transportation issues are concerned. However, the converse is true – the time has never been better. By reinvesting in the land uses and street infrastructure surrounding the Port Authority's fixed-guideway system, TOD will ultimately make accessing and using the system a significantly easier and more pleasant experience. This in turn could significantly boost ridership and farebox recovery for the Port Authority. TOD cannot fill the operating deficit, but can play a significant role in ensuring that the revenue generated through ridership is bolstered and stable.

Of course, TOD requires stable, reliable transit service in order to work. To ensure that investors and new residents and businesses are willing to plant roots in the communities with fixed-guideway stations, they must be sure that the stations are going to be a permanent asset. Solving the Port Authority's fiscal crisis will be a key step to ensure TOD – and its related benefits – move forward. Conversely,

any financially-driven service alterations should place higher priority on preserving or even increasing fixed-guideway service to preserve the core system and keep transit- and place-based investment viable and attractive.

## TOD Implementation Activities & Priorities

While new development can play a key role in TOD, it is not necessarily the first, or best place, for many neighborhoods to start achieving the goals of TOD. This is particularly true in neighborhoods that are already fairly walkable but which lack the market strength to catalyze new development. This strategy divides TOD implementation activities into five distinct categories:

- Capacity Building, Visioning, and Planning
- Local Access Improvements
- Revitalization and Building Re-use
- New Development
- Regional Access and Transit System Improvements

Each of these categories encompasses a broad range of activities that may be more appropriate in some station areas than others. These are described in Chapter III.

## The TOD Typology

Given the sheer size and reach of Pittsburgh's fixed-guideway transit system, TOD implementation at the countywide scale can seem daunting. With over 100 light rail and busway stations and limited resources to address their diverse needs, the time is right to strategically organize and guide efforts to optimize the system through planning and community development.

The typology, or method of sorting the region's busway and rail station areas into different types, is designed to help PCRG and its local partners better leverage TOD potential across the region. The typology classifies station areas into five place types that have similar implementation needs. *The typology does not supplant*

local planning efforts, but rather helps guide and focus community development activities in smaller communities and lower-capacity neighborhoods as the real estate market steadily rebounds.

By factoring in existing elements of the built (*places*), social (*people*) and development and political (*potential*) environments, the typology is a holistic measure of a community's current overall transit orientation and relative market strength. On one axis it includes a composite transit orientation index that captures a blend of existing physical and social characteristics proven to generate transit ridership and walking and biking trips. This index includes the following specific measures of transit orientation:

- **People:** The number of residents and workers in an area has a direct correlation with reduced auto trips;
- **Places:** Areas with commercial urban amenities such as restaurants, grocers, and specialty retail not only allow residents to complete daily activities without getting in a car, but they also improve the likelihood of higher density development by increasing residential land values;
- **Physical Form:** Small block sizes promote more compact development and walkability;
- **Population:** The percentage of households with access to one or fewer vehicles reflects the transit dependence of a station area;
- **Proximity:** Transit travel times to a region's major employment and activity center is a proxy for regional accessibility. An extensive recent meta-analysis of land use and travel behavior studies found that vehicle miles traveled are inversely related with distance to a region's core downtown.

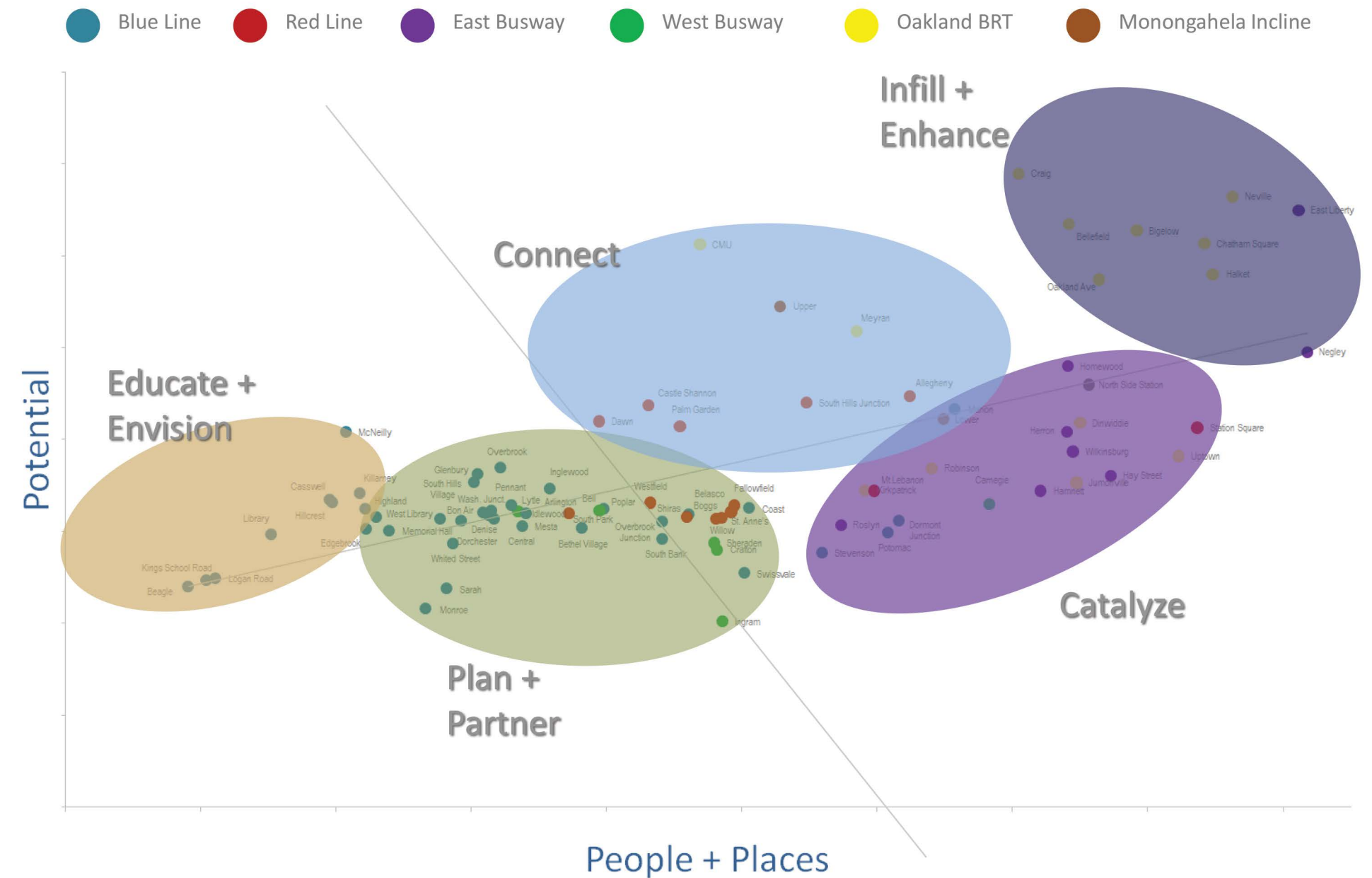
The other axis of the typology measures the near-term potential for new investment and development within station areas. To capture the existing market condi-

tions and future market potential of individual transit communities, this axis also uses a composite measure comprised of the following factors. Again, these factors are kept somewhat basic and can be updated over time as station area conditions change:

- **Sales:** Average real estate sales per square foot from 2000 to 2011. By controlling for size and capturing sales over multiple market cycles, this measure provides a relative order of magnitude comparison over time;
- **Rents:** Average residential rents based on 2010 Census data. Higher achievable rents are more likely to attract new TOD market interest;
- **Land Availability:** Acres of underutilized land within each station area. Some land – but not an excess of land – should be available for new development to offer potential for change;
- **Capacity:** Qualitative rating of a station area's public and private capacity to attract and foster development. Factors going into this rating included, but were not limited to, planning initiatives (station area planning, zoning); the presence of a redevelopment authority; recent development activity; and the relative experience of community development organizations in community organizing, planning, implementation, and securing funding and financing for projects.

The juxtaposition of the People + Places (transit orientation) and Potential (for new investment) axes provides the framework whereby the county's busway, T, Monongahela Incline, and planned Downtown-Oakland BRT stations can be clustered in a series of implementation place types. *Figure ExS-1* illustrates how each station area scores in terms of the two axes. Generally speaking, the East Busway and proposed Downtown-Oakland BRT stations perform at the higher ends of both spectrums. While inner Red Line and West Busway stations score moderately well on both measures, the more suburban Blue Line stations tend to

Figure ExS-1: Five Place Types Based on TOD Orientation (People + Places) and Investment Potential



demonstrate lower performance in terms of the physical, social and market environments.

By identifying station areas that naturally cluster together on these two axes, it is possible to generate implementation place types where the needs and opportunities are similar.

These place types are:

- Infill + Enhance
- Catalyze
- Connect
- Plan + Partner
- Educate + Envision

Figure ExS-2 provides a map of the station area place types.

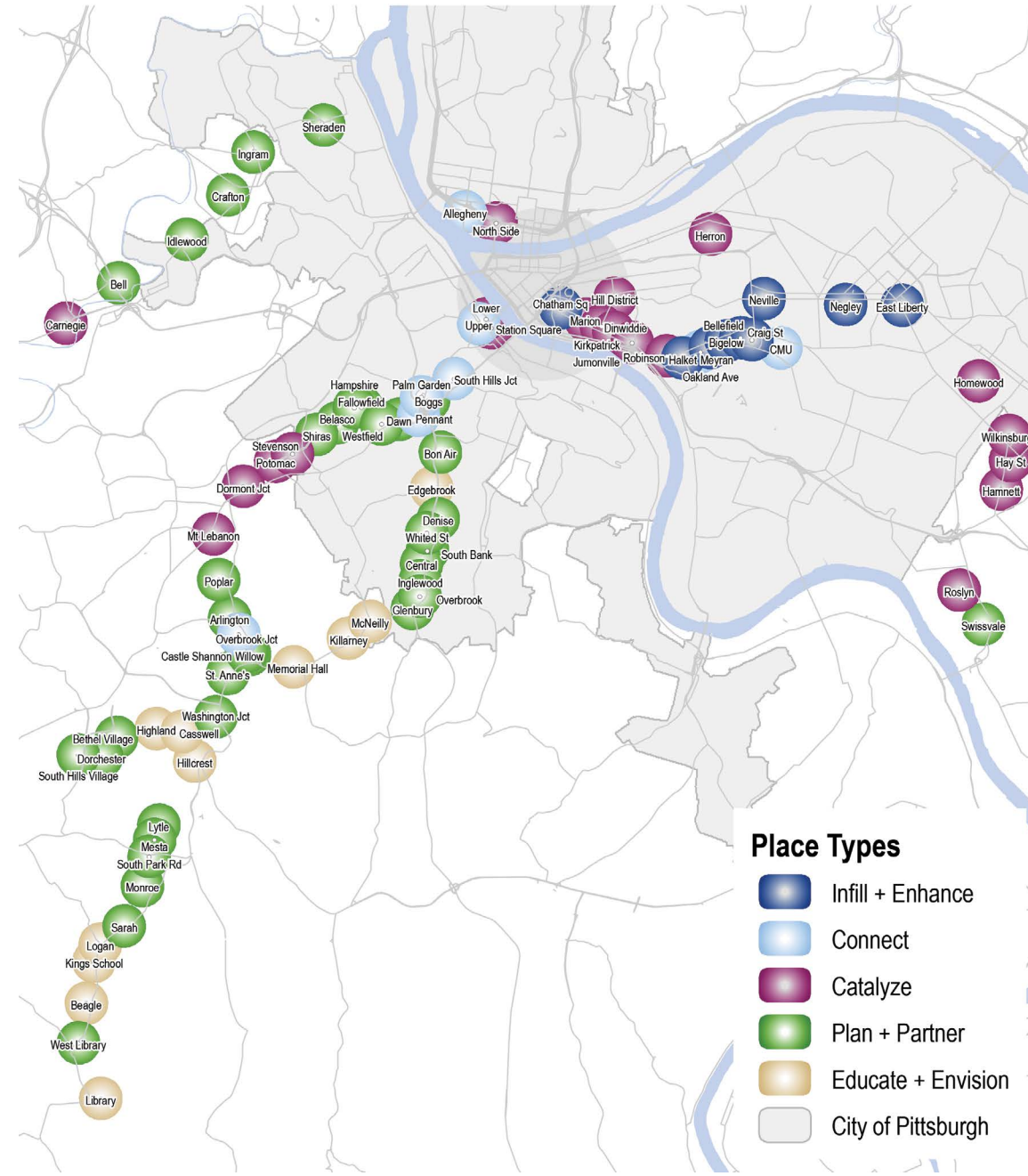
### Prioritization

The place types inform the prioritization of the implementation activities described in the previous chapter. With scarce time and financial resources available for implementation, it will be important for county, regional, and statewide agencies, advocates, philanthropy and other actors to make systematic, informed investments that leverage the greatest impact in station areas.

Certain activities will be more effective in some place types than others. Table IV-1, in Chapter IV, shows broadly how the clusters of activities could be prioritized in the different place types based on whether they would be more or less able to leverage significant change.

The place type information and data behind each station area can also inform community-based groups and municipalities in understanding the needs in their station areas. Appendices B

Figure ExS-2: Map of Place Types by Station Area



and C offer more detailed data and charts showing the relative performance of each station area on the eight indicators that are used to create the place types. By identifying indicators where station areas score lower than their peers, local groups and agencies can consider the range of TOD implementation strategies that might help address these shortcomings and increase the potential for TOD.

### Place Type Findings

Below are some of the overall findings about the various needs for transit-oriented development, based on the classification of the region's 100 station areas into the above five place types.

#### Infill + Enhance

- **Much of the proposed Oakland-Downtown corridor already outperforms the existing fixed-guideway transit network in its transit orientation and market potential.** The majority (7 of 9) of the Infill + Enhance station areas are along the proposed BRT corridor. Higher-quality transit, placemaking, and access improvements to stations along this corridor could help capture the pent-up demand for TOD from these areas and within the

Table ExS-1: Prioritization of Implementation Activities by Place Type

	Building Capacity of Local TOD Champions	Planning/ Visioning	Access Improvements	Community and Economic Revitalization	Catalytic Development
Infill & Enhance	Low	Low	Medium	Medium	Medium
Catalyze	High	Medium	Medium	High	High
Connect	Medium	High	High	Medium	High
Plan & Partner	High	High	Medium	Low	Low
Educate & Envision	Medium	Medium	Low	Low	Low

Catalyze station areas in the Hill District and Uptown.

- **Interventions to catalyze TOD should be modest to minimal in these station areas.** Following the matrix in Table ExS-1, prioritization of financial public investment or organizational capacity in these areas is at a lower priority than for other place types. All Infill+Enhance place types already enjoy strong market and physical form, and have a high degree of capacity on the ground for TOD. Scarce resources should be focused in other areas.

#### Catalyze + Connect

- **28 station areas fall into either the Catalyze or Connect place types.** The concept behind both the “Catalyze” and “Connect” place types is that transit-oriented development is achievable with minor investments. Small to moderate investments in these station areas could significantly boost regional economic competitiveness by offering ample opportunities for a high quality, transit-rich lifestyle.
- **Many of these station areas need some kind of pedestrian access enhancement in order to catalyze TOD.** Clearly, the station areas falling into

the Connect place type are in need of pedestrian and bicycle improvements. Yet, even among the many Catalyze station areas on the East Busway, increasing pedestrian access – particularly over or under the East Busway alignment – has already been identified as a key revitalization strategy. This reinforces the need for new funding sources to help pay for improvements such as pedestrian bridges and tunnels, sidewalk enhancements and bicycle lanes.

- **There is a need to increase the capacity and coordination of both public agency staff and community groups in some of these station areas.** One recommendation is to develop a regional program to increase capacity by leveraging the experience of high capacity neighborhoods, and offering technical assistance and best practices, potentially along transit corridors.
- **These station areas represent the best “bang for your buck” in terms of both capital and capacity investments to catalyze TOD.** Targeted investments in these station areas could yield the largest return for TOD due to their place type. More information on suggested station area activities, for both Catalyze + Connect, are provided within this report.

### Plan + Partner

- **The majority of station areas fall within the Plan + Partner place type.** Therefore, further evaluation and monitoring of these station areas is needed to identify locations with an interest in transit-oriented development.
- **Plan + Partner place types, in their current state, are not strong candidates for infrastructure investments.** A lack of the necessary capacity, market forces, and/or physical form mean that significant infrastructure investments in these place types, at this time, would yield little return in regards to TOD.
- **Offering regional incentives to plan for TOD, such as readily available planning or infrastructure grants, could help identify the interested sta-**

**tions in need of support.** While not all of the Plan + Partner station areas may be interested in TOD today, those that are should receive technical support if needed, in order to generate community support, create a vision, and develop a plan for implementation.

- **Continued monitoring of these station areas is important.** Since conditions and politics change over time, some Plan + Partner stations may shift into a different category and need further intervention.

### Educate + Envision

Most Educate + Envision station areas are not strong candidates for TOD. Unless there is evidence that a community with an Educate + Envision station area is interested in TOD, these stations do not offer the urban form or support required to readily achieve TOD benefits.

## Countywide Recommendations

### Seven Key Strategies for TOD

Each station area in Allegheny County’s system has its own set of implementation needs to support transit-oriented development. The typology offers a framework for prioritizing and understanding these needs at a glance. There are additionally seven strategies that agencies and advocates can deploy to support and catalyze momentum for transit-oriented development across the entire transit system, regardless of place type:

1. **Modify transit station design and system operations to support TOD.** There are a number of modifications that the Port Authority could make to the system that could provide a significant boost to the TOD potential of current station areas without necessarily increasing operating costs on the system. These include rebranding the busway lines and 28x, enhancing fare collection to be speedy and consistent, and offering timed

transfers to other buses at fixed-guideway stations with visible signage and maps to facilitate those transfers. Improvements to existing stations – including additional shelters, at-grade boarding, and bicycle storage – could also support transit-oriented development by increasing the sense of permanence on the corridors. Further, additional planned fixed-guideway lines could enhance ridership, open connections to key destinations like Oakland, and allow for development near downtown Pittsburgh in the Strip District and Uptown neighborhoods.

2. **Address gaps in funding availability for small- to midsize infrastructure improvements.** The majority of stations in the system could benefit from small-scale infrastructure improvements in the form of pedestrian paths, bridges, and tunnels, improved sidewalks, bicycle lanes and other bicycle infrastructure, and station area signage. The 28 stations falling in the Catalyze + Connect place types are high priority locations, because these investments could have a transformative effect on the surrounding neighborhoods by boosting the ability of transit to be an economic and revitalizing asset for the communities. Many of the Plan + Partner and Infill + Enhance station areas, could also benefit from these improvements. However, the availability of funds for projects in the \$1 to \$5 million range is limited, and these can be significant projects for resource-constrained municipalities to take on without assistance. Regional, state or local funds can be used to fill this funding gap as can value capture mechanisms like TIF or TRID.

3. **Offer a consistent source of funds for station area visioning and planning.** Many agencies outside the city of Pittsburgh do not have the resources to fund TOD plans themselves. Further, without the enticement of funding, some municipalities may not see any need to garner support for TOD principles in their station areas. State and regional agencies should offer more consistent tools to fund district and area wide planning.
4. **Build capacity of agencies and community groups in Catalyze and Plan + Partner station areas.** Public agencies and community groups in some Catalyze and Plan + Partner station areas may not have the capacity to advocate for TOD-related strategies. They may lack experienced paid planning staff, may need additional expertise in securing funding for activities and projects, or may need technical support on specific planning efforts. This could be addressed through the development of a regional capacity building system that leverages technical expertise of more experienced CDCs and agency staff, public incentives such as grant programs for TOD planning, or corridor working groups that are used to share information and advocate on behalf of larger, corridor-wide issues.
5. **Integrate the typology approach into regional and corridor sustainability efforts.** The typology approach developed for this Strategy has been designed to be quantitative and replicable over time. Further, the data behind the typology is available at the countywide or even regional scale, meaning the typology could be replicated for other corridors, neighborhoods, or communities. The largely quantitative nature of the typology also provides a relatively neutral tool for making decisions about the allocation of funding for agencies such as Allegheny County or the Southwestern Pennsylvania Commission, which are responsible to every municipality regardless of transit proximity. As a result, this typology will make an excellent tool to inform future investment decisions, or to simply



evaluate the needs of different communities in order to support greater transportation choices and alleviate congestion.

6. ***Pursue regulatory changes to support TOD and transit use near central destinations.*** Regional destinations into which the transit system feeds are unique locations where regulatory changes can change the behavior of transit riders, drivers, and commuters from across the region. These areas are therefore regional priorities for dynamic, thoughtful parking pricing, zoning and other land use regulation, and ongoing monitoring and response of regulations as conditions change.
7. ***Create a short-term work plan identifying key typology-informed actions for PCRG's GoBurgh Initiative.*** GoBurgh already plays a key role in advocating for modifications to transit policy. GoBurgh is a key leader in advocating for many of the strategies above, and developing future capacity building and TOD implementation systems.

# I. Introduction

Cities and regions from coast to coast are pursuing transit-oriented development (TOD) strategies as a way to achieve many goals, including increased economic competitiveness through improved quality of life, reduced congestion, lower transportation costs for households, improved air quality, reduced costs for providing city services, and growth management. The concept of TOD is becoming more popular as the number of regions planning light rail, bus rapid transit, and other fixed-guideway transit investments expands. Today more than 40 regions have a light rail or BRT line (compared to 28 in 2000) and there are 721 planned new transit corridors in 109 regions across the United States. At current federal funding levels, it would take 78 years to meet the full demand for new transit systems today.<sup>1</sup>

Fortunately, Allegheny County is well poised to capture the creative labor force and new employers interested in the improved quality of life offered through transit-oriented living that its current fixed-guideway investments could catalyze. Many of the County's neighborhoods – and surrounding communities – were built around historic transit lines. A large share of neighborhoods near the T, Busways, and Incline stations are already walkable and include their own nearby community retail and service amenities. However, a more systematic approach to transit-oriented investments is needed to unlock the potential of these neighborhoods and draw regional economic growth. This TOD Typology Strategy is designed to provide a framework for understanding what these transit-oriented investments are, where they can leverage the greatest economic potential, and how they can be funded and implemented.

<sup>1</sup> Reconnecting America, Jumpstarting the Transit Space Race, 2013. <http://bit.ly/U5Ja3j>

## What is “Transit-Oriented Development?”

TOD, by definition, is the integration of transportation with surrounding land uses. This is accomplished through urban design, zoning, community development, and supportive infrastructure investments, which results in neighborhoods where residents and workers can get around without a car. There is no one-size-fits-all TOD in terms of the mix of land uses, density, or building types; TOD can include compact, single-family residential neighborhoods or major downtown areas with multi-story office buildings. Further, TOD does not necessarily entail substantial new development; TOD can also include investments such as sidewalk and bike improvements, parks, affordable housing preservation, and commercial revitalization. Successful TOD is defined by shared traits like neighborhoods that foster transportation choices of all kinds and healthy communities with vibrant commercial districts serving the daily needs of the residents.

## Fixed-Guideway Transit

The entire non-automotive transportation network, including rail, busways, fixed route buses, special services for the elderly and disability communities, sidewalks and bike lanes, is critical to providing transportation choices and achieving the vitality found in TOD. But TOD planning commonly focuses on the walkable area surrounding light rail or busway stations operating in their own dedicated right-of-way, referred to as a fixed guideway. Traditional TOD definitions focus on fixed-guideway stations because these major transit infrastructure investments are visible and permanent; they provide a greater level of certainty to investors, developers, and prospective families and businesses that the transit will always stay in one place, will always operate, and will always move people to destinations along the line. This sense of certainty reduces the level of risk for investors and

attracts residents who want to live near transit but who otherwise may not have considered living in the surrounding neighborhood. Developers and businesses can also build fewer parking spaces, knowing the transit provides permanent quality access to and from key destinations.

This typology focuses on the region's fixed-guideway transit network, which includes the East, West and South Busways, the Blue Line and Red Line T, the Monongahela Incline, and the planned Downtown to Oakland Bus Rapid Transit corridor (the Duquesne Incline was omitted due to current utilization rates and patterns). As the entirety of this network falls within Allegheny County, the county is the largest geography used in this strategy, unless specific reference is made to the Southwestern Pennsylvania Commission (the regional agency that serves the ten-county greater Pittsburgh region as determined by the federal government).

## Purpose of this Strategy

This strategy offers a countywide framework for understanding the key transit-oriented investments that can unlock TOD potential in Allegheny County to leverage the economic, environmental and fiscal benefits of TOD. Resources for investment in TOD infrastructure and planning will always be scarce; thus, this strategy will help coordinate and prioritize those resources in the places where they will have the greatest impact. The strategy further evaluates the current system for TOD implementation, including the activities needed, actors involved, and funding source available (or not available), to identify key policy changes or other activities that can help expand resources.

The strategy is not a plan that supplants any local planning efforts. It does not make recommendations about the land uses that are appropriate in a station area; it is purely an implementation document. While subsequent chapters provide significant data-driven information about the broad needs of different station areas in the system, further analysis is needed at the local level to identify specific

projects that could make the greatest difference in each station area.

## How to Use This Strategy

This TOD strategy has four key sections that regional, countywide, and local practitioners can use to inform their activities around TOD:

**Implementation (Chapter III):** The implementation matrix identifies a detailed set of activities that might be included in each of the implementation categories prioritized in the typology. Local public agencies and CDCs may want to use the implementation matrix to help explore the specific implementation or investment needs in a station area. Further, the “actors” column of the matrix identifies the public agency, philanthropic partner, nonprofit organization, etc. who might take the lead or a supporting role in implementation of each activity, and can act as a guide for coordination of roles and responsibilities in a given station area.

**Prioritization (Chapter IV):** The Typology classifies station areas based on their big-picture implementation needs using the implementation categories from Chapter III. At the regional scale, this tool can be used to identify key priority locations for allocating different funding resources. Nonprofit organizations like the Pittsburgh Community Reinvestment Group (PCRG) and its members can use the typology to identify station areas where an investment in capacity building could leverage significant change. Community members may want to use the typology to identify station areas with similar characteristics to theirs, to share best practice examples of TOD implementation. The typology can also help communities without significant technical capacity to get a sense of where and how to get started.

**Funding (Chapter V):** The funding and financing matrix can act as a guide to the current funding programs that are available for community groups or devel-

opers seeking to implement a catalytic project<sup>2</sup>. The funding and financing matrix also provides regional and state advocates recommendations for policy changes that could address key gaps in currently available funding sources. This information can be used to set a future shared policy agenda or make the case to elected officials that new funding sources are needed.

**Station Area Data (Appendices):** The radar graphs and indicators are the background data used to create the typology. They include five variables related to the urban and social environments, and three variables related to market potential. These pieces are included in Appendices A and B. Individual community development corporations (CDCs) or public agencies can use the radar graphs and indicators to identify specific areas within their communities that are in need of intervention; for example, a radar graph may show a community that enjoys walkable blocks, but lacks the density needed to support existing or enhanced transit service. This will enable communities to understand their relative position in the typology as well. Developers may also be interested in evaluating the individual radar graphs and indicators to find station areas with key desirable characteristics, like transit-oriented urban form and a mix of uses, moderate land values, and some developable land. This could help developers and investors identify new station areas in which to invest.

## Strategy Guide by Reader

State, regional, and county agencies can use this strategy to understand the need for new tools and programs and develop effective and efficient allocation criteria across the transit system, county, and region.

**Municipal Agencies and Community-Based Organizations** can identify next steps in local transit-oriented development at individual station areas, and

<sup>2</sup> The financing matrix is current only as of the end of 2012 and state and local funding sources may ebb and flow over time.

view current performance across a range of indicators.

**Advocacy Groups** can use this strategy to define and make the case for shared agendas for change to policies, programs and funding streams at the local, regional, state and federal scale.

**Developers and Private Investors** can identify those station areas that are prime for new development or investment, and station areas in which to forge partnerships with high capacity agencies or community based organizations to leverage untapped market potential.

**Philanthropy** can identify regional and local activities to be supported through programmatic funding, and evaluate the potential larger catalytic impact of project scale investments.

## II. Regional TOD Opportunities & Constraints

This chapter summarizes transit-oriented development opportunities that are shared throughout the fixed-guideway transit system, or that could be leveraged systemwide to achieve TOD benefits. It also summarizes constraints and challenges to transit-oriented development that are shared across many station areas in the system. For a more in-depth evaluation of existing TOD opportunities and constraints, please refer to the Pittsburgh Regional TOD Strategic Plan and Typology: TOD Opportunities and Constraints report published in preparation for this strategy (May 2012).

### Urban Form

#### Much of Allegheny County is inherently transit-oriented

Allegheny County has a competitive advantage when it comes to achieving successful TOD in that most of its neighborhoods were built around walking and transit and are inherently transit-oriented today. Many communities in Allegheny County – both on and apart from the existing rail and busway systems – were

built around early 20th century streetcar and rail lines that took workers to their jobs. During that time, the hilly terrain of the region also helped funnel growth into compact, mixed-use neighborhoods and towns.

#### The county's centers of economic activity are more concentrated than in other regions

Demographically, the region's generation-long socioeconomic remake has left it as a region of contrasts. Though the region serves fewer workers than it did 40 years ago and has lost significant population due to de-industrialization, land consumption growth has mirrored similar sized regions. However, there are now more jobs within Allegheny County than at the peak of industry<sup>1</sup> and job sprawl has been minimal compared to similar sized regions. A 2009 Brookings study showed that compared to 44 other regions with large employment centers, the 7-county MSA has the 7th highest share of jobs within three miles of the Central Business Dis-

<sup>1</sup> Allegheny County, Allegheny Places: The Allegheny County Comprehensive Plan Executive Summary. December 2008.

#### Transportation access impacts the economic vitality of communities

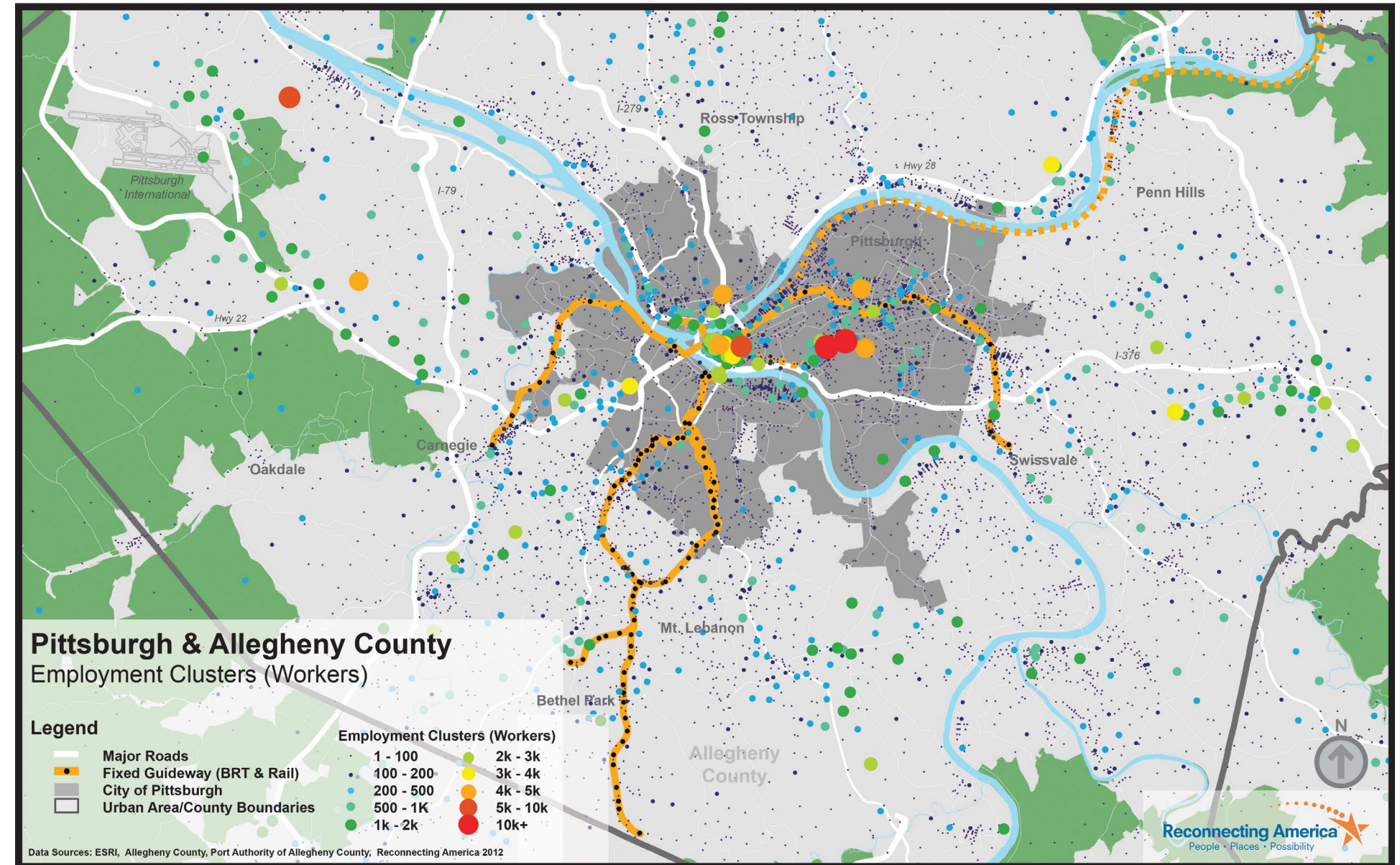
Pittsburgh and most of its inner ring suburbs were formed around a transit network emphasizing streetcars and walking. Whole neighborhoods were built to ensure workers could easily get to steel mills and other jobs along the rivers on foot or rail. But as jobs have shifted to office buildings and business parks, and the streetcar and incline networks were removed, some of these neighborhoods have experienced economic decline as jobs have become more

and more challenging to reach.

In some neighborhoods, access challenges have exacerbated an economic downturn. Residents of the Overbrook neighborhood and nearby boroughs like Brentwood, Baldwin, and Whitehall once enjoyed 5- to 10-minute commutes, but now sit in traffic on bottlenecked roads for upwards of 40 minutes. Traffic has changed the demographics of Overbrook and

some of the south suburbs, with some areas experiencing declines in income, educational attainment, and homeownership while vacancy has increased over the last decade. This has prompted groups like Economic Development South to prioritize projects that increase access to the Blue Line and South Busways, to speed more commuters to downtown in a quarter of the time it takes to drive and reinvigorate the desirability of these neighborhoods.

Figure II-1: Employment Clusters in Allegheny County, Relative to Fixed-Guideway Transit Network



trict.<sup>2</sup> *Figure II-1* shows the location of clustered job centers in the region.

CTOD's own research on the impact of transit on development shows that station areas just outside of major job centers have the greatest potential to attract private real estate investment.<sup>3</sup> This underscores the importance of continuing to invest in new quality transit systems linking Downtown and Oakland to areas with significant developable land, like the Strip District and Uptown, and the North Shore. Their proximity to downtown suggests these areas have the strongest potential to benefit from new fixed-guideway improvements. It also underscores the significant development potential opened up with the completion of the North Shore Connector – particularly with the currently undeveloped land around both North Shore stations.

## Topography

### Overcoming access challenges is a key priority

One challenge for Allegheny County is that many of the historic transit lines have been dismantled, leaving walkable communities that have become isolated from the region's major job centers. And for many of the areas that have retained fixed-guideway transit (e.g. the Red Line corridor), topography presents an access challenge to getting to stations, especially in communities with aging populations. In the case of the East Busway, the transit infrastructure itself, which operates along an existing freight rail right-of-way either in an underpass or on an elevated trestle, presents a physical and psychological barrier.

An advantage of most of Allegheny County's communities that are served by tran-

<sup>2</sup> Kneebone, Elizabeth, "Job Sprawl Revisited: The Changing Geography of Metropolitan Employment," Metro Economy Series for the Metropolitan Policy Program at Brookings. Washington, DC: Brookings Institution, April 2009. <http://bit.ly/11sy9pW>

<sup>3</sup> Center for Transit-Oriented Development, "Rails to Real Estate: Development Patterns Along Three New Transit Lines." Sponsored by the Federal Transit Administration, March 2011. <http://ctod.org/portal/node/2302>

sit, however, is their physical form. Unlike many other regions, which would have to tear down or retrofit entire neighborhoods to support walkability, most neighborhoods around existing fixed-guideway stations could become significantly more transit-oriented with small or moderate scale, strategic access improvements. For example, as suggested by the Bridging the Busway effort in Homewood and North Point Breeze, improving pedestrian connections and conditions across the East Busway could unlock significant pent-up market strength and help knit together neighborhoods to the north and south. The same principle applies in the southern suburbs and city neighborhoods: ensuring that local residents near Blue Line stations can find the stations and access them on safe, comfortable paths could vastly boost ridership on the T and South Busway.

### Even with these challenges, the county's topography lends itself to transit use

Pittsburgh's unique topography has played a significant role in shaping the development and transportation patterns of the region. Some transit stations – particularly along the T corridors – face significant challenges in improving access because they are nestled at the base of valleys or the peak of hills. But the road system is also constrained, and topographically-defined bottlenecks take their toll on workers sitting in traffic to reach the region's major job centers. Though the region serves fewer residents than it did 40 years ago and employment sprawl has been relatively minimal, historic residential suburbanization trends have resulted in more congestion within topographically constrained corridors.

With these access challenges and their impact on the vitality of neighborhoods, Allegheny County faces critical choices in how it invests in moving residents around. To ensure that downtown Pittsburgh and Oakland can add jobs and remain competitive with suburban job centers, new investments to improve commute times are necessary. The good news is that improving access to the region's transit systems could help alleviate road congestion and offer an alternative to

those bottlenecked drivers. If traffic continues to worsen, transit becomes all the more attractive, offering commuters less time spent traveling.

The even better news is that improving transit access is a cheaper option: fundamentally, widening roads into hillsides will be vastly more expensive and intrusive into nearby communities than improving access to station areas and increasing transit frequency.

## Community and Economic Vitality

### TOD investments will boost the vitality of nearby communities

The Pittsburgh Community Reinvestment Group (PCRG), through its GoBurgh Initiative, and PCRG's members are interested in transit and TOD because they understand the enormous impact access improvements can have on the vitality of the neighborhoods in which they work. One of the most vivid regional illustrations of this point took place when PennDOT restored parts of the Penn Circle loop in East Liberty to its historic, two-way traffic pattern at the urging of the community, developers and prospective tenants, including Target and Whole Foods. Such access changes may seem minor but they can unlock pent up potential for reinvestment in communities by calming traffic and livening the street.

Access improvements that result in economic revitalization extend well beyond the experience in East Liberty. In every interview that this report's authors conducted with CDCs and other neighborhood groups and municipalities throughout the county, access improvements floated to the top of the list of key activities that could contribute to economic revitalization. A number of these are described in the sidebar on the following page.

### TOD will boost regional economic competitiveness.

A 2012 study by The Economist magazine's Economist Intelligence Unit ranked regions across the globe based on their ability to be competitive by attracting capi-

tal, businesses, talent, and visitors. The study found that while the business and regulatory environment is important, the "quality of human capital" and quality of life were factors integral to the success of the highest ranking regions. As the report notes, "Many firms fight to attract highly educated and skilled workers, and as such many choose new [regions] for growth on the basis of the potential talent pool located there...a more knowledge-oriented economy is exacerbating this process." The report goes on to identify key factors supporting or impeding competitiveness, including offering a lifestyle that attracts this talent pool, and alleviating congestion.<sup>4</sup>

Its excellent quality of life coupled with a growing knowledge-based sector has led Allegheny County to experience a surge in the in-migration of young professionals over the last several years which has been well documented by the media. In March 2012, Forbes Magazine identified Pittsburgh as a "Comeback City," citing Allegheny County's population growth in 2009. The Post-Gazette reported an increase in population from 2009 to 2010 across the entire 10 county region. The article added that the city of Pittsburgh is getting younger: whereas the median age was 35.5 in 2000, it was 33.2 in 2010.<sup>5</sup>

These young workers are also more likely to have a college degree than young professionals in many other regions. Of the 366 metros with populations above

<sup>4</sup> Economist Intelligence Unit and Citigroup: [citiforcities.com](http://citiforcities.com)

<sup>5</sup> Bruner, Jon, "Ten American Comeback Cities," Forbes Magazine. March 5, 2012. Accessed at <http://onforb.es/zwAQQA> Carpenter, Mackenzie, "Pittsburgh may be a perfect fit for One Young World Summit," Pittsburgh Post-Gazette. March 30, 2012. Accessed at <http://bit.ly/WYonkO>



**Figure II-2: The Cork Factory Provides Luxury Apartment Living in the Strip District**

50,000, Pittsburgh has the 23rd highest share of young professionals. More than 28 percent of the region's 18- to 34-year-olds have a college degree, exceeding the shares found in economic powerhouses including Charlotte, Chicago, and Atlanta

and falling shy of Seattle by a fraction of a point.<sup>6</sup>

<sup>6</sup> Reconnecting America, Are We There Yet? Creating Complete Communities in 21st Century America. October 2012. <http://reconnectingamerica.org/arewethereyet>

**Access Improvements Are Economic Development Strategies**

Municipalities and community development corporations across Allegheny County are identifying access improvements as critical steps to enhancing the economic vitality of transit-oriented neighborhoods. While some improvements are large scale, many of the identified improvements involve small to mid-scale pedestrian connections immediately surrounding fixed-guideway station areas. As more communities see the success that East Liberty has experienced in tapping into pent-up Shadyside market demand with new pedestrian bridges and roadway improvements, access improvements seem more critical than ever as ways to catalyze local economic revitalization. For example:

- The Wilkinsburg Business District Revitalization Plan shifts the emphasis of the business district closer to the East Busway station than its historic core, with Penn Avenue and Wood Street as a key focal point. The plan calls specifically for improved connections under the busway right-of-way, including reopening a pedestrian tunnel and expanding the Penn

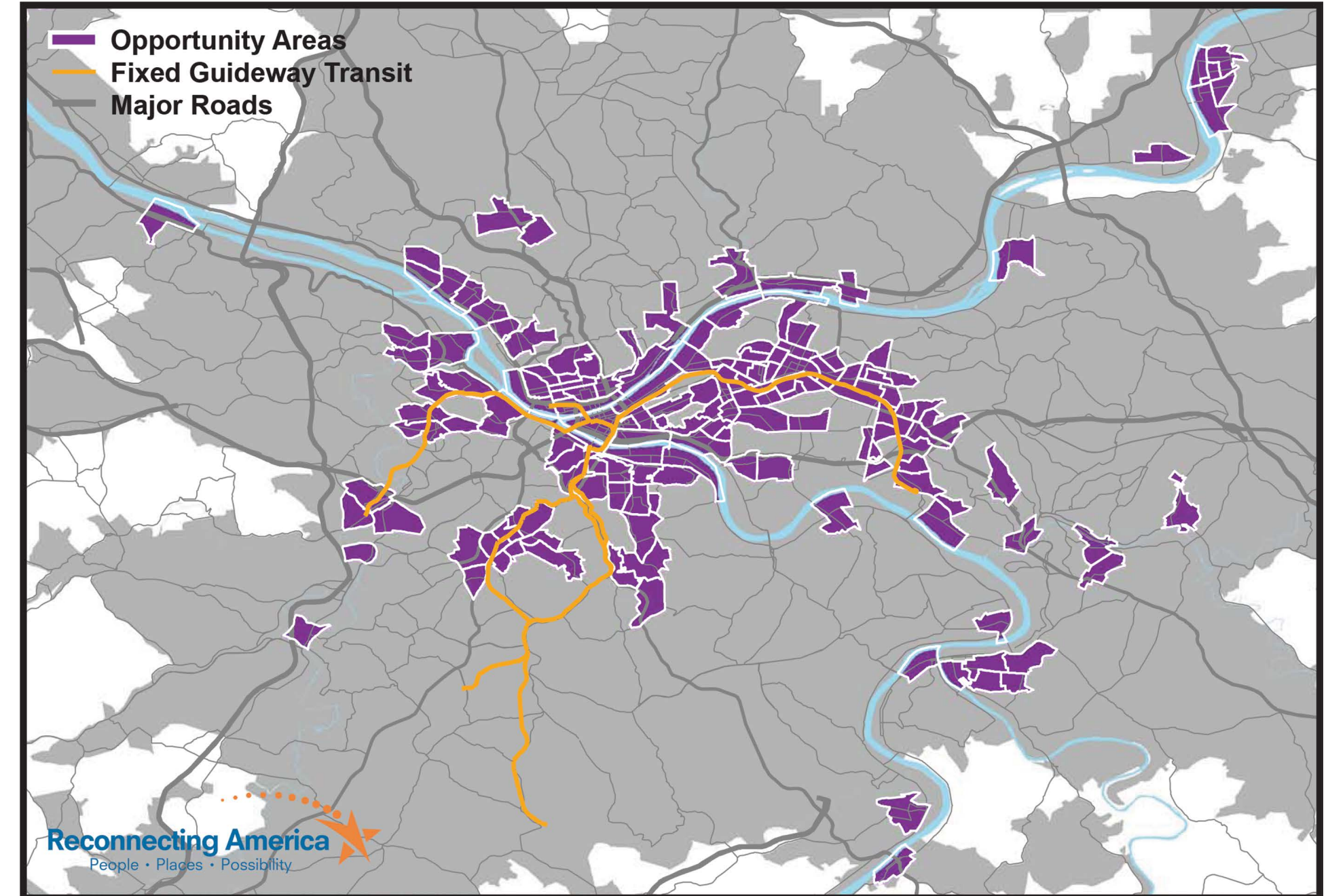
Avenue underpass to create a more prominent connection with the Wilkinsburg neighborhoods to the west of the alignment. Interviews with the Wilkinsburg CDC highlighted other transportation-related issues that need to be addressed to enhance the business district's economic competitiveness, including working with PennDOT to make Penn Avenue less of a thruway by retiming the lights; and working with the Port Authority to offer more visible and accessible bus stops.

- The Homewood "Bridging the Busway" Plan identified a range of improvements to better link neighborhoods in south Homewood to the Point Breeze North neighborhoods by offering safer, more accessible and visible connections across the busway alignment. Operation Better Block is working with local developers and investors on components of the plan including offering better pedestrian paths parallel to the busway, and catalyzing new development and investment immediately northeast of the Home-

wood station.

- The intersection of Routes 51 and 88 in the Overbrook neighborhood of Pittsburgh may be better known for its car traffic than its quality transit access. But the Blue Line T and South Busway sit just on the northwest side of this busy intersection. This is also the point at which the South Busway enters its dedicated right-of-way, speeding people to downtown Pittsburgh. Economic Development South envisions capturing some of this traffic in a new Multi-Modal transit hub that would reduce commute times for nearby residents who drive today and offer a new transfer point between the South Busway and the T, doubling the transit choices for commuters. This new access could also prompt a resurgence in the economic vitality of nearby shops and neighborhoods in both Pittsburgh and surrounding boroughs.

Figure II-3: Census Tracts within Allegheny County that Offer Walkable Blocks or Transit Supportive Densities



This surge, in turn, has underscored the growing demand for quality rental housing in walkable, transit rich communities. But such housing continues to be in short supply, as reflected in the fully occupied Cork Factory luxury apartments in the Strip District of Pittsburgh.

Unlike other regions pushing to attract these young professionals, Pittsburgh does not have to retrofit decades of suburban growth and build a whole new transit network. The region has a key competitive advantage in the form of its plentiful walkable urban neighborhoods and high transit ridership. In a recent national study by Reconnecting America which ranked all 366 metropolitan areas on their ability to provide complete communities,<sup>7</sup> the Pittsburgh region floated towards the top because a much higher than average share of its residents live in walkable neighborhoods (*Figure II-3*). Further, the fixed-guideway system operates through many of these neighborhoods.

By tapping into this asset, uplifting these neighborhoods, and highlighting their connectivity to major centers of economic activity like Downtown and Oakland, the region can continue to attract young professionals, who are increasingly interested in living in neighborhoods where a car is unnecessary and they can walk, bike, or take transit to work, to see friends and run errands. Neighborhoods near fixed-guideway stations will draw both investors and new potential residents seeking a certain quality of life. Deploying the implementation strategies described in Chapters III and IV could double or triple the number of neighborhoods with the characteristics desirable to young professionals, reinforcing a regional culture of car-free living, and further drawing the nation's young, mobile software engineers, artists, and writers to Pittsburgh, to create entrepreneurial businesses and lure new employers.

These kinds of investments can also result in improved access and reduced transportation costs for lower income families. More mixed-income neighborhoods

<sup>7</sup> Ibid.

can attract the kind of private investment and services (like grocery stores, doctors offices, etc.) that residents of all incomes need. And improved access to regional job centers provides better access to job opportunities for workers of all incomes.

## Political and Structural Issues

### **Achieving these critical investments requires new coordination of the many actors responsible for TOD**

TOD implementation in Pittsburgh requires significant coordination of funding sources for development and infrastructure, local leadership, and partnership across the public and private sectors. This is true nationally, but is particularly true in Allegheny County, where CDCs have taken a leadership role in many communities in securing funding and financing for development, creating plans, and forging partnerships with the public and private sectors. This coordination of partners and funding has led to many successes in the region's transit rich neighborhoods, but requires decades of exceptional leadership, vast hours of paid and volunteer time, and resources cobbled together from many sources – a level of coordination that is a significant barrier to entry for many communities.

This TOD Strategy seeks to improve the coordination of actors, activities, and funding sources to broaden the reach of TOD principles throughout the entire fixed-guideway transit system. By making TOD a standard practice that all transit rich communities can participate in through efficient, coordinated investments, Allegheny County can continue to bolster the economic vitality of both individual communities and the larger economy.

### **The transit system will benefit from TOD**

With the Port Authority facing the largest fiscal crisis in its history, it may seem like transit-oriented development is a low priority where transportation issues are concerned. But the time has never been better. By reinvesting in the land uses

and street infrastructure surrounding the Port Authority's fixed-guideway system, TOD will ultimately make accessing and using the system a significantly easier and more pleasant experience. This in turn could significantly boost ridership and farebox recovery for the Port Authority. TOD cannot fill the operating deficit, but can play a significant role in ensuring that the revenue generated through ridership is bolstered and stable.

Of course, TOD requires stable, reliable transit service in order to work. To ensure that investors and new residents and businesses are willing to plant roots in the communities with fixed-guideway stations, they must be sure that the stations are going to be a permanent asset. Solving the Port Authority's fiscal crisis will be a key step to ensure TOD - and its related benefits - move forward. Conversely, any financially-driven service alterations should place higher priority on preserving or even increasing fixed-guideway service to preserve the core system and keep transit- and place-based investment viable and attractive. This is vital to continue Pittsburgh's rebirth and keep attracting new and young talent to the region.

## III. Overview of TOD Implementation Activities

This chapter describes a range of activities used to achieve transit-oriented development in Allegheny County and elsewhere in the country. This information feeds into recommendations for coordinating and prioritizing implementation of transit-oriented development that are found in subsequent chapters.

TOD implementation activities extend well beyond just new, thoughtfully-designed private residential and commercial development near transit. While new development can play a key role in TOD, it is not necessarily the first, or best place, for many neighborhoods to start achieving the goals of TOD. This is particularly true in neighborhoods that are already fairly walkable but lack the market strength to catalyze new development. This strategy divides TOD implementation activities into five distinct categories:

- Visioning, Planning, and Building Capacity
- Local Access Improvements
- Revitalization and Building Reuse
- New Development
- Regional Access and Transit System Improvements

The following sections describe the activities that fall under each category, the benefit of investing in those activities, and issues to consider during implementation. Many activities fall under each of these categories, and the exact mix and type of activity needed in each station area will vary based on local conditions. The typology in Chapter IV offers a starting point for understanding how different activities could fill the unique needs of specific station areas. By utilizing demographic, urban form, social, and market-based data, the typology also creates a framework for how to allocate the scarce resources available for these implementation activities across the fixed-guideway system.

### Visioning, Planning, and Building Capacity

Activities such as station area planning, community visioning and scenario planning, and community engagement and education can play key roles in building momentum and support for transit-oriented uses and investments among residents and policymakers. Visioning by community-based organizations can help to build political will and support from elected officials by demonstrating the interest from the neighborhood in TOD principles. Station area planning offers predictability to developers who may be looking for new locations for their investments. Using station area planning as an opportunity to evaluate a number of distinct land use scenarios can accomplish many outcomes. The scenarios can educate the community on the feasibility of different densities and uses and be used to assess whether value capture mechanisms (such as TRID) can be used to pay for infrastructure improvements. This exercise can empower residents to weigh the pros and cons of different visions for their community.



**Figure III-1: Community Members in Wilkinsburg Participate in a Planning Process**

*Wilkinsburg CDC photo*

### Local Access Improvements

#### Pedestrian Access and Station Visibility

Shared topographical constraints and infrastructure barriers make local access

### Building Community Capacity to Implement TOD

A number of communities across Allegheny County have grown increasingly sophisticated community based organizations or CDCs in the last decade. Their stories offer ideas for ways to expand capacity building efforts to other municipalities that lack a paid planning department, or to communities in need of an advocate. For example:

- Acknowledging that the lack of a paid planning staff was limiting the ability to apply for grants and other community revitalization programs, political leadership in the borough helped create the Wilkinsburg CDC in 2006. This nonprofit organization now works to revitalize the community in close partnership with businesses, property owners, residents and the municipality.
- Economic Development South is a unique CDC in that it serves a number of municipalities that comprise part of the south suburban area of Allegheny County. Brought together by shared congestion and economic challenges created by traffic on Routes 51 and 88, these municipalities are now able to work towards economic revitalization through this nonprofit entity.
- Among other communities with which it partners, PCRG is initiating efforts to organize residents and build capacity for advocacy and economic revitalization in the Sheraden neighborhood of Pittsburgh. Through its Reimagining Neighborhoods program, full-time PCRG staff are engaging residents through community events and one-on-one outreach. As a result, a number of community leaders are emerging, as is organizational structure and capacity, both of which may be able to carry forward other economic revitalization work in the future.

improvements a key strategy in most - if not all - station areas across the fixed-guideway system. Much of the Red Line operates along the crest of a hill, while part of the Blue Line is cut into the side of a different hill, making pedestrian access to the station areas challenging. Further, a ravine with a major arterial highway – Saw Mill Run Blvd - divides much of the Blue Line T stops from the South Busway, making transfers nearly impossible at all but one point. Improved stairways and ramps could assist transit riders in accessing stations on foot but topography will always be a distinct feature of Pittsburgh's system.

There are access challenges that can be overcome with relative ease and low cost, if the resources to invest in local improvements can be identified. Wayfinding improvements would greatly increase the prominence of transit in communities. Several station areas could benefit from improvements in station design, including providing access (through pedestrian paths or bridges) to the platform from both sides of the tracks, rather than one, and installing sidewalks on adjacent roads and formalized access paths into adjacent communities, greatly improving the situation shown in *Figure III-2*.

Because they were built along existing or former freight alignments, the East and West Busway stations face access challenges created by repurposed rights-of-way themselves. Some stations cannot be accessed from both the north and south sides of the station, and where such access points do exist, they are not always pedestrian friendly or safe. While it inherited a historic divide originally created by the Pennsylvania Railroad Main Line over a century ago, demographic and mar-

**Figure III-2: Informal access to Willow Station in Castle Shannon**





ket differences along the East Busway in particular (Figure III-3 and Figure III-4) illustrate the role this corridor has played in separating otherwise adjacent communities. It should also be noted that this historic divide has, since its creation, added pedestrian barriers through elimination of overpasses and walling off of pedestrian tunnels, and little has been done by many actors to reconnect communities on either side of the corridor. While new or re-opened pedestrian bridges or tunnels can be costly, creating connections across this barrier can carry market strength from the south side of the stations to the north side – a key priority for most community groups and municipalities along the Busway.

**Bicycle Access and Infrastructure**

Transit-oriented development supports transportation choices, which include transit use, walking, and bicycling. Pittsburgh is seeing a significant increase in bicycling, with bike utilization increasing 269% since 2000<sup>1</sup>. Today the city of Pittsburgh has the fifth highest share of commuters who walk or bike to work, the eighth highest in transit commuters, and seventh in the combine transit/walk/bike category. Investments in bicycle infrastructure could further bolster the growing popularity of alternative transportation choices.

For residents in communities that are less than 5 miles from a major job or activity center, bicycling offers an alternative that can sometimes be faster than driving or taking transit. Bicycling expands the distance that transit dependent households can reach comfortably, expanding the area where households can live without a car but still comfortably access key goods, services, and jobs not in their immediate neighborhoods. For example, retailers on long commercial corridors such as Washington Rd. in Mt. Lebanon could reach a greater number of customers if the T station were better connected to bicycle infrastructure such as dedicated lanes, path access, and long-term secure and sheltered bike storage. Districts like Downtown, Uptown, the Strip, and Oakland could foster greater internal

<sup>1</sup> US Census data

circulation with bicycle street networks. Bicycle infrastructure includes off-street trails, on-street routes with dedicated lanes, “sharrows” that denote to drivers that bicycles may be sharing lanes (typically used when roads do not have enough width to accommodate a separate bike lane), sheltered and unsheltered bicycle parking, bicycle sharing programs, and programs that foster bicycling such as bike to work days, maps and other resources such as those offered by Bike Pittsburgh.

Bicycling also expands the reach of the current transit network into nearby, but not adjacent communities. Improved weather resistant bicycle facilities such as bike lockers have been installed at many transit stations across the county as a low cost way to increase ridership by catching residents who live farther away from the stations.

As with other modes of access, topography is a key challenge in providing safe bicycle routes throughout Allegheny County. Car traffic is filtered onto the major thruways in many communities, and in some neighborhoods the secondary, quieter routes offering a safe environment for bicycling to and from major destinations are not obvious, or not continuous.

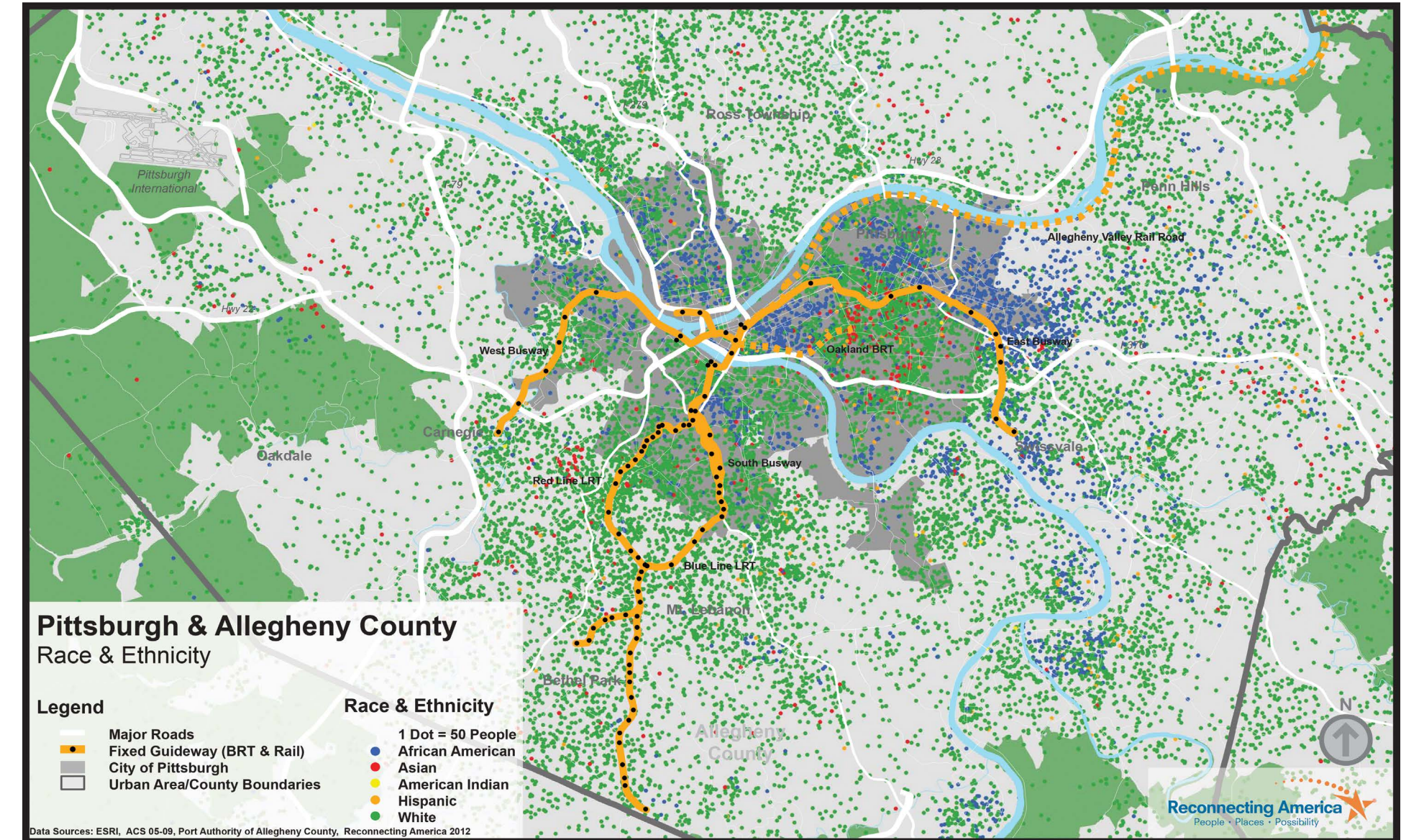
**Better, Clearer Transfer Between Fixed-Guideways and the On-Street Network**

Improving connectivity to nearby bus routes is a key priority for many station areas. Bus shelters and clear signs to direct transit riders making transfers can boost ridership and support transit-oriented development by fostering increased transportation choices. Providing clear, highly visible transfer information both at stations and on-street stops near stations, as well as improved infrastructure between these stops and stations, will connect the station with more destinations, thereby offering households with multiple workers more choices for where they can live. This could include signage; higher-quality, more visible on-street shelters at transfer points; walkways and bicycle infrastructure; and verbal cues on buses

approaching these respective stations and stops.

In addition to shelters and other infrastructure, one key to successful intermodal bus-to-rail or bus-to-busway transfers is ensuring that networks are clearly delineated and that transfers are timed, so riders making a transfer can expect to wait only a short amount of time during morning and evening commutes.

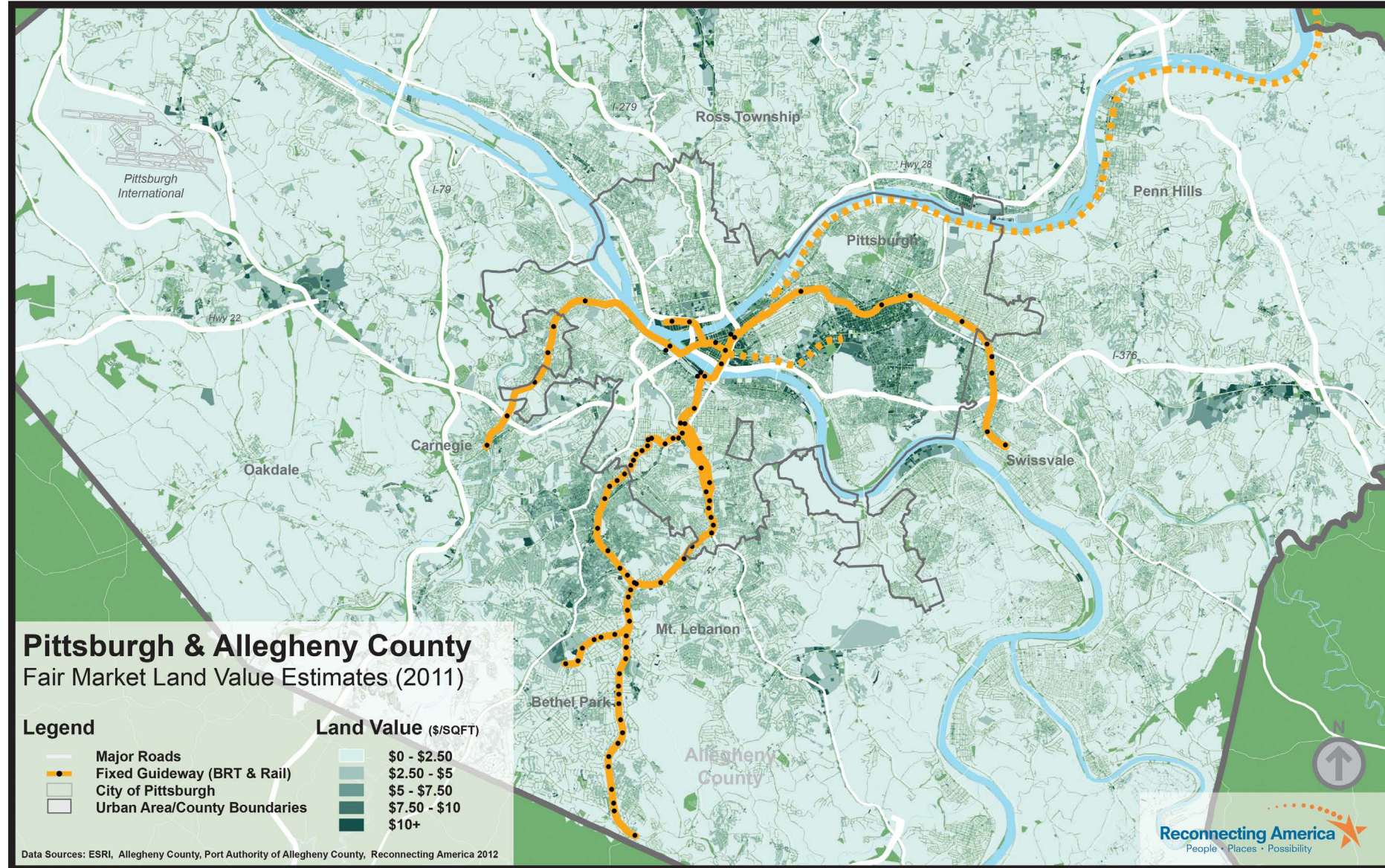
Figure III-3: Race and Ethnic Concentrations, 2009, Showing Difference Between North and South Side of East Busway



**Transit Use-Inducing Parking Management and Shared/District Parking**

Strategic regulation and pricing of parking plays a significant role in the success of transit-oriented development, and in some cases can lower the cost of new development. Regulated parking requirements for new development and the reuse of existing buildings need to meet but not exceed the need for parking. In the case of historic

**Figure III-4: Assessed Land Values per Square Foot, Showing Difference Between North and South Side of East Busway**



preservation and building reuse, if there is no on-site location to accommodate the required parking, parking regulations can limit the types of tenants who might consider renting or purchasing space in a building. Some cities have eliminated parking requirements altogether for historic reuse of buildings, or charge an in-lieu fee instead, that can be used to build a shared structure elsewhere nearby. This action removes barriers to attracting desirable tenants like restaurants and office users. Other cities have decided not to regulate parking minimums or maximums, encouraging developers and lenders to move away from suburban parking

**East Liberty Innovative Parking Management**

Transitioning developers and retailers who are used to suburban parking layouts is a challenge faced by transit-rich urban locations across the country. But by allowing the first few new investors in a neighborhood to build at suburban parking ratios, with a transition plan in place, East Liberty has been able to catalyze development while keeping the vision of fewer surface lots alive as the neighborhood changes.

One example of this flexible parking policy is in the works today. In the late 1990s, Home Depot was recruited to the neighborhood and built a store closely resembling its more suburban counterparts, complete with a large surface parking lot. As the market has demonstrated a demand for less parking than was thought needed when the Home Depot was built, its parking annex is now becoming a key new site for development.

By encouraging East Liberty developers to keep their parking separate from their units or suites and working with existing developers with large lots so that the parking can be repurposed if not used, the City and East Liberty Development are able to continue following this model of enticing new investment, and changing parking standards and expectations along the way.

standards. Shared parking is a newer kind of regulation that is popular in transit rich locations. Shared parking allows spaces to count toward the parking requirements of multiple uses. For example, in a mixed-use development, the parking required for office uses will be busier during the day but empty at night and could accommodate weekend and evening traffic to restaurants in the same or nearby space. Shared parking also allows for flexibility over time as developers become more comfortable with the idea of lower parking ratios. While the first developer in a neighborhood may not be willing to reduce the amount of parking they provide, requiring that first developer to unbundle parking spaces from their units will allow for others to rent those spaces if they do not need them later on.

Parking pricing is just as critical as regulation. Parking pricing can control the demand for parking in parking-scarce areas, and encourage commuters and other visitors to crowded destinations to use transit instead. Pricing can be dynamic and be adjusted for demand. Pricing can also generate a revenue stream that can fund other supportive infrastructure or programs; for example, revenue from city parking garages funded over half of the \$54 million infrastructure cost for the streetcar in the Pearl District of Portland, OR.<sup>2</sup> In some regions, such as Houston, parking pricing has played a major role in increasing transit ridership.

**Stormwater and Utility Upgrades**

One critical issue facing the revitalization of the county's transit rich communities is the stormwater and sewage infrastructure that supports them. Like Allegheny County, many historic communities across the nation have needed significant utility, stormwater, and wastewater management upgrades in order to accommodate additional growth. This can be a costly infrastructure expense that no single developer or municipality can bear. Integrating green infrastructure into TOD and access improvements, however, can help reduce the enormous capital burden

<sup>2</sup> Ohland, Gloria and Shelley Poticha, Eds. Street Smart: Streetcars and Cities in the 21st Century. Oakland, CA: Reconnecting America, 2009.

facing the county while also improving the quality of life in and around stations. Addressing this issue may require community and economic development actors to forge new partnerships with utility-related groups typically not part of discussions about revitalization and infill development.

### Revitalization and Building Reuse

The reuse of historic buildings has long played a key role in the revitalization of existing neighborhoods throughout the region and state. For transit rich neighborhoods that were built with the pedestrian in mind, rehabilitation and reuse of buildings can be the priority strategy for transit-oriented development as well. Reuse of historic buildings also provides communities a way to embrace and reinforce their own local identity and culture.

As a city of neighborhoods, Pittsburgh has more small walkable commercial districts than most cities of similar size. Many surrounding jurisdictions share this pattern of small, walkable retail districts. Some of these are vibrant and fully occupied, while others are in need of significant reinvestment. Reinforcing the vitality of these districts by attracting new tenants and reusing buildings also fosters transit-oriented development by offering a variety of shopping and services that are within a walkable or bikeable distance to residents of the surrounding neighborhood.

A wide variety of programs exist to support historic preservation, building reuse, and reclamation of blighted properties. These are discussed in Chapter V: Funding and Financing.

### New Development

As noted above, new development is the most commonly known kind of TOD activity, but is not always necessarily the first or best step that a community can

take to support TOD principles. Before transit-oriented development can occur, land use regulations can ensure that the design of new development is supportive of pedestrian access and that appropriate parking requirements are in place.

There is no one size fits all standard for density, land use mix, or design for new transit-oriented development. Successful, new transit-oriented development can include compact single-family homes, rowhouses, multi-story apartment buildings or towers. The important thing is that the design fosters walkability, offers secure and attractive bicycle parking, and encourages transportation choices. Some new transit-oriented development projects can even help to leverage much needed pedestrian infrastructure and station access, as is proposed at Castle Shannon and Overbrook Middle School (see sidebar next page).

In some cases, transit-oriented development may not be the most profitable use for a developable property, and policymakers will need to determine whether the investment of new development is more important than project design and use. There have been many instances where a proposed suburban retail big box development has been selected over an envisioned but not yet proposed potential high-density mixed-use development. Each community will need to weigh these trade-offs; if community-supported TOD plans and visions are in place ahead of time, these articulated visions can guide elected officials in their decisions.

### Regional Access & Transit System Improvements

Often overlooked in TOD implementation is the “T” itself: transit. For TOD to attract strong market demand both for developers and potential tenants, transit service must be highly visible and accessible, convenient, frequent, and reliable. In connecting regional destinations, transit must also offer travel times that are competitive with the private automobile in serving job centers and other major destinations.

### Leveraging new development to improve transit access

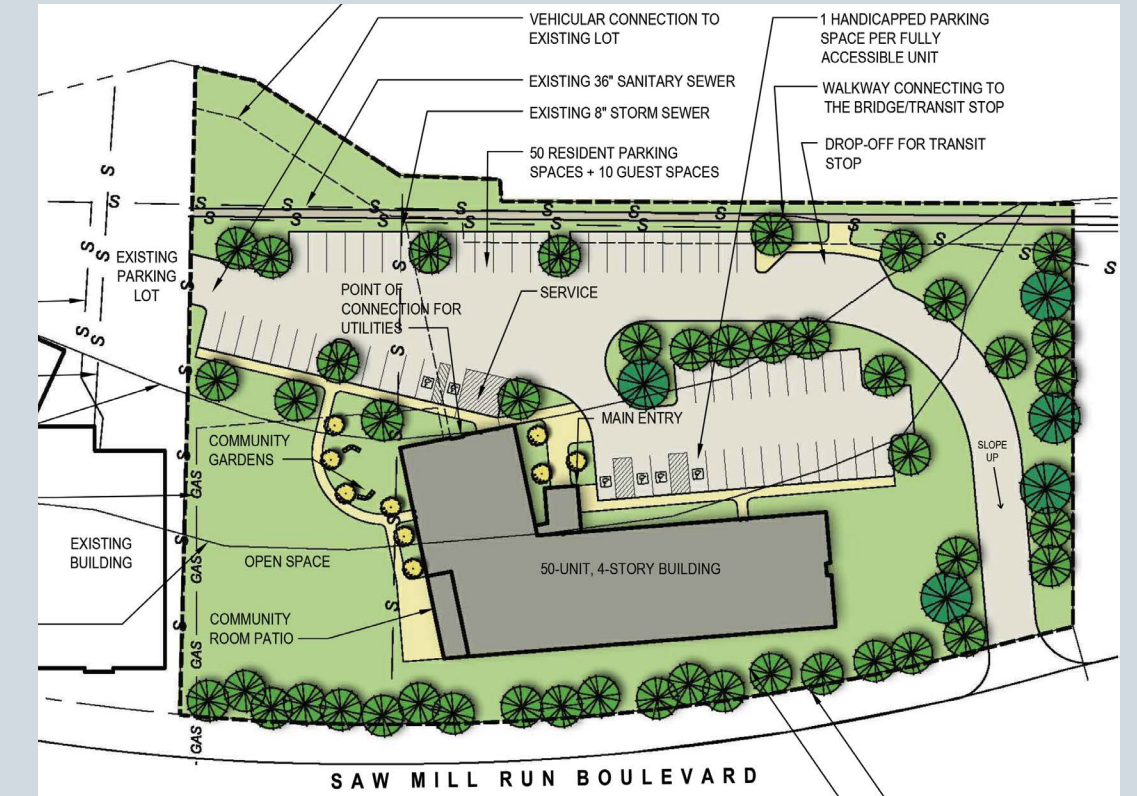
As Chapter V discusses, funding for small- to mid-scale pedestrian, bicycle and parking access improvements to station areas is hard to come by. But many stations in the Allegheny County system are in dire need of these types of improvements. Two developers are leveraging their transit-oriented projects in order to offer these very types of improvements:

Drivers and nearby residents face many hurdles when parking or walking to the South Bank station on the Blue Line T and South Busway. Drivers to the station today park in surrounding neighborhoods, cross busy Saw Mill Run Blvd., and walk down an unmaintained path to the poorly marked station. Neighbors face the same challenge. But a proposed senior housing and assisted living facility at the former Overbrook Middle School facility would add 120 new residential units, as well as a new transit drop off area, walkway, and a pedestrian bridge over the Saw Mill Run creek to replace a bridge that was washed out years ago. Developers NRP Group and Valcott Enterprises are able to include these access amenities because the scale of the new infrastructure is small relative to the scale of the project. But station areas elsewhere in the system may not always have the capacity to support new development at the scale needed to leverage such infrastructure.

The proposed Shannon Transit Village project will enhance pedestrian and bicycle access, increase park-and-ride spaces, and elevate the profile of the Castle Shannon station on the Red Line. The eight-story mixed-use residential apartment and retail development will be built on a parking deck on Port Authority land to accommodate commuters using the park-and-ride facility.

The project involves strong partnerships from both the public and private sectors, with the public sector contributing more than \$11 million to the project (for more on the funding sources for this project, see Chapter V). The new development will not only increase the accessibility of the station, it will also introduce a new housing product type – high-density market rate apartments – to the surrounding neighborhood, paving the way for future transit-oriented development.

Figure III-5: Concept Plan for Overbrook Senior Housing at the South Bank Station, Rendering of Shannon Transit Village



RDL Architects, the NRP Group, LLC, Economic Development South, PFDA Architects, Inc., Clearview Strategies

The Port Authority's service addresses many of these factors by conveying a sense of permanence through its fixed-guideway system. Although service cuts over the years have diminished this sense of certainty to some degree, the physical infrastructure and separated rights-of-way still signal to the development community that higher quality service will generally remain intact along the T lines and busways for years to come. Instilled with this confidence, they are able to "sell" the transit lifestyle to potential residential and commercial tenants, leading to higher rents and lower vacancy rates.

### Visibility and Station Presence

This image and quality of the system can be further enhanced. For riders who are not familiar with the system, the visibility of transit stations is limited. That is, commuters are not made well aware of the availability of rail and busway stations through signage and marketing. Visitors to the Washington, DC region, on the other hand, are given clear direction, both from the highway and once they have entered the system, to access the widely popular Metro system. The Pittsburgh



Figure III-6: Prominent Bus Shelters and Branding on Cleveland's Health Line Offer a Sense of Transit Quality and Permanence

Credit: EMBARQ Brasil, Flickr

region has this same opportunity to promote its transit assets and funnel daily and less frequent drivers to the system.

Secondly, enhancing the station platforms and shelters themselves could improve the sense of transit permanence. In some cases, T stations are similar to local bus stops in that they offer on-demand service only (i.e. the train stops only when someone is waiting or upon passenger request) and limited passenger amenities. Station investments including weather protection, attractive lighting, sitting areas, transit and area maps, civic art, possible vendor spaces, and overall station branding give stations a greater sense of place for riders and developers alike. Where right of way limitations present a constraint for station expansion, the case may be made for additional station consolidation, which would also speed transit travel times.

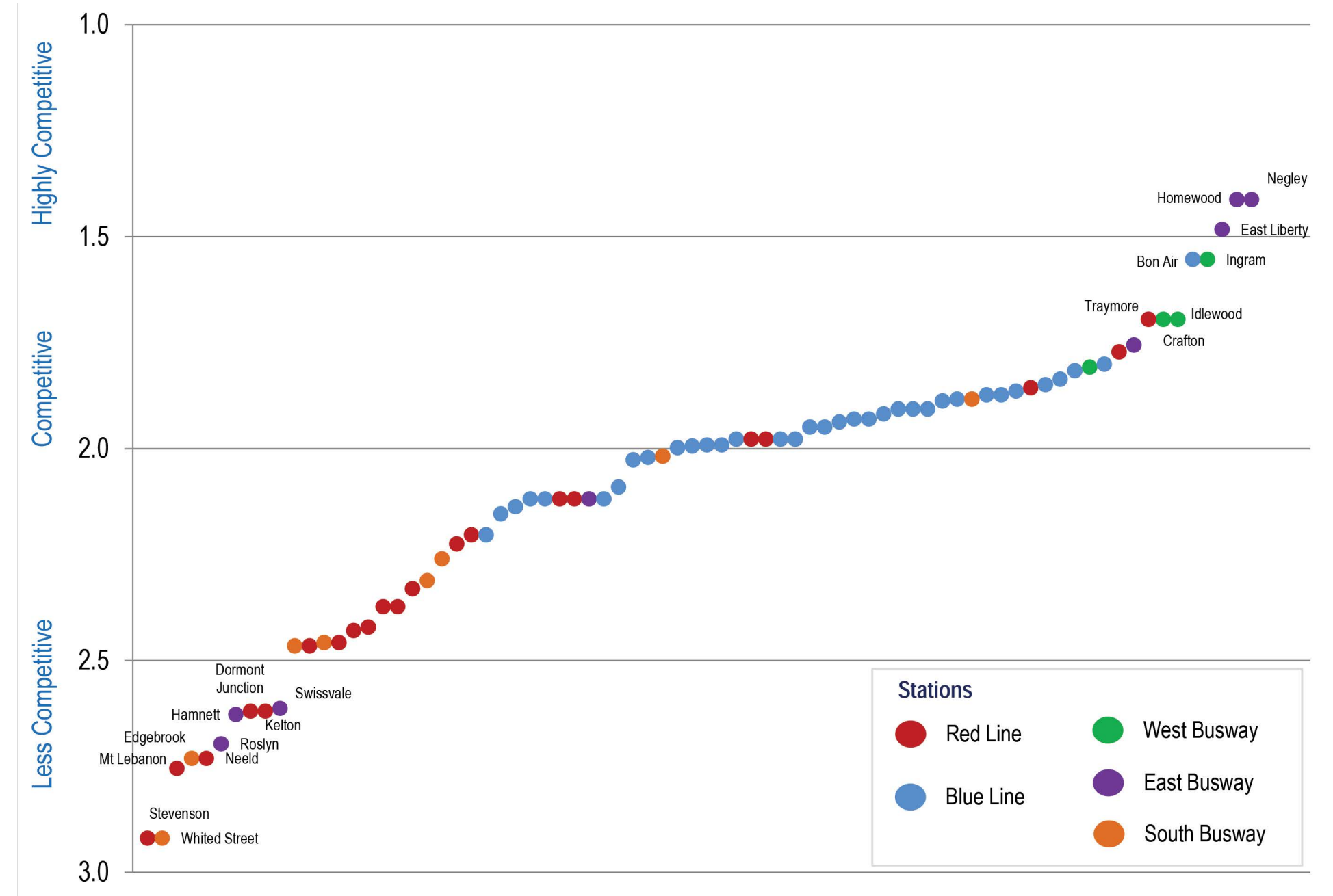
### Reducing Transit Travel Times to Key Destinations

Permanence and visibility, however, are not the only factors in attracting TOD. As mentioned above, the transit service must be competitive with the private automobile in terms of travel times. A ratio of transit travel time to driving time of 1.5 or better is considered competitive. Between a ratio of 1.5 and 2.0, transit is still competitive, but is less so given that it is almost doubling the amount of time getting to work and home to families. Over 2.0, transit becomes far less competitive from a time calculation perspective.<sup>3</sup>

As illustrated in Figure III-7, East and West Busway stations tend to offer the fastest relative service, many of them averaging ratios of less than approximately 1.75. Only three stations (all along the East Busway) in the system fall into the highly

<sup>3</sup> Litman, Todd, "Valuing Transit Service Quality Improvements: Considering Comfort and Convenience in Transport Project Evaluation." Vancouver, BC: Victoria Transport Policy Institute, November 24, 2011. <http://bit.ly/WFQDBu>

Figure III-7: Transit Competitiveness: Transit/Auto Travel Time Ratios for Non-Downtown Pittsburgh Station Areas



competitive category of below 1.5. Blue Line stations are less time competitive with most of them clustered just below and above 2.0. The majority of Red Line and South Busway stations are above 2.0, thereby making it challenging to attract busy commuters from their cars. Due to this lack of competitiveness, developers and tenants are less likely to view the transit service as an amenity that warrants rental and/or sales premiums. Addressing this issue by increasing spacing between stations, changing fare collection mechanisms, and otherwise reducing travel time will increase the competitiveness of low performing station areas for TOD. While this measure focuses on travel times to Downtown, travel times to Oakland from all West Busway, Red, and Blue Line stations will be less competitive while all East Busway stations (except Heron Ave.) will be more competitive. The competitiveness of reaching Oakland along the BRT corridor will be similar to its Downtown competitiveness.

### Modifying & Streamlining Fare Collection

Reducing the time for fare collection is one of the primary ways to reduce the boarding and alighting time. Outside of Downtown, fares are collected on-board buses either as passengers board or depart depending on the direction of service, then switches to boarding-only collection after 7PM. On the Red and Blue lines, on-board fare collection depends upon whether or not an attendant is on duty at a station – or if it even is a station stop. While this method helps speed outbound boardings at rush hour, the travel times savings can be nullified once passengers pay at their destination. This slows deboarding since passengers are all funneled by the farebox and cannot exit rear doors. Inbound causes similar bottlenecks as passengers must pay at the farebox rather than board through all doors. It is also confusing to the casual or new user, creating a consumer-unfriendly experience.

The Port Authority is moving towards a more efficient system with the implementation of the ConnectCard system. By ultimately migrating to an entirely off-

board fare collection system along the fixed guideways and Oakland-Downtown BRT corridor, it has the potential to significantly reduce travel times, thereby increasing the amenity value and development potential around transit. Other methods of speeding boarding/alighting (ConnectCard scanners at the rear door, for example) also increase the comfort of taking transit, as does a fare collection method that does not depend on the time of day.

### Actors Responsible for Implementation

Traditionally, the public sector has been held responsible for implementation of TOD. Local governments have taken the lead in planning and visioning and provide project subsidies through redevelopment and project entitlements; transit agencies have fostered TOD with catalytic joint development projects and station area access improvements; and, Metropolitan Planning Organizations (MPOs) have granted regional transportation dollars to localities to make local access improvements and catalyze supportive development (see the funding chapter for more on the roles of MPOs)

In Pittsburgh and throughout Pennsylvania, community based organizations and other nonprofit advocates have often taken a leadership role in implementing neighborhood change and revitalization. In other parts of the country nongovernmental organizations tend to play more of a role in advocating for supportive policy change but not implementation of community revitalization strategies. In Pittsburgh, nongovernmental organizations both advocate and implement.

Across the country, a wider variety of actors are taking on the implementation of the activities described in this chapter. Further, the interdisciplinary nature of transit-oriented development requires collaboration across sectors, and amongst public, private, and nonprofit stakeholders. *Table III-1* offers examples of the implementation strategies, and the actors who could take a lead or supporting role in implementing these activities.

### It Takes a Village: The Unique Partnerships that Create Success

The successful revitalization of the East Liberty neighborhood has required decades of coordination of public agencies at all scales, community based organizations, and the private sector. A snapshot of some roles played by different actors include:

East Liberty Development, Inc. has taken a lead role in coordinating and developing vision and community plans; securing financing for key catalytic development projects; attracting investors and developers; coordinating overall strategies.

The Urban Redevelopment Authority has worked with developers to secure financing for projects, including negotiating TIF agreements.

The City of Pittsburgh led the TRID planning study, which identified key development opportunities and infrastructure improvements to foster mobility of pedestrians and bicyclists as well as transit riders and drivers throughout the neighborhood and into connecting neighborhoods. The City is currently identifying citywide priority mobility projects through its MovePGH and PlanPGH initiatives.

Private Developers such as the Mosites Company have led catalytic projects such as Eastside I.

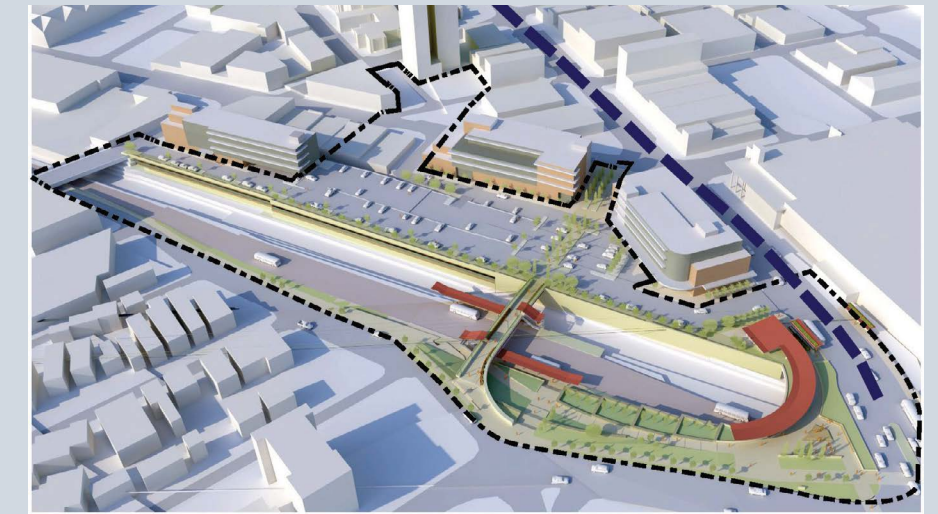
Penn Avenue falls within the purview of PennDOT.

The state transportation authority has been responsible for implementing improvements such as the Eastside Pedestrian/Bike Bridge, converting portions of Penn Circle back to two-way and improving ped/bike amenities, making decisions about signal timing, etc.

Political leadership including the Mayor's Office, Pittsburgh City Council, County leaders, Congressmen and Senators have played a key role in advocating for funding for improvements at the state and federal scales.

The Pittsburgh Parking Authority is responsible for managing parking pricing at public parking spaces.

Community Leaders play a key role in securing input from residents and businesses, garnering support for appropriate projects, and offering community based programs that ensure opportunities created by the revitalization of East Liberty are beneficial to today's residents.



**Figure III-8: The East Liberty Transit Center will improve both pedestrian and bus connections to the East Liberty Busway station, while opening up additional potential for investment and economic revitalization in the surrounding neighborhood.**

The Port Authority operates both surface bus and busway service through the neighborhood, and will be a lead partner in the construction of the new East Liberty Transit Center which includes both a new bus transfer interface as well as street and pedestrian improvements to the East Busway station.

Philanthropy has supported the visioning, planning and community organization efforts over the last several decades.

Local businesses foster an entrepreneurial spirit in a changing neighborhood, and ensure the ongoing vitality of street life throughout the business district.

Table III-1: Implementation Activities, Examples, and Potential Responsible Lead or Supporting Actors

CATEGORY	Example	Potential Actors
Activity		
<b>VISIONING AND PLANNING</b>		
Community Outreach and Organization	Through a number of initiatives including the Children’s Village Collaborative to improve the lives of neighborhood kids, and Operation Better Block, which strategically improves the Homewood community on a block-by-block basis, thus developing a strong base of support within the community for change and vision.	Community Based Organizations, other Nongovernmental Organizations, Municipal Government
Neighborhood Visioning	Bethel Park has established a vision plan to create a civic center district near the Lytle station on the Blue Line. This vision plan describes creating a community center that could bring nearby residents together and create a sense of place.	Community Based Organizations, Municipal & County Government
Station Area or District Planning	Through a grant from the state Department of Community and Economic Development, the Wilksburg CDC commissioned a business district revitalization plan for its Town Center. The plan was completed in close collaboration with the Borough of Wilksburg, and was folded into a larger plan for the whole borough. Many of the implementation catalyst projects identified include historic preservation, improved access, and addressing blighted properties.	Community Based Organizations, Municipal & County Government, Redevelopment Authorities and Agencies, Southwestern Pennsylvania Commission (potential funder)
Bicycle and Mobility Planning	MovePGH is in the process of identifying and prioritizing mobility investments throughout the city of Pittsburgh as part of PlanPGH, the city’s first ever comprehensive plan. Updates can be found here: <a href="http://planpgh.com/movepgh/projects">http://planpgh.com/movepgh/projects</a>	Community Based Organizations, Municipal & County Government, Southwestern Pennsylvania Commission (potential funder)
<b>LOCAL INFRASTRUCTURE IMPROVEMENTS</b>		
Station Pedestrian Path Improvements	Bay Area Rapid Transit completed an access study to identify stations serving a large number of nearby residents who walk and bike. Based on this study, they have prioritized enhancing on-site pedestrian and bicycle facilities to foster walking and biking as an “access mode share.”	Port Authority, Municipal & County Government, Developers, Freight Rail Authorities, Urban Redevelopment Authorities and Agencies
Station Area (walking distance around station) Pedestrian Path Improvements	Economic Development South is partnering with a local affordable housing developer to construct a new pedestrian bridge as part of the redevelopment of the Overbrook Middle School site at the South Park Blue Line station into senior housing. This bridge will offer much needed access between the station and Saw Mill Blvd.	Municipal & County Government, Developers, Community Development Corporations, Southwestern Pennsylvania Commission, PennDOT, Urban Redevelopment Authorities and Agencies
Pedestrian Bridge/Tunnel Improvements	Mt. Lebanon’s plans for its Blue Line station include capping the rail tracks to address topographical issues, create a new development opportunity, and increase access and visibility to the hidden away station from nearby Washington Rd.	Municipal & County Government, Developers, Port Authority, PennDOT

CATEGORY	Example	Potential Actors
Activity		
Sidewalk Enhancements	Cities including Dallas, Baton Rouge, Miami and Cleveland are installing temporary “complete streets” to offer neighbors and drivers a sense of what a street with wider sidewalks and bike lanes could feel like without the wholesale infrastructure expense. These pop-up streets fill a lane of traffic or parking with temporary barriers, new landscaping, painted bike lanes, seating and other features for a week or several days a month. This approach has successfully resulted in the permanent transformation of streets in the long run.	Municipal & County Government, Developers, Southwestern Pennsylvania Commission, PennDOT, Urban Redevelopment Authorities and Agencies
Station Wayfinding and Increased Visibility	The Bay Area Metropolitan Transportation Commission (the MPO) started a “Safe Routes to Transit” program offering funding to improve lighting, signage to stations, and area road crossings. This funding has been used in many station areas to increase signage from major thoroughfares to the BART system.	Main Street Programs, Municipal & County Government, Urban Redevelopment Authorities and Agencies, CDCs, Port Authority, PennDOT
Bicycle Lane Enhancements	Led by Pittsburgh’s Urban Redevelopment Authority in collaboration with community groups including the Lawrenceville Corporation, the Allegheny River Green Boulevard plan envisions a bicycle path along an existing right of way between Lawrenceville and downtown Pittsburgh, via the Strip District.	Municipal & County Government, Developers, Southwestern Pennsylvania Commission, PennDOT, Urban Redevelopment Authorities and Agencies
Bicycle Programming	In addition to publishing an easy to use bicycle map of the region, BikePGH organizes a range of events each year to foster bicycling for recreation and work. These events include Car Free Fridays and Pedal Pittsburgh, an annual celebration of cycling that creates a festival like atmosphere along several bike routes in the region.	Nonprofits, Philanthropy, Local Governments, Southwestern Pennsylvania Commission, Port Authority
Bicycle Parking at Station	A partnership of the Utah Transit Authority, Salt Lake City, and the Utah DOT created the Bicycle Transit Center at UTA’s main hub just outside of downtown Salt Lake City. This facility offers bike repairs, showers, climate controlled bike storage, and bike rentals year round.	Port Authority, Municipal & County Government, Southwestern Pennsylvania Commission, PennDOT
Parking Management	In 2011, the City of Chicago established a “congestion premium” on downtown parking rates in order to encourage transit, biking, and walking. The \$28 million in revenue from the tax is reinvested in expanding transit lines and operations into and around downtown.	Pittsburgh Parking Authority Municipal Government, CDCs
Stormwater and Utility Upgrades	In 2010, the Bay Area Metropolitan Transportation Commission added utility and wastewater infrastructure to its list of approved “transportation for livable communities” grant uses as a way to incentivize additional growth in walkable historic communities near transit stops.	Developers, Urban Redevelopment Authorities and Agencies, Water and Sewer Authorities, Municipal & County Government

CATEGORY	Example	Potential Actors
Activity		
<b>REVITALIZATION AND REUSE</b>		
Historic Preservation of Residential or Commercial Structures	The Pittsburgh History & Landmarks Foundation, together with a group of community members has been revitalizing the Victorian homes of Hamnett Place on a house-by-house basis. The efforts have begun to turn around the neighborhood, making the streets and sidewalks feel safer, more pleasant, and ultimately more walkable.	Pittsburgh History and Landmarks Foundation, Urban Redevelopment Authorities and Agencies, CDCs, Developers
Façade Improvements	The Streetface façade renovation program, administered by the Urban Redevelopment Authority of Pittsburgh, provides matching funds to eligible commercial building owners and tenants to improve their building façades. Improved façades not only have a great impact on the appearance of the neighborhood, but also can positively affect a business's bottom line by creating an atmosphere that's inviting to customers. Citywide, over 200 façades have been improved and \$2.4 million of public investment has leveraged over \$4.2 million of private investment.	Main Street Programs, Urban Redevelopment Authorities and Agencies, CDCs, Developers
Main Street Improvements	Utilizing Mainstreets and Historic District programs, among others, the former Southside Local Development Company invested in street trees, trash removal, and lighting and pedestrian crosswalk pilots along E. Carson St. and ensured that Southside Works' façade improvements crossed the street. Along with other programs, this significantly increased private commercial and residential investment within the corridor.	Main Street Programs, Urban Redevelopment Authority, CDCs, Municipal & County Governments
Main Street Programming	The Lawrenceville Mainstreets program provides organizational support and funding to support the growth of Lawrenceville's two designated "Main Street" districts: Butler Street (from 34th to 55th Streets) and Penn Avenue (from 40th St. to Friendship Ave.). Since 1990, Lawrenceville has been provided Mainstreet support through the URA's Streetface façade renovation program, assisting in the renovation of over 100 facades. It's also provided promotional funding to support community events and activities like the Joy of Cookies Cookie Tour.	Main Street programs, community based organizations
Retail Tenant Attraction	Through SSLDC's Mainstreet programming, E. Carson retail vacancy fell from 45% in 1982 to 15% in 2011 - a level below that of suburban shopping malls. Today, little public investment is needed to maintain and grow commercial activity within the corridor. Median home values have also increased 500% within the district, again now driven almost entirely by private investment.	Developers, Urban Redevelopment Authorities and Agencies, Main Street Programs, CDCs
<b>NEW DEVELOPMENT</b>		
Brownfields Cleanup	The Urban Redevelopment Authority worked with developers and state environmental agencies to clean up the former LTV Steel site to support development of the South Side Works, among others.	Urban Redevelopment Authorities and Agencies, Developers, CDCs, Local Governments, EPA

CATEGORY	Example	Potential Actors
Activity		
Vacant or Abandoned Property Acquisition and Assembly	Allegheny County Economic Development takes blighted or tax delinquent properties and resells them to applicants who demonstrate the interest and ability to enhance their use.	Allegheny County Economic Development, Urban Redevelopment Authorities and Agencies, State DCED, Local governments
Affordable Housing Development	As part of Bridging the Busway in Homewood, Operation Better Block is partnering with a local developer to build 41 units of senior housing adjacent to the East Busway. Homewood CDC will offer a \$10,000 incentive to entice potential tenants to the ground floor retail space. Though the average property value in Homewood is about \$10,000, the residential units are expected to sell for \$80,000, offering a boost to the local community and providing a quality residential housing stock.	Developers, CDCs, Local Governments, Urban Redevelopment Authorities and Agencies, Affordable Housing Advocates
Investment in Catalytic Development	The Shannon Transit Village project at the Castle Shannon station will introduce a new housing product to the community: mixed-use luxury apartment living. The Village has received support in the form of a TIF with the borough, state grants, federal funding, and low interest loans.	Developers, CDCs, Local Governments, Urban Redevelopment Authorities and Agencies, State DCED
<b>ACCESS IMPROVEMENTS</b>		
Transit Visibility and Signage	All Cleveland Health Line on-street BRT stations are equipped with a fare vending machine, off-board fare collection, shelters, seating, signage, and 24-hour lighting. 19 of the stations have an interactive kiosk to keep riders informed and entertained. Health Line buses provide level boarding - the bus floor is the same level as the platform - which allow for quicker in/egress even for the disabled. Riders may enter through any door due to off-board fare collection. Public art is integrated into the corridor.	Port Authority, PennDOT, Southwestern Pennsylvania Commission, FTA, FHWA
Modify Fare Collection System to Increase Transit Speed and Improve Access from T Stops	Numerous transit agencies are implementing off-board fare collection systems. The ConnectCard system will lend itself to this approach.	Port Authority, PennDOT, Southwestern Pennsylvania Commission

The shaded boxes above provide national best practices rather than examples within Allegheny County.

## IV. TOD Implementation Priorities by Station Area

Given the sheer size and reach of Pittsburgh's fixed-guideway system, TOD implementation at the countywide scale can seem daunting. With over 100 light rail and busway stations and limited resources to address their diverse needs, the time is right to strategically organize and guide efforts to optimize the system through planning and community development. The TOD typology framework described in this chapter is designed specifically to identify and prioritize station areas with common implementation needs and TOD potential.

This typology does not supplant local planning efforts, but rather helps guide and focus community development activities and resources in smaller communities and lower capacity neighborhoods as the real estate market steadily rebounds. The typology classifies station areas into five place types that have common implementation needs. Each place type prioritizes a different set of implementation activities from those described in the previous chapter.

### Overview

The typology, or method of sorting the region's fixed-guideway station areas into different types, is designed to help PCRG and its local partners better leverage TOD potential across the region. The typology is a holistic measure of a community's overall transit orientation and relative market strength, based on an assessment of the built, social, development and political environments. While existing transit orientation capitalizes on existing urban assets to build transit ridership and transportation choice for current households, market strength and capacity captures future potential for growth in the form of new development. A detailed description of the proposed methodology is described below.

### People + Places

A community's transit orientation cannot be distilled to a single factor. It is the function of a number of interworking land use and transportation characteristics. This typology includes a composite transit orientation index that captures a blend of existing physical and social characteristics proven to generate transit ridership and walking and biking trips; namely: residential and employment densities, mix of uses, and average block sizes. It also incorporates key predictors of transit lifestyles, transit dependency (auto ownership) and transit vs. driving travel times. For purposes of transparency and consistency, the chosen elements are simple, and available for ongoing analysis into the future as conditions change.

The typology includes the following specific measures of transit orientation:

- **People:** The number of residents and workers in an area has a direct correlation with reduced auto trips<sup>1</sup>;
- **Places:** Areas with commercial urban amenities such as restaurants, grocers, and specialty retail not only allow residents to complete daily activities without getting in a car, but they also improve the likelihood of higher density development by increasing residential land values<sup>2</sup>;
- **Physical Form:** Small block sizes promote more compact development and walkability<sup>3</sup>;

1 Newman, Peter and Jeff Kenworthy, "Urban Design to Reduce Automobile Dependence." *Opolis*, v. 2 no 1 (2006).

2 An Assessment of the Marginal Impact of Urban Amenities on Residential Pricing. Johnson-Gardner (2007).

3 Holtzclaw, John, Robert Clear, Hank Dittmar, David Goldstein, and Peter Haas, "Location Efficiency: Neighborhood and Socio-Economic Characteristics Determine Auto Ownership and Use?" *Transportation Planning and Technology*, Vol. 25, March 2002, pgs. 1-27.

- **Population:** The percentage of households with access to one or fewer vehicles reflects the transit dependence of a station area.
- **Proximity:** Transit travel times to a region's major employment and activity center is a proxy for regional accessibility. An extensive recent meta-analysis of land use and travel behavior studies found that vehicle miles traveled increase with the distance to a region's core downtown<sup>4</sup>.

### Potential

The second key element of the typology is the near-term development potential of station areas. The purpose of adding this element is to inform implementation activities with market realities when prioritizing areas for limited public resources. Some potential stations, for instance, may exhibit strong urban form characteristics, but, given their current market potential, may not be quite ready for catalytic investments that are unlikely to attract private development in the near-term. Rather, these same areas may be ideal candidates for focused planning efforts to identify current market barriers. Conversely a station area with strong market potential but poor transit orientation could benefit from opportunistic strategies that leverage new development to enhance walking, biking and transit infrastructure in the area.

To capture the existing market conditions and future market potential of individual transit communities, the typology is also a composite measure comprised of the following factors. Again, these factors are kept somewhat basic and can be updated over time as station area conditions change:

- **Sales:** Average real estate sales per square foot from 2000 to 2011. By controlling for size and capturing sales over multiple market cycles, this measure

4 Reid Ewing and Robert Cervero (2010), "Travel and the Built Environment: A Meta-Analysis," *Journal of the American Planning Association*, Vol. 76, No. 3, Summer, pp. 265-294.

provides a relative order of magnitude comparison over time;

- **Rents:** Average residential rents based on 2010 Census data. Higher achievable rents are more likely to attract new TOD market interest;
- **Land Availability:** Acres of underutilized land within each station area. Some land – but not an excess of land – should be available for new development to offer potential for change;
- **Capacity:** Qualitative rating of a station area's public and private capacity to attract and foster development. Factors going into this rating included, but were not limited to, planning initiatives (station area planning, zoning), the presence of a redevelopment authority, recent development activity, and the relative experience of community development organizations in community organizing, planning, implementation, and securing funding and financing for projects.

### Place Types

The juxtaposition of the People + Places and Potential composite indices provides the framework whereby Pittsburgh's busway, T, Monongahela Incline, and planned Downtown-Oakland BRT<sup>5</sup> stations can be clustered in a series of implementation place types. *Figure IV-1* illustrates where the station areas land in terms of the two scores. Generally speaking, the East Busway and planned Downtown-Oakland BRT stations perform at the higher ends of both spectrums. Whereas inner Red Line and West Busway stations score moderately well on both measures, the more suburban Blue Line stations tend to demonstrate lower performance in terms of the physical, social and market environments.

By identifying station areas that naturally cluster together on these two axes, it is

5 Due to lower commuter utilization and lack of connection to downtown or the rest of the network, the Duquesne Incline was not part of this study.



possible to generate implementation place types where the needs and opportunities are similar.

These place types, defined in the next several pages, are:

- Infill & Enhance
- Catalyze
- Connect
- Plan & Partner
- Educate & Envision

**Prioritization**

The place types are designed to inform the prioritization of the implementation activities described in the previous chapter. With scarce time and financial resources available for implementation, it will be important for county, regional, and statewide agencies, advocates, collaboratives and other organizations to make systematic, informed investments that leverage the greatest impact in station areas. Certain activities will be more effective in some place types than others.

Figure IV-1, on the next page, shows broadly how the clusters of activities could be prioritized in the different place types based on whether they would be more or

less able to leverage significant change. The following pages offer a brief description of each place type with an explanation of why different investment needs are appropriate.

The place type information can also inform community-based groups and municipalities in understanding the needs in their station areas. Each of the below place type descriptions include a brief profile of a station area falling in that place type, with their relative performance on all eight indicators described above. Similar charts can be found in the appendix, for use at the local and station area level.

Table IV-1: Prioritization of Implementation Activities by Place Type

	Building Capacity of Local TOD Champions	Planning/Visioning	Access Improvements	Community and Economic Revitalization	Catalytic Development
Infill & Enhance	Low	Low	Medium	Medium	Medium
Catalyze	High	Medium	Medium	High	High
Connect	Medium	High	High	Medium	High
Plan & Partner	High	High	Medium	Low	Low
Educate & Envision	Medium	Medium	Low	Low	Low

Figure IV-1: Station Area Performance by "People + Places," and "Potential"



Figure IV-2: Station Area Place Types as Determined by Performance

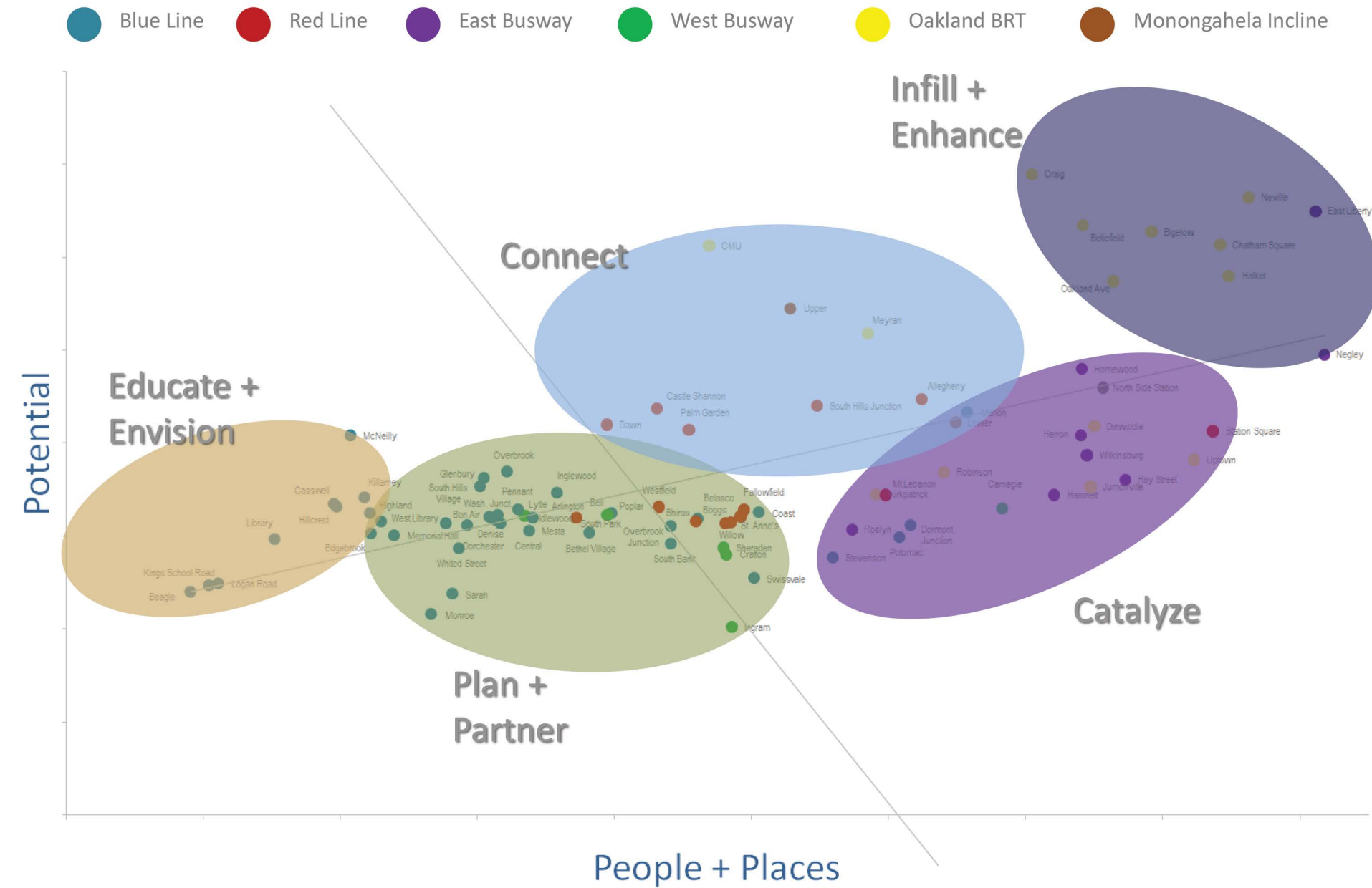
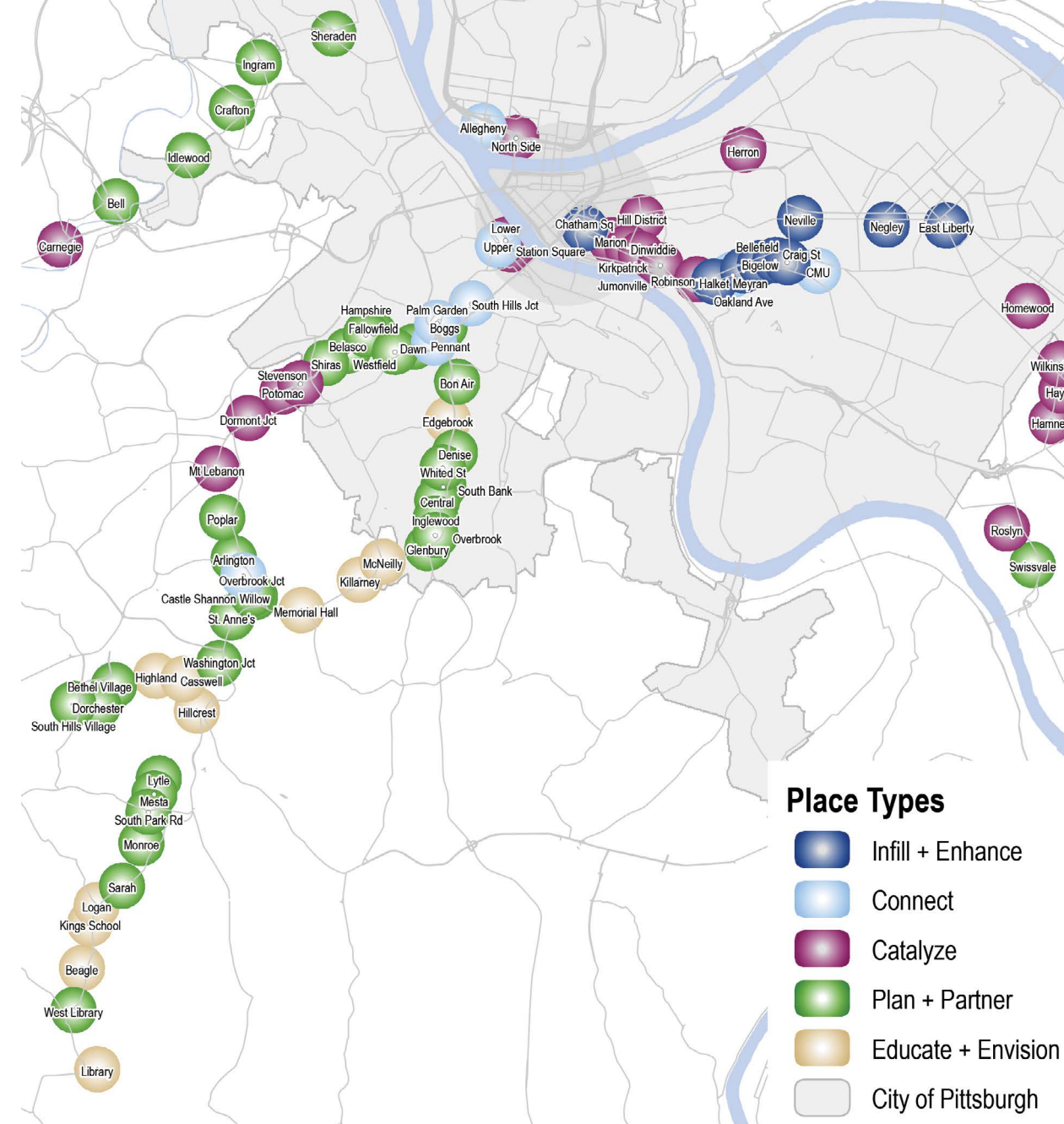


Figure IV-3: Map of Station Area Place Types



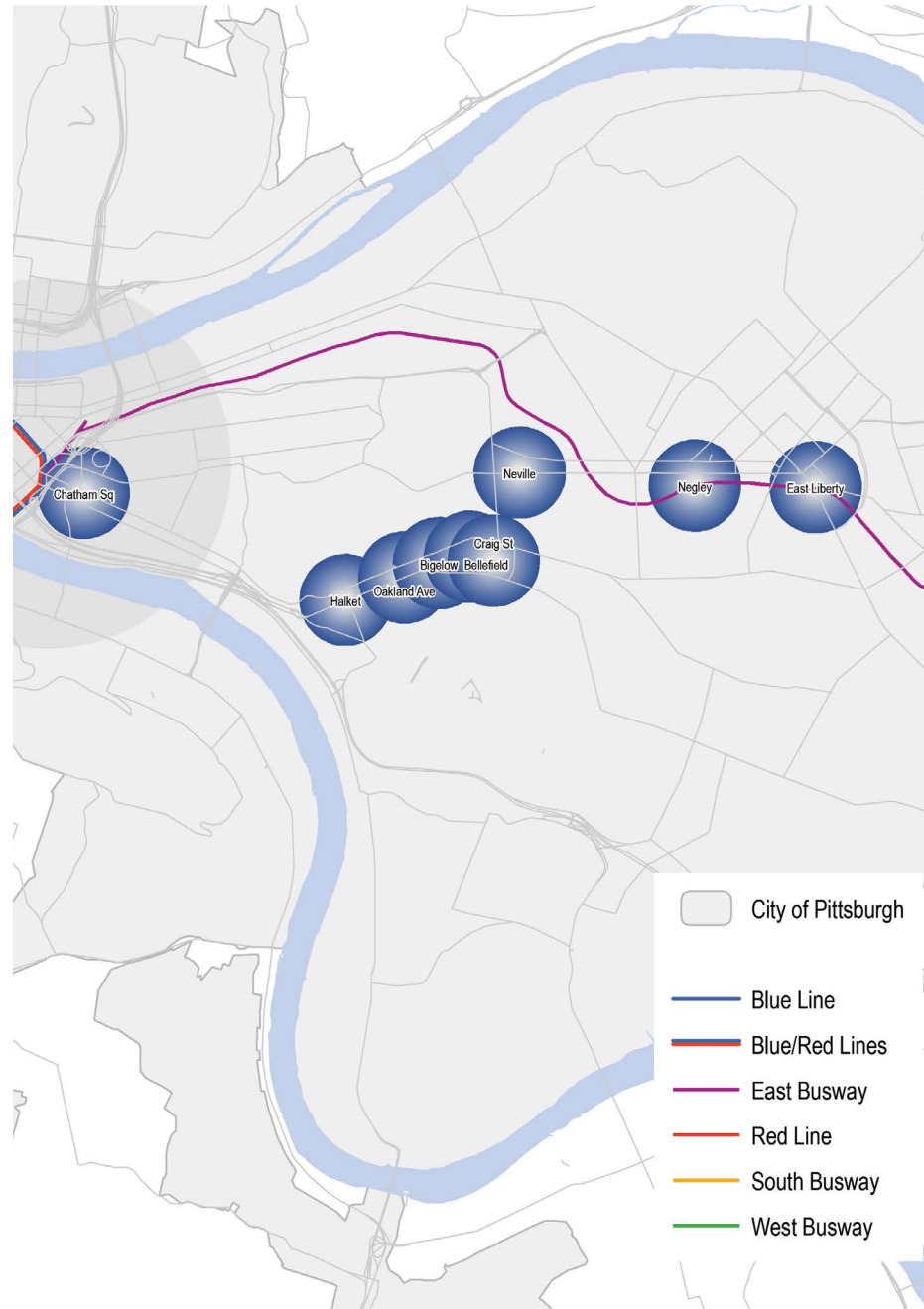
**Infill + Enhance**

Infill + Enhance station areas are those that perform relatively high in terms of both transit orientation and market potential. All of the stations within this category, shown in *Figure IV-4*, are located along either the East Busway or the proposed Oakland-Downtown BRT corridor. This is consistent with the historic compact urban form and the market activity within these close-in Eastside neighborhoods. Note that infill, in this case, refers to infill development within station areas themselves – not infill development at a neighborhood scale such as a neighborhood revitalization initiative.

**Regional Priorities**

For a variety of reasons, Infill + Enhance station areas should not necessarily be the highest countywide priorities for any activity in *Table IV-1*. This is primarily because interventions may not be required to catalyze TOD, given the strong urban form and market potential in these areas. These station areas still likely have needs for TOD implementation, such as real physical BRT stations in Oakland, but where allocation of significant public subsidy or intervention is concerned, there is potential for greater transformation and a deeper need within other station areas.

Figure IV-4: Infill + Enhance Station Areas



**Investment Approach**

Given their existing assets, Infill + Enhance station areas should be targeted for modest, “surgical” type activities to help advance their momentum and expand

Figure IV-4a: Components of the Transit Orientation Score at Negley Station

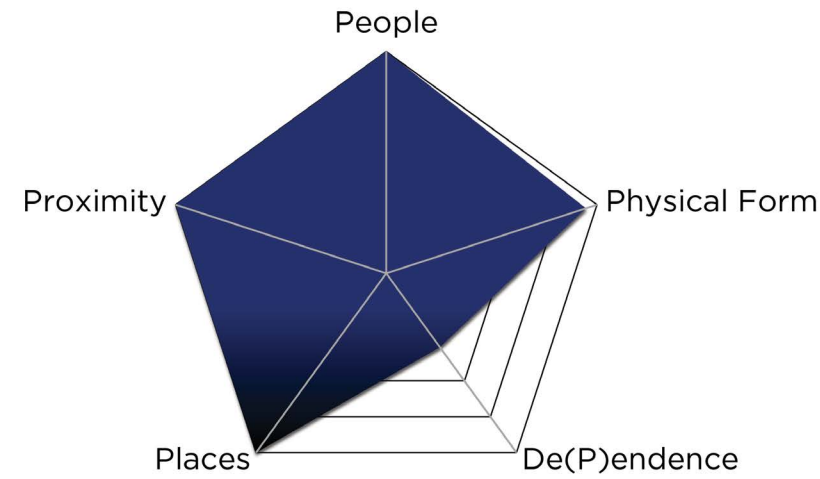
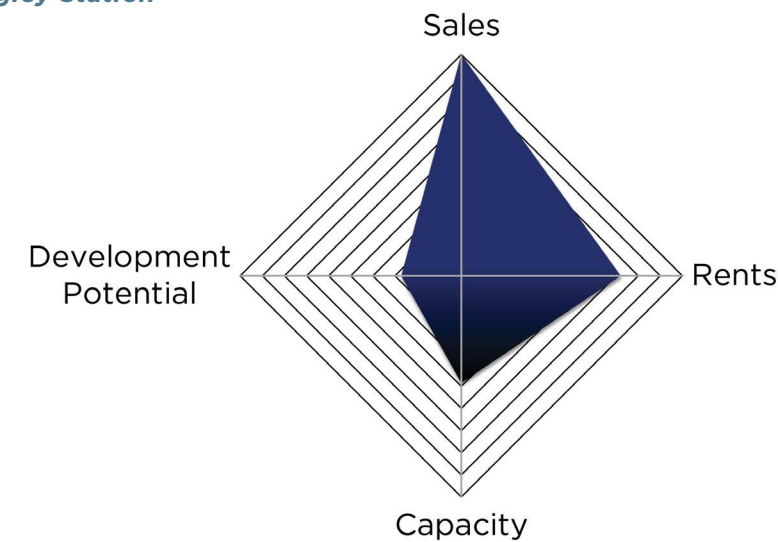


Figure IV-4b: Components of the TOD Investment Potential Score at Negley Station



their access to a broader population. Implementation priorities should include more intensive infill development and enhancement of local services and amenities – again such as BRT stations, off-board fare collection, and system visibility enhancements. Given their existing pedestrian-oriented environments, significant changes to the street network are not always needed in these areas, but enhancement of local goods and services, and placemaking via neighborhood retail development could help maximize local TOD potential and catalyze further private market investment. In order to expand and maintain access to these areas for lower-income households, workforce and mixed-income housing should be targeted for those neighborhoods with rising rental rates.

**Infill + Enhance Example: Negley**

The Negley station on the East Busway enjoys a fairly walkable urban form and a moderate to strong real estate market, relative to other areas of Pittsburgh. Interventions in this area in the form of significant subsidies are unlikely to catalyze significant transformation, but could support nuanced projects that offer more amenities to nearby residents.

**Connect**

Station areas within the Connect place types, shown in Figure IV-5, are those that demonstrate higher market potential with more modest urban form and density. This place type includes a mix of areas including districts with large institutional/entertainment uses, close-in South Hills stations, and one with significant redevelopment potential.

**Regional Priorities**

From an implementation perspective, these areas are ripe for strategic infrastructure and access improvements to help unlock their development potential. Connect station areas may have less walkable blocks in general or a handful of significant barriers to pedestrian access immediately surrounding the station areas. If market potential is strong enough, these station areas may be good candidates for leveraging new development in support of access improvements.

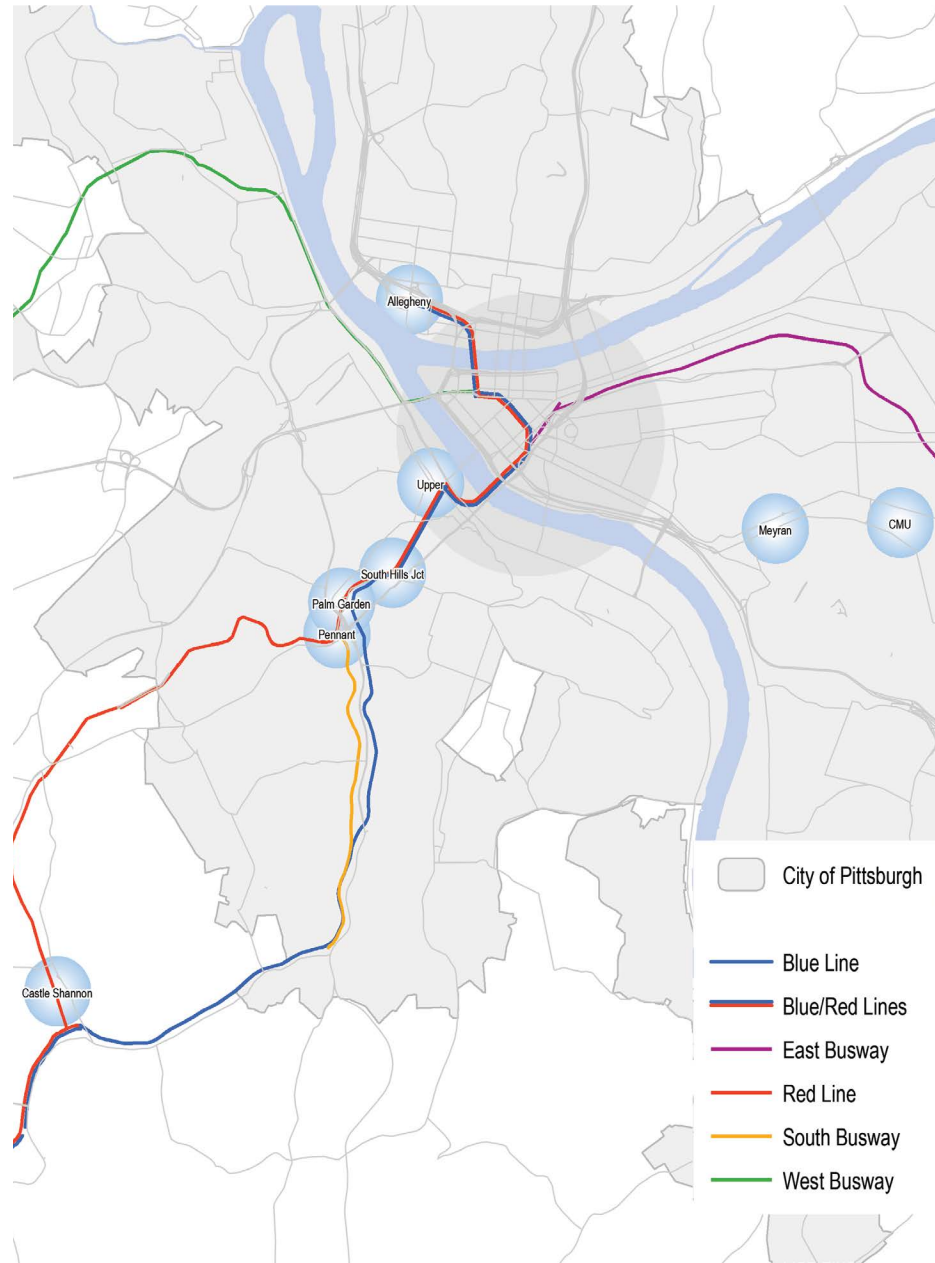
**Investment Approach**

In the case of the Red Line stations, the T line runs along a ridgeline making for steep pedestrian climbs to the stations. Access improvements should be aimed at enhancing these pedestrian routes (e.g. stairs, lighting) to help overcome the physical and psychological barriers this topography creates.

**Connect Example: Allegheny Station**

Allegheny Station at the end of the recently completed North Shore Connector is surrounded by surface parking lots and cut off from the North Side neighborhoods by elevated Route 65. A planned PennDOT project to install a pedestrian bridge and ramp connecting across Route 65 could address some of these issues and is an example of the types of infrastructure projects that stations falling into

Figure IV-5: Connect Station Areas



the “Connect” place type require. As redevelopment occurs, physical and visual pedestrian connections to the area’s many entertainment destinations should be enhanced.

Figure IV-5a: Components of the Transit Orientation Score at Allegheny Station

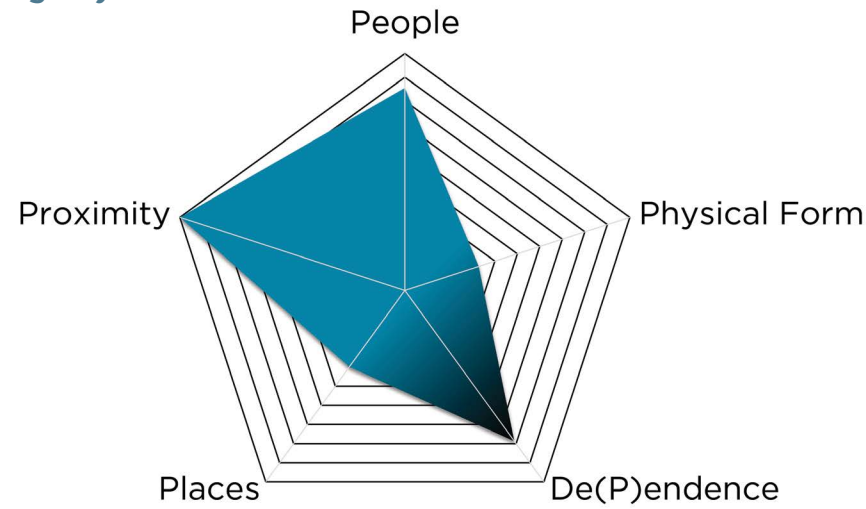
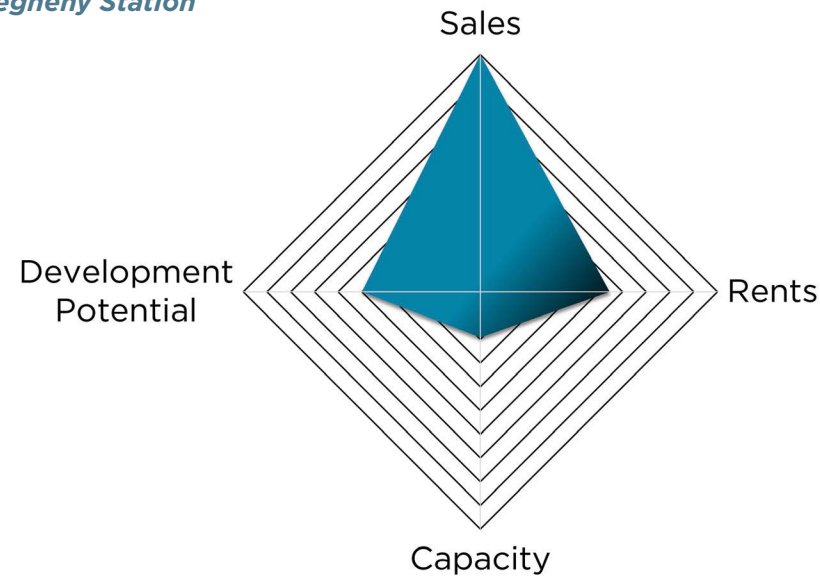


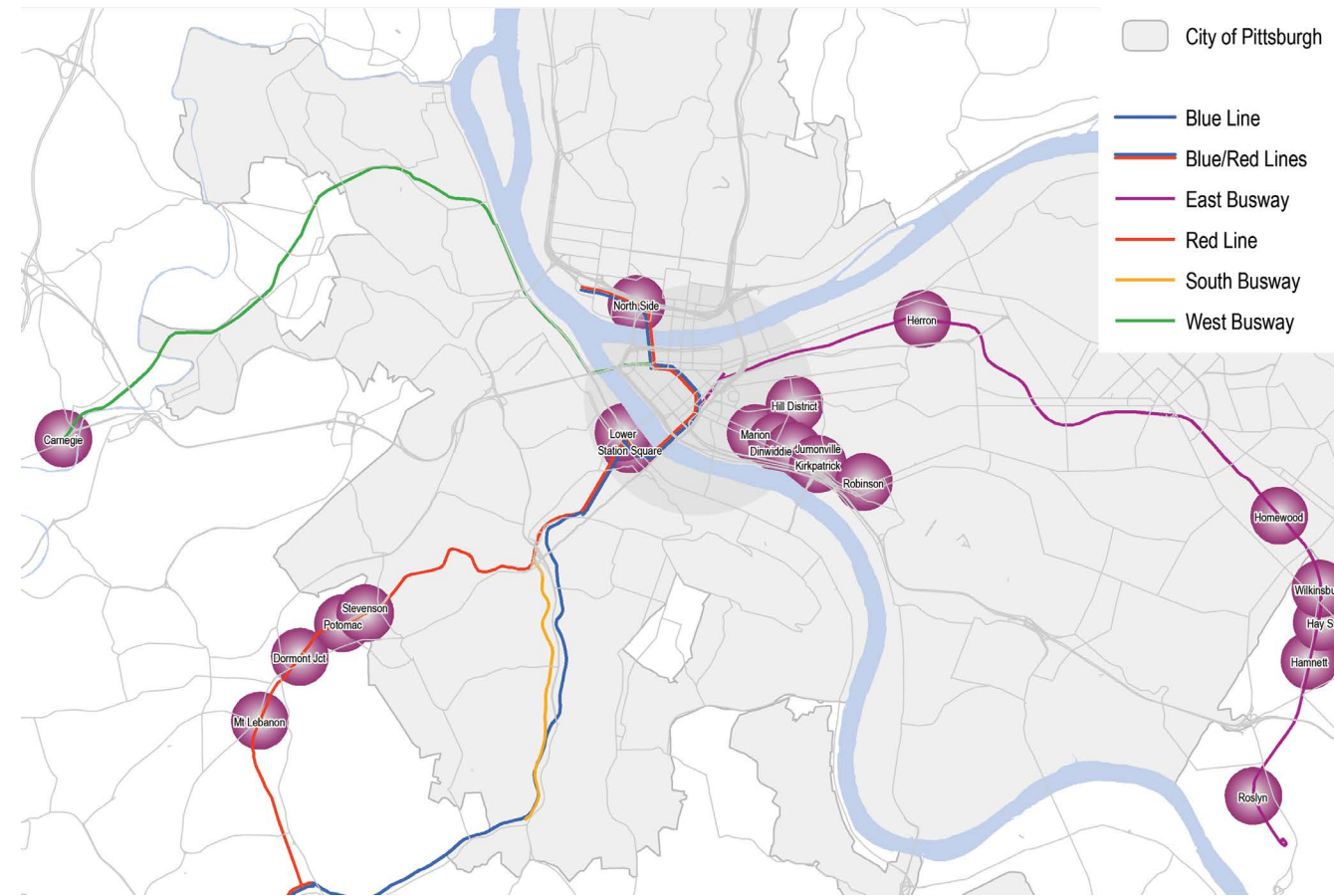
Figure IV-5b: Components of the TOD Investment Potential Score at Allegheny Station



Catalyze

Catalyze station areas demonstrate stronger facets of urbanism, yet lack the market demand to support redevelopment. In most cases, the areas are concentrated in lower income communities that have experienced disinvestment such as Uptown, Homewood and Wilkinsburg. Other communities, on the other hand, are in stable suburban communities that have lower market potential due largely to their more suburban land values (Mt Lebanon, Carnegie). However these neighborhoods may have other benefits including high capacity staff or community groups, or readily available land for development.

Figure IV-6: Catalyze Station Areas



Regional Priorities

From a community development perspective, station areas in the Catalyze place type have the strongest potential and greatest need for catalytic investment.

Investment Approach

Given the stronger urban fabric of these areas, implementation should be focused on catalytic investments and initiatives to leverage private investment. In the case of disinvested neighborhoods, public agencies should support the ongoing

efforts of community development organizations and champions in their efforts to increase transit accessibility and attract revitalization (e.g. Bridging the Busway project in Homewood and North Point Breeze). In more suburban locations, implementation should focus on increasing the urban amenity value of commercial districts and corridors. Studies have found that the presence of nearby urban amenities such as coffee shops, restaurants and neighborhood serving retail and services can enhance achievable rents and sales, thereby enhancing the feasibility of new residential construction.

Catalyze Example: Homewood vs. Mt. Lebanon

The radar graphs below show that within any given place type, the actual station areas may perform quite differently even though they end up in a similar place on the composite score.

Whereas Homewood has a strong urban form, it falls short in generating market strength. Conversely Mt. Lebanon enjoys higher property values but has a slightly weaker urban form. Thus, what it would take to catalyze TOD in Mt. Lebanon is

quite different than what it takes to catalyze TOD in the Homewood neighborhood.

Mt. Lebanon's commercial district is full of thriving businesses and even new

Figure IV-6a: Components of the Transit Orientation Score at Mt. Lebanon Station (left) and Homewood Station (right)

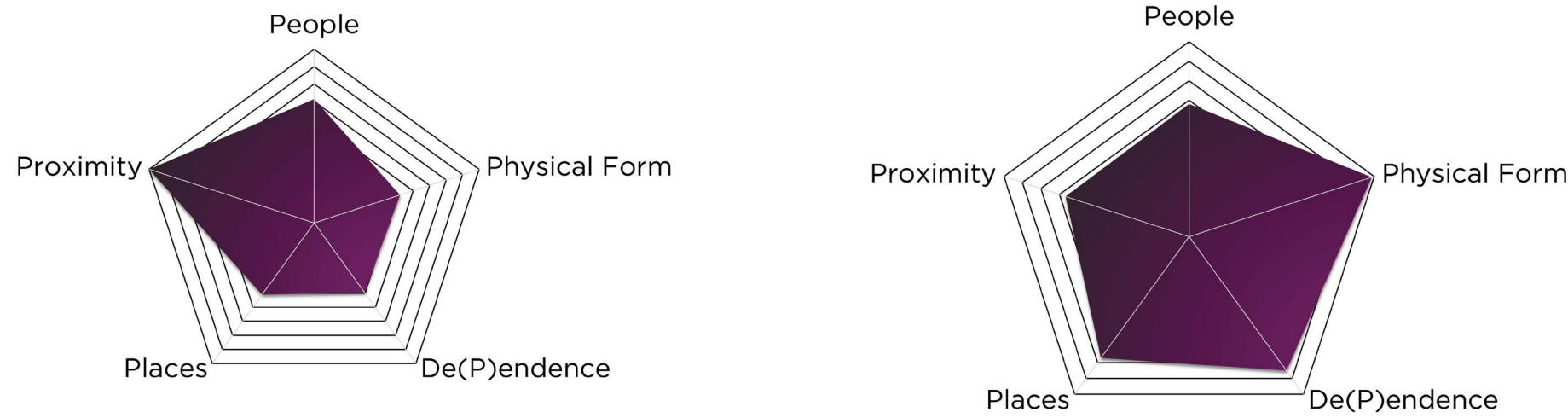


Figure IV-6b: Components of the TOD Investment Potential Score at Mt. Lebanon Station (left) and Homewood Station (right)



commercial and hotel development, but surrounding neighborhoods include moderate density single family residential homes which are not necessarily supporting high transit ridership. What Mt. Lebanon enjoys in market strength it lacks in available land, reinforcing the need for the planned, but potentially costly, TRID study recommendation of using the air rights over the tracks.

Homewood's Bridging the Busway study has offered many recommendations for ways to catalyze TOD in the neighborhood, by playing upon market strengths found in the Point Breeze north neighborhood on the other side of the busway itself. Its planned catalytic projects - including the affordable mixed-use complex proposed less than half a block from the station - could generate new investment and momentum in Homewood south.

**Plan + Partner**

The greatest number of station areas fall within the Plan + Partner place type. Nearly all of the station areas on the West Busway, and a large number of station areas on the Red and Blue line fall in this category, as shown in Figure IV-7. While some station areas have characteristics of former streetcar suburbs, their primary land use pattern is more suburban, and market potential is low to moderate.

**Regional Priorities**

Implementation in Plan + Partner areas should be focused on station area planning and visioning. Given their modest market strength and/or limited urban form, these areas present longer-term implementation opportunities. However, these are areas where the region has made important transit investments and long range planning is needed to ensure that the full value of these investments is captured in the future.

**Investment Approach**

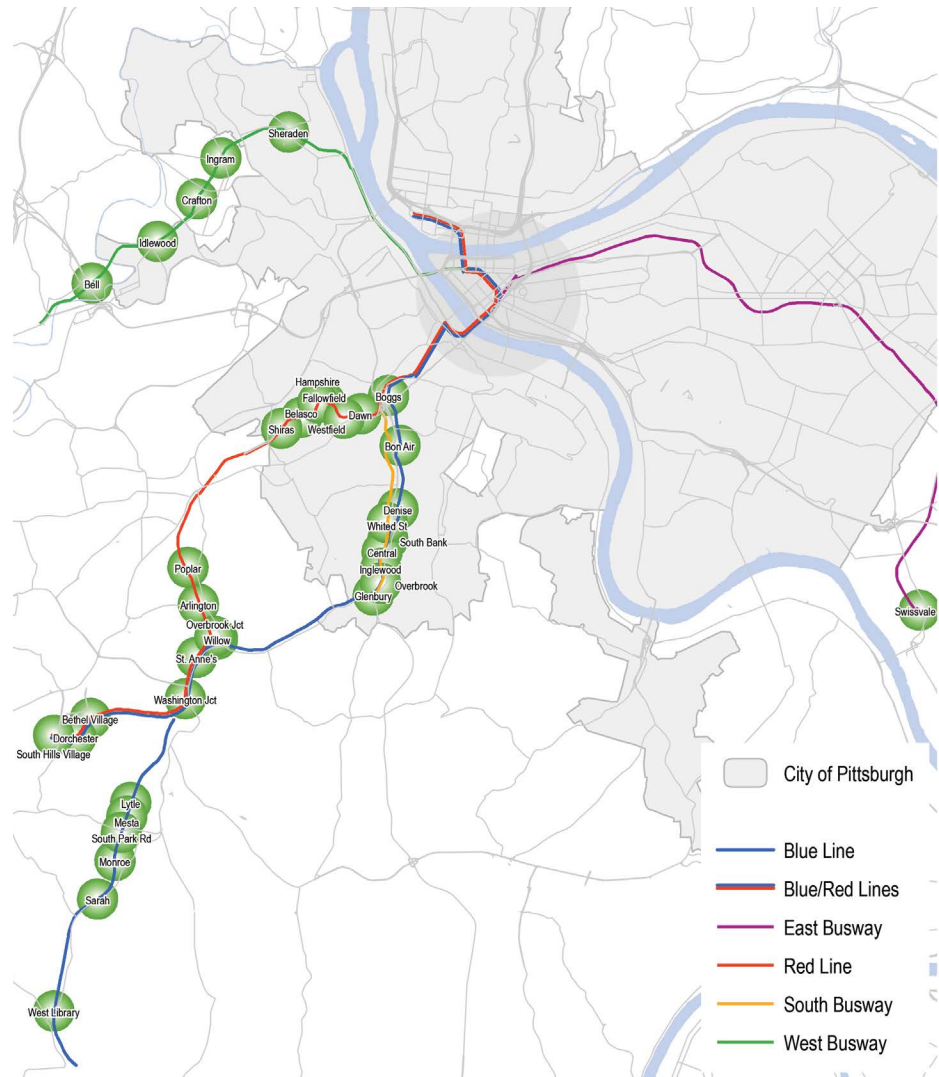
Planning assistance and technical assistance should be focused on those station areas within this long list that have demonstrated higher aspirations for TOD. To help carry out these planning efforts, PCRG and other actors should work with these local partners to build community development capacity. In some cases, such as the South Bank station, individual development projects may occur that can both increase station connectivity and visibility, and create early "wins" that build greater support for district wide planning in the long term.

**Plan + Partner Example: Overbrook Junction**

Located in the Borough of Castle Shannon at the end of the Red Line, Overbrook

Junction offers significant TOD opportunities in the form of land at the nearby Ice Castle site, and transit choices on both the Red and Blue Lines (the Willow station on the Blue Line is a short walk away). Yet Overbrook Junction faces barriers to access into adjacent neighborhoods and thoroughfares with limited pedestrian or bicycle facilities as well as ease of transfer between Red and Blue Line

Figure IV-7: Plan + Partner Station Areas



stations within Overbrook Junction itself.

The Castle Shannon Business District Revitalization Plan identified key sites for future development and reinvestment, a coordinated parking strategy, and

Figure IV-7a: Components of the Transit Orientation Score at Overbrook Junction Station

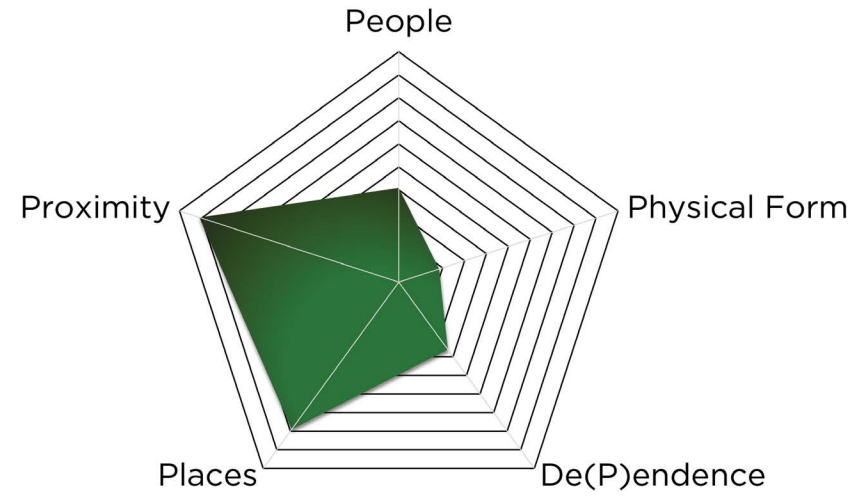
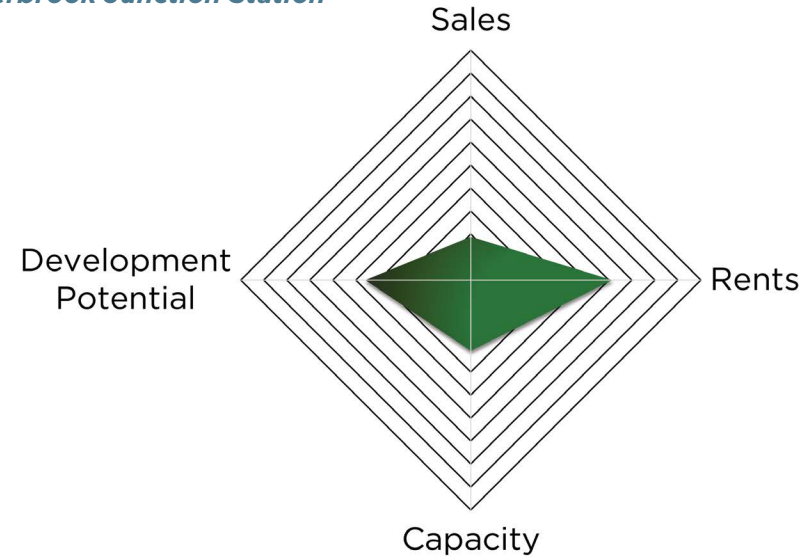


Figure IV-7b: Components of the TOD Investment Potential Score at Overbrook Junction Station



investment in civic spaces and infrastructure to promote a greater sense of place and address urban design barriers. With this plan in place, private developers and other investors are able to have a predictable understanding of the desires of Borough officials and nearby residents and businesses. This plan offers next steps for implementation and potential funding sources, creating a path forward for the Borough.

Educate + Envision

The final place type is Educate + Envision. Located entirely on the Blue Line, these stations lack the urban form and market potential to support TOD. Inner Blue Line stations are inhibited by their significant access constraints and the poor pedestrian environment along parallel Saw Mill Run Blvd (Route 51). Outer Blue Line stations, on the other hand, are within suburban, or even exurban or rural settings, characterized by large lots and lack of walkability and bicycling assets or access.

Regional Priorities

Similar to the Plan + Partner place type, Educate + Envision station areas present lower priorities from an implementation perspective. Reflecting the critical role of the non-profit sector and local champions, however, community development activities are occurring near some inner Blue Line stations.

Investment Activities

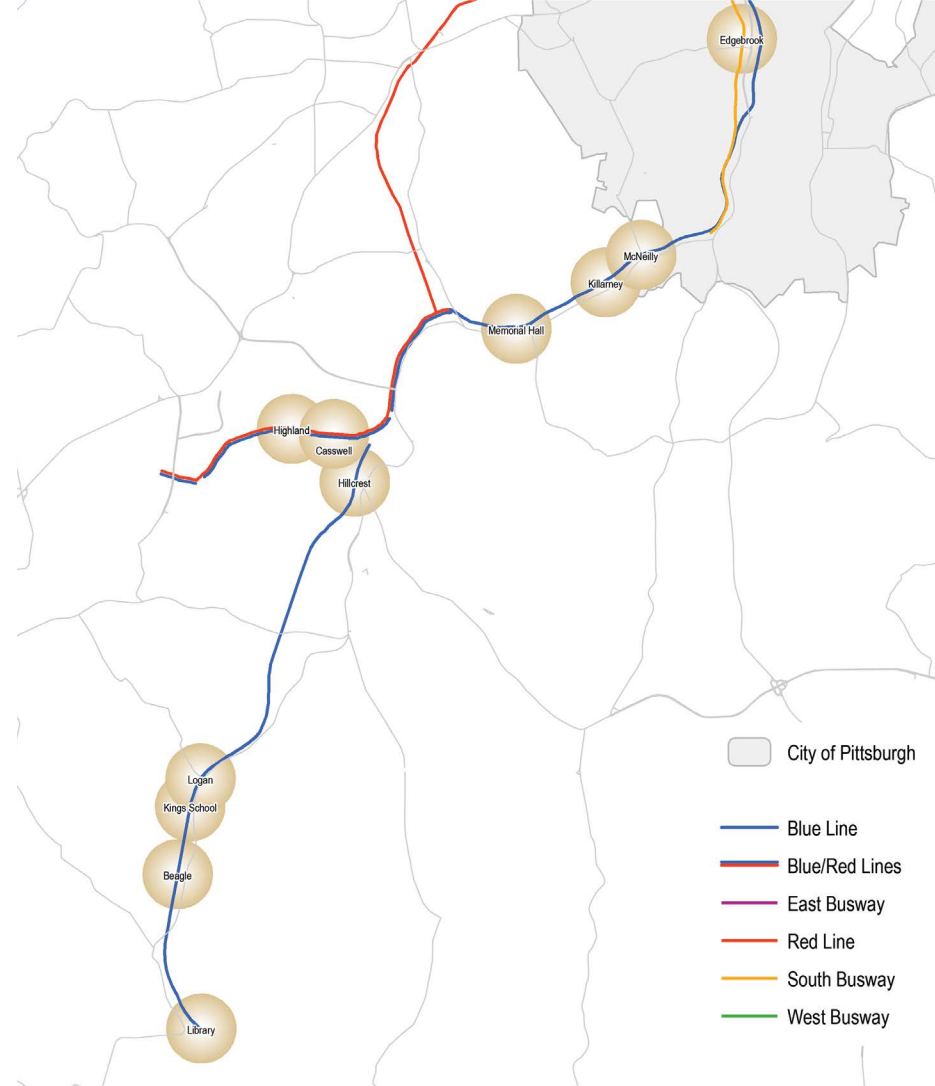
Regional and local actors should support these efforts to help build density along the corridor and advocate for access improvements. Should momentum build, the typology should be updated to reflect changes to the built environment. A number of these stations could be elevated into the Plan and Partner, Connect or Catalyze place types with greater momentum. Outer Blue Line station areas, on the other hand, may be resistant to near-term change as making these station areas transit-oriented would require a total change in the character and urban form of the neighborhoods around the station. Implementation activities should be focused on educating local officials and providing technical assistance should TOD visioning projects occur.

Although it is in the main commercial district in the Township of South Park, the

Library station on the Blue Line has a more suburban to exurban land use pattern and a large park-and-ride lot. Land uses are low density and there is limited support for significantly increasing development in the area.

Should interest increase in TOD within the South Park Township, further efforts to communicate the benefits of TOD could be focused on the Library station.

Figure IV-8: Educate + Envision Station Areas



However, given the lack of interest and the great potential of station areas falling in other place types with more supportive urban form or capacity, encouraging TOD in stations like Library is a low priority.

Figure IV-8a: Components of the Transit Orientation Score at Library Station

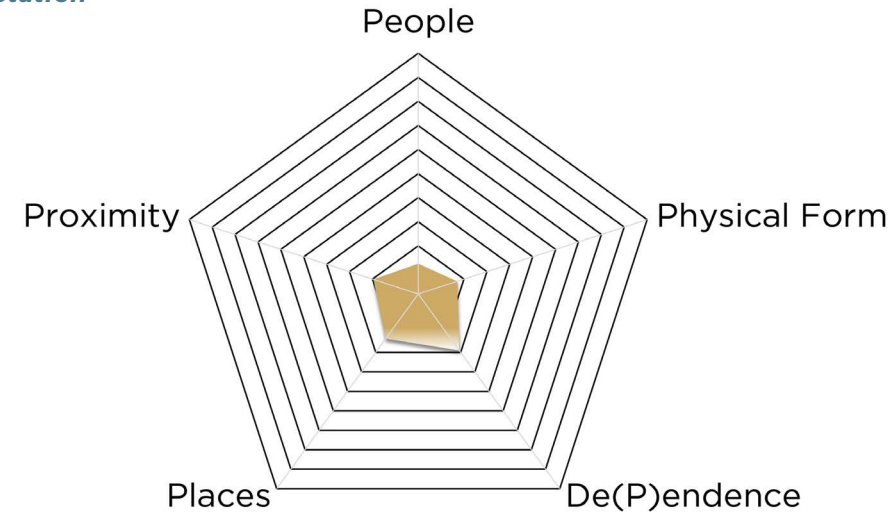
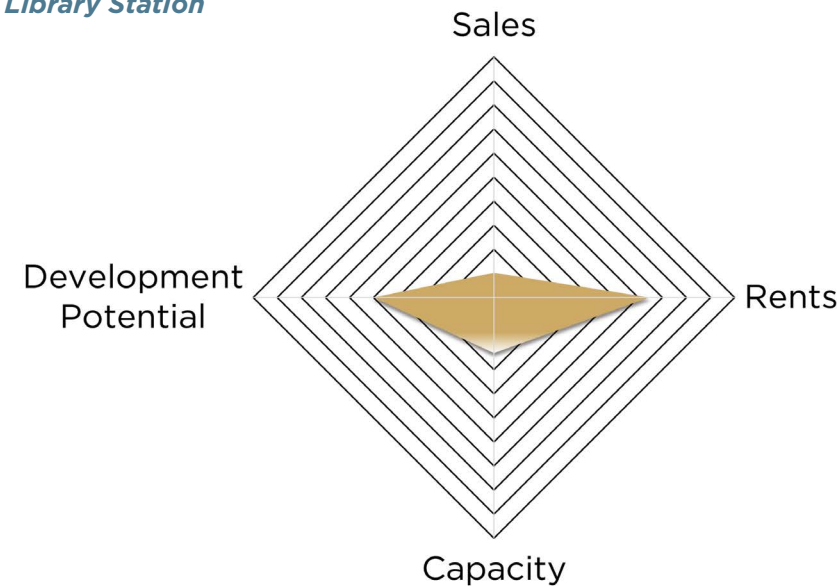


Figure IV-8b: Components of the TOD Investment Potential Score at Library Station



Overall Place Type Findings

Infill + Enhance

- **Much of the planned Oakland corridor already outperforms the existing fixed-guideway transit network in its transit orientation and market potential.** The majority (7 of 9) of the Infill + Enhance station areas are along the proposed BRT corridor. This reinforces the importance of higher-quality transit and placemaking access improvements (stations) along this corridor to capture the pent-up demand for TOD from these areas and Downtown within the “Catalyze” station areas located in the Hill District and Uptown.
- **Interventions to catalyze TOD should be modest to minimal in these station areas.** Following the matrix in *Table IV-1*, prioritization of financial public investment or organizational capacity in these areas is at a lower priority than for other place types. All Infill+Enhance place types already enjoy strong market and physical form, and have a high degree of capacity on the ground for TOD. Scarce resources should be focused in other areas.

Catalyze + Connect

- **28 station areas fall into either the Catalyze or Connect place types.** The concept behind both the “Catalyze” and “Connect” place types is that transit-oriented development is achievable with minor investments. Small to moderate investments in these station areas could significantly boost regional economic competitiveness by offering ample opportunities for a high quality, transit rich lifestyle.
- **Many of these station areas face access need some kind of pedestrian enhancement in order to catalyze TOD.** Clearly the station areas falling into

the “Connect” place type are in need of pedestrian and bicycle improvements. Yet, even amongst the many “Catalyze” station areas on the East Busway, increasing pedestrian access particularly over or under the East Busway alignment has already been identified as a key revitalization strategy. This reinforces the need for new funding sources to help pay for improvements such as pedestrian bridges and tunnels, sidewalk enhancements and bicycle lanes.

- **There is a need to increase the capacity and coordination of both public agency staff and community groups in some of these station areas.** One recommendation is to develop a regional program to increase capacity by leveraging the experience of high capacity neighborhoods, and offering technical assistance and best practices.
- **These station areas represent the best “bang for the buck” in terms of both capital and capacity investments to catalyze TOD.** Targeted investments in these station areas could yield the largest return for TOD due to their place type. More information on suggested station area activities, for both “Catalyze” and “Connect,” are provided within this report.

Plan + Partner

- **The majority of station areas fall within the Plan + Partner place type.** Therefore further evaluation and monitoring of these station areas is needed to identify locations with an interest in TOD.
- **Plan + Partner place types, in their current state, are not strong candidates for infrastructure investments.** A lack of the necessary capacity, market forces, and/or physical form mean that significant infrastructure investments in these place types, at this time, would yield little return in regards to TOD.

- **Offering regional incentives to plan for TOD, such as readily available planning or infrastructure grants, could help cull out the interested stations in need of support.** While not all of the Plan + Partner station areas may be interested in TOD today, those that are should receive technical support if needed, in order to generate community support, create a vision, and develop a plan for implementation.
- **Continued monitoring of these station areas is important.** Since conditions and politics change over time, some Plan + Partner stations may shift into a different category and need further intervention.

### **Educate + Envision**

- **Most Educate + Envision station areas are not strong candidates for TOD.** Unless there is evidence that a community with an Educate + Envision station area is interested in TOD, these stations do not offer the urban form or support required to readily achieve TOD benefits.



## V. Funding and Financing

This chapter provides an overview of the range of funding and financing sources that are currently available to local governments, community development organizations, and other actors in Allegheny County to pay for the types of TOD implementation activities identified in previous chapters. The chapter also provides examples of programs used in other states and regions to enable and encourage TOD, and case studies of how two projects in Allegheny County – the East Liberty Transit Center and Shannon Transit Village – are assembling funds for implementation.

### Overview of Funding and Financing Tools

Chapter III identifies a number of implementation activities needed to achieve transit-oriented development, including visioning and planning, local access improvements, revitalization and building reuse, new development, and regional access and transit system improvements. Traditionally, local governments have dedicated a portion of their property tax, sales tax, and other General Fund revenues to pay for these types of activities. However, the ability of local governments in Pennsylvania to raise revenues by increasing or adjusting tax rates is restricted – as it is in most states – by Pennsylvania’s constitution and statutes and establishing new taxes requires state enabling legislation. These constraints make it particularly challenging for municipalities to pay for local infrastructure and community development projects, especially in the wake of the national recession that began in 2008. Given these challenges, local governments and community organizations are looking for ways to leverage traditional sources of local government revenue and generate new sources to pay for TOD implementation. (See the sidebar for a discussion of funding and financing for infrastructure and community facilities.)

Beyond general property and sales taxes, the tools available to fund and finance

TOD implementation fall into three broad categories: user fees; value capture; and grants or loans from federal, state, regional, or other entities. These categories are discussed below. Existing tools available to municipalities and community organizations are listed by category in Appendix A. Note that Appendix A is not comprehensive, but rather includes the tools identified as most relevant for TOD.

#### **Paying for Infrastructure and Community Facilities: ‘Funding,’ ‘Financing,’ and ‘Pay-As-You-Go’**

The first step to paying for an infrastructure or community development project is to identify the funding source(s). Some types of infrastructure generate revenues directly by charging fees for use. For example, utilities, toll roads, transit systems, and (in some instances) parking facilities charge user fees, which can be used to pay for all or part of the costs associated with capital improvements and/or operations and maintenance. Other types of infrastructure and community facilities, such as local streets, sidewalks, streetscape improvements, and parks and open space are intended for free public use and rarely generate user fees. These types of non-revenue-generating infrastructure require other sources of funding, such as tax revenues or grants.

Once a revenue source is identified, there are two basic ways to approach paying for infrastructure: “pay-as-you-go” or “financing.” In a pay-as-you-go approach, an improvement is only made once a sufficient amount of revenue is collected to cover the cost of the improvement. In a financing approach, the improvement is paid for immediately, typically by borrowing against future revenues – in other words, issuing debt (usually in the form of bonds) that is paid back over time.

**User Fees**

User fees are charged for the use of public infrastructure or goods (e.g., toll road, bridge, water and wastewater systems). Such fees are typically set to cover a system’s operating and capital expenses, which can include debt service for improvements to the system. In some cases, user fees can be used to help finance the costs of new infrastructure, though doing so may require raising rates.

**Value Capture Tools**

Value capture refers to a number of tools that involve a public agency “capturing” some portion of the increased property values resulting from the provision of new infrastructure or a strong or strengthening real estate market. The value capture tools available to local governments vary depending on the enabling legislation in place in each state. In Pennsylvania, the following value capture tools are available:

- **Tax Increment Financing (TIF):** TIF works by freezing the tax revenues that local taxing entities receive from a property or district at its base level in the current year, and diverting additional tax revenue in future years (the “increment”) into a separate pool of money.<sup>1</sup> The incremental revenues can then be used to finance infrastructure or other improvements required to make new development possible. In Pennsylvania, TIF is typically used to capture incremental revenues and make improvements associated with a particular development project, rather than a district including multiple development sites. In order to be eligible for TIF, a property must be designated as blighted. All affected taxing entities, including municipalities, counties, and school districts, must approve the diversion of their portion of the increment. State

<sup>1</sup> TIF is typically limited to real estate property taxes, but under Pennsylvania law the tax increment can also include any tax increase resulting from the development including hotel, amusement, business, and parking taxes.

law limits TIF districts to account for no more than one-tenth of a municipality’s total land value.

- **Transit Revitalization Investment District (TRID):** TRIDs were created in 2004 by the Pennsylvania Legislature and have attracted considerable attention as a national model for financing TOD. Under the TRID Act, municipalities or counties can work in cooperation with transit agencies to implement a district-based tax increment financing mechanism within a half-mile of a transit station. In comparison with traditional TIF, TRIDs are intended to be district-based (i.e. include multiple properties) and are not limited to blighted areas. As with TIF, all affected taxing entities must approve creation of the district. As of late 2012, no TRID districts have yet been created; within Allegheny County, the proposed East Liberty TRID is closest to being implemented.
- **Neighborhood Improvement Districts (NIDs):** Under Pennsylvania’s Neighborhood Improvement District Act of 2000, municipalities may designate a residential, industrial, commercial, institutional, or mixed-use district within which all taxable properties are charged a special assessment. NID revenues are administered by non-profit organizations called Neighborhood Improvement District Management Associations (NIDMAs), which can use the revenues for improvements such as street lighting, cleaning, and maintenance; sidewalk improvements and maintenance; street trees and other amenities; and security services. Municipalities are not required to vote to approve a NID, but individuals owning more than 40 percent of the property within a proposed NID have the power to veto the proposal. NIDs that assess residential properties are fairly rare; the most common form of is a Business Improvement District, described below.
- **Business Improvement Districts (BIDs):** BIDs are a type of Neighborhood Improvement District that assesses commercial property only.

- **Impact fees:** Impact fees are charged to new development in order to mitigate the impacts resulting from that activity. In Pennsylvania, legislation to enable municipalities to charge these fees is limited to only a few types of impacts, such as the transportation impact fee which can be used to mitigate the impacts of new development on streets and roads.

Value capture tools are a critical part of many TOD projects in Pittsburgh and around the country, and can serve a particularly important role in providing the local match required by many state or federal grant programs. However, these tools are subject to significant limitations. First, they rely to varying extents on new, private development in order to generate revenues. Even NIDs and BIDs, while not explicitly tied to new development, have the potential to generate the most revenue in relatively strong real estate markets where new development drives significant increases in the assessed value of properties within the district. Because value capture revenues are typically generated by new development, these tools can be challenging to use to pay for up-front investments that are required in order to enable development, unless bond financing is available.<sup>2</sup> In addition, value capture tools rarely generate sufficient revenues to pay for all the needed improvements on their own. Instead, they are typically used as part of a package of multiple funding sources. For example, the East Liberty Transit Center and Shannon Transit Village, discussed below, are both combining value capture mechanisms with multiple other sources to move forward with implementation.

**Federal, State, and Regional Grants and Loans**

This section describes the major federal, state, and regional sources of funding for TOD-related projects. Appendix A provides more information on the individual programs offered by each agency that are most relevant for the types of imple-

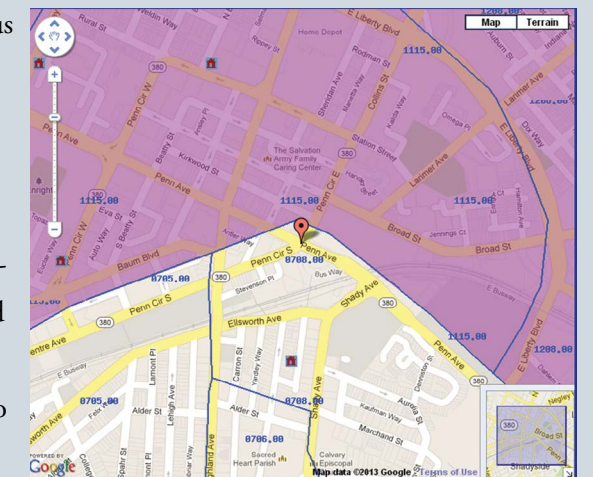
<sup>2</sup> Obtaining bond financing is one of the barriers that cities are working to overcome in order to successfully implement TRID.

**Eligibility Requirements for Federal Funds**

Some federally funded community development programs, such as New Markets Tax Credits and Community Development Block Grants, are limited to projects located in qualifying Census Tracts that meet certain requirements for median family income or percent of low-income households. Similarly, under the Low-Income Housing Tax Credits (LIHTC) program, projects located in eligible low-income areas receive a basis boost that qualifies the projects to receive more credits. In some cases the definitions exclude areas that fall just short of the threshold (e.g., tracts where 50% instead of 51% of residents are low-income) or that are transitioning as a result of community development efforts, cutting off access to funds in areas where the community could significantly benefit from continued investments.

In East Liberty, the proposed transit center project is located just to the south of Qualified Census Tracts for the LIHTC program – so the project will not qualify for tax credits, although it will serve the adjacent low-income neighborhoods and would qualify if located just a few hundred feet to the north.

**Figure V-1: East Liberty Transit Center Project (red marker) and Qualifying Census Tracts for the Low-Income Housing Tax Credit Program (purple)**



Source: HUD USER, 2013.

mentation activities identified in the typology.

**Federal Sources**

Appendix A lists a number of federal programs for which local governments, transit authorities, and other organizations can apply directly to federal agencies. These include programs for brownfield remediation, transit extensions and capacity improvements, economic development, and affordable housing development. However, most federal funding for TOD-related projects is allocated through state and regional agencies; these programs are discussed below and listed in Appendix A under their respective administering agencies (e.g., federal CMAQ, Transportation Alternatives, and Urbanized Area Formula dollars are administered in the Pittsburgh region by the Southwestern Pennsylvania Commission; Community Development Block Grants are also administered at the state and local level).

**State Sources**

The Commonwealth of Pennsylvania has a variety of agencies and programs involved in funding and financing local infrastructure and community and economic development programs, including the Department of Community & Economic Development (DCED), the Pennsylvania Department of Transportation (PennDOT), and the Pennsylvania Housing Financing Authority (PHFA). Many of the state’s funding programs – particularly those offered by DCED – are tied to business attraction or particular development projects. For example, the Redevelopment Assistance Capital Program (RACP), Pennsylvania Industrial Development Authority (PIDA), and Infrastructure and Facilities Improvement Program (IFIP) make money available to pay for infrastructure and related costs for job attraction or other economic development projects (these programs are described in Appendix A).

The state has a tradition of being directly involved in TOD implementation, although – as in other states – Pennsylvania’s funding programs and priorities change over time according to political priorities and the Commonwealth’s fiscal situation. For example, the state legislation enabling TRIDs, passed in 2004, has been cited as a national model for providing financing for TOD. PennDOT’s Pennsylvania Community Transportation Initiative (PCTI) provided competitive funding in 2009 and 2011 for “Smart Transportation” projects that link transportation investments to land use planning, including bicycle, pedestrian, and traffic calming improvements. And the state’s Low Income Housing Tax Credit (LI-HTC) competitive allocation process prioritizes affordable housing development near transit by providing points for development projects that form “an important part of a broader or comprehensive program of neighborhood improvement.... [which can include] contributing to a transit-oriented design initiative.” However, these efforts to prioritize TOD at the state level have been somewhat isolated.

**Regional Southwestern Pennsylvania Commission**

The Southwestern Pennsylvania Commission (SPC) is the 10-county region’s metropolitan planning organization (MPO), the agency charged with directing the use of state and federal transportation and economic development funds within Southwestern Pennsylvania. As required by state and federal law, the agency assembles a Long-Range Transportation Plan (LRTP) every three years that outlines how SPC intends to distribute the funding it receives from the state and federal governments over a 30-year period, including federal funding for bicycle, pedestrian, and other potentially TOD-related improvements (discussed in the sidebar). The Long-Range Transportation Plan includes a shorter term Transportation Improvement Program (TIP) that lists the region’s highest priority highway and transit projects that are programmed for advancement over a four-year period. Typically, major transportation projects must be included in the TIP to receive

**National Best Practices: San Francisco Bay Area Transit-Oriented Affordable Housing Acquisition Fund**

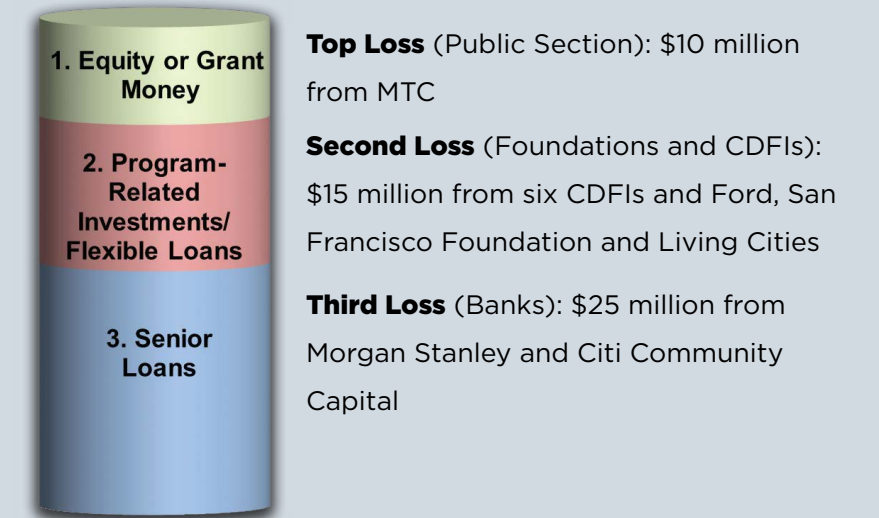
The Bay Area Transit-Oriented Affordable Housing Acquisition Fund, or TOAH, is a \$50 million structured fund that provides financing for the development of affordable housing and other community services (e.g., health clinics, fresh food markets, and other neighborhood retail projects) near transit. A structured fund is a kind of loan fund that pools money from different investors for a specific, dedicated purpose. TOAH provides loans to non-profit, for-profit, or public developers for predevelopment activities, property acquisition, and construction of affordable housing or community facilities, as well as leveraged loans intended to be used with New Markets Tax Credits. In order to be eligible, a project must be located within a Priority Development Area (PDA), one of the locally identified areas designated to accommodate much of the region’s growth, and within a half-mile of high quality transit service.

TOAH was established after a multi-year case-making and planning process led by the Great Communities Collaborative (GCC), a coalition of national and regional advocacy, research, and funding organizations dedicated to promoting affordable housing and TOD. The GCC recognized in 2008 that the depressed housing market represented an opportunity to preserve land for affordable housing near transit. Following the recommendations of a feasibility study by the Center for Transit-Oriented Development, the GCC decided to pursue the creation of a fund that would address specific barriers to equitable TOD in the Bay Area, including a scarcity of development sites near transit, high land costs, and the challenges of acquiring land in advance of securing project financing.

In 2010, the Metropolitan Transportation Commission (MTC), the San Francisco region’s metropolitan planning organization, agreed to invest \$10 million in the fund. MTC raised the money by exchanging federal CMAQ and STP

transportation dollars with unrestricted, discretionary funding from one of the region’s county congestion management agencies. The \$10 million commitment enabled the GCC to raise an additional \$40 million in private capital for the fund. The diagram below shows how the TOAH fund is structured. MTC’s \$10 million investment occupied the “top loss” risk position, meaning that if any of the loans default, MTC takes the first hit. Investments from foundations and community development financial institutions (CDFIs) occupy the second tier. Finally, two banks occupy the senior risk position.

*Figure V-2: TOAH Fund Structure*



Sources: Bay Area TOAH, “Bay Area’s Transit-Oriented Affordable Housing Fund,” presented at Affordable Housing Week, sponsored by the East Bay Housing Organizations, May 2011; Strategic Economics, “Incentivizing TOD: Case Studies of Regional Programs Throughout the United States.”

state and federal transportation dollars. Project sponsors (typically local governments) may apply to have their projects included in the TIP when the document is updated every two years; SPC also conducts a public outreach process during which groups interested in transportation projects can provide comment. Smaller projects that are not included in the TIP can sometimes be funded with dollars set aside for certain types of projects; for example, SPC has set aside funding for bridge maintenance investments not identified individually in the TIP.

Beginning with the 2035 LRTP, SPC has adopted a regional vision that “places an emphasis on infill development with reinvestment in existing business districts and brownfield rehabilitation throughout the region” and targets infrastructure improvements to “centers and clusters of development and the corridors that connect them.”<sup>3</sup>

<sup>3</sup> Southwestern Pennsylvania Commission, “2040 Transportation and

In keeping with this vision, the agency has proposed creating a competitive Smart Transportation Fund program that would direct federal urbanized area Surface Transportation Program (STP Urban) funds for bicycle, pedestrian, and other alternative transportation projects that meet regional goals.

SPC currently allocates Congestion Mitigation and Air Quality Improvement (CMAQ) Program funding on a competitive basis, through a process that prioritizes diesel retrofits, traffic flow improvements, transportation demand management, and commuter bicycle/pedestrian improvements. The new federal transportation bill requires that Transportation Alternatives (TA) dollars also be allocated to local governments through a competitive process, the details of which will be up to individual MPOs.

Development Plan for Southwestern Pennsylvania,” Adopted June 27, 2011, [http://www.spcregion.org/trans\\_lrp.shtml](http://www.spcregion.org/trans_lrp.shtml).

### Federal Transportation Funding for Pedestrian and Bicycle Improvements

In early 2012, Congress adopted a new federal transportation bill known as Moving Ahead for Progress in the 21st Century (MAP-21), replacing the previous transportation bill, SAFETEA-LU. Depending on state and MPO policy, many different programs included in MAP-21 can be used to fund projects that improve pedestrian and bicycle conditions. However, there are a few key programs that are particularly important for funding TOD-related projects:

Transportation Alternatives (TA): Replaces the Transportation Enhancements, Safe Routes to

School, and Recreational Trails programs – the main sources for bicycle, pedestrian, traffic calming, and many other projects under SAFETEA-LU – and cuts overall funding for these projects by a third. DOTs and MPOs will be required to allocate TA funding to local governments on a competitive basis. Congestion Mitigation and Air Quality Improvement (CMAQ): Funding for projects that improve air quality in qualifying areas that do not meet national air quality standards.

Surface Transportation Program (STP): Provides flexible funding that can be used for highways,

bridges, tunnels, bicycle and pedestrian infrastructure, and transit capital projects.

Local governments typically serve as the primary project sponsors for transportation improvement projects funded by these programs. However, community organizations have the opportunity to get involved at the state and MPO level in deciding how TA, CMAQ, and STP funding is allocated within their regions.

Source: Transportation for America, “Making the Most of MAP-21,” December 2012, <http://bit.ly/Vbwof5>.

Ensuring that SPC’s processes for allocating TA, CMAQ, and other funds prioritizing TOD and other smart growth-related projects will be critical for supporting TOD within Allegheny County. The previous page describes how the MPO in the San Francisco Bay Area region used federal transportation dollars to support these goals.

### Project Case Studies

This section profiles East Liberty Transit Center and Shannon Transit Village, two proposed projects that are well on their way to raising the funding necessary to move forward with implementation. These case studies provide insight on the process needed to successfully fund and implement transit-oriented projects in Allegheny County. The lessons learned are summarized below.

#### East Liberty Transit Center: Assembling Funding to Address Local Access Needs

East Liberty was historically one of the most important commercial centers in Pennsylvania, but experienced rapid decline in the second half of the 20th century. In recent years, concerted efforts by community groups and public entities have succeeded in attracting significant private reinvestment to the area. However, the neighborhood’s outdated infrastructure creates circulation and access challenges for pedestrians, bicyclists, and drivers trying to reach the East Liberty Busway Station and surrounding neighborhoods. The City of Pittsburgh and its public and private partners have already begun to address these challenges, completing the first phases of converting Penn Circle, the district’s one-way ring road, to two-way traffic in 2002 and 2011.<sup>4</sup> In order to further improve connections to East Liberty Station and open up new sites for redevelopment, the City and its partners are in the process of assembling funds for an ambitious \$34 million East

<sup>4</sup> The proposed East Liberty TRID would, in combination with other funds, enable the City to complete the two-way conversion of Penn Circle.



Figure V-3: Aerial view of the entry plaza and transfer concourse for the East Liberty transit center.

Source: Pittsburgh Urban Redevelopment Authority

Liberty Transit Center project that includes:

- Relocating and replacing the existing East Busway Station and local, on-street bus stations and providing new station walkways to enable more efficient passenger transfers.
- Building new pedestrian and bicycle infrastructure, including pedestrian signals, bridges, streetscaping and amenities, and bicycle parking facilities.
- Redesigning local streets to improve the efficiency of bus routing and transfers.
- Upgrading existing transit- and district-serving parking and constructing new parking facilities.
- Assembling and grading privately- and publicly-owned land to enable development of Eastside III, a proposed commercial development project.

Table V-1: Anticipated Funding Sources for East Liberty Transit Center

Source (Agency and Program)	Amount
<b>Federal</b>	
TIGER IV Grant	\$15,000,000
US EPA - Three Rivers Wet Weather Program *	\$100,000
Port Authority of Allegheny County (PAAC)	\$55,000
<b>State and Local</b>	
PA Commonwealth Financing Authority - Business in our Sites	\$2,600,000
PA DCED - Infrastructure and Facilities Improvement Program**	\$2,080,000
PennDOT - Bridge Bill Funding***	\$1,660,700
Urban Redevelopment Authority - Tax Increment Financing	\$1,400,000
PA DCED - Revitalization Assistance Capital Program	\$1,105,000
PA DCED - Neighborhood Assistance Program****	\$125,065
<b>Institutional</b>	
Foundations	\$380,000
Carnegie Mellon University	\$90,000
<b>Sponsor Contributions</b>	
East Liberty Development, Inc.	\$180,000
City of Pittsburgh - City Bond Funding	\$457,100
Eastside Limited Partnership III - (Developer - Bank)	\$1,331,000
Eastside Limited Partnership III - (Developer - Capital)	\$5,456,191
<b>Other Sources</b>	\$2,000,000
<b>Total project cost</b>	\$34,020,055

\*EPA funding provided through the Three Rivers Wet Weather Program, a non-profit organization funded by federal, state, regional, and local agencies and local foundations that supports efforts to address the region's wet weather overflow problems.

\*\*Provides multi-year grants to assist with payment of debt service for infrastructure and other costs related to convention centers, hospitals, hotels, industrial/manufacturing facilities, retail facilities, or research and development facilities.

\*\*\*Funding for state and local bridge projects.

\*\*\*\*Application submitted.

Source: "East Liberty Transit Center/TOD TIGER IV Grant Application," <http://bit.ly/W9QI3E>

Table V-1 shows the funding sources committed to the project as of late 2012.

The largest source of funds is a \$15 million grant from the Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program, a temporary federal program that provided competitive grants for projects of national or regional importance.<sup>5</sup> However, the project team has also secured grants from a wide range of other federal, state, and local sources, as well as contributions from foundations, Carnegie Mellon University, and East Liberty Development Corporation. In addition to grant funds, the project will incorporate \$1.4 million in tax increment generated from the development of Bakery Square, an office, retail, and hotel development completed in 2010. Debt and equity contributions from the developer of Eastside III will be used for upfront design and engineering and to prepare the site for TOD.

**Shannon Transit Village: Public and Private Investment to Enable TOD**

The Shannon Transit Village is a \$36 million mixed-use development project proposed for the Castle Shannon Light Rail Station. The project is planned to include 128 high-end apartments, 14,000 square feet of retail, and 283 parking spaces in addition to the 500 existing commuter park-and-ride spaces. Because the transit village will be built on the air rights of the transit station parking lot owned by the Port Authority, it requires constructing a deck over the existing lot. In order to build the deck and associated infrastructure projects, the developer has secured approximately \$13 million in public funds, including \$4 million from a TIF district (Table V-2). Assembling these funds and coordinating among the many agencies involved in the project has taken more than a decade; the project is expected to break ground in 2013. Among

5 TIGER began as part of the American Recovery and Reinvestment Act of 2009 and has since been reauthorized to permit four rounds of funding. MAP-21 did not authorize any additional funding for TIGER, although Congress may decide to dedicate additional funding in the future on an annual basis.



Figure V-4: Shannon Transit Village is a \$36 million mixed-use development project proposed for the Castle Shannon Light Rail Station.

Table V-2: Anticipated Funding Sources for Shannon Transit Village

Source	Amount
<b>Public Sources</b>	
State - Redevelopment Assistance Capital Program	\$4,800,000
County/Borough/School District - Tax Increment Financing	\$4,000,000
County - Low Interest Loan	\$1,500,000
Federal/County - Community Development Block Grant (CDBG)	\$750,000
PA DCED - Growing Greener II	\$500,000
PA DCED - Housing & Redevelopment Assistance*	\$500,000
PennDOT - Transportation Economic Development Fund*	\$500,000
State - Regional Economic Development District Initiative (REDDI)*	\$300,000
<b>Private Sources</b>	
Developer - Owner Equity	\$2,700,000
Developer - Bank Financing	\$21,000,000
<b>Total</b>	\$36,550,000

\*Program no longer exists.

Source: Clear View Strategies, 2012.

other challenges, obtaining approval from the Borough of Castle Shannon, Allegheny County, and the Keystone Oaks School Board to form the TIF district has been a major hurdle in a time when the school district, in particular, is facing major financial issues. However, because the park-and-ride lot is owned by the Port Authority, it is currently tax exempt. The transit village project will bring the property onto the assessment rolls, and is projected to increase the assessed value of the property from about \$650,000 to more than \$13 million – generating an estimated \$70,000 a year in property taxes for the school district during the 20-year life of the TIF, and as much as \$544,000 a year once the TIF sunsets. These benefits convinced the Keystone Oaks board members to approve the district in November 2012.<sup>6</sup>

**Lessons Learned: Conditions for Project Success**

- **Infrastructure and community development projects typically require multiple funding and financing sources.** The East Liberty Transit Center and Shannon Transit Village examples show how many sources can be required to move a major project forward. Even smaller projects, however, such as local street or sidewalk improvements, can require a combination of multiple sources.
- **Assembling funding from diverse sources requires significant expertise and can take years, affecting project timing.** The Shannon Transit Village project, for example, has been in the works for over ten years. These types of delays can push a project from one business cycle into the next, causing a developer to miss the market. (In the case of the Shannon Transit Village, the project has been delayed so long that it missed the strong housing market of the mid-2000's, but may be completed in time to take advantage of the recovery.)

6 Carpenter, Deanna. "Transit Village Clears Another Hurdle." The Almanac. Nov. 20, 2012. [http://www.thealmanac.net/alm/story11/11-21-2012\\_KO-board](http://www.thealmanac.net/alm/story11/11-21-2012_KO-board).

- **Money attracts money; the “first dollar in” can be the most challenging to find. For example, many of the funding sources committed to the East Liberty Transit Center were contingent upon receiving the TIGER grant.** Because funders are often attracted to projects that have already secured some funding, and thus are likely to be successful, new projects can face a significant hurdle in raising early investments. In the case of Shannon Transit Village, for example, State Senator Wayne Fontana provided critical early funding for predevelopment planning, in the form of discretionary REDDI dollars.
- **Public and private partnerships are critical to project implementation.** In addition to directly providing funds to a project, partners can also help raise awareness and create the momentum necessary to make a project work. For example, the East Liberty project team submitted TIGER applications in two previous funding rounds; the project’s success in the 2012 round may in part have been due to endorsements from a range of local politicians, community development and advocacy organizations, foundations, and the members of the business community.

### Funding and Financing Opportunities and Constraints

Based on the project case studies discussed above and the survey of funding and financing tools summarized in Appendix A, CTOD has identified both opportunities and constraints related to the funding and financing of TOD implementation activities in Allegheny County:

- **The state has a tradition of being directly involved in TOD implementation, but its involvement has been inconsistent.** By creating programs like TRID and the Pennsylvania Community Transportation Initiative (PCTI), the state has shown leadership in providing funding and financing for TOD and smart growth. However, the availability of funding for PCTI and other

infrastructure and community development programs changes over time depending on the political and economic climate. CTOD has found that programs that are created by legislative action (such as TRID) tend to have longer life spans than programs that are created by executive order or at the discretion of a particular department.

- **At the regional level, SPC has begun to emphasize smart growth principles in its long-range planning.** Community organizations and local governments can help ensure that these principles are implemented by getting involved in the discussion about how federal transportation funding is allocated. In particular, MAP-21’s requirement that Transportation Alternatives funding be distributed through a competitive process creates an opportunity for community organizations, local officials, and citizens to advocate for targeting these funds to transit-oriented areas.
- **State statutory constraints and a challenging economic climate make it difficult for local municipalities to pay for the ongoing maintenance of existing infrastructure, let alone new capital improvement projects.** In addition to making it more difficult to pay directly for needed infrastructure and facilities, local budgetary constraints can affect access to federal funding programs, many of which require a local matching contribution. Funds raised from TIF or another value capture tool and state or other public grants can sometimes serve as the local match, but these sources are subject to constraints of their own (discussed below).
- **Value capture strategies rely to varying extents on new development to generate revenues.** TIF and TRID in particular require significant development in order to generate tax increment; special assessment districts like NIDs and BIDs also generate the most revenue in places where new development or a strong real estate market drives property values. These tools are more challenging to use in places that require investments, but where market

- potential is more limited.
- **Many public funding sources are tied to development projects, or to business attraction.** Local officials and community development professionals report that receiving state or regional funding for infrastructure projects is easiest if the project is necessary to support planned new development. In addition, many state programs that support infrastructure explicitly require that the funding be used to support business retention or attraction. These requirements and limitations make it difficult to pay for improvements that are primarily intended to connect the existing community to transit, enhance quality of life, or set the stage for future new development in transit-oriented locations.
- **There are limited dedicated funding sources for the small- to mid-scale public infrastructure projects that are needed in many station areas.** When value capture mechanisms are not an option in communities that have no large-scale development potential, the choices to fund local connectivity and infrastructure improvements are very limited. Larger infrastructure projects may be eligible for significant federal or state formula transportation dollars or grants but smaller projects do not have the same visibility and regional significance. As discussed in previous chapters, creating a source to address this need could have a significant positive impact on the TOD potential of many station areas across the system.

- **Improving the organization and availability of information about state, regional, and local funding programs could help facilitate TOD implementation.** According to members of the private and non-profit development communities, the absence of a centralized source of information about state, regional, and county funding sources makes the process of assembling funding more challenging, and reliant on the expertise and relationships of individuals and organizations.

## VI. Countywide Recommendations

As described in Chapter III, each individual station area has its own set of implementation activities to support transit-oriented development. The typology in Chapter IV offers a framework for prioritizing these needs at the system wide and countywide scales. Additionally, this chapter recommends seven strategies to support and catalyze momentum for transit-oriented development across the entire transit system, regardless of place type. These strategies have been informed by both the quantitative typology assessment, and by interviews conducted over the last year with agencies, community based organizations, and other stakeholders.

The seven strategies are:

1. Modify transit station design and system operations to support TOD
2. Address gap in funding availability for small to mid size infrastructure improvements
3. Offer a consistent source of funds for station area visioning and planning
4. Build capacity of agencies and community groups in Catalyze and Plan + Partner station areas
5. Integrate typology approach into regional and corridor sustainability efforts
6. Pursue regulatory changes to support TOD and transit use near central destinations
7. Create a short term work plan identifying key actions for PCRG's Go-Burgh Initiative.

### Strategy 1: Modify Transit Station Design and System Operations to Support Transit-Oriented Development

*Lead Responsibility: Port Authority; Potential Supporting Actors: Southwestern Pennsylvania Commission, PennDOT, City of Pittsburgh, Allegheny County*

There are a number of modifications that the Port Authority could make to the system that could provide a significant boost to the TOD potential of current station areas without necessarily increasing operating costs on the system. Further, additional planned fixed-guideway lines could enhance ridership, open connections to key destinations like Oakland, and allow for development near downtown Pittsburgh in the Strip District and Uptown neighborhoods.

#### 1A. Modifications to System Operations

- Maintain current levels of service to fixed-guideway stations and carefully monitor ridership to identify and respond to increased demand.
- Brand buses on the busways to indicate their unique fixed-guideway nature with simpler names that align them more with the T than mixed-traffic buses. Branding of the 28X in this fashion should be considered as well, to make the system accessible to visitors.
- Modify fare collection to speed up service by instituting off-board fare collection, and making fare collection processes more predictable and quick for both fixed-guideway and fixed-route customers.
- Offer easy timed transfers to other buses at station areas.
- Stop at all stations without requiring passengers to cue the driver. If this slows down service, consider eliminating additional stations on the Red and Blue

Line that are in close proximity to one another, allowing for other stations to be more formal.

#### 1B. Small Capital Improvements to the Current System

- Offer clear wayfinding maps and signs to connect stations to nearby destinations and bus transfers.
- Enhance stations to support level boarding with elevated platforms or at-grade buses.
- Enhance stations with shelters and more formal infrastructure, particularly on the Blue and Red Lines. Identify key stations where these improvements will be a priority.
- Enhance kiss and ride, park and ride, and pedestrian and bicycle access facilities.
- Enhance bicycle storage, including adding weather resistant lockers to some platforms.
- Create system maps that show the T and Busway lines, and 28X.
- Ensure that the proposed pedestrian ramp assets designed for Allegheny Station are constructed, connecting Manchester and the North Side to the North Shore Connector and further opening up development opportunity on the North Shore.

#### 1C. Additional Fixed-Guideway Alignments

Potential new capital investments in new and existing fixed-guideway lines could significantly boost TOD potential:

- Prioritize new transit investments in the Strip district and Downtown-Oakland corridor to leverage TOD. Ensure the planned transit technology is appropriate for the type of service (i.e. the Strip district will function like a

streetcar, with many stops supporting a districtwide commercial and mixed-use district. Mixed traffic or dedicated lane streetcar service could be appropriate here).

- Ensure that the Downtown to Oakland connector include transit service and infrastructure amenities that prompt developers to consider “TOD type” projects such as level-boarding stations, off-board fare collection, dedicated lanes, and other features that create a rail-like experience.
- Consider one East End alignment of the Oakland-Downtown BRT corridor to utilize the East Busway rather than on-street alignments in the same capture area. This provides increased fixed-guideway service on an underutilized asset, reinforces station permanence and TOD potential, and possibly alleviates ridership pressures - such as overcrowding - within the Centre Avenue corridor.
- Consider an additional East Busway station in the Baum-Centre corridor to support ongoing development, improve busway access and, hence ridership, and also potentially alleviate ridership pressures discussed previously.
- Projects in the Saw Mill Run (SR 51) corridor that provide more transit choices and catalyze development (such as the 51/88 project and Overbrook Middle school) should be considered and evaluated for prioritization utilizing the methodology of this TOD Strategy.

#### Status and Other Considerations

Modifications to the **operating system** - such as rebranding the busway lines to distinguish them from the rest of the bus system, enhancing fare collection, and removing stations on the Red Line – are activities that the Port Authority has been studying for the last several years. Some of these have begun to be implemented, such as removal of stations to speed service and launching the Connect-

Card. However, other improvements such as full modification of the fare collection system to be more consistent and speed service, are not in effect.

The Port Authority is not actively pursuing **Capital Improvements** to the existing system –such as station enhancements, shelters, wayfinding signage and pedestrian access – at this time. Funding for these types of improvements will be through sources such as federal grants. Other agencies or organizations may be able to support the Port Authority in applying for these grants or may be able to include these improvements in other TOD plans. For example, the SMART TRID study in the city of Pittsburgh includes improvements to pedestrian safety, walkability, bike lanes, green infrastructure, stations, and connectivity to Beechview’s business district.

**Additional fixed-guideway alignments** are at varying degrees of planning.

While the Oakland-Downtown connector alternatives analysis is being completed, steps should be taken to assert the economic revitalization benefits of a fixed-guideway system vs. an enhanced mixed-traffic bus. This is not a necessary criterion for the Federal Transit Administration (FTA) New Starts Process, but is key to the local success of the project. Modifying land use regulations along this and other planned alignments, however, is a competitive factor in the FTA New Starts process, so steps should be taken to ensure TOD supportive land use regulations are in place. The Strip District plan is more conceptual though studies are underway to consider multimodal transportation, and the Allegheny Riverfront Green Boulevard project is also studying the feasibility of implementing a multimodal corridor.

## Strategy 2: Address Gap in Funding Availability for Small to Mid-Side Infrastructure Improvements

*Lead Responsibility: Commonwealth of PA, Southwestern Pennsylvania Commission, Federal Government; Supporting Actors: PCRG’s GoBurgh Initiative and other state, regional advocates*

The majority of stations in the system could benefit from small scale infrastructure improvements in the form of pedestrian paths, bridges, and tunnels, improved sidewalks, bicycle lanes and other bicycle infrastructure, and station area signage. The 28 stations falling in the Catalyze + Connect place types are high priority locations, because these investments could have a transformative effect on the surrounding neighborhoods by boosting the ability of transit to be an economic and revitalizing asset for the communities. Many of the Plan + Partner, and Infill + Enhance station areas, could also benefit from these improvements. Regional, State or local funds can be used to fill this funding gap as can value capture mechanisms like TIF or TRID. However value capture mechanisms require new development, which should not always be a requirement for new infrastructure investments.

### 2A. Regional Modifications.

Many metropolitan planning organizations have devoted transportation dollars to creating grant programs that address the need for small- to mid-size infrastructure improvements. Chapter V offers case studies of two of these programs. Recommendations for SPC and other county or regional agencies include:

- Set aside a dedicated funding source for small- and mid-scale public infrastructure projects that have the potential to improve connectivity to transit and/or unlock future development potential.
- Target federal and state housing and transportation dollars to prioritize TOD-

related projects.

- Focus funding on high-priority station areas.

### 2B. State Modifications.

- Target state infrastructure and community and economic development funding programs to transit station areas.
- Detach funding for infrastructure from individual development projects, allowing for district-based improvements in station areas without significant land available for new development.

### 2C. Modifications to Transit Revitalization Investment Districts (TRID).

The following recommendations emerged from the 2011 TRID study that CTOD completed with PCRG. As conditions may have changed, these recommendations may need to be updated with new information.

- Implement a TRID pilot project in a place with significant development potential (e.g., the proposed East Liberty TRID). A demonstration project would create a model for other efforts to emulate, test the market for TRID-backed bonds, and evaluate the need to make changes to the enabling legislation.
- Target existing regional and state resources to facilitate TRID implementation.
- Clarify the TRID legislation –clarify whether a TRID area can be amended over time to include an extended value capture time period (beyond the initial 20 years) if the TRID is amended to extend the district boundaries or add new development activities; clarify the role of transit agencies in TRID planning and implementation.

## Strategy 3: Offer a Consistent Source of Funds for Station Area Planning and Visioning

*Lead Responsibility: Commonwealth of PA, Southwestern Pennsylvania Commission, Allegheny County, City of Pittsburgh, Philanthropy; Supporting Actors: PCRG’s GoBurgh Initiative and other state and regional nonprofit advocates*

Many agencies outside the city of Pittsburgh do not have the resources to fund TOD plans themselves, but appropriate zoning and other land use regulations are critical steps in supporting and catalyzing TOD. Further without the enticement of funding, some municipalities may not see any need to garner support for TOD principles in their station areas. State and regional agencies should offer more consistent tools to fund district and area wide planning, particularly efforts that result in adoption of new TOD supportive zoning codes and other land use regulations.

## Strategy 4: Build Capacity of Agencies and Community Groups in Catalyze and Plan + Partner Station areas

*Lead Responsibility: PCRG’s GoBurgh Initiative and other community-based organizations, Philanthropy; Supporting Actors: Municipalities*

Public agencies and community groups in some Catalyze, Connect, and Plan + Partner station areas may not have the capacity to advocate for TOD related strategies. They may lack experienced paid planning staff, may need additional expertise in securing funding for activities and projects, or may need technical support on specific planning efforts. This is further discussed in Chapter III. A number of new activities could help support these communities.



**4A. Develop a Regional Capacity Building System.**

Establish a regional brain trust of experienced CDCs and agency staff to increase leadership and planning capacity in targeted “Catalyze” station areas. Opportunistically select 2-3 station areas a year to support with technical support, advice, and on-the-ground capacity building efforts.

**4B. Offer public incentives to encourage communities to build compactly, and support transit-oriented development.**

Develop mechanisms where communities and station areas can express an interest in receiving support on visioning, planning, implementation or other efforts. Since many station areas in the “Plan + Partner” place type may not have an interest in TOD today, some program or mechanism should be in place to monitor and identify those that do. A TOD planning program with funding at the state or regional scale could offer an enticement for communities to step forward, and these communities could be eligible for technical support from the “brain trust” identified above. A partnership of County or Regional Agencies with the nonprofit community could be highly effective in offering coordinated technical support to municipalities with an interest and need.

**4C. Consider the feasibility of a corridor-level collaborative to share information and technical expertise, and leverage capacity for infrastructure investment.**

A corridor level collaborative of local communities and CDCs, particularly along the East Busway, would offer adjacent communities a more formalized network for sharing best practices, technical expertise, and information on current related activities. Additionally, such a corridor collaborative could advocate for corridor wide improvements including addressing the need for more pedestrian tunnels and bridges across the right-of-way. One possible activity of this collaborative could be submitting a joint application for corridor wide infrastructure improve-

ments that might be eligible for larger scale infrastructure grant programs at the state or federal scale. This approach would overcome the gap in funding availability for smaller scale projects, while creating a single multijurisdictional “ask” with greater political support and visibility.

**Strategy 5: Integrate the Typology’s Approach into Regional and Corridor Sustainability Efforts**

*Lead Responsibility: Commonwealth of PA, Southwestern Pennsylvania Commission, City of Pittsburgh, Transit Corridor Planning Authorities; Supporting Actors: PCRG’s GoBurgh Initiative*

The typology approach developed for this Strategy has been designed to be quantitative and replicable over time. Further, the data behind the typology is available at the countywide or even regional scale, meaning the typology could be replicated for other corridors, neighborhoods, or communities. The largely quantitative nature of the typology also provides a relatively neutral tool for making decisions about the allocation of funding for agencies such as Allegheny County or the Southwestern Pennsylvania Commission, which are responsible to every municipality regardless of transit proximity. As a result, this typology will make an excellent tool to inform future investment decisions, or to simply evaluate the needs of different communities in order to support greater transportation choices and alleviate congestion. Some possible applications of the typology include:

- An allocation criterion for infrastructure or planning grant programs. This typology was based on a similar approach used by the Portland, OR MPO, in order to identify areas of greatest impact for their TOD program investments.
- An evaluation tool for future potential transit corridors. The typology could help identify potential station locations or corridor alignments based on the transit orientation of different neighborhoods.

- A tool to inform philanthropic investments or advocacy priorities. The typology can inform locations where advocacy or funding activities of different types might be most effective.

**Strategy 6: Pursue Regulatory Changes to Support TOD and Transit Use Near Central Destinations**

*Lead Responsibility: City of Pittsburgh Parking Authority; Municipalities, Southwestern Pennsylvania Commission; Supporting Actors: Community advocates, City advocates, Philanthropy*

Regional destinations into which the transit system feeds are unique locations where regulatory changes can change the behavior of transit riders, drivers, and commuters from across the region. These areas are therefore regional priorities for dynamic, thoughtful parking pricing, zoning and other land use regulation, and ongoing monitoring and response of regulations as conditions change.

**6A. The Pittsburgh Parking Authority should implement dynamic parking pricing and management – coordinated with parking demand, congestion, and transit pricing - in key destinations such as Downtown, Uptown, Oakland, and East Liberty.**

Understand parking demand and how this demand is filled. Some areas where drivers “hide and ride” to downtown may require new parking regulations as well limiting the period of time that cars may be parked. District/shared parking policies and projects should also be explored to maximize structured parking investments, encourage transit usage, free up land for development, and temper “hide and ride” transit user parking behavior in residential neighborhoods.

**6B. Ensure land use regulations near major regional job centers and other destinations are zoned to support appropriate TOD, with particular consideration to areas adjacent to job centers that have significant land opportunity.**

Areas such as the North Shore, Strip District, and Uptown have significant pent up opportunity to accommodate significant new development resulting from demand to locate near downtown Pittsburgh. With appropriate incentives, transit access, and zoning controls in place, these areas are key to introducing new development types to the regional housing and commercial real estate markets, and bolstering transit destinations with new vibrant urban centers.

**Strategy 7: Create a Short-Term Work Plan Identifying Key Typology-Informed Actions for PCRG’s GoBurgh Initiative**

*Lead Responsibility: PCRG’s GoBurgh Initiative; Supporting Actors: PCRG, Philanthropy*

PCRG’s GoBurgh Initiative already plays a key role in advocating for modifications to transit policy. GoBurgh is a key leader in advocating for many of the strategies above, and developing future capacity building and TOD implementation systems.

**7A. Develop a 2-year TOD plan establishing next steps based on feasibility, interest, capacity and effectiveness.**

Consider the feasibility of creating corridor working groups to advocate support system changes, while also sharing information about best practices and activity. This working group could also help consolidate information on the specific need for small to mid-scale infrastructure improvements in order to help make the case for a new funding source at the state or regional scales.

**7B. Support regional and county agencies to become leaders in TOD and compact development overall.**

- Become involved in SPC's decision making over how MAP-21 funds are allocated within the region, particularly Transportation Alternatives funding.
- Create a centralized website or other resource for information about regional (SPC) and Allegheny County funding programs.
- Build a broader base of support for SPC sustainability efforts by forging partnerships with municipalities and groups in other counties (and targeting SPC board members) to craft policies and funding programs that support sustainable infill development that includes TOD but also infrastructure in smaller downtowns.

# VII Appendix

## Appendix A. Existing Tools for Funding and Financing TOD Implementation in Allegheny County

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
USER FEES	Fees and rates charged for utilizing infrastructure	Operating entity (e.g., utility or parking provider)			X			X
<b>VALUE CAPTURE</b>								
Tax Increment Financing (TIF)	Mechanism for capturing increases in property values to pay for needed improvements. Typically associated with a specific development project.	Redevelopment authorities or municipalities establish districts and issue bonds; all affected taxing entities (e.g., counties, school districts) must approve district formation.	No more than 10% of a municipality's total assessed value can be located within a TIF district; restricted to areas designated as blighted; typically relies on new development to work; requires additional sources of gap financing.		X	X	X	
Transit Revitalization Investment District (TRID)	District-based tax increment financing mechanism to capture increases in property values to pay for needed improvements. Does not require that there be a finding of "blight"; can generate revenues to support transit service, capital improvements, and maintenance	Municipalities designate TRIDs in cooperation with transit agencies, transportation authorities, redevelopment authorities, and/or AMTRAK.	All affected taxing entities, including school district, must approve. Must be located within 1/8-1/2 of a mile from a transit station; typically relies on new development to work; requires additional sources of gap financing.	X	X	X	X	X
Neighborhood Improvement Districts (NIDs)	Property-based special assessment districts; can pay for capital improvements or services; can assess and provide benefits to commercial, residential, institutional and industrial property owners (i.e., all non tax-exempt properties).	Established by municipalities; affected property owners must be notified of proposal & individuals owning more than 40% of the property in the proposed district have veto power.	Few examples of successful implementation		X	X		

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
Business Improvement Districts (BIDs)	Special assessment district; limited to commercial property owners.	Established by municipalities; affected property owners must be notified of proposal & individuals owning more than 40% of the property in the proposed district have veto power.	More common than NIDs; does not require a public vote, but individuals owning more than 40% of the property in the proposed district have veto power		X	X		?
Impact fees	Charges assessed on new development to pay for expanding and extending public services to the development.	Established by municipalities	State enabling legislation only exists for selected impact fees - e.g., transportation (road improvements only), natural gas extraction					X
<b>FEDERAL GRANTS AND LOANS (BY ADMINISTERING AGENCY)</b>								
<b>U.S. Department of Housing and Urban Development (HUD)</b>								
Brownfield Economic Development Initiative (BEDI)	Grants for the redevelopment of abandoned or underutilized industrial and commercial facilities burdened by environmental contamination.	CDBG entitlement and non-entitlement communities	Competitive; must be used in conjunction with a Section 108 Loan Guarantee.			X	X	
Section 108 Loan Guarantees	Provides communities with a source of financing for economic development, housing rehabilitation, public facilities, and large-scale physical development projects.	CDBG entitlement and non-entitlement communities	Component of the Community Development Block Grant (CDBG) program.			X	X	
<b>U.S. Environmental Protection Agency (EPA)</b>								
Brownfield Area-Wide Planning Program	Grants for research, technical assistance and training that will result in an area-wide plan and implementation strategy for key brownfield sites.	Local governments, regional councils, redevelopment agencies, non-profit organizations		X				
Assessment Grants	Grants for assessing and planning related to a specific brownfield site.	State, local, and tribal governments, regional councils, redevelopment agencies.		X				

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
Brownfield Cleanup Grants	Grants for cleanup activities at brownfield sites.	State, local, and tribal governments, regional councils, redevelopment agencies, non-profit organizations.					X	
Revolving Loan Fund Grants	Funding for a grant recipient to capitalize a revolving loan fund for cleanup activities at brownfield sites.	State, local, and tribal governments, regional councils, redevelopment agencies.					X	
Smart Growth Implementation Assistance Program and Building Blocks for Sustainable Communities	Technical assistance for governments that want to incorporate smart growth techniques into their future development.	State, local, regional, and tribal governments; non-profits in partnership with a governmental entity		X				
<b>U.S. Department of Transportation (DOT)</b>								
New Starts Program	Competitive funding for major new light rail, bus-rapid transit, and heavy rail projects, including extensions and capacity improvements to existing corridors.	Transit agencies, other public entities						X
Transportation Infrastructure Finance and Innovation Act (TIFIA)	Loans, loan guarantees, or lines of credit for major projects (highways, bridges, railroads, etc.)	State and local governments, transit agencies, special authorities	TIFIA projects must have a dedicated revenue source (e.g., user fees, local tax revenues, special assessment revenues)					X
<b>U.S. Economic Development Administration (EDA)</b>								
Public Works and Economic Adjustment Assistance programs	Grants for investments that support the implementation of regional economic development strategies designed to create jobs, leverage private capital, encourage economic development, and strengthen America's ability to compete in the global marketplace.	Local governments and other public entities; non-profit organizations.			X			X

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
<b>Federal Home Loan Bank (FHLBank) Pittsburgh</b>								
Affordable Housing Program (AHP)	Grants and loans for the development or rehabilitation of affordable single-family or multi-family housing.	Member banks submit applications on behalf of project sponsors; e.g., a nonprofit, for-profit developer, housing authority or local government					X	
Community Lending Program (CLP)	Revolving loan fund for community and economic development projects, including low- or moderate-income housing, community facilities, and commercial/ industrial facilities.	Member banks submit applications to finance public/private projects	Projects must be located in qualifying low-income areas				X	
Other Federal Programs								
New Market Tax Credits	Federal income tax credits for individual and corporate investors that make equity investments (via CDEs) in businesses or real estate in low-income communities	Community Development Entities (CDEs), Individual & corporate investors	Projects must be located in Qualifying Census Tracts (QCTs).			X	X	
<b>STATE GRANTS AND LOANS (BY ADMINISTERING AGENCY)</b>								
Pennsylvania Department of Community & Economic Development (DCED)								
Keystone Communities	Funding and technical assistance for physical improvements and economic development to support community revitalization.	Municipalities, redevelopment authorities, housing authorities, various nonprofits (e.g., main street organizations, BIDs)	Consolidated multiple previous programs including Main Streets, Elm Streets, Enterprise Zones, Safe Routes to School, and Hometown Streets, and reduced total funding.		X	X		

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
Municipal Assistance Program	Provides funding to assist local governments to plan for and efficiently implement a variety of services and improvements, and soundly manage development with an emphasis on intergovernmental approaches. Funding is available for three groups of activities: shared services; community planning; and floodplain management	Municipalities		X				
Neighborhood Assistance Program (NAP)/Neighborhood Partnership Program (NPP)	Provides tax credits to businesses that sponsor neighborhood organizations to develop and implement neighborhood revitalization plans (includes a number of related programs).	Nonprofits, businesses	Nonprofit submits a project application; businesses contribute funding annually towards the project and apply for a tax credit		X	X	X	
Business in Our Sites (BOS)	Grants and loans for predevelopment activities (i.e. improving and acquiring sites) for future use by businesses and developers; preference is for previously utilized sites (reuse).	Municipalities, redevelopment authorities, industrial development agencies, private developers	No new funding, but loans will continue to revolve.		X	X	X	X
Growing Greener II - Main Street and Downtown Redevelopment Grants	Grants to help improve a community's downtown through community development and housing activities, downtown reinvestment, facade and anchor building activities, residential reinvestment, and business assistance.	Municipalities, non-profits.	Funded by a state bond issuance; funding was largely allocated as of 2011. Other Growing Greener II funded farmland preservation, watershed cleanup, environmental remediation at mines and other former industrial sites, and other environmental projects.			X	X	
Industrial Sites Re-use Program	Grants and low-interest loans for environmental assessments and remediation at former industrial sites.	Municipalities, municipal authorities, redevelopment authorities, economic development agencies, private companies				X	X	

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
Tax Increment Financing (TIF) Guarantee	Provides credit enhancements (guarantees up to \$5 million) for TIF projects.	Issuers of TIF debt obligations located within a municipality other than a city of the first- or second-class			X	X	X	
Pennsylvania Industrial Development Authority (PIDA)	Low-interest loans through Industrial Development Corporations for land and building acquisition, construction and renovation, resulting in the creation or retention of jobs.	Certified economic development organizations, on behalf of businesses					X	
Infrastructure and Facilities Improvement Program (IFIP)	Multi-year grants to assist with debt service payment. Eligible projects include infrastructure, environmental remediation, other soft costs, and (in some cases) acquisition/development related to convention centers, hospitals, hotels, industrial facilities, retail facilities or research and development facilities	Authorities that issue debt for TIF; Redevelopment Authorities; Convention center authorities; The Pennsylvania Economic Development Financing Authority					X	
<b>Pennsylvania Department of Transportation (PennDOT)</b>								
Pennsylvania Community Transportation Initiative (PCTI)	Provided funding from the state TIP for smart transportation projects (including planning and capital improvements), with an emphasis on high yield and high value projects; investing in existing communities and infrastructure, mixed use and more compact development; and linking development to a variety of transportation options	Municipalities, MPOs, transit agencies, educational institutions, transportation management associations	Unfunded as of the publishing of this report	X	X			

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
Pennsylvania Infrastructure Bank	Provides low-interest loans to help fund transportation projects within the Commonwealth. Generally funds aviation, highway/bridge, rail freight, and transit capital projects; may also include traffic calming, pedestrian crossing, and Hometown Streets/Safe Routes to School improvements.	Municipalities, transportation authorities, economic development agencies, non-profits, and private corporations.			X			X
<b>Pennsylvania Housing Finance Agency (PHFA)</b>								
Low-Income Housing Tax Credits (LIHTC)	Federal tax credits for affordable and mixed-income housing.	Developers	Selection criteria include points for the development "forming an important part of a broader or comprehensive program of neighborhood improvement....[which can include] contributing to a transit oriented design initiative"; projects located in a Qualifying Census Tract (QCT) or Difficult Development Area (DDA) may qualify for a higher construction basis.				X	
PHFA Loan Programs	Uses the proceeds from taxable and tax-exempt bond sales to make loans to developers.	Developers					X	
<b>Other State Programs</b>								
Rehabilitation Investment Tax Credit (RITC)	Tax credits for rehabilitation of income-producing historic structures. Administered by the Pennsylvania Historical & Museum Commission	Property owners	In order to be eligible, structures must have been built before 1936 or be listed on the National Register of Historic Places.			X		

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
Redevelopment Assistance Capital Program (RACP)	Matching grants for large (\$1 million or more) economic development projects. Administered by the Office of the Budget.	Municipalities, public authorities, federal or state designated development agencies	Projects must be included in a Capital Budget Project Itemization Act passed by the General Assembly and signed into law by the Governor, and must be projects that cannot obtain primary funding under other state programs. Projects must be eligible for federal tax-exempt bond funding. Requires at least 50% non-state matching source.			X	X	X
<b>REGIONAL AND LOCAL GRANTS AND LOANS (BY ADMINISTERING AGENCY)</b>								
Southwestern Pennsylvania Commission (SPC)								
Transportation Improvement Program	Lists the region's highest priority highway and transit projects that are programmed for advancement over a four-year period.		Updated every two years. Major transportation projects must be included in the TIP to receive state and federal transportation dollars.		X			X
Congestion Mitigation Air Quality Improvement (CMAQ) Program	Federal funding (administered regionally by SPC) for projects that improve air quality and relieve congestion.	Public entities and public-private partnerships	Competitive allocation process; priority given to diesel retrofits, traffic flow improvements, transportation demand management, and commuter bicycle/pedestrian improvements. Projects must be included in the TIP to receive CMAQ funding.		X			X
MAP-21 Transportation Alternatives	Federal funding (administered regionally by SPC) for bicycle and pedestrian facilities, traffic calming, and a wide range of other projects.	Local governments, transit agencies, regional transportation authorities, public agencies, education agencies.	Replaces the previous Transportation Enhancements, Safe Routes to School (SRTS), Scenic Byways, and Recreational Trails programs; will be allocated on a competitive basis by SPC.		X	X		X
Urbanized Area Formula - Transit Enhancements	Federal funding (administered regionally by SPC) for bus shelters, bicycle and pedestrian access improvements, and other improvements related to mass transit.	Transit agencies			X			
<b>Other</b>								

Source/Program	Description	Key Actors (Eligible Applicants)	Considerations	Visioning, Planning, Building Capacity	Local Access Improvements	Revitalization & Building Reuse	New Development	Regional Access Improvements
Community Infrastructure and Tourism Fund (CITF)	Grants and loans up to \$250,000 for local infrastructure projects or the acquisition and development of key sites for future use.	Municipalities, authorities, councils of government, non-profit organizations, businesses	Administered by the Redevelopment Authority of Allegheny County	X	X	X	X	X
Community Development Block Grants (CDBG)	Federal block grant program intended to ensure decent affordable housing, community services for vulnerable neighborhoods, and job creation and retention of businesses	Larger cities and urban counties ("entitlement communities" receive annual block grant; DCED administers state funding for smaller communities.	Projects must be located in service areas where at least 51% of residents are low- or moderate-income persons.		X	X	X	

Appendix B. Typology Metrics Indexed Scores by Station Area

Station Name	Place Type	PEOPLE & PLACES (TRANSIT ORIENTATION)					POTENTIAL					
		People & Places Index	People	Physical Form	De(P)endence	Places	Proximity	Potential Index	Sales	Rents	Capacity	Development Potential
Allegheny	Connect	337	85	33	79	40	100	224	100	55	19	50
Arlington	Plan + Part	192	47	16	46	52	31	161	32	65	31	33
Beagle	Educate + Envision	71	24	16	2	7	22	120	17	55	31	17
Belasco	Plan + Part	271	53	32	75	55	56	161	18	49	43	50
Bell	Plan + Part	222	32	73	21	41	56	161	18	52	42	50
Bellefield	Infill + Enhance	396	100	56	63	100	77	317	100	100	95	23
Bethel Village	Plan + Part	216	54	16	67	51	29	151	16	88	31	16
Bigelow	Infill + Enhance	421	100	72	58	100	91	314	100	100	95	19
Boggs	Plan + Part	256	32	35	66	23	100	159	11	55	43	50
Bon Air	Plan + Part	180	25	12	51	9	83	160	15	60	35	50
Carnegie	Catalyze	366	65	99	57	100	45	165	23	54	42	45
Casswell	Educate + Envision	123	27	23	17	23	32	167	18	93	31	25
Castle Shannon	Connect	240	44	43	42	81	30	219	27	64	86	42
Central	Plan + Part	194	32	31	37	49	45	153	10	54	38	50
Chatham Square	Infill + Enhance	446	100	100	46	100	100	307	100	75	95	37
CMU	Connect	260	100	41	2	50	67	306	100	100	95	12
Crafton	Plan + Part	266	51	59	54	30	71	140	24	50	23	44
Craig	Infill + Enhance	377	100	52	66	88	71	345	100	100	95	50
Dawn	Connect	222	30	21	60	28	83	210	13	56	91	50
Denise	Plan + Part	182	24	21	49	22	67	158	4	49	55	50
Dinwiddie	Catalyze	400	86	100	17	97	100	209	41	56	62	50
Dorchester	Plan + Part	172	40	14	55	34	28	155	13	93	31	18
Dormont Junction	Catalyze	333	80	74	47	91	42	155	40	57	31	27
East Liberty	Infill + Enhance	481	100	98	91	100	91	321	100	71	100	50
Edgebrook	Educate + Envision	137	21	10	45	8	53	151	7	55	38	50
Fallowfield	Plan + Part	272	48	28	76	54	67	164	19	52	43	50
Glenbury	Plan + Part	178	31	34	29	31	53	181	14	61	55	50
Halket	Infill + Enhance	449	100	94	55	100	100	290	51	100	95	44
Hamnett	Catalyze	385	73	100	78	87	48	172	32	48	66	26
Hay Street	Catalyze	411	75	100	86	100	50	180	24	49	66	41
Herron	Catalyze	395	55	97	82	61	100	204	39	44	72	50
Highland	Educate + Envision	136	37	18	36	13	31	162	24	96	31	12
Hillcrest	Educate + Envision	124	26	16	13	37	32	165	14	90	31	31
Homewood	Catalyze	395	68	99	85	77	67	240	79	47	65	50
Idlewood	Plan + Part	183	29	35	44	12	63	161	22	54	35	50
Inglewood	Plan + Part	204	34	37	35	53	45	173	12	55	55	50
Ingram	Plan + Part	268	46	63	48	28	83	101	20	49	32	0
Jumonville	Catalyze	399	68	100	36	94	100	177	37	56	62	22
Killarney	Educate + Envision	134	30	23	19	15	48	170	19	70	31	50
Kings School Road	Educate + Envision	77	25	11	0	13	28	123	15	59	31	19
Kirkpatrick	Catalyze	321	47	88	44	42	100	173	36	56	62	19
Library	Educate + Envision	101	13	17	29	23	20	148	10	65	23	50
Logan Road	Educate + Envision	81	26	12	4	10	29	124	15	62	31	17
Lower	Catalyze	349	38	44	68	100	100	211	89	57	15	50

The highest ranking station in each metric scores 100. Subsequent stations are scored based on their performance of the stations relative to the highest ranking station. Scores are merged together to create the final index.

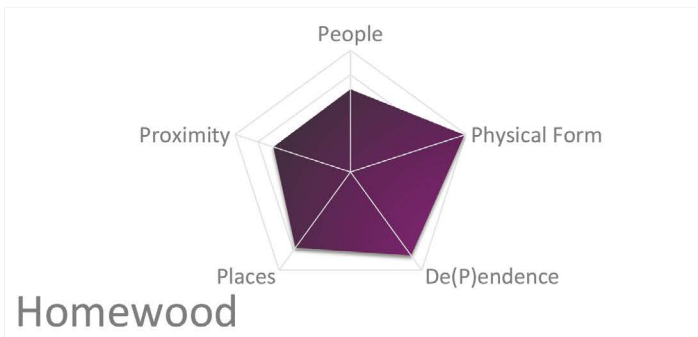
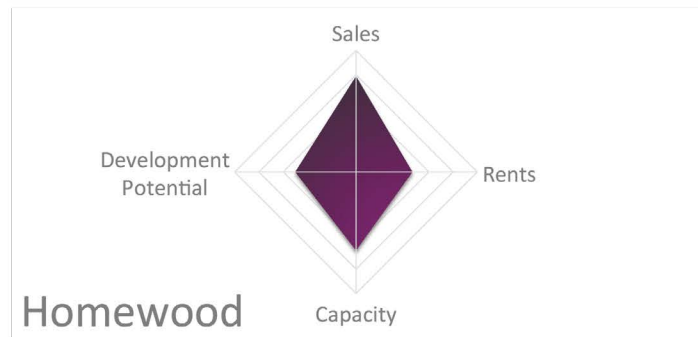
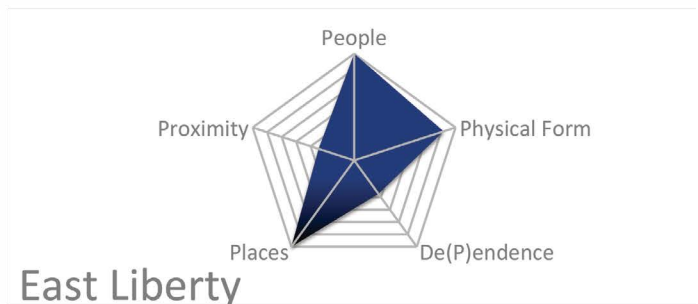
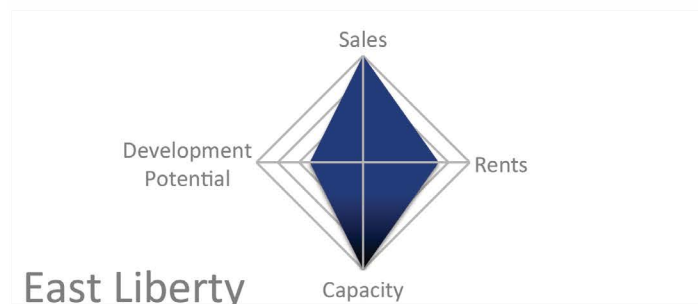
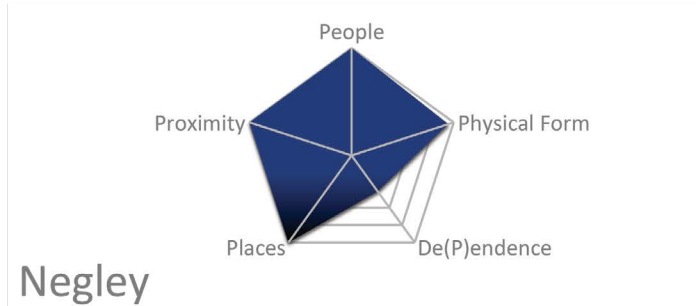
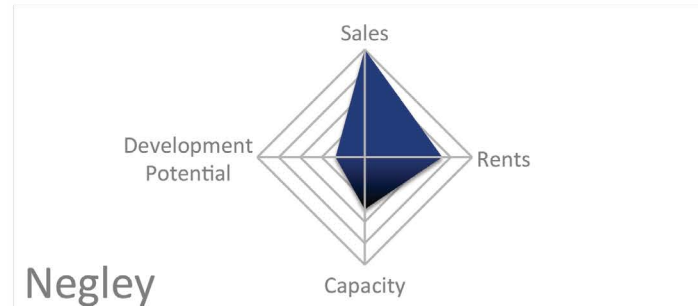
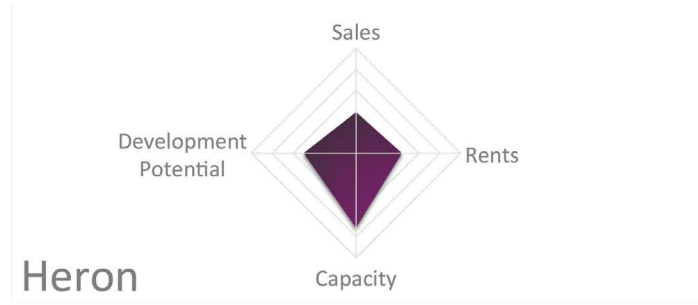
Station Name	Place Type	PEOPLE & PLACES (TRANSIT ORIENTATION)					Potential Index	POTENTIAL				
		People & Places Index	People	Physical Form	De(P)endence	Places		Proximity	Sales	Rents	Capacity	Development Potential
Lytle	Plan + Part	184	33	17	39	65	29	156	15	72	31	39
Marion	Catalyze	354	100	100	4	100	50	216	67	56	62	32
McNeilly	Educate + Envision	129	27	26	16	16	43	204	13	77	65	50
Memorial Hall	Educate + Envision	145	34	19	18	46	28	150	17	57	31	46
Mesta	Plan + Part	196	33	20	46	69	28	159	14	70	31	45
Meyran	Connect	317	100	75	16	100	26	259	48	100	95	16
Monroe	Plan + Part	159	31	21	41	31	34	108	14	63	31	0
Mt Lebanon	Catalyze	324	71	52	50	51	100	172	46	61	54	11
Negley	Infill + Enhance	484	100	99	85	100	100	248	100	72	48	27
Neville	Infill + Enhance	456	100	78	78	100	100	332	100	100	95	38
North Side Station	Catalyze	403	100	51	100	52	100	230	100	61	19	50
Oakland Ave	Infill + Enhance	407	100	72	85	100	50	287	66	100	95	27
Overbrook	Plan + Part	186	34	38	33	41	40	184	17	53	65	50
Overbrook Junction	Plan + Part	265	41	18	36	79	91	157	19	62	31	46
Palm Garden	Connect	252	33	34	66	29	91	207	11	55	91	50
Pennant	Plan + Part	190	36	17	66	38	33	164	15	56	43	50
Poplar	Plan + Part	224	54	31	46	48	45	162	43	61	38	20
Potomac	Catalyze	329	77	68	59	80	45	149	29	53	31	36
Robinson	Catalyze	345	100	84	59	62	40	184	49	56	62	18
Roslyn	Catalyze	312	69	72	80	66	25	153	23	48	32	50
Sarah	Plan + Part	166	27	14	16	9	100	119	14	62	31	11
Sheraden	Plan + Part	265	39	92	60	22	53	144	14	42	38	50
Shiras	Plan + Part	255	58	36	69	29	63	158	19	48	43	47
South Bank	Plan + Part	246	28	28	42	48	100	145	5	52	38	50
South Hills Junction	Connect	299	54	100	68	50	27	220	23	56	91	50
South Hills Village	Plan + Part	176	37	31	49	32	27	176	14	93	40	29
South Park Road	Plan + Part	211	34	24	48	68	37	160	13	68	31	48
St. Anne's	Plan + Part	268	43	31	37	56	100	158	22	62	31	44
Station Square	Catalyze	443	100	78	69	96	100	206	82	55	19	50
Stevenson	Catalyze	305	75	56	62	75	37	138	26	51	31	31
Swissvale	Plan + Part	276	44	55	91	23	63	127	14	39	23	50
Upper	Connect	289	34	54	68	99	34	269	63	56	100	50
Uptown	Catalyze	436	73	100	64	100	100	191	41	56	62	33
Washington Junction	Plan + Part	164	28	21	19	24	71	156	17	59	31	49
West Library	Plan + Part	140	24	18	28	23	48	157	16	61	31	50
Westfield	Plan + Part	241	48	18	72	50	53	166	19	54	43	50
Whited Street	Plan + Part	168	24	23	44	37	40	143	4	51	38	50
Wilkinsburg	Catalyze	397	72	100	92	100	33	194	32	49	62	50
Willow	Plan + Part	246	40	19	34	69	83	155	16	61	31	47

The highest ranking station in each metric scores 100. Subsequent stations are scored based on their performance of the stations relative to the highest ranking station. Scores are merged together to create the final index.

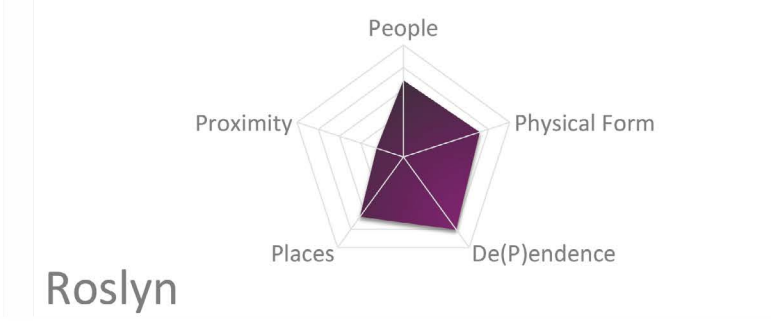
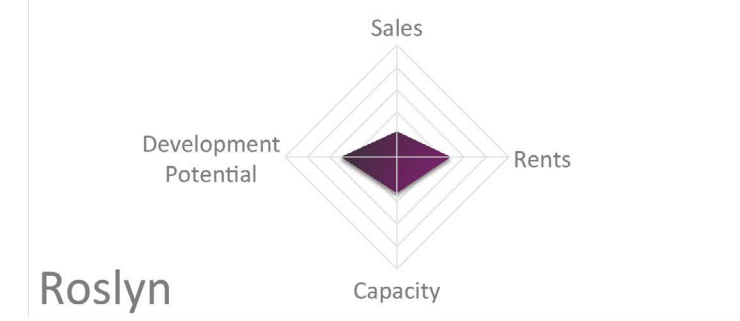
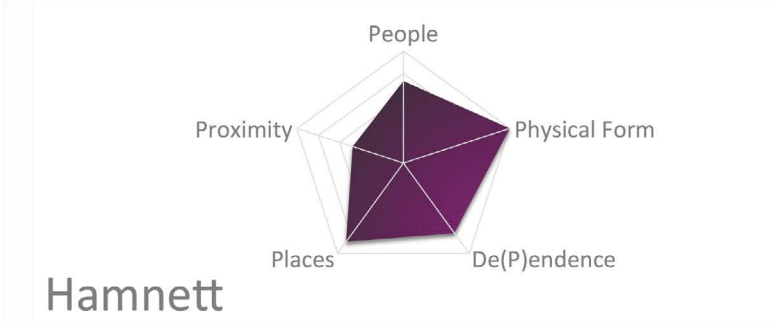
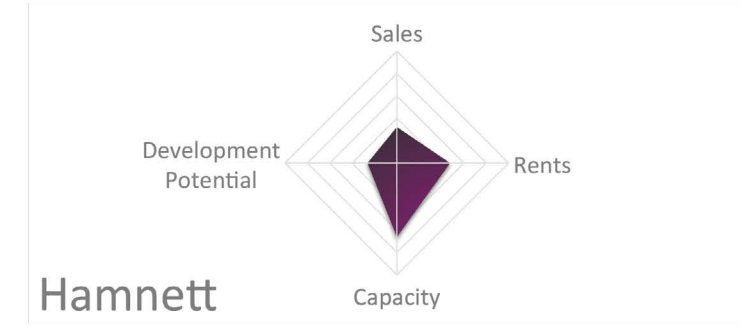
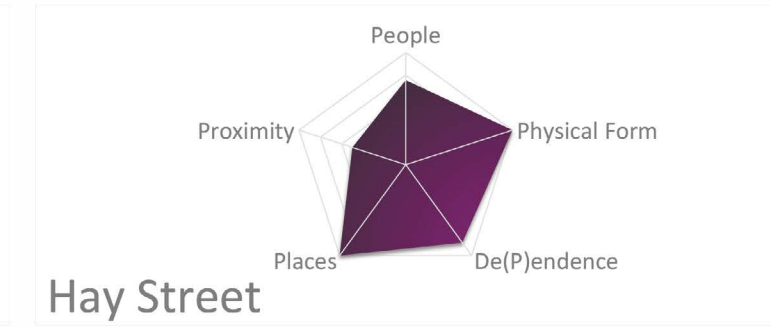
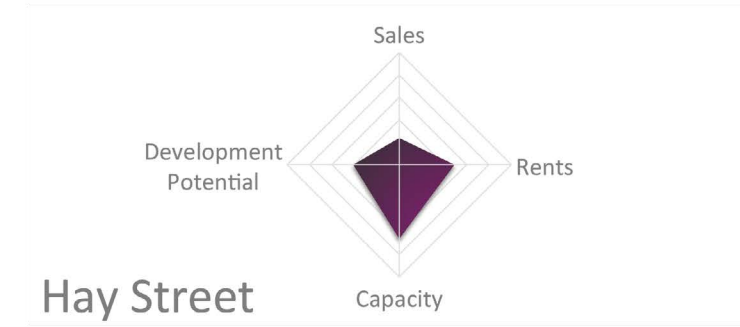
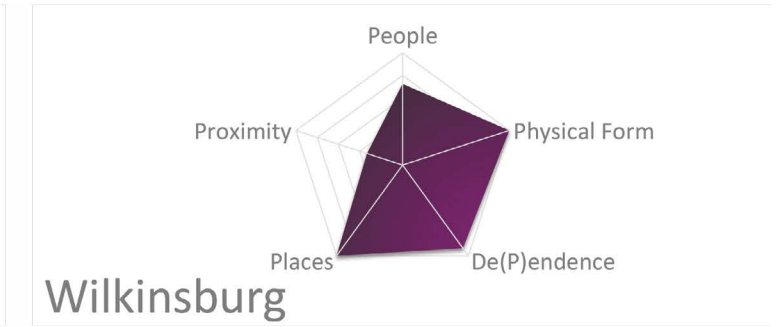
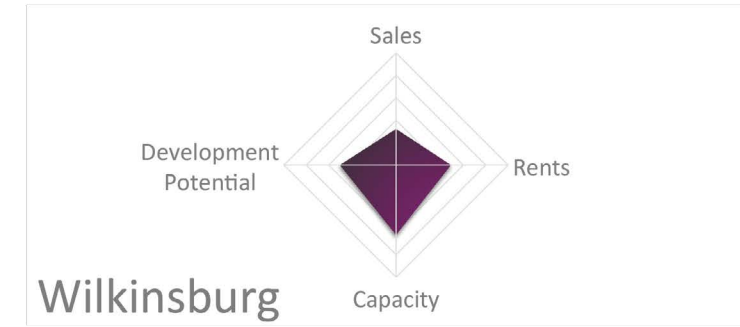


Appendix C. Typology Radar Graphs by Corridor

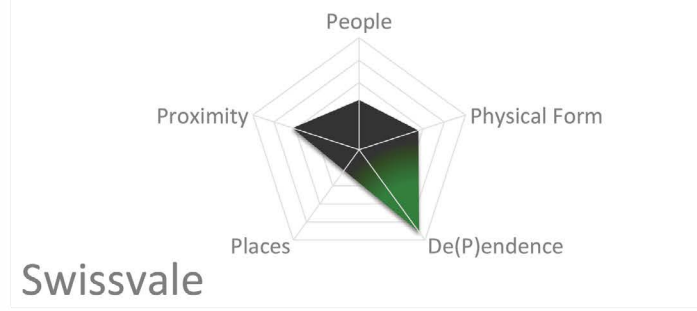
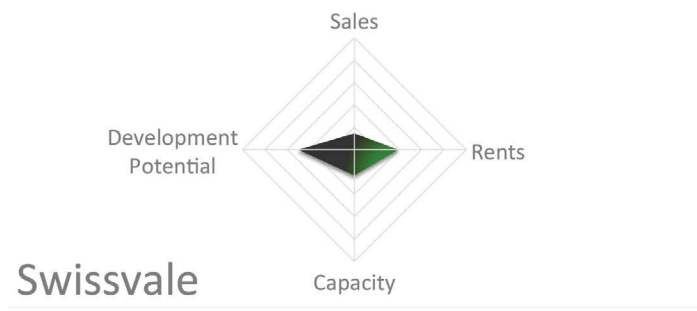
East Busway



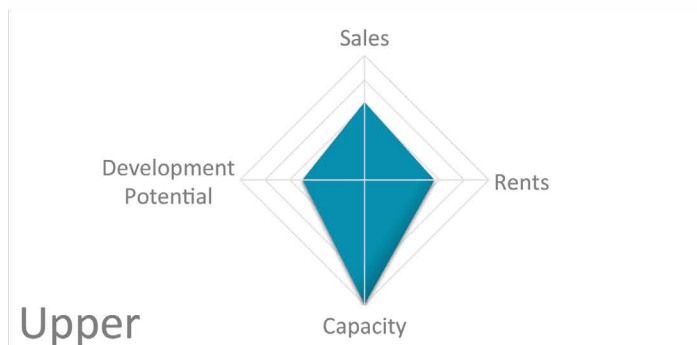
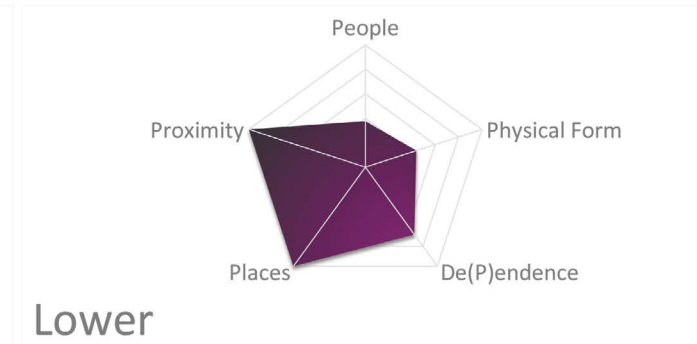
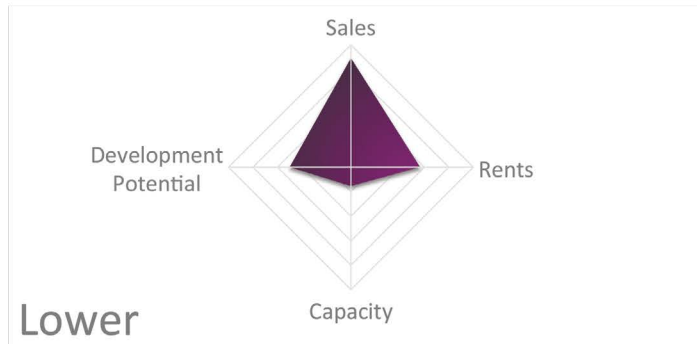
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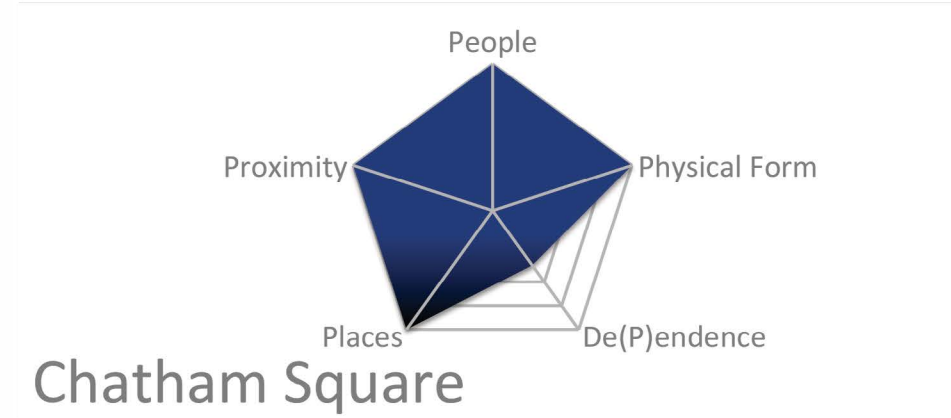
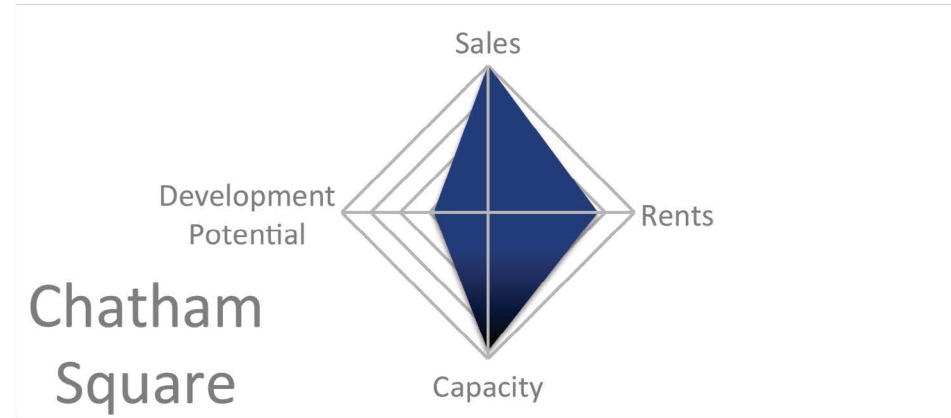
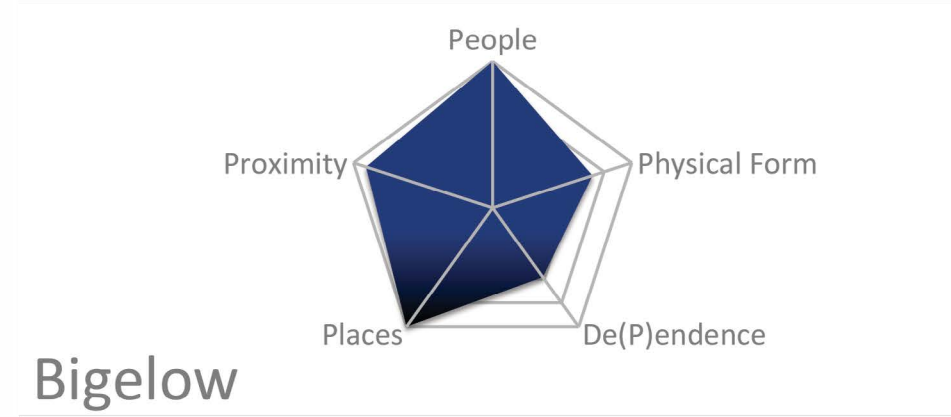
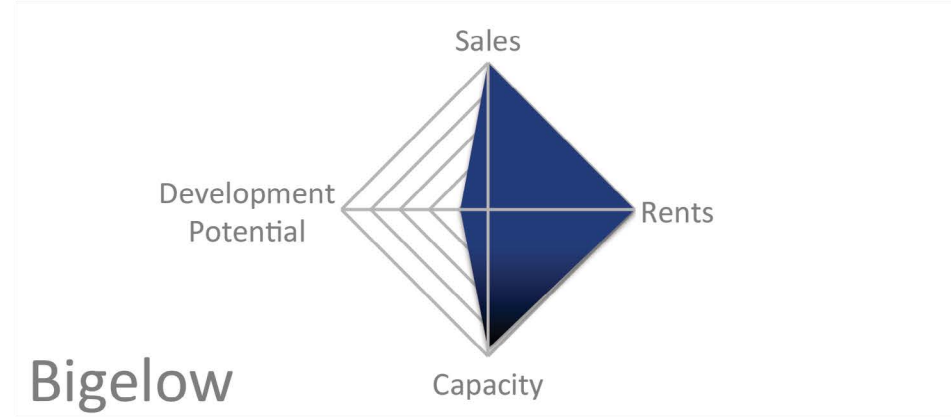
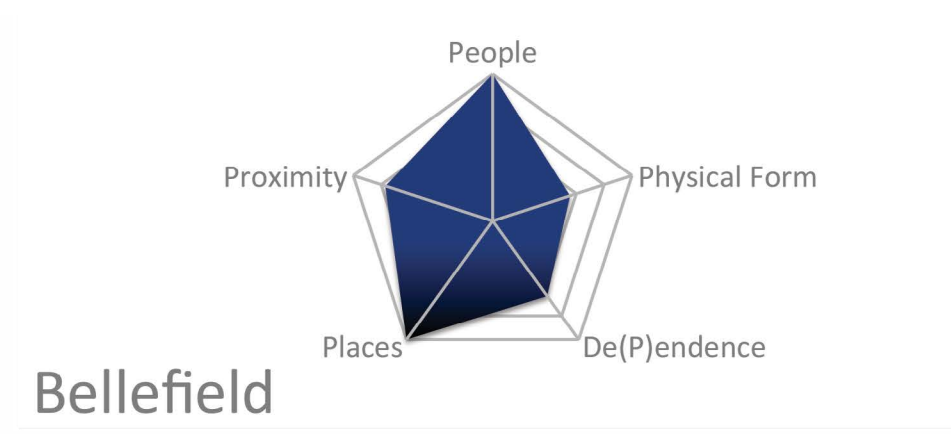
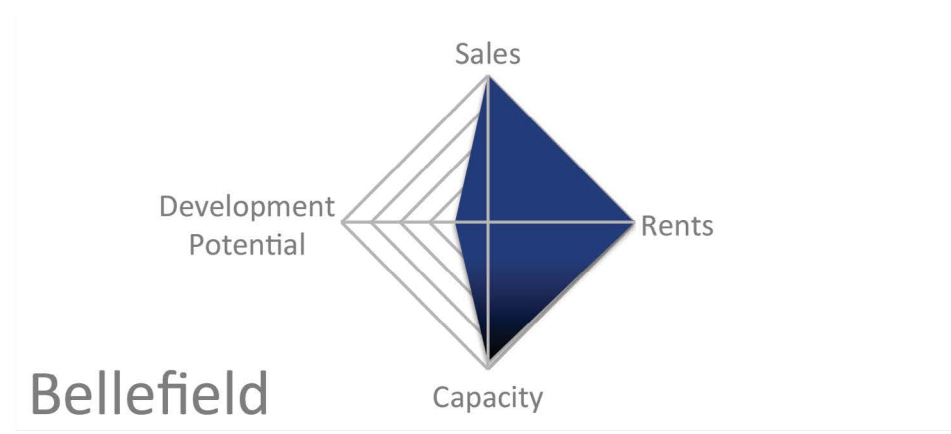
East Busway (continued)



Monongahela Incline

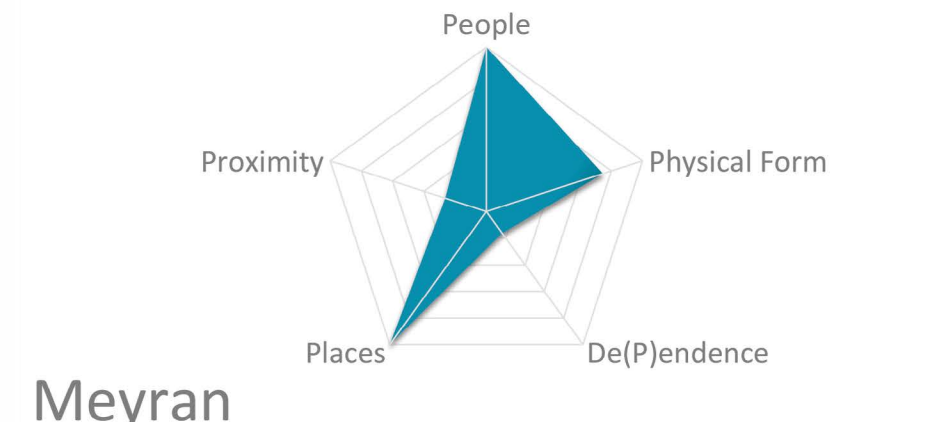
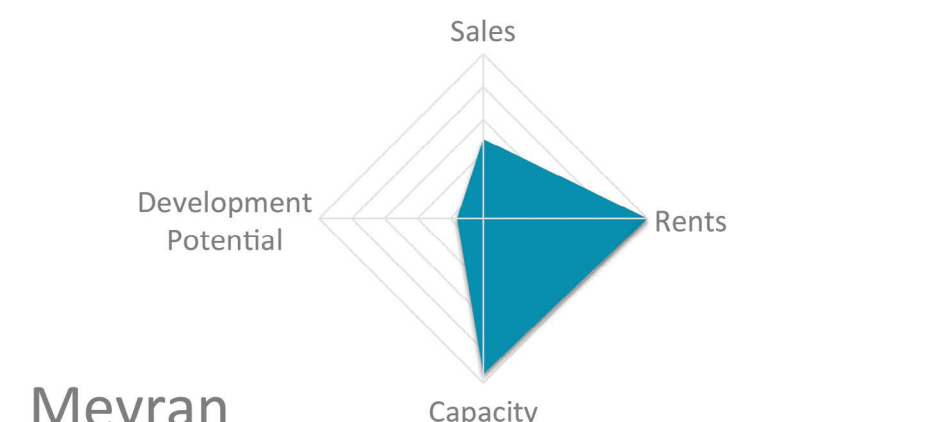
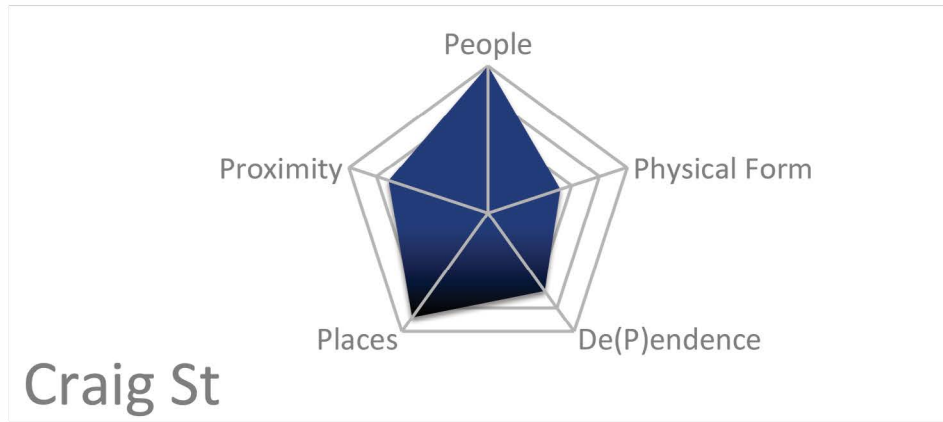
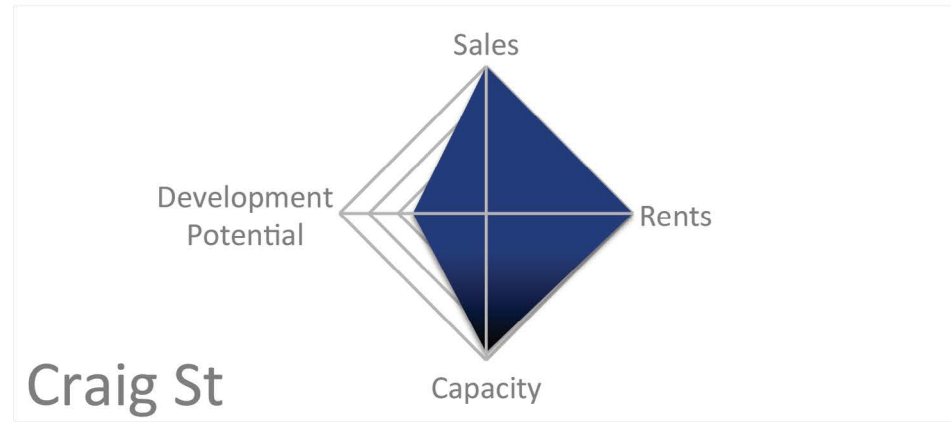
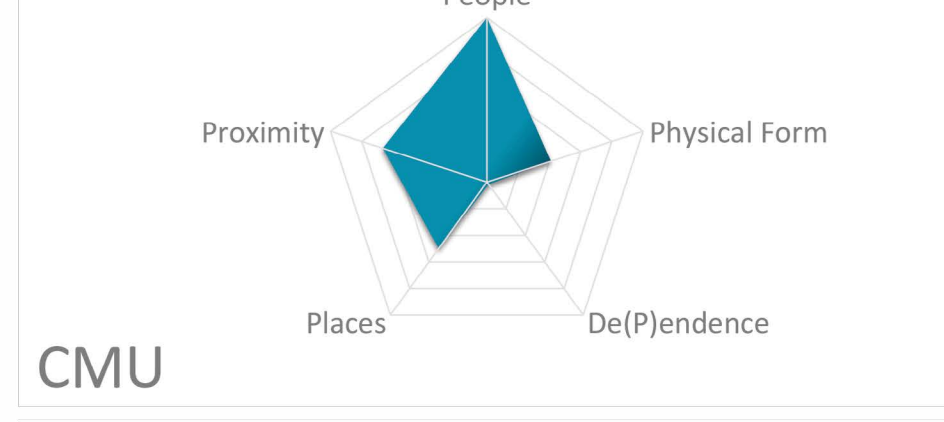
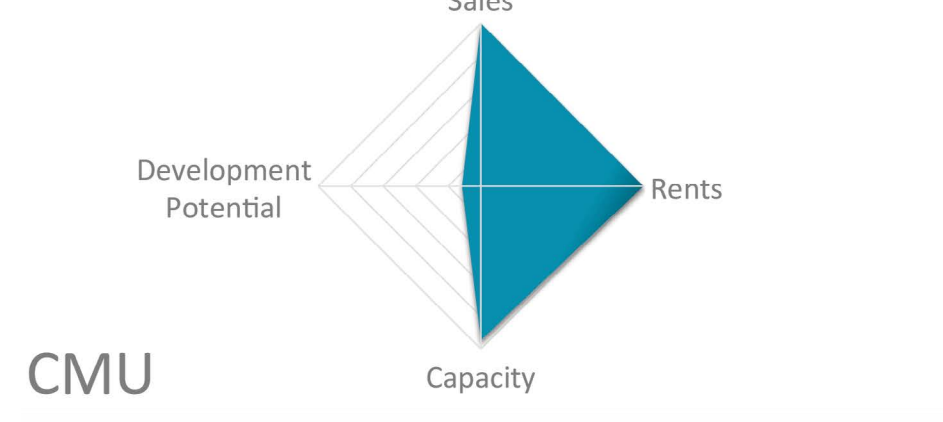
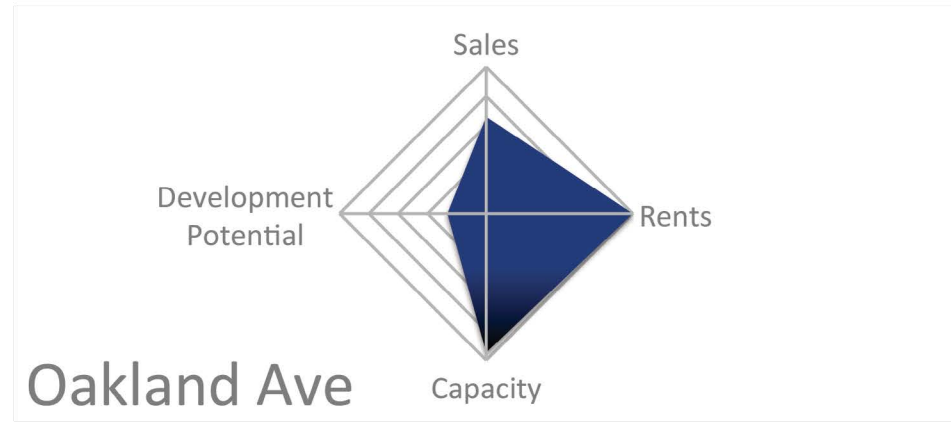
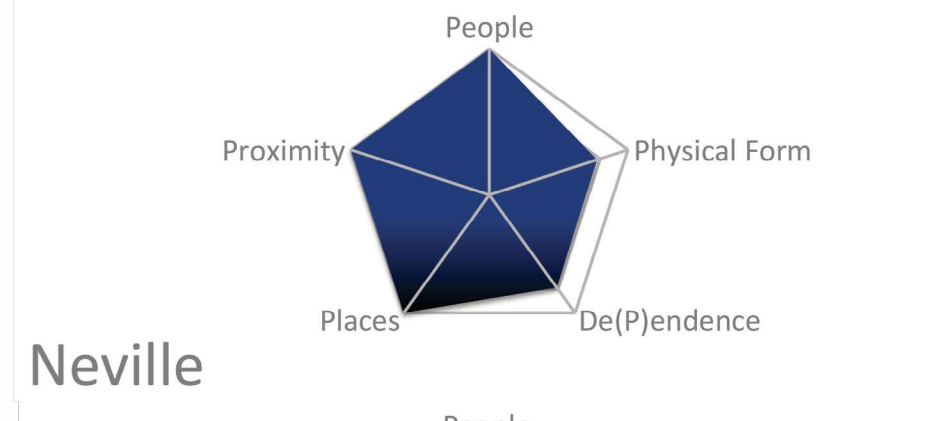
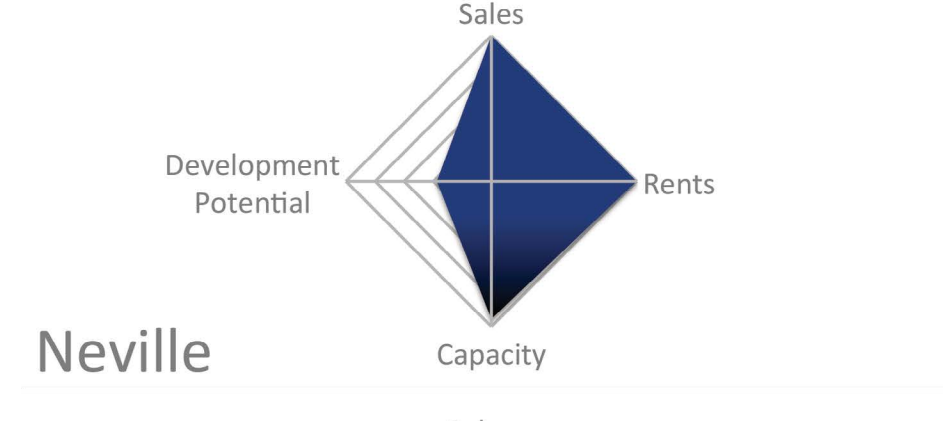
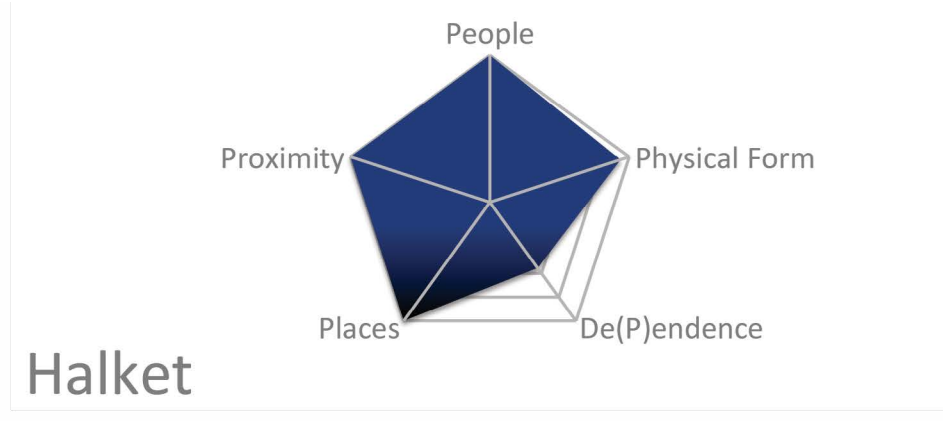
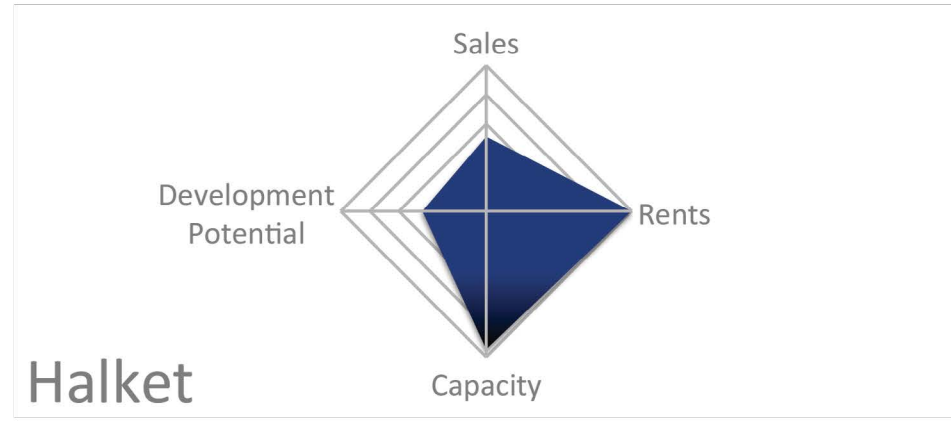


Oakland to Downtown BRT



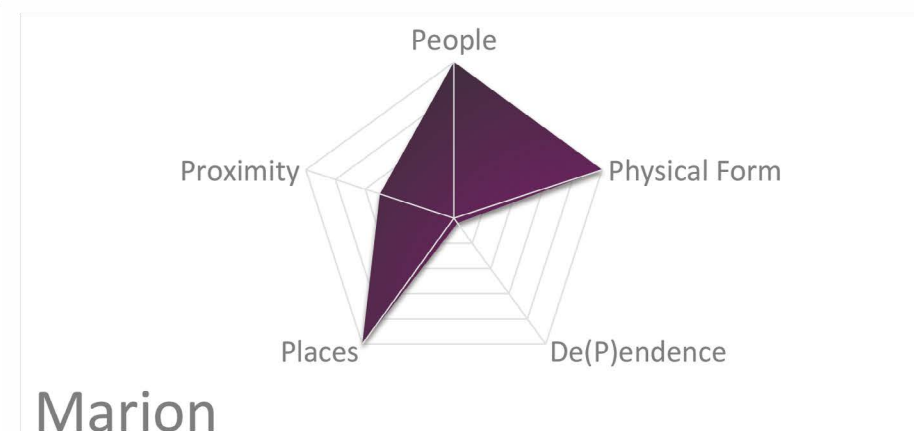
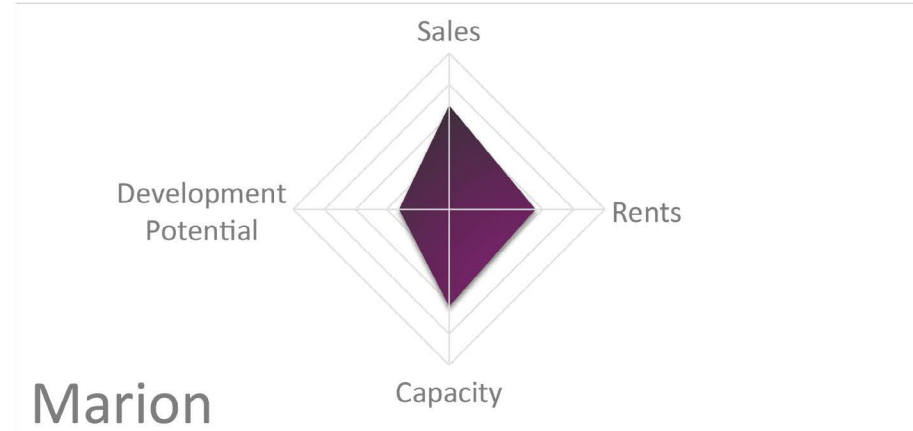
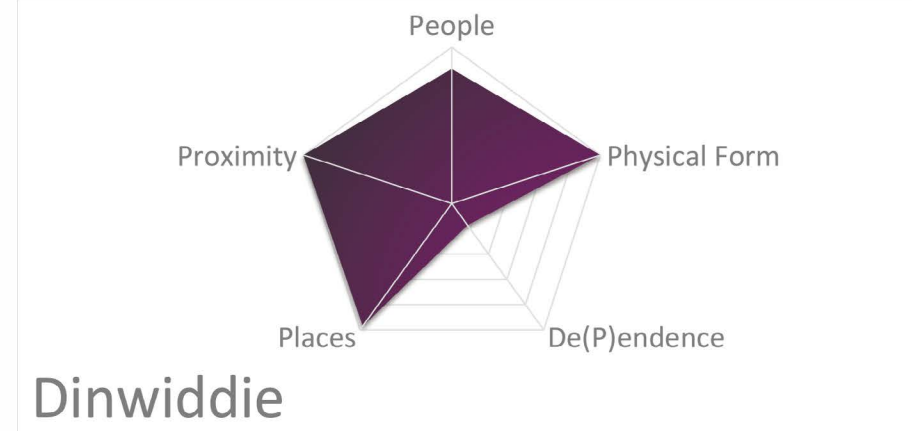
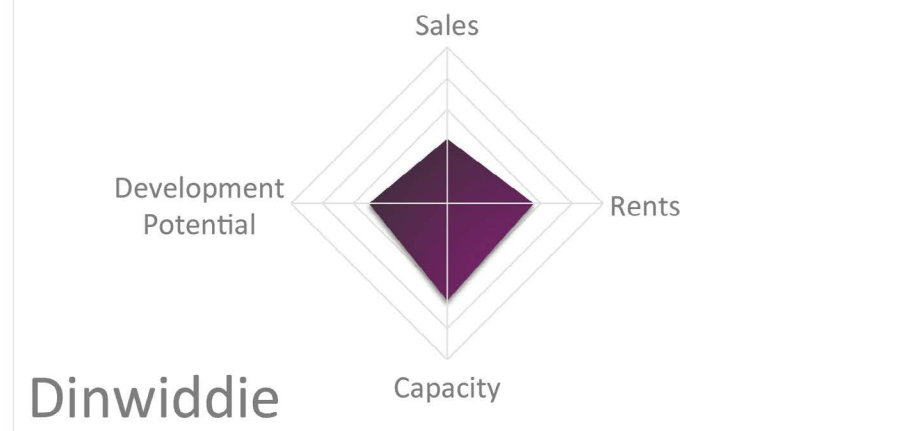
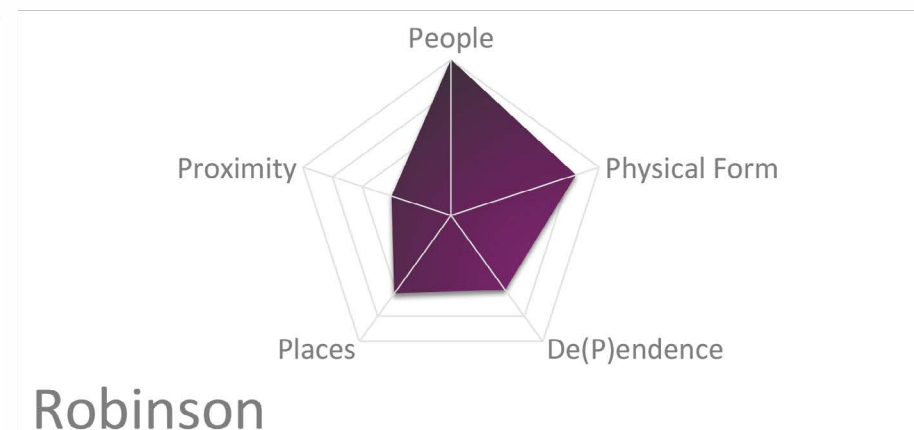
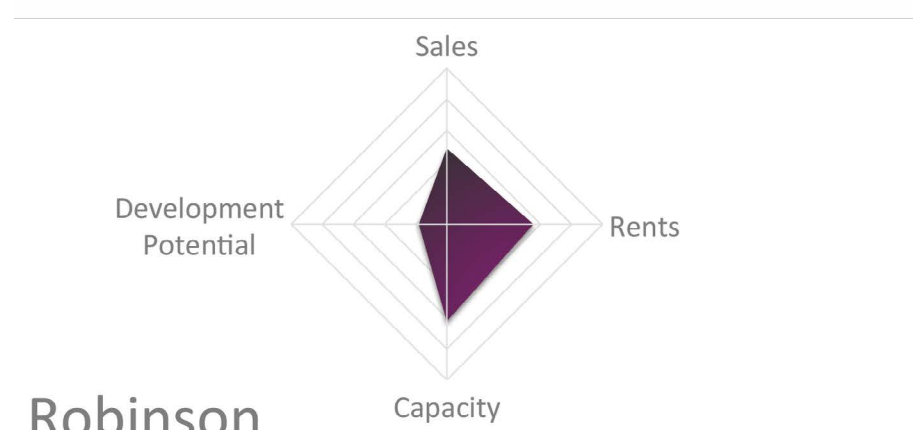
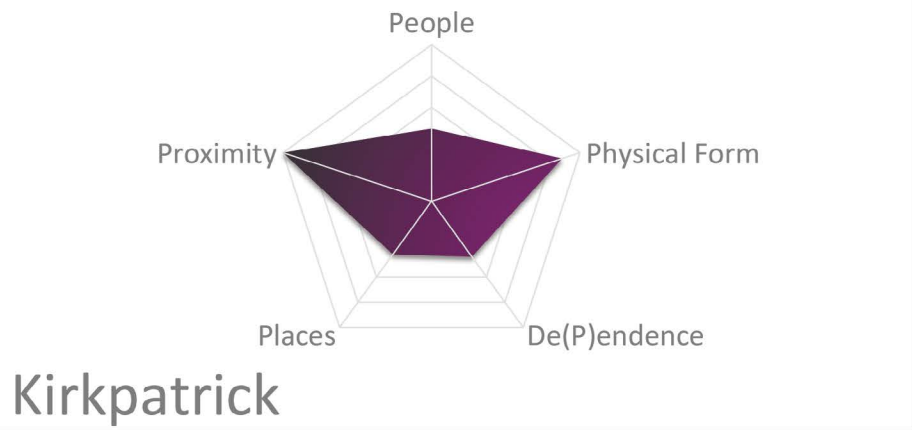
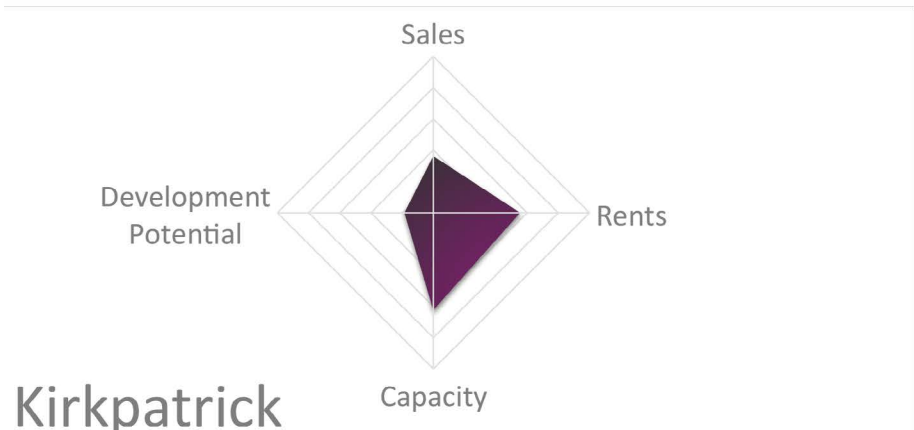
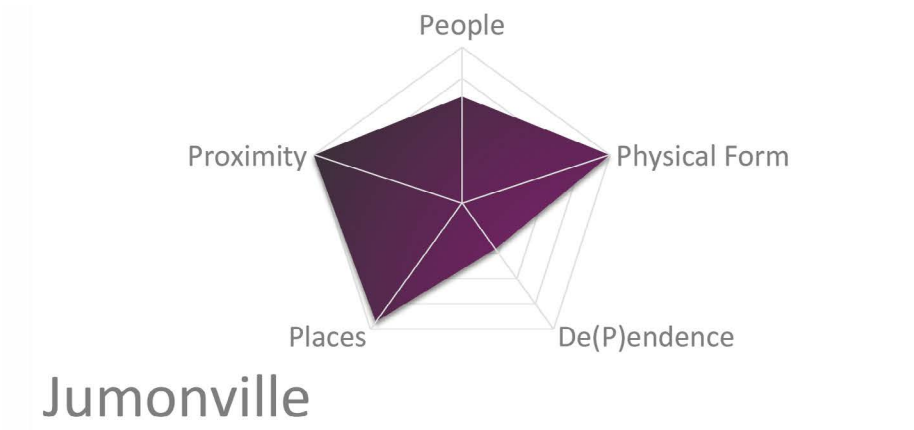
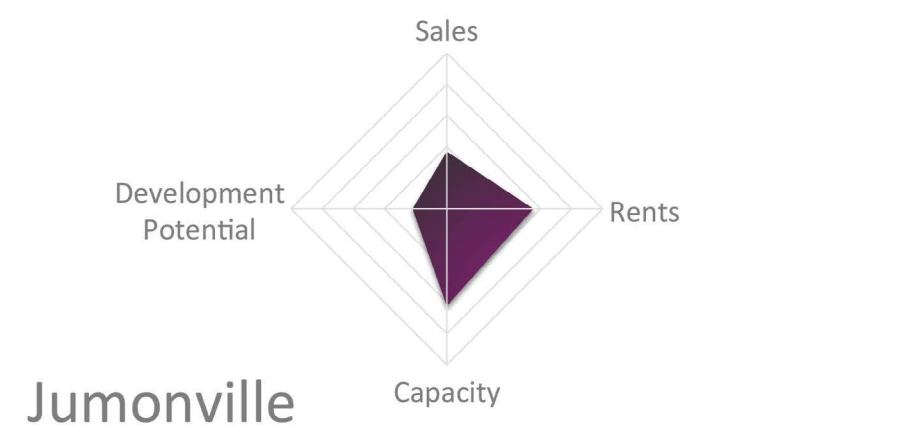
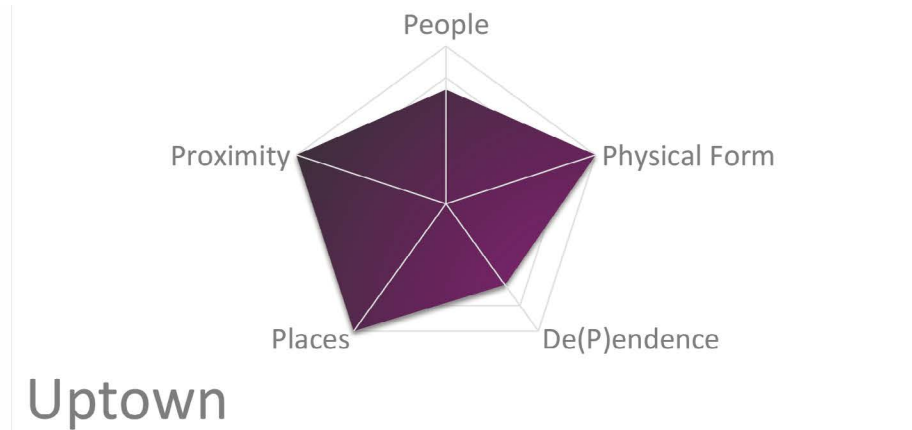
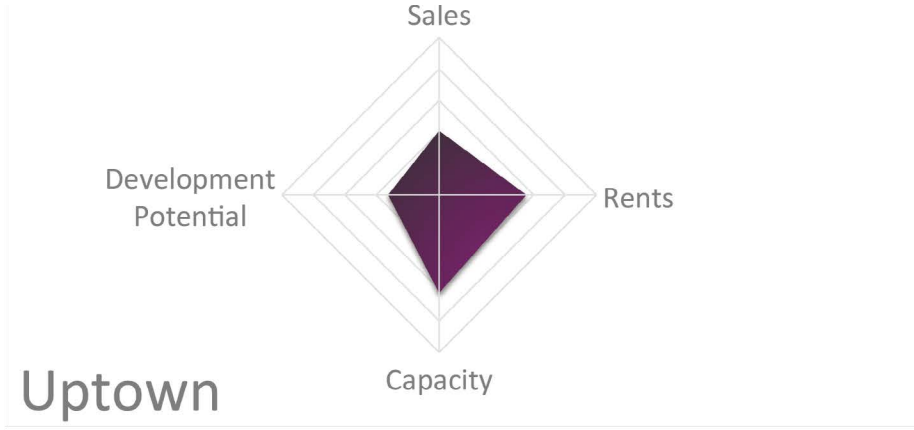
Oakland to Downtown BRT (continued)

Oakland to Downtown BRT (continued)



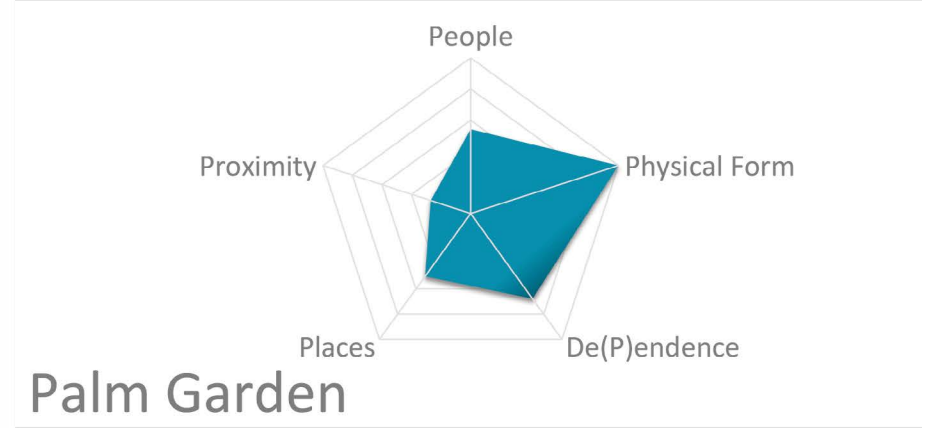
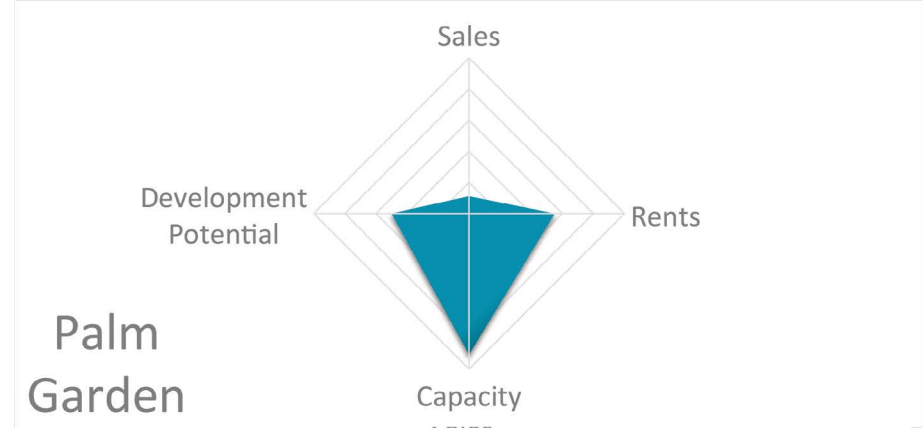
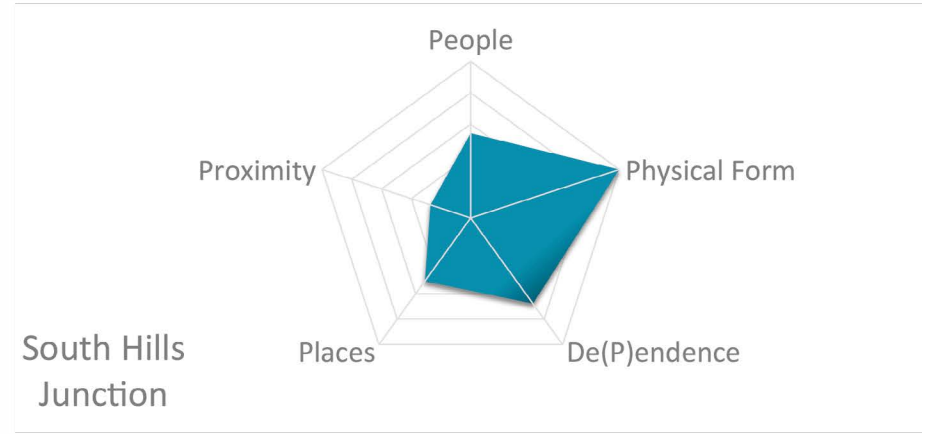
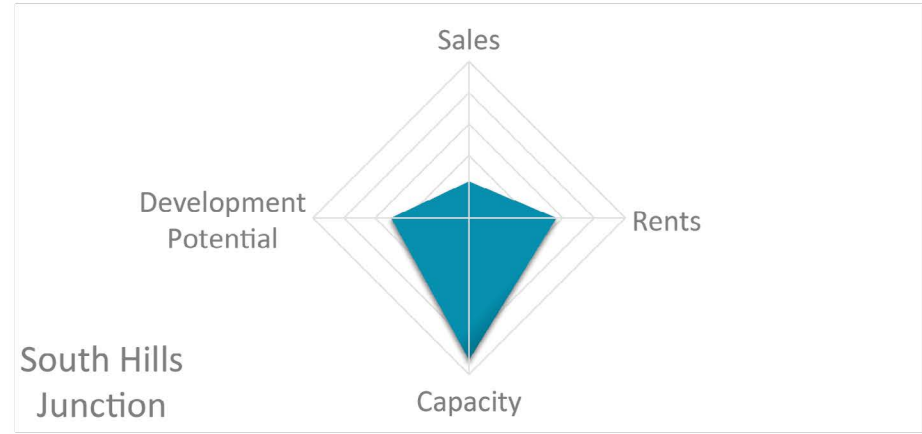
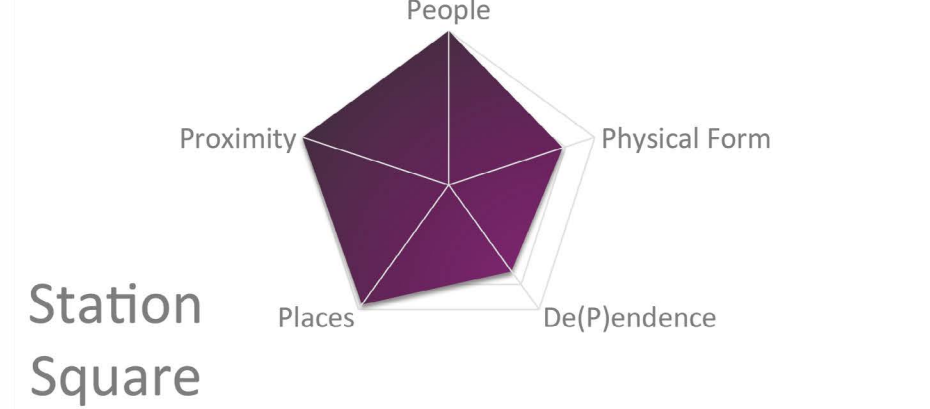
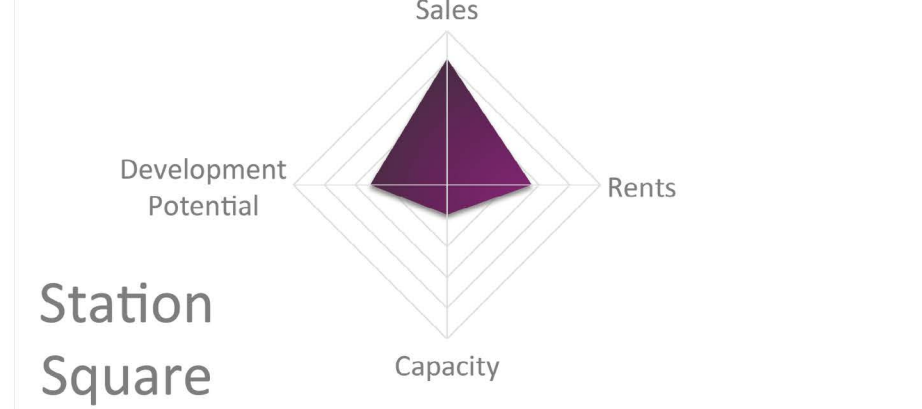
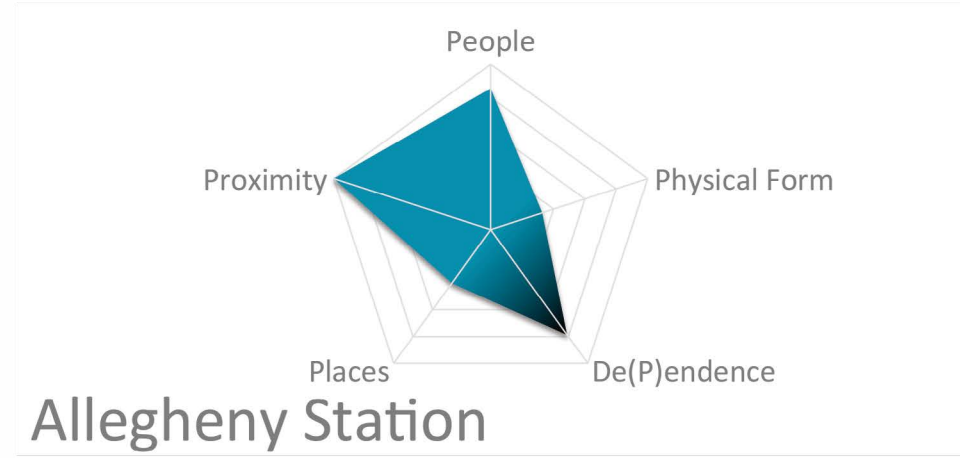
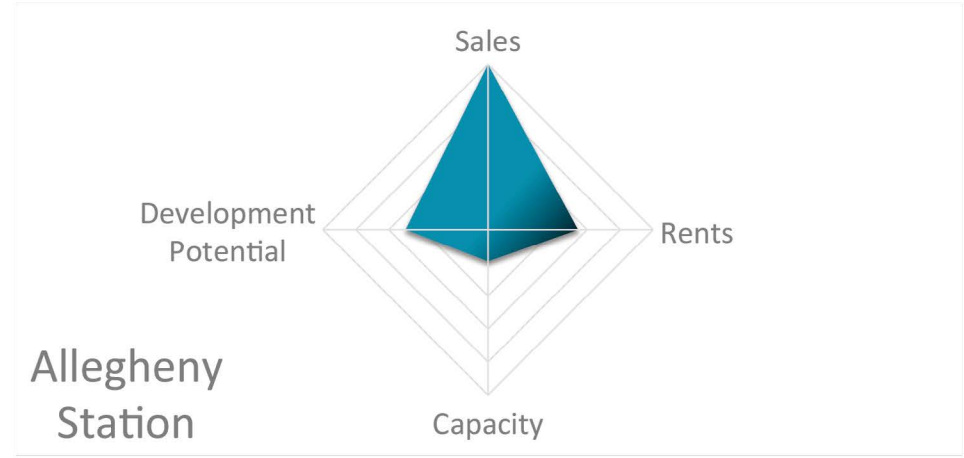
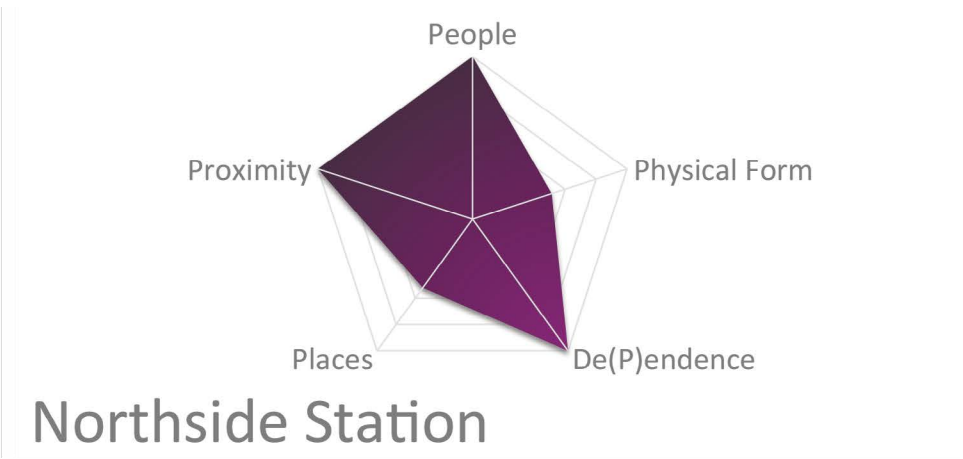
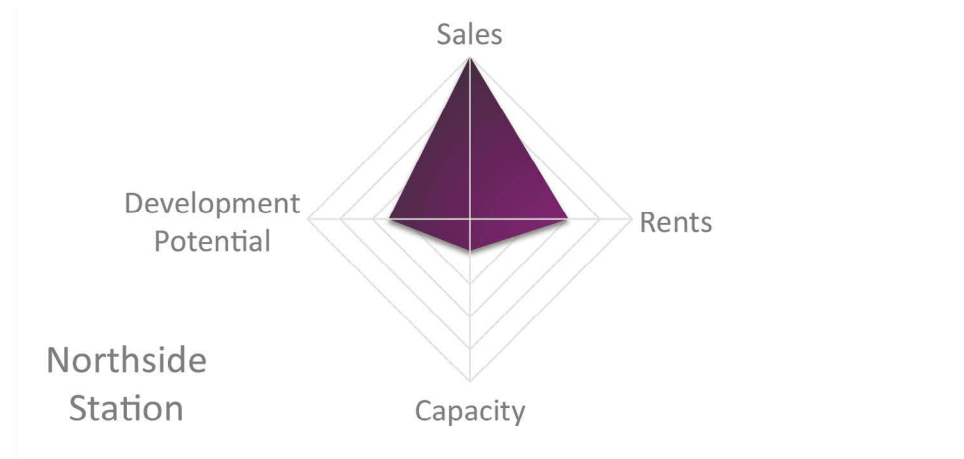
Oakland to Downtown BRT (continued)

Oakland to Downtown BRT (continued)



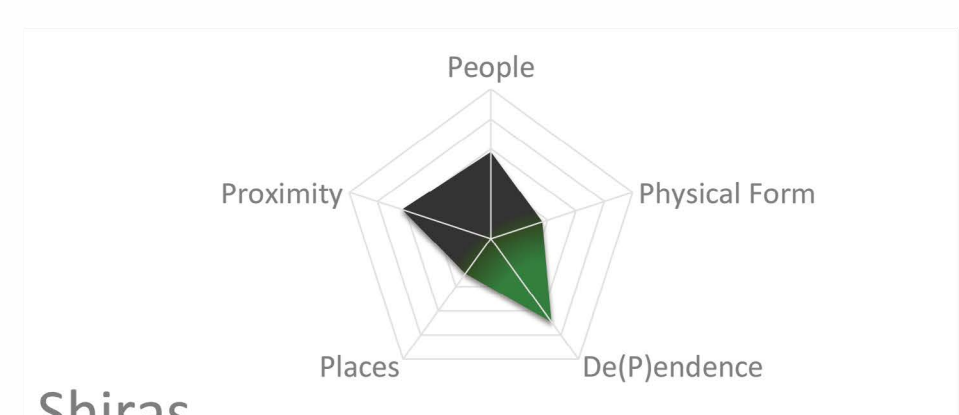
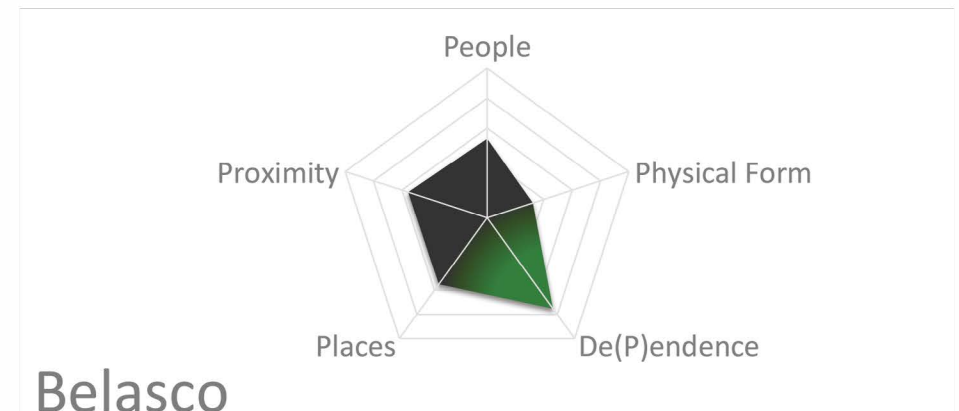
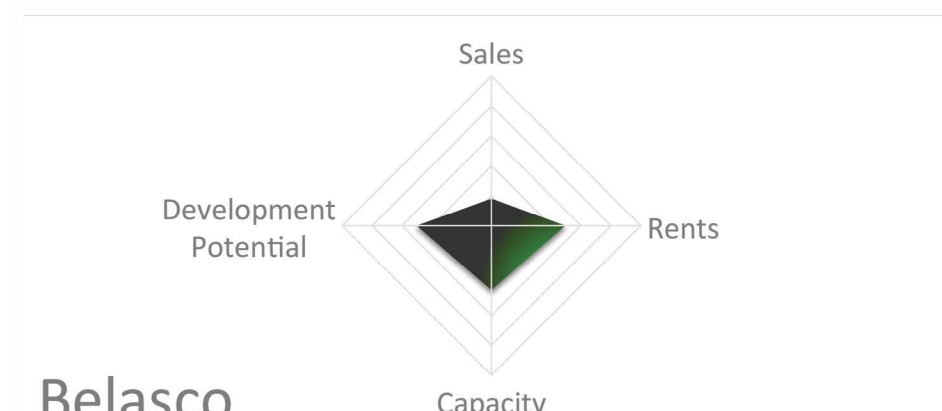
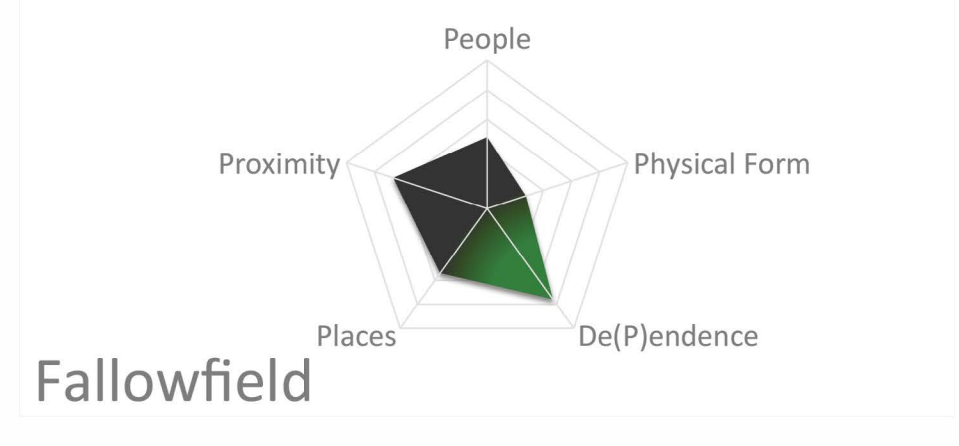
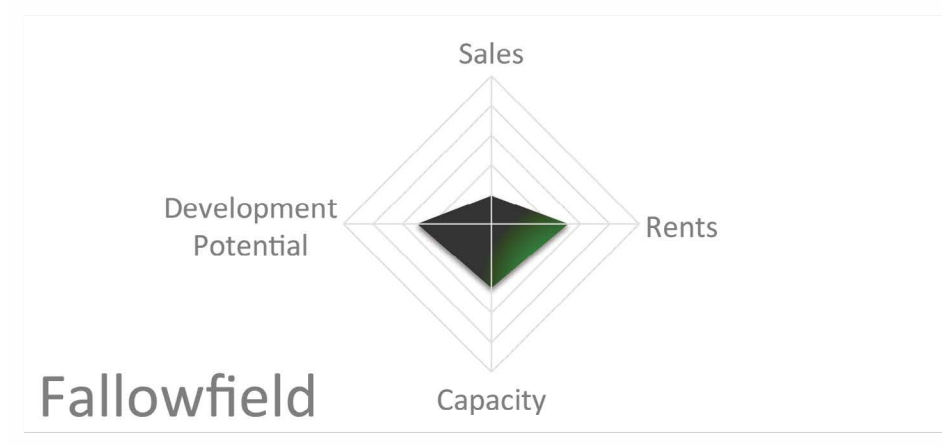
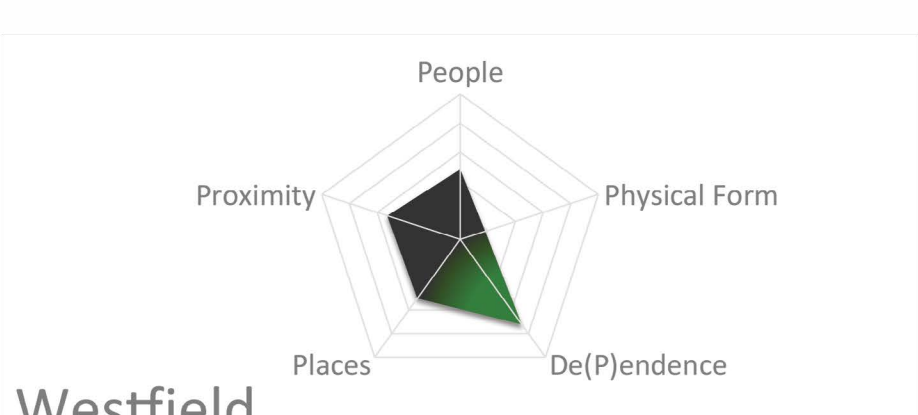
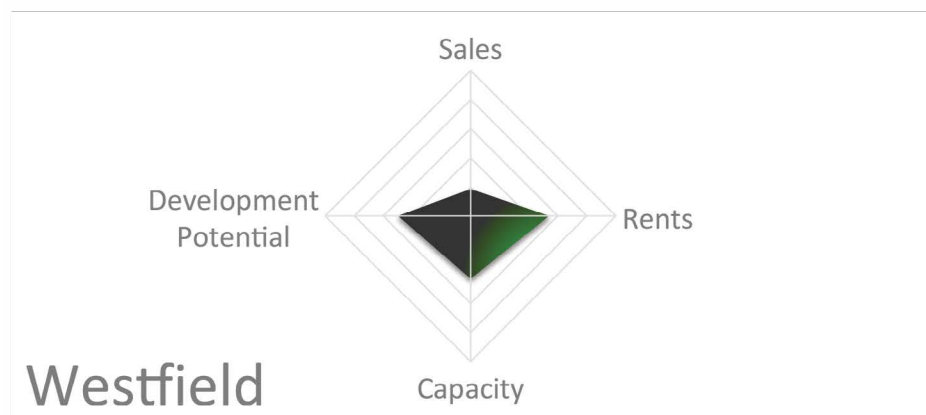
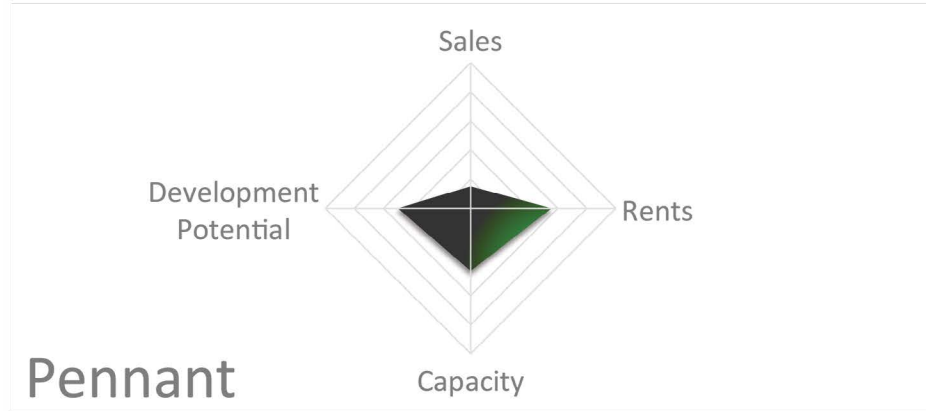
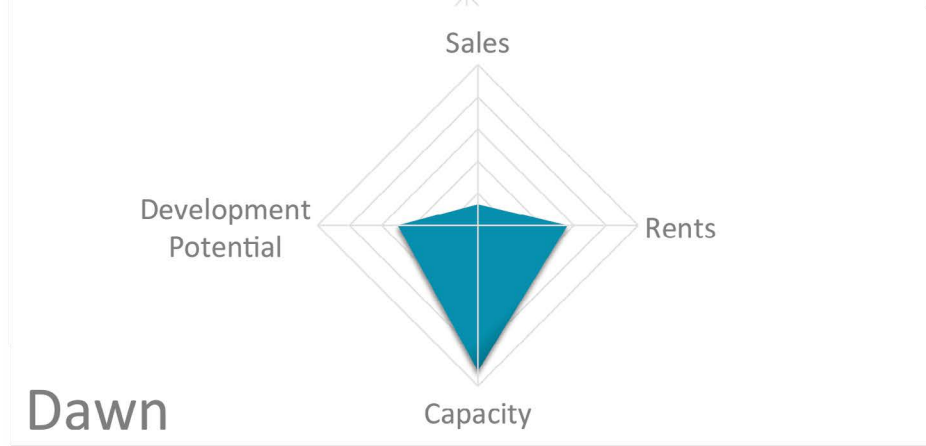
Oakland to Downtown BRT (continued)

Red Line



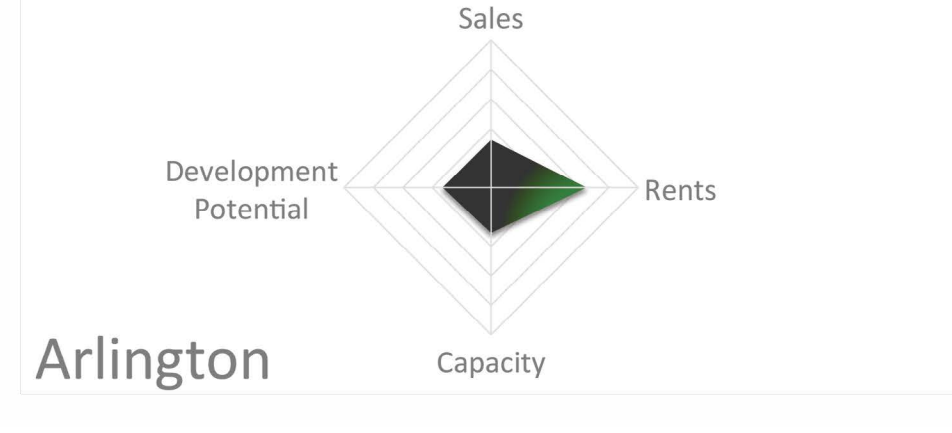
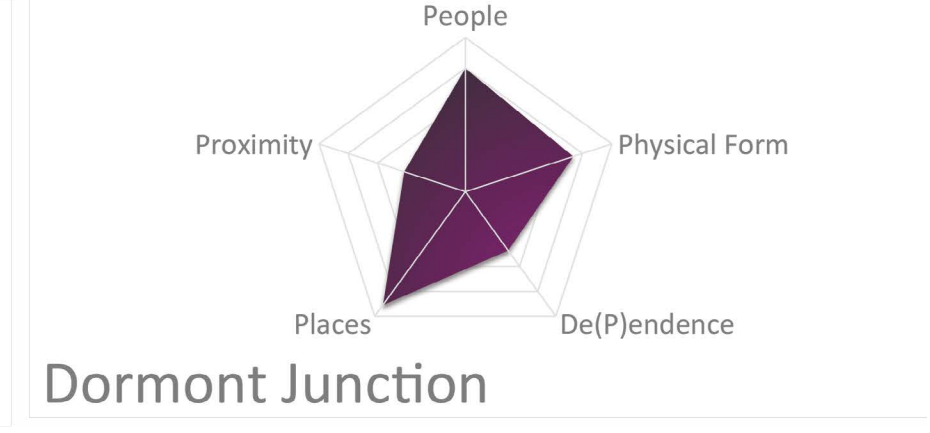
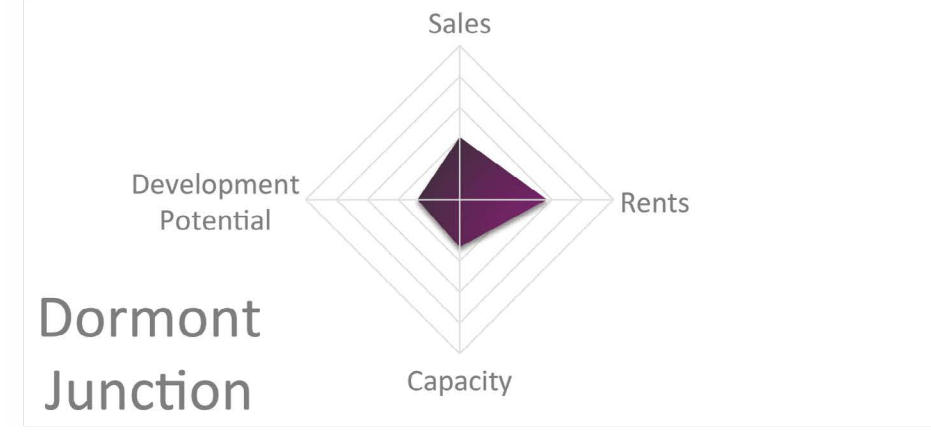
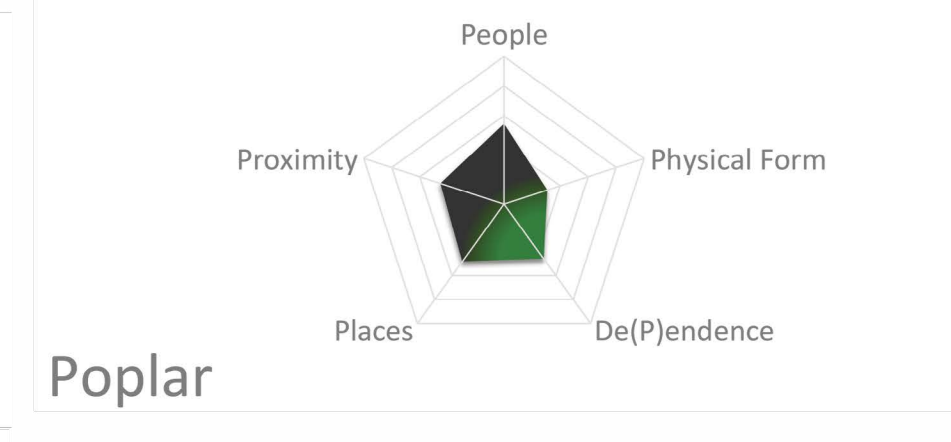
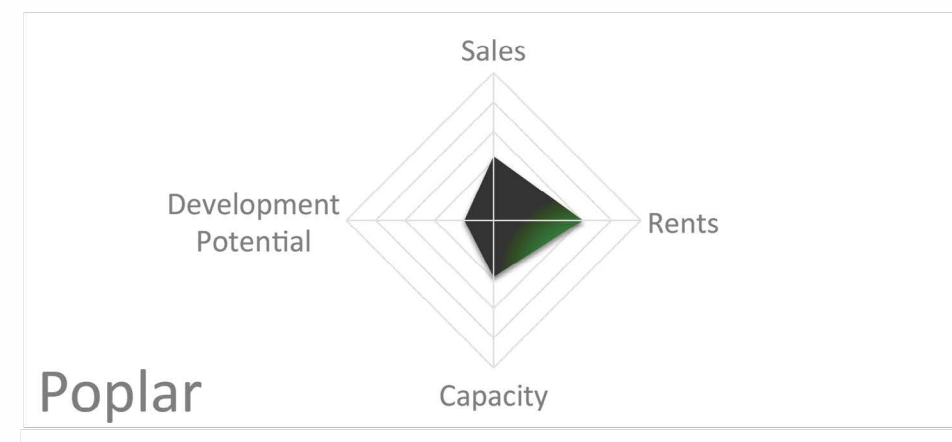
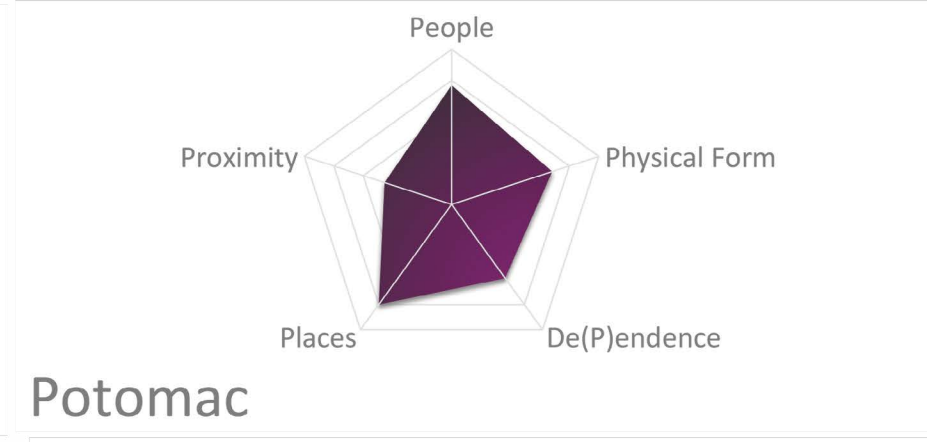
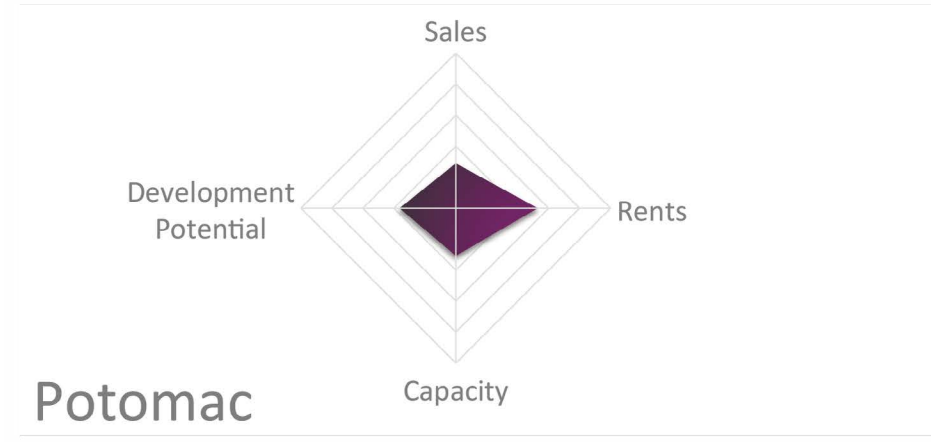
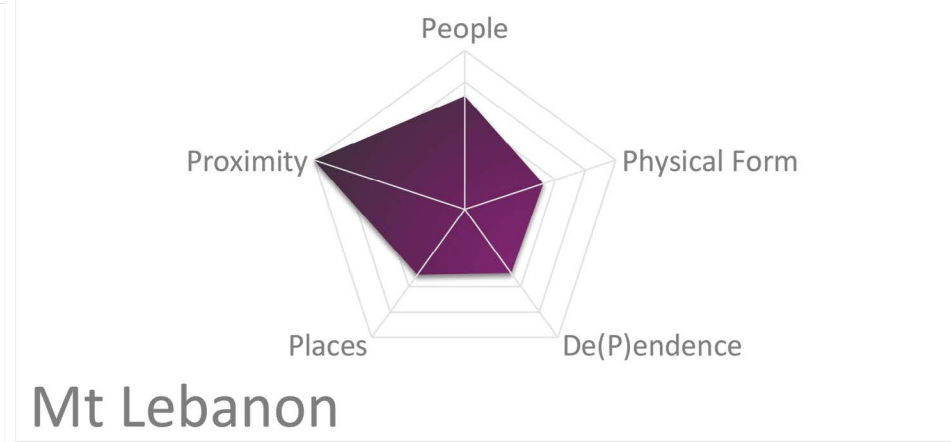
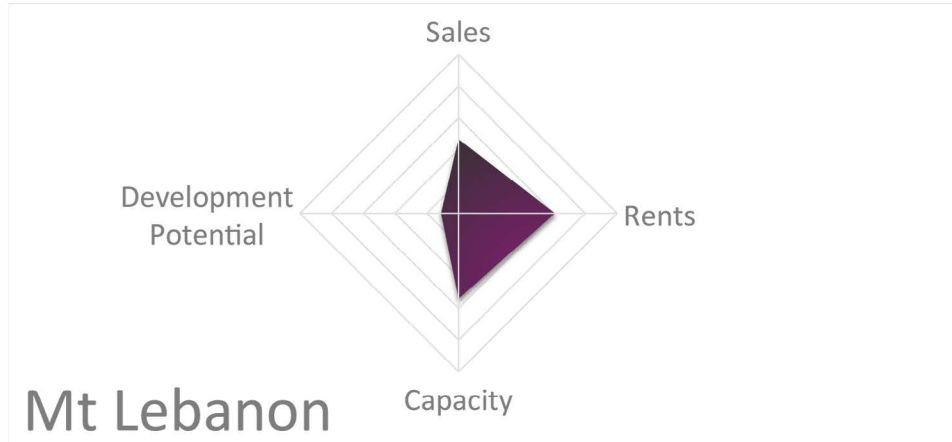
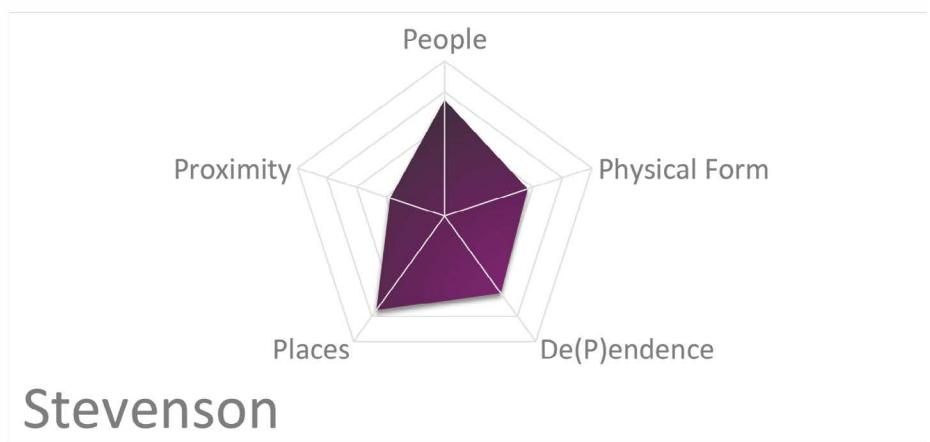
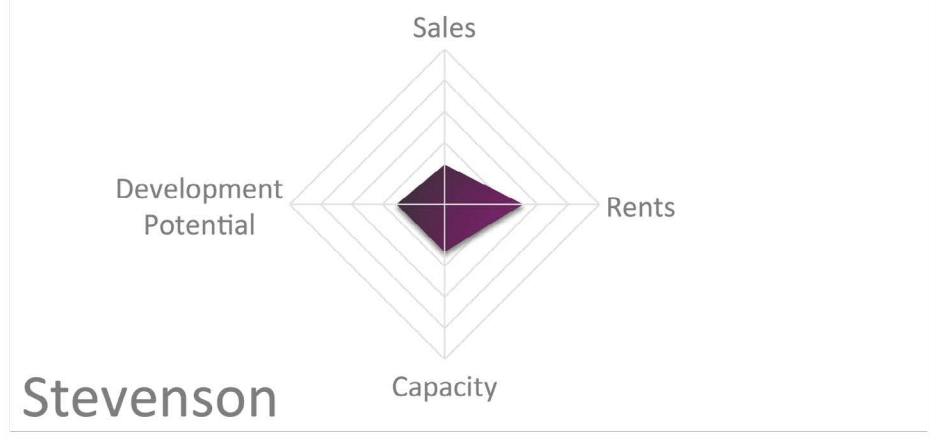
Red Line (continued)

Red Line (continued)



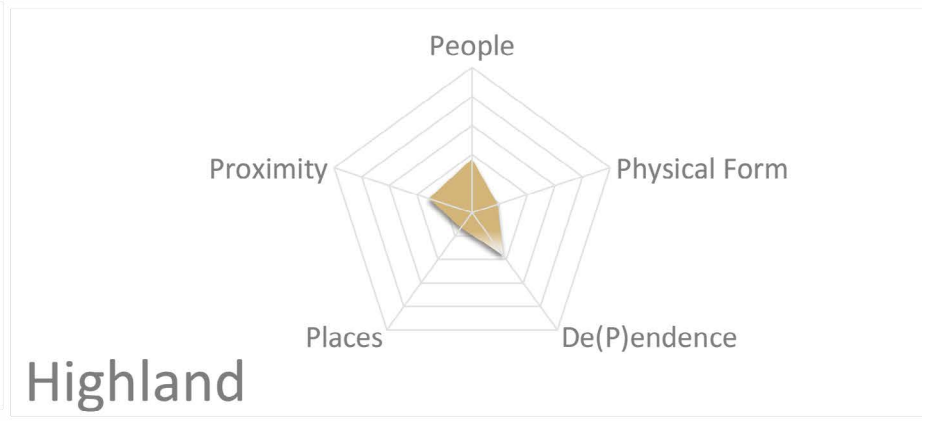
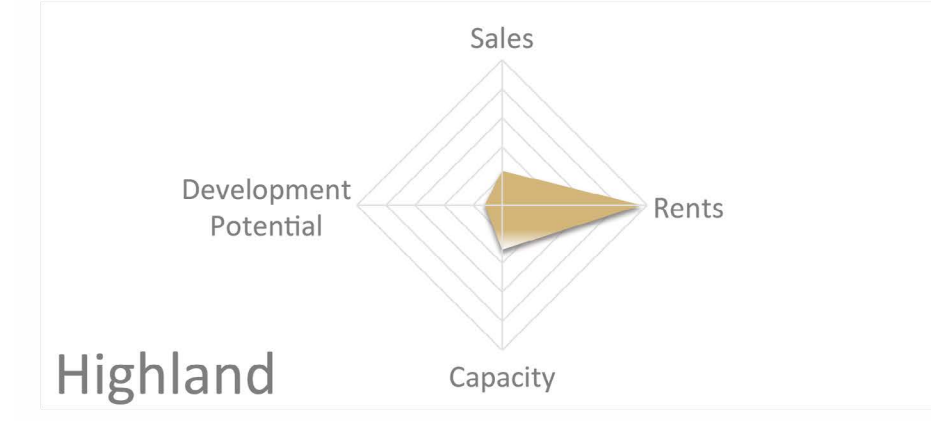
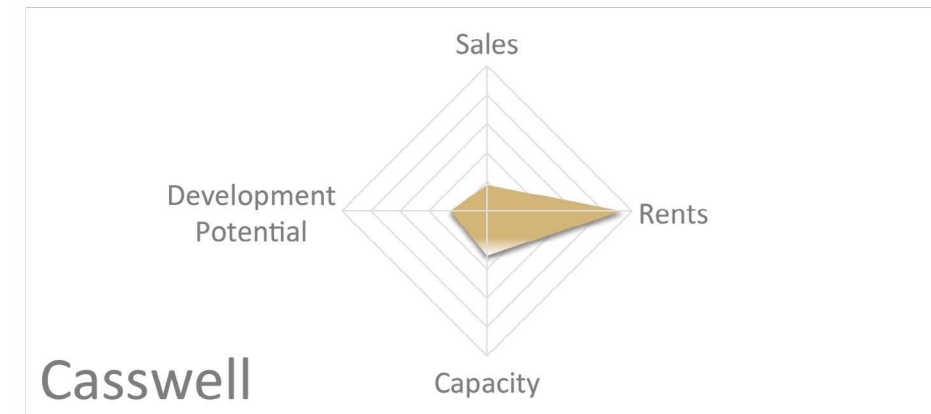
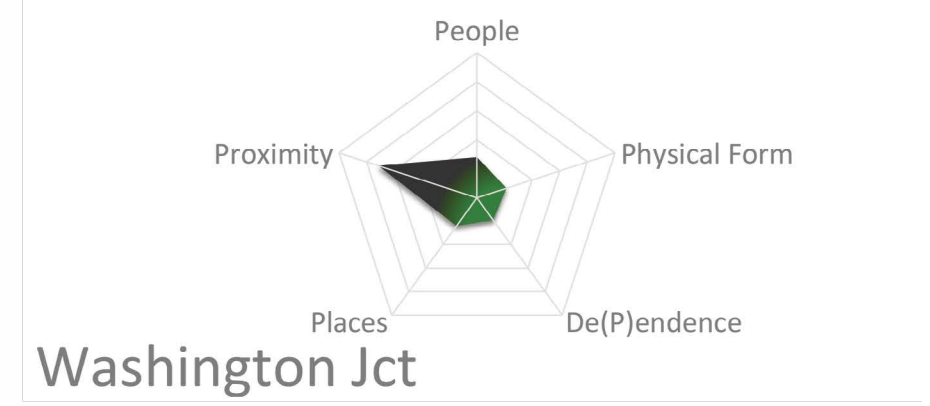
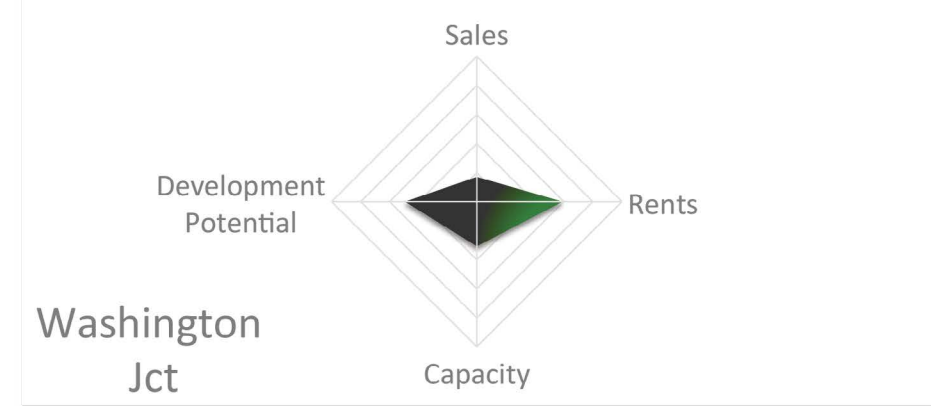
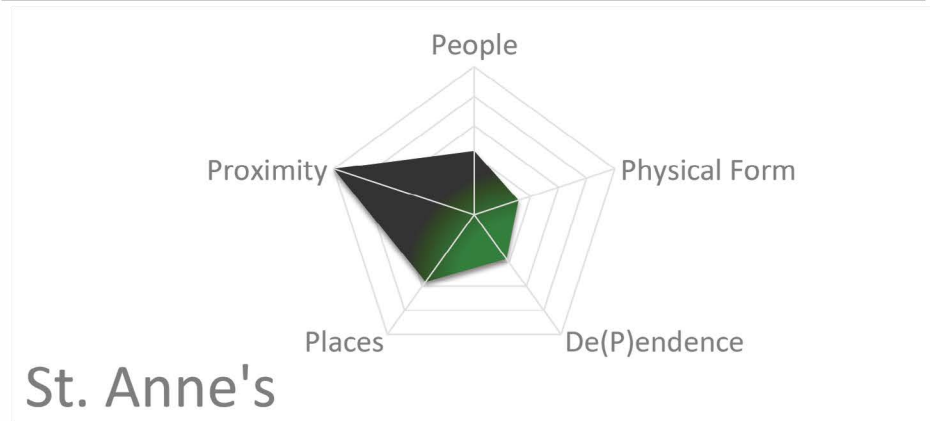
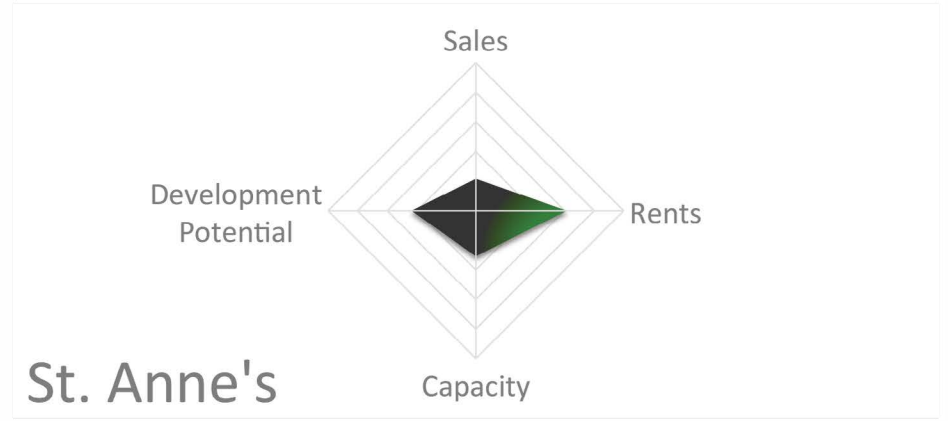
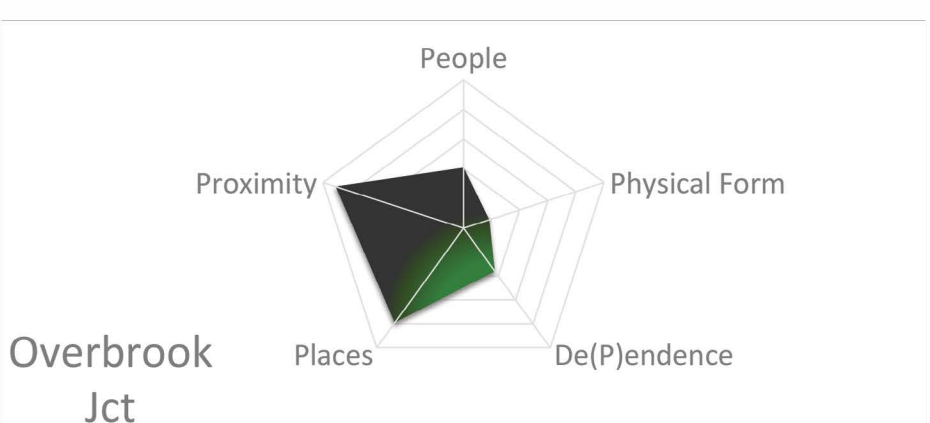
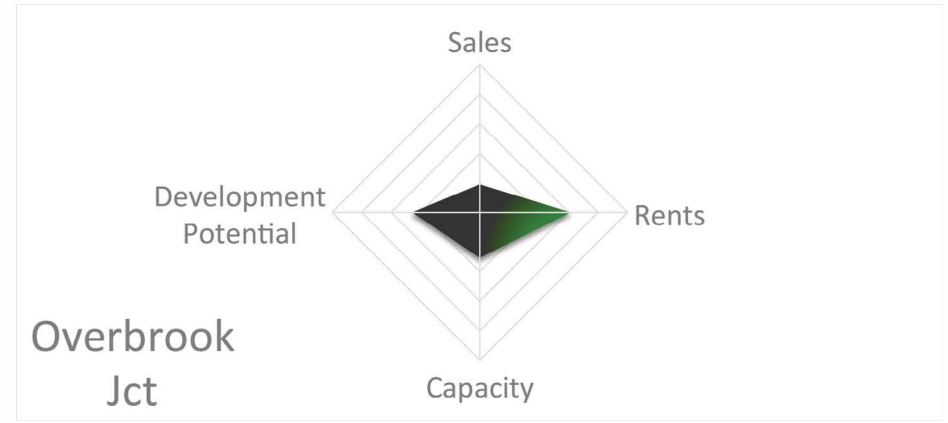
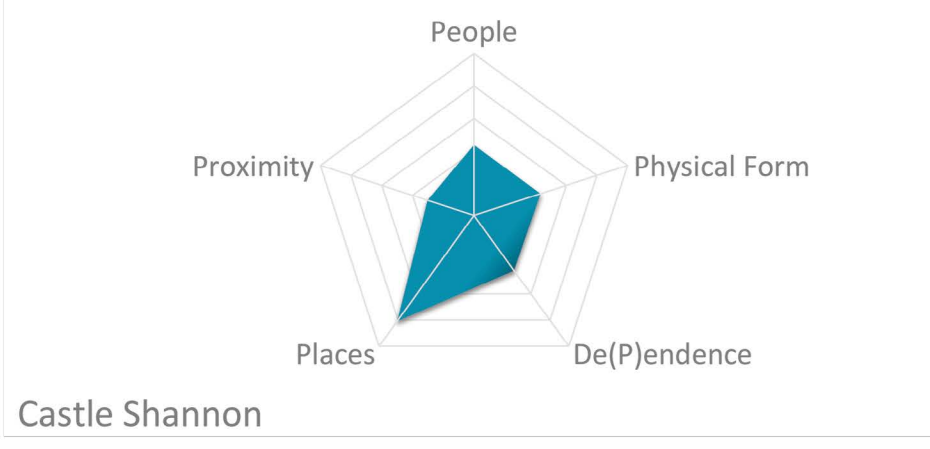
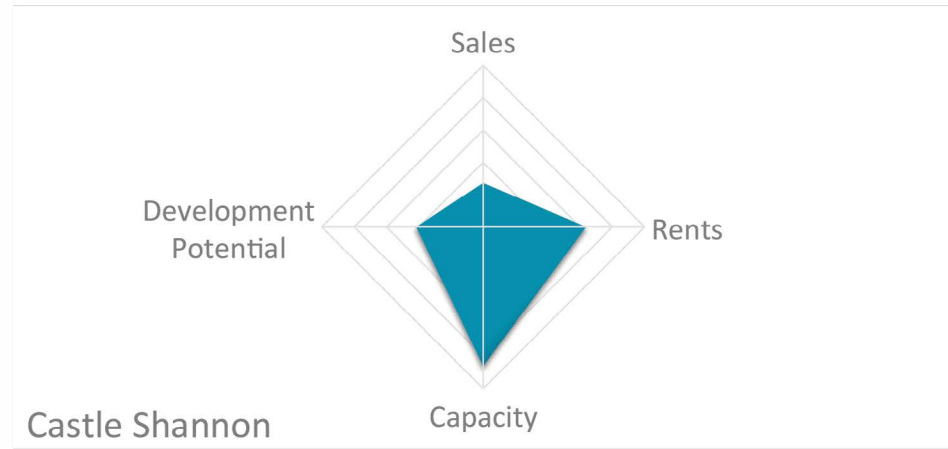
Red Line (continued)

Red Line (continued)



Red Line (continued)

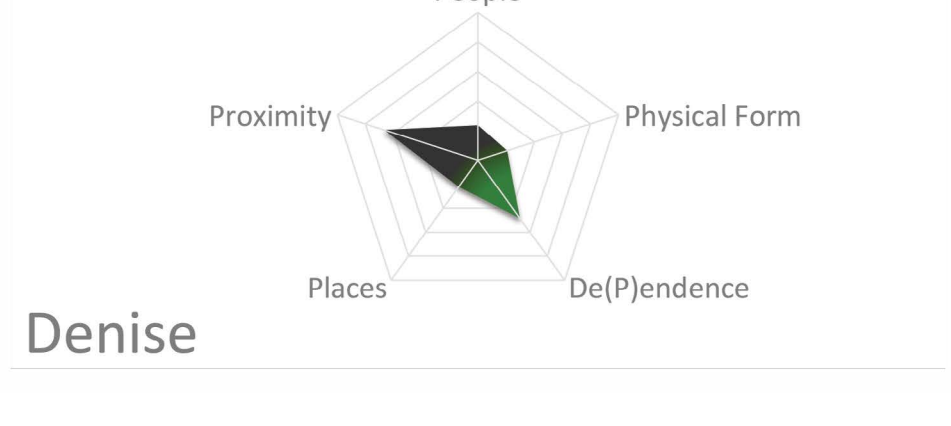
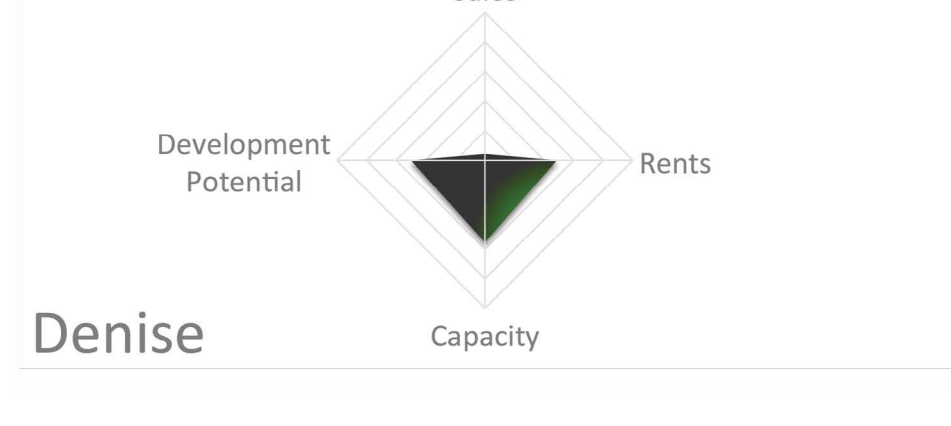
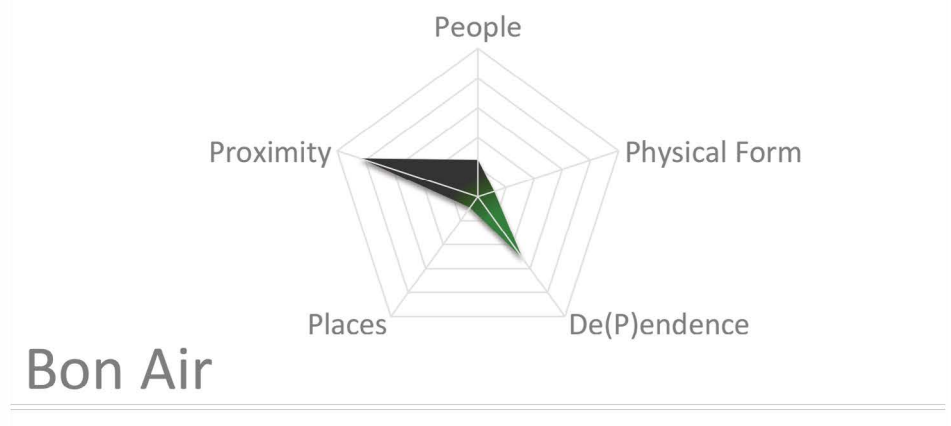
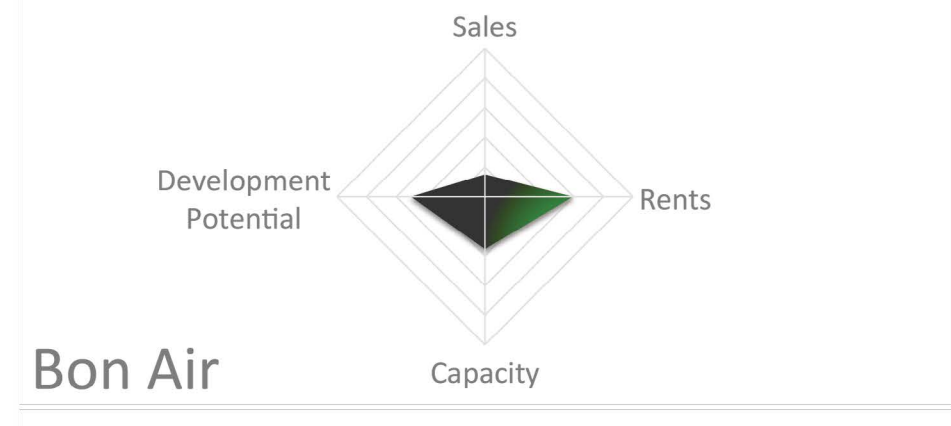
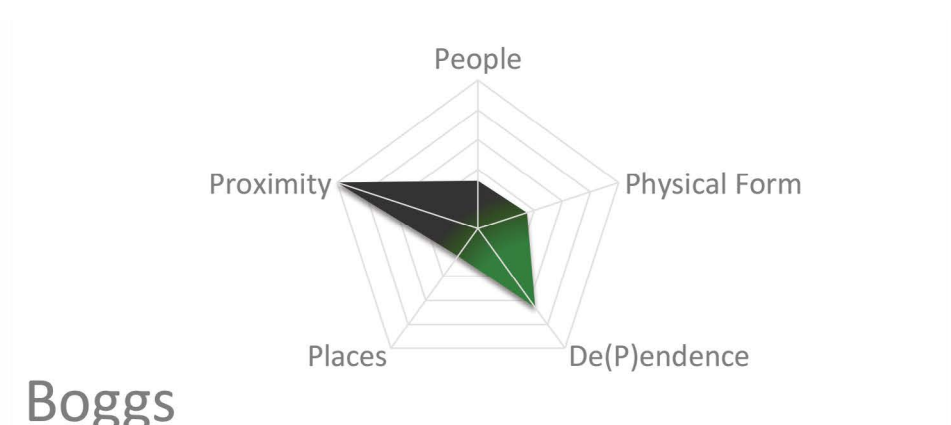
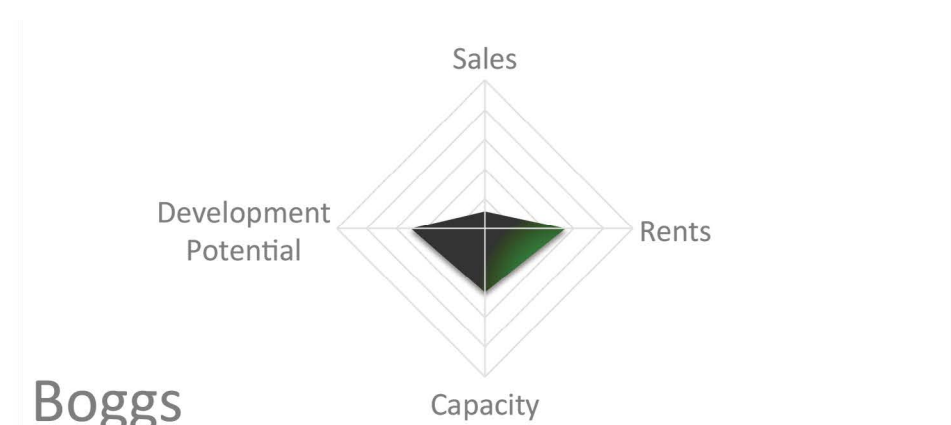
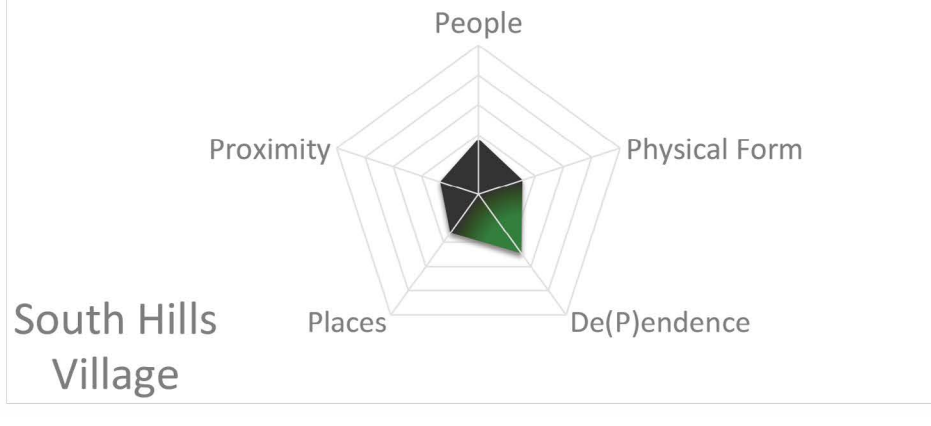
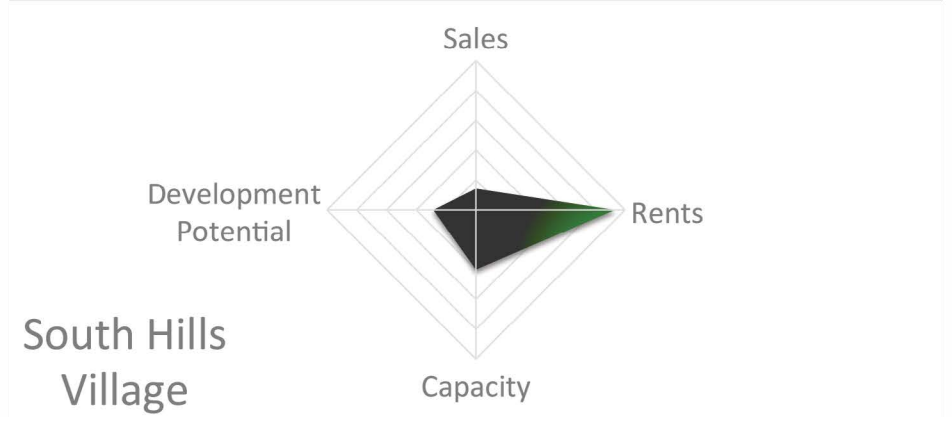
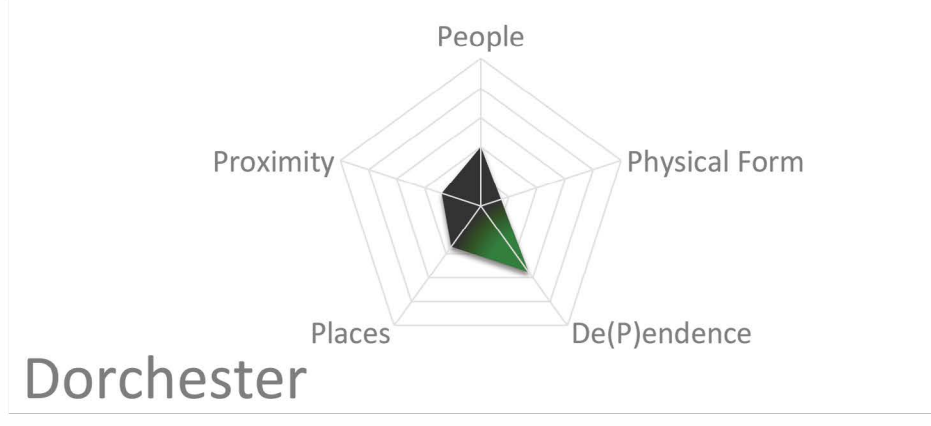
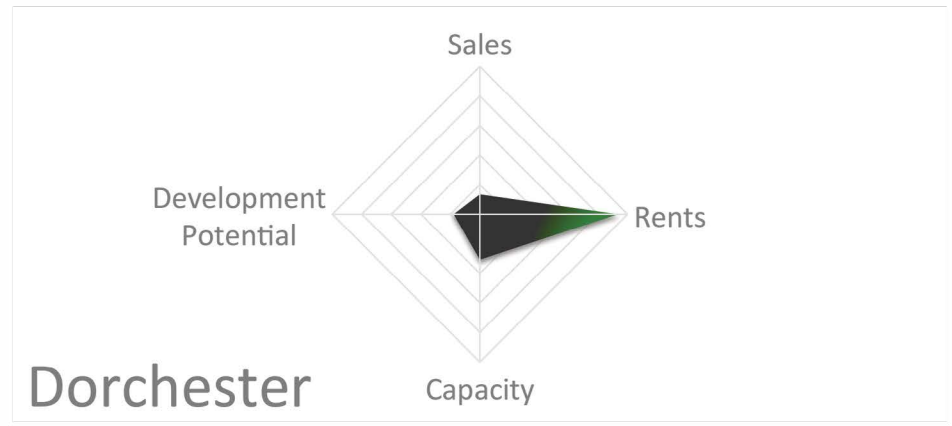
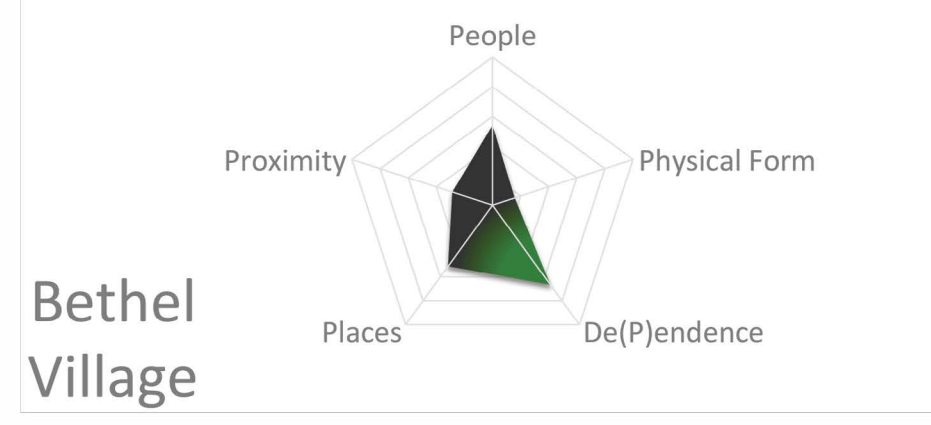
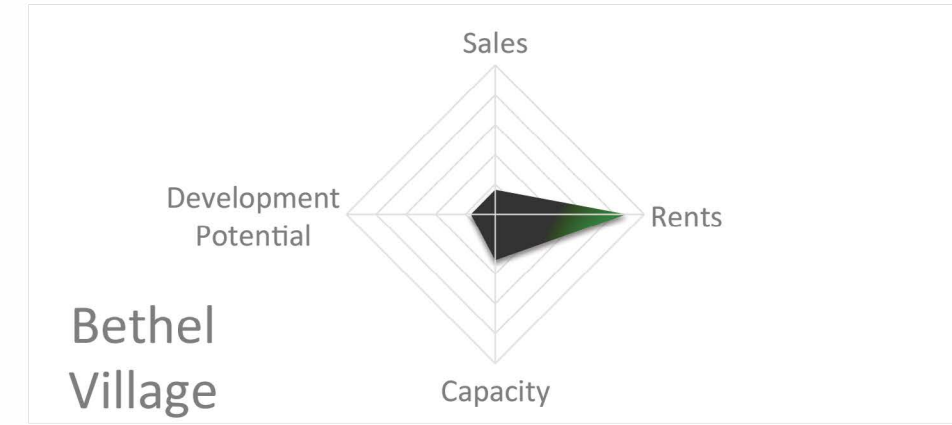
Red Line (continued)





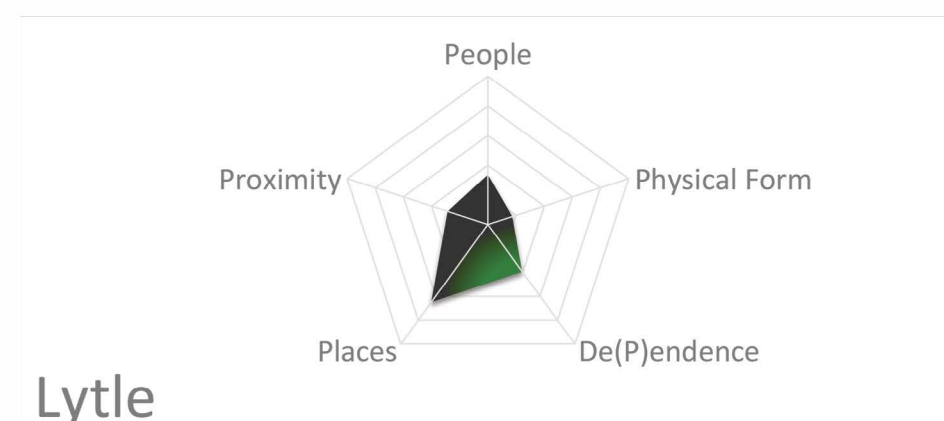
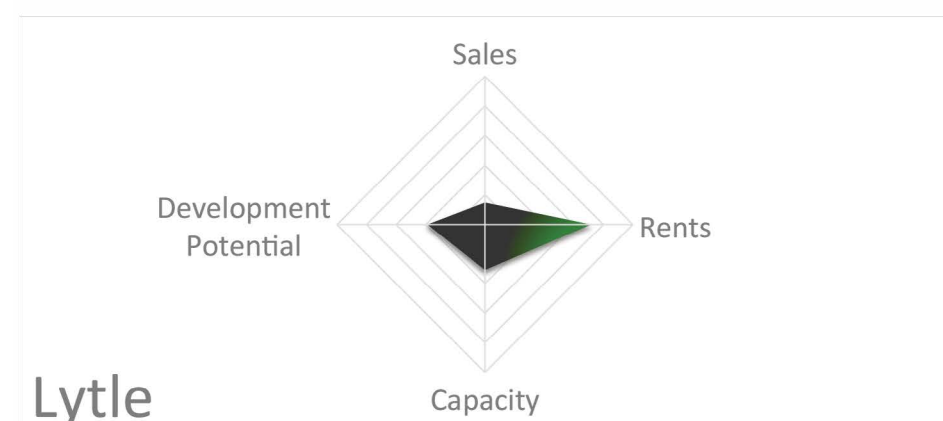
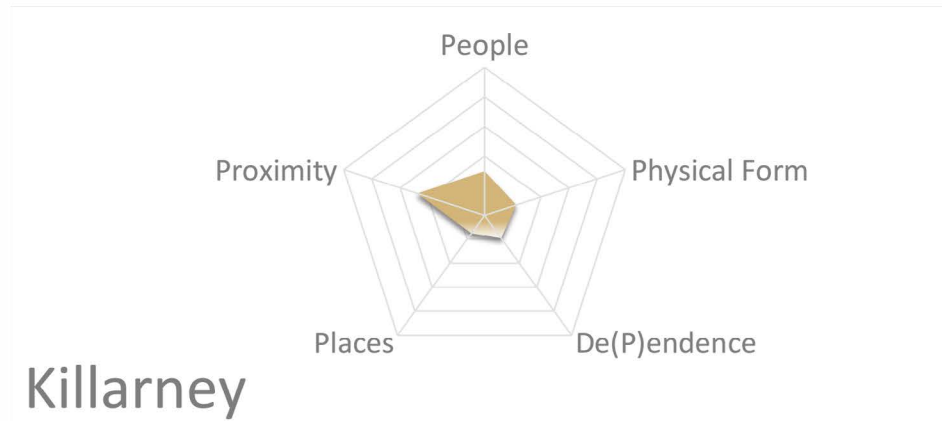
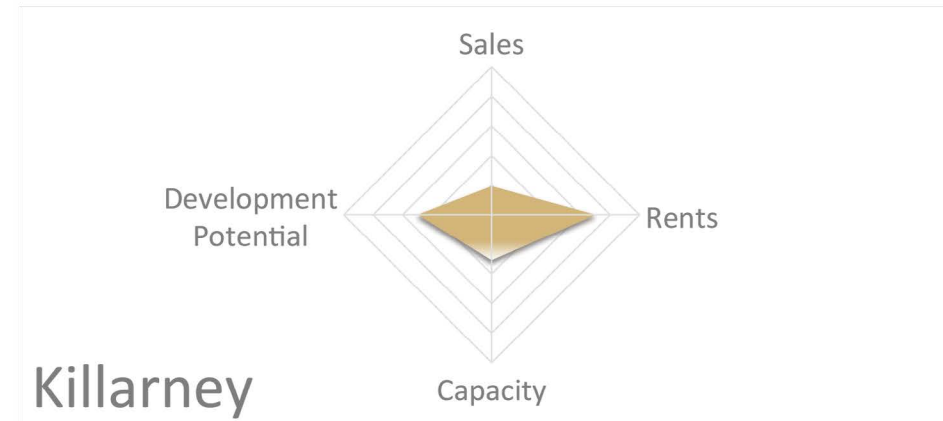
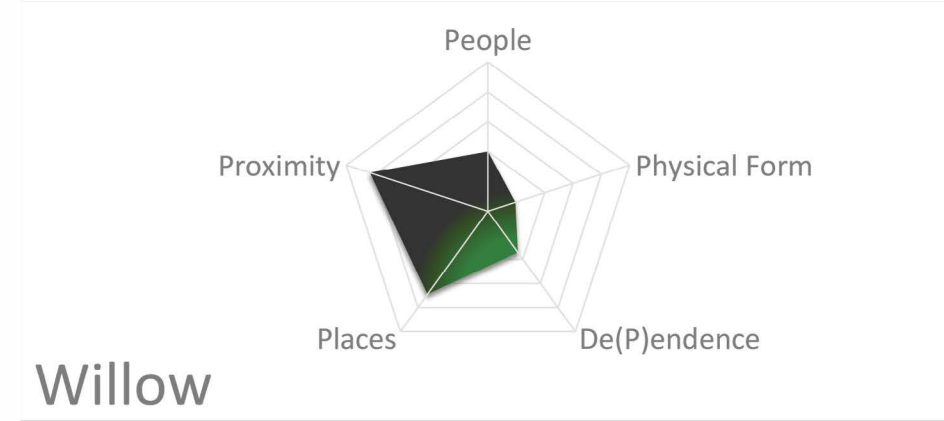
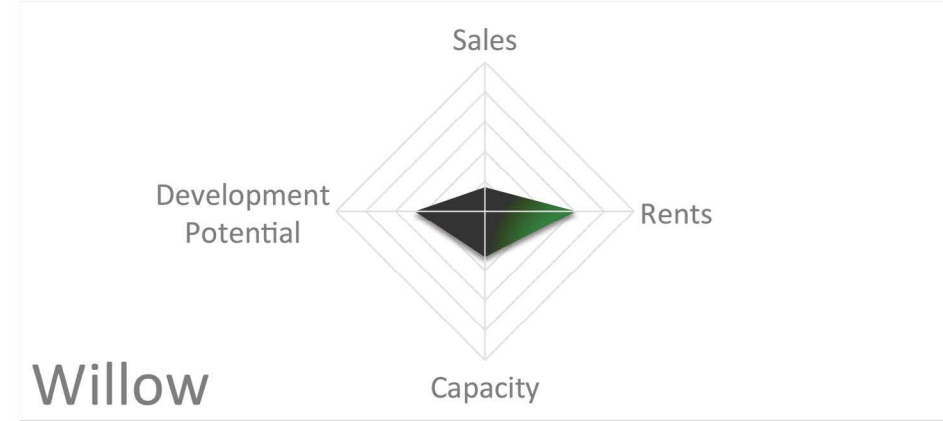
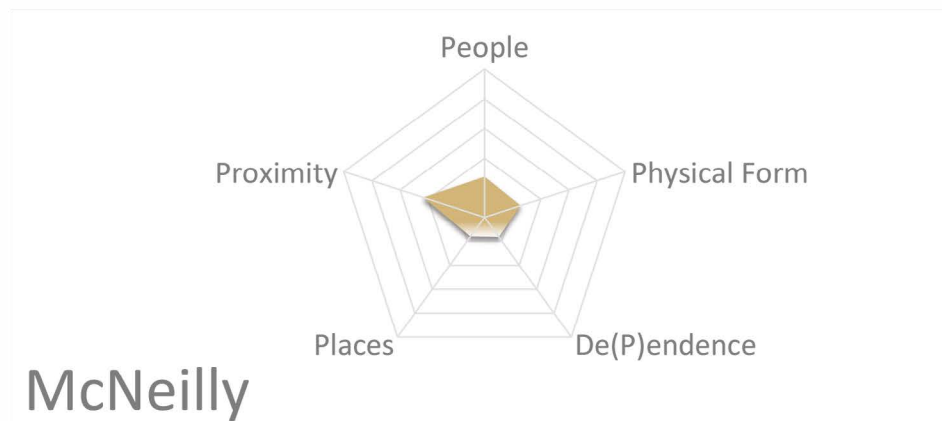
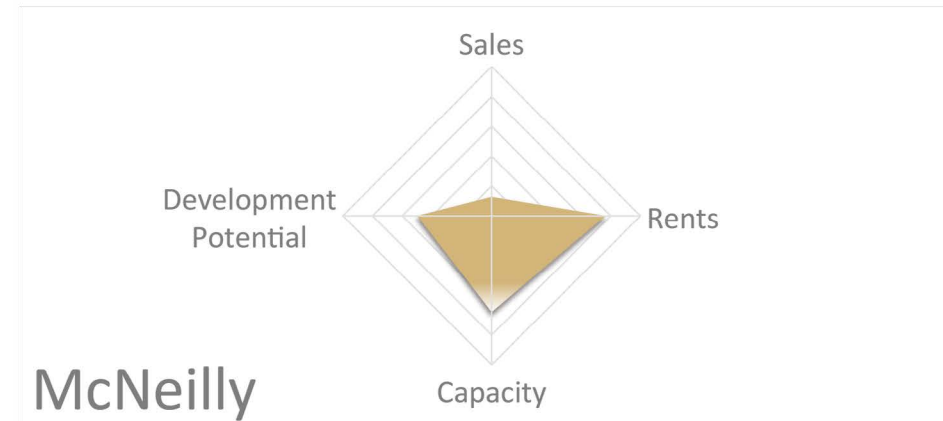
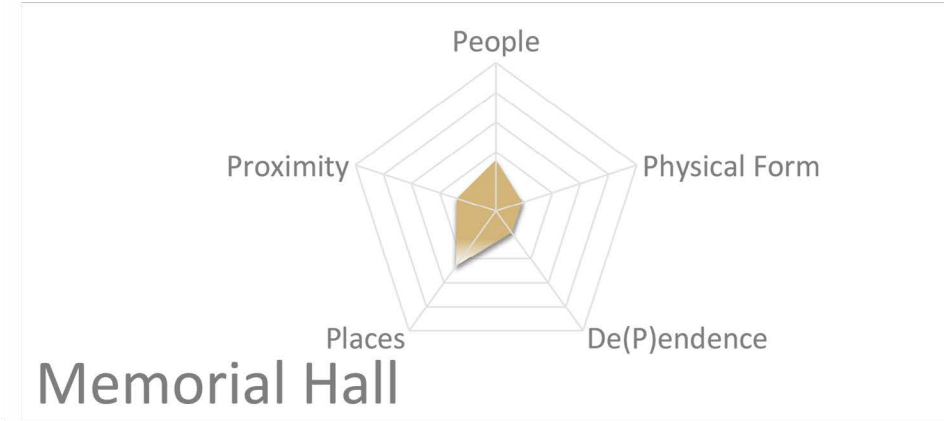
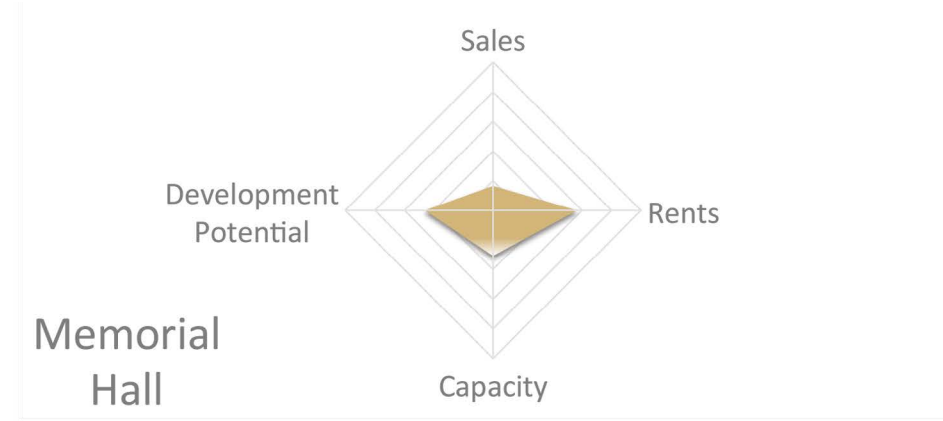
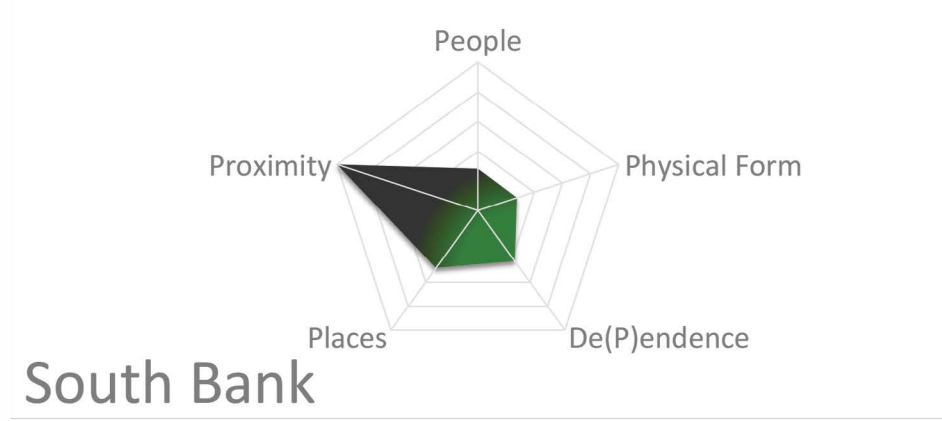
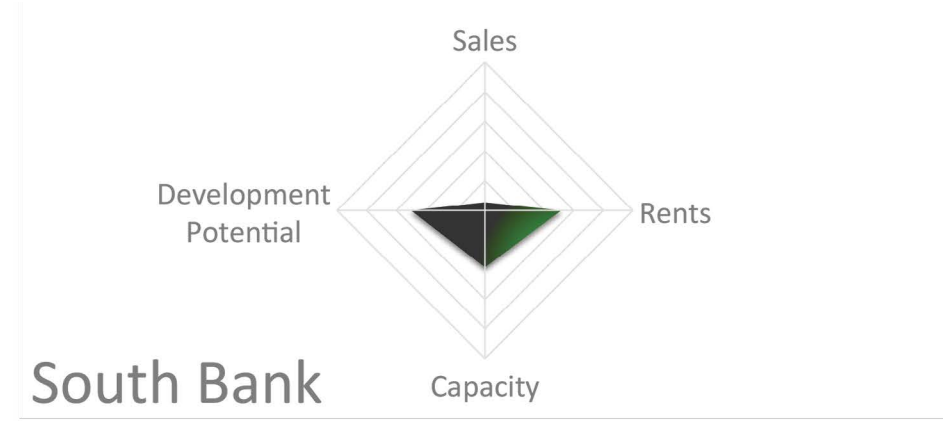
Red Line (continued)

Red Line (continued)



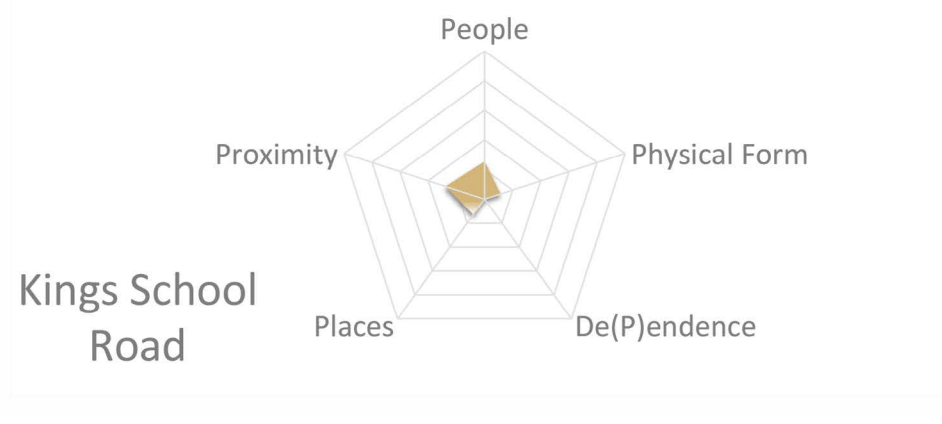
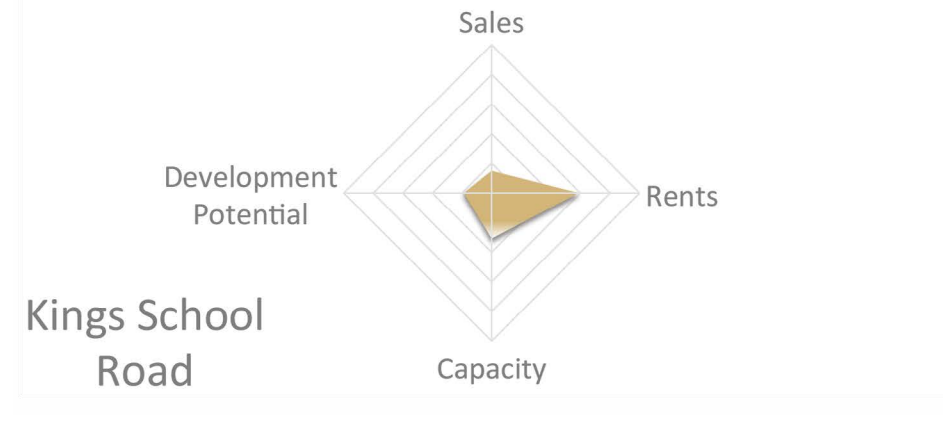
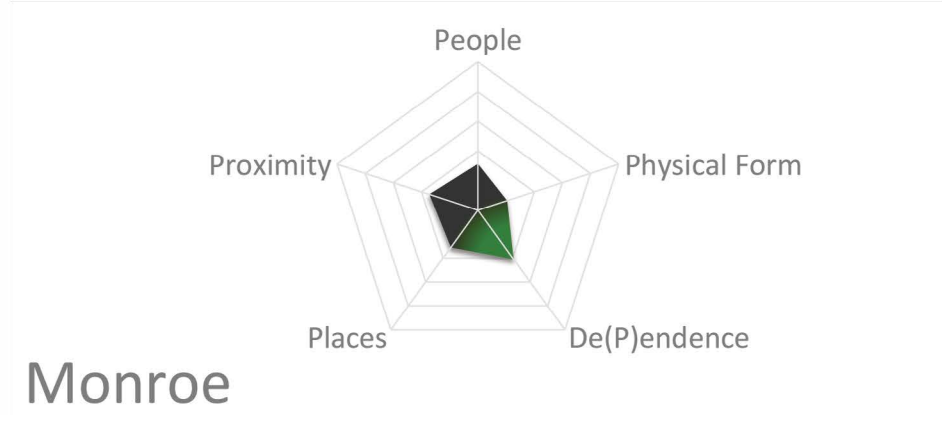
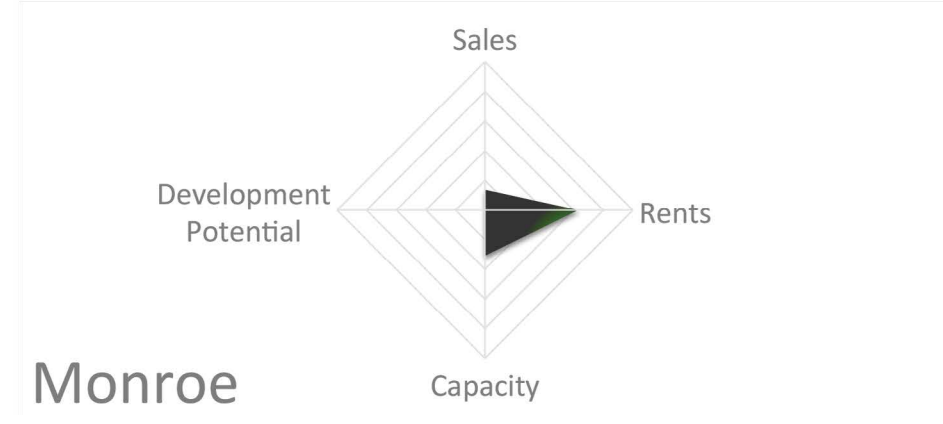
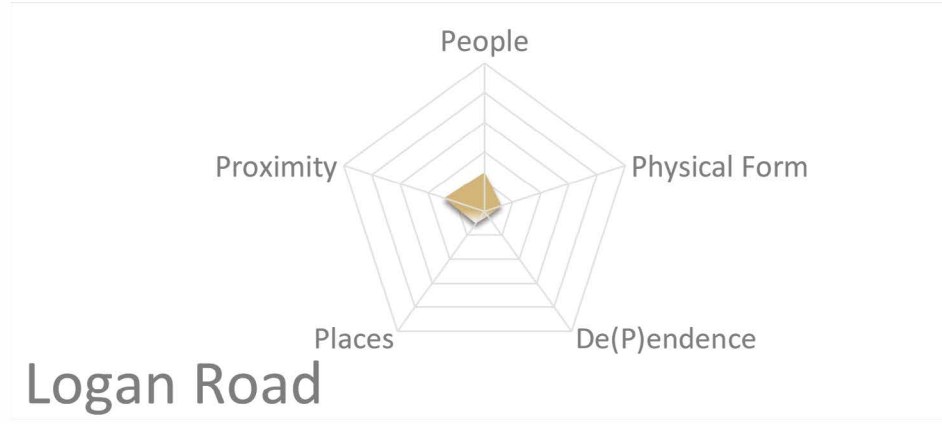
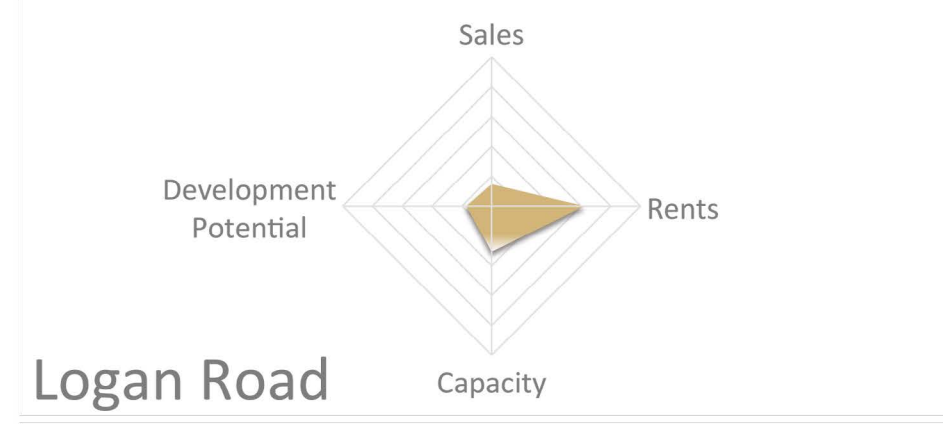
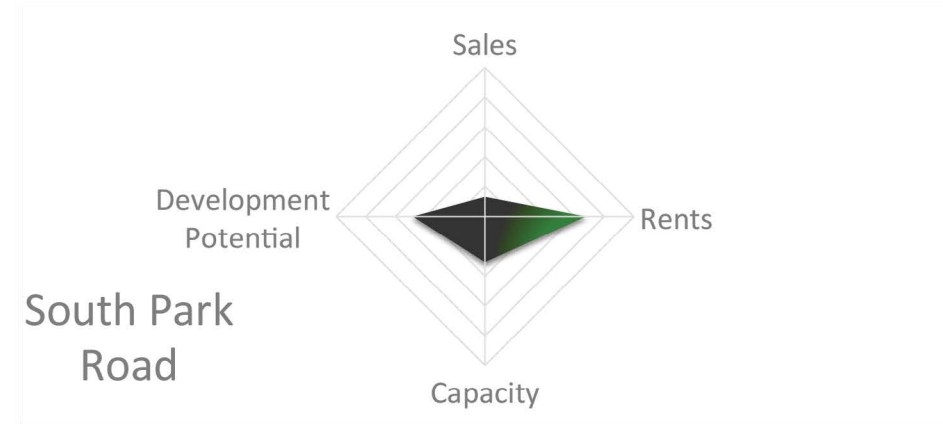
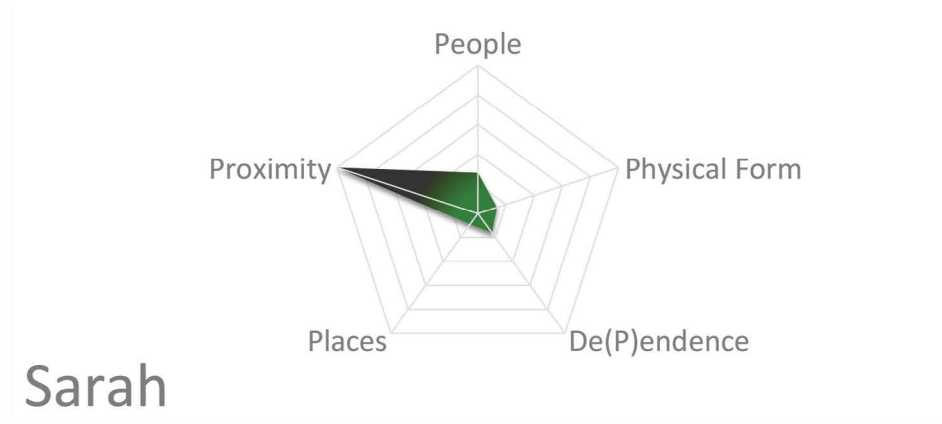
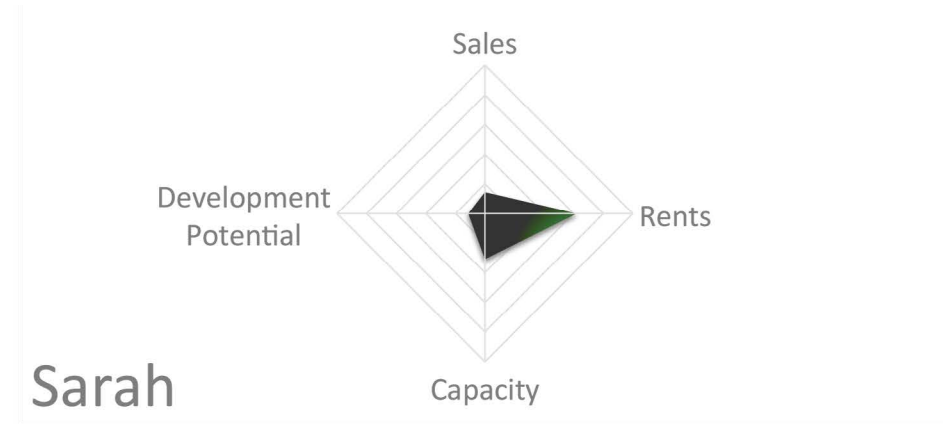
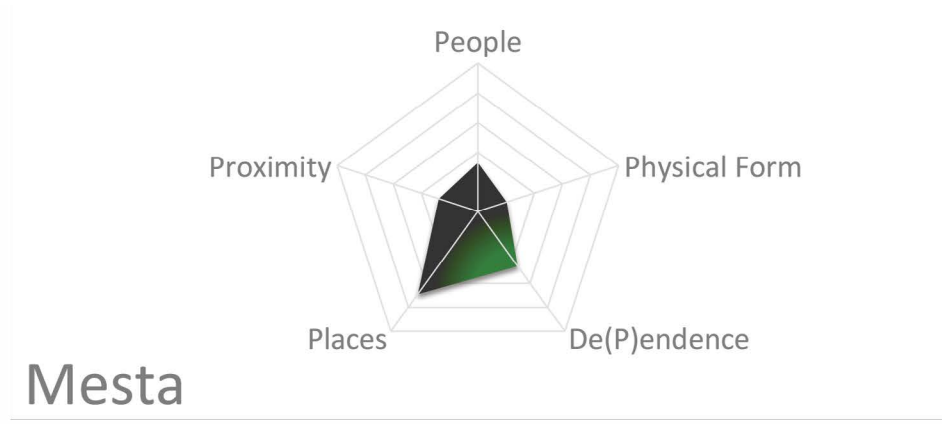
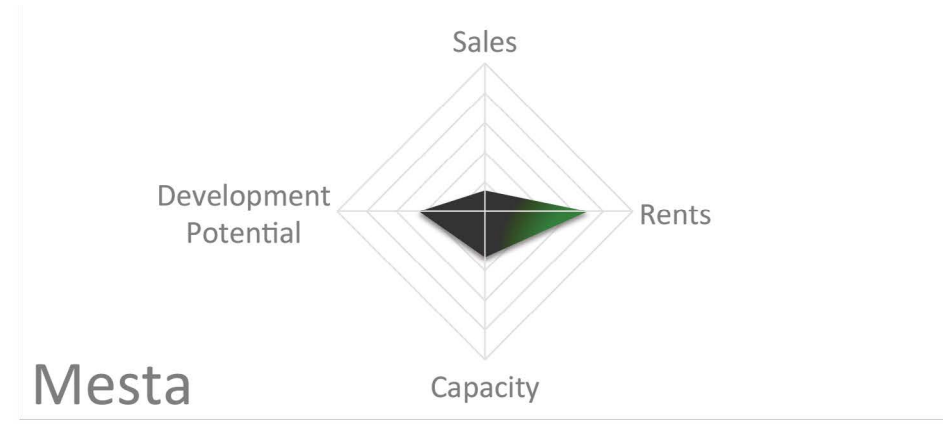
Red Line (continued)

Red Line (continued)



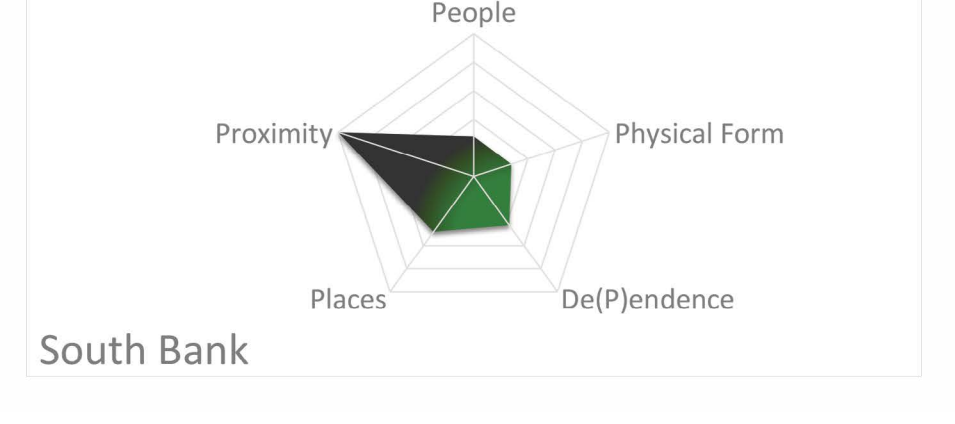
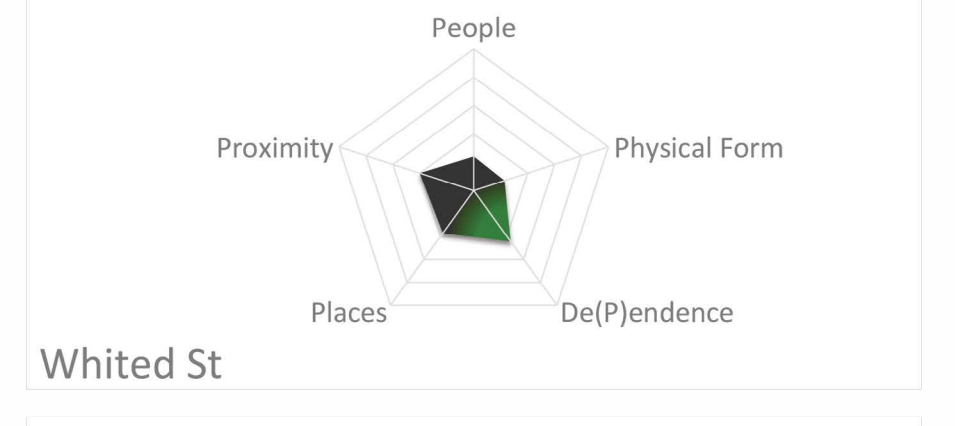
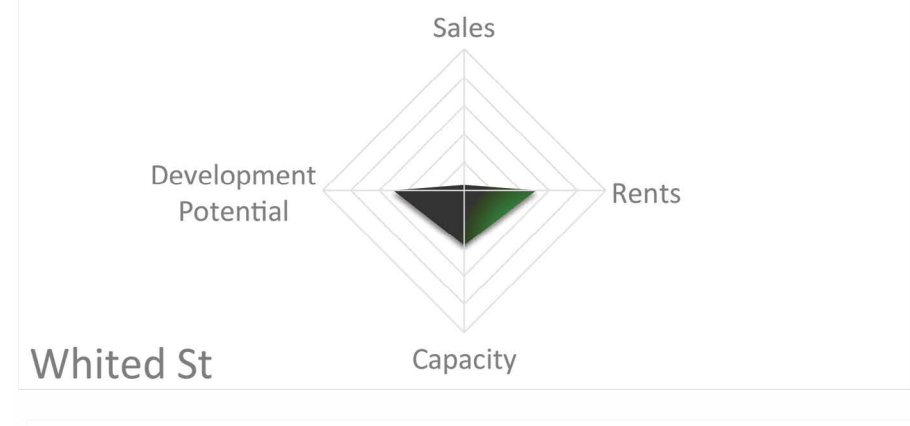
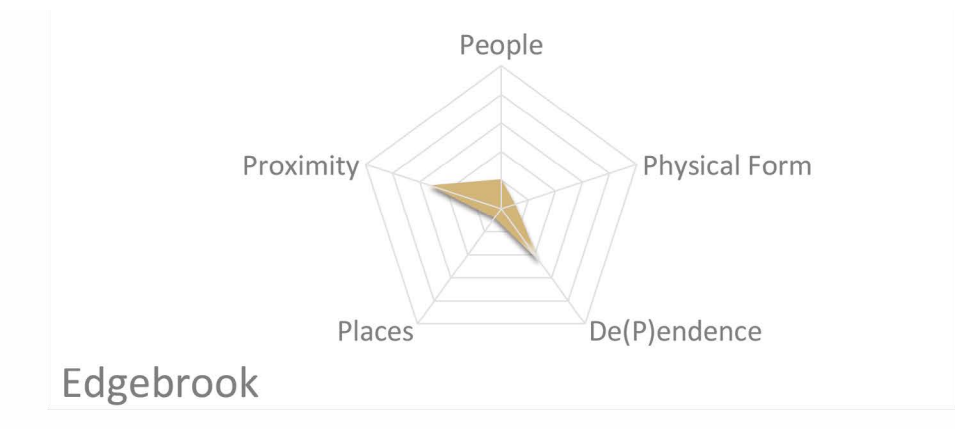
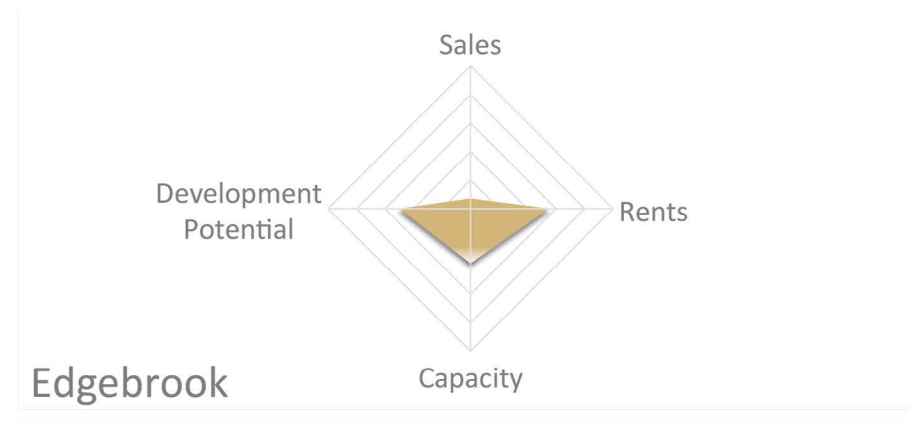
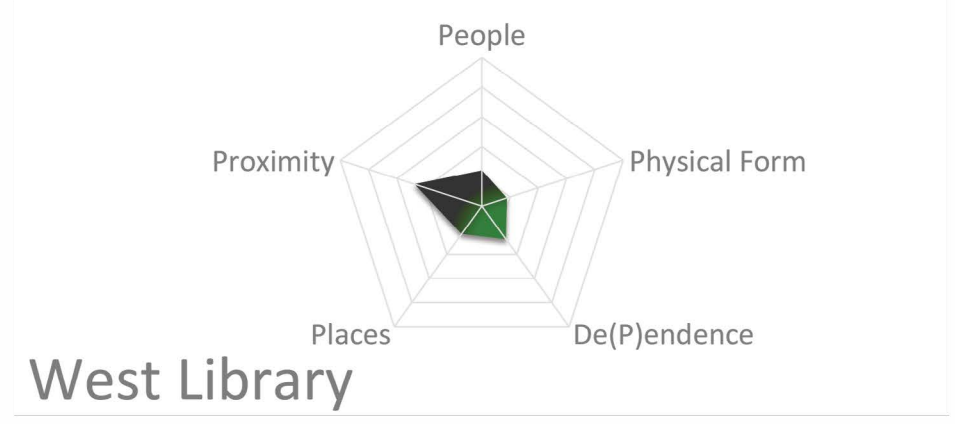
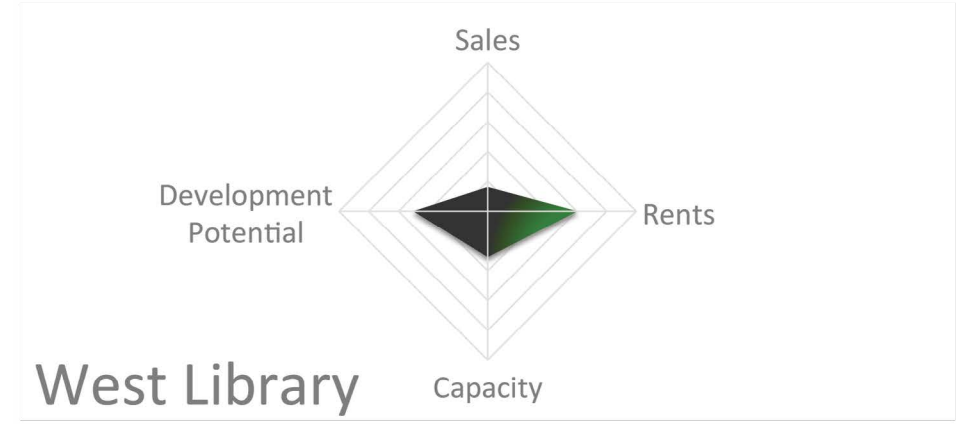
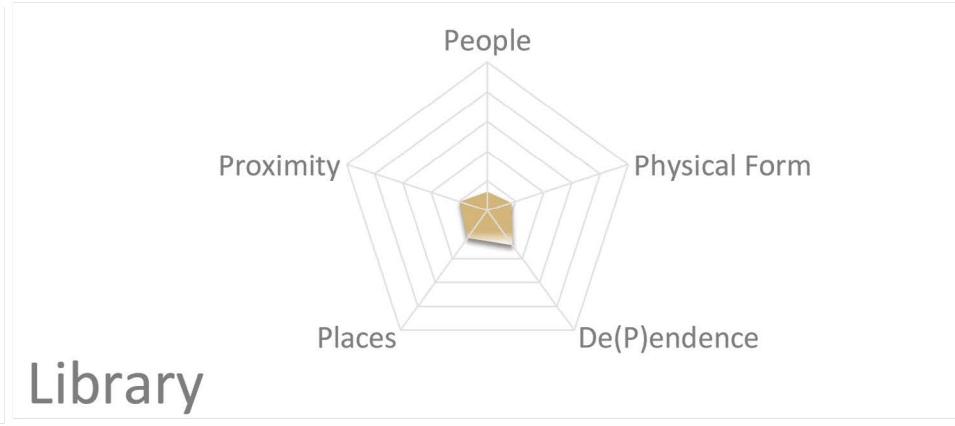
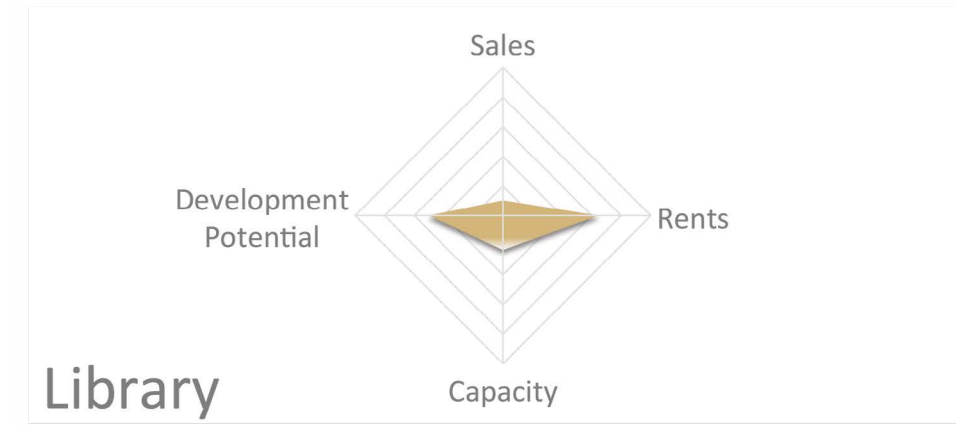
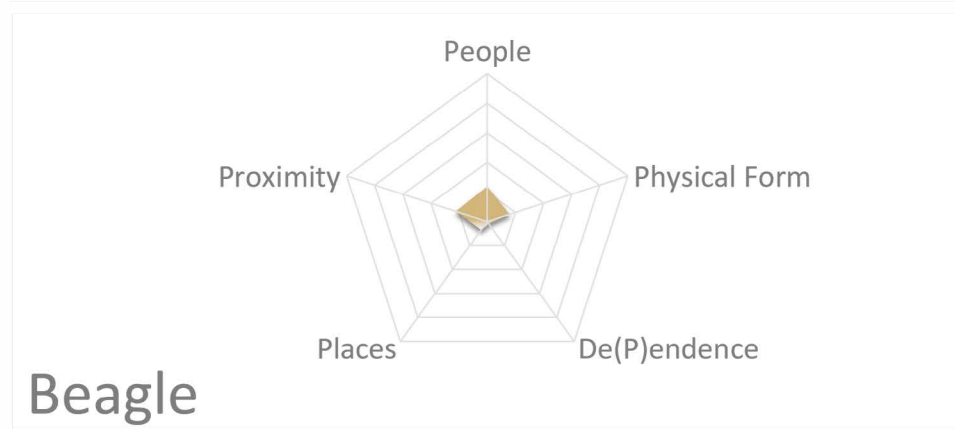
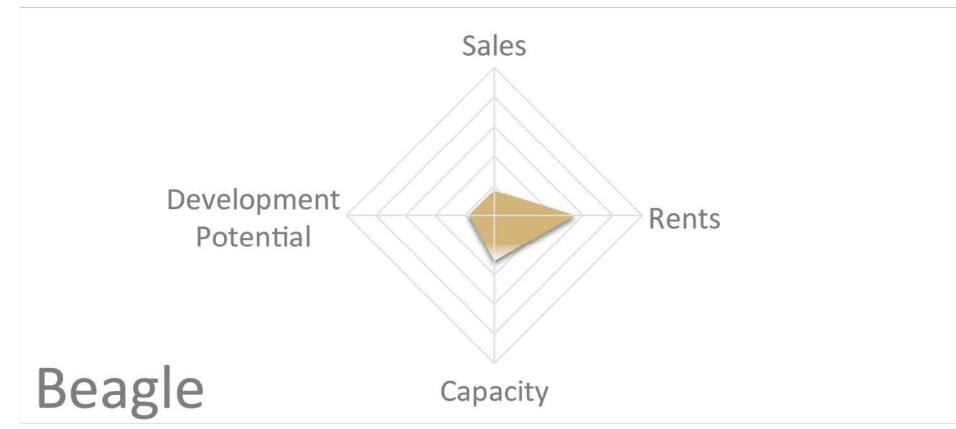
Red Line (continued)

Red Line (continued)



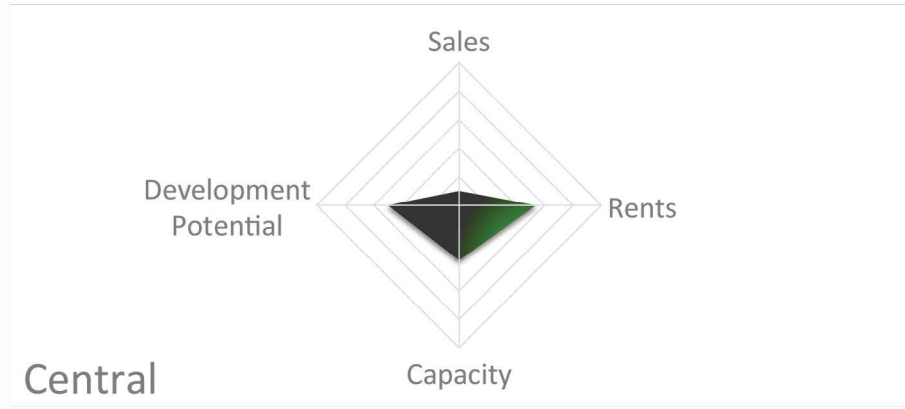
Red Line (continued)

South Busway



South Busway (continued)

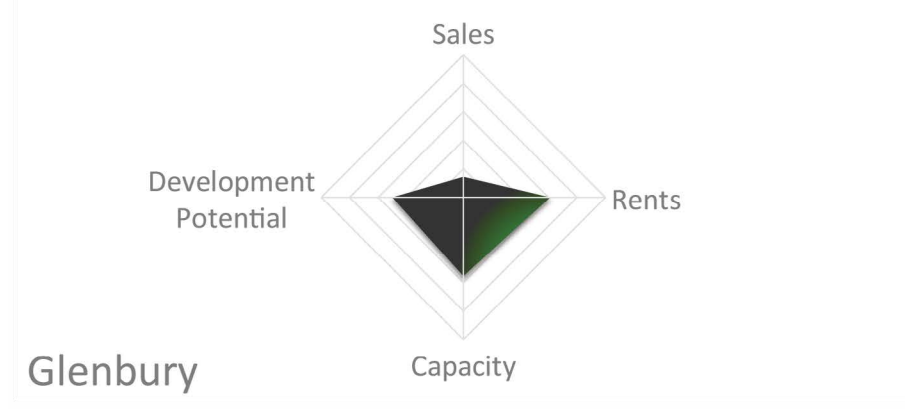
South Busway (continued)



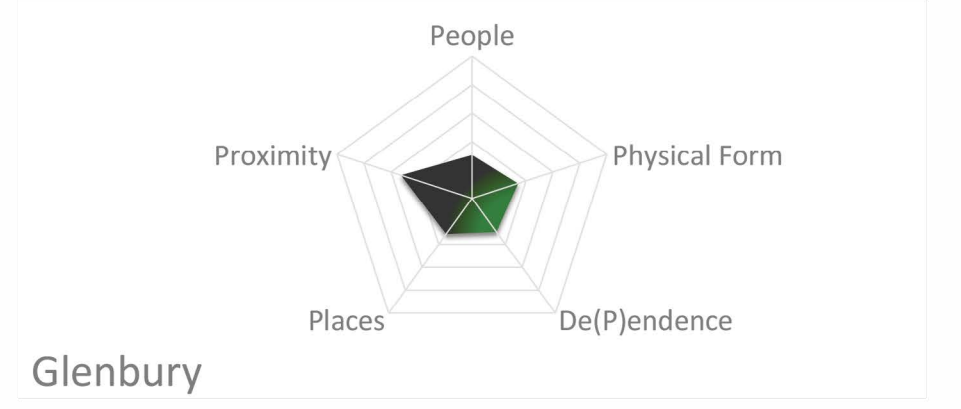
Central



Central



Glenbury



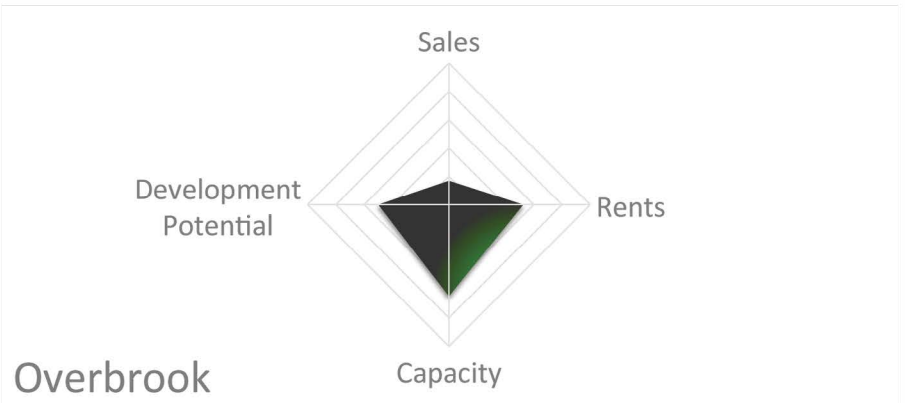
Glenbury



Inglewood



Inglewood



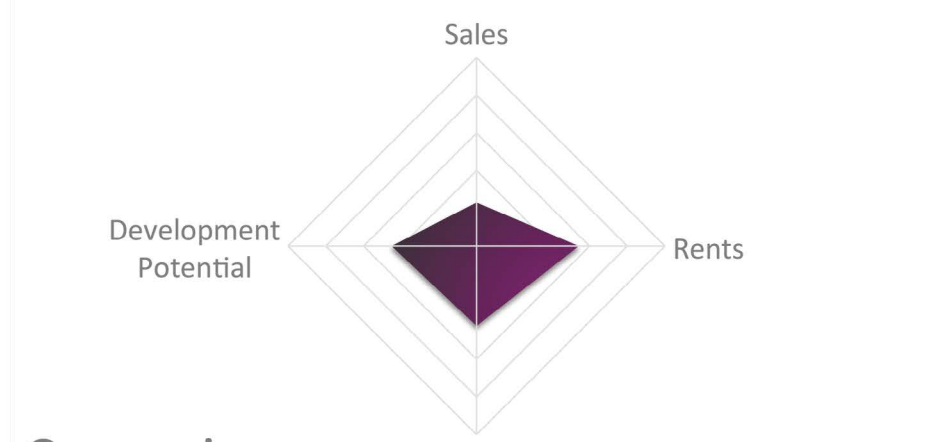
Overbrook



Overbrook

West Busway

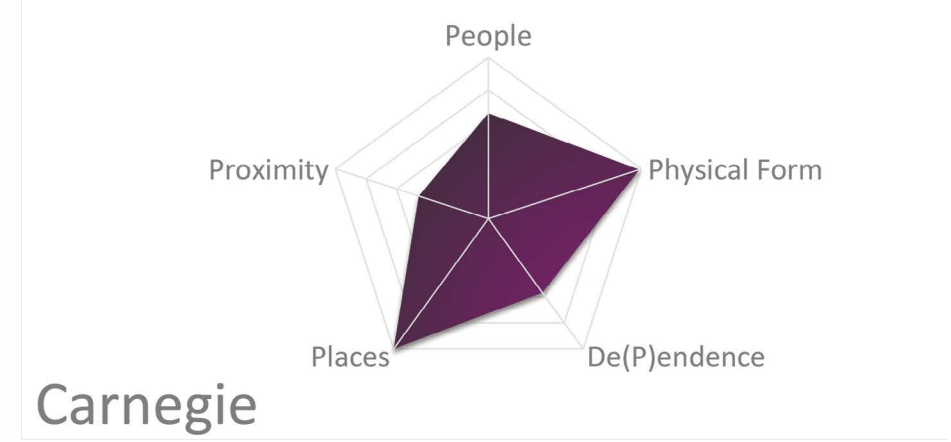
West Busway (continued)



Carnegie

Sheraden

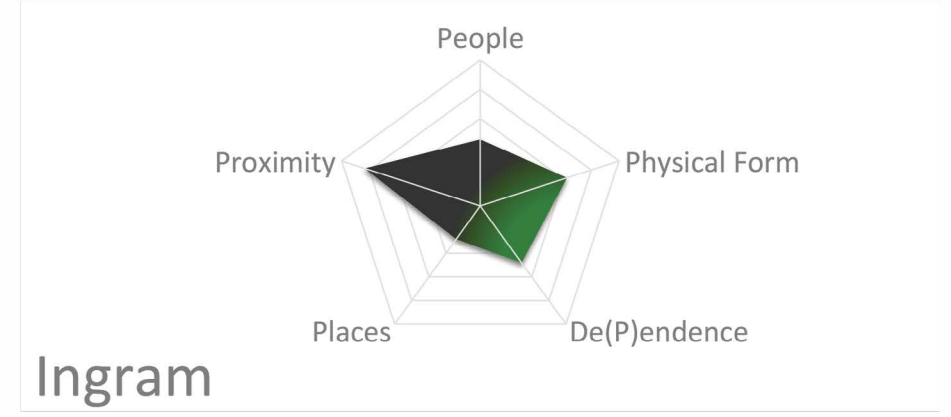
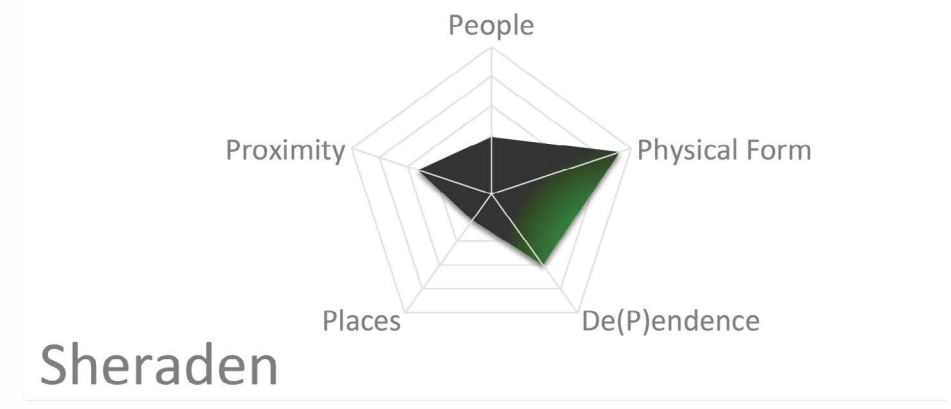
Ingram



Carnegie

Sheraden

Ingram



Crafton

Idlewood

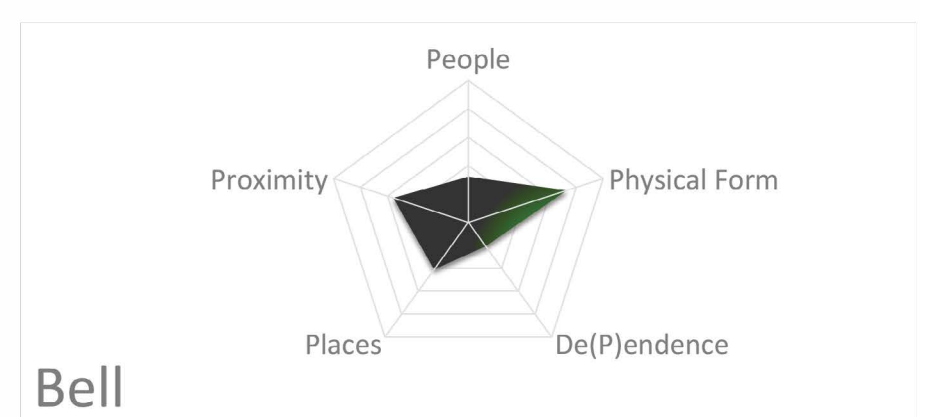
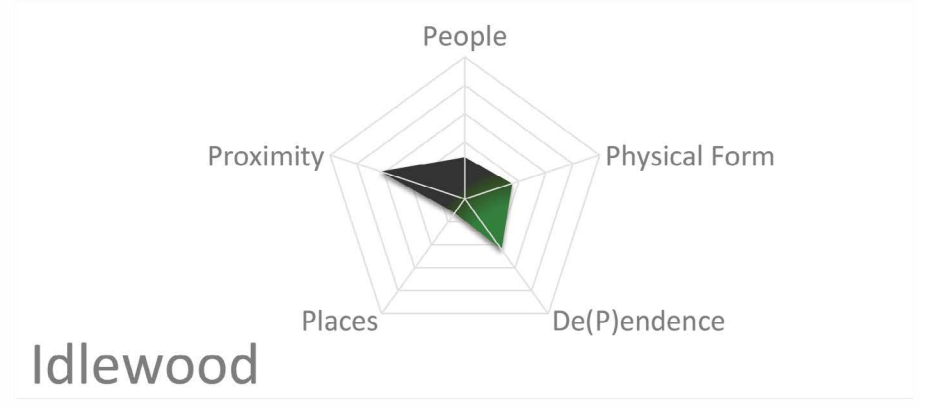
Bell



Crafton

Idlewood

Bell



## Appendix D. Transit Travel to Auto Travel Time Ratios by Station Area

Transit Travel Time Ratios			
Station	Transit Travel Time (min) <sup>1</sup>	Auto Travel Time (min) <sup>2</sup>	Transit / Auto Travel Time Ratio
Stevenson	31	11	2.92
Whited Street	31	11	2.92
Mt Lebanon	39	14	2.75
Edgebrook	29	11	2.73
Neeld	29	11	2.73
Roslyn	35	13	2.70
Hamnett	31	12	2.63
Dormont Jct.	34	13	2.62
Kelton	34	13	2.62
Swissvale	37	14	2.61
Inglewood	32	13	2.47
Potomac	32	13	2.47
Glenbury	29	12	2.46
Shiras	29	12	2.46
Castle Shannon	43	18	2.43
Poplar	40	17	2.42
Belasco	28	12	2.37
Boustead	28	12	2.37
Dawn	22	9	2.33
Overbrook	30	13	2.31
Central	32	14	2.26
Arlington	42	19	2.22
Coast	26	12	2.20
Washington Jct.	39	18	2.20
Library	61	28	2.15
West Library	58	27	2.14
S. Hills Junction	20	9	2.12

Transit Travel Time Ratios			
Station	Transit Travel Time (min) <sup>1</sup>	Auto Travel Time (min) <sup>2</sup>	Transit / Auto Travel Time Ratio
Denise	25	12	2.12
Fallowfield	25	12	2.12
Hampshire	25	12	2.12
Hay Street	30	14	2.12
McNeilly	30	14	2.12
St. Anne's	37	18	2.09
Beagle	55	27	2.03
Killarney	31	15	2.
Sarah	50	25	2.02
Memorial Hall	33	17	2.00
Mine 3	40	20	1.99
S. Hills Village	47	24	1.99
South Park Road	47	24	1.99
Palm Garden	21	11	1.98
Bell	28	14	1.98
Overbrook Junction	35	18	1.98
Willow	35	18	1.98
Sandy Creek	56	28	1.98
Dorchester	46	24	1.95
Mesta	46	24	1.95
Monroe	48	25	1.94
Casswell	41	21	1.93
Hillcrest	41	21	1.93
Santa Barbara	43	22	1.92
Logan Road	45	24	1.91
Lytle	45	24	1.91

Transit Travel Time Ratios			
Station	Transit Travel Time (min) <sup>1</sup>	Auto Travel Time (min) <sup>2</sup>	Transit / Auto Travel Time Ratio
Martin Villa	36	19	1.91
Latimer	49	26	1.89
Boggs	20	11	1.88
Sheraden	20	11	1.88
Highland	42	22	1.87
Lindermere	42	22	1.87
Center	44	24	1.86
Kings School Road	46	25	1.86
Westfield	24	13	1.85
South Bank	26	14	1.84
Bethel Village	45	25	1.82
Carnegie	32	18	1.81
Smith Road	34	19	1.80
Pennant	23	13	1.77
Wilkinsburg	29	17	1.76
Traymore	22	13	1.69
Crafton	24	14	1.69
Idlewood	26	15	1.69
Bon Air	22	14	1.55
Ingram	22	14	1.55
East Liberty	21	14	1.48
Negley	20	14	1.41
Homewood	25	18	1.41

1 Transit travel time from station to Steel Plaza  
 2 Auto travel time from station to Steel Plaza with a congestion multiplier based on the Texas Transportation Institute's 2011 Annual Urban Mobility Report